1/21/09 NATURAL GAS FOR INSTATE USE

Alaska Gasline
PORT AUTHORITY

Project Update

Senate Resources Committee

January 21st, 2009

Juneau, Alaska

Continued Support from the State

Alaska Gasline PORT AUTHORITY

- Legislative intent language in AGIA (July 23,2008)
  - calls for the continued advancement of the All-Alaska/LNG project within the AGIA framework
  - adopted overwhelmingly: 58-1
  - "It is the intent of the legislature that an AGIA license will enable and encourage an All Alaska gas line/liquefied natural gas (LNG) project within the TransCanada project."

- Governor Palin's Administrative Order No. 242 (August 20,2008)
  - directs State agencies to assist the development of the LNG project
  - "I…direct [DNR and DOR] to assist entities…in pursuing development of an economically and technically viable liquefied natural gas (LNG) project in this state, such as the project envisioned by the Alaska Gasline Port Authority."

➢ **Thank you for your continued support!**

Interest from Hawaii

- We continue to work with the Office of Hawaiian Affairs to bring Alaskan LNG to Hawaii

- Alaska Federation of Natives: Resolution No. 08-42 (October 2008) adopted in support of LNG project within AGIA to benefit rural Alaska and Hawaii

Port Authority Project Advancement

- The Port Authority, Mitsubishi Corporation and Sempra LNG, continue to advance the development of the All-Alaska Gasline/LNG project
  - Mitsubishi
    - Japan's largest trading company with a wide range of business activities
    - Strong experience in LNG projects (handles approximately half of Japan's LNG imports)
  - Sempra LNG
    - Owns the only LNG receiving terminal on the West Coast
    - Subsidiary of Sempra Energy, one of the largest traders of natural gas in North America

Focus on AGIA Open Season

Alaska Gasline Port Authority

- Our focus is to position our project for TransCanada's open season targeted for July 2010
- As part of the AGIA process, TransCanada committed to build a pipeline to Valdez – if sufficient gas volumes are committed – either on a standalone basis or in conjunction with a pipeline into Canada
- The Port Authority along with Mitsubishi and Sempra LNG have met with TransCanada to discuss the open season
- We anticipate further discussions with TransCanada as we seek to coordinate our effort

Focus on AGIA Open Season (continued)

- We intend to participate, either directly or through prospective gas shippers, in TransCanada's Open Season

- We are planning significant technical, environmental and other development work for the LNG terminal
  - We will develop a cost estimate for the liquefaction and other Valdez facilities that is consistent with that being prepared by TransCanada for the pipeline to Valdez
  - This cost estimation level is consistent with TransCanada's plan for the pipeline open season

- Our objective: to develop a project that provides a highly attractive economic proposition for the North Slope producers and the State of Alaska

Committed to Meeting Alaska's Gas Needs

Alaska Gasline PORT AUTHORITY

- We believe our project will maximize ANS gas wellhead value by exporting LNG out of Alaska to reach global markets, including the U.S. and Asia

- However, we have always been committed to prioritizing the needs of Alaska's domestic gas consumers. Indeed, we believe that our project provides the best opportunity to maximize in-State access to our North Slope gas resources

- We will continue to work in cooperation with ANGDA on meeting this important goal

Market Developments Favor an LNG Project

- Recent market developments have underscored the importance of the All-Alaska/LNG project as the most attractive option to monetize Alaska's gas.

- Lower 48 and Canada have experienced significant increases in production
  - shale gas has been at the forefront of increases in "non-conventional" gas production.
  - Navigant Consulting and ICF Consulting have recently estimated America's potential gas resources at about 2,000 tcf.
    - That's 100 years worth of U.S. natural gas demand.
    - "That's 50 percent more gas than the current proven reserves of Russia and twice as much as the proven reserves in Iran. Put into oil terms, that 2,200 Tcf of gas is the equivalent of one-and-a-half Saudi Arabia's."[1]

- In Canada BC shale gas is a "game changer," with projected production of 5.3 bcf/d within 10 years. [2]

- The gas market in the Lower 48 has dramatically changed. The viability and need for the LNG option has never been greater from Alaska's perspective.

[1] Energy Tribune (1/12/2009) <energytribune.com/articles.cfm?aid=1055>
[2] Calgary Herald (1/11/2009) <calgaryherald.com/business/Lure/116250/story.html>

Alaska's Competition is Not Waiting

Alaska Gasline PORT AUTHORITY

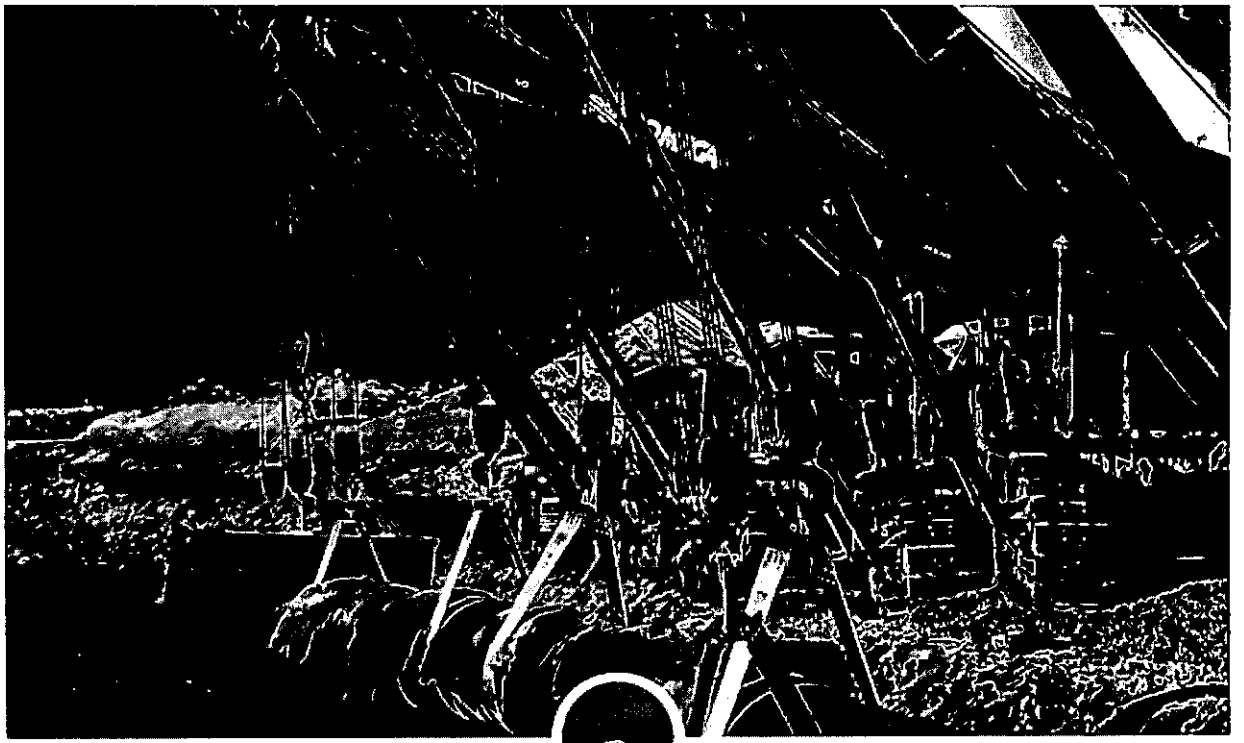
- The market changes are being acted upon by our competition
- Kitimat LNG, previously conceived as an LNG import terminal, has recently reversed their project from an LNG receiving terminal and now intends to develop an LNG export project
- Kitimat LNG will target the growing, premium LNG markets in Asia, and has partnered with Mitsubishi to try to satisfy Asian demand for North American gas
- The window of opportunity is here for Alaska to maximize the value of its gas. Our competition is not waiting!

The LNG Project is Alaska's Best Option

Alaska Gasline Port Authority

- Existing North Slope reserves are more than sufficient for an All-Alaska/LNG project (supply source proved reserves)
- LNG generates the highest netback price for North Slope producers and the State's gas
- Benefits a later Canadian line tied in at Delta Junction
- Volume not restricted to 500 mcf
- Pipeline company already selected and working on the cost estimate for open season
- Pipeline route adjacent to TAPS well studied with 3 previous EIS.
- Enjoys all of the project benefits set forth in AGIA
- A larger in-State line, "anchored" by export volumes, will reduce cost of service for Alaska's consumers
- The All-Alaska/LNG project is completely within Alaska's control

Thank you



Alaska Gasline
PORT AUTHORITY

The Lure of gas

Formations bring new life to Canadian natural gas and could be market 'game changer'

By Dina O'Meara, Calgary Herald January 11, 2009

Last November, natural gas giant EnCana Corp. quietly filed a multi billion-dollar natural gas plant proposal with provincial regulators in British Columbia.

The massive Cabin Gas Plant would process natural gas from shale plays in the Horn River basin for eight companies led by the Calgary-based producer.

Estimated to cost $400 million for the first phase, the plant's initial capacity was slated at 400 million cubic feet per day, twice as much as the province's largest natural gas processing plant.

Plans call for the plant to launch in 2011 and for up to six expansion phases, depending on future production.

Key here is "future."

Although the Horn River play in the tip of B. C.'s northeastern corner has attracted billions of dollars in investments from companies across North America, shale gas production in 2008 was small enough to be considered not commercial.

Yet some say last year was when the face of natural gas development in North America changed forever.

In the second month of the year, word of a potentially huge resource play in northeast British Columbia was unveiled at a conference in Houston. The Horn River (Muskwa) play could hold up to six trillion cubic feet (tcf) of natural gas, according to U. S. company EOG Resources.

By the end of 2008 -- and several billion dollars in land sales later -- the amount had doubled to an estimated 13 tcf of recoverable resources from a 35 tcf potential, and included the 50-tcf Montney play, just south of the Horn River formation.

The Montney play produced about 500 million cubic feet of natural gas last year. And that's just the beginning.

Across North America, nine unconventional shale gas plays could make up 260 tcf reserve potential.

"It was a game changer," Mark Leggett, with BMO Capital Markets said.

Not only has the lure of shale shifted billions of dollars into British Columbia, which saw land lease prices in its northeast corner skyrocket to $300,000 a hectare in 2008 from $300 in 2005, unconventional activity has revitalized a floundering service industry that saw conventional drilling fall some 11 per cent last year.

"Shale will have a very big impact because our basin is a conventional basin," Leggett said. "There is a need to replace declining conventional production and these will play a huge role in maintaining that growth profile and satisfy natural gas demand in the oilsands years down the road. It gives industry visible natural gas supply."

Shale rock is pretty common around the world and estimates of shale gas within the Western Canada Sedimentary Basin vary from 86 tcf to more than 1,000 tcf.

The huge potential could see half of Canada's natural gas production stem from unconventional sources by 2025, according to the Canadian Society of Unconventional Gas.

However, unconventional shale gas is as variable as the weather in Calgary -- it can be packed in a space as wide as a molecule, or spread across wide swaths of complex layers of rock, shallow or deep, prolifi c in spots, sparse in others.

Until recently, unconventional reserves were "tighter than cement," but a combination of horizontal drilling and multi-staged fractioning unlocked the rock.

"The technology enhancements on the shale gas are allowing a $7 per thousand cubic feet to be profitable because of the size of the prizes," Bruce Edgelow, with ATB Financial, said.

"These pools in certain basins are significant as to the new technology being able to produce them -- it's quite amazing, it's a quantum leap as to what we're doing on the conventional size.

"You can make reasonable money, as long as you have a good acreage play and you have followup locations. You have to have control of your infrastructure, you have to have repeatable process to get the economy of scale pricing from service companies."

Build up, build out is the credo for companies pursuing unconventional resources, such as Talisman Energy Nexen Inc., Devon Canada and ARC Energy Trust, one that natural gas

giant EnCana followed as it quietly acquired the largest land bases in the Montney play in B. C., which could hold up to 700 tcf of gas in place, and the Horn River.

"This resource represents the future," spokesman Alan Boras said.

One of the keys to unlocking unconventional sources is focusing on basins that are spread out, as opposed to conventional basins were there are small pockets of oil and gas, he said.

"The question is how do you advance the technology to make it economic," Boras said.

The firm holds close to 250,000 net lease hectares in the Montney, and has drilled seven wells, drawing on experience honed south of the border in Wyoming and on the famed Barnett shale in Texas.

But EnCana has yet to call the monstrous B. C. play commercial, saying it needs more concrete numbers on recovery factors and production rates.

The region is remote, lacks infrastructure and hasn't provided the economy of scale the company seeks. EnCana wants to see well costs fall a third from the current level of around $10 million before deeming the play economic.

Ever a canny oilpatch player, EnCana doesn't disclose much data but acknowledges the potential prize makes ongoing investments in the region worthwhile.

Unconventional gas in the U. S. represents about 11 per cent of projected demand in 2008, about 6.8 billion cubic feet per day.

Canadian shale production is in its infancy, at about 600 million cubic feet per day. The volume is expected to rise to 5.3 bcf per day within a decade, but still won't offset conventional declines during that period.

"Shale is everything," David Johnson, president of ProEx Energy Ltd. said. "I've been in this business since 1975, and unconventional has revitalized me as an engineer since the technology is quite exciting. I think it will take us beyond where we were on the conventional assets, which are solely a harvest situation. Companies involved in unconventional resource plays will have repeatability because gas is continuous, and that's the difference between the conventional."

The mid-sized which recently merged with Progress Energy Trust, started building its land base in B. C. in 2002 as it looked for semi-conventional reserves, including tight sands and shale. Land was a lot cheaper then, and the small company was able to accumulate one of the largest blocks of contiguous land in the region.

"The problem with conventional resources is they're hard to find, and the repeatability aspect, when you look at the risk-reward ratio, is the problem," Johnson said. The target size also is smaller and smaller in a maturing basin, noted.

Big companies will dominate the game, as wells average between $7 million to $10 million to drill, but "we happened to be blessed with a ton of land already, so we have a starting point and what we have to do is investigate the vertical and horizontal drilling of these opportunities."

Shale has proved a boon to the beleaguered Canadian service industry which has seen conventional drilling drop some 30 per cent since 2007. Investment house Tristone Capital estimates wells drilled in just three Canadian plays, the Montney, Muskwa and Utica in Quebec, likely will jump to more than 800 in 2009, from a measly 157 just two years before.

"As impressive as this well count growth is, growth in exploration and production spending and rig count will likely be even higher, as these wells are four to six times more service intensive than average Western Canada Sedimentary Basin wells" Tristone Capital said in its report, A Shale Gas Revolution.

"This superlative growth should have positive implications for drilling contractors, pressure pumpers and directional drillers."

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http://energytribune.com/articles.cfm?aid=1055

Posted on Dec. 11, 2008

By Robert Bryce

It's a Gas, Gas, Gas: The Paradigm Shift in the U.S. Natural Gas Business

The collapse in oil prices gets most of the headlines. But the corresponding collapse in natural gas prices may be the more important story for both the short- and long-term interests of the U.S.

On July 1, natural **gas futures** peaked at $13.51. On July 14, crude **oil futures** peaked at $145.16 per barrel. Today, the spot price for natural gas is about $5.67 and the spot price for oil is about $46. And those prices may go lower still. On November 24, Jen Snynder, the head of North American gas research for the energy consulting firm Wood Mackenzie, **released a report** which she claimed that the U.S. gas market should expect to see natural gas prices "in the range of $5 to $6" for the next five years.

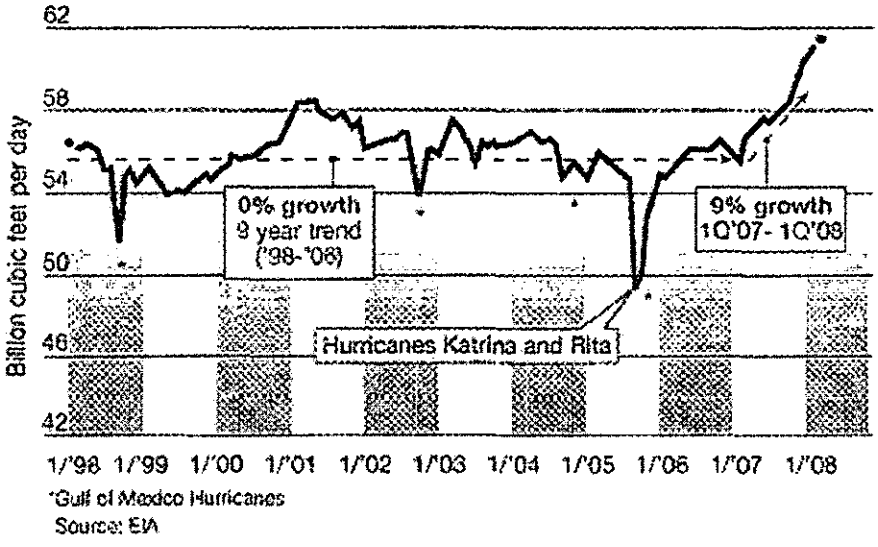
While many analysts have discounted Snyder's prediction, the potential for a long-term slowdown in natural gas drilling in the U.S. could have devastating effects on the drillers and oilfield service companies. The number of rigs drilling for gas usually outnumber those looking for oil by more than 3 to 1. But now that the U.S. is awash in gas, a drastic slowdown in drilling has begun. That can be seen by looking at the latest rig count numbers from Baker Hughes. And Texas, the biggest natural gas producer in the country, provides a good barometer for the trend. In September, an average of 946 rigs were working in the Lone Star State. By the first week in December, the number of active rigs in Texas had fallen to 852.

The bear market in gas will be exacerbated by recent announcements. Yesterday, Houston-based Petrohawk Energy announced that three of its new wells in the Haynesville Shale in Louisiana were each producing more than 20 million cubic feet of gas per day. Those are the biggest wells ever recorded in Petrohawk's history. Also yesterday, Dallas-based Exco Resources announced its own Haynesville well, which was also flowing gas at more than **20 MMcf/d**.

Those are sizable wells by any measure. Keep in mind that the U.S. produces about 19.2 billion cubic feet of gas per day from more than 448,000 wells. That means that the average U.S. gas well produces about **43,000 cubic feet per day**. These new Haynesville wells are showing initial production rates that are three orders of magnitude

larger than that. And those new wells are coming online at the same time that some gas producers in Oklahoma have shut in their wells rather than sell their gas at current prices. Furthermore, some 2 billion cubic feet of daily gas production in the Gulf of Mexico continues to be shut in due to lingering damage from this summer's hurricanes.

Natural Gas Production Lower 48 States 1998-2008



The new reality for the gas industry is one of enormous available resources, with much of that availability coming from the new shale plays like the Haynesville, Fayetteville, and Marcellus. In July, a study done by Navigant Consulting estimated that America's potential gas resources may total 2,200 trillion cubic feet. That's 50 percent more gas than the current proven reserves of Russia and twice as much as the proven reserves in Iran. Put into oil terms, that 2,200 Tcf of gas is the equivalent of one-and-a-half Saudi Arabias. A more recent **study**, published in mid-November by consulting firm ICF International, estimated U.S. gas resources at 1,830 trillion cubic feet.In petroleum terms, that's the oil equivalent of 329 billion barrels of oil or about three Kuwaits.

On November 11, during a meeting of the Independent Petroleum Association of America held in Houston, Mark Papa, the chairman and CEO of EOG Resources said the U.S. gas industry was in the midst of a "total sea change unlike anything we've seen in our careers. Don't underestimate the power of that sea change." Papa said that the Haynesville Shale, which may contain 50 trillion cubic feet of gas, the equivalent of about 9 billion barrels of oil, is one of "the biggest fields found in the entire world over the last decade." At that size, the Haynesville field would be bigger than the massive offshore Tupi

discovery in Brazil that was announced by Petrobras in 2007. Papa said that the shale gas deposits provide a "huge amount of gas that can be mined. And I use the term 'mined' because the geologic risk has been minimized."

Although the geologic risk has been minimized, other risks have come to the fore. Fifteen years ago, natural gas was "hard to find and easy to produce," says David Pursell, a managing director at Tudor, Pickering, Holt & Co., a Houston-based investment banking firm. With these new shale plays, gas is "easy to find and hard to produce.... You have traded one risk for another." In the past, the U.S. gas business was focused on geology and geophysics. Now, says Pursell, "It's a much more of a completion and engineering game."

Indeed, the ability of natural gas producers to get big production numbers from their shale wells requires them to employ multiple hydraulic fractures in a single well. The Exco well announced yesterday had a nine stage fracture on a horizontal lateral that was 4,481 feet long.

Pete Stark, the vice president of industry relations at IHS, a Denver-based data and consulting firm says these new shale plays are "an incredible plus for U.S. energy security." But he adds that the negative for the gas companies and gas drillers is that this "huge supply growth is coming onstream at the same time that demand is falling out of bed. So it's a killer for the industry going forward."

Thus, the problem for the gas industry is a familiar one: profits. During their discussion at the IPAA meeting in Houston, Papa of EOG Resources and Jeff Wojahn of EnCana said that their companies needed natural gas prices to be in the $7 to $8 range for their shale drilling programs to be profitable. Obviously, given current prices, all of the gas-focused independent companies are scaling back their drilling programs by as much as 50 percent. And it's not yet apparent how many drilling rigs will be idled in the coming months as more and more companies slash their capital expenditure budgets.

H.G. "Buddy" Kleemeier, the president and CEO of Tulsa-based Kaiser-Francis Oil Company, says that the gas industry must adapt to this new paradigm: huge available resources, minimized geologic risk, increased engineering risks, and ongoing price risk. In the past, the oil and gas industry was largely regulated by either government restrictions on production (prorationing that was administered by the Texas Railroad Commission) or restrictions on how gas could be used

(like the Powerplant and Industrial Fuel Use Act of 1978) or by pricing regimes imposed by regulators.

Today, the natural gas industry operates in a largely deregulated environment. Given that fact, Kleemeier, (who is also the current chairman of the IPAA) expects the gas industry to be governed by what he calls "prorationing by price." When prices fall, drilling rigs will be idled. And those rigs will remain idle until prices recover.

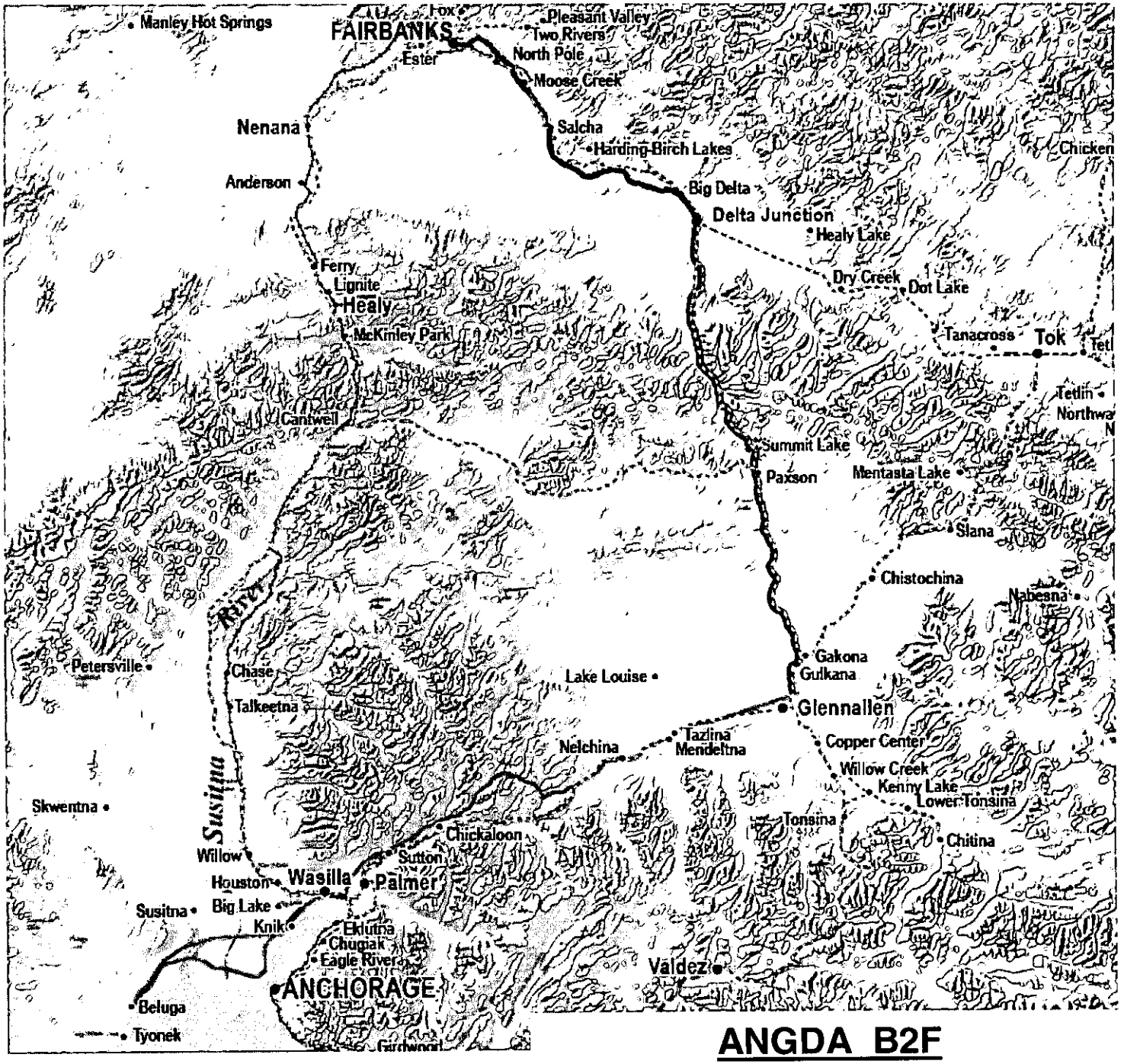
Obviously, the U.S. will need to keep drilling lots of new wells as these shale gas wells have steep decline curves. But it will take many months, or perhaps several years, before the U.S. gas industry understands the optimal rate of drilling. The hard truth about the current gas glut is that the U.S. gas industry has been victimized by its own success. The amazing technological breakthroughs in extracting natural gas from shale has led to a surfeit of gas. At the IPAA meeting last month, Porter Bennett, the president and CEO of Bentek Energy, an Evergreen, Colorado-based consulting firm, said "We have more gas that we know what to do with." That's good news for consumers. It's good news for the environment, as increased natural gas use should result in cleaner air. And more natural gas use in the truck and car fleet could help reduce U.S. oil consumption.

The irony is that the current excess of domestic natural gas is bad news for the very industry that made the gas glut possible. And now, the gas industry must look to the new Obama administration for some type of legislation that could help spur natural gas demand and therefore raise prices. That legislation could come in the form of a tax on carbon or more restrictions on coal-fired power plants. For Stark, the policy path should be obvious: "If the Obama administration is at all clever, they will capitalize on this increased gas production and use it to solve quite a few clean energy objectives for the country."

ANGDA Since July . . .

- Defined B2F Gas Line
- Finished Wetlands Field Work -- B2F
- Started Federal Environmental Impact Statement (EIS) Process – B2F
- International Gas Fed Value-Added Manufacturing Conference is April 28 in Anchorage
- Opened Mutual Interest Discussions with TransCanada
- Negotiating North Slope Propane Purchase Terms
- Announced a Gas Supply Co-op for Utilities
- Exploring Potential Private Sector Partners for PPP

Beluga To Fairbanks Gas Pipeline



ANGDA's View of Key Alaska In-State Gas Opportunities

- ANGDA will prepare & work with utilities to fully participate during 2010 initial FERC "open season" by TC Alaska or Denali
- Summer of 2010 field construction along B2F is still a possibility, BUT .... Need support now to keep window open
- Large L-48 gas pipeline company(s) considering in-state gas line commitments:
  - AGIA competitive momentum is positive

1404

ENSTAR
Natural Gas Company

Natural Gas Markets in Alaska

Presented to

Senate Resources Committee

George A. Schreiber, Jr.
President and Chief Executive Officer
Continental Energy Systems
January 21, 2009

Presentation Topics

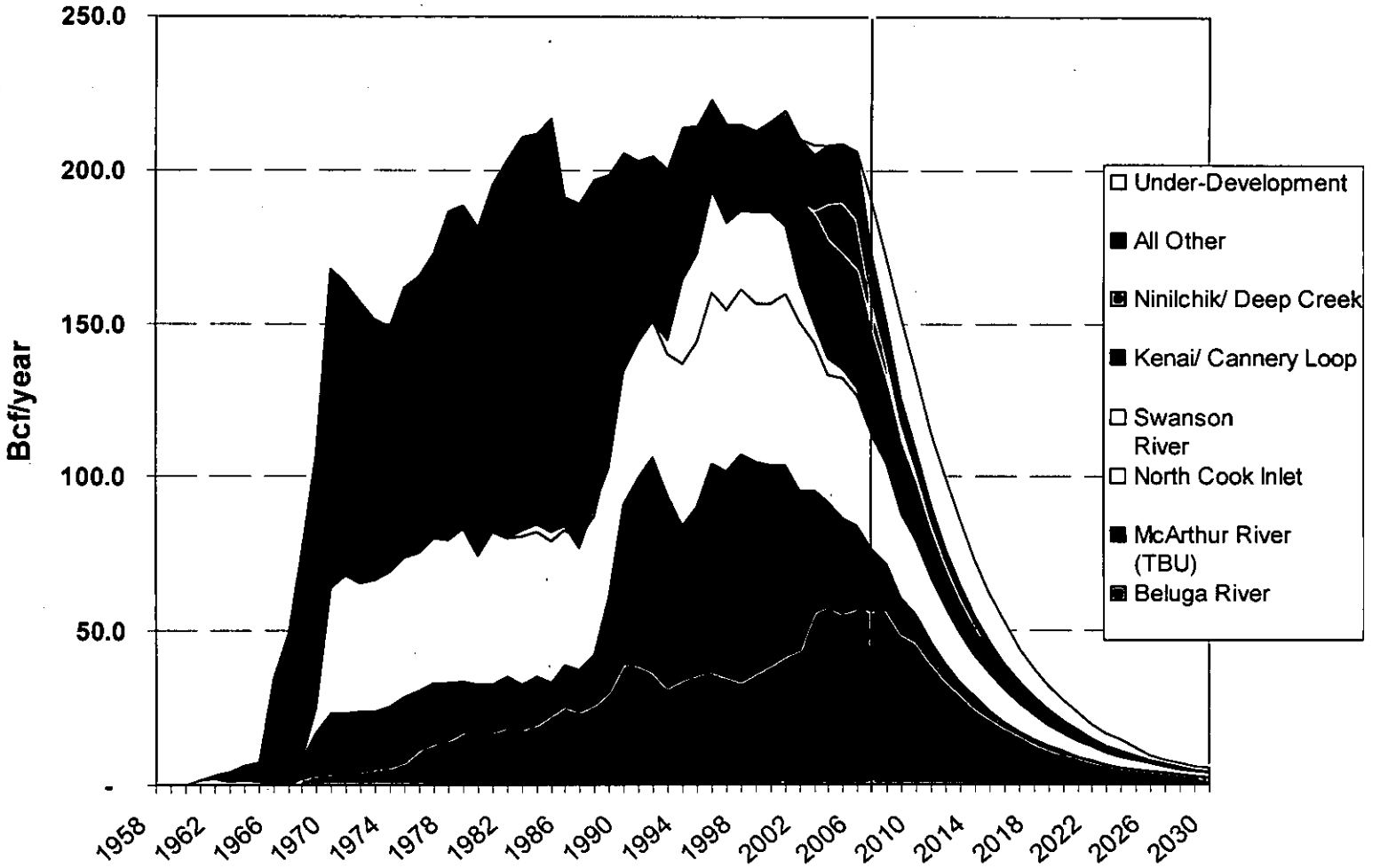
- Current Situation
- Impact on Customers
- ENSTAR's Proposed Course of Action
- Future Supply & Demand
- Conclusions

Current Situation

Historic & Projected Natural Gas Production

(Bcf/Year)

Source: Division of Oil & Gas Report 2006



ENSTAR Natural Gas Company

All Our Energy Goes Into Our Customers

ENSTAR Gas Supply Contract Comparison

CONTRACTS NOT APPROVED	APL-5	APL-6	ConocoPhillips	Marathon WACOG	ConocoPhillips WACOG
VOLUMES	60 BCF	28 BCF	11 BCF	5 BCF	5 BCF
DATE SIGNED	October 2005	April 2008	April 2008	December 2008	December 2008
PRICE 2009*	$8.96	$9.35	$8.01	$8.94	$8.92
PRICE 2010*	$7.10	$7.43	$7.86	$7.83	$7.81
PRICE 2011*	$7.81	$8.47	Price point not available	No Gas under contract	No gas under contract
PRICE 2012*	$8.01	$8.62	Price point not available	No gas under contract	No gas under contract
PRICE 2013*	$7.98	$8.39	Price point not available	No gas under contract	No gas under contract
DELIVERABILITY	All requirements provided	% of daily req's, no peak gas 2011	Tiered delivery, % of daily req's, base gas only Q2 2011-2013	% of daily req's ENSTAR has no all req's provider	% of daily req's ENSTAR has no all req's provider
TERM OF AGREEMENT	Est. 2016	2013	2013	2010	2010
INDEX	Henry Hub 12 month trailing	PG&E, SoCal, Chicago	Cook Inlet Index	WAGOG – Avg. cost of system gas	WACOG – Avg. cost of system gas

***Price estimates based on 10/31/08 forecast forward**

- $2.3 million legal fees & other costs
- $25-$100 million of storage investments also needed (e.g., LNG-regasification equip., reservoir development and/or third-party storage service)

What Do All Of These Figures Mean?

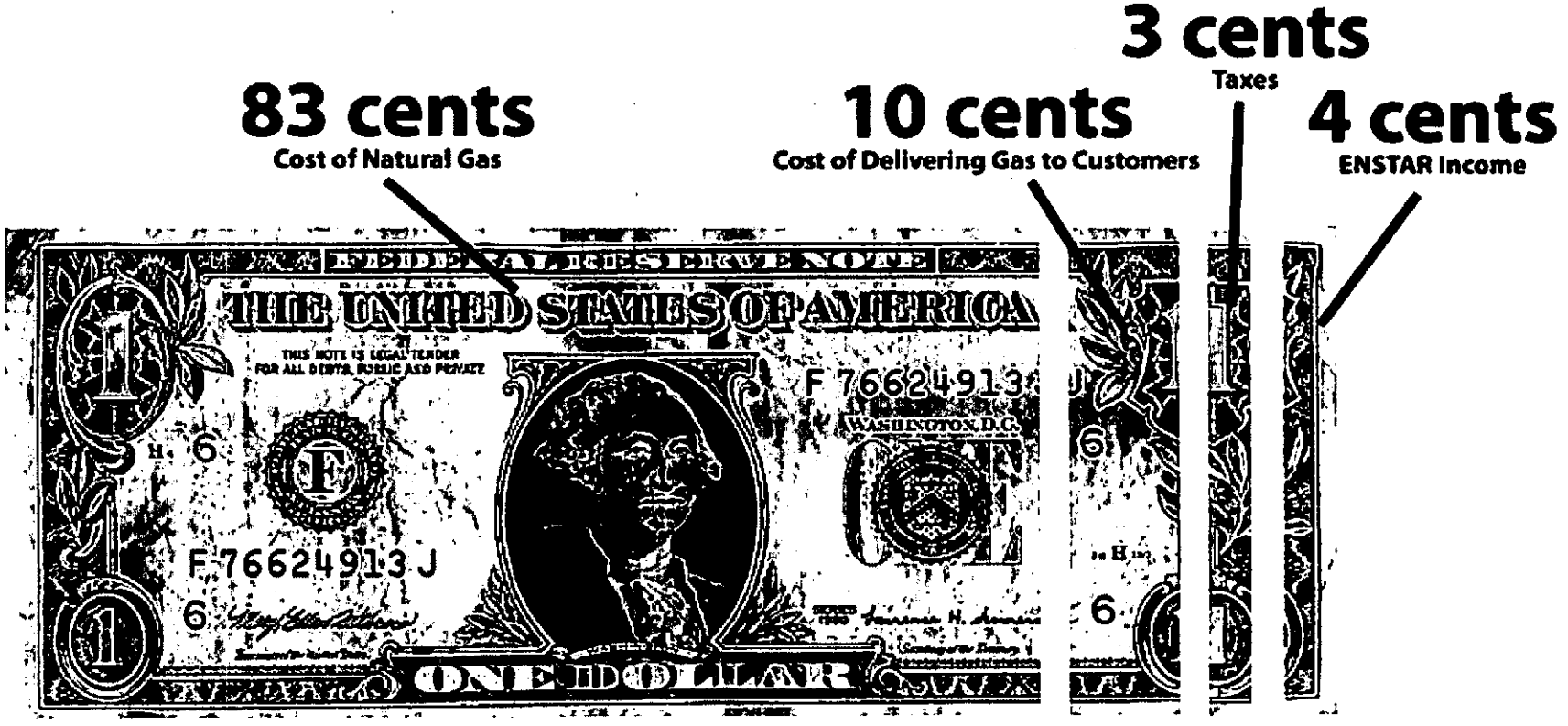
- RCA contract rejections have caused less gas to be committed to ENSTAR, and have increased the risk of deliverability to ENSTAR customers

- Producers are unwilling to sell gas at deeply discounted prices
  - Declining Cook Inlet gas supplies
  - Declining Cook Inlet deliverability
  - Declining Cook Inlet investment and perhaps lack of success

- Customers must pay fair market prices over time, to reverse the Cook Inlet market conditions and induce investment, inside and outside Cook Inlet

Impact On Customers

Where Your Heating Dollar Goes

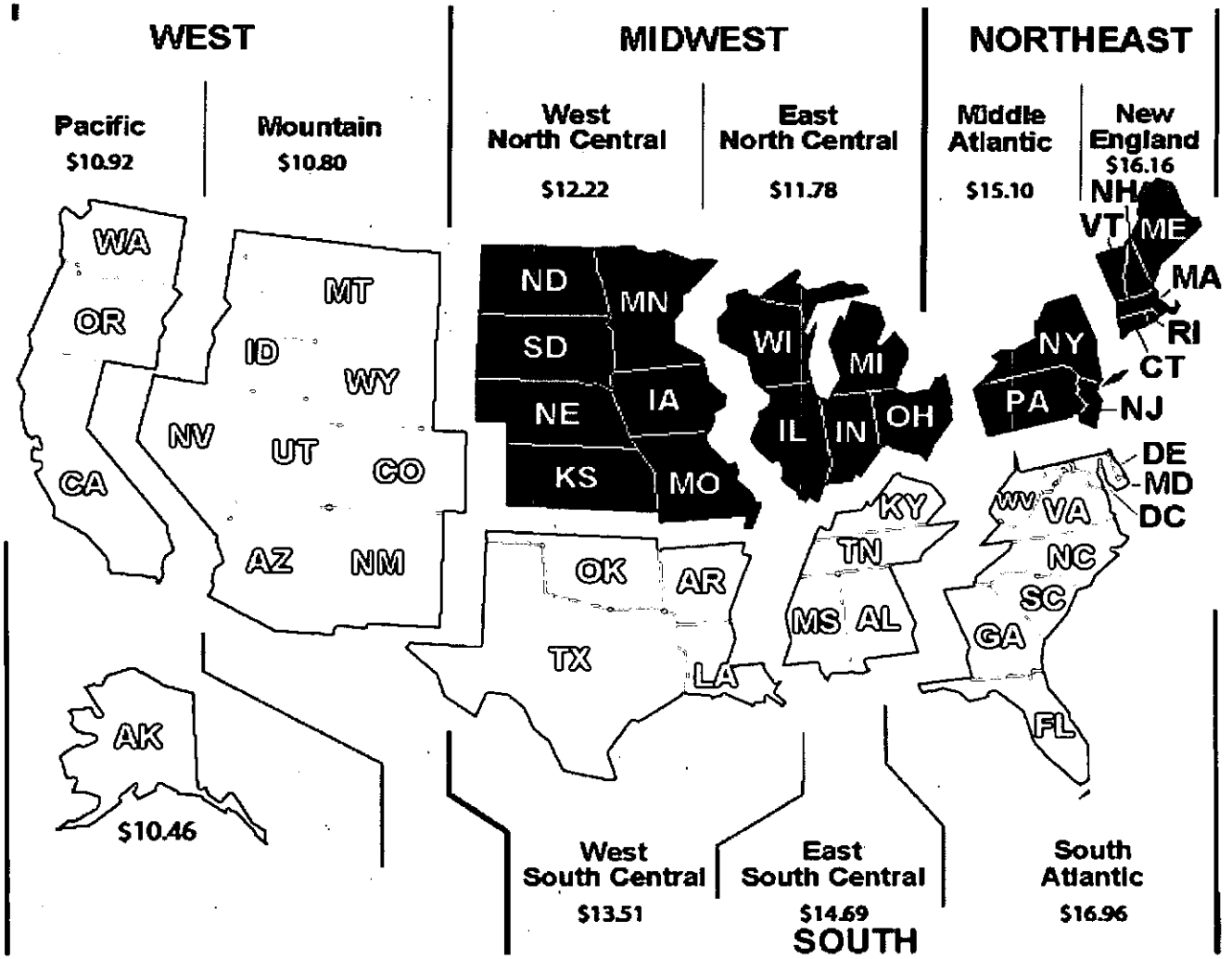


ENSTAR Natural Gas Company

All Our Energy Goes Into Our Customers

Residential Costs by Region

Average Natural Gas Cost for 2009($/Mcf)
Source: EIA of DOE



ENSTAR Natural Gas Company

All Our Energy Goes Into Our Customers

Home Heating Monthly Bill Comparison

- Natural Gas: $154.00*
- Oil: $218.64*
- Electricity: $514.79*
- Propane: $657.55*

*Assuming today's prices for each fuel source and average use per residential customers (169 mcf)

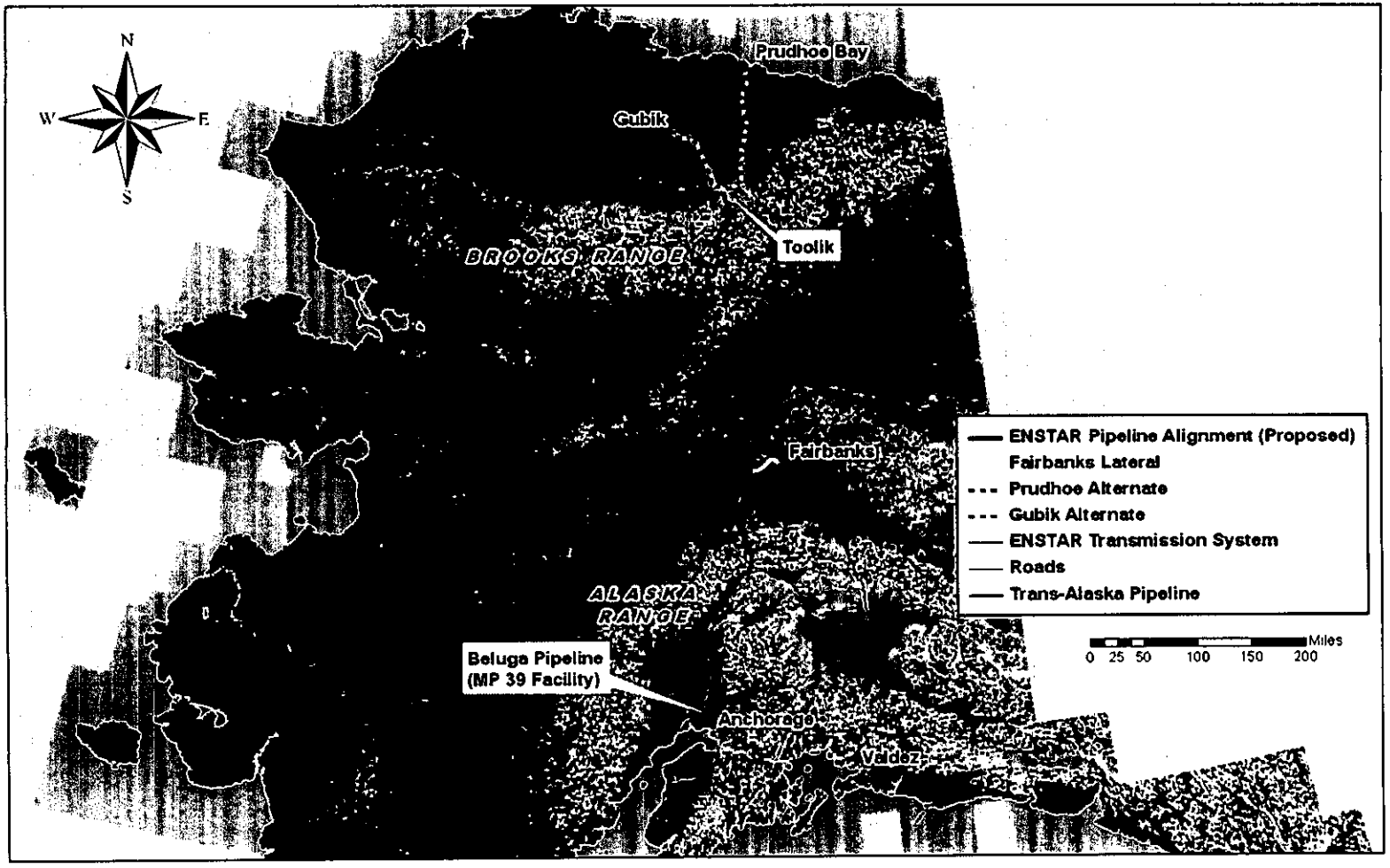
*This does not include the capital costs associated with switching to other fuel sources

ENSTAR's Proposed Course of Action

The ENSTAR Line

- ENSTAR's plan is to change the market conditions by bringing newly-discovered gas to the Interior and South Central markets
- Doing this requires the right governmental framework and conditions for investment, including paying a predictable fair market price for natural gas

ENSTAR Line - Proposed Route



ENSTAR Natural Gas Company

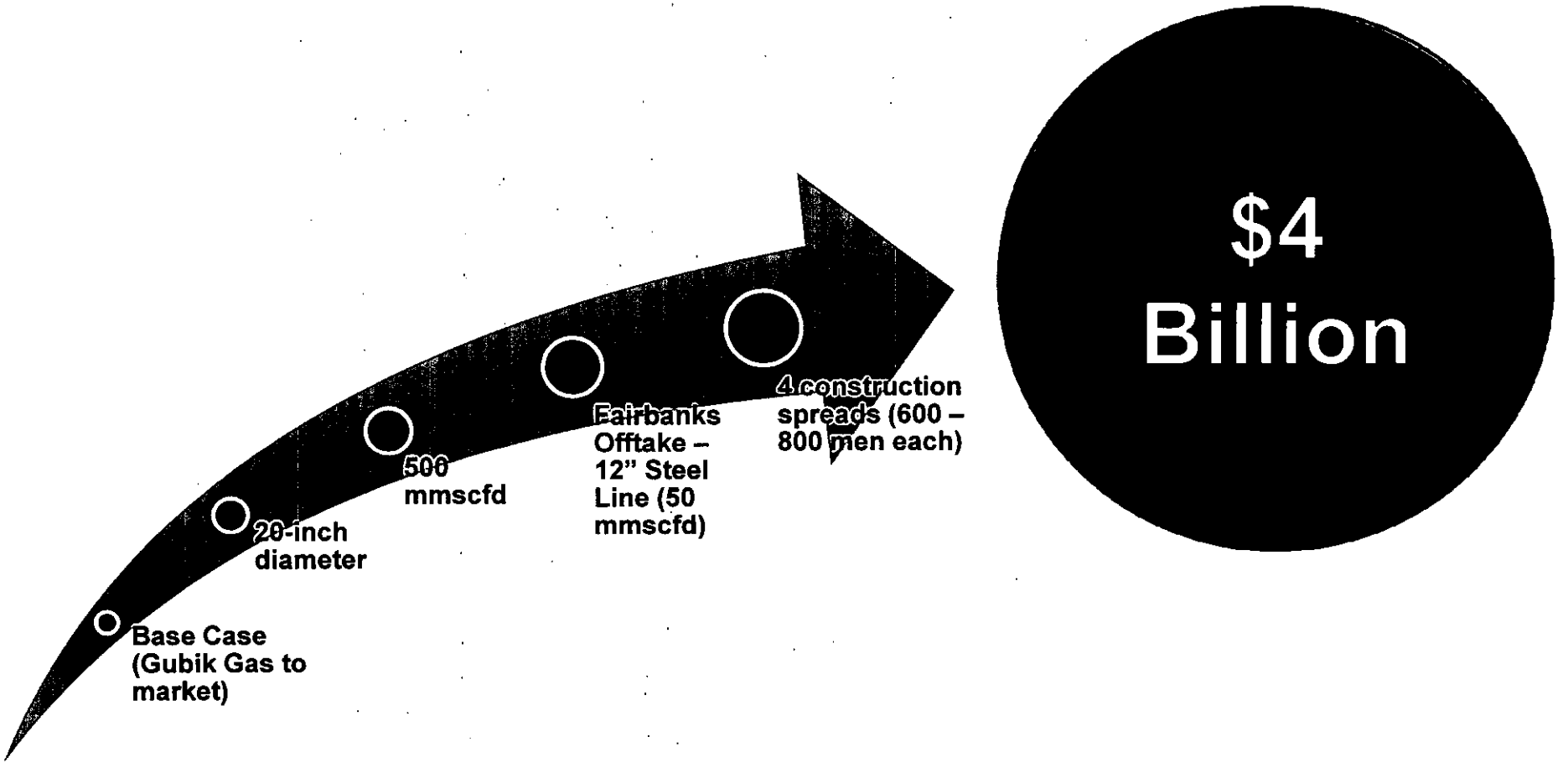
All Our Energy Goes Into Our Customers

ENSTAR Line

- Pipeline – 690 miles
- Product* - Sales Quality Natural Gas
- Gas Source** - Gubik (in Foothills near Umiat)
- Diameter - 20 inch
- Wall Thickness - 0.496 inch
- Unit Weight – 104 plf
- Steel Grade - API 5LX70
- MAOP - 2,500 psig
- Flow - 500 mmscfd
- Stations - 1-3 for startup (7 for full build out)

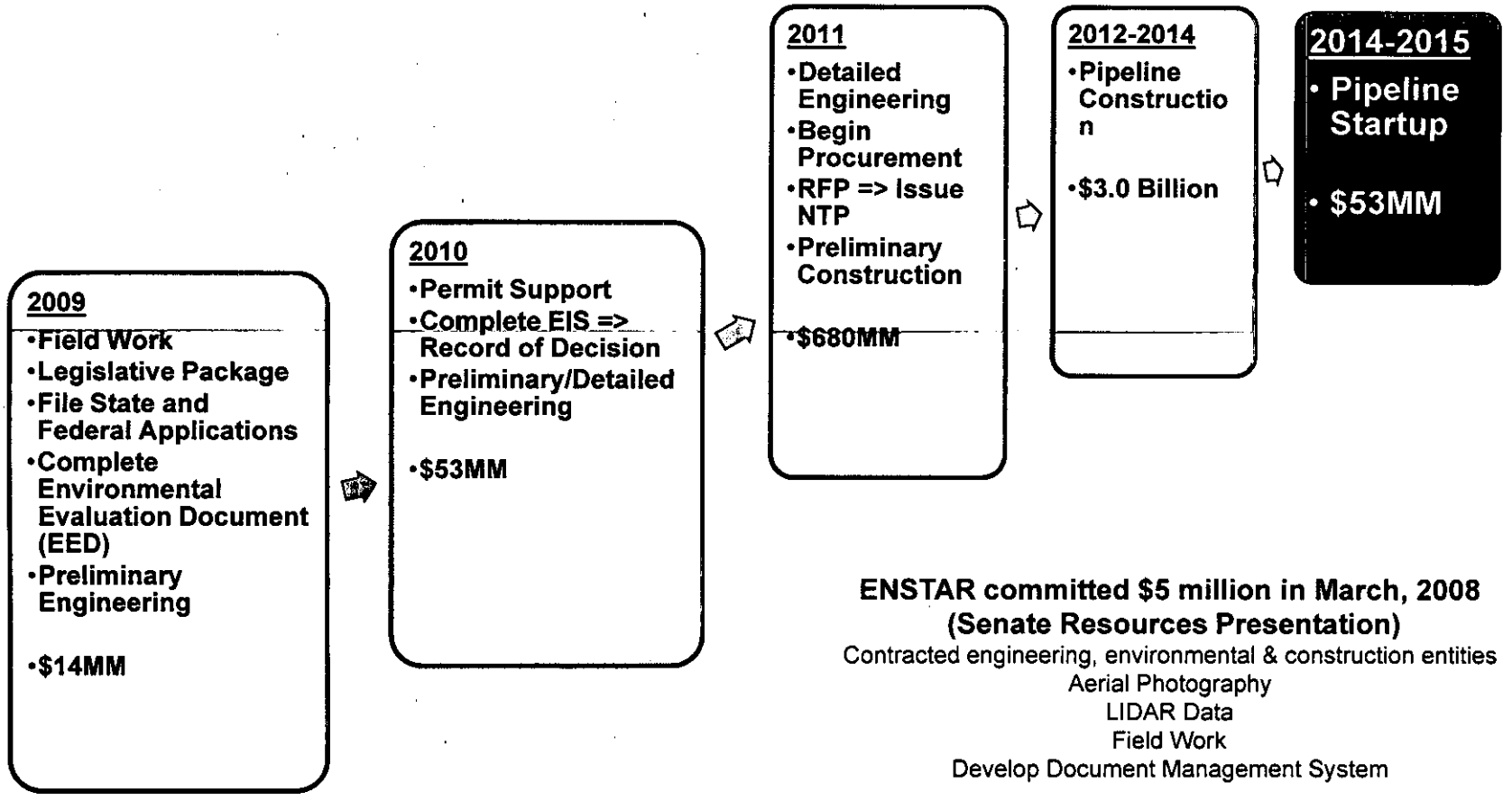
* **Operating pressure & design allow for additional hydrocarbon spiking**
** **Alternate source could be Prudhoe Bay area gas**

Preliminary Capital Cost



Final cost estimate will be completed in March 2009, at which time a more refined estimate will be available.

Key Milestones to Securing Additional Gas from New Sources by 2015



ENSTAR committed $5 million in March, 2008
(Senate Resources Presentation)

Contracted engineering, environmental & construction entities
Aerial Photography
LIDAR Data
Field Work
Develop Document Management System

ENSTAR Team

Primary Project Consultants

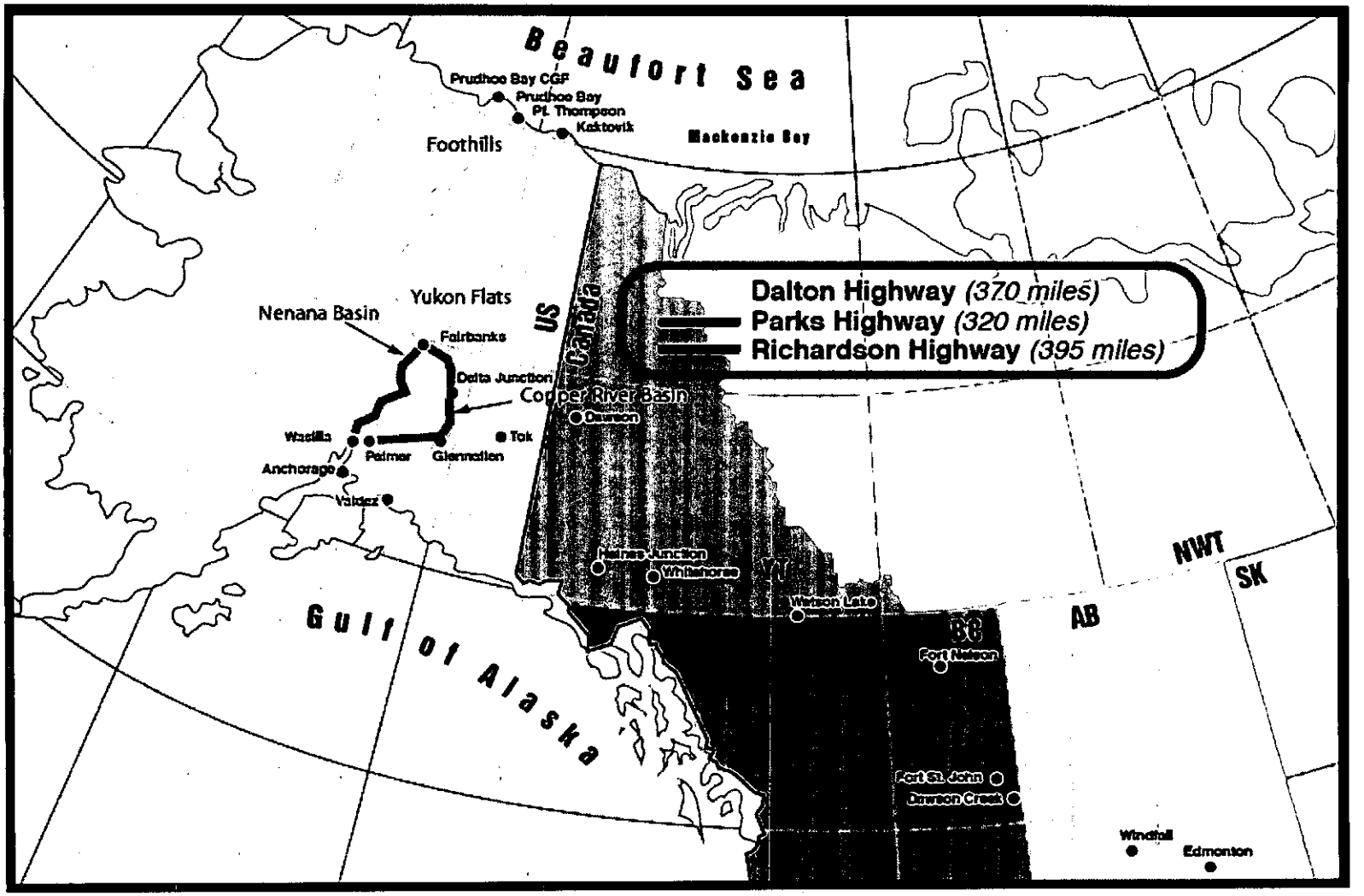
- Michael Baker Jr., Inc. – Engineering
- ASRC Energy Services – Environmental & Regulatory

Other Specialized Consultants

- DEM Services – Cost Estimating & Construction Planning
- HC Price/CONAM – Cost Estimating & Constructability Review
- Ward Whitmore & Associates – Pipeline Hydraulics & Station Design
- Mike Metz & Associates – Geotechnical & Seismic Consulting
- AeroMetric – Aerial Photography & Lidar
- True Nature 3D – Graphics
- Ray Krieg & Associates – Permafrost & Terrain Unit Mapping

Future Supply & Demand

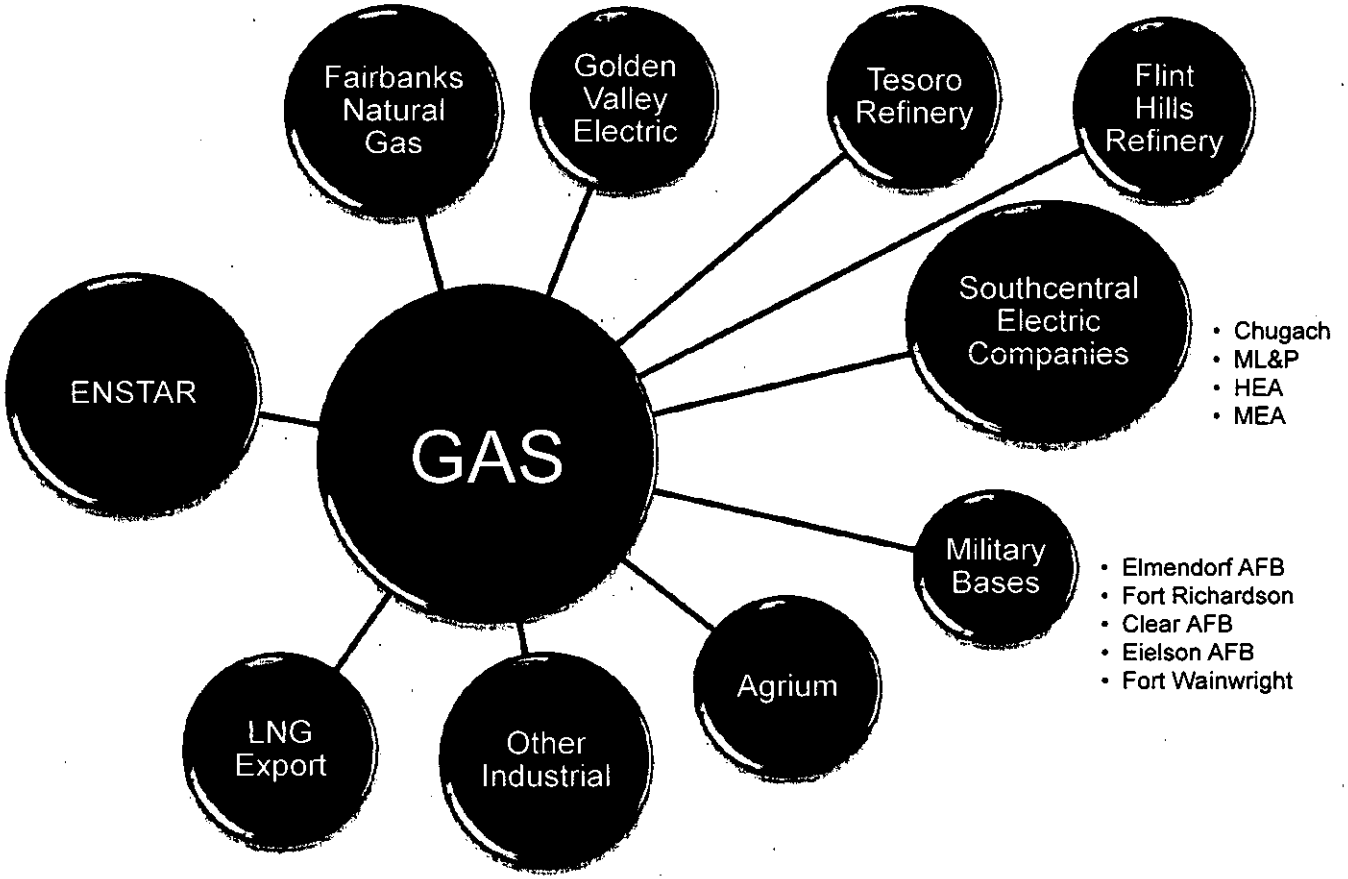
Natural Gas Options for Alaska



ENSTAR Natural Gas Company

All Our Energy Goes Into Our Customers

Accessible In-State Market



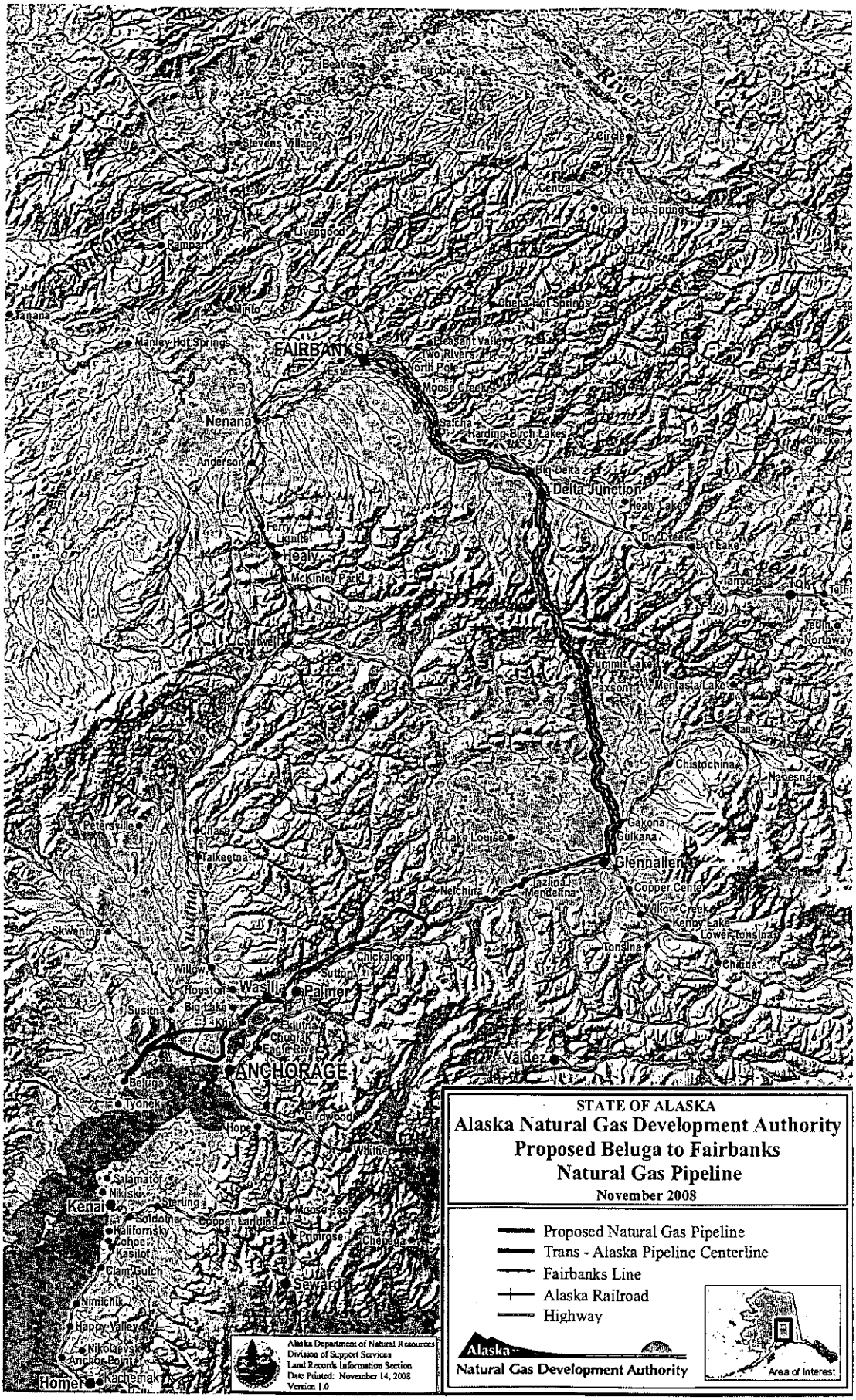
Conclusions

Conclusions

- The need for additional natural gas in Alaska has reached a critical point
- ENSTAR only has gas under contract through 2010, rather than 2016
- Natural gas consumption is vitally important to continued economic growth
- Fair market prices are important to securing future gas supplies, because paying those prices supports necessary capital expenditures
- The cost of switching to alternative energy sources for heating would hurt customers and slow Alaska's economic growth
- Government-mandated discounts won't remedy supply and deliverability challenges
- Government should set sound public policy that allows private enterprise to invest capital to find gas and build needed storage and pipeline facilities
- Time is of the essence

"Timely delivery of North Slope gas to the Cook Inlet utilities is the number one goal of the ENSTAR Line. In contrast, any of the spur line projects, are dependent upon construction of a larger diameter line. Serious gas delivery shortfalls, beginning in 2015, are best addressed by connection to a new source of gas. Current Cook Inlet gas users and conversion of the Fairbanks market cannot be put at risk awaiting a larger diameter project."

Colleen Starring
President, ENSTAR Natural Gas


STATE OF ALASKA
Alaska Natural Gas Development Authority
Proposed Beluga to Fairbanks
Natural Gas Pipeline
November 2008
Proposed Natural Gas Pipeline
Trans - Alaska Pipeline Centerline
Fairbanks Line
Alaska Railroad
Highway
Alaska
Natural Gas Development Authority
Area of Interest
Alaska Department of Natural Resources
Division of Support Services
Land Records Information Section
Date Printed: November 14, 2008
Version 1.0
FAIRBANKS
ANCHORAGE
Delta Junction
Glennallen
Healy
Nenana
Wasilla
Palmer
Kenai
Seward
Homer
Valdez
Tok
Tanana
Minto
Manley Hot Springs
Rampart
Livengood
Circle
Central
Circle Hot Springs
Chena Hot Springs
Pleasant Valley
Two Rivers
North Pole
Moose Creek
Salcha
Harding-Birch Lakes
Big Delta
Fort Greely
Tetlin Junction
Tanacross
Northway
Summit Lake
Paxson
Mentasta Lake
Slana
Chistochina
Nabesna
Gakona
Gulkana
Lake Louise
Talkeetna
Chase
Petersville
Cantwell
McKinley Park
Ferry
Anderson
Nelchina
Lazy Mountain
Mendeltna
Copper Center
Willow Creek
Kenny Lake
Lower Tonsina
Tonsina
Chitina
Skwentna
Willow
Houston
Big Lake
Susitna
Knik
Eklutna
Chugiak
Eagle River
Chickaloon
Sutton
Beluga
Tyonek
Girdwood
Hope
Whittier
Salamatof
Nikiski
Sterling
Soldotna
Kalifornsky
Cohoe
Kasilof
Clam Gulch
Moose Pass
Cooper Landing
Primrose
Cheney Lake
Nikolaevsk
Anchor Point
Kachemak
Happy Valley
Nikolaevsk

1/26/09 UPDATE: NATURAL GAS PIPELINE

ALASKA STATE LEGISLATURE

Senate Resources Committee

Senator Lesil McGuire, Co-Chair
State Capitol Building, Room 125
Juneau, Alaska 99801-1182
Phone (907) 465-2995
Fax (907) 465-6592
sen.lesil.mcguire@legis.state.ak.us

Senator Bill Wielechowski, Co-Chair
State Capitol Building, Room 115
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Fax (907) 465-6615
sen.bill.wielechowski@legis.state.ak.us

AGENDA

Monday, January 26, 2009

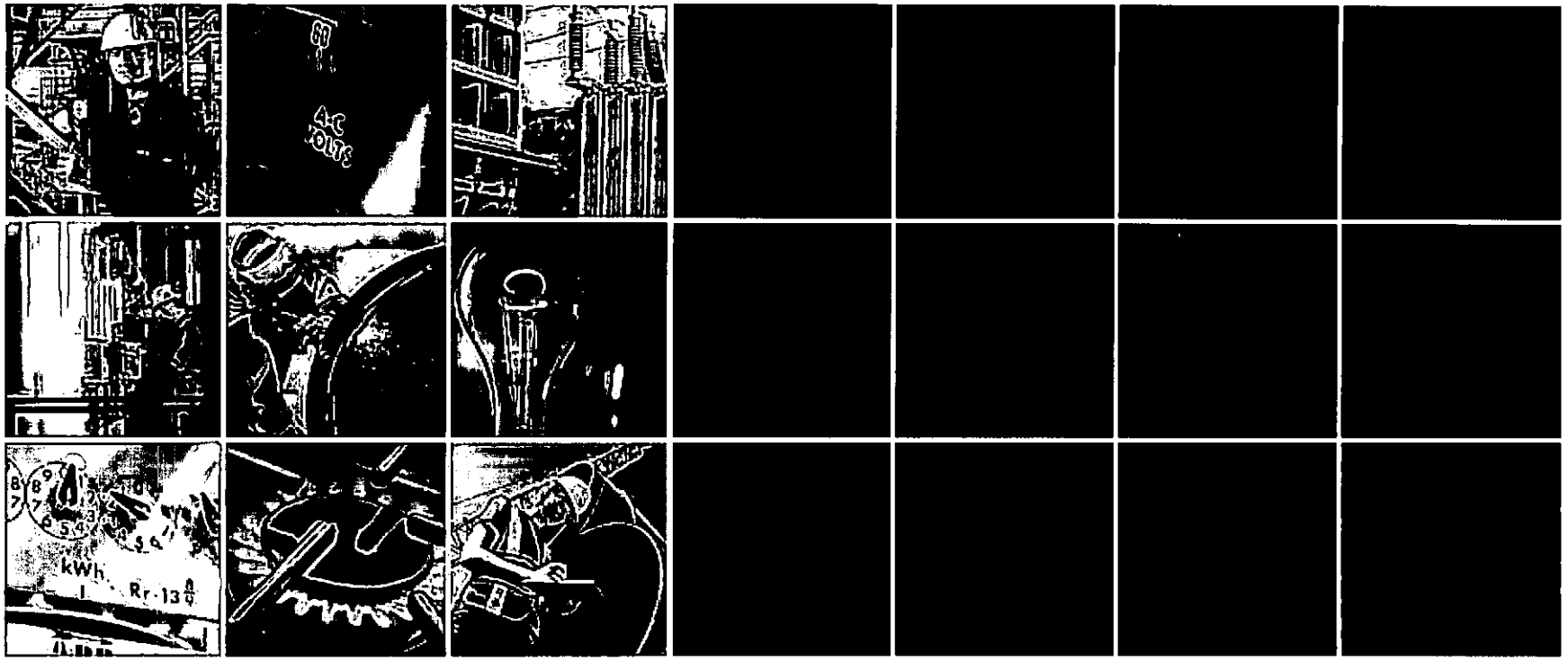
Update on Natural Gas Pipeline

Presentation: Tony Palmer, Vice President, Alaska Development, TransCanada Corp.

Presentation: Bud Fackrell, President of Denali -- The Alaska Gas Pipeline LLC

Available to Answer Questions: Joe Balash, Special Assistant to the Governor

F430



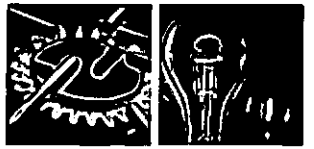
TransCanada's Alaska Pipeline Project
House / Senate Resources Committees

Juneau, Alaska
January 26, 2009

TransCanada
In business to deliver

TransCanada's Alaska Pipeline Project

Elements of a Successful Project



- **Attractive project economics**
  - Natural gas prices are volatile and difficult to forecast
  - Conventional Lower 48 and WCSB, LNG, shale and coalbed methane all competing for market share
  - Project supporters must focus on factors that affect tolls
    - Commercial terms
    - Commercial and regulatory risk management
    - Schedule
    - Cost control
  - Current toll estimate of $US 2.76/MMBTU in 2018 to Alberta Hub
    - Important to keep tolls under $3/MMBTU (incl. fuel)

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Elements of a Successful Project

- **Government and community support**
  - U.S. / Canada
  - Alaska / Yukon / B.C. / Alberta
  - Alaska Natives and Canadian First Nations
  - Landowners
  - Other stakeholders

- **Commercial contracts with Shippers**
  - Long-term firm agreements
  - Creditworthy parties

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Elements of a Successful Project

- **Project execution**
  - Measured and focused project planning, structure and performance
  - Proven project developer
    - TransCanada has 50 year successful track record as developer of long-distance multi-jurisdictional pipeline projects

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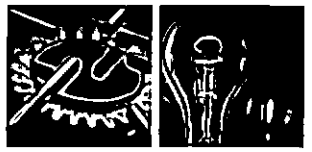
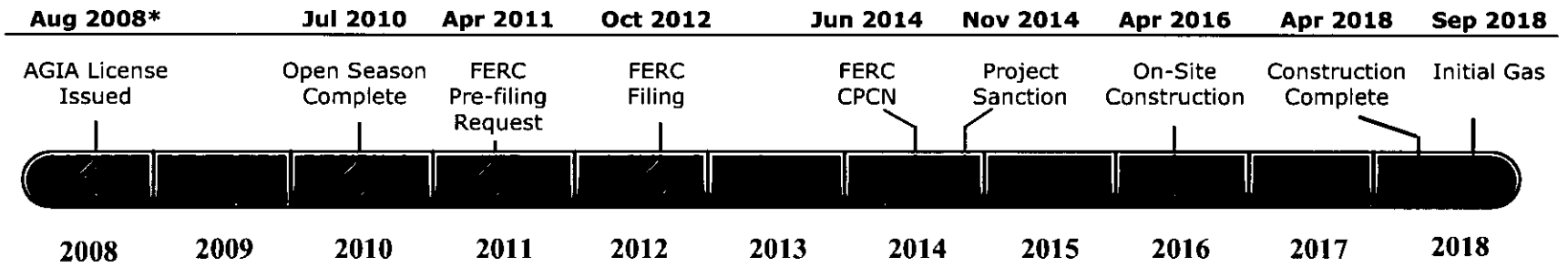
Project Schedule





* AGIA license assumed to be issued in August 2008 – actual date December 5, 2008

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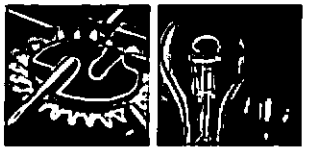
Open Season Phase 2008 to July 2010



Key Objectives:

- Develop Class IV cost estimate to support Open Season
- Identify pipeline routing within study corridor to guide stakeholder and public engagement
- Execute preliminary environmental activities to prepare for pre-filing requirements and to develop permitting plan
- Conduct successful Open Season

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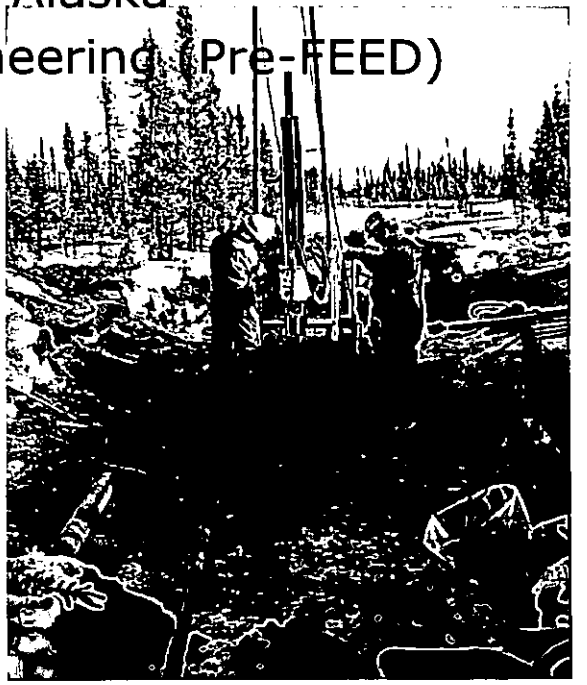
Project Status – Engineering

August 2008 – January 2009

- Developed detailed plans for technology development, engineering, construction infrastructure, logistics and cost estimating
- Aerial photography for Alaska, including LNG alternative
- Commenced terrain mapping for Alaska
- Completed 360° video in Canada
- Planned winter geotechnical field program
- Collected arctic engineering test data and research on frost heave

Outlook – Q1 & Q2 2009

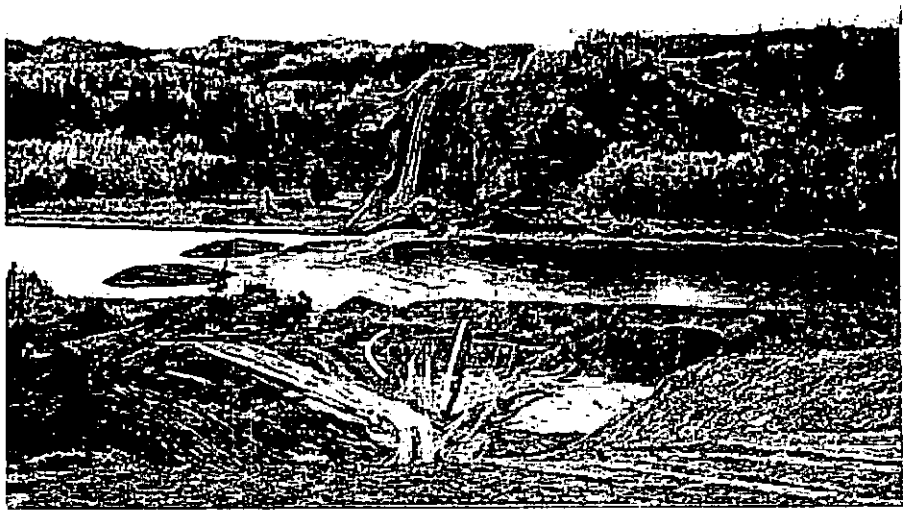
- Complete terrain mapping and winter geotechnical field program in Alaska
- Continue route reconnaissance and corridor selection in Alaska
- Begin engineering (Pre-FEED) for GTP



Project Status - Environmental

August 2008 – January 2009

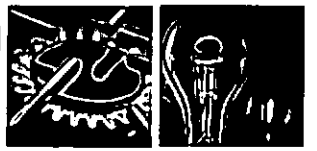
- Established GIS needs to support environmental planning and permitting
- Completed preliminary environmental constraints report for Alaska routing
- Completed initial route update review in Canada



Outlook – Q1 & Q2 2009

- Complete environmental information needs analysis with regulatory agencies
- Commence development of RFP for TransCanada environmental contractor – issuance in Q3 2009

Project Status – Regulatory / Permitting



August 2008 – January 2009

- Preliminary environmental permitting strategy for Alaska and Canada
- Submitted all permit applications to support winter geotechnical program North Slope Borough, ADNR, AF&G, USF&WS, USDOI (BLM), USACE, as well as referral to SHPO

Outlook – Q1 & Q2 2009

- Complete permitting for winter geotechnical field program
- Continue FERC discussions
- Commence discussions with individual agencies to update Environmental Information Needs Analysis

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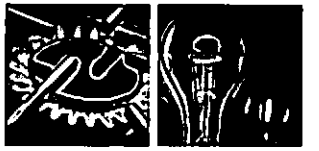
Project Status – Regulatory / Permitting (cont'd)



August 2008 – January 2009

- U.S. multi-agency meetings:
  - January 5 – FERC
  - January 6 – in D.C.; Office of Federal Coordinator, Departments of Defense, Energy, Homeland Security, Interior, Transportation, Commerce, State, Treasury, Advisory Council on Historic Preservation, Environmental Protection Agency, FERC, Council on Environmental Quality, Office of Management & Budget
  - January 14/15 – in Anchorage/Fairbanks; JPO/SPCO, ADNR, ADOT, ADF&G, SHPO, ADEC, NOAA, EPA, DOI (BLM), OFC, USFWS & University of Alaska Fairbanks

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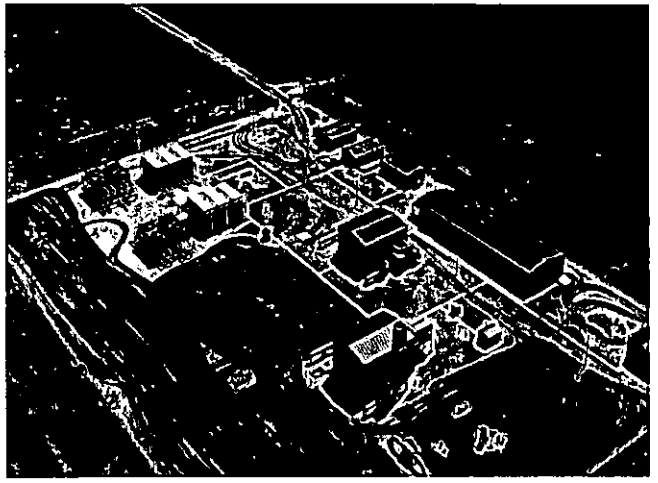
Project Status - Commercial

August 2008 – January 2009

- Continued discussions with potential shippers

Outlook – Q1 & Q2 2009

- Select contractor for In-State Gas Study
- Continue discussions with potential shippers
- Continue to develop plans for Open Season



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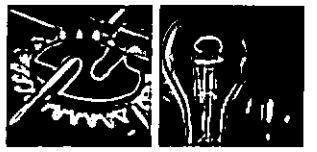
Project Status - Administrative



August 2008 – January 2009

- Office
  - Dec. 1, 2008 lease for Anchorage office
  - Dedicated project office space in Calgary
- Reimbursement
  - Initial discussions with Administration regarding AGIA reimbursement process and mechanics
  - Initiated required cost reimbursement agreements with State of Alaska and BLM for Open Season field activities including winter 2009 geotech program

Outlook – Q1 & Q2 2009

- Office
  - Anchorage Office Manager in place by early February
- Reimbursement
  - Finalize discussions with State on AGIA reimbursement details
  - Finalize reimbursement agreements with BLM and DNR (for access and permits)

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Project Status – Alaska Contractors

- Aerial Photography – Aero-Metric Inc., Anchorage
  - Sub-contractor - Lounsbury & Associates Inc., Anchorage
- Terrain Mapping – R&M Consultants Inc., Anchorage
- Geotechnical fieldwork – Golder Associates Inc., Anchorage,
  - Sub-contractor – Discovery Drilling Inc., Anchorage
- Environmental Planning and Permitting – ENSR AECOM, Anchorage
  - Sub-contract with Clarus Technologies LLC, Eagle River for SHPO submission
- Geothermal Modeling and Support – Northern Engineering and Scientific, Anchorage
- External relations – Jade North, Anchorage

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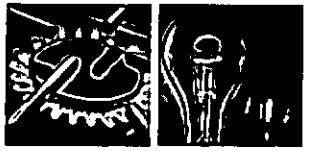
Project Status – Alignment Meetings



- Alyeska, ANGDA, ENSTAR
- DOT (Alaska)
  - Alaska / Yukon Infrastructure Improvements workshop
  - State Infrastructure Conference
- Department of Labor (Alaska)
  - AGIA Training Strategic Plan Steering and Implementation Committee
  - Alaska Pipeline Trades Academy Dedication & Tour
  - Alaska Workforce Investment Board
- Alaska Natives / Socio-Economic
  - Outreach and meetings with Regional Corporations, Village Corporations and Tribal Entities that are stakeholders

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Summary

- AGIA Bill approved and License issued
- Significant work underway – Engineering / Cost Estimation, Environmental, Administrative, etc.
- Commercial and Regulatory engagement commencing
- Alaska contractors retained
- Anchorage office in-place
- Target to conclude Open Season by summer 2010
- TransCanada will continue to focus on costs, schedule and attracting customers.

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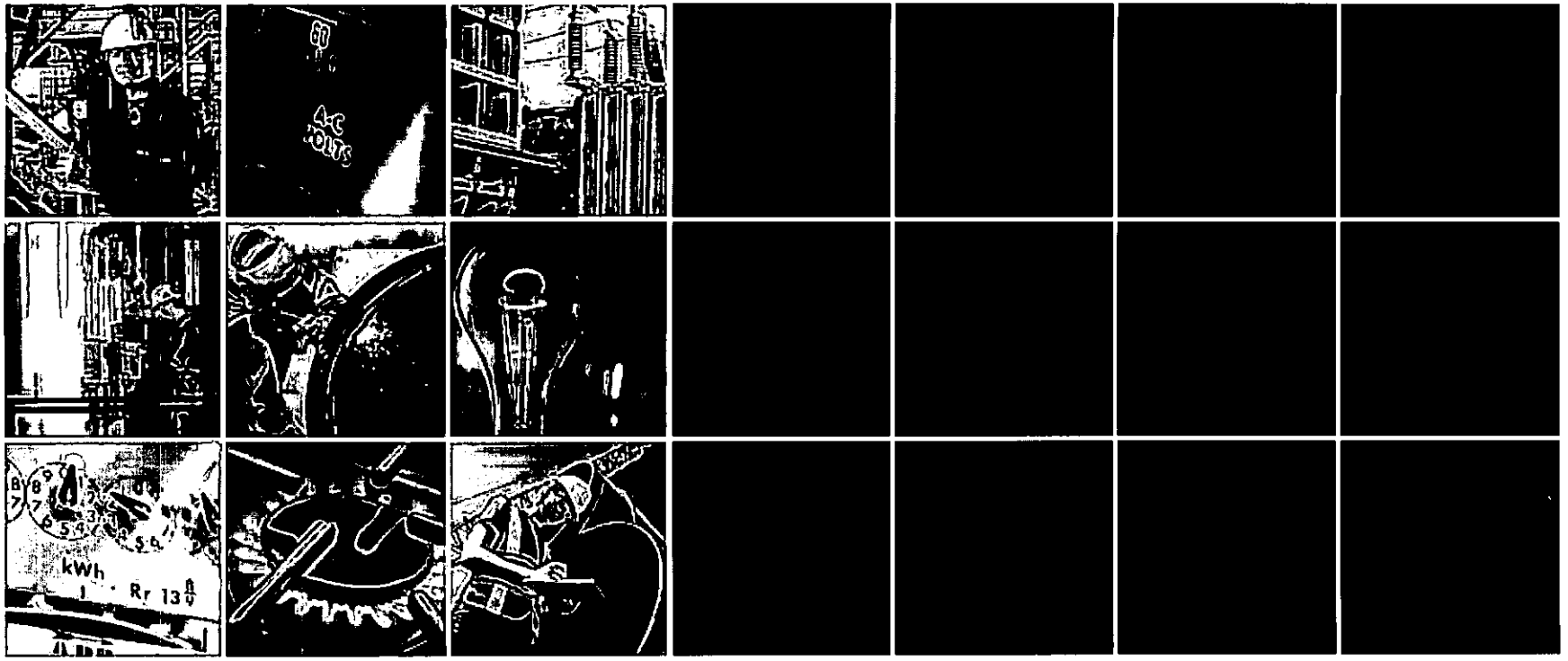

Thank You

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In business to deliver

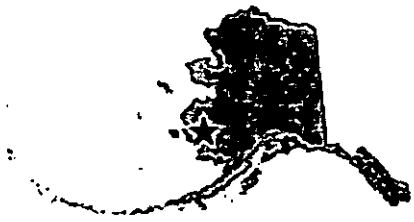
1/28/09

AK ENERGY AUTHORITY ENERGY PLAN UPDATE

Chikuminuk Hydro	Electric	16,000 kW	24,095,897 kWh
Kisaralik Hydro	Electric	30,000 kW	50,000,000 kWh
Newhalen Hydro	Electric	22,000 kW	50,000,000 kWh
Nyak Hydro	Electric	1,800 kW	4,700,000 kWh
Bethel Wind	Electric	9,600 kW	4,105,800 kWh
Amautluak Wind	Electric	9,000 kW	20,377,440 kWh
Generation			153,279,137 kWh
Load			127,799,965 kWh
Bethel			
	Electric	9,122 kW	39,955,247 kWh
	Heat	217,913 mmBTU	63,847,934 kWh
Kwethluk			
	Electric	264 kW	1,156,885 kWh
	Heat	23,687 mmBTU	6,940,229 kWh
Eek			
	Electric	162 kW	712,095 kWh
	Heat	13,117 mmBTU	3,843,246 kWh
Quinhagak			
	Electric	385 kW	1,688,006 kWh
	Heat	21,912 mmBTU	6,420,158 kWh
Amatluak			
	Electric	123 kW	537,659 kWh
	Heat	9,210 mmBTU	2,698,506 kWh

Bethel

Energy Used



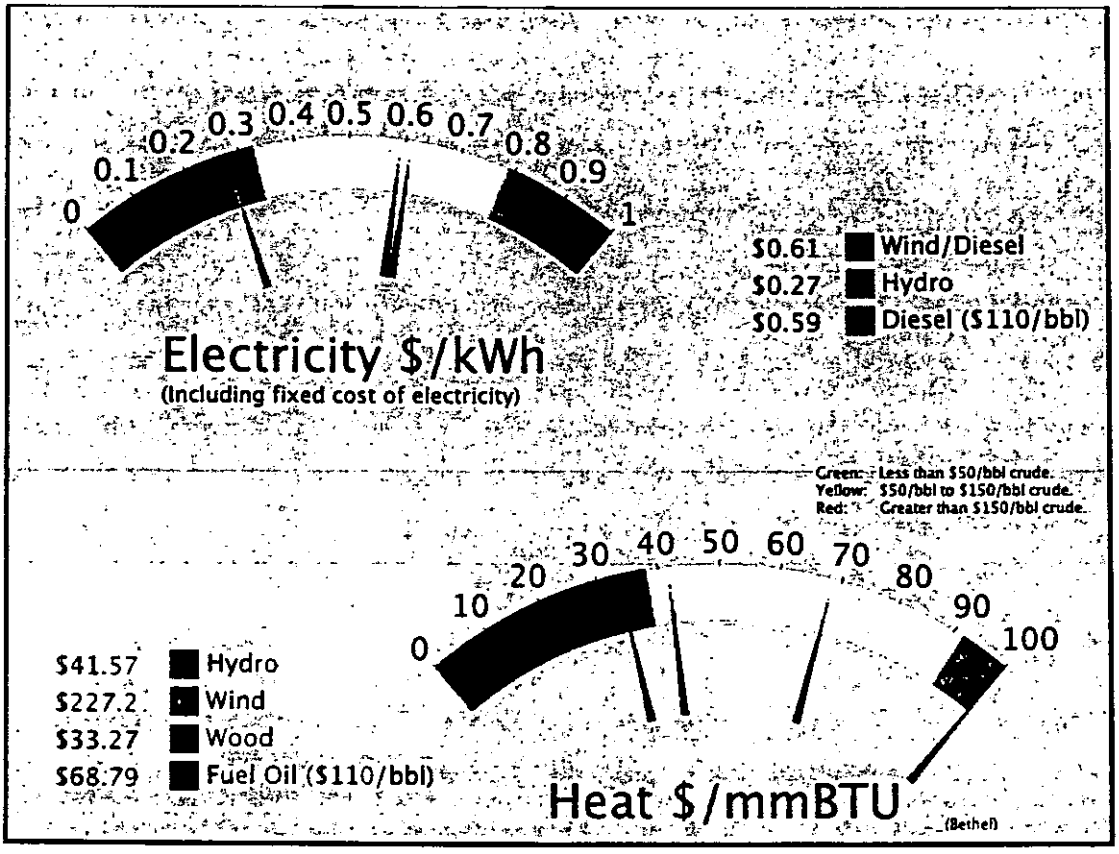
Total: **$7,332** Per capita

Heat **$2,442** Per capita

Transportation **$874** Per capita

Electricity: **$4,017** Per capita

POPULATION: 5653



Bethel

Regional Corporation
Calista Corporation

House 38
Senate : **S**

POPULATION 5653 LATITUDE: 60d 47m N LONGITUDE: 161d 45m **Unorganized**

LOCATION Bethel is located at the mouth of the Kuskokwim River, 40 miles inland from the Bering Sea. It lies in the Yukon Delta National Wildlife Refuge, 400 air miles west of Anchorage.

ECONOMY Bethel serves as the regional center for 56 villages in the Yukon-Kuskokwim Delta. Food, fuel, transportation, medical care, and other services for the region are provided by Bethel. 50% of the jobs in Bethel are in government positions. Commercial fishing is an important source of income; 200 residents hold commercial fishing permits, primarily for salmon and herring roe net fisheries. Subsistence activities contribute substantially to villager's diets, particularly salmon, freshwater fish, game birds and berries. Poor fish returns since 1997 have significantly affected the community.

HISTORY Bethel was first established by Yup'ik Eskimos who called the village Mumtrekhlogamute meaning Smokehouse People named for the nearby fish smokehouse. There were 41 people in Bethel during the 1880 U.S. Census. At that time, it was an Alaska Commercial Company Trading Post. The Moravian Church established a mission in the area in 1884. The community was moved to its present location due to erosion at the prior site. A post office was opened in 1905. Before long, Bethel was serving as a trading, transportation and distribution center for the region, which attracted Natives from surrounding villages. The City was incorporated in 1957. Over time, federal and state agencies established regional offices in Bethel.

Current Energy Status PCE

Electric (Estimates based on PCE)

Current efficiency	13.68	kW-hr/gal	Fuel COE	$0.51	/kw-hr	Estimated Local Fuel cost @ $110/bbl	$6.60 /kw-hr
Consumption in 200	3,075,281	gal	Est OM	$0.02	/kw-hr	Estimated Diesel OM	$799,105
Average Load	4,561	kW	NF COE:	$0.06	/kw-hr	Other Non-Fuel Costs:	$2,530,895
Estimated peak loa	9122.2	kW	Total	$0.59		Current Fuel Costs	$20,301,775
Average Sales	39,955,247	kW-hours				**Total Electric**	**$23,631,775**

Space Heating (Estimated)

2000 Census Data		2008 Estimated Heating Fuel used:	1,815,943	gal	
Fuel Oil:	87%	Estimated heating fuel cost/gallon	$7.60		
Wood:	1%	$/MMBtu delivered to user	$68.95		**Total Heating Oil**
Electricity:	5.5%	Community heat needs in MMBtu	217,913		**13,804,071**

Transportation (Estimated)

Estimated Diesel:	649,616	gal	Estimated cost	$7.60	**Total Transportation** **$4,938,121**

Energy Total **$42,373,967**

Possible Upgrades to Current Power Plant

Power Plant - Performance Improvement to higher efficiency

Upgrade needed:		Capital cost	$0			
#N/A		Annual Capital cost	$0	$0.00	/kw-hr	
Status	NA	Estimated Diesel OM	$799,105	$0.02		
Acheivable efficiency	14.8 kW-	New fuel cost	$18,831,562	$0.47		**Savings**
New Fuel use	2,852,575	Avg Non-Fuel Costs:	$3,330,000	$0.06		**$1,470,213**
		New cost of electricity		$0.53	per kW-hr	

Diesel Engine Heat Recovery

Heat Recovery System Installed?

Is it working now?

BLDGs connected and working:

			Value
Water Jacket	461,292	gal	$3,506,558
Stack Heat	307,528	gal	$2,337,706

Capital cost	$12,771,083		
Annual ID	1,069,790		
Annual OM	$255,422		
Total Annual costs	$1,325,212		**Savings**
Heat cost	$15.60	$/MMBtu	**$4,519,052**

Alternative Energy Resources

Hydro

Installed KW 16000
kW-hr/year 24095897
Site **Chikuminuk Lake**
Study plan effort **reconnaissance**
Plant Factor **50** %
Penetration **0.46**

		per kW-hr	Heat Cost $/MMBtu :
Capital cost	**$79,756,000**		
Annual Capital	**$3,099,756**	$0.13	$37.69
Annual OM	**$579,120**	$0.02	$7.04
Fuel cost:	**$0**	$0.00	
Total Annual Cost	**$3,678,876**	$0.15	**$44.73**
	Non-Fuel Costs	$0.08	
	Alternative COE:	**$0.24**	
	% Community energy	60%	**Savings**
	New Community COE (includes non-fuel and diesel costs)	**$0.32**	**$11,039,683**

Alternative Energy Resources

Hydro

Installed KW 30000
kW-hr/year 50000000
Site **Kisaralik River**
Study plan effort **reconnaissance**
Plant Factor **50** %
Penetration **0.58**

		per kW-hr	Heat Cost $/MMBtu :
Capital cost	**$163,798,760**		
Annual Capital	**$7,281,651**	$0.15	$42.67
Annual OM	**$423,000**	$0.01	$2.48
Fuel cost:	**$0**	$0.00	
Total Annual Cost	**$7,704,651**	$0.15	**$45.15**
	Non-Fuel Costs	$0.08	
	Alternative COE:	**$0.24**	
	% Community energy	125%	**Savings**
	New Community COE (includes non-fuel and diesel costs)	**$0.28**	**$15,927,124**

Alternative Energy Resources

Hydro

Installed KW 22000
kW-hr/year 50000000
Site **Newhalen River**
Study plan effort **reconnaissance**
Plant Factor %
Penetration **0.55**

		per kW-hr	Heat Cost $/MMBtu :
Capital cost	**$378,645,160**		
Annual Capital	**$23,561,665**	$0.47	$138.07
Annual OM	**$423,000**	$0.01	$2.48
Fuel cost:	**$0**	$0.00	
Total Annual Cost	**$23,984,665**	$0.48	**$140.55**
	Non-Fuel Costs	$0.08	
	Alternative COE:	**$0.56**	
	% Community energy	125%	**Savings**
	New Community COE (includes non-fuel and diesel costs)	**$0.68**	**($352,890)**

Alternative Energy Resources

Hydro

Installed KW 1800
kW-hr/year 4700000

Site **NYAC Tuluksak River/Slate Cr.**
Study plan effort **reconnaissance**
Plant Factor %
Penetration **0.14**

		per kW-hr	Heat Cost $/MMBtu
Capital cost	**$10,541,654**		
Annual Capital	**$409,707**	$0.09	$25.54
Annual OM	**$240,406**	$0.05	$14.99
Fuel cost:	**$0**	$0.00	
Total Annual Cost	**$650,113**	$0.14	**$40.53**
Non-Fuel Costs		$0.08	
Alternative COE:		**$0.22**	
% Community energy		12%	
New Community COE		**$0.55**	

(includes non-fuel and diesel costs)

Savings
$1,832,324

Alternative Energy Resources

Wind Diesel Hybrid

Installed KW 9600
kW-hr/year 4105800

Met Tower? **no**
Homer Data? **no**
Wind Class **5**
Avg wind speed **6.70** m/s

		per kW-hr	Heat Cost $/MMBtu
Capital cost	**$39,415,684**		
Annual Capital	**$2,649,353**	$0.65	$189.06
Annual OM	**$192,629**	$0.05	$13.75
Fuel cost:	**$0**	$0.00	
Total Annual Cost	**$2,841,982**	$0.69	**$202.81**
Non-Fuel Costs		$0.08	
Alternative COE:		**$0.78**	
% Community energy		10%	
New Community COE		**$0.61**	

(includes non-fuel and diesel costs)

Savings
($673,531)

Biomass For Heat

Heat Deliverd:	**425000** BTU/hr	Garn heater installed cost	**$500,000**
Cords/day:	**1.8**	Annual ID	**$33,608**
Hours per year	**6000**	Capital per MMBt	**$13.18**
Wood (cordwood or willows)	**$225** $/cord	Fuel cost per MMBtu	**$20.09**
		Total per MMBT	**$33.27**
		Annual Heat	1.2%

Other Resources

Bethel

Tidal:	
Wave:	
Coal Bed Methane:	
Natural Gas:	
Coal:	
Propane:	

Renewable Fund Project List:

For detailed information, consult the AEA web site. akenergyauthority.org

A project titled: Bethel Wind Farm Construction (BNC land) has been submitted by: Alaska Wind Power, LLC for a Wind Diesel Hybrid project. The total project budget is: $8,710,000 with $6,960,000 requested in grant funding and $1,750,000 as matching funds.

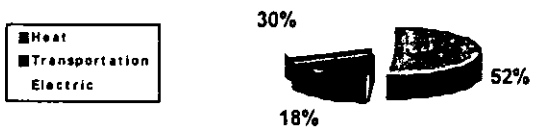
A project titled: Bethel Wind Power x 4 has been submitted by: City of Bethel for a Wind Diesel Hybrid project. The total project budget is: $3,197,986 with $2,598,320 requested in grant funding and $199,889 as matching funds.

A project titled: Bethel Wind Power x4_City of Bethel has been submitted by: City of Bethel for a Wind Diesel Hybrid project. The total project budget is: $3,197,986 with $2,598,320 requested in grant funding and $599,666 as matching funds.

A project titled: Orutsaramiut Native Council has been submitted by: Orutsaramiut Native Council Incorporated for a Gas project. The total project budget is: $70,200 with $701,700 requested in grant funding and $771,900 as matching funds.

Kwethluk

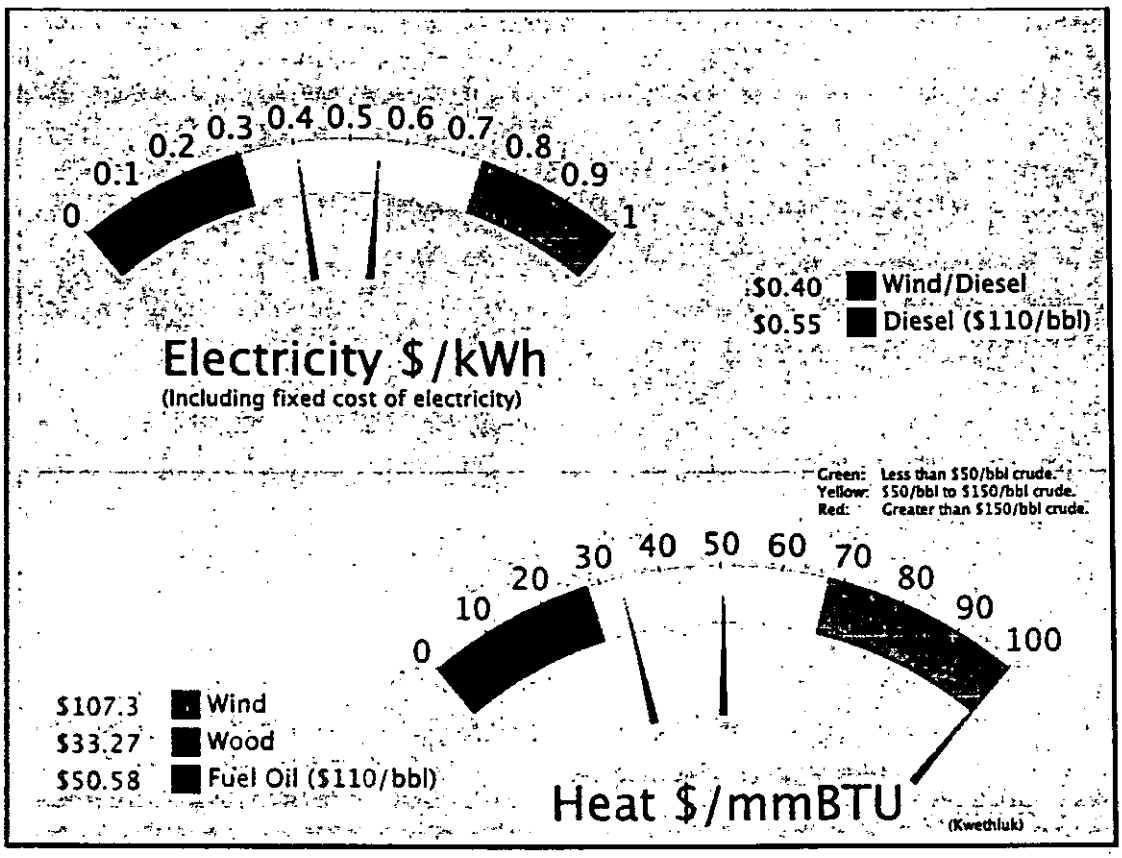
Energy Used



Total: **$2,989** Per capita

Heat	**$1,530**	Per capita
Transportation	**$547**	Per capita
Electricity:	**$911**	Per capita

POPULATION: 721



Kwethluk

Regional Corporation
Calista Corporation

House 38
Senate : S

POPULATION 721 LATITUDE: 60d 49m N LONGITUDE: 161d 26m **Unorganized**

LOCATION This is a Yup'ik community located 12 air miles east of Bethel on the Kwethluk River at its junction with the Kuskokwim. The village is the second largest along the Lower Kuskokwim River, following Bethel.

ECONOMY The largest employers are the school district, village corporation, store and health clinic. 61 residents hold commercial fishing permits. Subsistence activities play a central role in the lifestyle; salmon, moose and caribou are the staples of the diet. Seal meat and seal oil are obtained in trade with coastal relatives and neighbors. Most families travel to fish camps each summer.

HISTORY Archaeological evidence from a nearby site indicates that the area has been occupied since prehistoric times. The name Kwethluk is derived from "Kwikli," meaning "river." In the late 1800s, families from four villages on the Kwethluk River joined others living at the site. In 1889, an Eskimo lay worker for the Moravian Church was stationed at the village. A measles epidemic struck the village in the late 1890s. The Moravian Church built a chapel in 1896, followed by a Russian Orthodox Church in 1912. Discovery of gold in nearby creeks in 1909 attracted prospectors to the area, but the finds proved disappointing and most were gone by 1911. One placer deposit, discovered on the upper Kwethluk River, delivered a small yield and was worked until World War II. A Moravian orphanage was established three miles upriver. A BIA school with teacher's quarters was built in 1924. In 1939, the villagers owned 31,000 reindeers, used for food and skins. A tuberculosis epidemic at this time tragically reduced the population. A post office was established in 1947, and a Native-owned store opened in 1948. An airstrip was cleared in 1956. Snowmachines replaced dog teams in the 1960s as the principal form of winter transportation. The City was incorporated in 1975.

Current Energy Status PCE

Electric (Estimates based on PCE)

Estimated Local Fuel cost @ $110/bbl $4.59 /kw-hr

Current efficiency	13.49	kW-hr/gal	Fuel COE	$0.46	/kw-hr	Estimated Diesel OM	$23,138
Consumption in 200	116,368	gal	Est OM	$0.02	/kw-hr	Other Non-Fuel Costs:	$83,133
Average Load	132	kW	NF COE:	$0.07	/kw-hr	Current Fuel Costs	$534,083
Estimated peak loa	264.13	kW	Total	$0.55		**Total Electric**	
Average Sales	1,156,885	kW-hours					**$640,354**

Space Heating (Estimated)

2000 Census Data		2008 Estimated Heating Fuel used:	197,388	gal
Fuel Oil:	86%	Estimated heating fuel cost/gallon	$5.59	
Wood:	9%	$/MMBtu delivered to user	$50.70	
Electricity:	5.2%	Community heat needs in MMBtu:	23,687	

Total Heating Oil **$1,103,321**

Transportation (Estimated)

Estimated Diesel: 70,612 gal Estimated cost $5.59

Total Transportation **$394,690**

Energy Total **$2,138,365**

Possible Upgrades to Current Power Plant

Power Plant - Performance Improvement to higher efficiency

Upgrade needed:

Powerhouse Module

Status **Construction**

Acheivable efficiency 14 kW-

New Fuel use 112,166

Capital cost	$1,300,000		
Annual Capital cost	$108,897	$0.09	/kw-hr
Estimated Diesel OM	$23,138	$0.02	
New fuel cost	$514,795	$0.44	
Avg Non-Fuel Costs:	$106,271	$0.07	
New cost of electricity		$0.51	per kW-hr

Savings **($89,609)**

Diesel Engine Heat Recovery

Heat Recovery System Installed? N

Is it working now? N

BLDGs connected and working:

None

			Value
Water Jacket	17,455	gal	$97,568
Stack Heat	0	gal	$0

Capital cost	$369,781	
Annual ID	$30,975	
Annual OM	$7,396	
Total Annual costs	$38,371	
Heat cost	$19.89	$/MMBtu

Savings **$59,197**

Alternative Energy Resources

Wind Diesel Hybrid

Installed KW	**400**	Capital cost	**$3,071,563**	per kW-hr
kW-hr/year	**907550**	Annual Capital	**$206,457**	$0.23
Met Tower?	**no**	Annual OM	**$42,579**	$0.05
Homer Data?	**yes**	Fuel cost:	**$0**	$0.00
Wind Class	**5**	Total Annual Cost	**$249,036**	$0.27
Avg wind speed	**7.50** m/s	Non-Fuel Costs		$0.09
		Alternative COE:		**$0.37**
		% Community energy		78%
		New Community COE		**$0.39**
		(includes non-fuel and diesel costs)		

Heat Cost $/MMBtu:

$66.65

$13.75

$80.40

Savings

$188,058

Biomass For Heat

Heat Deliverd:	**425000** BTU/hr	Garn heater installed cost	**$500,000**
Cords/day:	**1.8**	Annual ID	**$33,608**
Hours per year	**6000**	Capital per MMBt	**$13.18**
Wood (cordwood or willows)	**$225** $/cord	Fuel cost per MMBtu	**$20.09**
		Total per MMBT	**$33.27**
		Annual Heat	10.8%

Other Resources

Kwethluk

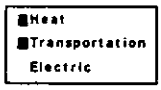
Tidal:	
Wave:	
Coal Bed Methane:	
Natural Gas:	
Coal:	
Propane:	

Renewable Fund Project List:

For detailed information, consult the AEA web site. akenergyauthority.org

Eek

Energy Used



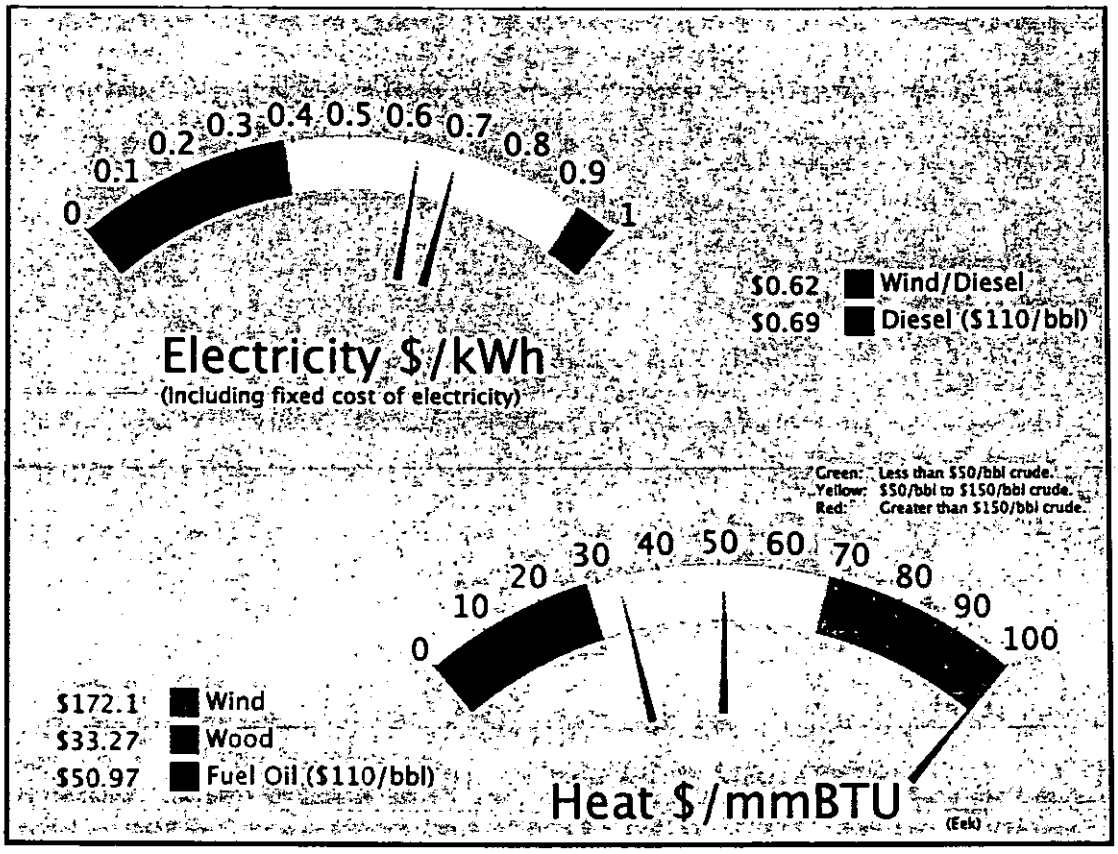
Total: **$4,643** Per capita

Heat **$2,160** Per capita

Transportation **$773** Per capita

Electricity: **$1,710** Per capita

POPULATION: 285



Eek

Regional Corporation
Calista Corporation

House 38
Senate : S

POPULATION 285 LATITUDE: 60d 13m N LONGITUDE: 162d 01m **Unorganized**

LOCATION Eek lies on the south bank of the Eek River, 12 miles east of the mouth of the Kuskokwim River. It is 35 air miles south of Bethel in the Yukon-Kuskokwim Delta, and 420 miles west of Anchorage.

ECONOMY Eek's economy is primarily subsistence- and commercial fishing-based. A few full-time positions are available at the school, City, and village office. All families participate in subsistence fishing; 44 residents hold commercial fishing permits. Poor fish returns and prices in recent years have significantly affected the economy.

HISTORY The village was originally located on the Apokok River, and moved to its present location in the 1930s. Constant flooding and erosion forced a relocation. A BIA school and a Moravian Church were constructed at the new site. A post office was established in 1949. The City was incorporated in 1970.

Current Energy Status PCE

Electric (Estimates based on PCE)

Estimated Local Fuel cost @ $110/bbl **$4.63** /kw-hr

Current efficiency	**13.44**	kW-hr/gal	Fuel COE	**$0.42**	/kw-hr	Estimated Diesel OM	**$14,242**
Consumption in 200	**64,071**	gal	Est OM	**$0.02**	/kw-hr	Other Non-Fuel Costs:	**$185,145**
Average Load	**81**	kW	NF COE:	**$0.26**	/kw-hr	Current Fuel Costs	**$296,796**
Estimated peak loa	**162.58**	kW	Total	**$0.70**		**Total Electric**	
Average Sales	**712,095**	kW-hours					**$496,183**

Space Heating (Estimated)

2000 Census Data		2008 Estimated Heating Fuel used:	**109,309**	gal	
Fuel Oil:	**100%**	Estimated heating fuel cost/gallon	**$5.63**		
Wood:	**0%**	$/MMBtu delivered to user	**$51.08**		**Total Heating Oil**
Electricity:	**0.0%**	Community heat needs in MMBtu	**13,117**		**$615,664**

Transportation (Estimated)

Estimated Diesel: **39,103** gal Estimated cost **$5.63**

Total Transportation **$220,241**

Energy Total **$1,332,087**

Possible Upgrades to Current Power Plant

Power Plant - Performance Improvement to higher efficiency

Upgrade needed:

Powerhouse Module

Status **Pending**

Acheivable efficiency **14** kW-

New Fuel use **61,493**

Capital cost	**$1,300,000**		
Annual Capital cost	**$108,897**	$0.15	/kw-hr
Estimated Diesel OM	**$14,242**	$0.02	
New fuel cost	**$284,855**	$0.40	**Savings**
Avg Non-Fuel Costs:	**$199,387**	$0.26	**($96,956)**
New cost of electricity		**$0.76** per kW-hr	

Diesel Engine Heat Recovery

Heat Recovery System Installed? **Y**

Is it working now? **Y**

BLDGs connected and working:

Powerhouse, Mechanics Hut

			Value
Water Jacket	**9,611**	gal	**$54,130**
Stack Heat	**0**	gal	**$0**

Capital cost	**$227,610**		
Annual ID	**$19,066**		
Annual OM	**$4,552**		
Total Annual costs	**$23,618**		**Savings**
Heat cost	**$22.24**	$/MMBtu	**$30,512**

Alternative Energy Resources

Wind Diesel Hybrid

Installed KW	**200**	Capital cost	**$1,760,485**	per kW-hr
kW-hr/year	**453775**	Annual Capital	**$118,332**	$0.26
Met Tower?	**no**	Annual OM	**$21,289**	$0.05
Homer Data?	**yes**	Fuel cost:	**$0**	$0.00
Wind Class	**5**	Total Annual Cost	**$139,622**	$0.31
Avg wind speed	**7.50** m/s	Non-Fuel Costs		$0.28
		Alternative COE:		**$0.59**
		% Community energy	64%	
		New Community COE		**$0.61**
		(includes non-fuel and diesel costs)		

Heat Cost $/MMBtu

$76.41

$13.75

$90.15

Savings

$58,579

Biomass For Heat

Heat Deliverd:	**425000** BTU/hr	Garn heater installed cost	**$500,000**
Cords/day:	**1.8**	Annual ID	**$33,608**
Hours per year	**6000**	Capital per MMBt	**$13.18**
Wood (cordwood or willows)	**$225** $/cord	Fuel cost per MMBtu	**$20.09**
		Total per MMBT	**$33.27**
		Annual Heat	19.4%

Other Resources

Eek

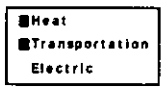
Tidal:
Wave:
Coal Bed Methane:
Natural Gas:
Coal:
Propane:

Renewable Fund Project List:

For detailed information, consult the AEA web site. akenergyauthority.org

Quinhagak

Energy Used



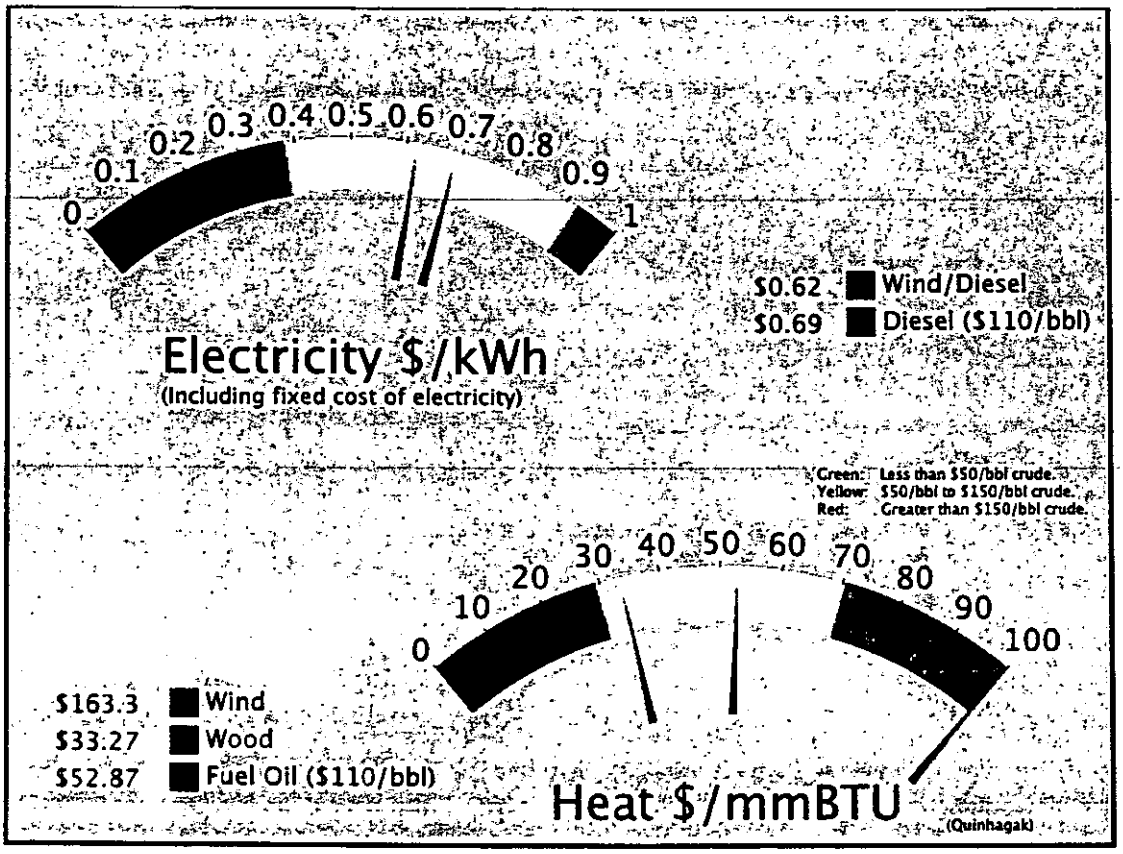
Total: **$4,163** Per capita

Heat **$1,659** Per capita

Transportation **$594** Per capita

Electricity: **$1,910** Per capita

POPULATION: 643



Quinhagak

Regional Corporation
Calista Corporation
House 38
Senate : **S**

POPULATION 643 LATITUDE: 59d 45m N LONGITUDE: 161d 54m **Unorganized**

LOCATION Quinhagak is on the Kanektok River on the east shore of Kuskokwim Bay, less than a mile from the Bering Sea coast. It lies 71 miles southwest of Bethel.

ECONOMY Most of the employment is with the school, government services or commercial fishing. Trapping, basket weaving, skin sewing and ivory carving also provide income. Subsistence remains an important part of the livelihood; seal and salmon are staples of the diet. 83 residents hold commercial fishing permits for salmon net and herring roe fisheries. Coastal Villages Seafood LLC processes halibut and salmon in Quinhagak.

HISTORY The Yup'ik name is Kuinerraq, meaning "new river channel." Quinhagak is a long-established village whose origin has been dated to 1,000 A.D. It was the first village on the lower Kuskokwim to have sustained contact with whites. Gavril Sarichev reported the village on a map in 1826. After the purchase of Alaska in 1867, the Alaska Commercial Co. sent annual supply ships to Quinhagak with goods for Kuskokwim River trading posts. Supplies were lightered to shore from the ship, and stored in a building on Warehouse Creek. A Moravian Mission was built in 1893. There were many non-Natives in the village at that time; most waiting for boats to go upriver. In 1904 a mission store opened, followed by a post office in 1905 and a school in 1909. Between 1906 and 1909, over 2,000 reindeer were brought in to the Quinhagak area. They were managed for a time by the Native-owned Kuskokwim Reindeer Company, but the herd had scattered by the 1950s. In 1915 the Kuskokwim River was charted, so goods were barged directly upriver to Bethel. In 1928, the first electric plant opened; the first mail plane arrived in 1934. The City was incorporated in 1975.

Current Energy Status PCE

Electric (Estimates based on PCE)

Estimated Local Fuel cost @ $110/bbl **$4.84** /kw-hr

Current efficiency	**13.61**	kW-hr/gal	Fuel COE	**$0.41**	/kw-hr	Estimated Diesel OM	**$33,760**
Consumption in 200	**143,191**	gal	Est OM	**$0.02**	/kw-hr	Other Non-Fuel Costs:	**$438,882**
Average Load	**193**	kW	NF COE:	**$0.26**	/kw-hr	Current Fuel Costs	**$693,474**
Estimated peak loa	**385.39**	kW	Total	**$0.69**		**Total Electric**	
Average Sales	**1,688,006**	kW-hours				**$1,166,116**	

Space Heating (Estimated)

2000 Census Data		2008 Estimated Heating Fuel used:	**182,597**	gal	
Fuel Oil:	**90%**	Estimated heating fuel cost/gallon	**$5.84**		
Wood:	**9%**	$/MMBtu delivered to user	**$53.00**		**Total Heating Oil**
Electricity:	**0.0%**	Community heat needs in MMBtu	**21,912**		**$1,066,913**

Transportation (Estimated)

Estimated Diesel: **65,320** gal Estimated cost **$5.84**

Total Transportation **$381,666**

Energy Total **$2,614,695**

Possible Upgrades to Current Power Plant

Power Plant - Performance Improvement to higher efficiency

Upgrade needed:

Powerhouse Module

Status **Pending**

Acheivable efficiency **14** kW-

New Fuel use **139,205**

Capital cost	**$1,300,000**		
Annual Capital cost	**$108,897**	$0.06	/kw-hr
Estimated Diesel OM	**$33,760**	$0.02	
New fuel cost	**$674,170**	$0.40	**Savings**
Avg Non-Fuel Costs:	**$472,642**	$0.26	**($89,592)**
New cost of electricity		**$0.69** per kW-hr	

Diesel Engine Heat Recovery

Heat Recovery System Installed? **Y**

Is it working now? **Y**

BLDGs connected and working:

Powerhouse Only

			Value
Water Jacket	**21,479**	gal	**$125,500**
Stack Heat	**0**	gal	**$0**

Capital cost	**$539,545**		
Annual ID	**$45,196**		
Annual OM	**$10,791**		
Total Annual costs	**$55,987**		**Savings**
Heat cost	**$23.59**	$/MMBtu	**$69,513**

Alternative Energy Resources

Wind Diesel Hybrid

Installed KW	**400**			
kW-hr/year	**895168**			
Met Tower?	**no**			
Homer Data?	**yes**			
Wind Class	**4**			
Avg wind speed	**7.00**	m/s		

			Heat Cost $/MMBtu
Capital cost	**$3,071,563**	per kW-hr	
Annual Capital	**$206,457**	$0.23	$67.58
Annual OM	**$41,998**	$0.05	$13.75
Fuel cost:	**$0**	$0.00	
Total Annual Cost	**$248,455**	$0.28	**$81.32**
Non-Fuel Costs		$0.28	
Alternative COE:		**$0.56**	
% Community energy	53%		**Savings**
New Community COE	**$0.61**		**$137,162**

(includes non-fuel and diesel costs)

Biomass For Heat

Heat Deliverd:	**425000**	BTU/hr	
Cords/day:	**1.8**		
Hours per year	**6000**		
Wood (cordwood or willows)	**$225**	$/cord	

Garn heater installed cost	**$500,000**
Annual ID	**$33,608**
Capital per MMBt	**$13.18**
Fuel cost per MMBtu	**$20.09**
Total per MMBT	**$33.27**
Annual Heat	11.6%

Other Resources

Quinhagak

Tidal:	
Wave:	
Coal Bed Methane:	
Natural Gas:	
Coal:	
Propane:	

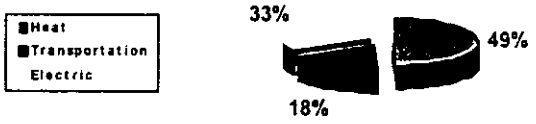
Renewable Fund Project List:

For detailed information, consult the AEA web site. akenergyauthority.org

A project titled: Quinhagak Wind Farm Construction has been submitted by: Alaska Village Electric Cooperative for a Wind Diesel Hybrid project. The total project budget is: $4,313,603 with $3,882,243 requested in grant funding and $431,360 as matching funds.

Atmautluak

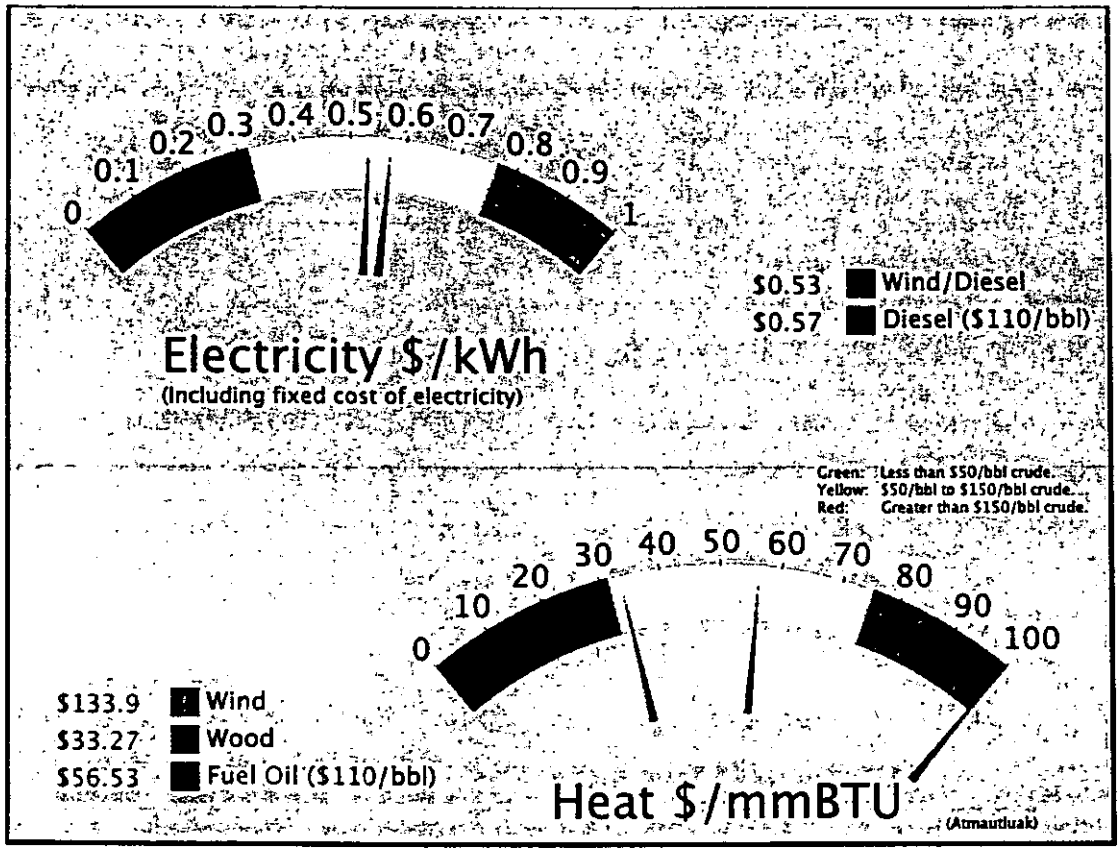
Energy Used



Total: **$3,190** Per capita

Heat	**$1,572**	Per capita
Transportation	**$562**	Per capita
Electricity:	**$1,055**	Per capita

POPULATION: 305



Atmautluak

Regional Corporation
Calista Corporation
House 38
Senate : S

POPULATION 305 LATITUDE: 60d 51m N LONGITUDE: 162d 16m **Unorganized**

LOCATION Atmautluak lies on the west bank of the Pitmiktakik River in the Yukon-Kuskokwim delta, 20 miles northwest of Bethel.

ECONOMY The school, retail businesses and the village government provide cash income to supplement the subsistence lifestyle. Thirty-one residents hold commercial fishing permits. Poor fish returns since 1997 have significantly affected the community.

HISTORY Yup'ik Eskimos have inhabited this region for thousands of years due to the area's rich resources, however Atmautluak itself was not settled until the 1960s. People moved to this site on higher ground to avoid flooding and for the rich resources of the area. A City was incorporated in 1976, but it was dissolved on Feb. 7, 1996 in favor of the traditional village council government.

Current Energy Status PCE

Electric (Estimates based on PCE)

Estimated Local Fuel cost @ $110/bbl **$5.25** /kw-hr

Current efficiency	**3.80**	kW-hr/gal	Fuel COE	**$0.41**	/kw-hr	Estimated Diesel OM	**$10,753**
Consumption in 200	**41,567**	gal	Est OM	**$0.02**	/kw-hr	Other Non-Fuel Costs:	**$79,988**
Average Load	**61**	kW	NF COE:	**$0.15**	/kw-hr	Current Fuel Costs	**$218,081**
Estimated peak loa	**122.75**	kW	Total	**$0.57**		**Total Electric**	
Average Sales	**537,659**	kW-hours				**$308,823**	

Space Heating (Estimated)

2000 Census Data		2008 Estimated Heating Fuel used:	**76,746**	gal	
Fuel Oil:	**95%**	Estimated heating fuel cost/gallon	**$6.25**		
Wood:	**0%**	$/MMBtu delivered to user	**$56.66**		**Total Heating Oil**
Electricity:	**5.2%**	Community heat needs in MMBtu	**9,210**		**$479,395**

Transportation (Estimated)

Estimated Diesel: **27,454** gal Estimated cost **$6.25**

Total Transportation **$171,494**

Energy Total **$959,711**

Possible Upgrades to Current Power Plant

Power Plant - Performance Improvement to higher efficiency

Upgrade needed:

Status

Acheivable efficiency **14** kW-

New Fuel use **11,278**

Capital cost	**$0**		
Annual Capital cost	**$0**	$0.00	/kw-hr
Estimated Diesel OM	**$10,753**	$0.02	
New fuel cost	**$59,171**	$0.11	**Savings**
Avg Non-Fuel Costs:	**$90,741**	$0.15	**$158,911**
New cost of electricity		**$0.54** per kW-hr	

Diesel Engine Heat Recovery

Heat Recovery System Installed?

Is it working now?

BLDGs connected and working:

			Value
Water Jacket	**6,235**	gal	**$38,947**
Stack Heat	**0**	gal	**$0**

Capital cost	**$171,855**		
Annual ID	**$14,396**		
Annual OM	**$3,437**		
Total Annual costs	**$17,833**		**Savings**
Heat cost	**$25.88**	$/MMBtu	**$21,114**

Alternative Energy Resources

Wind Diesel Hybrid

Installed KW **300**

kW-hr/year **679248**

Met Tower? **no**

Homer Data? **yes**

Wind Class **6**

Avg wind speed **8.10** m/s

			Heat Cost $/MMBtu
Capital cost	**$2,438,000**	per kW-hr	
Annual Capital	**$163,872**	$0.24	$70.69
Annual OM	**$31,868**	$0.05	$13.75
Fuel cost:	**$0**	$0.00	
Total Annual Cost	**$195,740**	$0.29	**$84.43**
Non-Fuel Costs		$0.17	
Alternative COE:		**$0.46**	
% Community energy		126%	**Savings**
New Community COE		**$0.53**	**$113,083**

(includes non-fuel and diesel costs)

Biomass For Heat

Heat Deliverd: **425000** BTU/hr

Cords/day: **1.8**

Hours per year **6000**

Wood (cordwood or willows) **$225** $/cord

Garn heater installed cost	**$500,000**
Annual ID	**$33,608**
Capital per MMBt	**$13.18**
Fuel cost per MMBtu	**$20.09**
Total per MMBT	**$33.27**
Annual Heat	27.7%

Other Resources

Atmautluak

Tidal:
Wave:
Coal Bed Methane:
Natural Gas:
Coal:
Propane:

Renewable Fund Project List:

For detailed information, consult the AEA web site. akenergyauthority.org

1/28/09 PRESENTA-TION: WIND ENERGY ALASKA

Wind Energy ALASKA

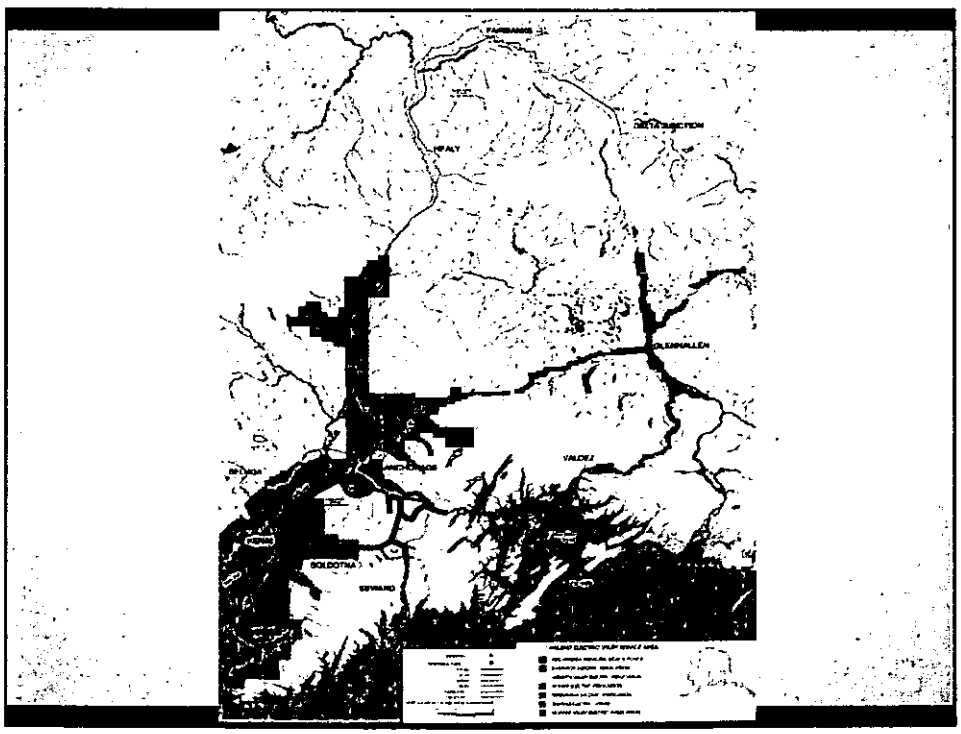
Fire Island Update

Senate Resources Committee

January 28, 2009

A joint venture of CIRI and enXco Development Corp.

CIRI enXco

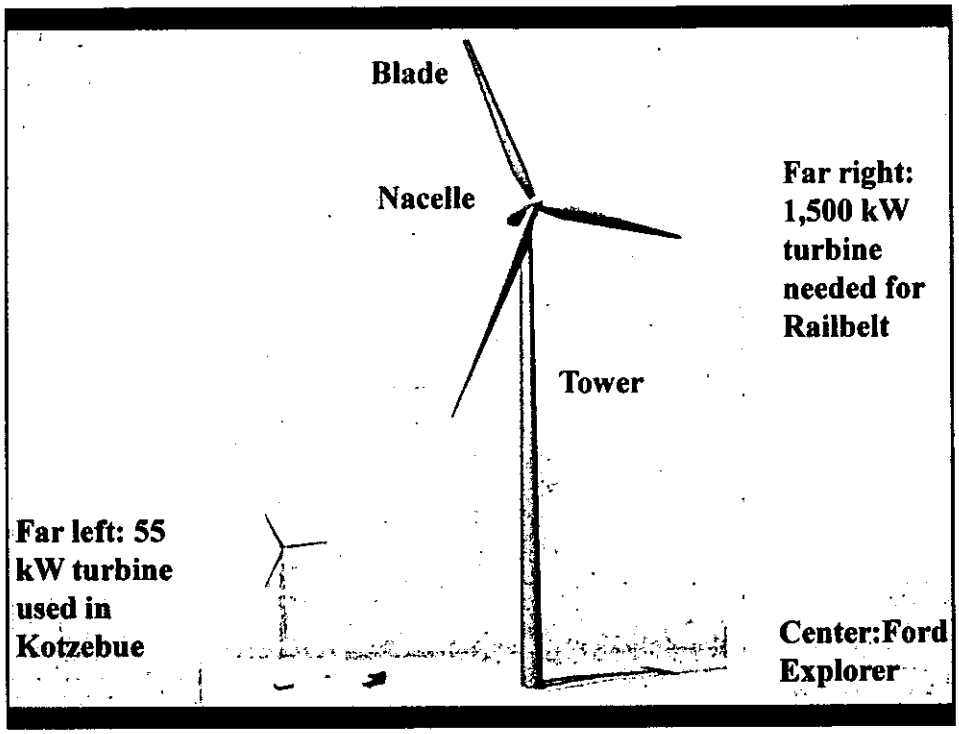


Renewable Energy

Generally recognized renewables:

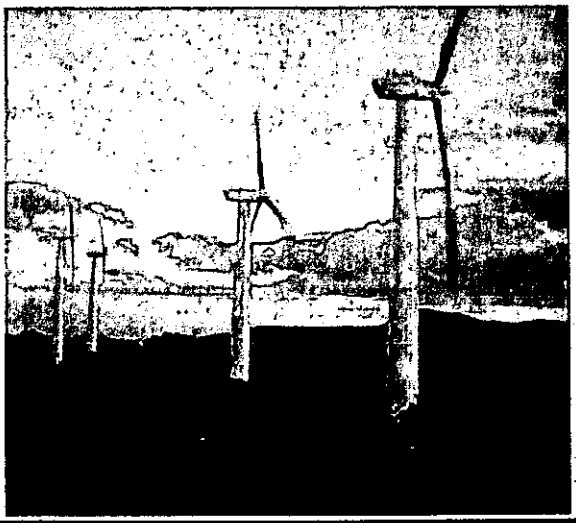
- Biomass
- Solar
- Wave and Tidal
- Geothermal
- Hydro
- Wind

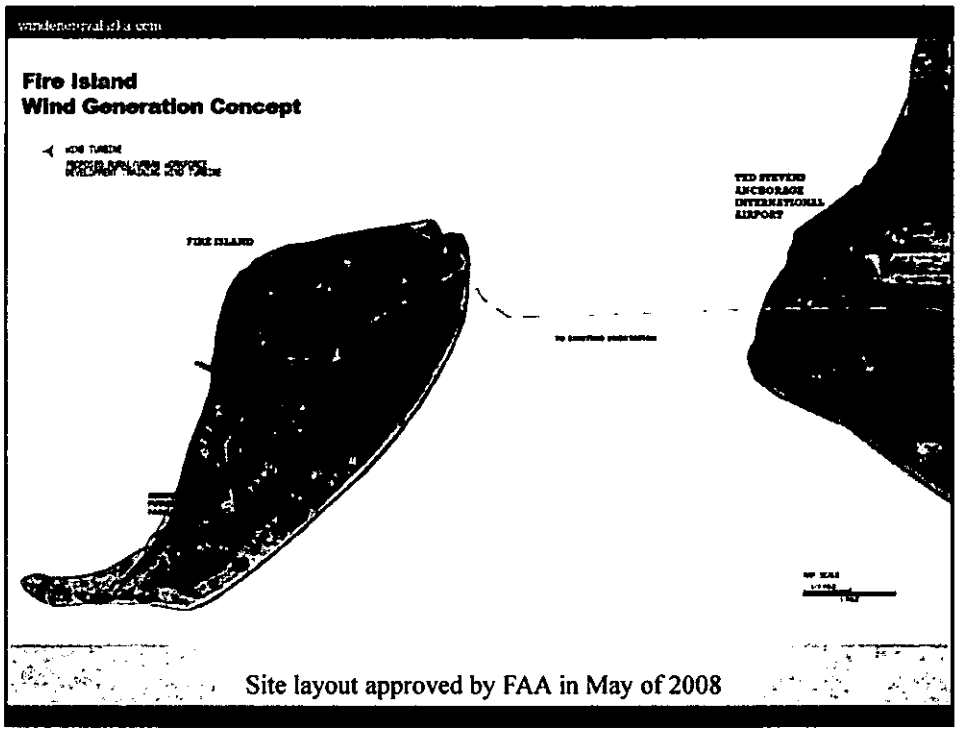
Wind Energy ALASKA

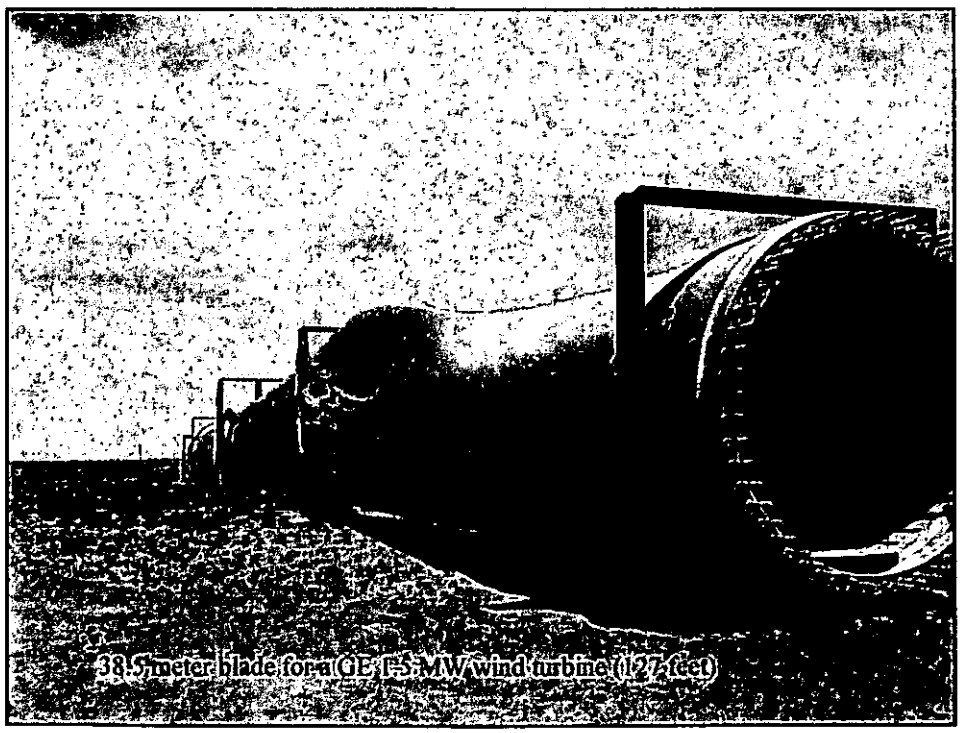


Relatively Slow Speed

18-21 RPM

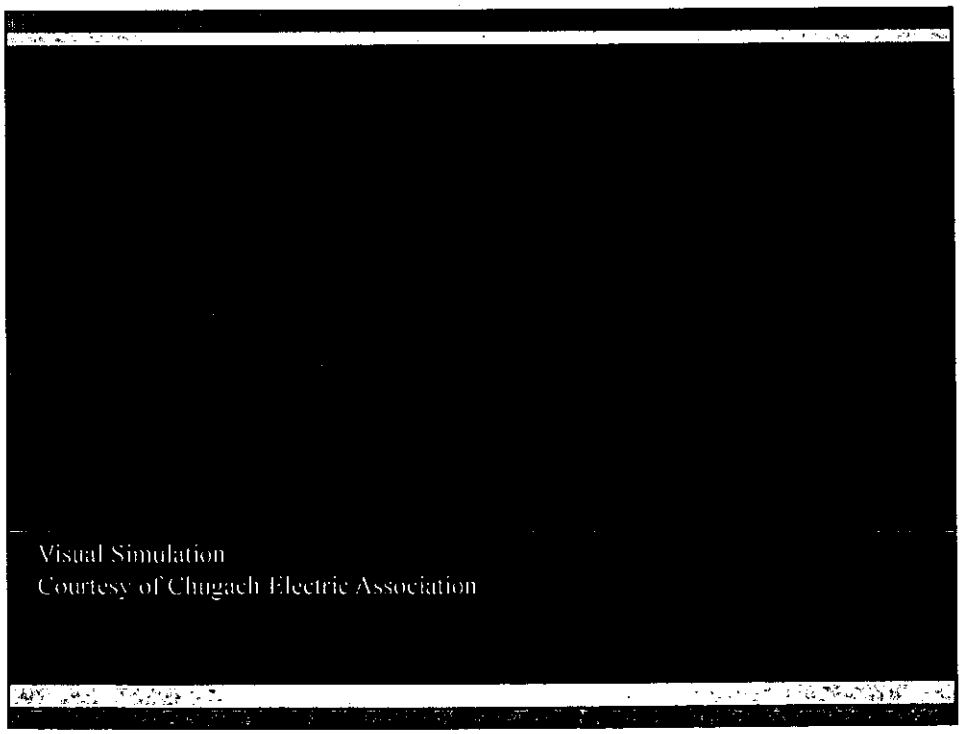



Fire Island
Wind Generation Concept
FIRE ISLAND
TED STEVENS
ANCHORAGE
INTERNATIONAL
AIRPORT
Site layout approved by FAA in May of 2008


38.5-meter blade for a GE 1.5-MW wind turbine (127 feet)

View from top of Kincaid Park Visitor Center

Simulation courtesy, Chugach Electric



Visual Simulation
Courtesy of Chugach Electric Association

Fire Island 2008 Milestones

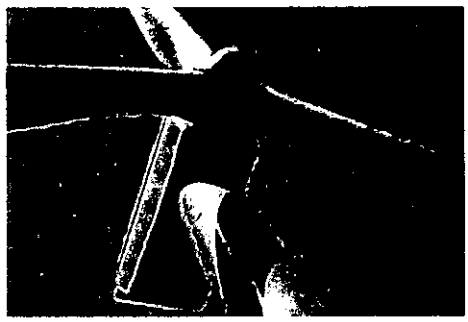
- May 2008 FAA issues determination of no hazard
- June 2008 meeting with Fire Island MOU partners, Chugach, ML&P, Homer Electric and Golden Valley Electric
- Proposals from construction contractors received in July 2008
- Draft power purchase agreements to MOU partners.

Fire Island - Recent Activity

- Staked road and power line alignments
- Applied for COE 404 permits
- Interagency meeting
- Public notice period has begun
- Meetings with prospective contractors
- MOU partners are kicking off integration studies.

Benefits

- Reduced emissions
- Diversification of resources
- Level-priced power



Wind Energy ALASKA

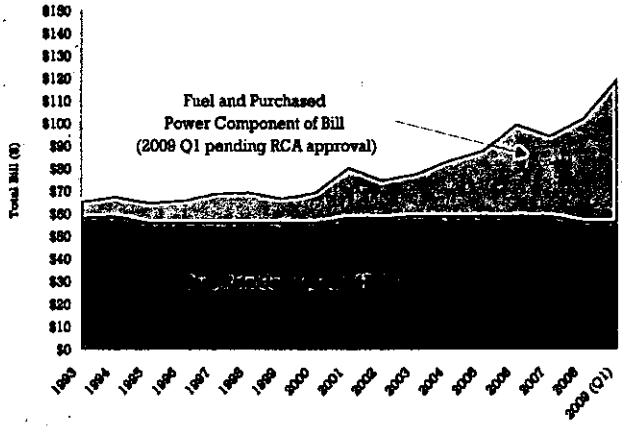
Renewables
Economic Considerations

Wind Energy ALASKA

Renewable Economic Considerations

- More than 90 percent of Southcentral Alaska's power is generated by natural gas.
- Natural gas is an excellent fuel but our community has too many eggs in one basket.
- Even a moderate size wind plant will help us diversify the investment portfolio.

Monthly Residential Bill Total, by Component
Based on 700 kWh Consumption: 1993 - 2009 (Q1)



wind energy ALASKA

Recent comparison

- Bradley Lake hydro was more expensive at first but is now among the lowest cost.
- Why ? – no fuel cost.
- Natural gas has doubled in price during the last three years.

Wind Energy ALASKA

Early Interest in Fire Island

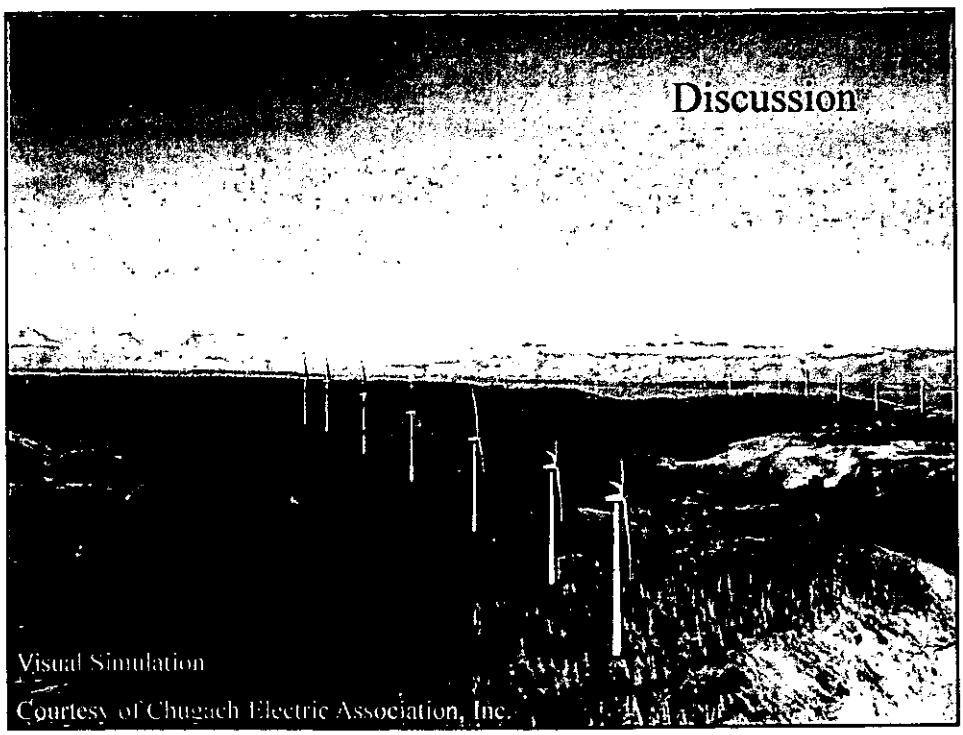
- Developers estimated the cost of power in 2005.
- If Fire Island had been installed then, Fire Island power would be competitive with natural gas generation today.

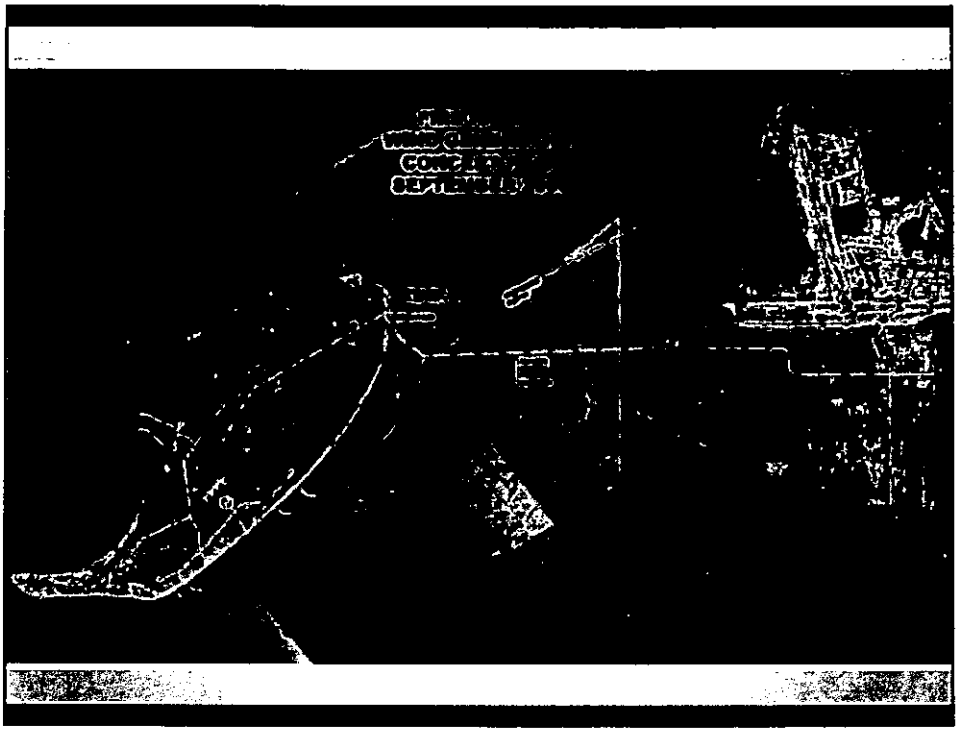
Wind Energy ALASKA

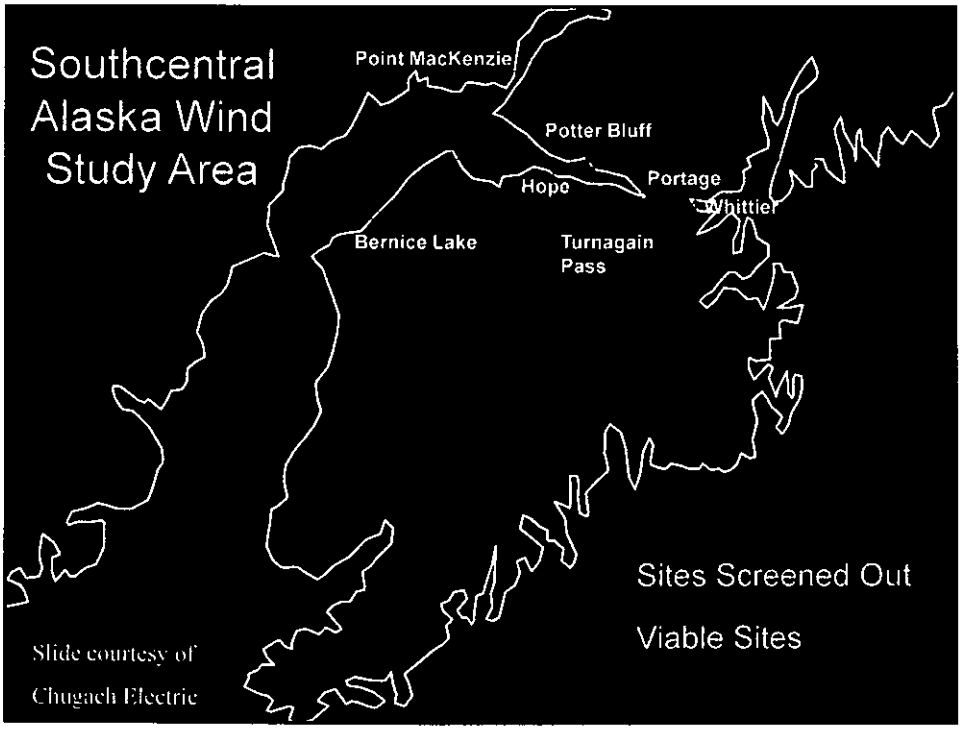
Wind Economics

- Wind power is relatively "flat-priced" and helps to diversify community investment in power generation.
- What is needed is a policy that sets incremental goals to "graft" renewable power into the system over time.
- Fire Island will help us do that.

Wind Energy ALASKA






Southcentral
Alaska Wind
Study Area
Point MacKenzie
Potter Bluff
Hope
Portage
Whittier
Bernice Lake
Turnagain
Pass
Sites Screened Out
Viable Sites
Slide courtesy of
Chugach Electric

2/2/09

ALASKA'S OIL & GAS FISCAL DESIGN

Alaska Senate Resources Committee

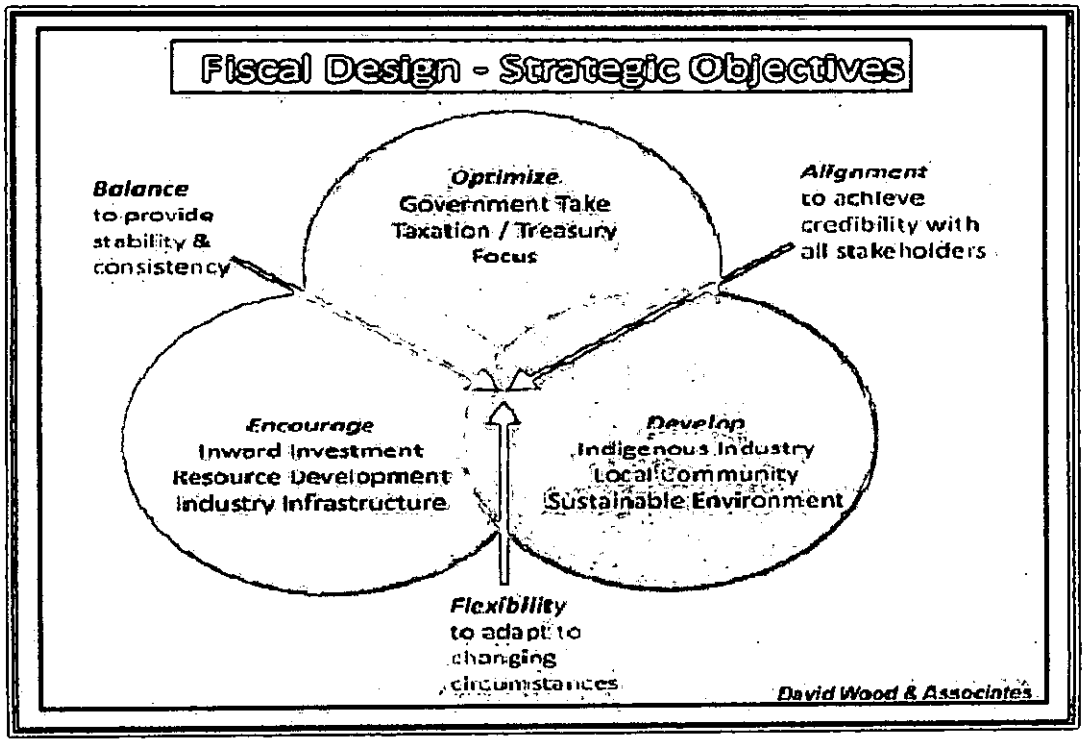
David Wood
2nd February 2009

Presented on David Wood's behalf by Dan Dickinson

Alaska: Fiscal Design Issues for Natural Gas Overview of December 2008 Report for Legislative Budget and Audit Committee

Fiscal Designs are Best Driven by Clear Fiscal Objectives & Strategies

Most countries are trying to balance all three objectives.



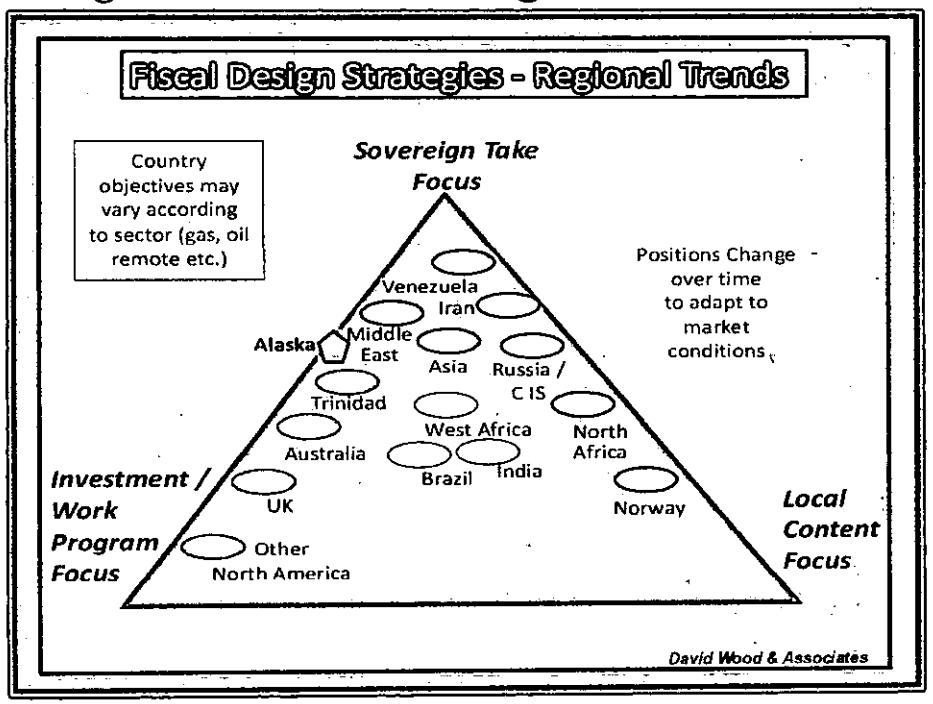
Approaches to Fiscal Design that can Improve Performance & Credibility

The following are selected recommendations for Alaska from the report:

- Develop a clear statement of fiscal strategy and objectives
- Focus on a simple, flexible and progressive fiscal design
- Some level of fiscal stability important to secure investment
- Such designs could be more effective than contractual guarantees
- Drive progressivity fiscal elements for gas with gas PTV (not boe)
- Consider return on investment drivers for progressivity taxes
- Consider offering allowances focused to offset regressive elements
- Aim to clarify and optimize fiscal revenue streams from NGLs
- Consider state equity involvement in infrastructure projects
- Involve cost control components to some fiscal incentives
- Apply time constraints to new leases to develop resources

Fiscal Design Strategies
Regional Trends

Upstream fiscal designs should reflect the broader strategies and objectives that governments are striving to achieve.



A clear statement of fiscal design strategy by a government can help to enhance its fiscal credibility.

Alaska Fiscal Take in a Global Context

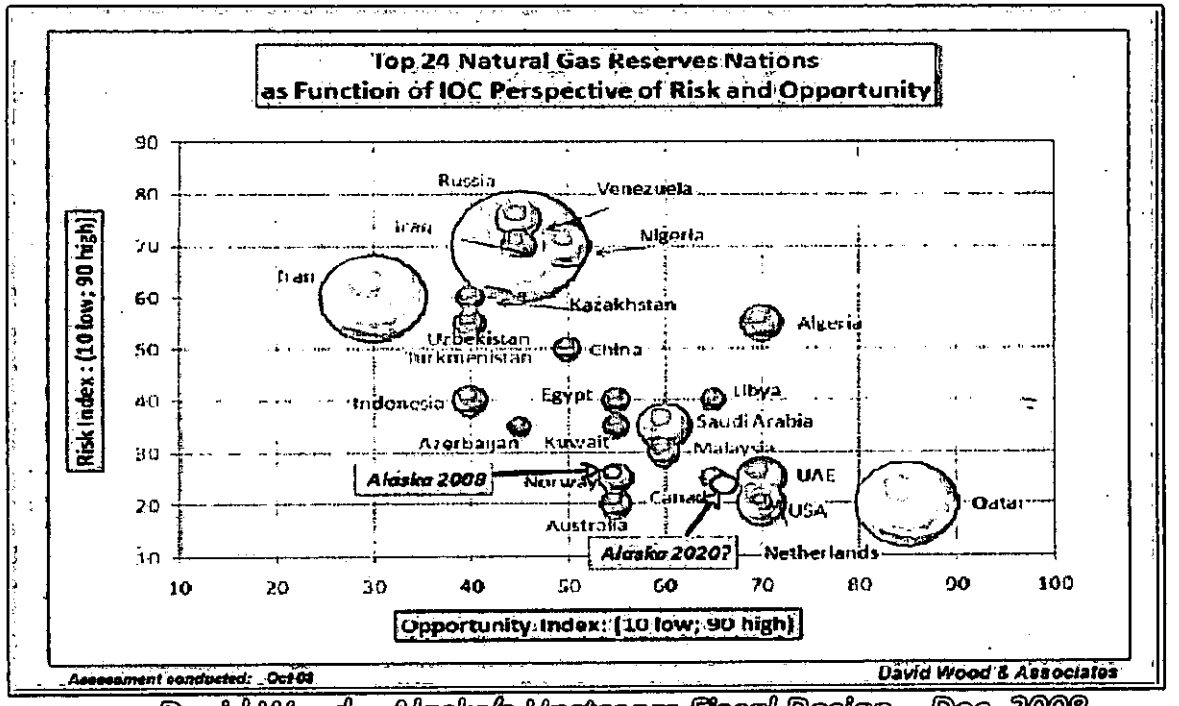
The report reviews the fiscal designs of a number of gas producing countries in some detail and reveals that a diverse range of fiscal designs and contractual structures are exploited.

- Total government takes (at assumed price) of some 67% or two-thirds of divisible profits for natural gas make Alaska:
  - harsher in terms of fiscal take than other U.S. states and large OECD gas producers and reserves holders (e.g. Australia, Canada and U.K.);
  - but more lenient in terms of fiscal take than countries in which IOCs are able to explore and produce gas in North Africa, West Africa, Caspian, and Asia.

- However, percentage fiscal takes (at assumed price) are only one issue considered by IOCs when making investment decisions. Fiscal stability, risk and progressive versus regressive tendencies are also important.

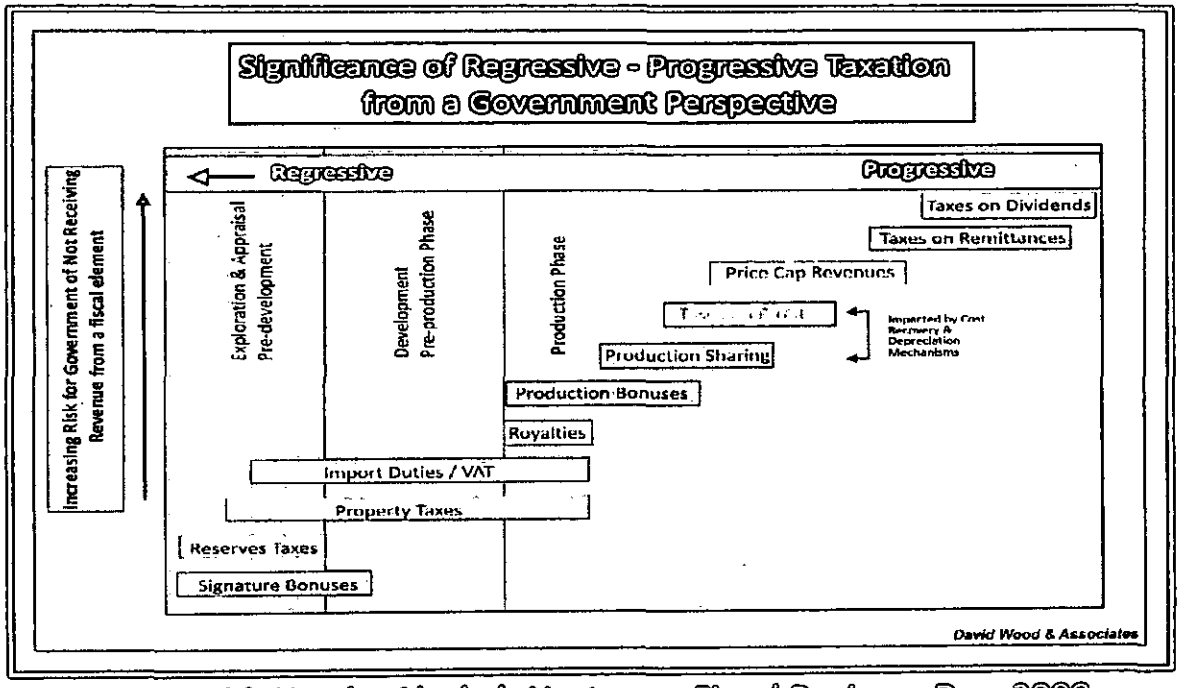
Alaska Gas Compared on International Scale of Risk versus Opportunity

The diameters of the bubbles are proportional to proved natural gas reserve holdings as reported by BP Statistical Review (June 2008).



Progressive & Flexible Fiscal Designs Help to Promote Investment

The stronger the commitment made by governments to promote a commercially attractive environment, the more likely investors are to commit investments without guarantees of fiscal stability.



Detailed Analysis of Large and Small Hypothetical Gas and Oil Fields

The report includes detailed multiple-year analysis of a wide range of gas and oil field sizes under the prevailing Alaska fiscal design with sensitivity analysis covering a wide range of prices, costs and production scenarios.

- Base case destination market price assumptions were $7.5 /mmbtu (gas) and $80/bbl (oil).
- Applying those assumptions *total government take (Alaska + FIT) of destination value* varied from 25% to 32% for gas fields versus 55% to 60% for oil fields. The main difference being due to the higher costs (TT&T) for the gas cases.
- At base case price assumptions *total government share of divisible profits* are 66% to 68% for gas fields and 74% to 76% for oil fields. Progressivity tax provided a significant contribution for oil fields, but very little progressivity paid by gas fields.

Multi-year Fiscal Model Used to Test Alternative Gas Progressivity Mechanisms

An Excel model was developed as part of this work to test alternative mechanisms for a distinct gas progressivity tax (GPT).

- Ten mechanisms evaluated (prevailing plus nine alternatives)
- Benefits of separating gas and oil production tax streams identified
- Alternative drivers, thresholds and gradients evaluated for GPT
- Each mechanism tested by sensitivity analysis using 10 field (gas and oil) and multi-year analysis at a range of prices and costs
- Analysis reveals that overall (despite progressivity mechanisms) the Alaska fiscal design has a regressive behavior due to the impact of the royalty, property tax and production tax floor in low gas price or high-cost situations.

Impact of Natural Gas on Combined Oil & Gas Production Tax

David Wood

2nd February 2009

Reponses to Questions from LB&A asked on December 9 and 10th, 2008 & presented 9th January 2009

Impact of Natural Gas on Combined Oil & Gas Production Tax

Analysis has identified that three factors are relevant to the dilution effects under prevailing production tax paid by an existing oil- only case with the addition of gas production (and vice versa – i.e. oil added to a gas-only case). These factors are:

1. Magnitude of value differential between oil and gas streams (high oil value minus low gas value, or high gas value minus low oil value);

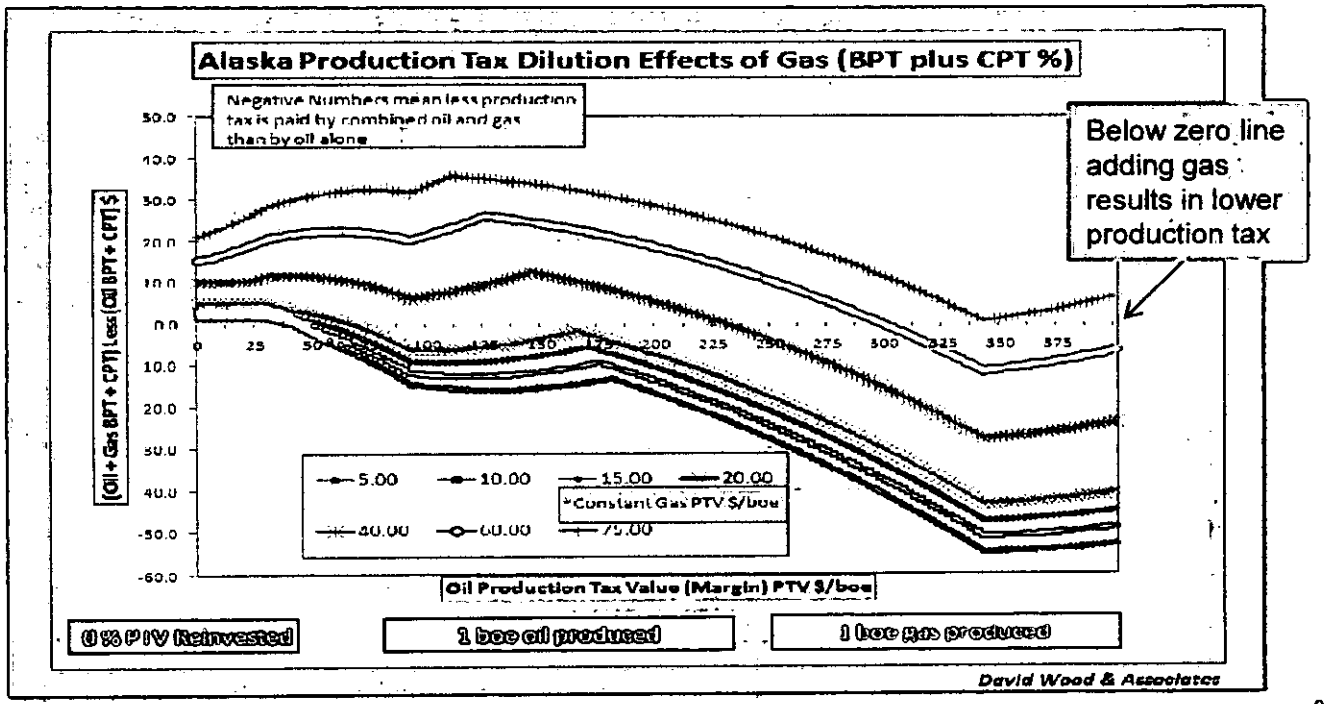
2. Relative volumes of oil and gas produced contributing to combined production tax boe stream.

3. Amount of PTV reinvested, which depending on the PTVs of each stream can have a significant impact

An Excel computer model has been developed to test these three factors.

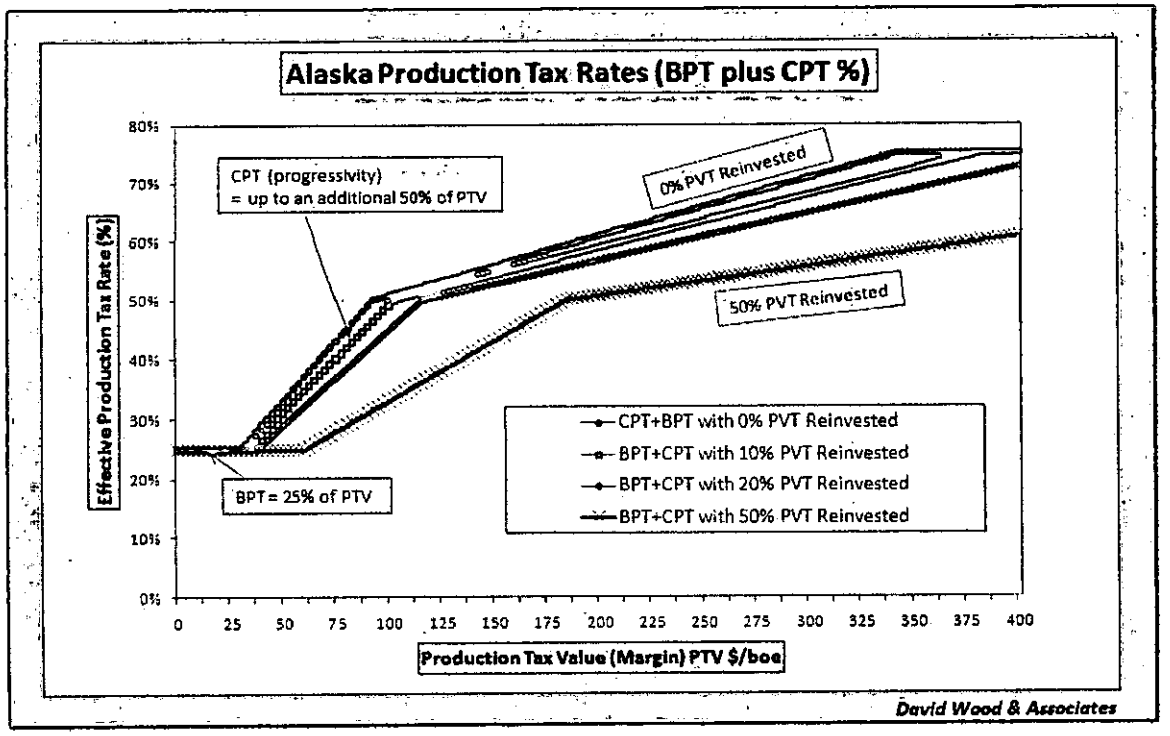
Natural Gas Dilution Effects on Combined Oil & Gas Production Tax

The trends are non-linear with slope changes because of the changing gradients of the production tax progressivity mechanism (i.e. 0.4/boe to 0.1/boe) and the threshold values at which those changes occur.



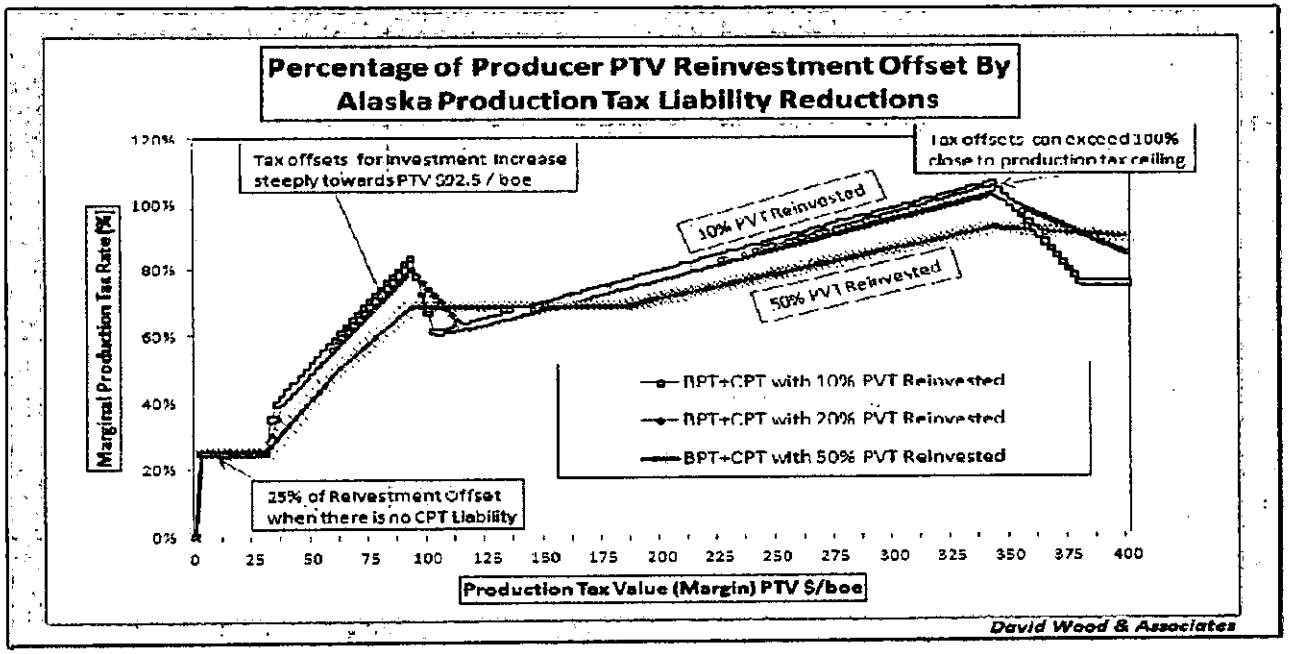
Natural Gas Production Tax Dilution
Different Reinvestment Scenarios

The impact of several reinvestment scenarios – 0% , 10%, 20% and 50% of PTV - on production tax rates are illustrated in this graphic.



Marginal Production Tax Rates Seen by a Producer for Reinvestment Dollars

The vertical axis shows the percentage tax reduction associated with the incremental re-investment (or the marginal tax rate offset by the producer by its reinvestment). Note the peak around PTV$90/boe and values above 100% at PTV $350/boe plus multiple crossover points.



Conclusions

These complications lead to the following general conclusions:

1. Under the current combined progressivity tax (CPT) rules the impact of gas revenue on the magnitude of combined production taxes is difficult to predict making tax planning difficult (for both state and producers).

2. This is likely to render the production tax structure unstable in the long term and to require future adjustments by the legislature to progressivity rates and thresholds according to prevailing conditions.

3. Such adjustments would have significant impacts on investors and risk undermining fiscal stability and credibility over the long term.

4. By separating CPT into GPT and OPT these problems are removed and incentives can be structured in a transparent way. Under separate oil and gas taxation streams the combined production taxes become more predictable, stable and flexible.

Useful Analysis to Aid Natural Gas Fiscal Design Yet to be Conducted

The dilution effect of production tax is one of several issues that suggest that the natural gas fiscal design requires some adjustment. A first step is to establish a strategy for what a revised fiscal design should achieve. In order to help this process the following analysis could be conducted.

1. Establish and compare multi-year cash flow models for Prudhoe Bay and Point Thomson fields to evaluate from a natural gas perspective the taxation outcomes a range of scenarios: 1) gasline alternatives; 2) LNG plant at Valdez; GTL plant on the slope; and others.

2. Use the information from 1. together with the ten hypothetical yet-to-find fields (presented in December Report) to test alternative gas fiscal designs.

3. Evaluate the fiscal designs and specific fiscal instruments applied in the main oil and gas producing states of the Lower 48. Alaska may be competing for investment with large-scale unconventional gas projects (e.g. shale gas). It is important to understand the incentives being offered by such projects.

1500

Combined Oil and Gas Progressivity in Alaska's Production Tax

Dan E. Dickinson, CPA

Senate Resources Committee
Alaska State Legislature

Feb. 2, 2009

DAN E.
DICKINSON CPA

Rear View Mirror: 5 fold increase in Production Tax 2004 - 2008

	Production Taxes				X Check					Royalty	
Fiscal Year	Prod Tax Rev ($ 000 000)	Less CI gas ($000 000)	Apples to Apples Rev ($000 000)	2008$ / 2004 $	WC Price	Million bbls daily Prod	Million bbls annual Prod	Price times volume	2008$ / 2004 $	Royalty Rev ($ 000 000)	2008$ / 2004 $
	(A1)	(A2)	(A)	(B)	(C)	(D)	(E) = (D) * 365	(F) = (C) * (E)	(G)	(I)	(J)
2004	651.9	(24.7)	627.2		31.74	0.999	364.6	11,573.5		1,056.1	
2005	863.2	(24.4)	838.8		43.44	0.931	339.8	14,761.6		1,419.9	
2006	1,199.5	(33.2)	1,166.3		60.80	0.858	313.2	19,040.7		1,784.1	
2007	2,208.4	(6.0)	2,202.4		61.83	0.750	273.8	16,926.0		1,613.0	
2008	4,940.5	(6.0)	6,879.0	11.0	96.51	0.730	266.5	25,715.1	2.2	2,446.1	2.3

Tax Increase attributable to changes in rules= 11.0 /2.2 = 5

*Note: Tax revenues from some North Slope gas sales will be included in revenues with no corresponding volume effect. That adjustment (adding .004 to the daily volume) will not materially affect the outcome. NS NGL are in both vols and $.
Data from Fall 2008 Revenue Sources Book, from Appendix A-4a (royalty sum of royalty & Bonuses etc.), C-2a and B-1a.
Cook Inlet Gas adjustment from Fall 2007 RSB, Appendix A-5a (CI data not broken out in Fall 2008 RSB)
Note: Historical volume and price data in Fall 2008 RSB differ from same historical data series in Fall 2007 RSB and earlier.

2.2.2009

DAN DICKINSON CPA

Rear View Mirror: Changes in State Take 2004-2008

Fiscal Year	State Take in $ A	Prod Value (Vol x Val) B	Upstream Costs* (used '07 in 04-06) C	Transport-ation Costs D	Prod Value less Costs E= (B-C-D)	State % F= (A/E)	Federal % G= (E-A)*.35)/E	Prod % H= (1-F-G)
2004	2,426.8	11,799.6	*3,659.0*	1,783.1	6,357.5	38.2%	11.7%	50.2%
2005	3,395.1	15,240.7	*3,659.0*	1,603.9	9,977.8	34.0%	15.1%	50.9%
2006	4,358.9	19,454.1	*3,659.0*	1,700.5	14,094.6	30.9%	17.5%	51.6%
2007	5,141.7	16,863.0	3,659.0	1,478.3	11,725.8	43.8%	13.7%	42.5%
2008	11,255.0	25,715.1	3,848.0	1,612.0	20,255.1	55.6%	12.2%	32.2%
	all $ figures in millions							
What if 2004 upstream costs a billion less?								
2004	2,426.8	11,799.6	*2,659.0*	1,783.1	7,357.5	33.0%	14.6%	52.4%

Source: State take, volumes, $/bbl destination value, transportation charges and 2008 Upstream Cost from Fall 2008 DOR Revenue Sources Book; 2007 Upstream cost from Fall 2007 RSB

2.2.2009

Looking Forward: TransCanada's AGIA application suggestion:

- "TransCanada would rely on the State of Alaska to take all feasible actions exclusively within its authority as a sovereign power to ensure a favorable economic environment for potential Shippers on the Project. Those actions include:
  - engaging with the ANS producers to reach agreement on a commercially reasonable and predictable upstream fiscal regime that balances the needs of the state and the ANS producers;
  - and encouraging robust exploration for and development of new natural gas resources and the commitment of such resources to the Project."

Source: TransCanada, Application for License, Alaska Gasline Inducement Act (November 30, 2007) page 2.5-52

Looking Forward: ConocoPhillips' Proposal

- ConocoPhillips' Proposal (ConocoPhillips current owner with BP of Denali Project)

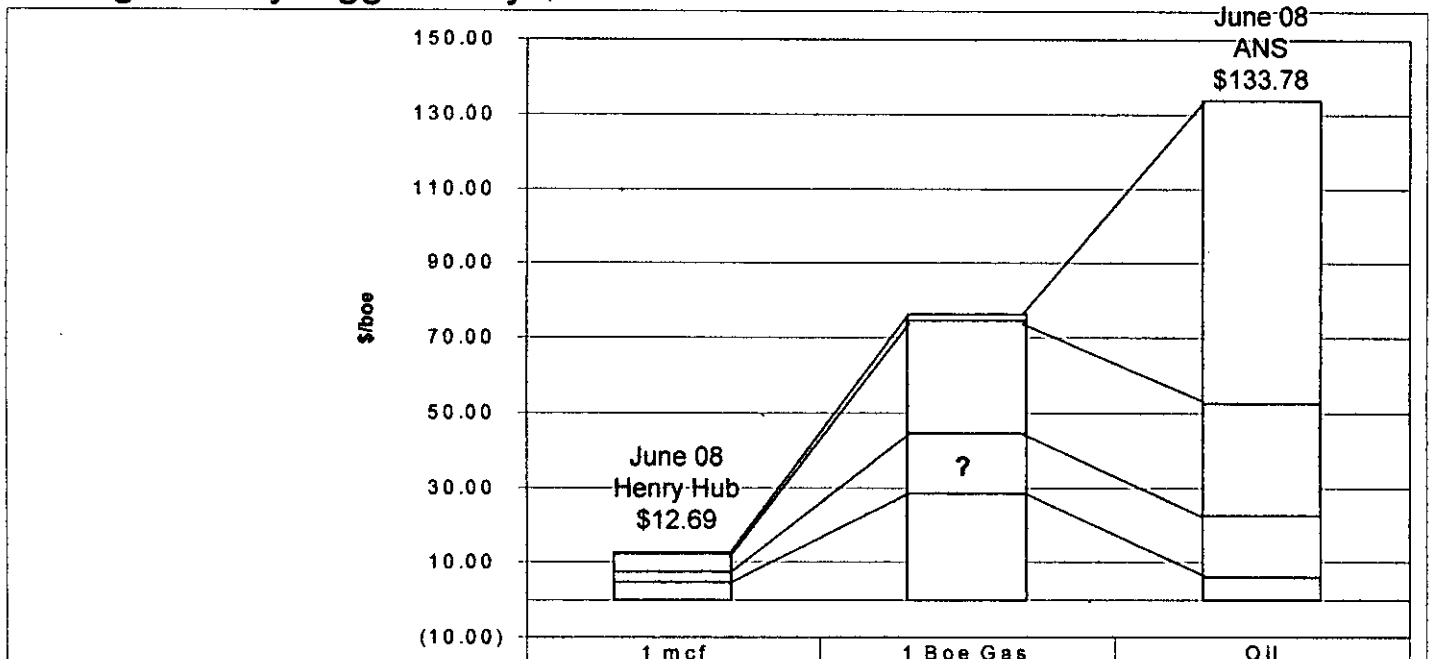
  "The predominant lessee risk that should be the focus of discussion with the State is the risk of unclear, unpredictable State taxes and royalties. In order to enable shippers to make long term shipping commitments, prospective shippers need clearly defined natural gas fiscal terms and an understanding of the period during which these terms will apply. Addressing these issues remains a critical component necessary to develop ANS natural gas resources and make this Project a reality."

Source: ConocoPhillips, ANS Natural Gas Pipeline Proposal to the State of Alaska, (November 30, 2007) section IV page 5

Looking Forward: Combined Progressivity Tax (CPT)

Gas exported from state and oil taxed at same rate – both part of combined progressivity calculation.

- Prices swings in one can effect tax on the other
- Gas converted to oil on Btu basis (roughly 6:1)
- Progressivity triggered by $30 boe PTV



	1 mcf	1 Boe Gas	Oil
Subject to progressivity June 2008	0.25	1.50	81.25
$30 no Progressivity zone	5.00	30.00	30.00
Upstream Costs ?	2.71	16.26	16.26
Downstream costs	4.73	28.38	6.27

Sources: Oil data from Spring 2008 RSB, Upstream Gas Cost is oil data on boe basis, Gas Downstream cost is Black & Veatch Estimate from Appendix G Alaska Gasline Determination. Oil price from DOR website, Gas Price from St Louis Fed Reserve website

Looking Forward: Combined Progressivity Example 1

	Oil Only
Daily Vol	0.7 mmbbls
	365
Annual Volume	255.5 mmbbls
Annual Barrel Equivalents	255.5 Annual Boe
ANS Price	$ 79.72
Transportation to Market	(6.34)
Gross Value at Point of Production	73.38
Value times Volume	$ 18,749
Non Royalty %	87.5%
Taxable Wellhead	$ 16,405
US Costs (millions $)	4,337
Taxable Value or PTV (millions $)	$ 12,068
Non Royalty Fraction	87.5%
Taxable volumes	223.6
Prog Base (taxable value/volume)	$ 53.98
Less $30	30.00
Starting Point	$ 23.98
Rate per dollar	0.4000%
Prog rate	9.5922%
base rate	25.0000%
Total Rate	34.5922%
Total (Tax Rate * PTV)	4,174.6

Source: Oil & Gas prices from 1/26/08, equal volumes, US from DOR 2008 Revenue Sources Book. Gas tariff and adj to Alberta from TC 2007 AGIA Proposal. Tariff is "nominalized levelized toll including fuel"

Looking Forward: Combined Progressivity Example 2

	Oil Only		Incremental Gas
Daily Vol	0.7 mmbbls		4.2 bcf
	365		365
Annual Volume	255.5 mmbbls		1533 bcf
		Convert to boe	6
Annual Barrel Equivalents	255.5 Annual Boe		255.5 Ann B/e
ANS Price	$ 79.72	Henry Hub Price	6.08
		Adj to Alberta	(0.75)
Transportation to Market	(6.34)		(2.88)
Gross Value at Point of Production	73.38		2.45
Value times Volume	$ 18,749		3,756
Non Royalty %	87.5%		87.5%
Taxable Wellhead	$ 16,405		3,286.4
US Costs (millions $)	4,337		
Taxable Value or PTV (millions $)	$ 12,068		3,286.4
Non Royalty Fraction	87.5%		87.5%
Taxable volumes	223.6		223.6
Prog Base (taxable value/volume)	$ 53.98		$ 14.70
Less $30	30.00		30.00
Starting Point	$ 23.98		NO PROG
Rate per dollar	0.4000%		
Prog rate	9.5922%		
base rate	25.0000%		
Total Rate	34.5922%		
Total (Tax Rate * PTV)	4,174.6		

Source: Oil & Gas prices from 1/26/08, equal volumes, US from DOR 2008 Revenue Sources Book. Gas tariff and adj to Alberta from TC 2007 AGIA Proposal. Tariff is "nominalized levelized toll including fuel"

EXHIBIT
DIGNISON & PA

2-22-2008

Looking Forward: Combined Progressivity Example 3

	Oil Only		Incremental Gas	Combined
Daily Vol	0.7 mmbbls		4.2 bcf	
	365		365	
Annual Volume	255.5 mmbbls		1533 bcf	
		Convert to boe	6	
Annual Barrel Equivalents	255.5 Annual Boe		255.5 Ann B/e	511.00 Ann B/e
ANS Price	$ 79.72	Henry Hub Price	6.08	
		Adj to Alberta	(0.75)	
Transportation to Market	(6.34)		(2.88)	
Gross Value at Point of Production	73.38		2.45	
Value times Volume	$ 18,749		3,756	
Non Royalty %	87.5%		87.5%	
Taxable Wellhead	$ 16,405		3,286.4	
US Costs (millions $)	4,337			
Taxable Value or PTV (millions $)	$ 12,068		3,286.4	15,354.4
Non Royalty Fraction	87.5%		87.5%	87.5%
Taxable volumes	223.6		223.6	447.1
Prog Base (taxable value/volume)	$ 53.98		$ 14.70	34.34
Less $30	30.00		30.00	30.00
Starting Point	$ 23.98		NO PROG	4.34
Rate per dollar	0.4000%			0.4000%
Prog rate	9.5922%			1.7361%
base rate	25.0000%			25.0000%
Total Rate	34.5922%			26.7361%
				(Smaller rate times larger base)
Total (Tax Rate * PTV)	**4,174.6**		**(69.4)**	**4,105.2**

Source: Oil & Gas prices from 1/26/08, equal volumes, US from DOR 2008 Revenue Sources Book. Gas tariff and adj to Alberta from TC 2007 AGIA Proposal. Tariff is "nominalized levelized toll including fuel"

2.2.2008

1509

Model Screen Shot

	Oil Only		Incremental Gas		Combined	
Daily Vol	0.700	mmbbls/day	4.2	bcf/day		
days per year	365		365			
Annual Volume	255.5	mmbbls/yr	1533	bcf/yr		
Convert to boe	1		6			
Annual Barrel Equivalents	255.5	boe/yr	255.5	boe/yr	511.0	boe/yr
ANS WC Price/ Henry Hub Price	$ 80.00		$ 6.00			
Adj to Alberta			(0.75)			
Transportation to Market	(6.00)		(2.75)			
Gross Value at Point of Production	74.00		2.50			
Value times Volume	$ 18,907		$ 3,833			
Non Royalty %	87.5%		87.5%			
Taxable Wellhead	$ 16,544		$ 3,353			
US Costs (millions $)	4,300		-			
Taxable Value or PTV (millions $)	$ 12,244		3,353		$ 15,597	
Non Royalty Fraction	87.5%		87.5%		87.5%	
Taxable volumes boe	223.6		223.6		447.1	
Prog Base (taxable value/volume)	$ 54.77		$ 15.00		$ 34.88	
Less $30	30.00		30.00		30.00	
Starting Point	$ 24.77		$ -		$ 4.88	
Prog rate (.4% or .1% per dollar)	9.91%		0.00%		1.95%	
base rate	25.00%		25.00%		25.00%	
Total Rate	34.91%		25.00%		26.95%	
	Stand Alone Oil		Stand Alone Gas		Combined	
Total Tax (Tax Rate * PTV)	**$ 4,274**		**838.4**		**$ 4,204**	

Sum of stand alone oil & gas **5,112.17**

Gain (loss) in production tax from using current law vs stand alone **(908.3)**

Gain (loss) in production tax from adding gas stream under current law: **(69.9)**

2.2.2009

DAN E. DICKINSON (CPA)

Senate Resources Committee, Alaska State Legislature

Model Screen Shot – 350 K bbls oil/day

	Oil Only		Incremental Gas		Combined	
Daily Vol	0.350	mmbbls/day	4.2	bcf/day		
days per year	365		365			
Annual Volume	127.8	mmbbls/yr	1533	bcf/yr		
Convert to boe	1		6			
Annual Barrel Equivalents	127.8	boe/yr	255.5	boe/yr	383.3	boe/yr
ANS WC Price/ Henry Hub Price	$ 80.00		$ 6.00			
Adj to Alberta			(0.75)			
Transportation to Market	(6.00)		(2.75)			
Gross Value at Point of Production	74.00		2.50			
Value times Volume	$ 9,454		$ 3,833			
Non Royalty %	87.5%		87.5%			
Taxable Wellhead	$ 8,272		$ 3,353			
US Costs (millions $)	3,300		-			
Taxable Value or PTV (millions $)	$ 4,972		3,353		$ 8,325	
Non Royalty Fraction	87.5%		87.5%		87.5%	
Taxable volumes boe	111.8		223.6		335.3	
Prog Base (taxable value/volume)	$ 44.48		$ 15.00		$ 24.83	
Less $30	30.00		30.00		30.00	
Starting Point	$ 14.48		$ -		$ -	
Prog rate (.4% or .1% per dollar)	5.79%		0.00%		0.00%	
base rate	25.00%		25.00%		25.00%	
Total Rate	30.79%		25.00%		25.00%	
	Stand Alone Oil		Stand Alone Gas		Combined	
Total Tax (Tax Rate * PTV)	$ 1,531		838.4		$ 2,081	

Sum of stand alone oil & gas: 2,369.24

Gain (loss) in production tax from using current law vs stand alone: (287.9)

Gain (loss) in production tax from adding gas stream under current law: 550.4

Model Screen Shot - $135 oil and $6 gas - Tax Falls

	Oil Only		Incremental Gas		Combined	
Daily Vol	0.350	mmbbls/day	4.2	bcf/day		
days per year	365		365			
Annual Volume	127.8	mmbbls/yr	1533	bcf/yr		
Convert to boe	1		6			
Annual Barrel Equivalents	127.8	boe/yr	255.5	boe/yr	383.3	boe/yr
ANS WC Price/ Henry Hub Price	$ 135.00		$ 6.00			
Adj to Alberta			(0.75)			
Transportation to Market	(6.00)		(2.75)			
Gross Value at Point of Production	129.00		2.50			
Value times Volume	$ 16,480		$ 3,833			
Non Royalty %	87.5%		87.5%			
Taxable Wellhead	$ 14,420		$ 3,353			
US Costs (millions $)	3,300		-			
Taxable Value or PTV (millions $)	$ 11,120		3,353		$ 14,473	
Non Royalty Fraction	87.5%		87.5%		87.5%	
Taxable volumes boe	111.8		223.6		335.3	
Prog Base (taxable value/volume)	$ 99.48		$ 15.00		$ 43.16	
Less $30	30.00		30.00		30.00	
Starting Point	$ 69.48		$ -		$ 13.16	
Prog rate (.4% or .1% per dollar)	25.70%		0.00%		5.26%	
base rate	25.00%		25.00%		25.00%	
Total Rate	50.70%		25.00%		30.26%	
	Stand Alone Oil		Stand Alone Gas		Combined	
Total Tax (Tax Rate * PTV)	$ 5,637		838.4		$ 4,380	

Sum of stand alone oil & gas: 6,475.84

Gain (loss) in production tax from using current law vs stand alone: (2,095.7)

Gain (loss) in production tax from adding gas stream under current law: (1,257.3)

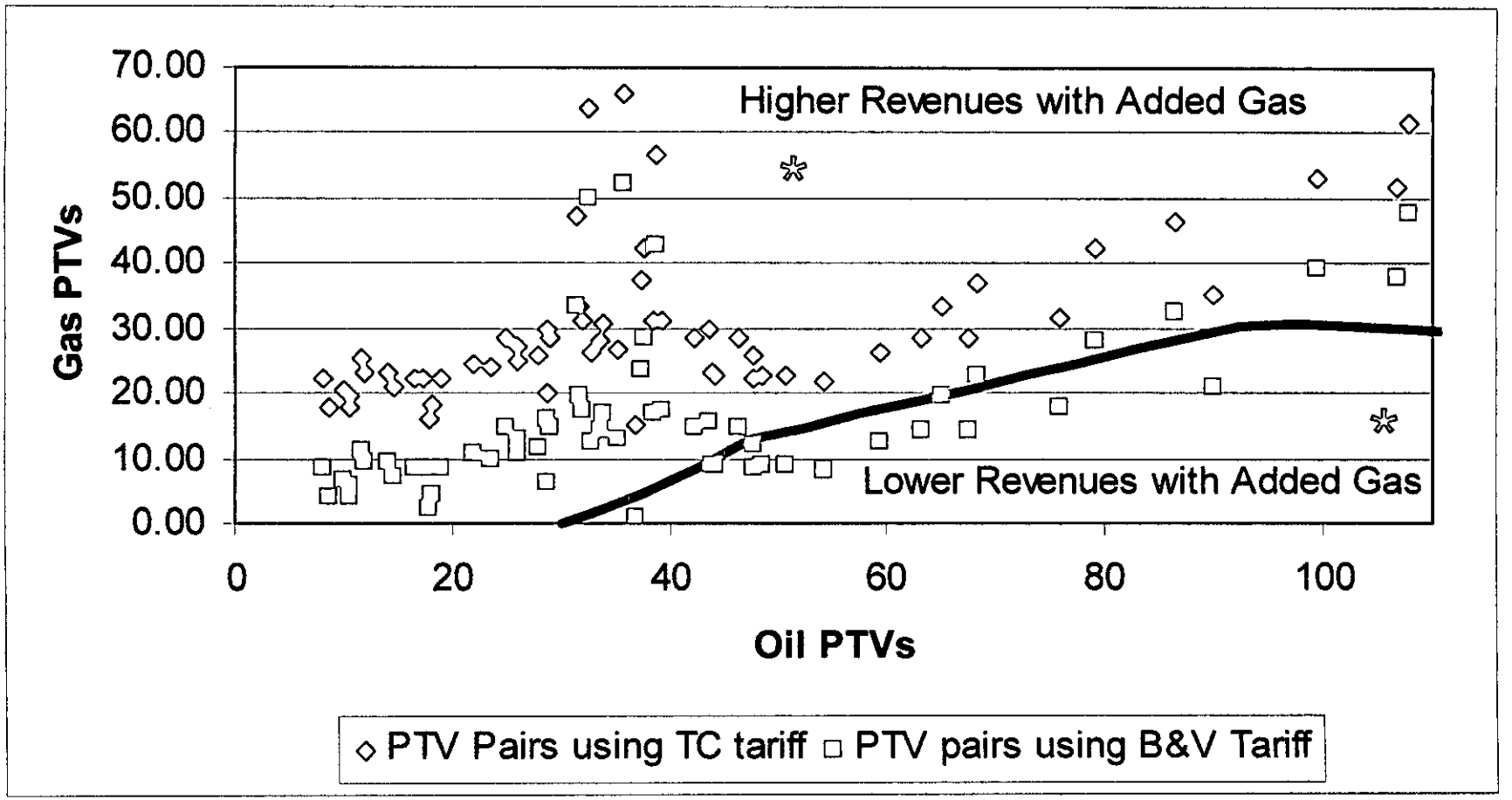
DAN E. DICKINSON CPA

Model Screen Shot - $180 oil and $13 gas - Taxes Rise

	Oil Only	Incremental Gas	Combined
Daily Vol	0.350 mmbbls/day	4.2 bcf/day	
days per year	365	365	
Annual Volume	127.8 mmbbls/yr	1533 bcf/yr	
Convert to boe	1	6	
Annual Barrel Equivalents	127.8 boe/yr	255.5 boe/yr	383.3 boe/yr
ANS WC Price/ Henry Hub Price	$ 80.00	$ 13.00	
Adj to Alberta		(0.75)	
Transportation to Market	(6.00)	(2.75)	
Gross Value at Point of Production	74.00	9.50	
Value times Volume	$ 9,454	$ 14,564	
Non Royalty %	87.5%	87.5%	
Taxable Wellhead	$ 8,272	$ 12,743	
US Costs (millions $)	3,300	-	
Taxable Value or PTV (millions $)	$ 4,972	12,743	$ 17,715
Non Royalty Fraction	87.5%	87.5%	87.5%
Taxable volumes boe	111.8	223.6	335.3
Prog Base (taxable value/volume)	$ 44.48	$ 57.00	$ 52.83
Less $30	30.00	30.00	30.00
Starting Point	$ 14.48	$ 27.00	$ 22.83
Prog rate (.4% or .1% per dollar)	5.79%	10.80%	9.13%
base rate	25.00%	25.00%	25.00%
Total Rate	30.79%	35.80%	34.13%
	Stand Alone Oil	Stand Alone Gas	Combined
Total Tax (Tax Rate * PTV)	$ 1,531	4,562.0	$ 6,046
Sum of stand alone oil & gas		6,092.90	
Gain (loss) in production tax from using current law vs stand alone		(46.7)	
Gain (loss) in production tax from adding gas stream under current law:		4,515.3	

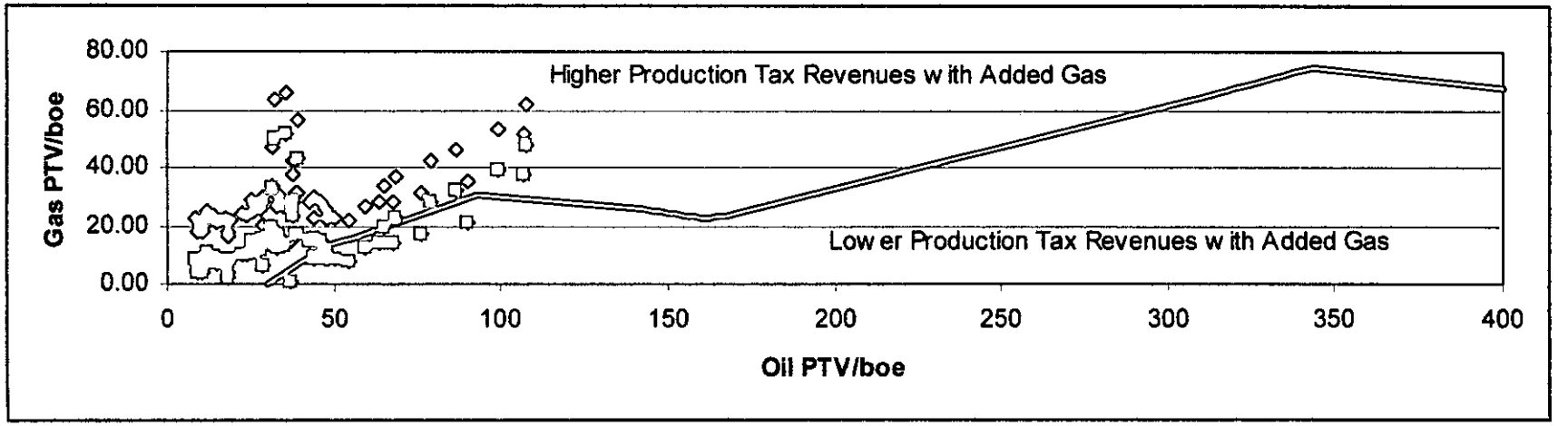
2.2.2009

Oil and Gas PTVs 2004 - 2008



Source: Oil Prices and Costs from DOR 2007 RSB and website. Gas Prices from St. Louis Federal Reserve Web Site
TC Tariff from January 15, 2008 revision of November 2007 AGIA Application, page 2.10-4, Black & Veatch Tariff from From May 2008 AGIA NPA Analysis Report page 121.

Oil and Gas PTVs 2004 - 2008



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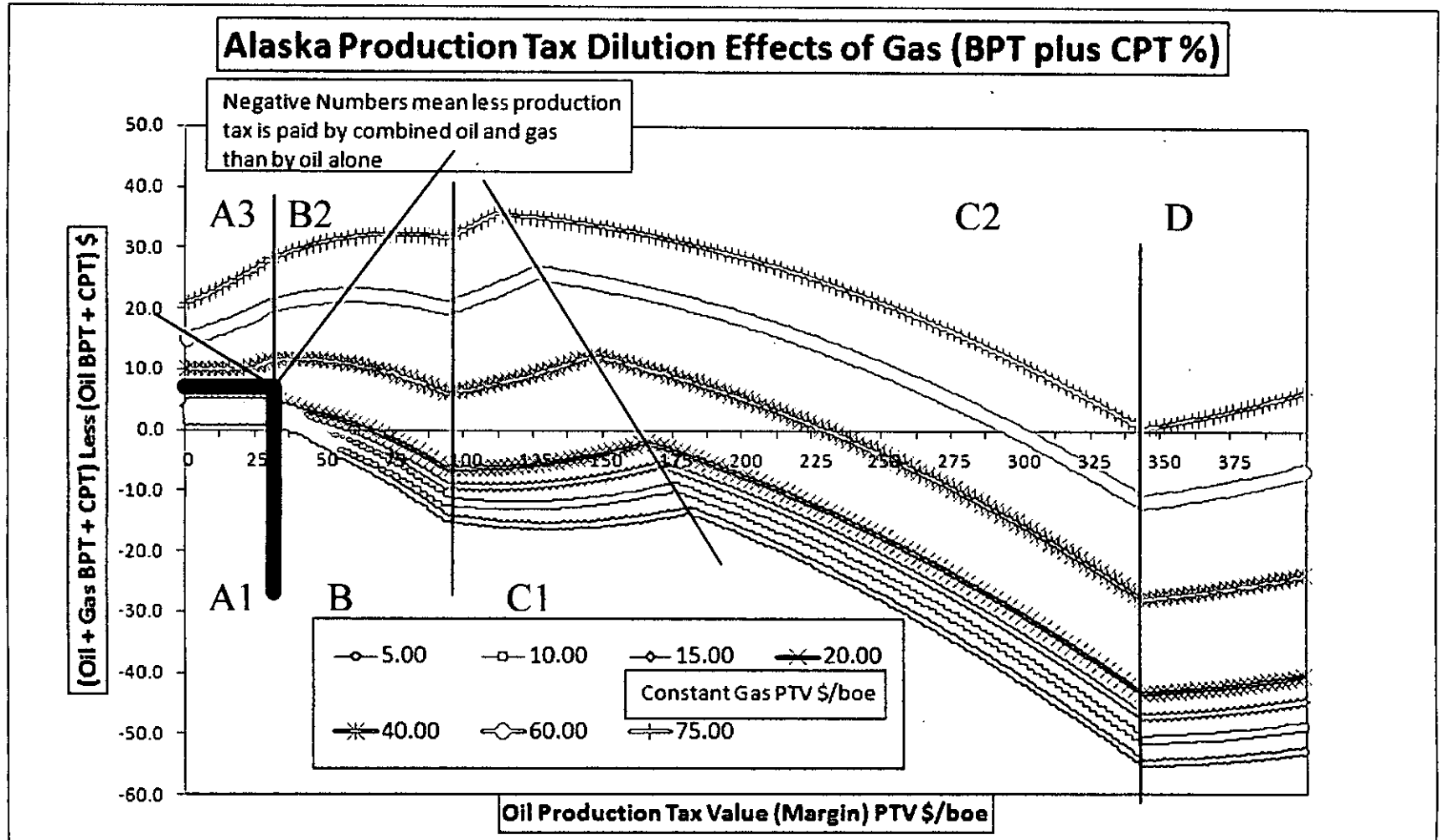
Dr. Wood's Illustration Divided into Zones



2.2.2009

DAN E. DICKINSON CPA

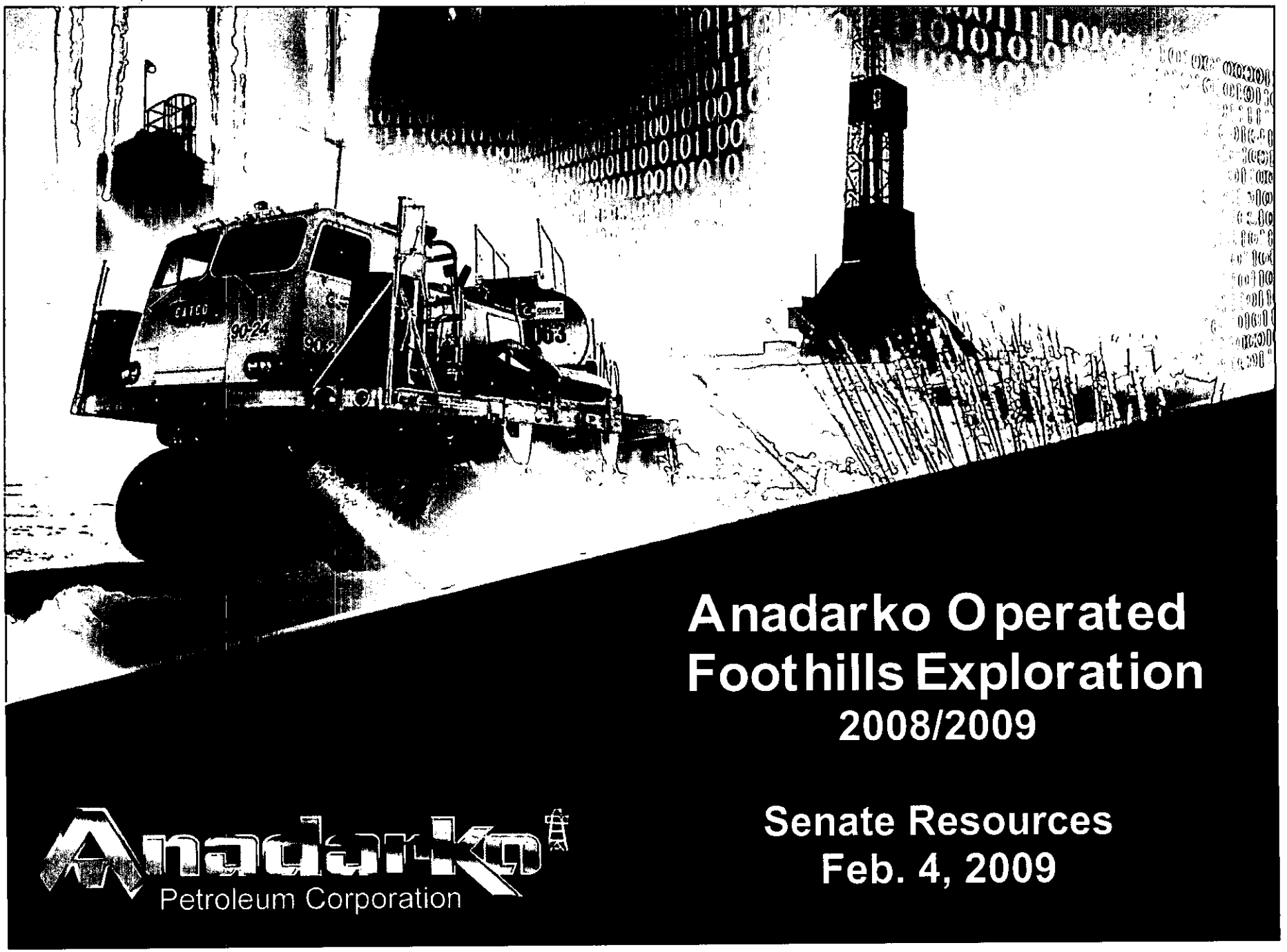
Senate Resources Committee, Alaska State Legislature

Thank You

Dan E. Dickinson CPA
Anchorage, AK
ddickinsoncpa@gci.net
907 301 1565

2/4/09 UPDATE: ANADARKO OPERATED FOOTHILLS EXPLORA-TION

1518



Anadarko Operated Foothills Exploration 2008/2009

Senate Resources
Feb. 4, 2009

Anadarko Petroleum Corporation

Anadarko Forward-Looking Statement

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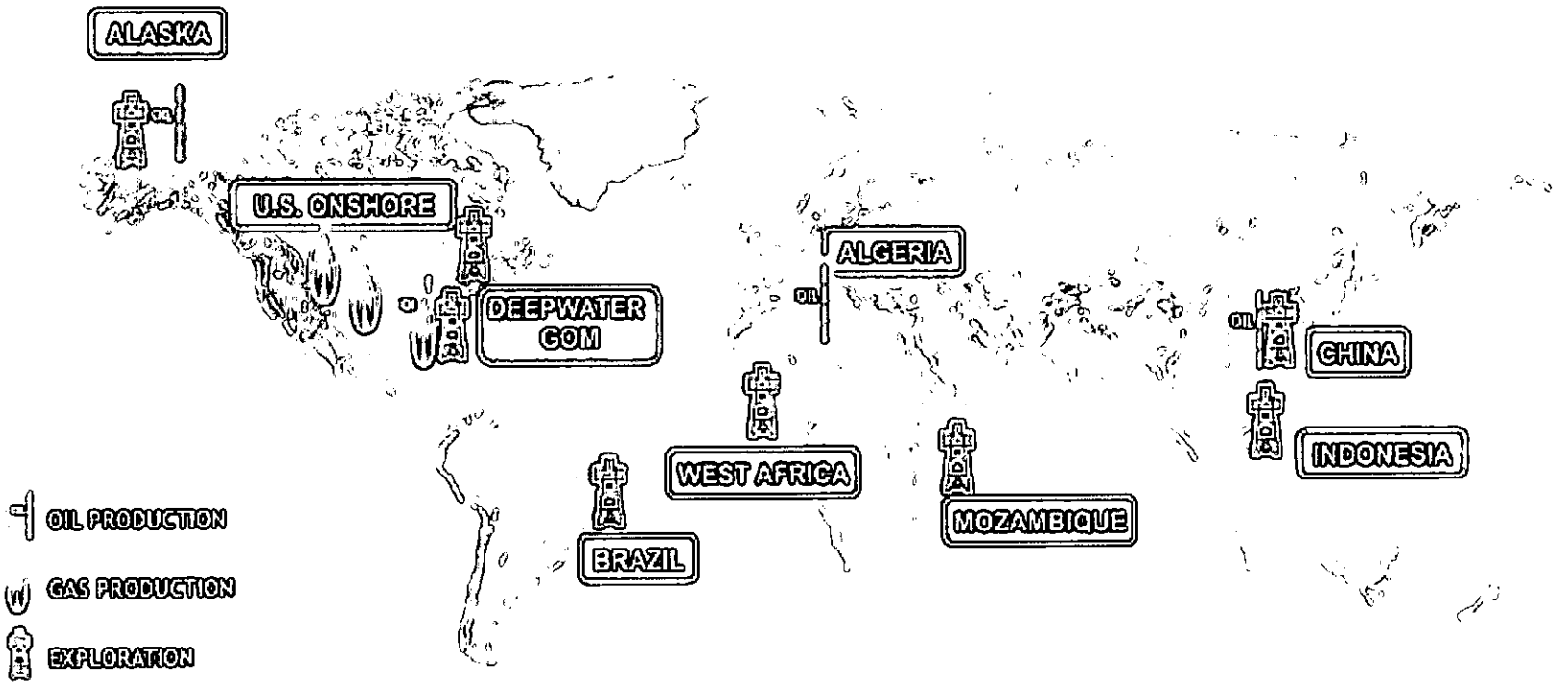
Anadarko Worldwide

- Fairway Positions in 10 Major U.S. Onshore Resource Plays
- Largest Independent Deepwater Gulf of Mexico Producer
- Global Exploration Inventory



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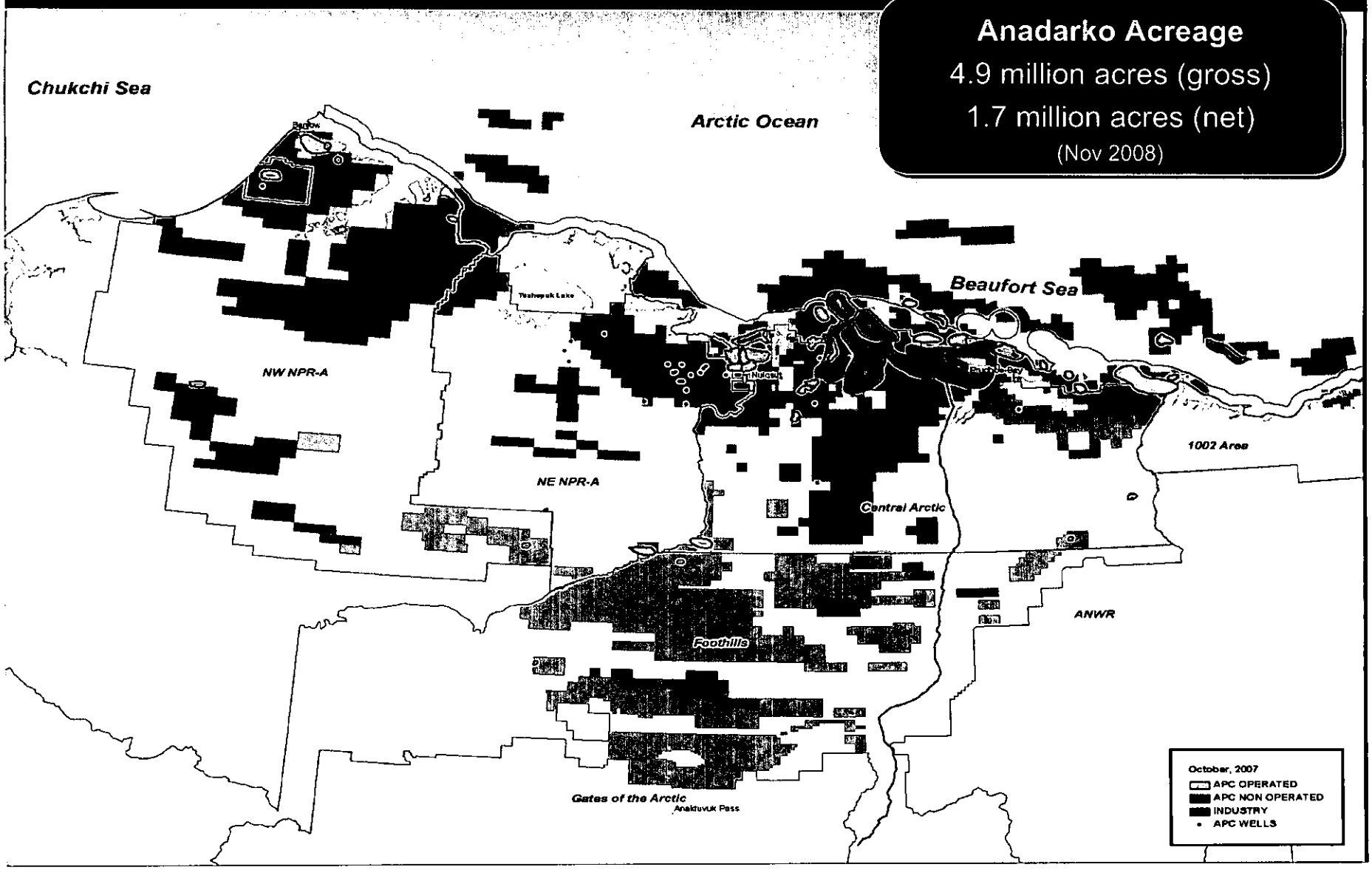
Anadarko Alaska Acreage Position

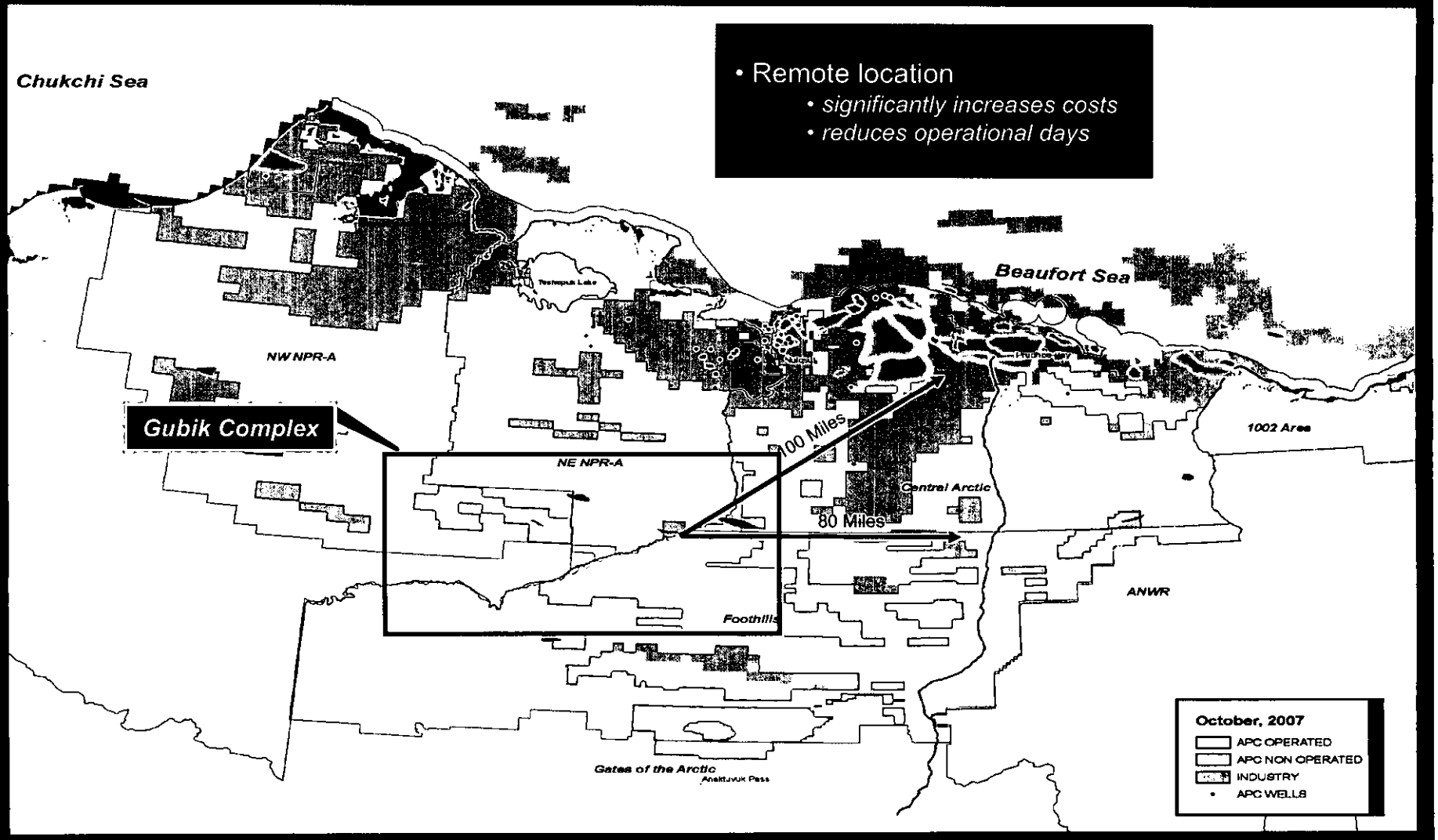


Foothills Gas Exploration Program

- Large acreage position- State, Federal & ASRC leases
  - *Partners: BG Alaska, PetroCanada*
- Gas Prone Area- Multiple previous wells discovered gas while looking for oil (1940's – 1990's)
  - *Gubik & Wolf Creek identified as gas fields*
- Key issues
  - *Volume*
  - *Deliverability*
  - *Costs*
- At least three drill seasons for reasonable understanding of potential (now in season 2)
  - *Dependent on positive results each season*

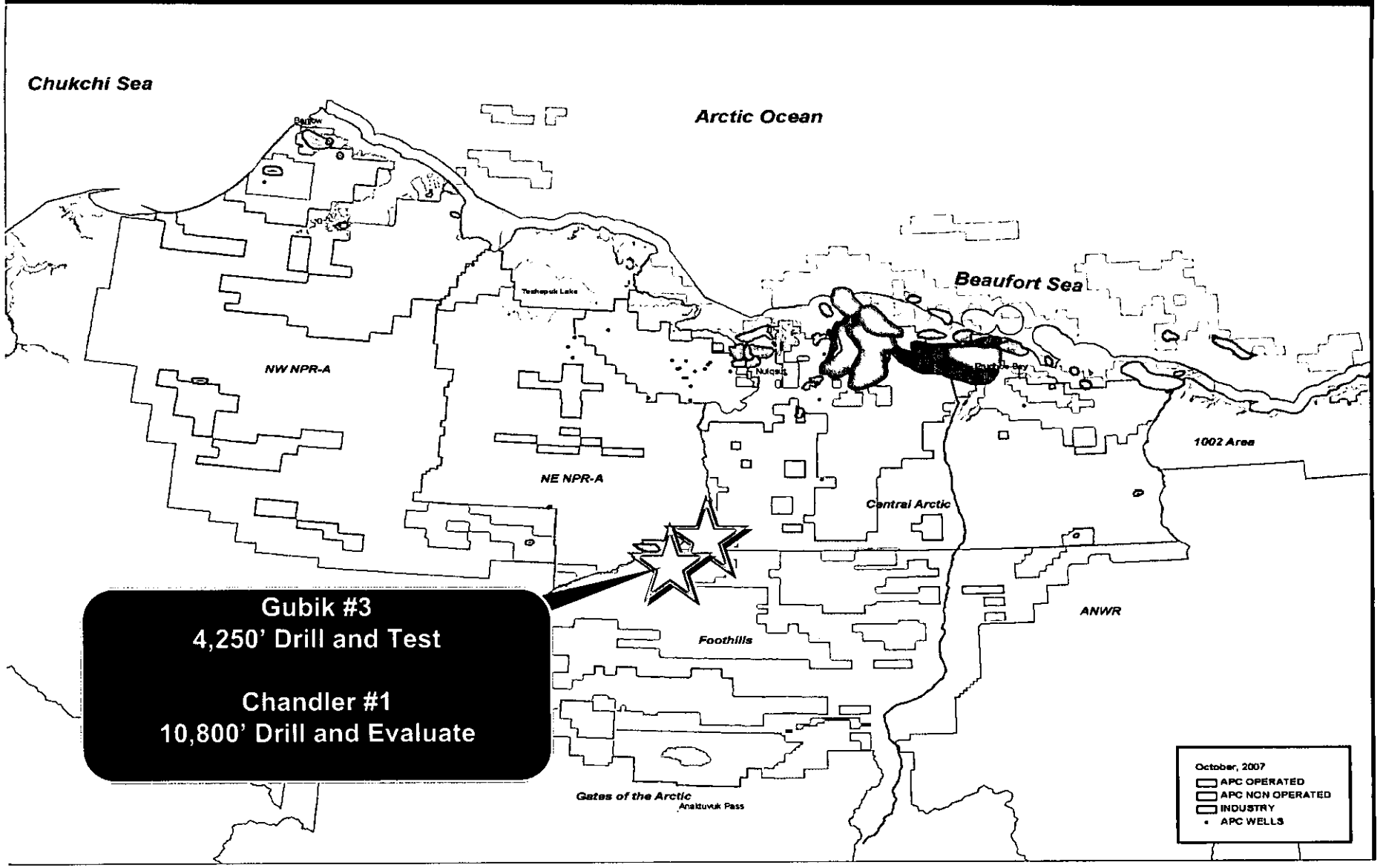
ANADARKO

Gubik Complex Prospect Area



2007/08 Foothills Exploration- Season 1

Anadarko Operated, Partners: PetroCanada & BG Alaska



Foothills Gas Exploration, Season 1, 2007-08

- Goal: Two gas wells using new Nabors rig 105

- Gubik 3 Well
  - *Relatively Shallow (~4,000')*
  - *Drilled, moved rig to Chandler, rigless tested Gubik 3*
  - *Results- multiple gas zones identified & tested*

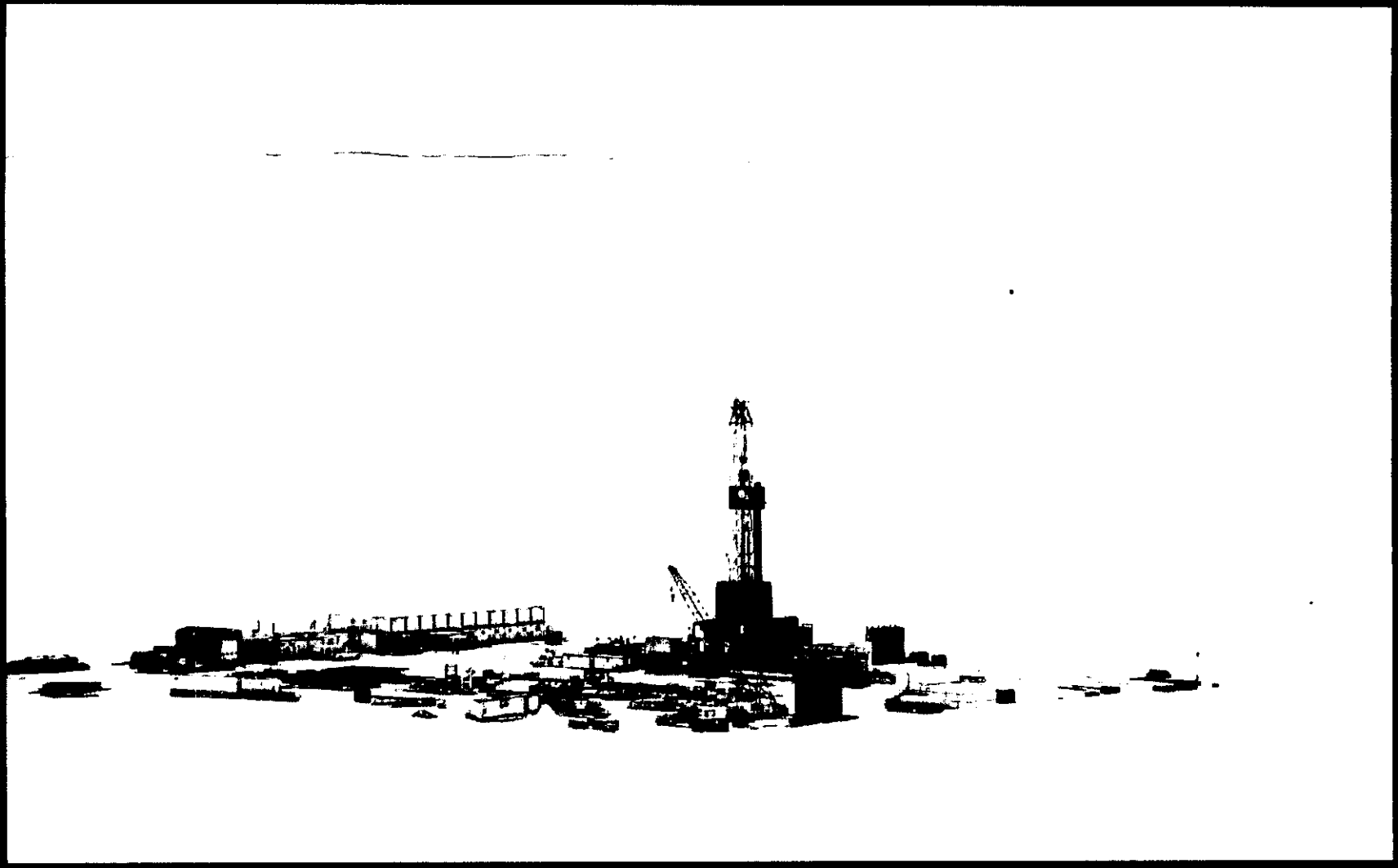
- Chandler 1 Well
  - *Deeper (~10,000')*
  - *Goal: drill & evaluate if time permits*
  - *Drilling suspended @ ~2,000' due to impending tundra closure*
  - *Rig left on insulated ice pad to save time for following season*

- Partners- BG Alaska & PetroCanada

ANADARKO

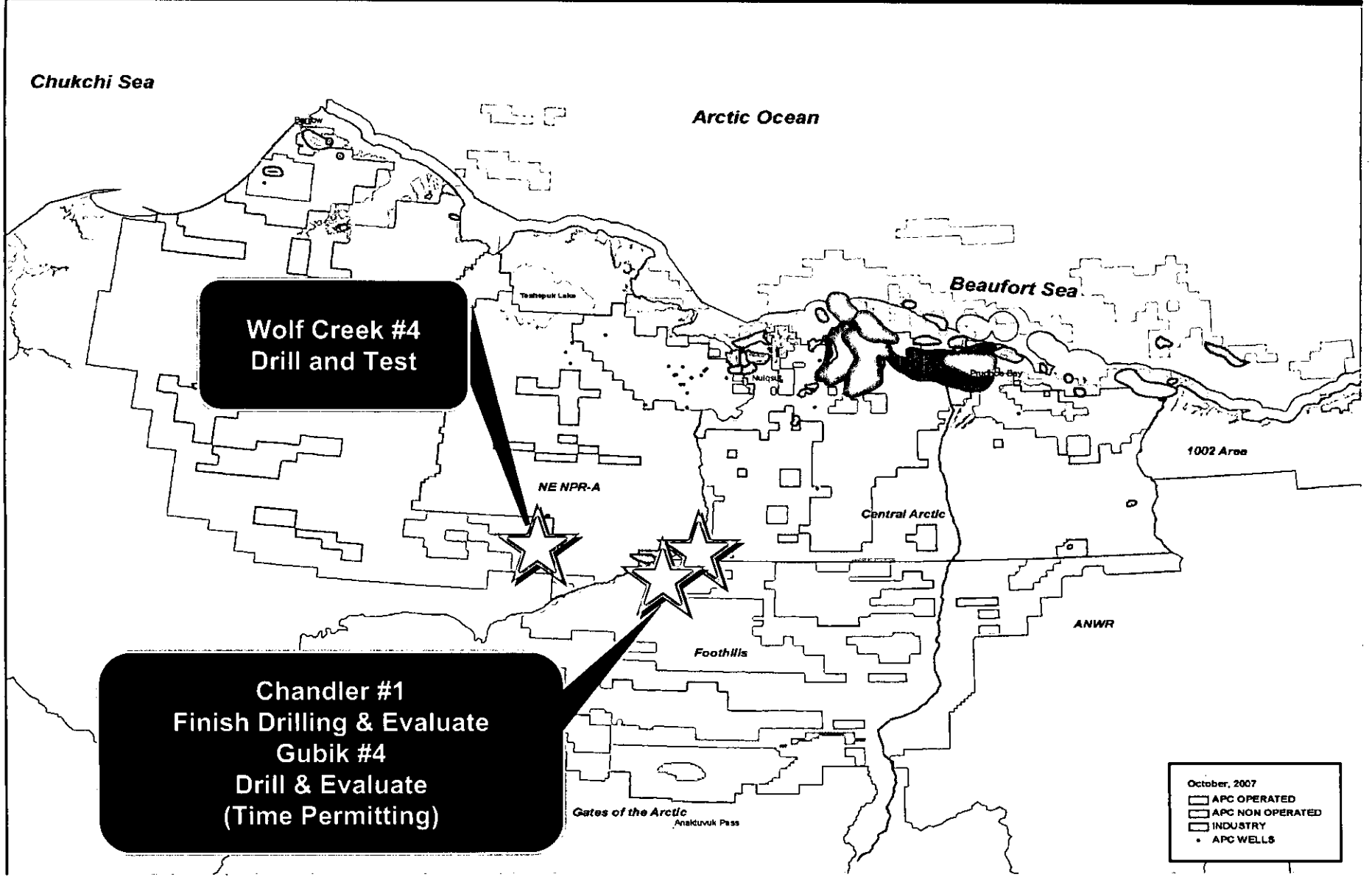
Foothills exploration Winter 2007/08

ANADARKO



2008/09 Foothills Exploration- Season 2

Anadarko Operated, Partners: PetroCanada & BG Alaska

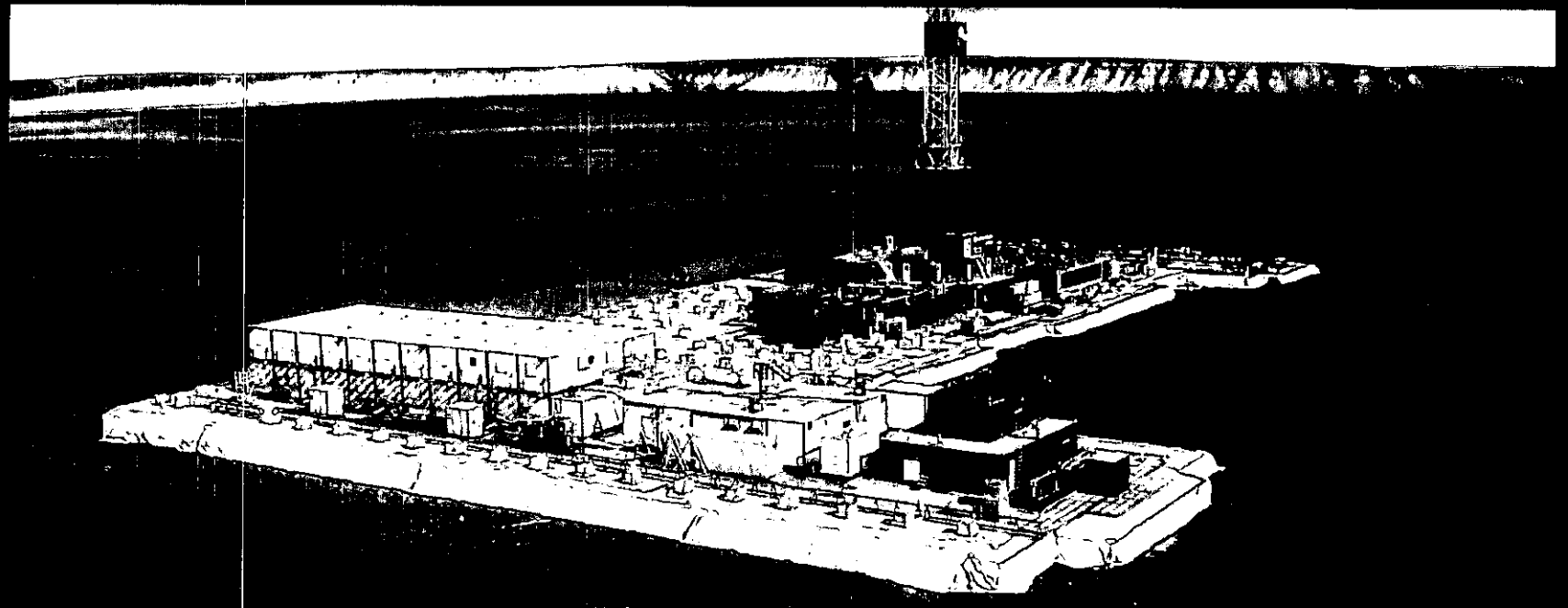


Chandler 1

- Gas Prospect
- Partners: PetroCanada, BG Alaska
- Spud during 2007-08 Season. Operations suspended. Nabors 105 Rig left on insulated pad
- 2008/09, finish drilling (10,000+ feet), log, evaluate (currently drilling)
- After Chandler 1, rig will move to Gubik 4

ANADARKO

Chandler 1, Insulated Ice Pad, Summer 2008



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A N A D A R K O

Gubik 4

- Gas Prospect
- Step out from last year's Gubik 3 well
- Partners: PetroCanada and BG Alaska
- Drill and evaluate (time permitting)
  - *~4,000 feet*
  - *Use Nabors 105 Rig once complete Chandler 1*
- Possible insulated ice pad

Wolf Creek 4

- Gas Prospect
- Entirely in NPR-A
- Partners: PetroCanada and BG Alaska
- Will drill, evaluate, test
  - *Using second rig, Arctic Fox*
  - *~ 4,000 feet*
- Mobilization with Herc aircraft and overland from DS 2P & Umiat
- Snow road from Umiat to Wolf Creek area (~35 miles). Ice road from Wolf Creek staging to drill site (~ 5 miles)

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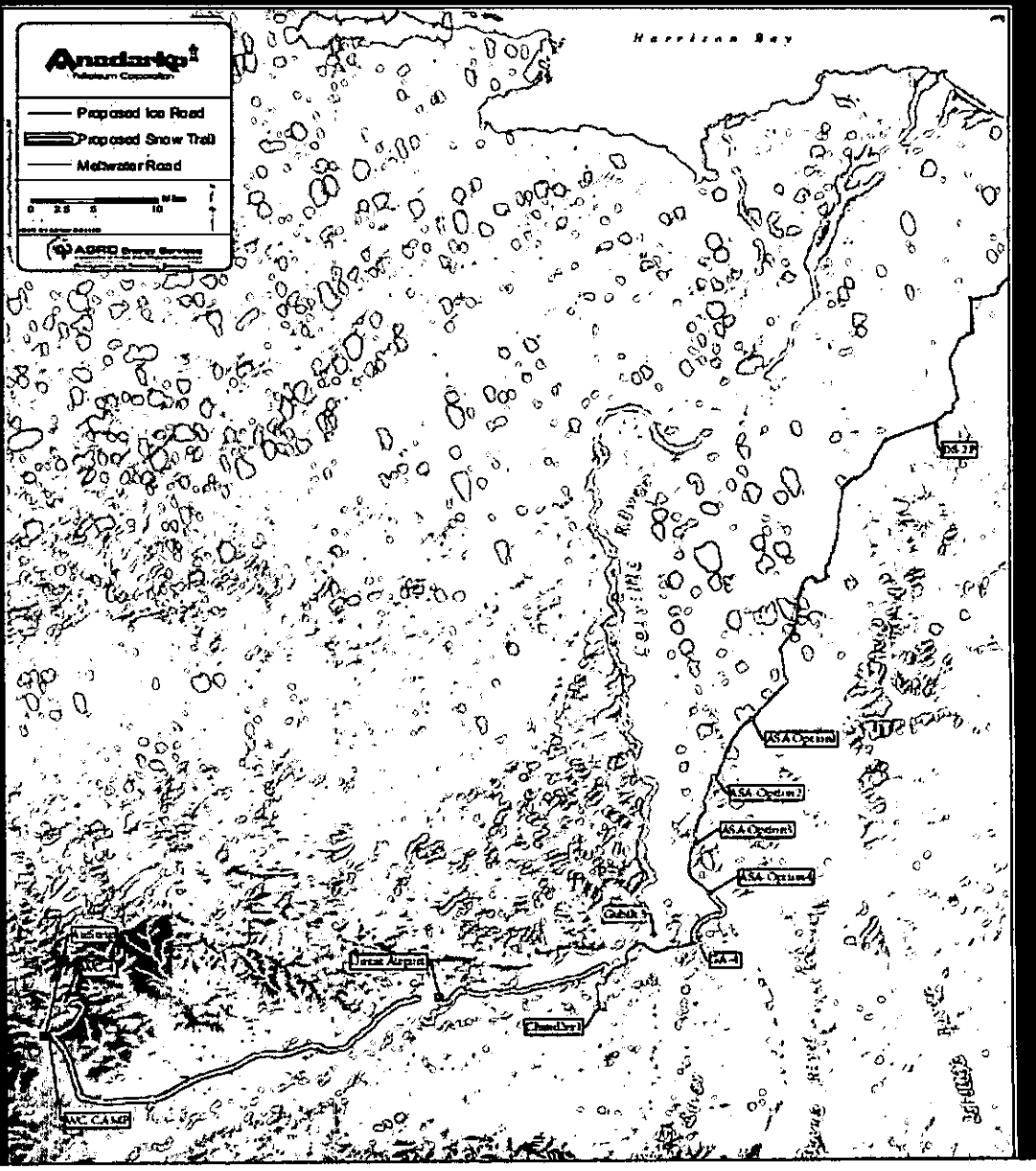
Mobilization

- 80 + miles of ice roads
- 80 + miles of packed snow roads
- 6 + ice pads



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Foothills Snow Road Winter 2007/08

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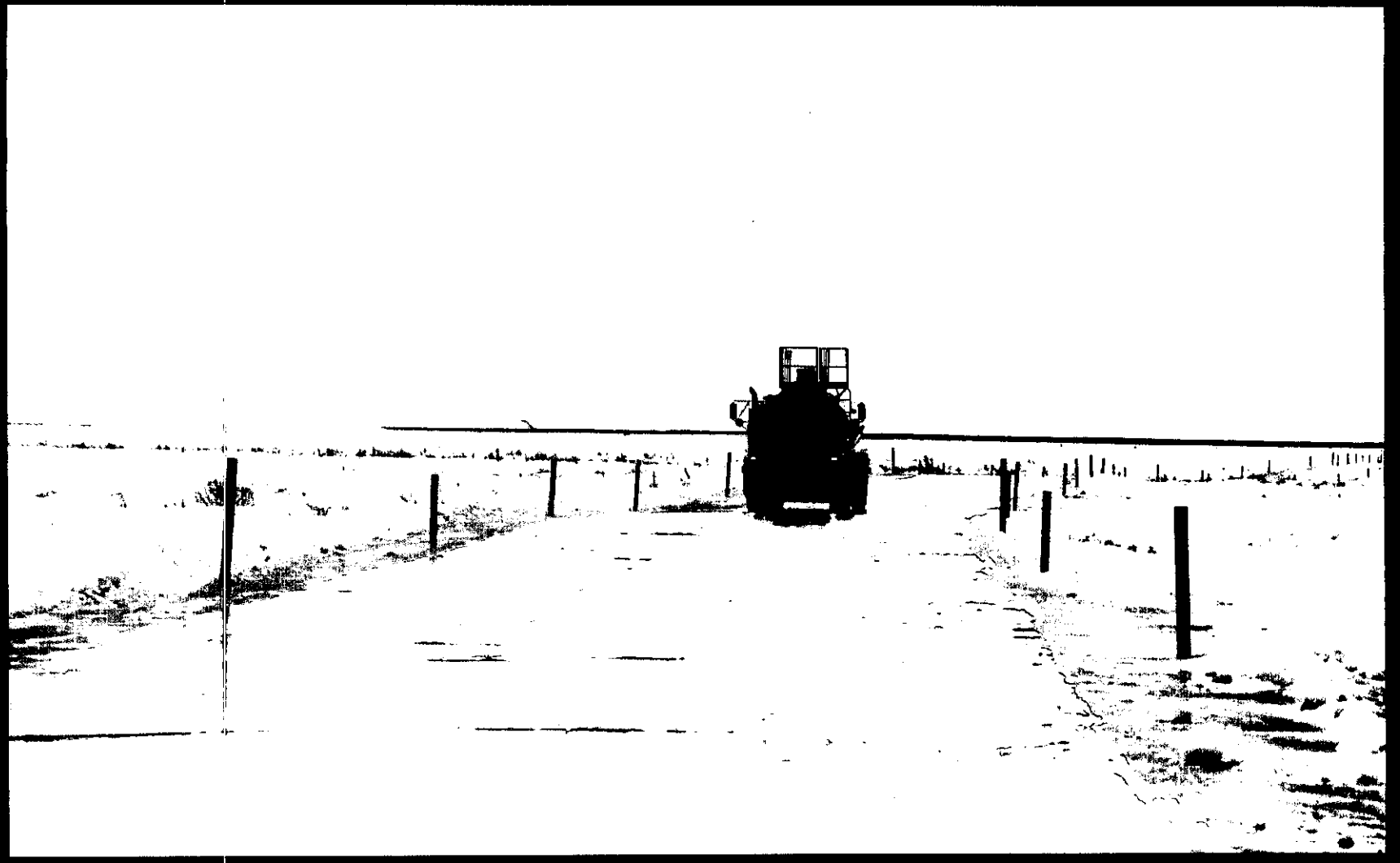
Foothills Ice Road 2007/08

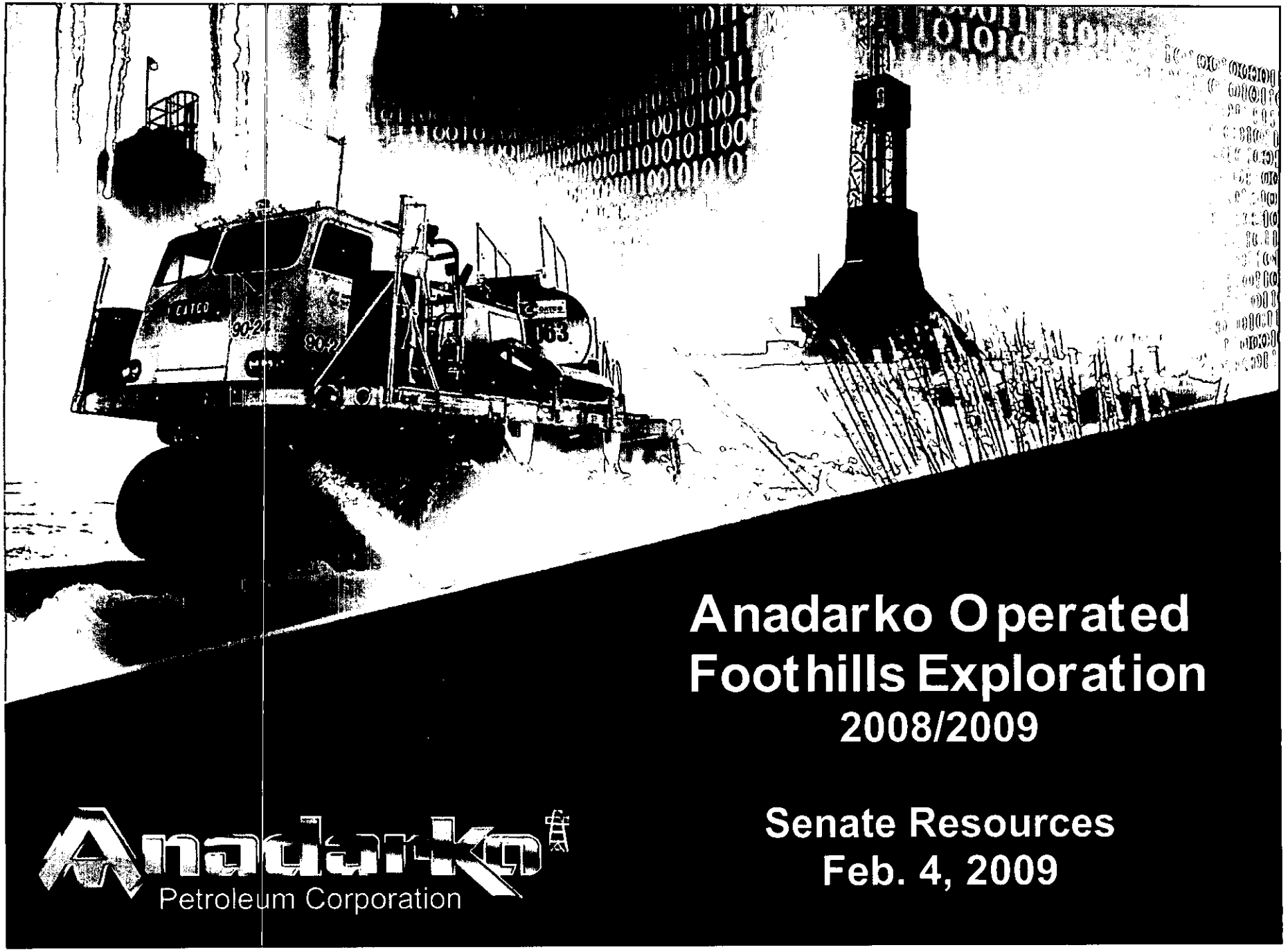
ANADARKO



Potential Gubik Area Development

- Depends on positive results from each of 3 seasons
  - *Volume, deliverability, costs*
  - *Likely multiple fields tied together to reach necessary volumes*
- First Gas
  - *Earliest 2016, unless super results and/or economic improvements*
    - Road could expedite development & improve economics
    - Pipeline tariffs lowest with greater volumes
      - Greater volumes require more appraisal time
- Pipeline options
  - *TransCanada/AGIA; Denali*
    - Spur Line- ANGDA
    - We won't be ready for 2010 open season (expansions important)
  - *Enstar Bullet Line*
    - Potential in-service before large line
  - *Positive movement on pipelines encourages exploration*
  - *Pipeline tariffs affect economics*
  - *In-state market attractive*
    - Favorable tax treatment

A N A D A R K O



Anadarko Operated Foothills Exploration 2008/2009

Anadarko Petroleum Corporation

Senate Resources
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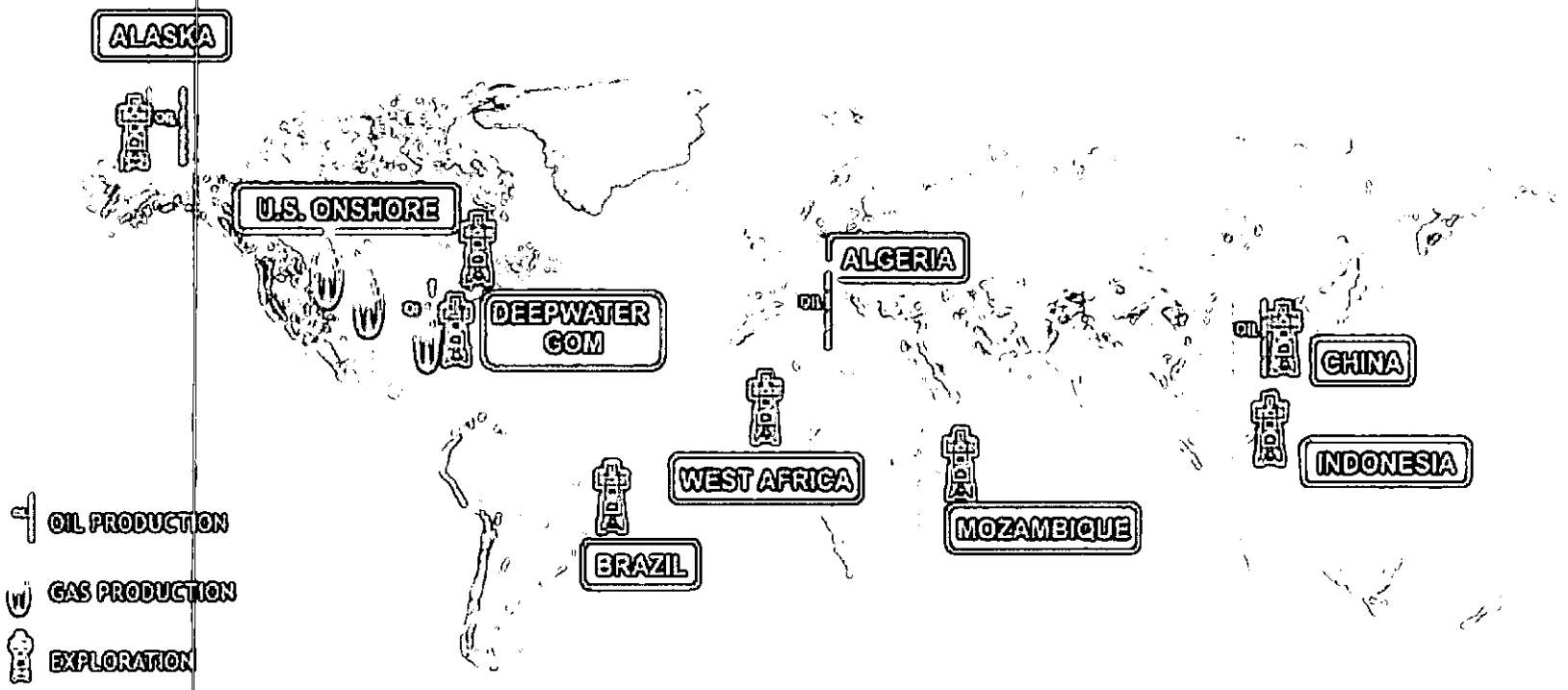

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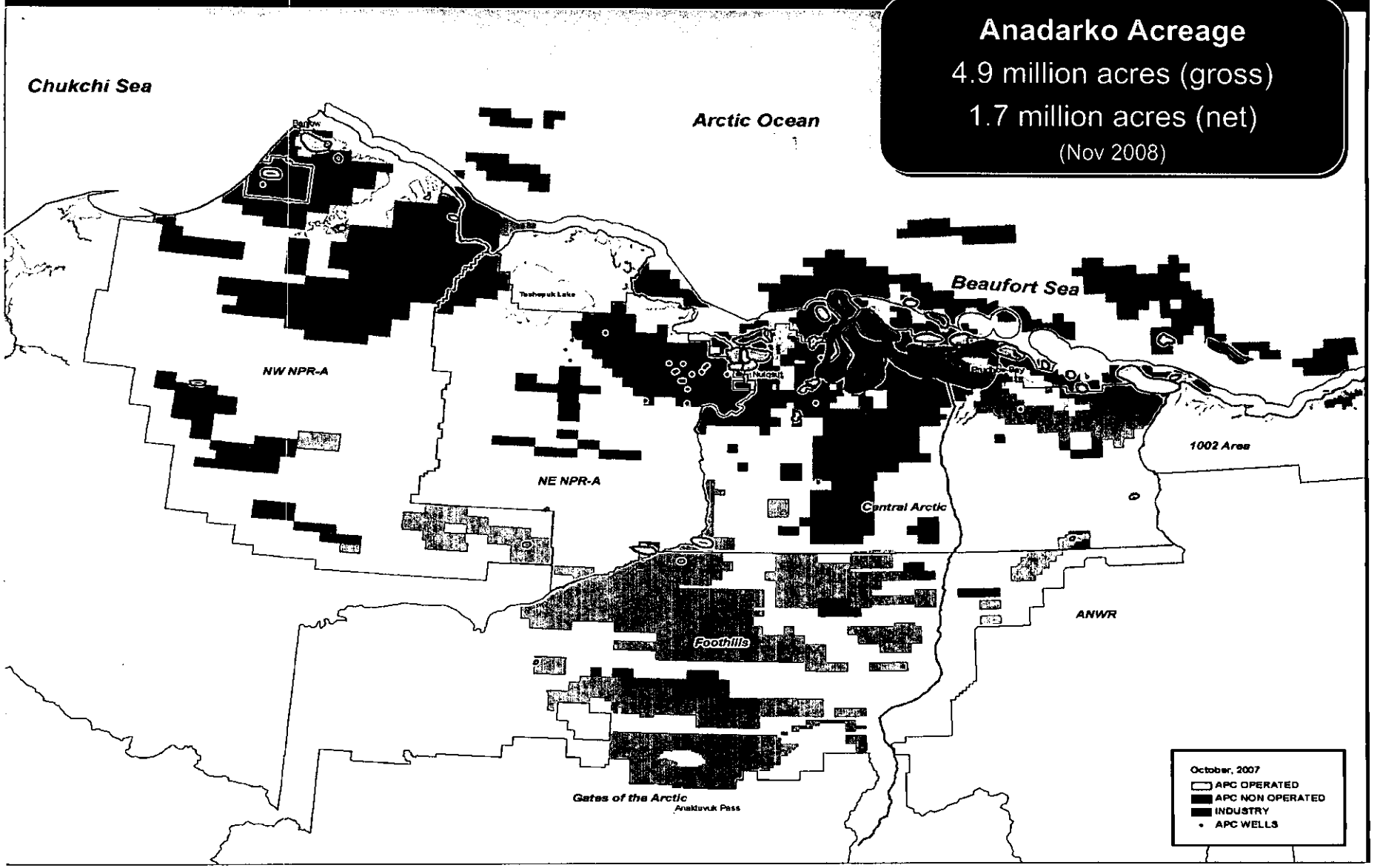
Anadarko Alaska Acreage Position



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ANADARKO

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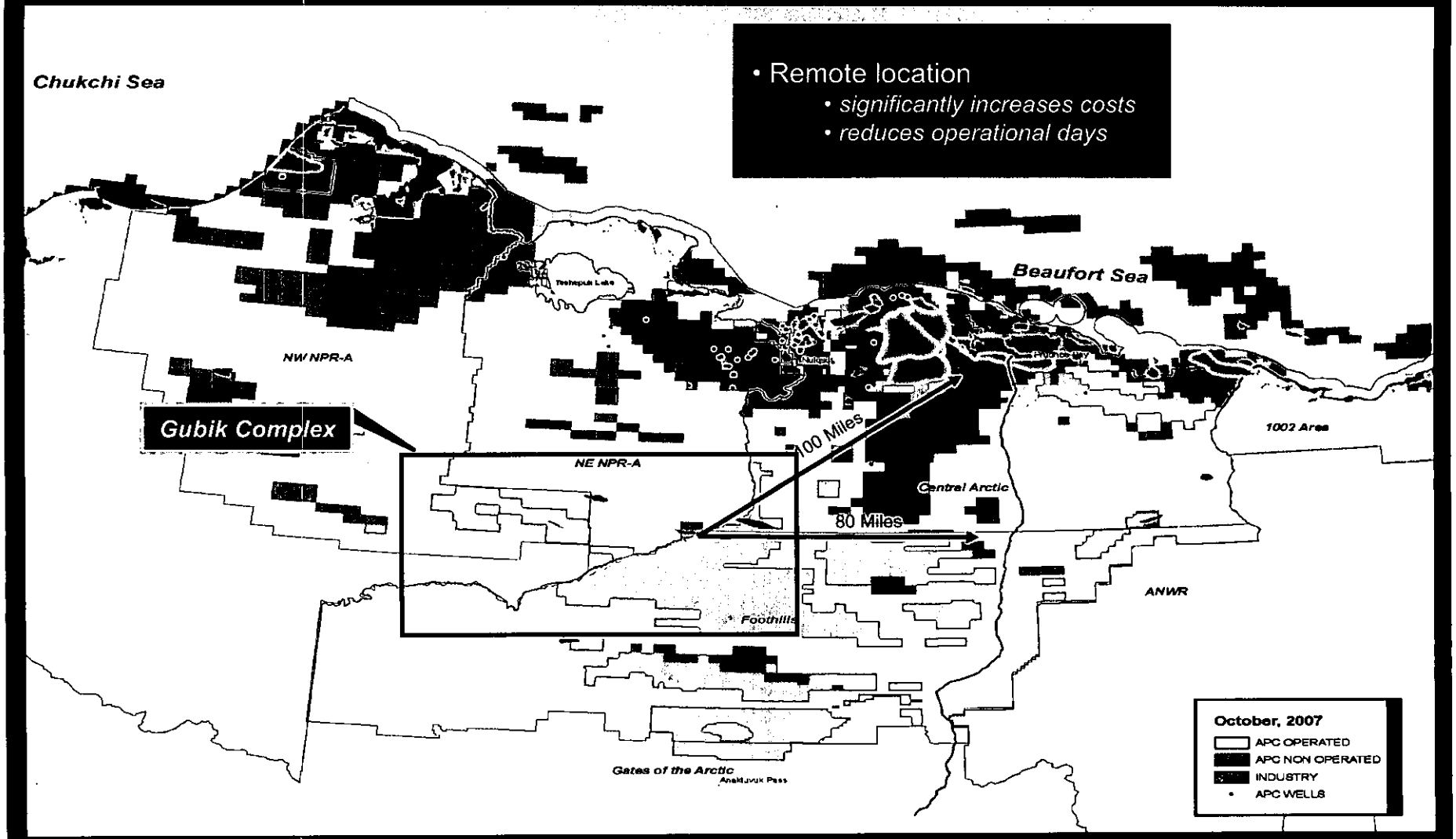
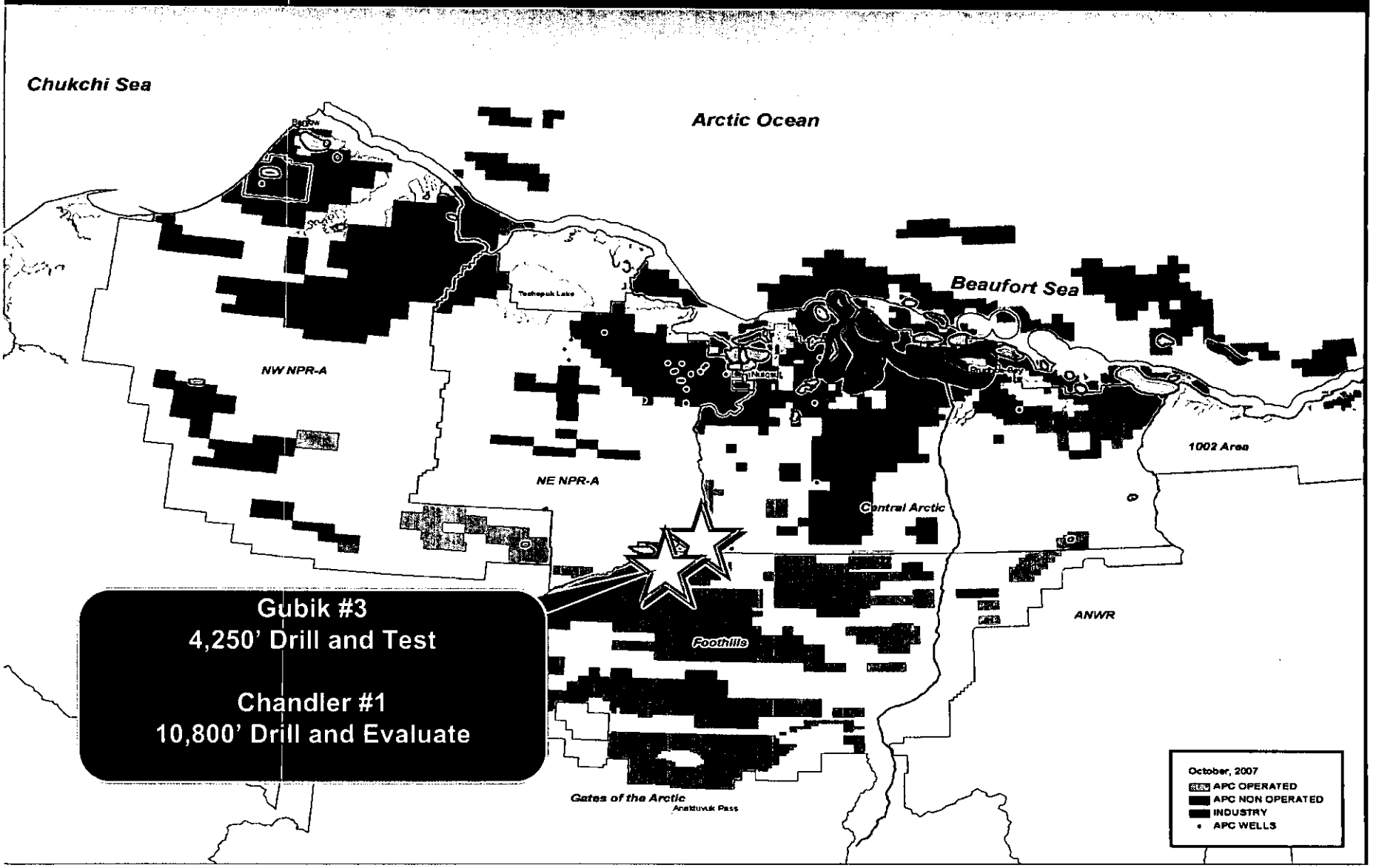


2007/08 Foothills Exploration- Season 1

Anadarko Operated, Partners: PetroCanada & BG Alaska



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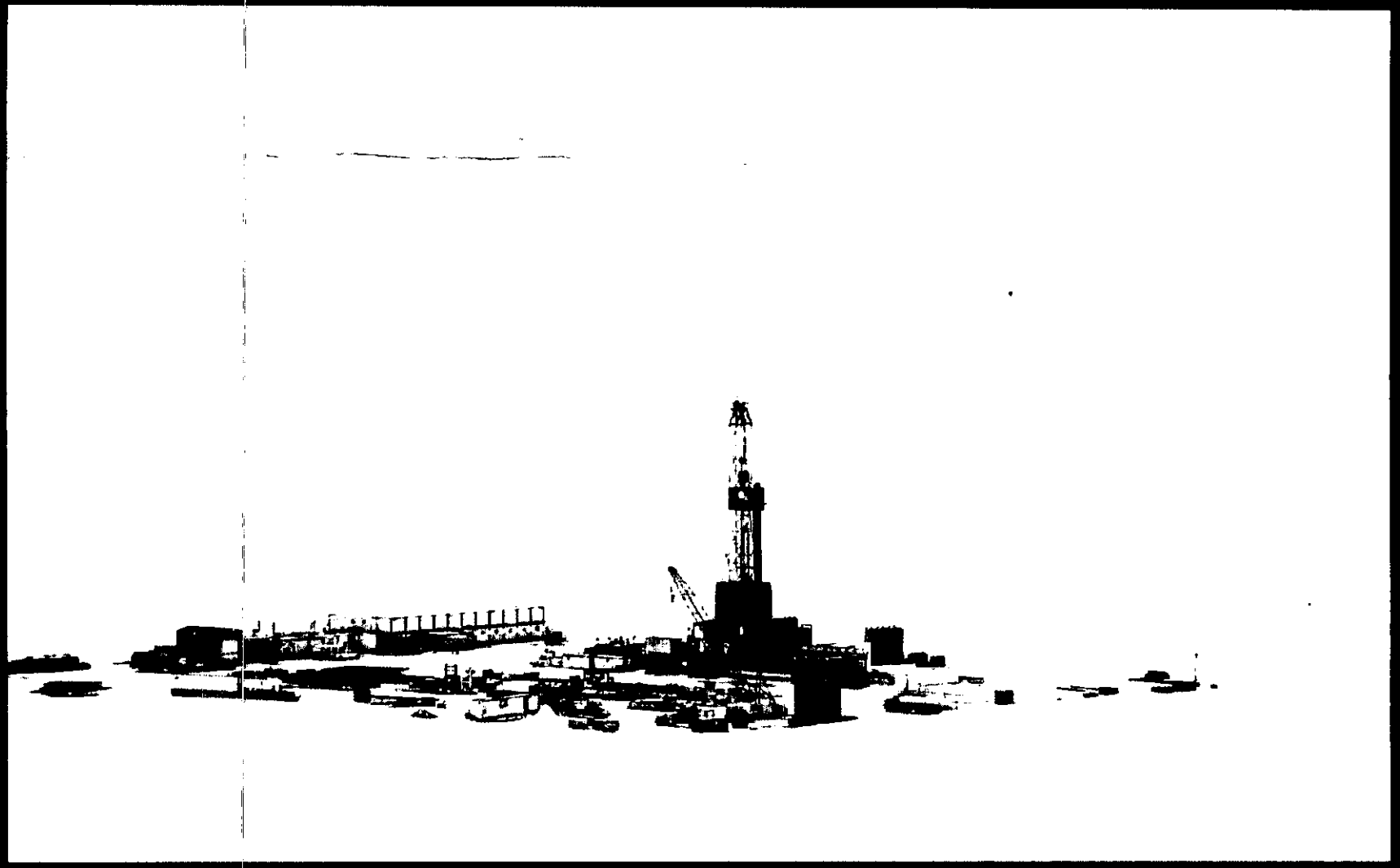
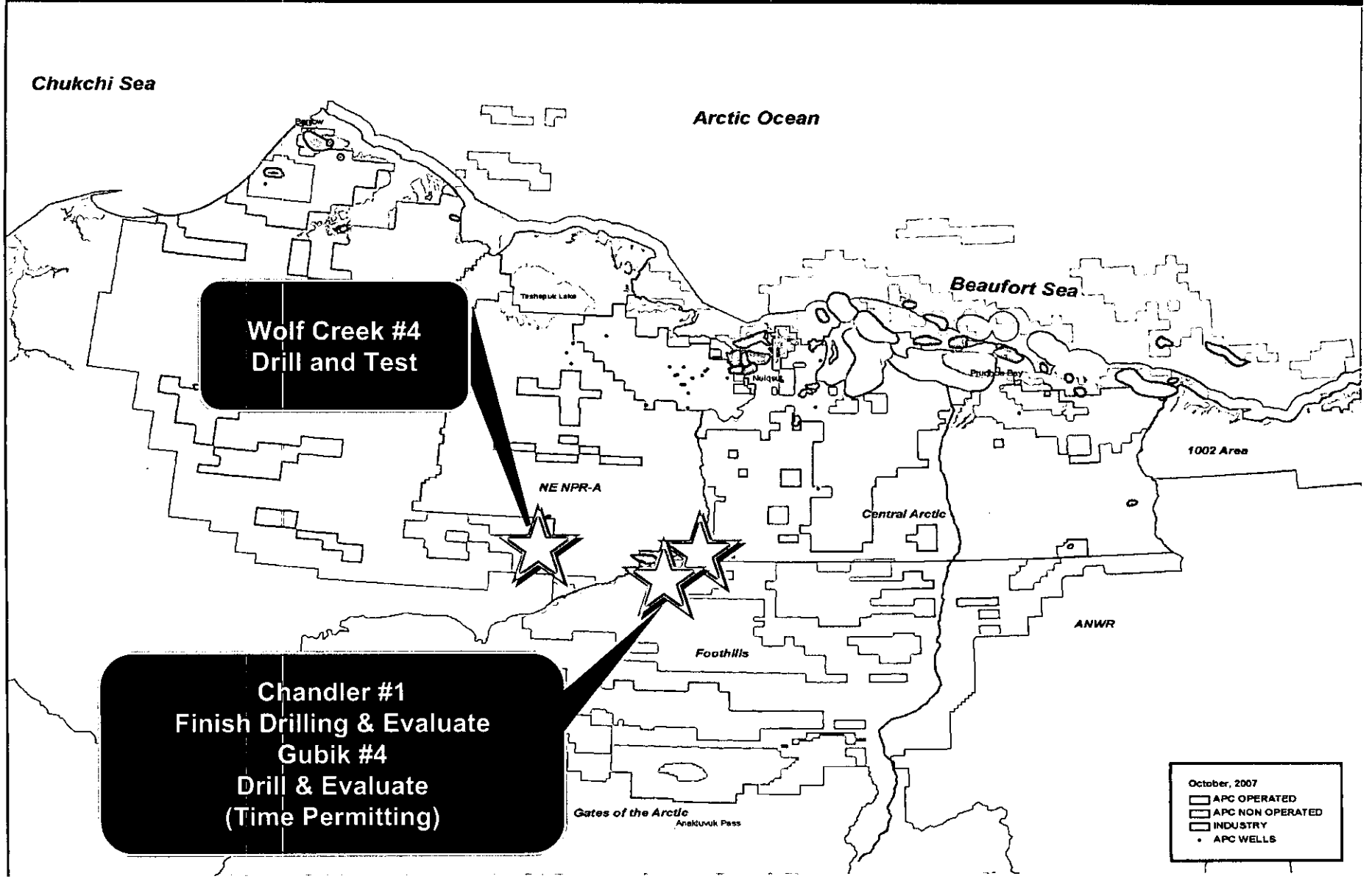
Foothills exploration Winter 2007/08

ANADARKO



2008/09 Foothills Exploration- Season 2

Anadarko Operated, Partners: PetroCanada & BG Alaska

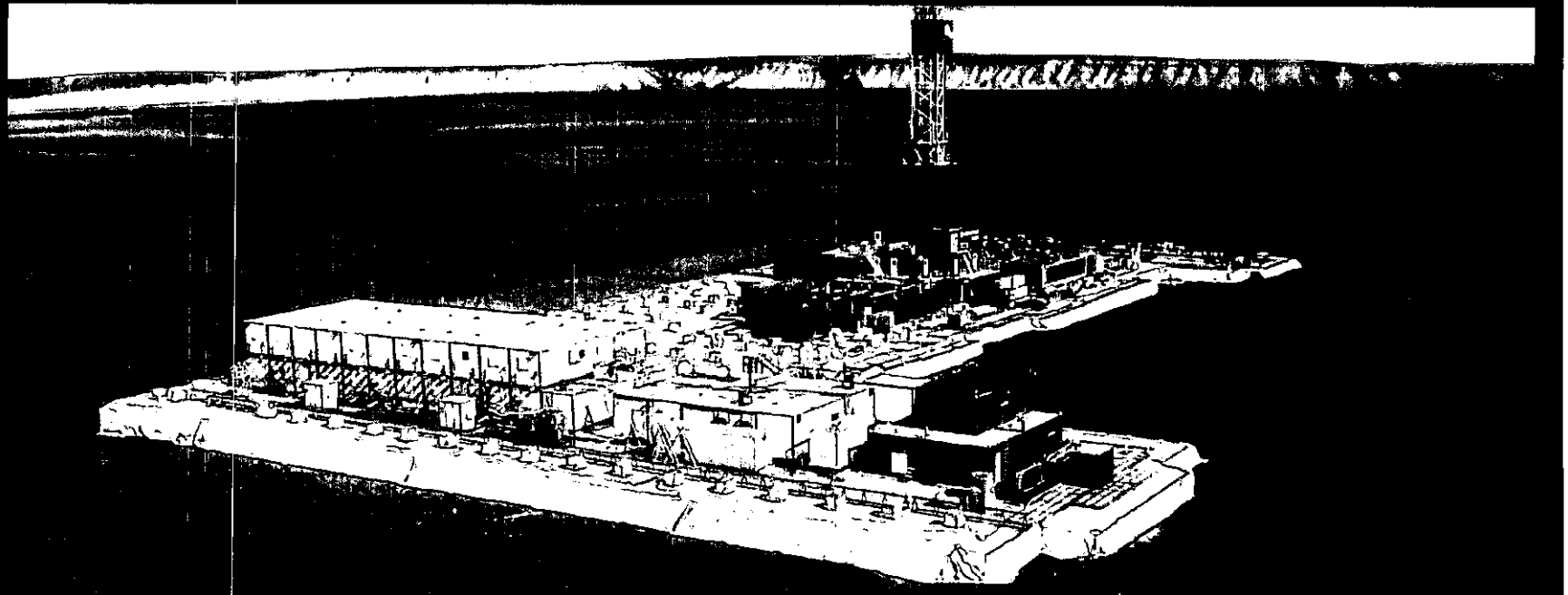


Chandler 1

- Gas Prospect
- Partners: PetroCanada, BG Alaska
- Spud during 2007-08 Season. Operations suspended. Nabors 105 Rig left on insulated pad
- 2008/09, finish drilling (10,000+ feet), log, evaluate (currently drilling)
- After Chandler 1, rig will move to Gubik 4

ANADARKO

Chandler 1, Insulated Ice Pad, Summer 2008



ANADARKO

Gubik 4

- Gas Prospect
- Step out from last year's Gubik 3 well
- Partners: PetroCanada and BG Alaska
- Drill and evaluate (time permitting)
  - *~4,000 feet*
  - *Use Nabors 105 Rig once complete Chandler 1*
- Possible insulated ice pad

ANADARKO

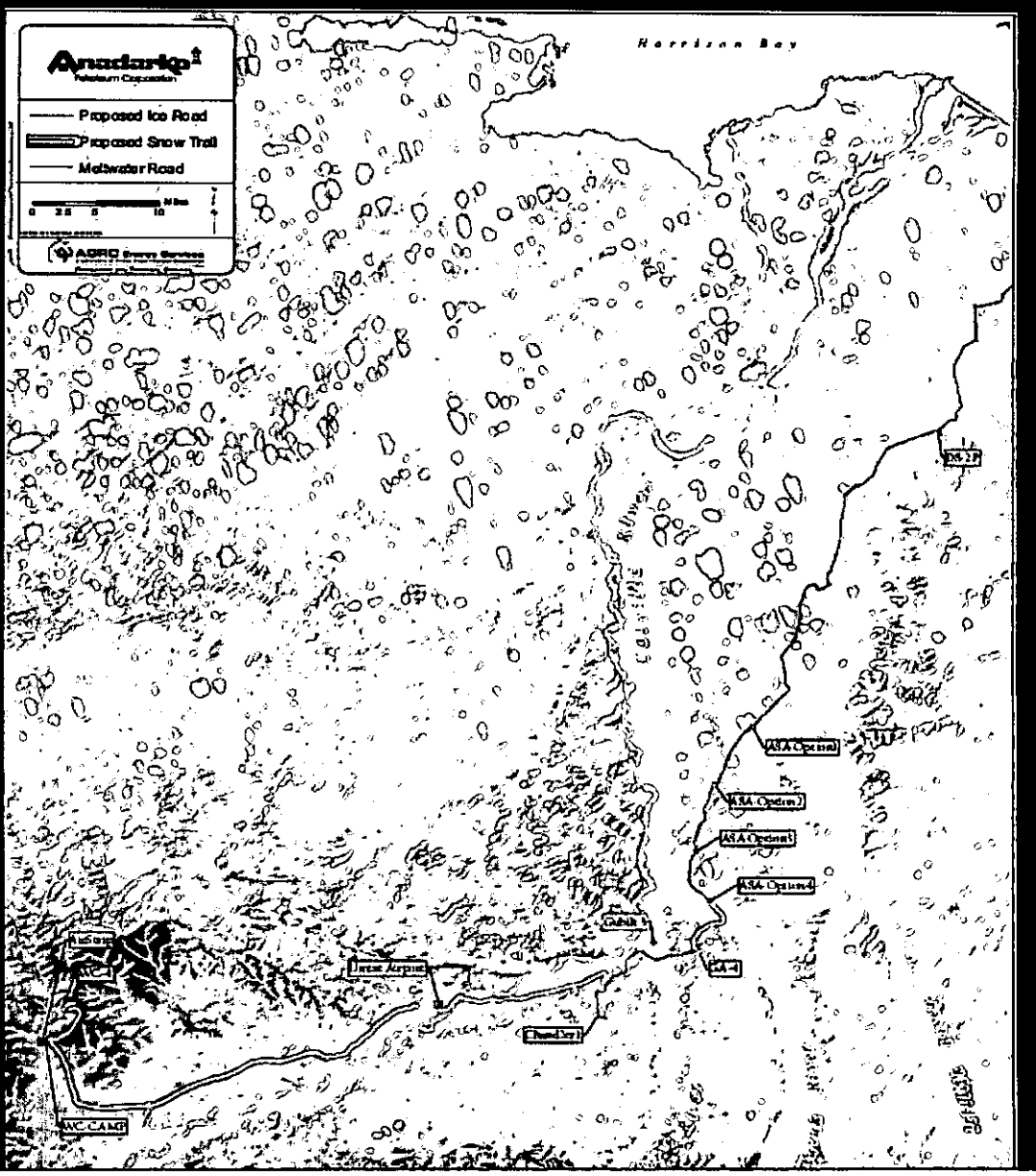
Wolf Creek 4

- Gas Prospect
- Entirely in NPR-A
- Partners: PetroCanada and BG Alaska
- Will drill, evaluate, test
  - *Using second rig, Arctic Fox*
  - *~ 4,000 feet*
- Mobilization with Herc aircraft and overland from DS 2P & Umiat
- Snow road from Umiat to Wolf Creek area (~35 miles). Ice road from Wolf Creek staging to drill site (~ 5 miles)

ANADARKO

Mobilization

- 80 + miles of ice roads
- 80 + miles of packed snow roads
- 6 + ice pads



ANADARKO

Foothills Snow Road Winter 2007/08

ANADARKO

2/9/09 COOK INLET GAS EXPLORA-TION & DEV.

Division of Oil and Gas
Senate Resources Committee

Kevin R. Banks
Director
February 2009

Cook Inlet 2008

- Administered 410 oil and gas leases (Jan. 1, 2009)
- Held Areawide Lease Sale
  - 23 bids on 18 tracts; result 9 active leases
- Managed 25 oil and gas units with 36 Participating Areas * (exploration and production)

*end of calendar year 2008

Cook Inlet Approvals issued in 2008

- Exploration
  - 3 for seismic programs in Cook Inlet.
- Development
  - 15 for Cook Inlet.

3

Cook Inlet Oil & Gas Activity 2008

- Beluga River Unit – ConocoPhillips (Gas)
  - Drilled two wells, BRU 211-26, BRU 243-34.
- Deep Creek Unit (Happy Valley) – Chevron (Gas)
  - Completed Happy Valley B-13. Beluga and Tyonek objectives.
- Granite Point– Chevron (Oil and Gas)
  - Drilled two wells, GPS 18742 32RD2, GPS 18742 24RD.
- Kasilof Unit – Marathon (Gas)
  - Two miles offshore; Extended reach drilling (17,000 ft).
  - Kasilof S #1 well turned on for winter production only, Tyonek Formation.
- Kenai Unit – Marathon (Gas)
  - Drilled 5 wells, KBU 42-07RD, KBU 41-18X, KBU 14-8, KDU 9, KU 22-6X.
- Nicolai Creek Unit – Aurora Gas (Gas)
  - Two wells are permitted, Nicolai Creek #10 and Nicolai Creek #11.

4

Cook Inlet Oil & Gas Activity 2008

- Nikolaevsk Unit – Chevron (Gas)
  - Continued evaluation for delineation and development.
  - 1st POD work commitment – drill or cause a well to be drilled by March 31, 2009 in Red Prospect.
- Ninilchik Unit – Marathon (Gas)
  - Drilled 2 wells, Paxton #2, GO #7. Tyonek Formation.
  - Currently drilling SD #6.
  - Chevron is 40% working interest owner in unit.
- North Alexander – Escopeta (Gas)
  - Permitted one exploration well, Alexander #1.
- North Cook Inlet– ConocoPhillips (Gas)
  - Drilled 3 gas wells, NCI A-14, NCI A-15, NCI A-16
- North Fork Unit – Armstrong (Gas)
  - Drilled one well, North Fork 34-26; tested gas in the Tyonek.
  - Met with Enstar to discuss possible pipeline and gas markets

5

Cook Inlet Oil & Gas Activity 2008

- Trading Bay Unit/ McArthur River Field– Chevron (Oil & Gas)
  - Drilled and completed two wells TBU M-17, TBU K-12RD2.
  - TBU M-17 targeted gas in the Tyonek, and TBU K-12RD2 targeted oil and gas in Hemlock.
- West McArthur River Unit– Pac Energy (Oil & Gas)
  - Continued evaluation of reprocessed 3D seismic data to support additional gas wells.
  - Pilot water-flood project to determine potential for additional recovery from the Hemlock reservoir (oil) under consideration.
- Additional Activity – (Oil & Gas)
  - Fowler Oil and Gas permitted a coal bed methane well at corner of Trunk Road & Bogard Road in Wasilla on fee acreage.
  - Corsair Unit Plan of Exploration in default effective December 1, 2008.
  - Kitchen Unit Plan of Exploration requires drilling by December 31, 2008.
- Activity in Units managed by Federal Government or CIRI
  - Beaver Creek Unit (Marathon): 1 well drilled for gas, Beaver Creek Unit 19.
  - Lone Creek Unit (Aurora): currently drilling for gas, Lone Creek 4.
  - Moquawkie Unit (Aurora): 1 well permitted for gas, Moquawkie 4.
  - Swanson River Unit (Chevron): currently drilling for gas, SRU 211-33.
  - Wolf Lake Unit (Marathon): 1 well permitted for gas, Wolf Lake 3.

6

Projects for 2009

- Gas Storage Expansion Plans
- Exploration and Development
- Lease Sales
- Coordination with Federal Government

7

Exploration & Development Activities

- ConocoPhillips completing two additional wells from the Tyonek platform in Cook Inlet.

8

Lease Sales

- Just issued Final Best Interest Finding for Cook Inlet
- Areawide Sale tentatively scheduled for May 2009

9

Coordination with Federal Government

- Encouraging exploration and development of federal lands.
- Continue partnering with Minerals Management Service and Bureau of Land Management in managing and oversight of jointly-owned lands (Beluga River and Cosmopolitan Units).

10

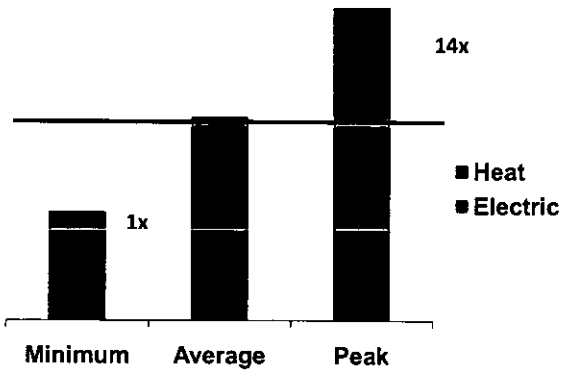
Gas Storage Expansion Plans

- Continue to develop CI storage capacity
- Engaging producers and utilities on storage
- Actively working one potential storage lease
- Potential for storage in winter 09/10

11

Why Store Natural Gas?

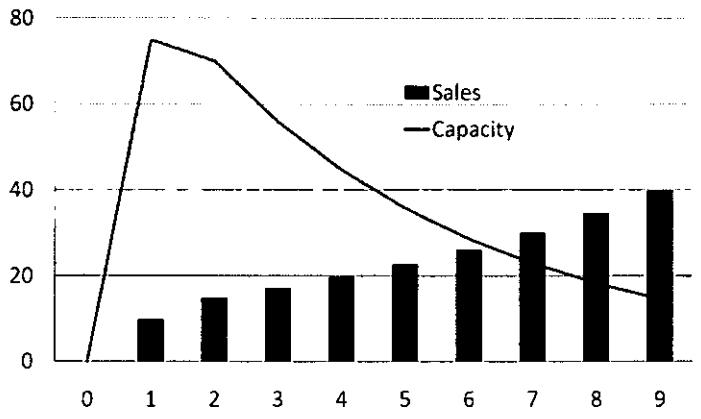
Cook Inlet Daily Gas Demand



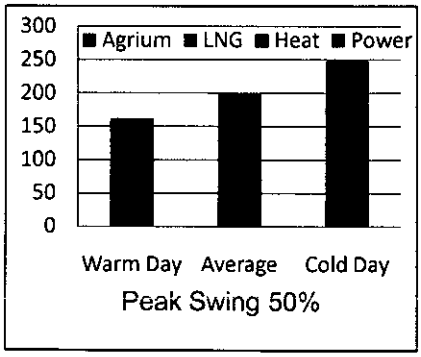
Deliverability

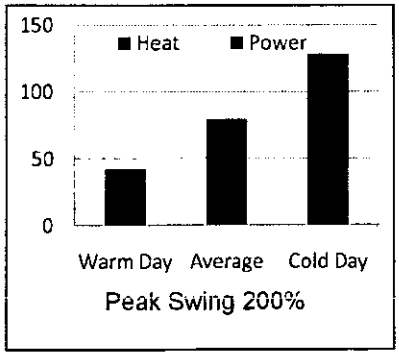
Well Deliverability
Pipeline Capacity
Compression
Interconnects
LNG, Agrium
Storage

Production Constrained by Market



Seasonal Deliverability





Kenai LNG Export Agreement

- COP – 2 wells in beluga
- MRO – 2 wells in Ninilchik, 3 wells in Kenai
- Catalog well and seismic data for sale
- RFP to buy gas for LNG plant
- Enstar contract reasonably approvable by RCA

- Fill unmet need of Chugach 5.2 BCF in 2010 through good faith negotiation approvable by RCA

Alaska Gas Exploration Potential In The Cook Inlet

Alaska Division of Geological & Geophysical Surveys

Bob Swenson
State Geologist
Monday, February 9, 2009

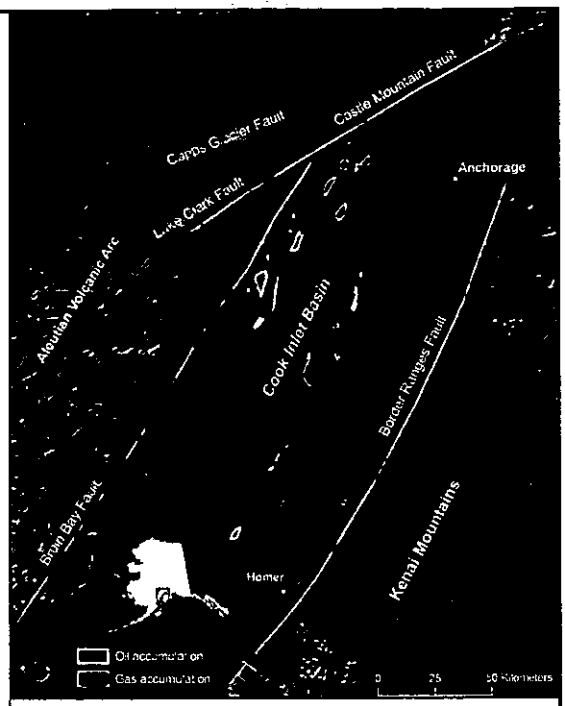
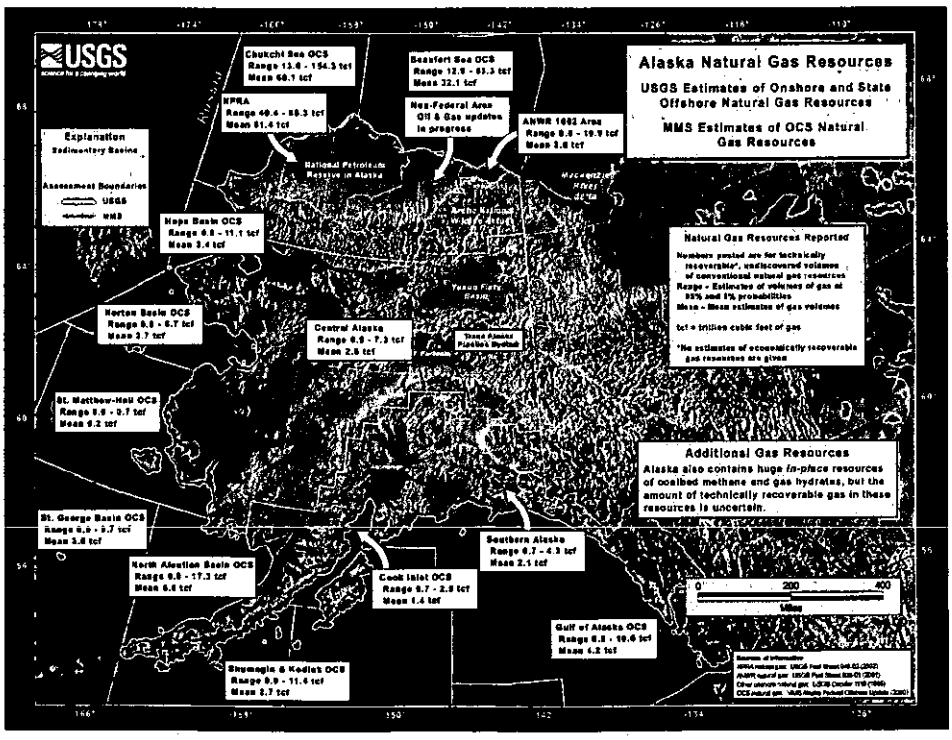


Figure 1



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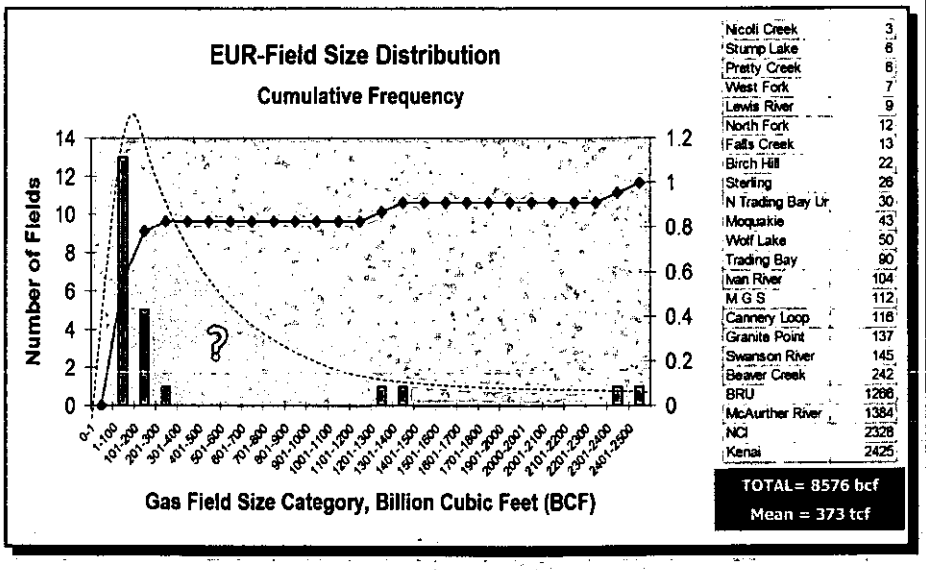
Cook Inlet Gas Exploration Statistics

- 85% of gas discovered early in exploration cycle while drilling for oil
- Only structural traps had been explored for or developed – stratagraphic trap potential essentially untapped
- Nearly one in ten fields >2 tcf
- 4 largest fields have 86% of reserves
- Field-size distribution lacks discoveries in 300-1300 bcf range → yet to be discovered?

Gas Field Size Distribution – Cook Inlet



Nicoli Creek	3
Stump Lake	6
Pretty Creek	6
West Fork	7
Lewis River	9
North Fork	12
Falls Creek	13
Birch Hill	22
Sterling	26
N Trading Bay Ur	30
Moquakie	43
Wolf Lake	50
Trading Bay	90
Ivan River	104
M G S	112
Cannery Loop	116
Granite Point	137
Swanson River	145
Beaver Creek	242
BRU	1266
McArthur River	1384
NCI	2328
Kenai	2425

TOTAL = 8576 bcf
Mean = 373 tcf

Take Home Points

- Minimal focused exploration for natural gas in the Cook Inlet until recent years
- Oil and Gas exploration is inherently risky, with a low chance of economic success with long lead time
- Difficult data acquisition with thick coals and low velocity surface
- The best chance of success is achieved when numerous geologic concepts are tested, which requires access to entire sedimentary basin, numerous exploration wells
- Market certainty, modern high resolution geologic data, and non-volatile pricing are key to meeting economic risk thresholds
- In the Cook Inlet, most of the "easy" (inexpensive) gas has been found and delineated

Is there more gas to be found?

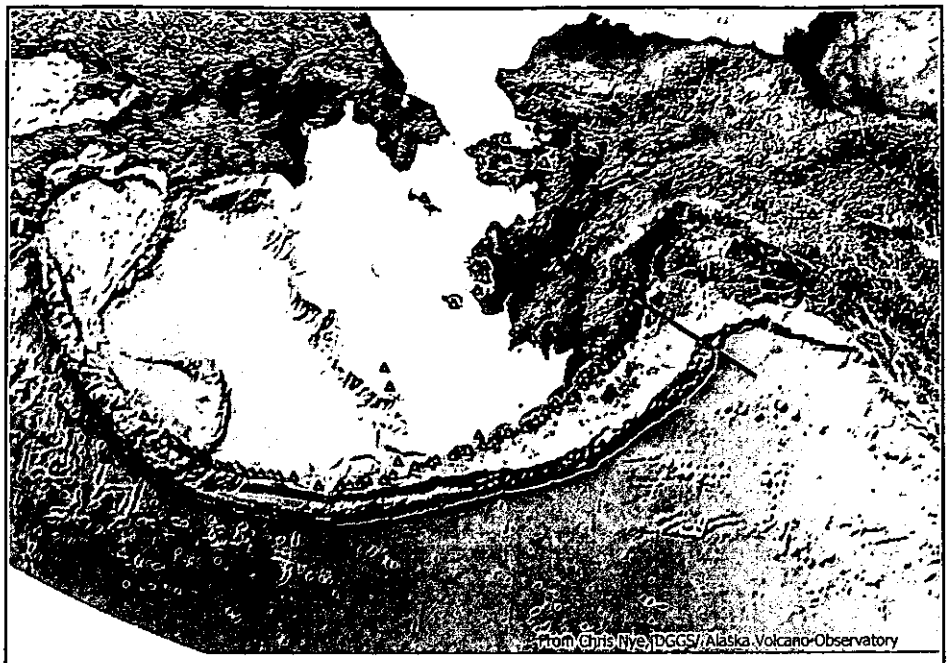
- Yes

Where will it be found?

- In existing fields
- In new exploration play types

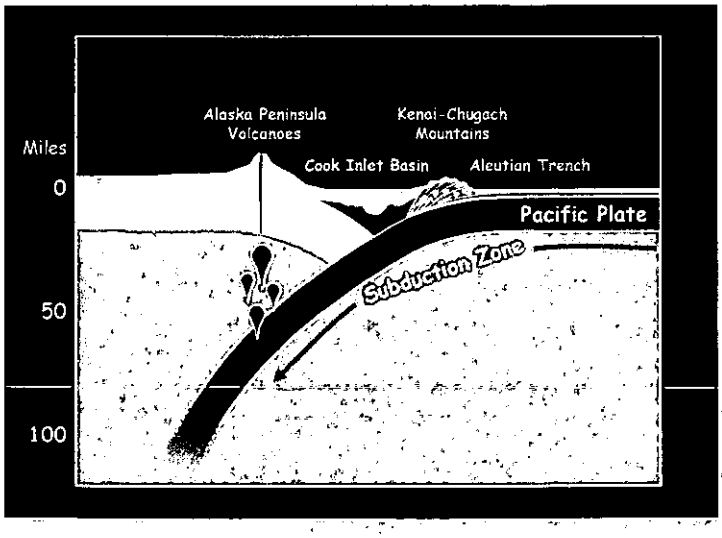
What are the hurdles?

- Land access over all basin
- Expensive data gathering and drilling costs
- Complicated limited market

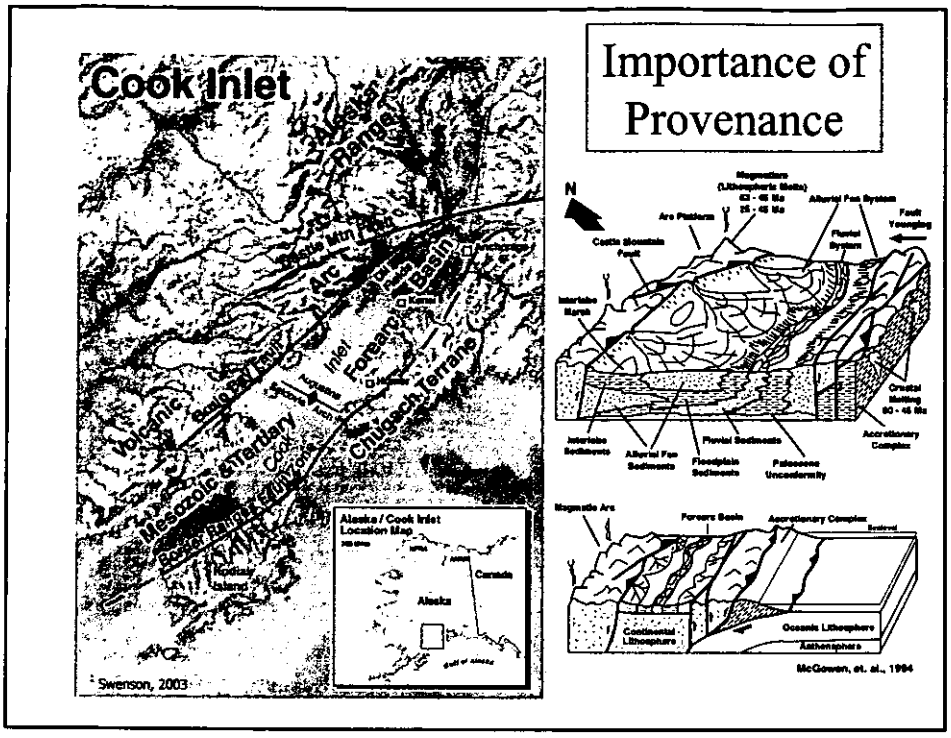


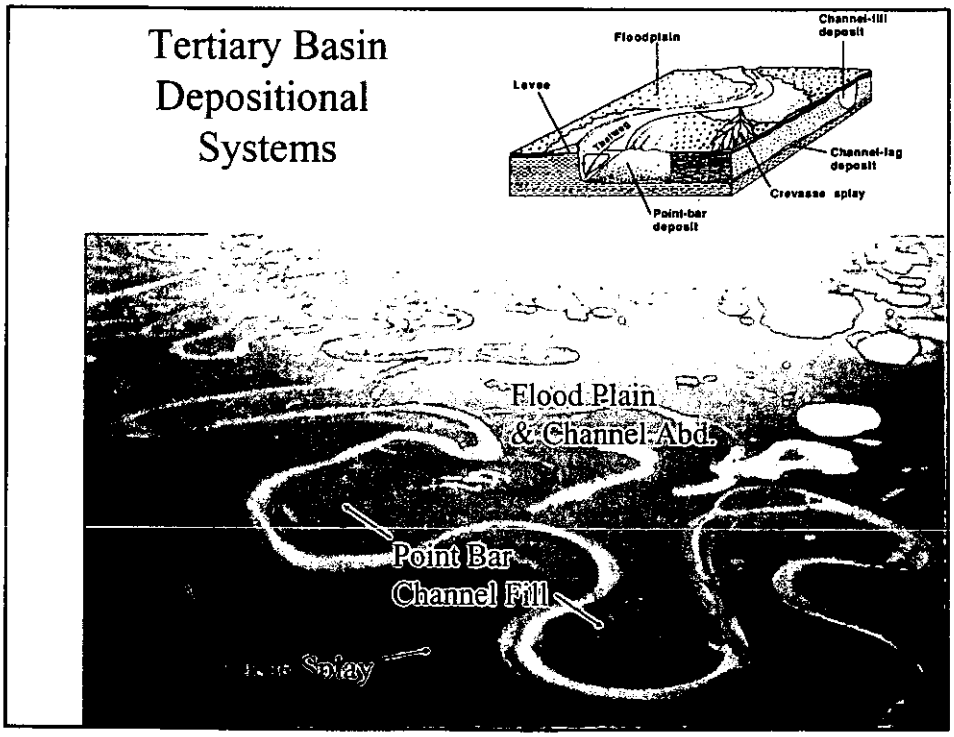
UPPER COOK INLET BASIN
Basin / Reservoir Origins

NW SE



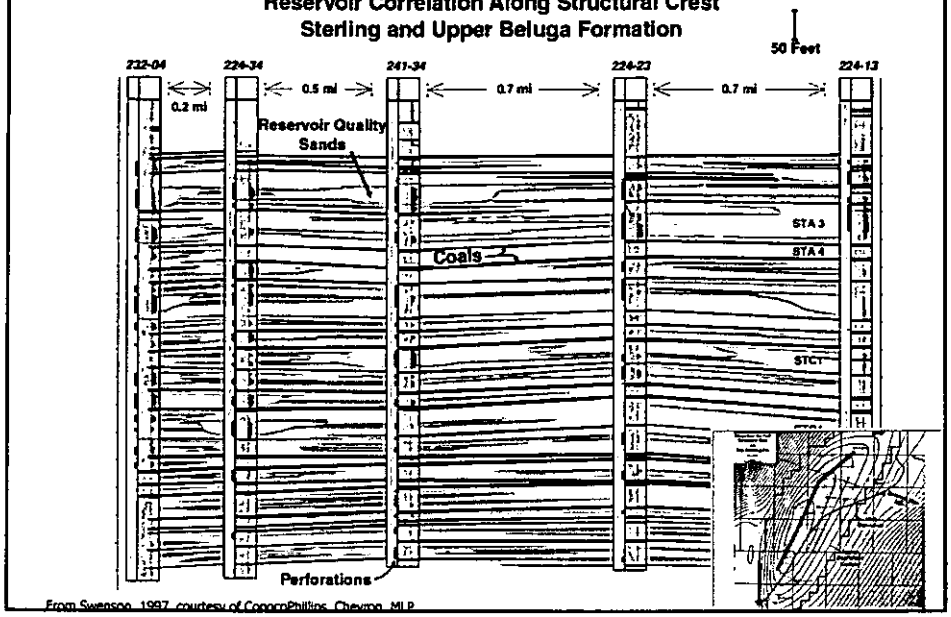
Modified from:
Tornqvist, T., 2005, Principles of Sedimentology and Stratigraphy, University of Chicago, http://www.uic.edu/classes/geol/eses350/


Cook Inlet
Importance of Provenance
Alaska Range
Arc
Basin
Inlet
Foreland
Chugach Terrane
Volcanic
Mesozoic & Tertiary
Alaska / Cook Inlet Location Map
Canada
Alaska
Swenson, 2003
N
McGowen, et. al., 1994


Tertiary Basin Depositional Systems
Floodplain
Channel-fill deposit
Levee
Channel-lag deposit
Crevasse splay
Point-bar deposit
Flood Plain & Channel Abd.
Point Bar Channel Fill
Splay

Sand Distribution in a Fluvial System

Beluga River Gas Field
Reservoir Correlation Along Structural Crest
Sterling and Upper Beluga Formation

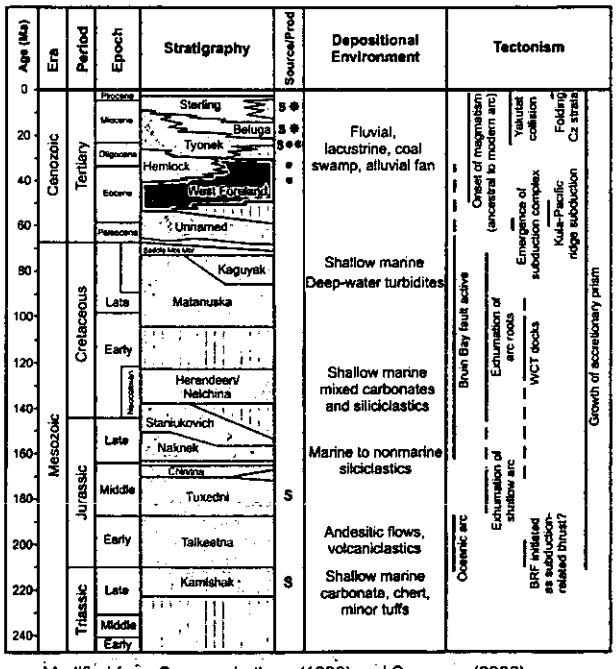


From Swenson, 1997, courtesy of ConocoPhillips, Chevron, MLP

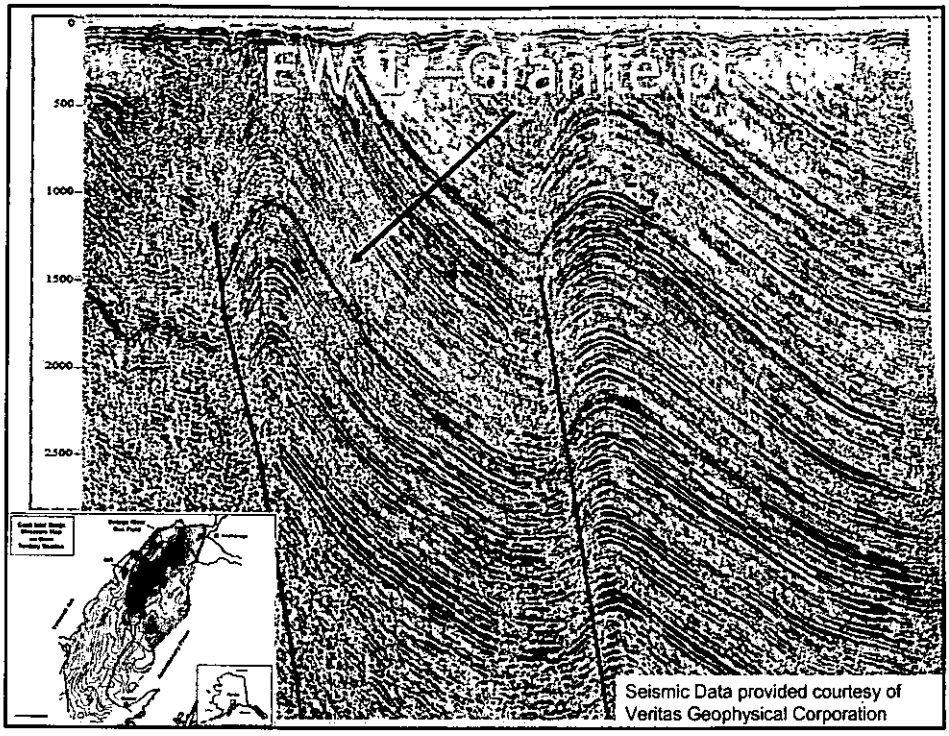
Up to 30,000 feet of Mesozoic marine and marginal-marine strata

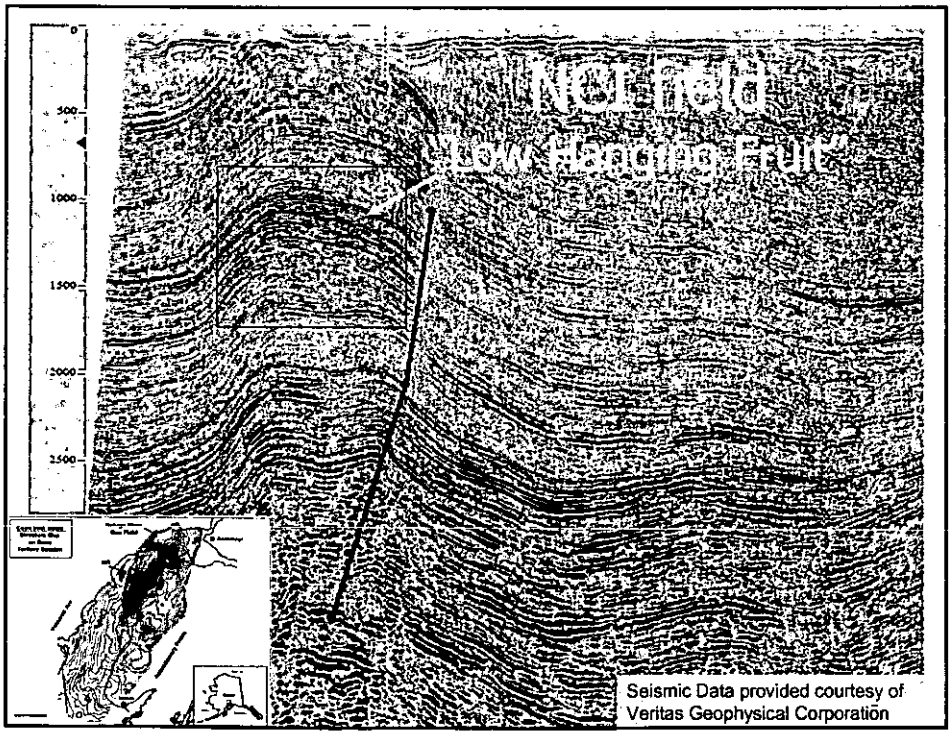
Up to 25,000 feet of Tertiary age nonmarine strata

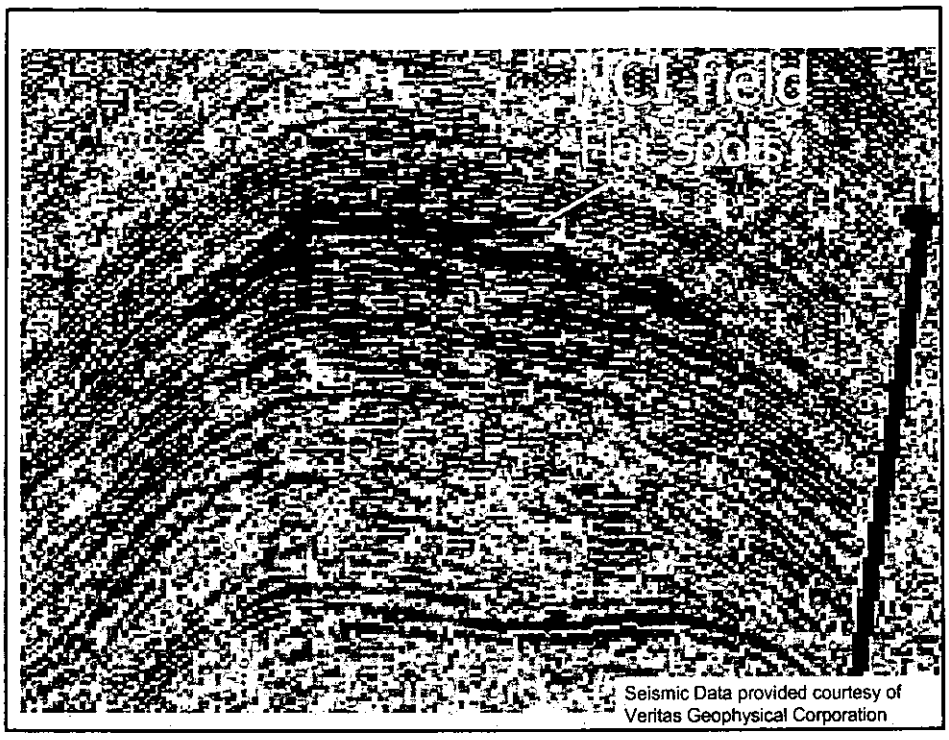
Basin fill modified by folding and faulting

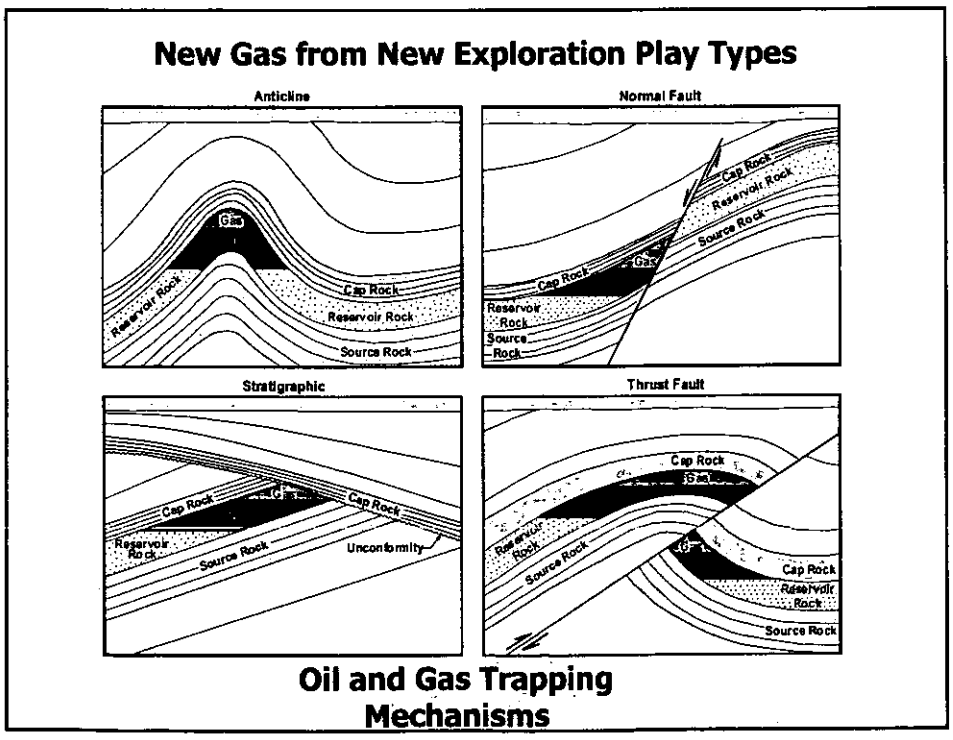


Modified from Curry and others (1993) and Swenson (2002)

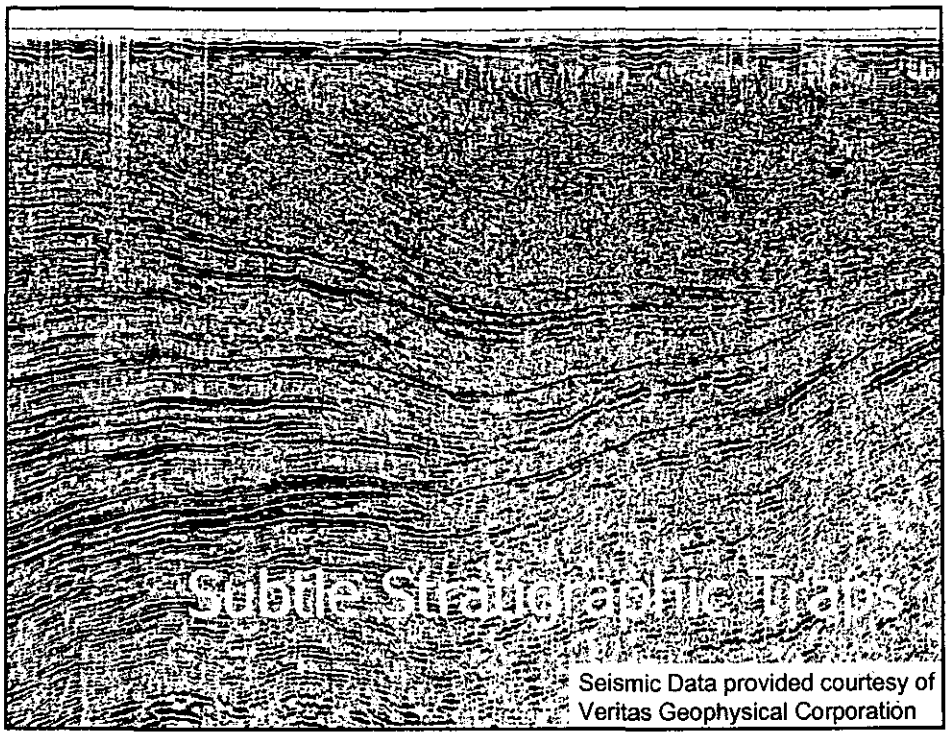

0
500
1000
1500
2000
2500
Seismic Data provided courtesy of
Veritas Geophysical Corporation

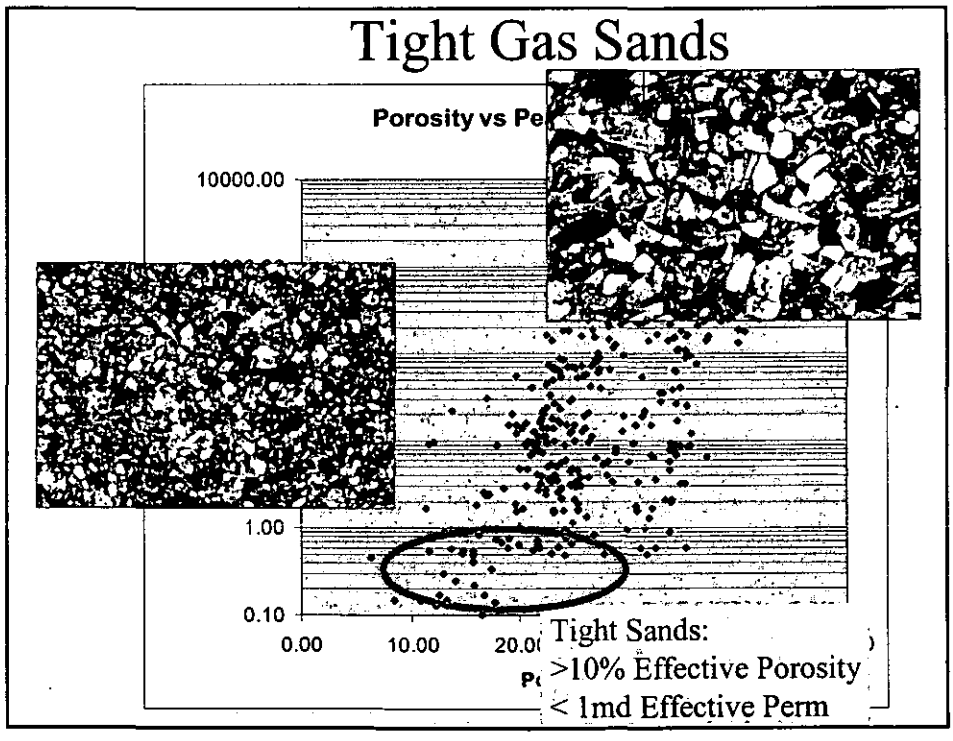

0
500
1000
1500
2000
2500
Seismic Data provided courtesy of
Veritas Geophysical Corporation


Gas Field
Gas Sand
Seismic Data provided courtesy of
Veritas Geophysical Corporation


New Gas from New Exploration Play Types
Anticline
Gas
Cap Rock
Reservoir Rock
Source Rock
Normal Fault
Cap Rock
Reservoir Rock
Source Rock
Gas
Reservoir Rock
Source Rock
Stratigraphic
Cap Rock
Gas
Cap Rock
Reservoir Rock
Source Rock
Unconformity
Thrust Fault
Cap Rock
Gas
Reservoir Rock
Source Rock
Gas
Cap Rock
Reservoir Rock
Source Rock
Oil and Gas Trapping Mechanisms

1568


Subtle Stratigraphic Traps
Seismic Data provided courtesy of
Veritas Geophysical Corporation


Tight Gas Sands
Porosity vs Pe
10000.00
1.00
0.10
0.00
10.00
Tight Sands:
>10% Effective Porosity
< 1md Effective Perm

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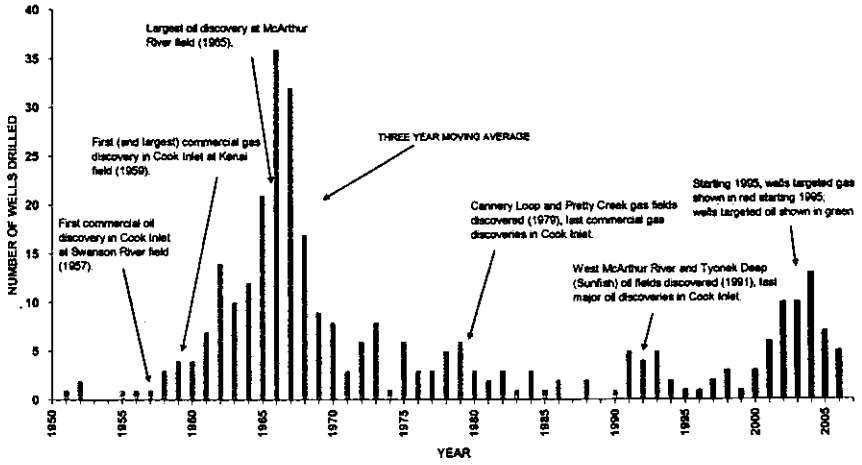
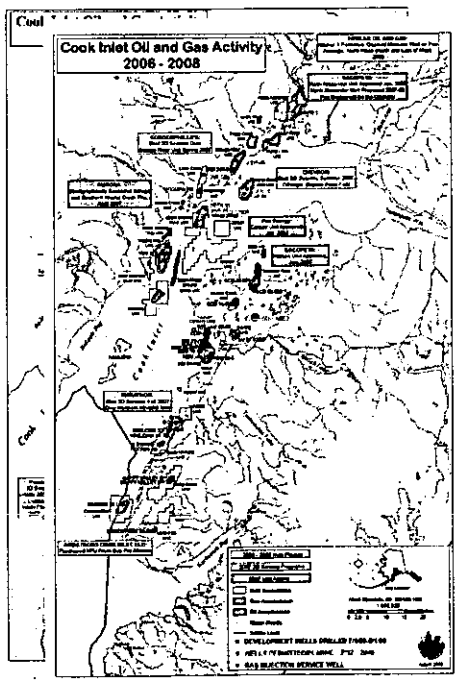
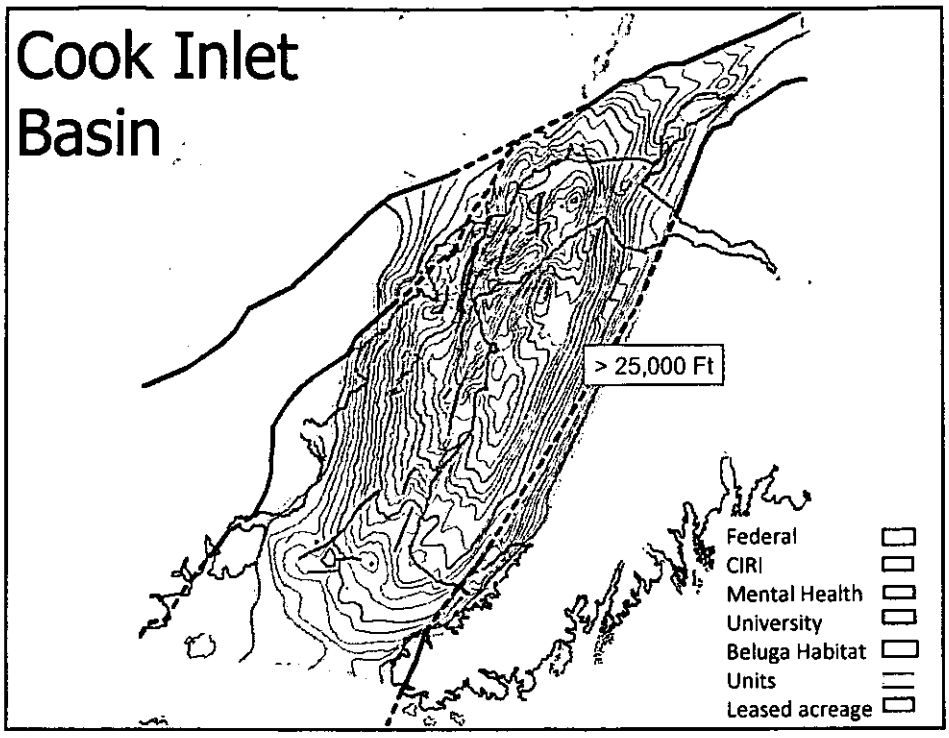
Cook Inlet Exploration Wells Drilled, 1950 - 2006

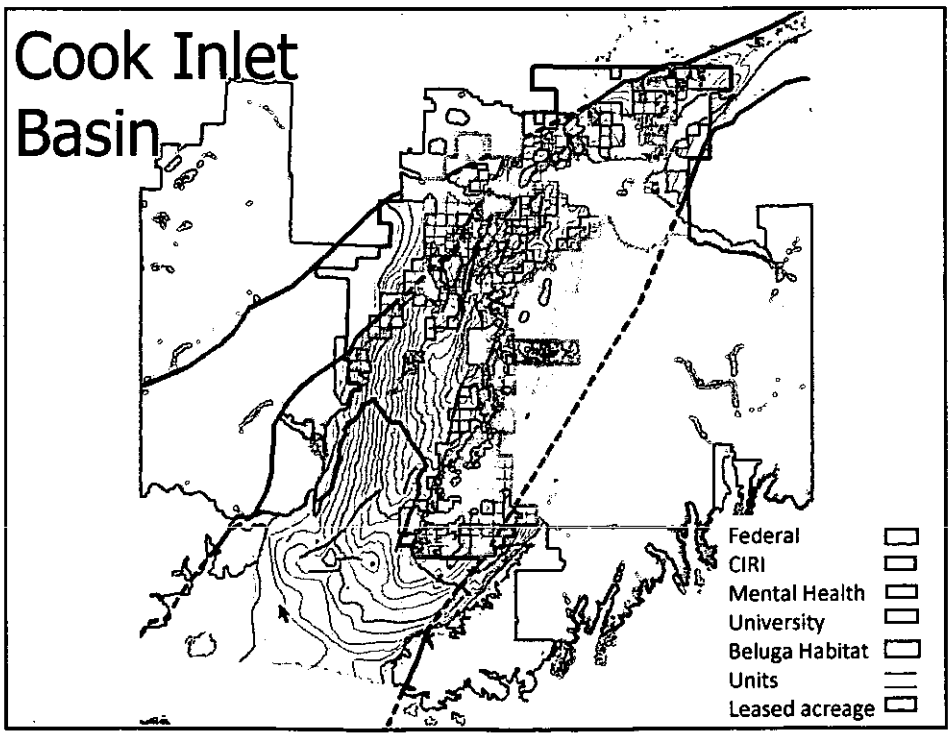


Cook Inlet Industry Activity



www.dog.dnr.state.ak.us/oil/products/maps/cookinlet/


Cook Inlet
Basin
> 25,000 Ft
Federal
CIRI
Mental Health
University
Beluga Habitat
Units
Leased acreage


Cook Inlet
Basin
Federal
CIRI
Mental Health
University
Beluga Habitat
Units
Leased acreage

What is the State Geological Survey Doing to Help Facilitate?

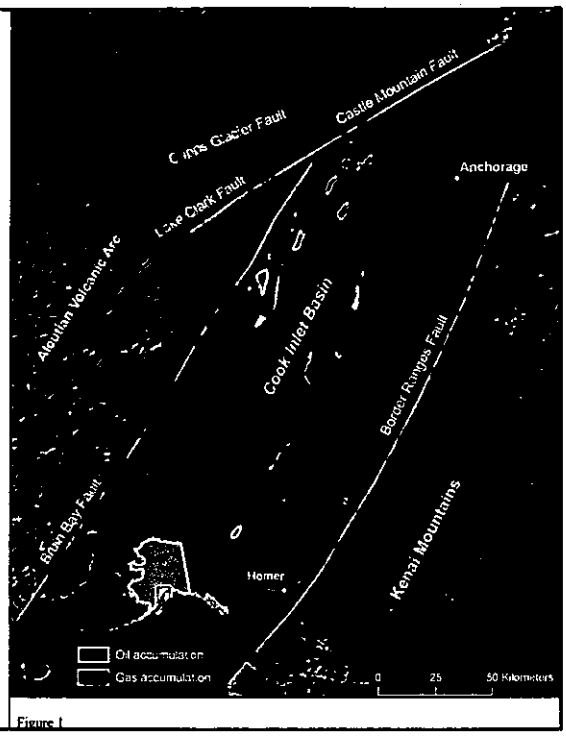
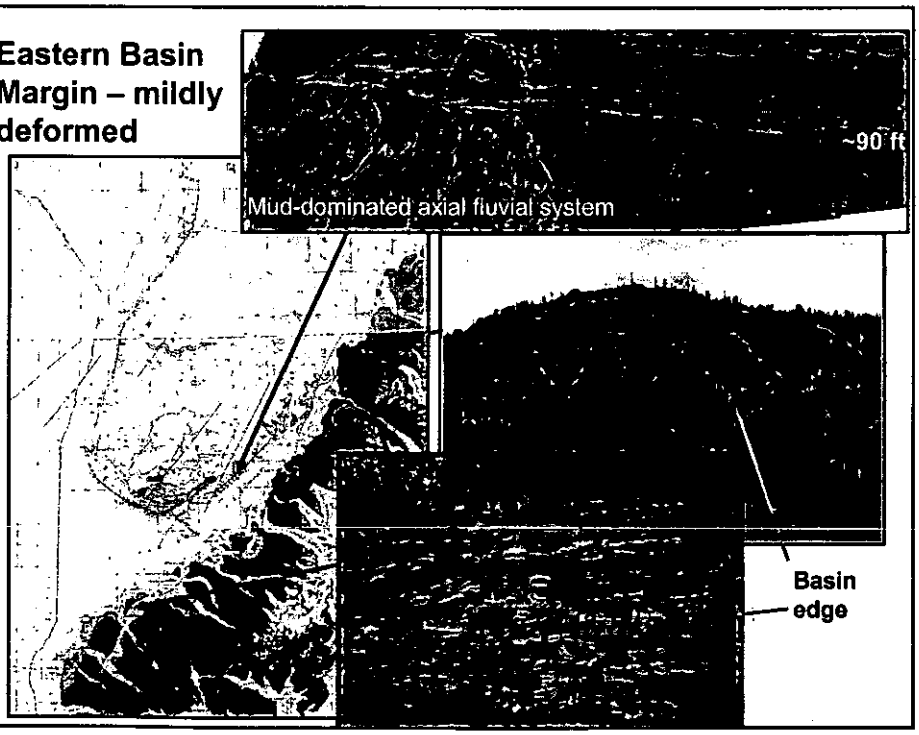
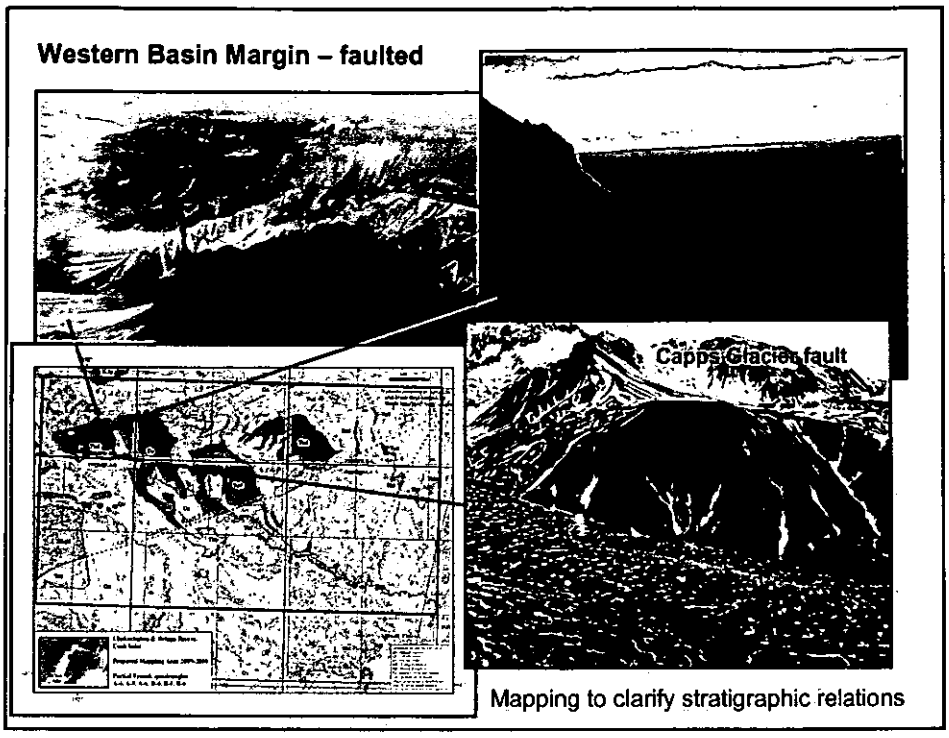


Figure 1

Eastern Basin Margin – mildly deformed





Cook Inlet Basin Analysis Program Goals

- Reconstruct depositional systems in Mesozoic and Tertiary strata – priority on gas-bearing sands in upper Cook Inlet
- Characterize sand body geometries
- Assess reservoir quality of sands and sealing capacity of mudstones
- Determine controls on tight gas sands and factors controlling gas producibility
- Evaluate Stratigraphic trap potential and methods for recognition using subsurface datasets
- Timely release of products in public domain to catalyze exploration investment
- Funding from SOA and industry sources
- **Work with USGS to provide realistic resource estimates**

Summary

- Of the 8+ TCF of gas reserves found, nearly all were discovered while looking for oil on big structural plays
- Because of historic over-supply and limited market, there has been minimal focused exploration for natural gas in the Cook Inlet
- Oil and Gas exploration is inherently risky, with a low chance of economic success
- The best chance of success is achieved when numerous geologic concepts are tested
- Market capacity & certainty, modern high resolution geologic data, and non-volatile pricing are key to meeting economic risk thresholds
- In the Cook Inlet, most of the "easy" (inexpensive) gas has been found and delineated

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2/11/09 INSTATE USE OF COOK INLET GAS

1576

Natural Gas Use
Chugach Electric Association

Bradley Evans, Chugach CEO

Senate Resources Committee

February 11, 2009

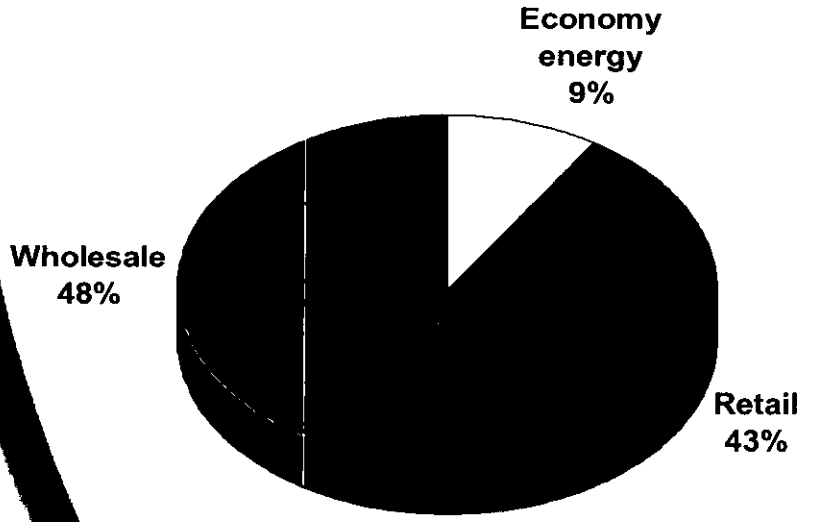
Chugach Overview

- **Alaska's largest electric utility**
- **Vertically integrated**
  - Generation, transmission, distribution
- **Retail, wholesale & economy energy sales**
  - 80,682 metered retail locations
  - Wholesale contracts with Matanuska Electric Association, Homer Electric Association, City of Seward
  - Economy energy sales to Golden Valley

2008 Power Sales

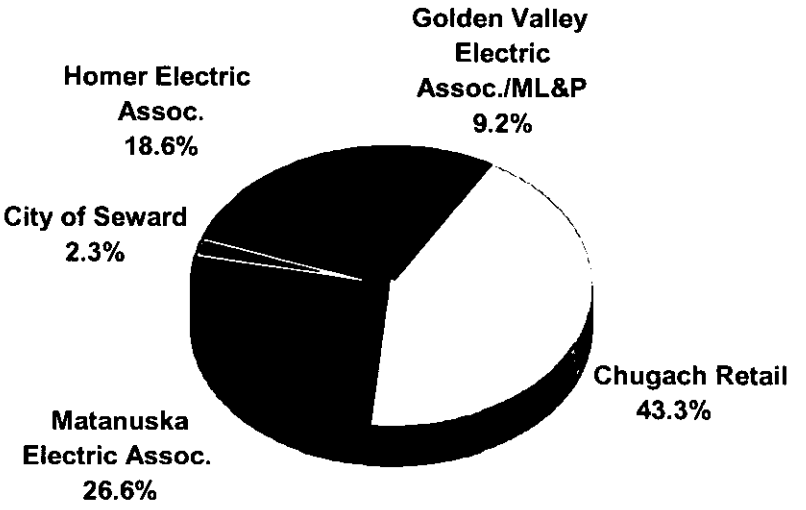
By Kilowatt-hours

Total 2,785,705,017 kwh

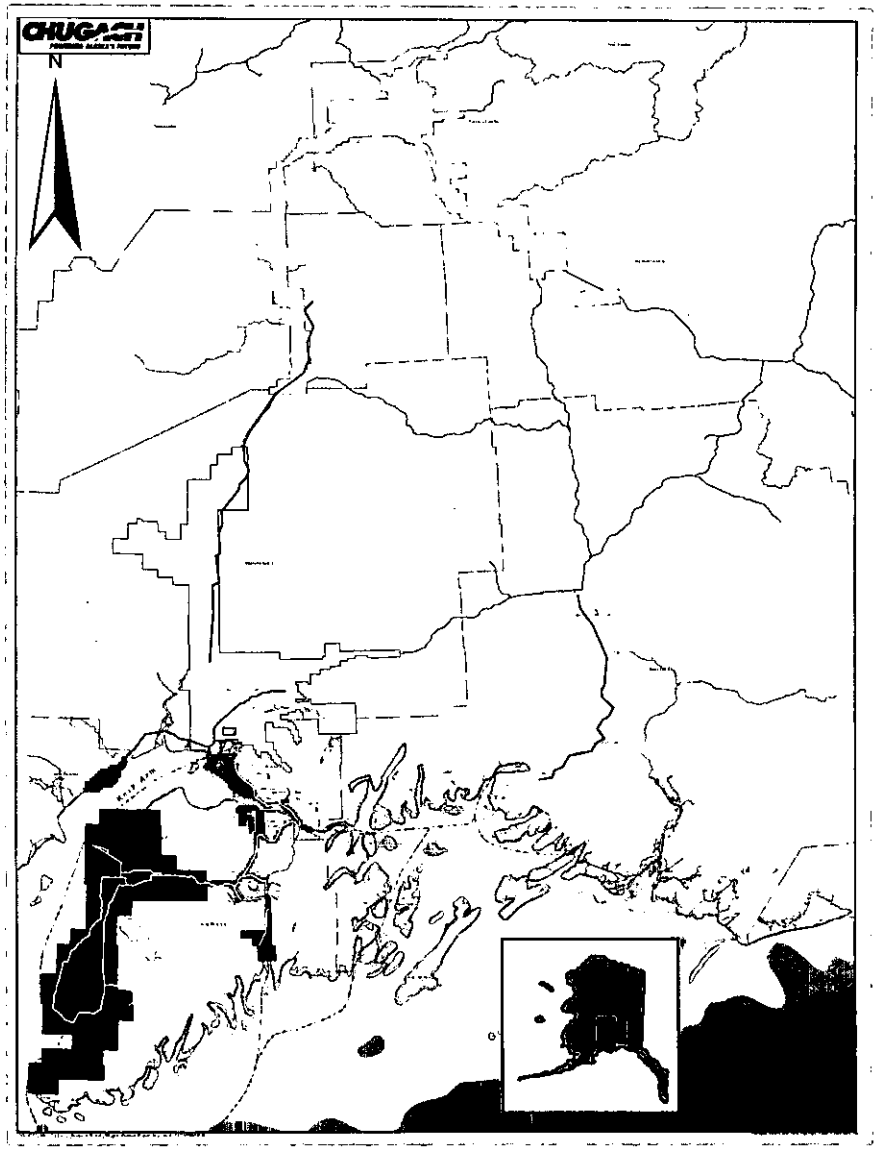


By Operating revenues

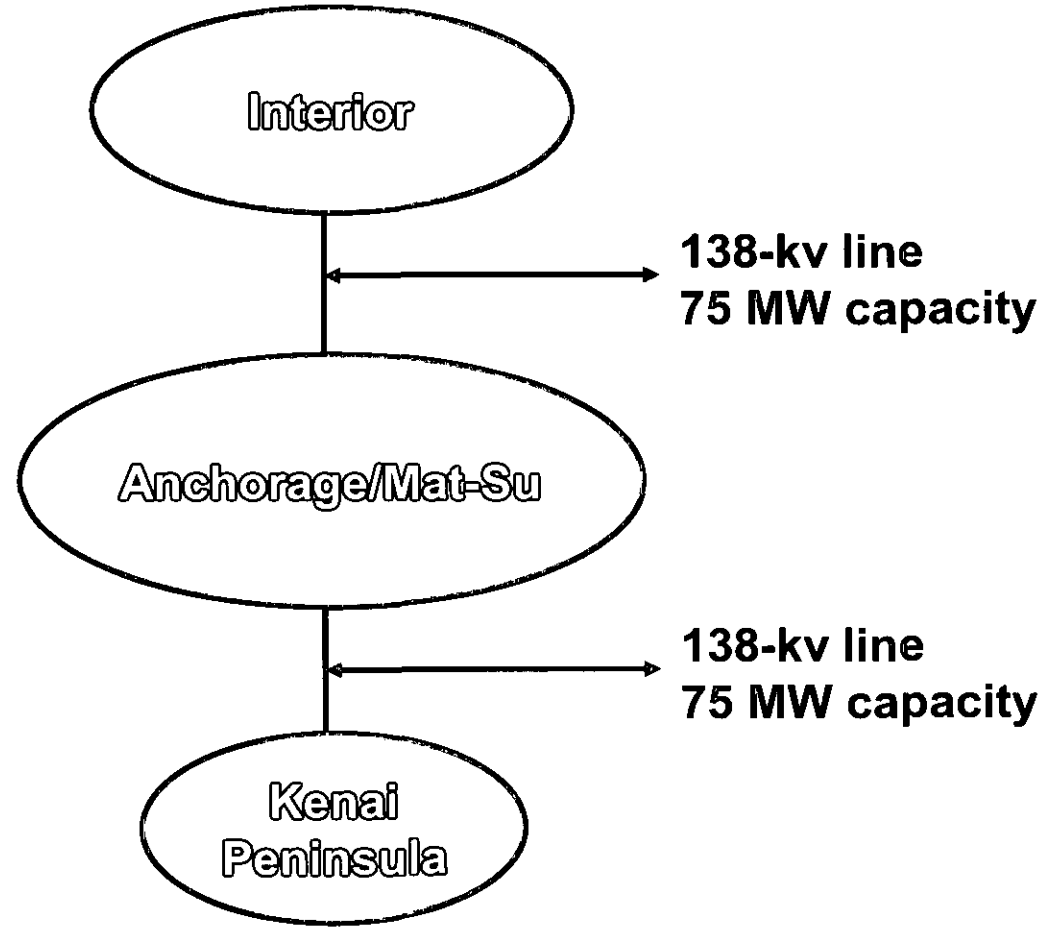
Total $288,292,112



The Railbelt Grid



The Railbelt Grid



Generation

- **Railbelt**
  - 1,550 MW of installed capacity
  - Annual peak load 850-900 MW
- **Chugach**
  - 530 MW installed capacity (Chugach-owned)
  - 629 MW total capacity including Bradley Lake & Nikiski

Chugach Fuel Mix

- **Today**
  - 90% natural gas-fired
  - 10% hydro
- **Long-term vision**
  - Reduce dependence on fossil fuels
  - 90/10 to 10/90

Current Fuel Supply

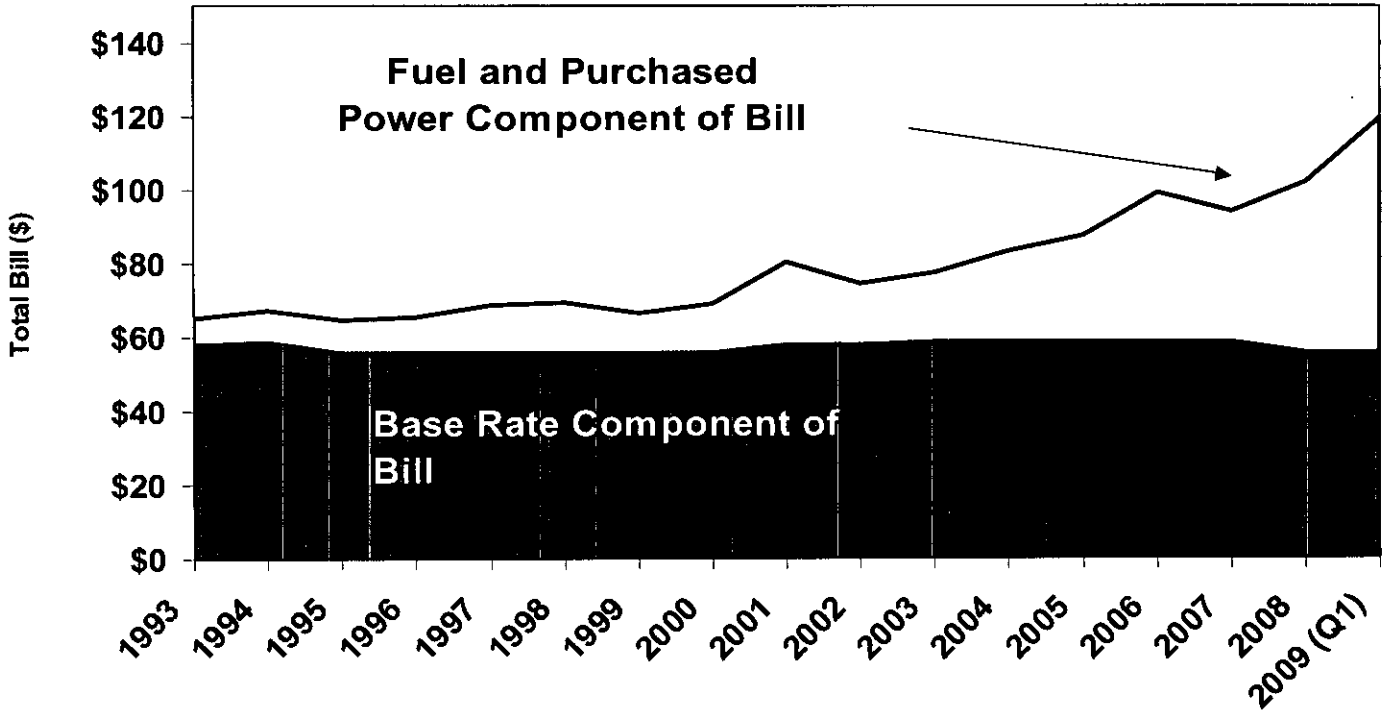
- **4 natural gas suppliers**
  - Marathon, ConocoPhillips, Chevron, ML&P
- **4 contracts**
  - Prices indexed to three commodities
  - Price changes quarterly based upon commodity changes over a rolling 12-month period
- **Volumetric contracts**
  - Volumes consumed by 2010 and 2011

Chugach Natural Gas Use

- **Annual consumption**
  - 30.8 BCF in 2008
- **2008 Natural gas purchases**
  - $137.9 million (Chugach turbines)
  - $20.3 million (Nikiski unit)
- **Current average price**
  - $6.67 per MCF in 1st Q 2009

Monthly Residential Bill Total

(based on 700 kwh)



The price of gas is the leading cause of higher monthly bills

Current Chugach Activities

- **Gas contracts**
  - Negotiations underway for volumes beyond current contracts
- **New replacement power plant**
  - 183 MW, gas-fired, efficient, combined cycle Southcentral Power Project jointly owned
- **Conservation & renewables**
- **Supporting Railbelt Unified Power Provider**
  - Plan, finance, construct, operate G&T projects
  - Vehicle to develop major renewable projects

Meeting Customer Needs

- **Conservation**
- **Renewables**
- **Negotiating new gas contracts**
- **Create UPP**

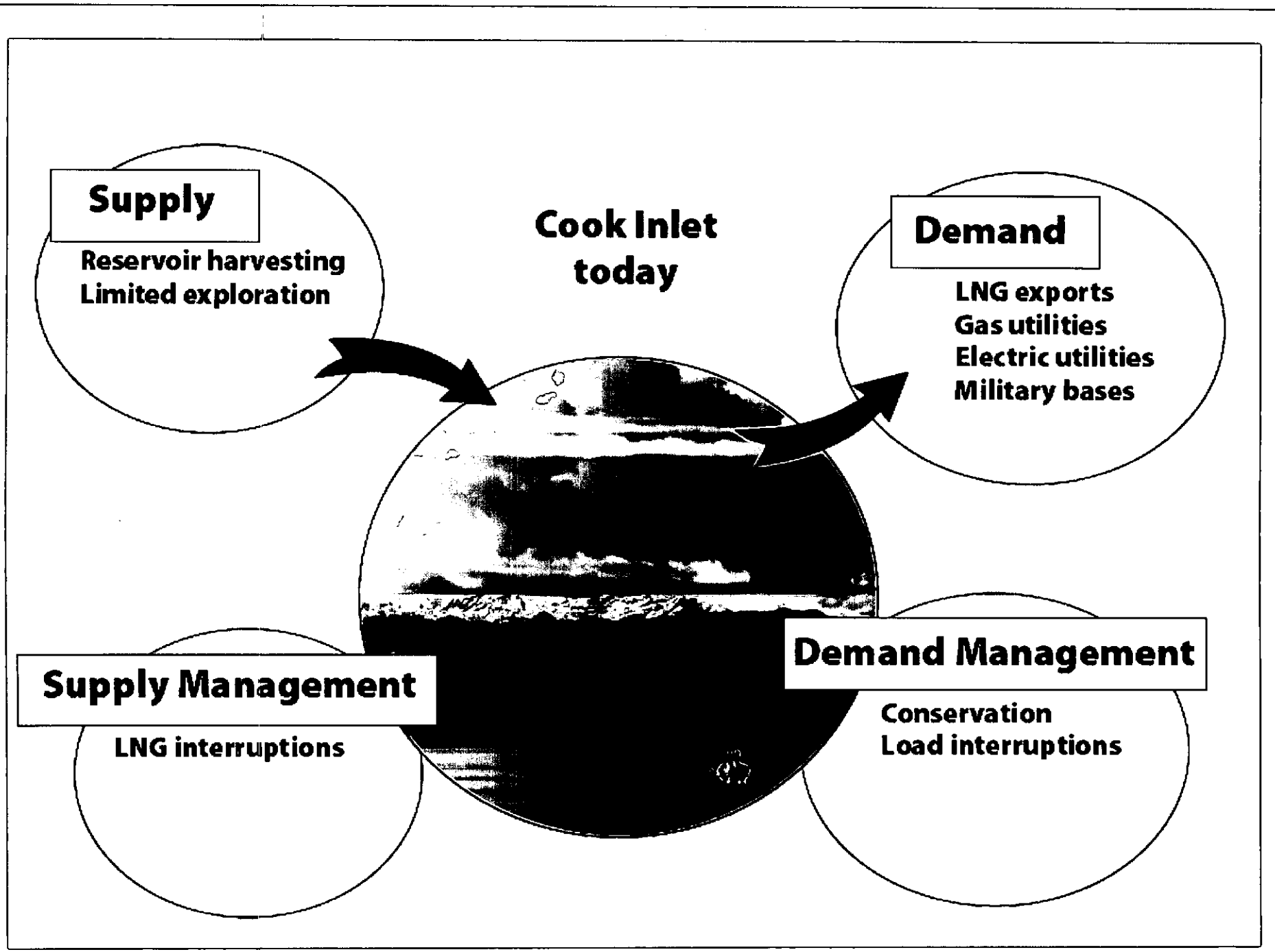
- **Electric**
  - Efficiency (SPP)
  - Unified transmission
  - Economic renewables
  - Dual fuel
- **Fuel**
  - Exploration
  - Bullet/Spur line
  - LNG imports
  - Storage

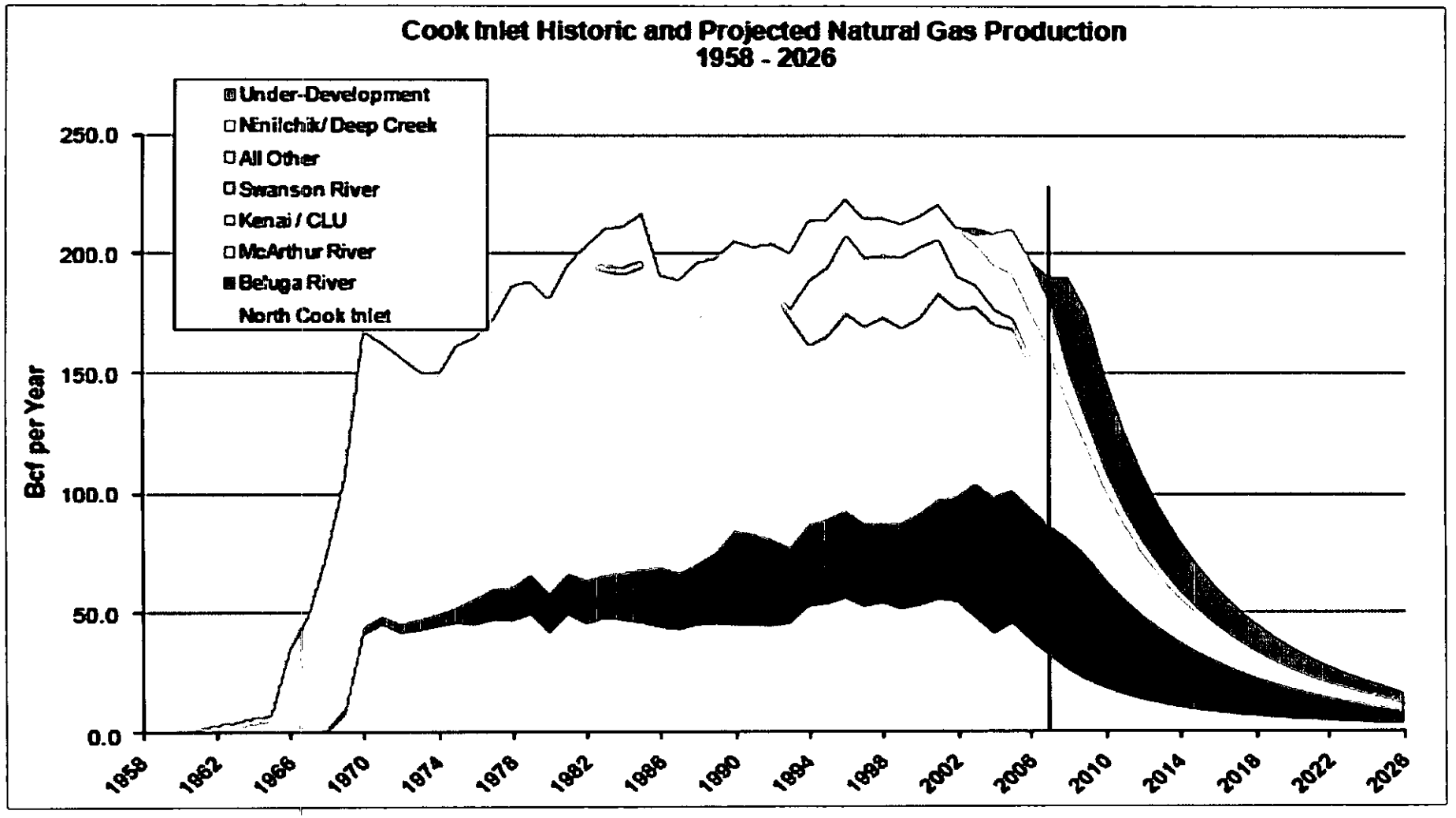
- **Major renewable project(s) developed by UPP**

2009 → **2020 & beyond**

Current Natural Gas Situation

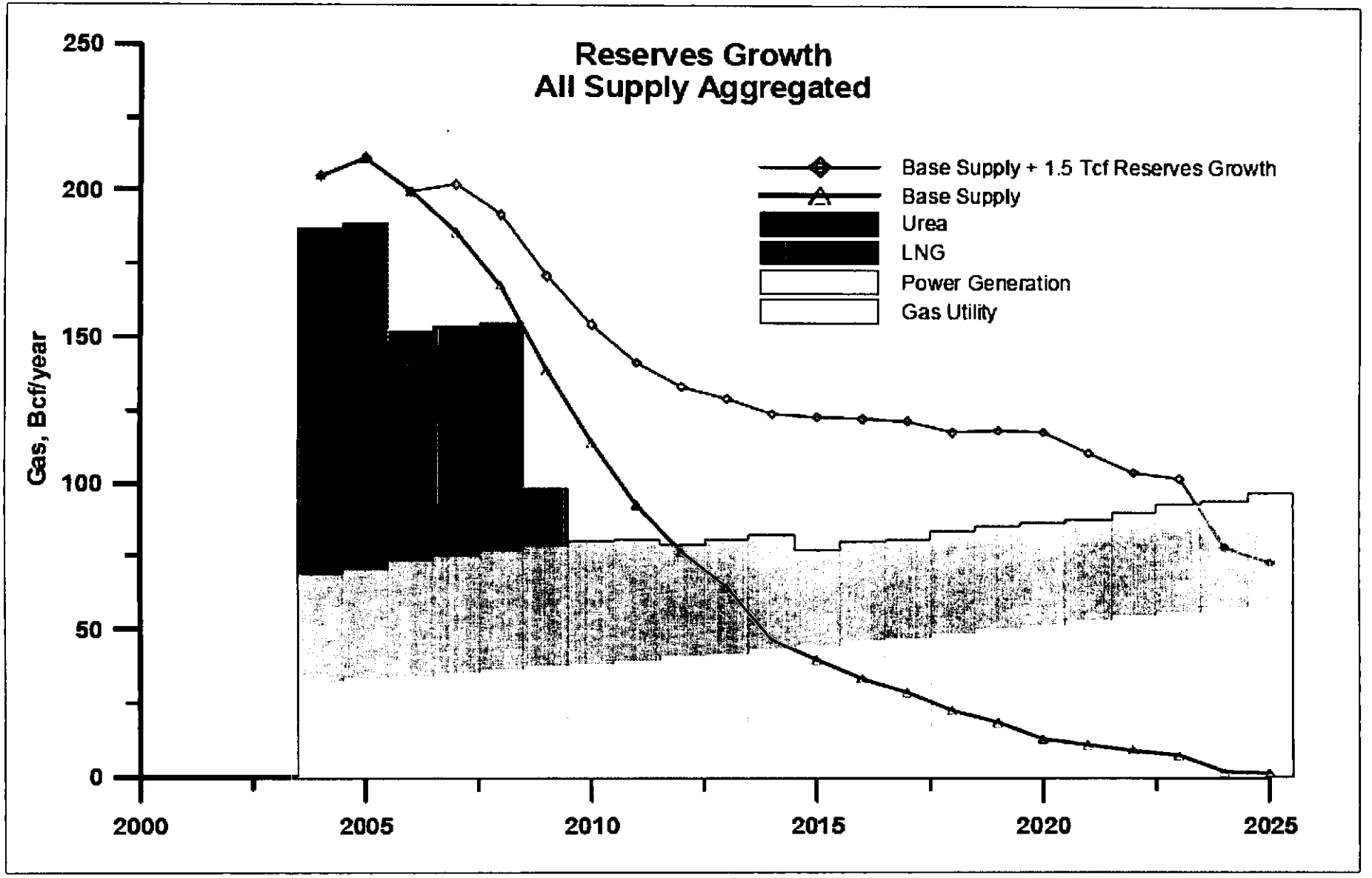
- **Natural gas is important to regional economy**
- **Moving from an era of abundance to limited supply raises new issues**
  - Security of supply
  - Affordability
- **Many organizations are involved**
  - Chugach, Enstar, the producers, DNR, DOR
  - Parties have different priorities
  - Knowledge is stove-piped
- **Prior activities have not produced a comprehensive resource management plan**


Supply
Reservoir harvesting
Limited exploration
Cook Inlet
today
Demand
LNG exports
Gas utilities
Electric utilities
Military bases
Supply Management
LNG interruptions
Demand Management
Conservation
Load interruptions



Source: Division of Oil & Gas 2007 Report

1.68 Tcf Remaining Recoverable Reserves forecast



Slide courtesy of ANGDA

Comprehensive Cook Inlet Resource Management Plan

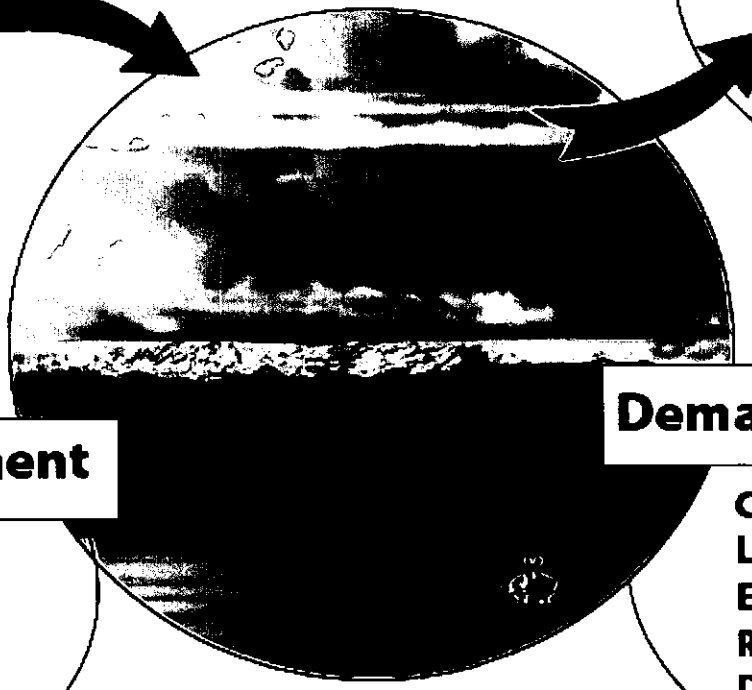
- Meet & protect consumer needs
- Address fuel supply security
- Increase transparency & information sharing
- Provide input to a Railbelt IRP
- Provide guidance for investment decisions
- Optimize resource management
- Provide information for rational policy decisions

Cook Inlet Resource Management Plan

Supply

Reservoir harvesting
Expanded exploration
Bullet/Spur line

Cook Inlet in the future



Demand

LNG exports
Gas utilities
Electric utilities
Military bases
Industrials?

Supply Management

LNG interruptions
Storage

Demand Management

Conservation
Load interruptions
Efficiency
Renewables
Dual fuel

2/18/09 ALASKA ENERGY EFFICIENCY PROGRAM

Alaska Energy Efficiency
Program & Policy Recommendations

Project managed by:
Cold Climate Housing Research Center

Project funded by:
Alaska Energy Authority
Alaska Housing Finance Corporation

INFORMATION INSIGHTS, INC.

information insights

CCHRC
COLD CLIMATE HOUSING RESEARCH CENTER

Alaska Housing
FINANCE CORPORATION

ALASKA
ENERGY AUTHORITY

Energy Efficiency

We can do it now!

Efficiency relies on advanced *technology, which is becoming more plentiful, rather than fossil fuels, which are being depleted*

Saving energy usually *costs less than buying it*

Pollution and Co2 reduction

The Project

- Literature review: Alaska energy programs (current and past)

- Key informant interviews: Alaska energy programs (expert perspectives)

- Literature review: best practices (US, Canada, other northern counties – Rocky Mountain Institute)

The Project

- Energy efficiency work session (January 16, 2008, about 30 professionals)
- Data collection and cleaning
- Interim recommendations for adoption 2008 legislative session
- Extensive feedback from 20+ energy and policy professionals
- Final recommendations

Where Alaska Ranks

- ACEEE ranks Alaska 41st in Energy Efficiency
  - Utility spending on efficiency and conservation
  - Efficiency standards for utilities
  - Combined heat and power
  - Building codes
  - Transportation policies
  - Appliance standards
  - Tax incentives
  - State lead by example

Best practices – policy mandates

	Policy Description	States
Building energy codes	Require a minimum level of efficiency from new construction of residential and commercial buildings. Build a trigger into the code so that it is frequently updated.	39 states
Appliance standards	Minimum efficiency standards for certain appliances. Federal appliance standards preempt state standard, but states may petition the feds for exemption.	12 states so far
EE Funding	There are a few kinds of efficiency funding including public benefits funds and mandatory utility spending on efficiency	Majority of states spend more than $0.50/person
EE in State facilities	Building, transportation or other energy standards set for public vehicles, buildings and other purchasing habits.	36 states

Best practices – finance & incentives

	Policy Description	States
Tax incentives	Tax credits, reductions on property or sales tax for purchase of specific equipment, tax deductions, etc.	Many states
PAYS	A third party, or utility, purchases efficient or distributed renewable energy property upfront and customers finance cost with on-bill payments using the energy savings.	Many states
Revolving loan fund	A fund that provides money for a specified purpose, here, energy efficiency. The fund is generally capitalized with dollars that do not need to be repaid. Loan repayment creates funds for additional projects.	AR, CT, ME, MD, MN, MS, OK, AL
Incentives	Fast track permitting, building envelope incentives, allowing agencies to keep money saved from reducing energy bills,	Hawaii has best program

Best practices – utility regulation

	Policy Description	Notes
Acquisition of cost-effective EE	Using the total resource cost test, utilities acquire all cost-effective energy efficiency	At l east 25 states
Align utility incentives equally	Often, utility incentive programs do not align the utility's profits equally with supply and demand resources. Examples of this includes, decoupling, lost revenues, and performance incentives.	At least nine states
Align rate payers with efficiency	Create a rate structure that rewards efficiency, such as a tiered rate system with a lower rate for less consumption. I.e. critical peak pricing and time-of-use pricing	AZ, CA, CT, VT
Systems benefit fund	A non by-passable charge on a electric or gas utility bill that is used placed into a fund to be used for energy efficiency initiatives.	At least 20 states

Best practices – education opportunities

	Policy Description	States
Consumer education	Ongoing consumer education about energy efficiency and/or renewable energy	Many states and utilities
Contractor, architect engineer education	Education for contractors, architects, and engineers to promote energy efficient building techniques.	Green advantage nationwide
School curriculum	Including curriculum in schools that informs students about the value of energy efficiency.	At least eight schools Utility: GRU, BPA, PGE DoE has lesson plans

Recommendations Presented in Nine Categories:

- State Leadership
- Funding Energy Efficiency
- Public Education and Outreach
- Baseline Data
- Existing Residential Buildings
- New Residential Construction
- Existing Commercial Buildings
- New Commercial Construction
- Public Buildings

State Leadership

1. The Governor should articulate an energy efficiency vision for Alaska.

2. The Governor should designate a sub-cabinet for State end-use efficiency programs.

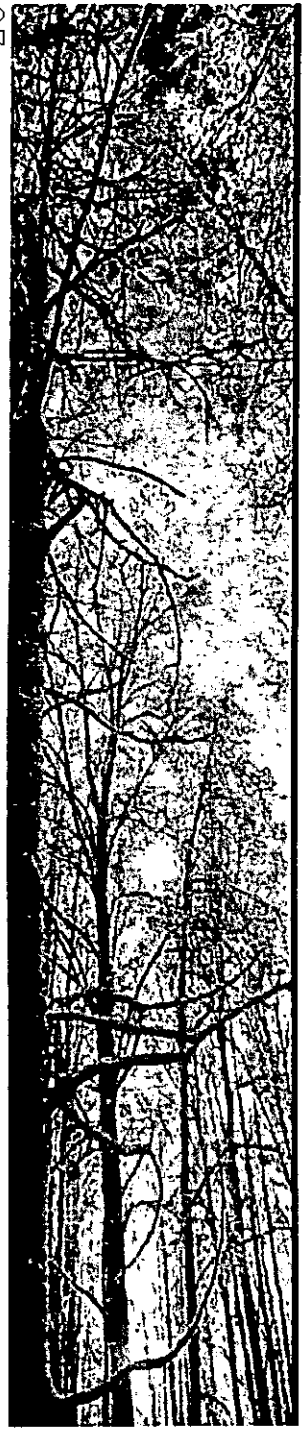
Funding Energy Efficiency

1. The state should fund energy efficiency programs through legislative appropriation.

2. The RCA should implement a System Benefit Charge to support end-use efficiency programs,

3. The state should capitalize an end-use efficiency endowment to support end-use efficiency programs.

4. The state should offer matching grants to local governments interested in creating a local energy plan that incorporates energy efficiency and conservation.



Public Education and Outreach

1. The Legislature should fund a comprehensive public awareness campaign with at least $1,000,000 per year.

Baseline Data

1. The Alaska Housing Finance Corporation and Alaska Energy Authority should conduct an end-use survey of residential and commercial energy consumers.

2. The Alaska Energy Authority should establish and report an Energy Use Index (EUI) for all public buildings.

Existing Residential Buildings

1. The Legislature should significantly increase funding for Low-Income Weatherization.

2. AHFC should create a certification and training program for energy retrofit and energy efficient new construction.

3. AHFC should subsidize up to 100 percent of costs for home energy audits for households not eligible for low-income weatherization, and offer low-interest loans for energy conservation improvements.

4. The Legislature should fund a pilot Smart Meter program through AHFC/AEA.

New Residential Construction

1. The Legislature should adopt BEES as the new state residential energy efficiency building code.
2. The State Division of Corporations, Businesses, and Professional Licensing should enforce regulations on building codes and contractor licensing to ensure quality and energy efficiency.

Existing Commercial Buildings

1. The AEA should subsidize energy audits for commercial facilities and offer loans for energy efficiency improvements.

2. The RCA should require utilities to implement Pay As You Save loan programs.

New Commercial Construction

1. AEA should contract for a stakeholder process to develop a commercial energy efficiency building code.

Public Buildings

1. The Governor should direct each state agency to reduce energy consumption in its facilities by 20 percent from 2000 levels by 2020.
2. The Board of Regents should direct the university to reduce energy consumption in its facilities by 20 percent from 2000 levels by 2020.
3. The Legislature should fund an energy audit for every school in the state.
4. The state should fund AEA to revive the Institutional Conservation Program to offer public K-12 schools energy conservation matching grants.
5. The Alaska Energy Authority should establish a low-interest loan program for public facilities to make energy efficiency improvements, with payments geared to projected savings.

Where are we today?

Legislative funding

- Weatherization - $200 million
- Rebate - $160 million
- RE - $100 million
- Market driven conservation in rural AK
- Broad awareness of energy issues
- Supply side solutions dominate

Stimulus Bill has been signed

Current Recommendations

- Adopt Statewide Building Code with energy conservation code
- Adopt Public Buildings Energy Standard and retrofit programs, including schools and UA
- Create R&D fund for renewables
- Sustainable Northern Communities

Statewide Building Code

- Number One Recommendation of Experts Panel
- Needed by AHFC
- Supported by ASHBA
- Required by Stimulus bill for SEP grants

SEP Grant Requirements

Governor letter to Sec. of Energy:

- Utility Consumer Energy Efficiency Policy
- Adopt Residential & Commercial Energy Conservation Codes
- Prioritize SEP grants to EE and RE programs

Sustainable Northern Communities

A Program to:

- Use current oil wealth to transition to an economy based on renewable energy
- Use "Integrated Design Process" to develop plan for each community
- "Whole Village Retrofit" – plan energy efficiency and supply together
- Include food production as part of energy plan (green houses to use "waste heat")

Last slide

Cold Climate Housing Research Center
http://www.cchrc.org/

Alaska Housing Finance Corporation
http://www.ahfc.state.ak.us/home/index.cfm

Alaska Energy Authority
http://www.akenergy.org

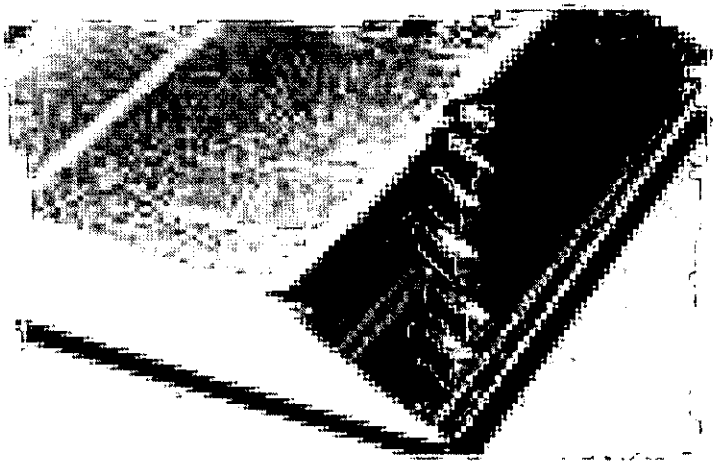
Cady Lister, Information Insights Inc.
Cady@iialaska.com

2/18/09 PERFORM-ANCE CONTRACT-ING FOR ENERGY EFFICIENCY

1620

Overview of Performance Contracting

- **Performance Contracting Definition:**
  - A vehicle that allows public and private entities to improve their facilities, by using their energy and operational budgets to fund a project, with guaranteed results



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Overview of Performance Contracting, continued

- Performance Contracting Overview
  - Energy services company (ESCO) provides a preliminary building audit and report
  - Audit is reviewed with the Customer and a letter of intent for a detailed audit is signed
  - Detailed audit identifies facility improvement measures (FIMs) and the cost and savings associated with each
  - FIMs are reviewed with the Customer and the scope of the project is defined
  - Performance contract is signed
  - Project is implemented and turned over to the Customer
  - Ongoing measurement and verification confirm savings

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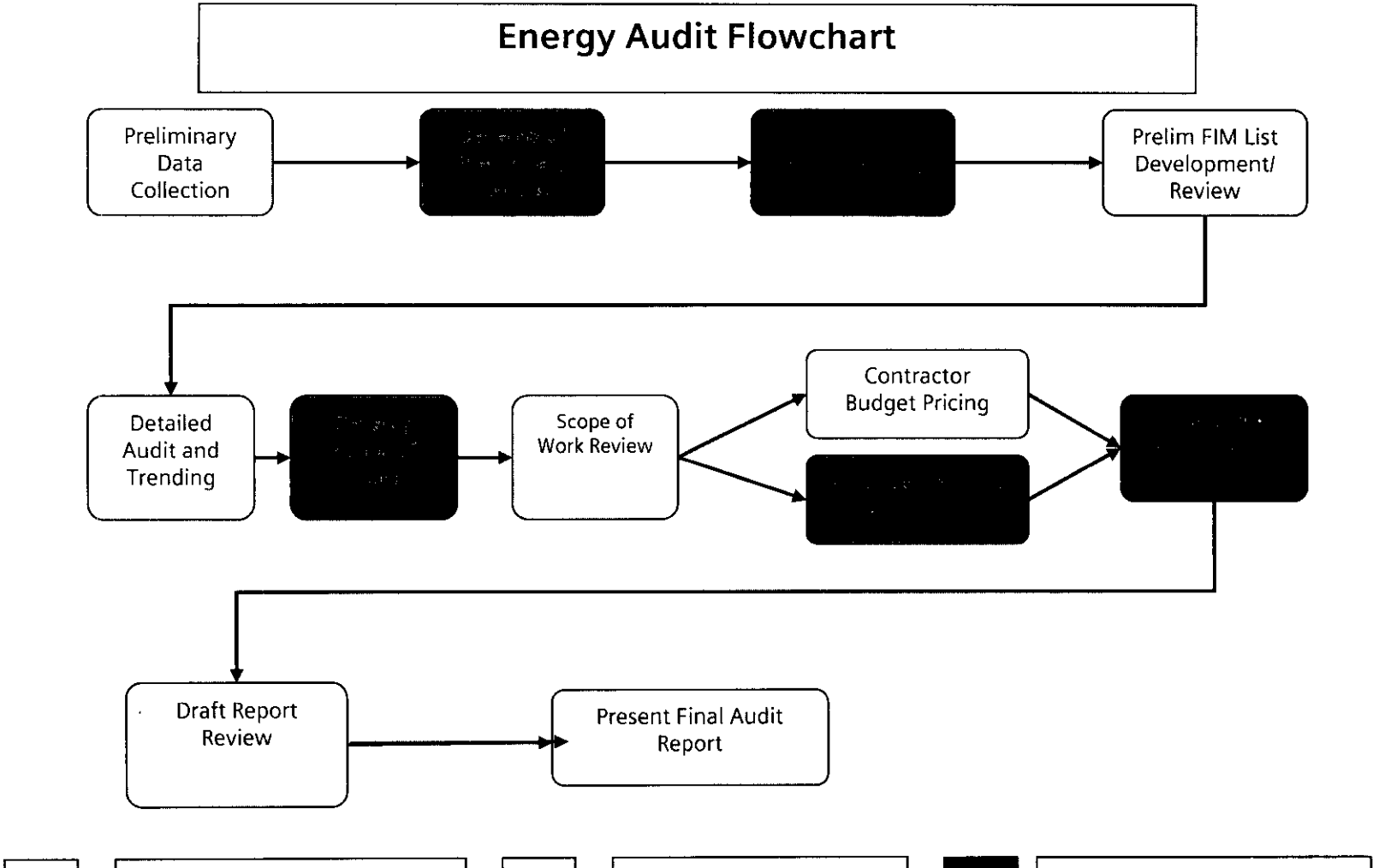
SIEMENS
Energy and Environmental Solutions

Audit Process

LEAST IMPACT

Energy Audit Flowchart



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The PC Process

- How the program works
  - Financing is arranged with a third party or directly from the Customer
  - Energy project is implemented and the savings generated repay the financing
    - Energy savings
    - Operational savings
    - Maintenance savings
  - Siemens guarantees that the savings exceed the cost of the financing, otherwise we pay the difference
  - Ongoing measurement and verification continue to confirm the savings

Company Confidential—Siemens Building Technologies 2008

The PC Process, continued

- How the funding works
  - Funding from operational and capital budgets
  - Siemens has guaranteed funding available from third-party sources if necessary
  - Siemens can arrange for competitively bid financing from multiple sources
  - Energy and operational savings are guaranteed to offset the cost of the loan payments

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The PC Process, continued

- How the guarantee works
  - Project has a guaranteed fixed price
  - Siemens has a "no change order" policy for a given scope of work
  - Energy savings are guaranteed
  - If energy savings do not meet the guaranteed amounts, Siemens will issue the customer a check in the amount of the difference
  - Siemens will implement additional FIMs to meet the energy guarantee at Siemens cost
  - Ongoing measurement and verification will ensure that guaranteed energy savings continue as promised

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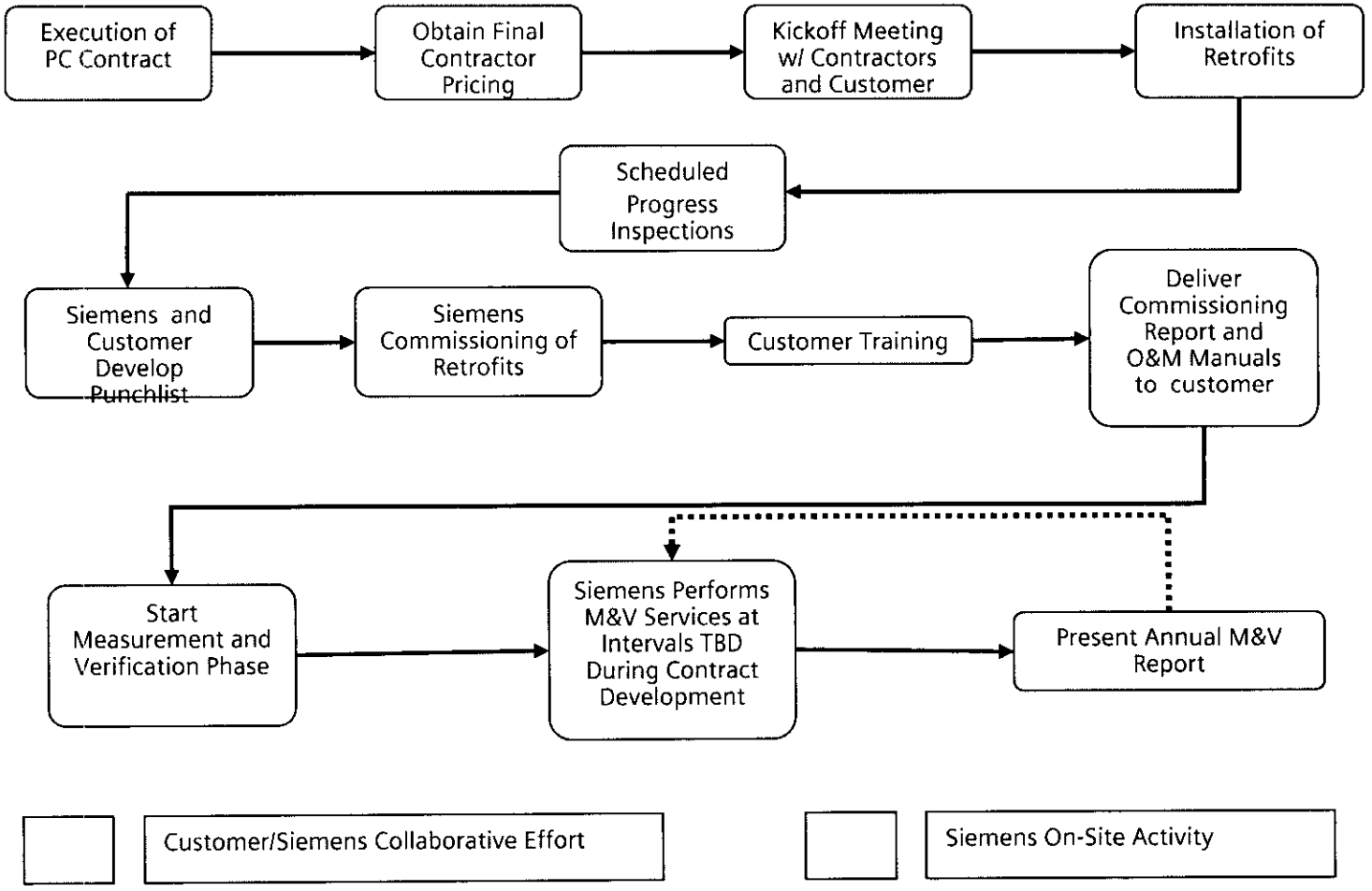
Project Execution Process

LEAST IMPACT

Performance Contracting Implementation Flow Chart



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Typical Facility Improvement Measures

- Lighting – T8 lamps, motion sensors, LED exit signs, outdoor lighting
- Water – low flow fixtures
- Hot water - temperatures and generation
- Heat / Cooling System – utilization, pumping, variable frequency drives, controls sequences, equipment and system improvements
- Outside air – quantity, heat recovery
- Process/lab loads – fume hood controls, compressed air, vacuum system
- Retro commissioning
- Building Shell -

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Alternative Energy

- Biomass – water heating, electricity, cogeneration
- Geothermal
- Digester and landfill gas – methane gas to heat and or electricity
- Wind

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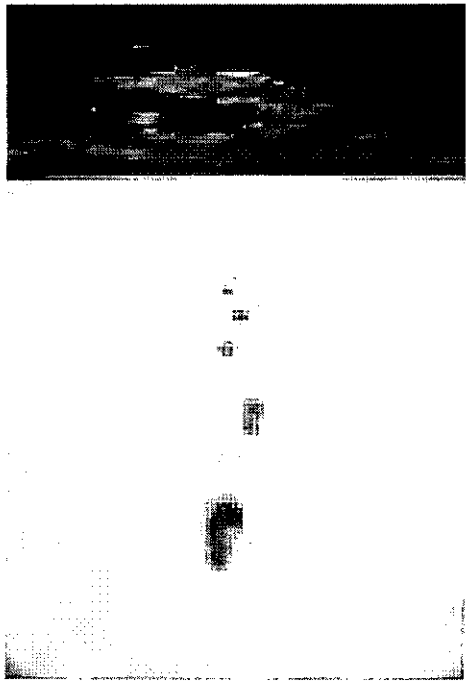
Next Steps

- Decide which buildings are to be in preliminary audit
- Sign letter of authorization
- Complete preliminary energy audit
- Prepare and present report to the Customer
- Sign letter of intent to proceed with project



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2/23/09 HYDRO-POWER UPDATES: SUSITNA & CHAKACH-AMNA

ALASKA STATE LEGISLATURE

Senate Resources Committee

Senator Lesil McGuire, Co-Chair
State Capitol Building, Room 125
Juneau, Alaska 99801-1182
Phone (907) 465-2995
Fax (907) 465-6592
sen.lesil.mcguire@legis.state.ak.us

Senator Bill Wielechowski, Co-Chair
State Capitol Building, Room 115
Juneau, Alaska 99801-1182
Phone (907) 465-2435
Fax (907) 465-6615
sen.bill.wielechowski@legis.state.ak.us

AGENDA

Monday, February 23, 2009

Update on the Susitna Hydroelectric Project & New Cost Estimates

Jim Hemsath, Deputy Director, Alaska Energy Authority

Overview: Proposed Chakachamna Hydro Project

TDX Power: Nick Goodman, President
Eric Yould, Program Director

AIDEA Alaska Industrial Development and Export Authority

ALASKA ENERGY AUTHORITY

MEMORANDUM

TO: James Hemsath

FROM: Bryan Carey

DATE: February 20, 2009

SUBJECT: HDR Alaska Susitna Hydroelectric Updated Energy Cost Report Summary

Proposed Hydroelectric Projects
Watana was to be a large rockfilled embankment dam located on the Susitna River upstream of Talkeetna. Devil Canyon was to be a 646' tall double curvature thin arch concrete dam located 32 river miles downstream of Watana.

Alternatives Analyzed
Updated energy production, construction cost estimates, and price per energy unit ($/kWh) were analyzed for the following four alternatives: Low Watana (700'), Watana (885'), Watana followed by Devil Canyon, Staged Watana and Devil Canyon (Low Watana, Devil Canyon, Watana (Same as November 1985 FERC Amendment)).

Schedule
Federal Energy Regulatory Commissioning (FERC) licensing for a new hydro project is extensive. Eight years until license is thought to be similar for all the alternatives.

Energy & Economics

	Construction Completion (yrs)	Energy (billion kWhrs/yr)	Annual Average (MW)	Cost Estimate (2008 billions)	Energy Unit Cost during payment of financing (1)
Watana 700'	14 – 16	2.6	297	$6.9	$0.24 kWhr
Watana 885'	15 – 17	3.2	365	$8.4	$0.24 kWhr
Watana & Devil Canyon	15 – 20	7.2	822	$11.6	$0.16 kWhr
Staged Projects	14 – 23	7.2	822	$12.8	$0.19 kWhr

(1) Cost estimate for each alternative assumes no state funds, financed by 50 year bonds @ 5% interest.
(2) Construction completion is from start of funding for permitting & design.

After bonds repaid the cost of energy for all alternatives is $0.03-$0.04/kWhrs.

Alaska Industrial Development and Export Authority

Investing in Alaskans

James Hemsath
Deputy Director – Project Development

February 23, 2009

1635

Susitna Hydro Evaluation Project

Seminar on the Development of Large Hydroelectric Projects with a Focus on the Susitna Project

presented to

Alaska Energy Authority

November 2008

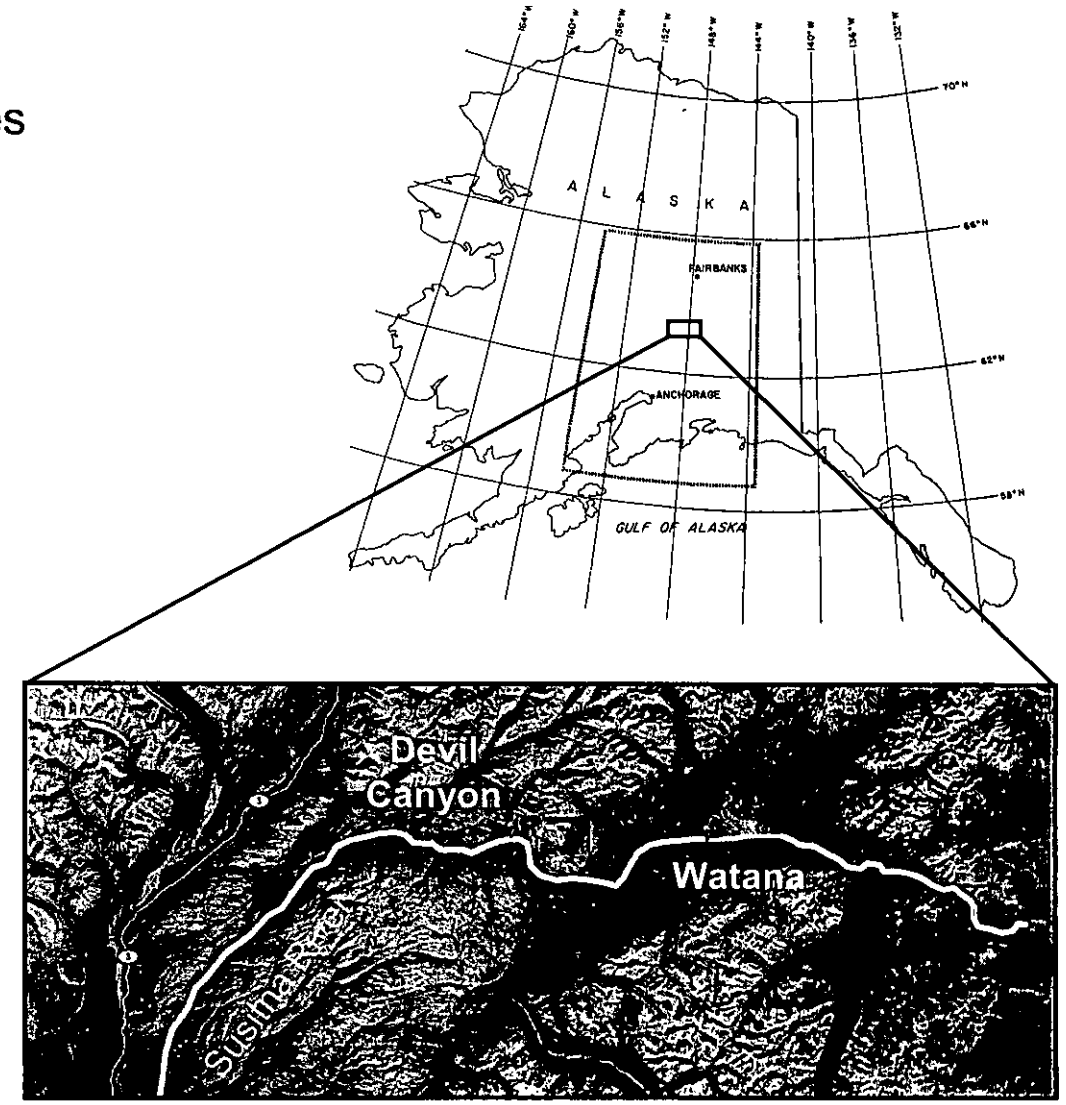
Devine Tarbell & Associates, Inc.
Consulting Engineers, Scientists, & Regulatory Specialists

1636

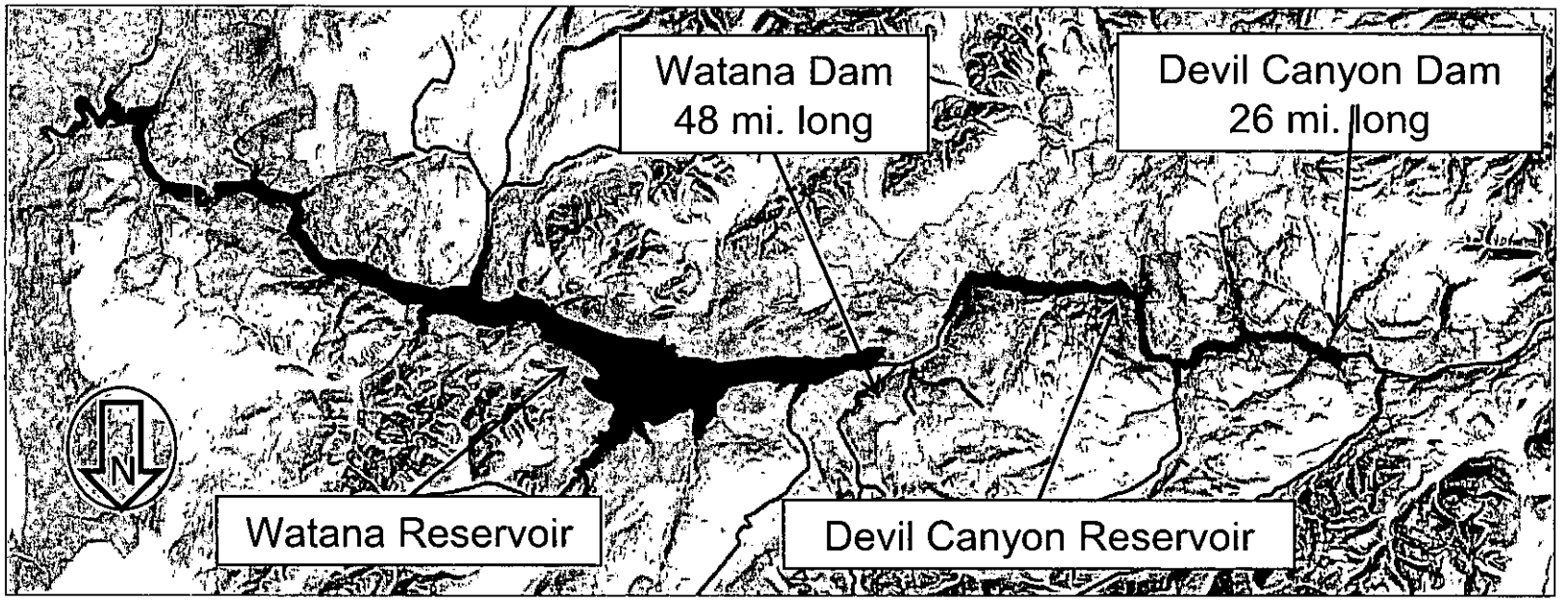
Susitna Project
Civil Works Considerations

Susitna Project - Civil Works

- Dams and related facilities
  - Spillways
  - Powerhouses
  - Tunnels
  - Intakes & outlets
  - Construction camps and villages
- Infrastructure
  - Roads and bridges
  - Rail
  - Airports
- Stage options

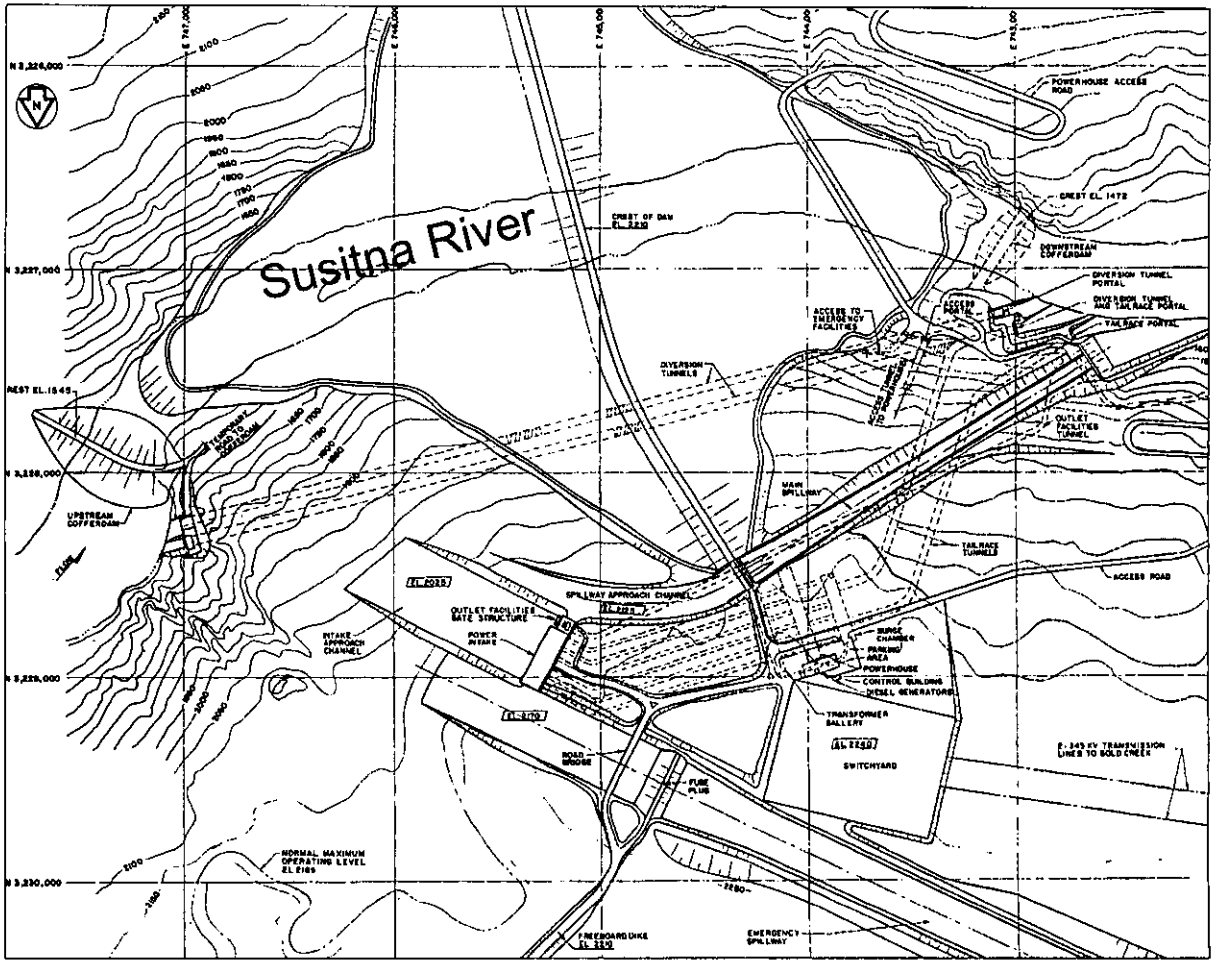


Watana and Devil Canyon Dams and Reservoirs



Watana Dam

- Rock-fill, gravity dam
- 885 feet tall
- 4,100-foot crest length

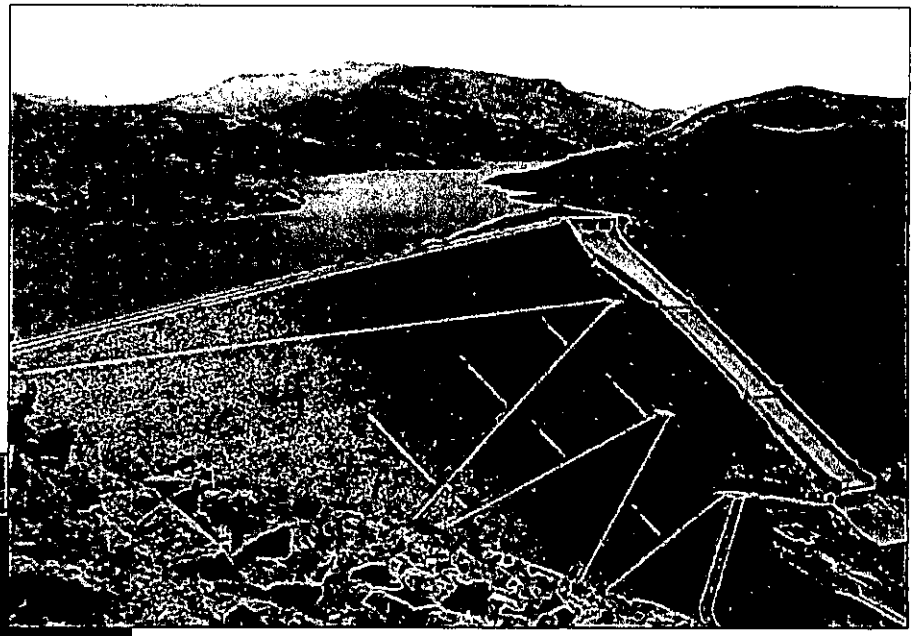


Watana Project Characteristics

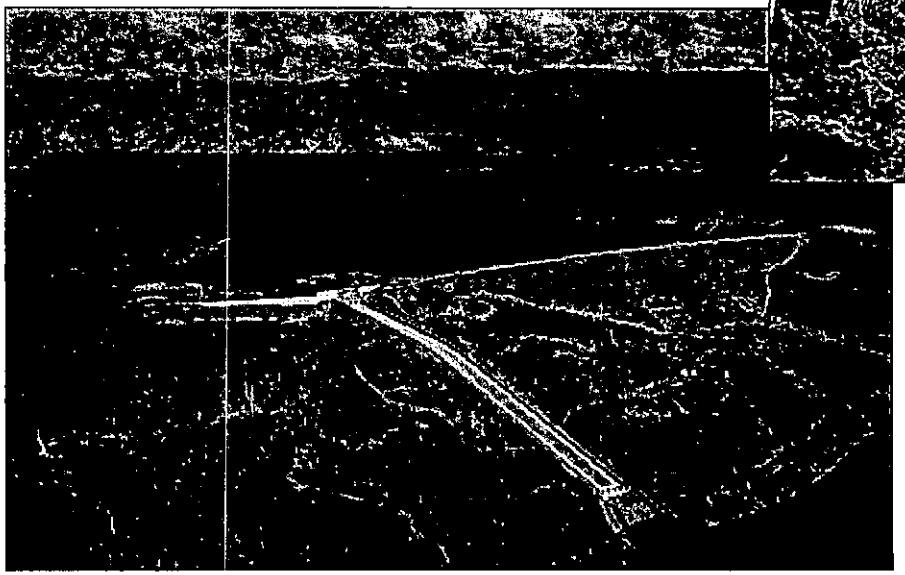
- Underground power facilities with 600-foot rockfill dam
- Dam structure: Height – 885 feet
  Crest length – 4,100 feet
- Diversion of flow during construction by two 30-foot tunnels
- Underground power facilities with six 200-MW generators
- Spillway capacity: 115,000 cfs + fuse plug 140,000 cfs

Rock-fill Embankment Dams

- Considerably more massive than arch or buttress dams but constructed with lower unit-cost materials
- Rely on weight of dam for stability and structural mass to impound water

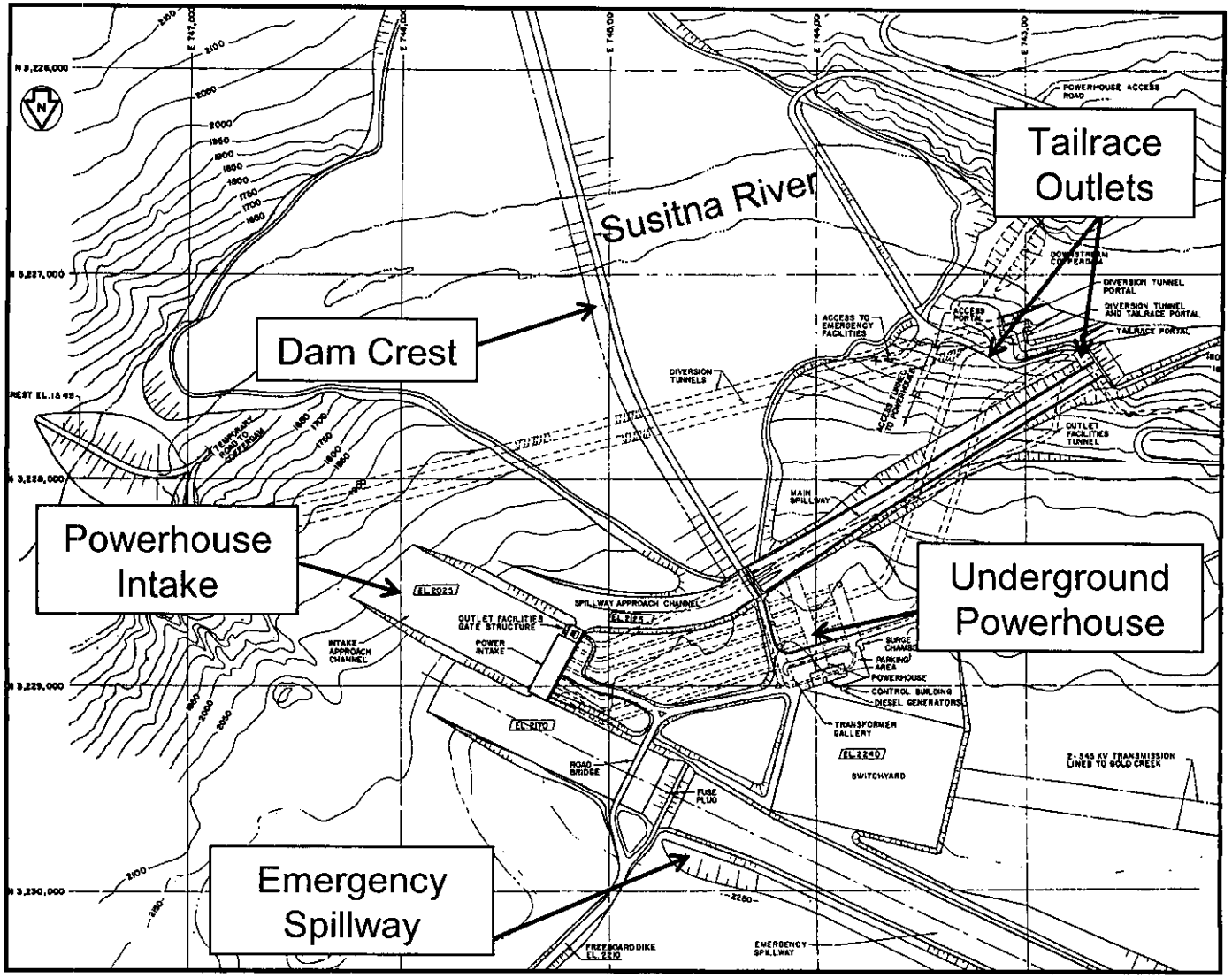


Mohle Dam, Lesotho

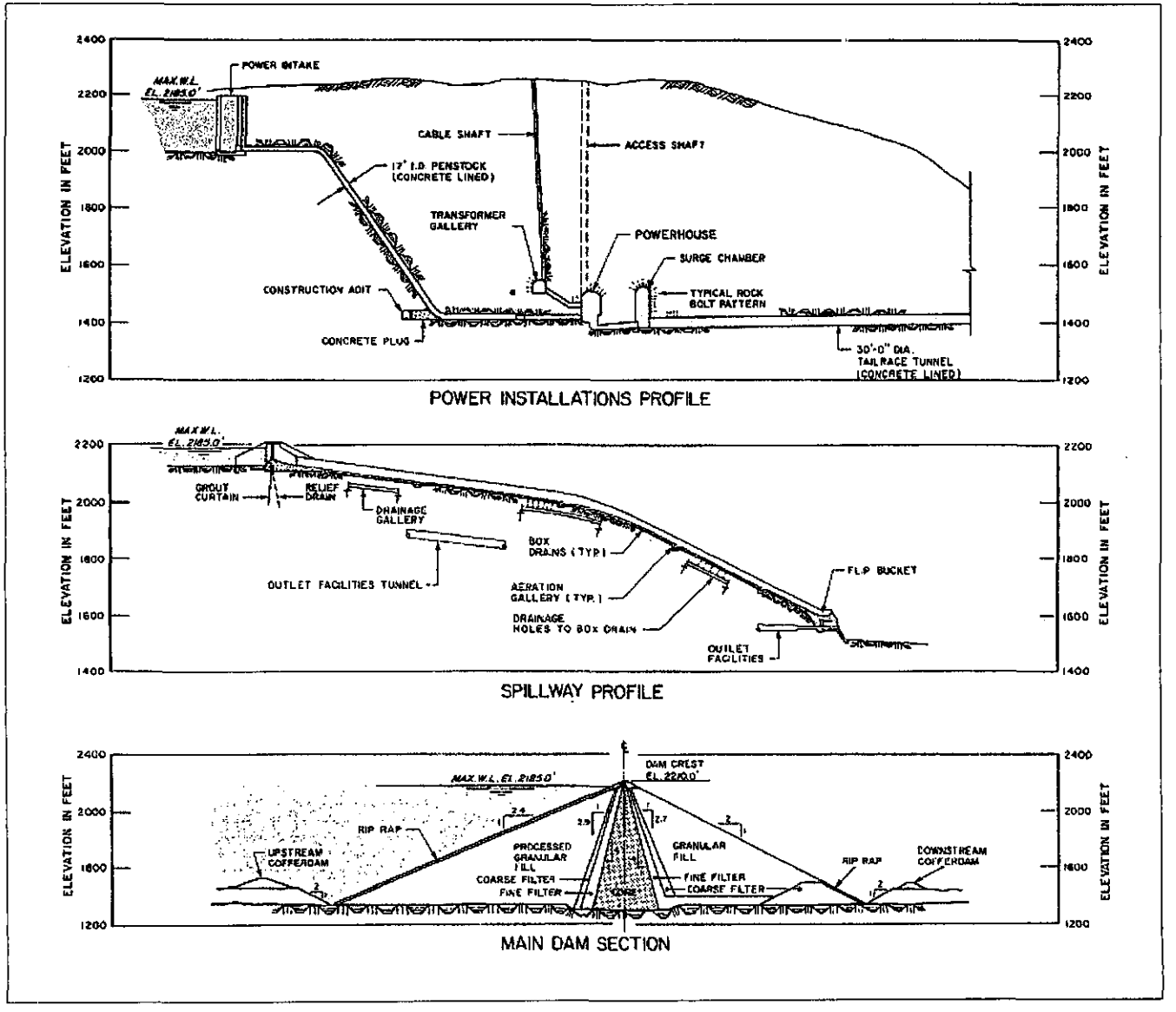


Oroville Dam, California

Project Layout: Watana

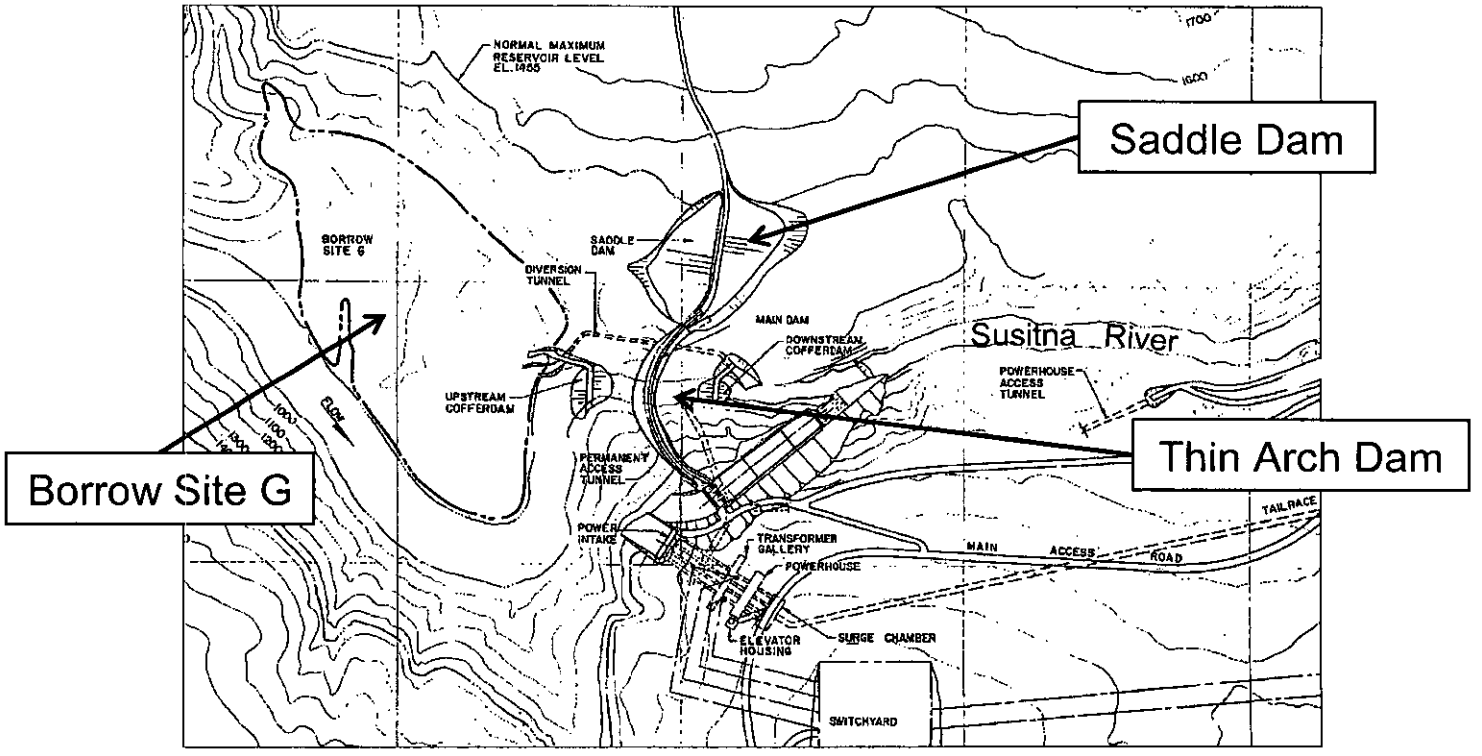


Watana Details

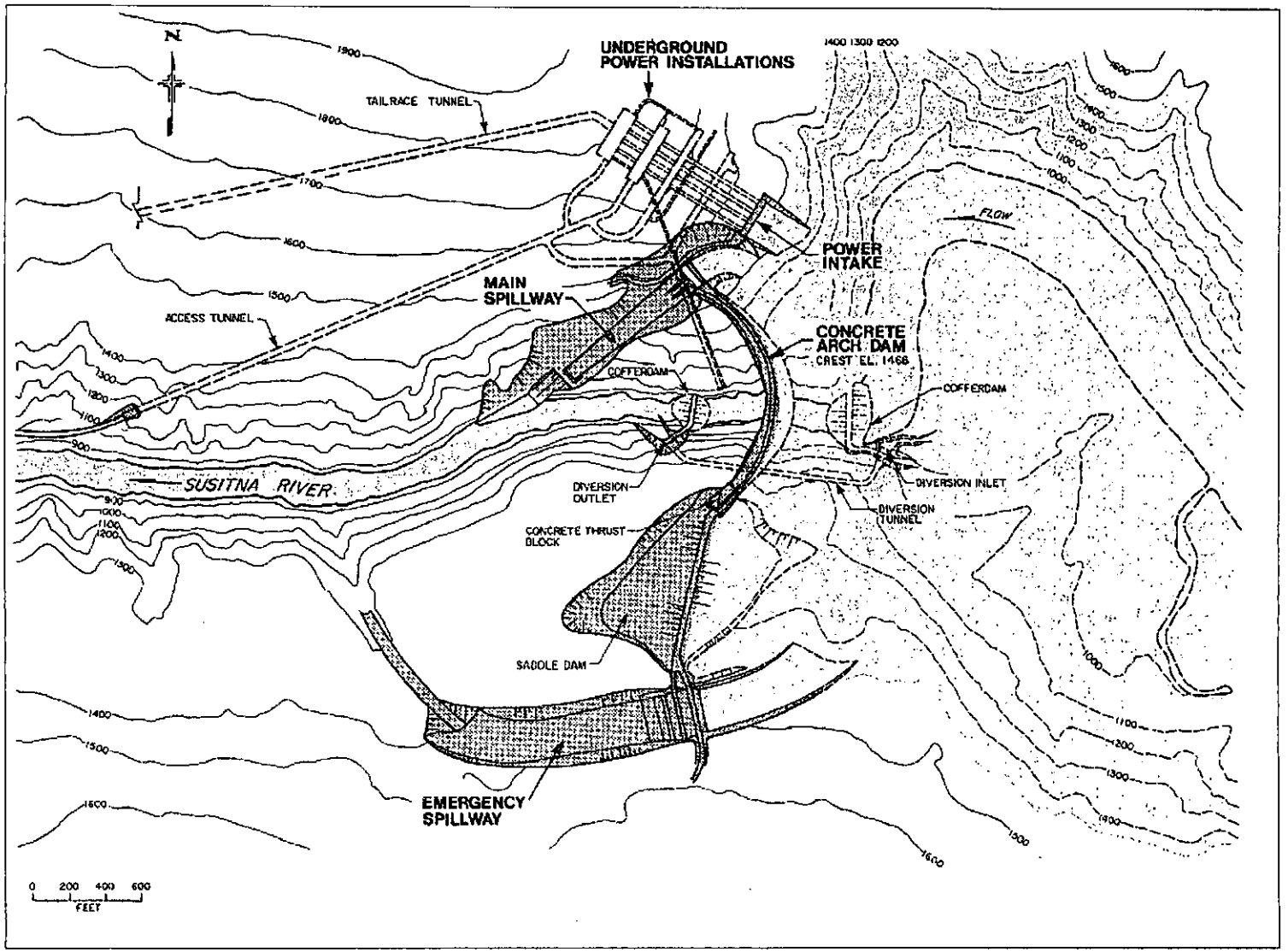


Devil Canyon Dam

- Arch concrete dam
  - 646 feet tall above foundation
  - 1,260-foot crest length
- Earth and rockfill saddle dam
  - 245 feet tall
  - 950-foot crest length
- Located in a V-shaped canyon
- Acceptable abutment and foundation geology
- Borrow site G to provide granular material for filters and concrete aggregate.



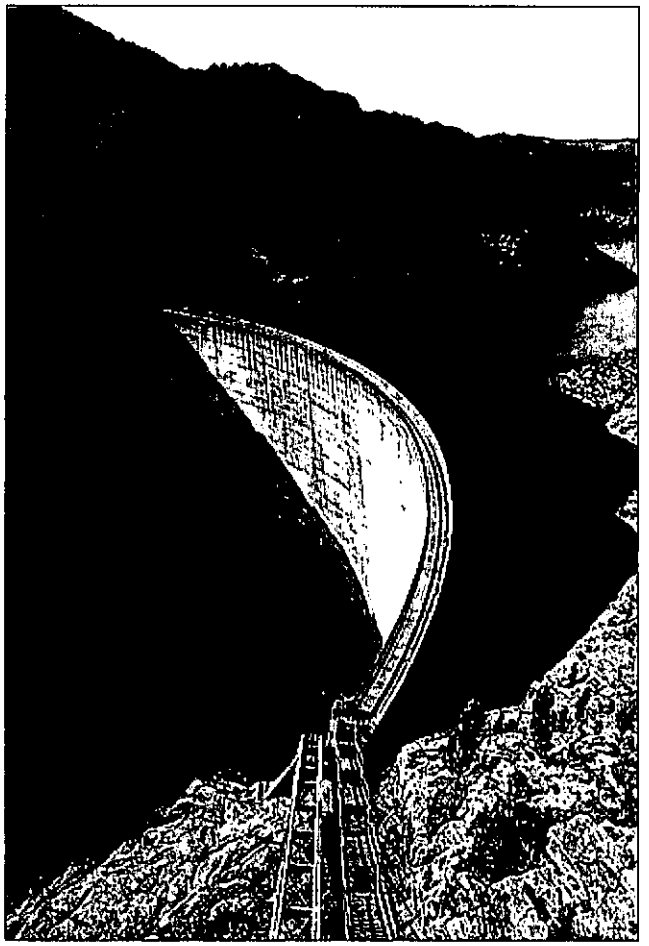
Devil Canyon General Arrangement



Arch Concrete Dams

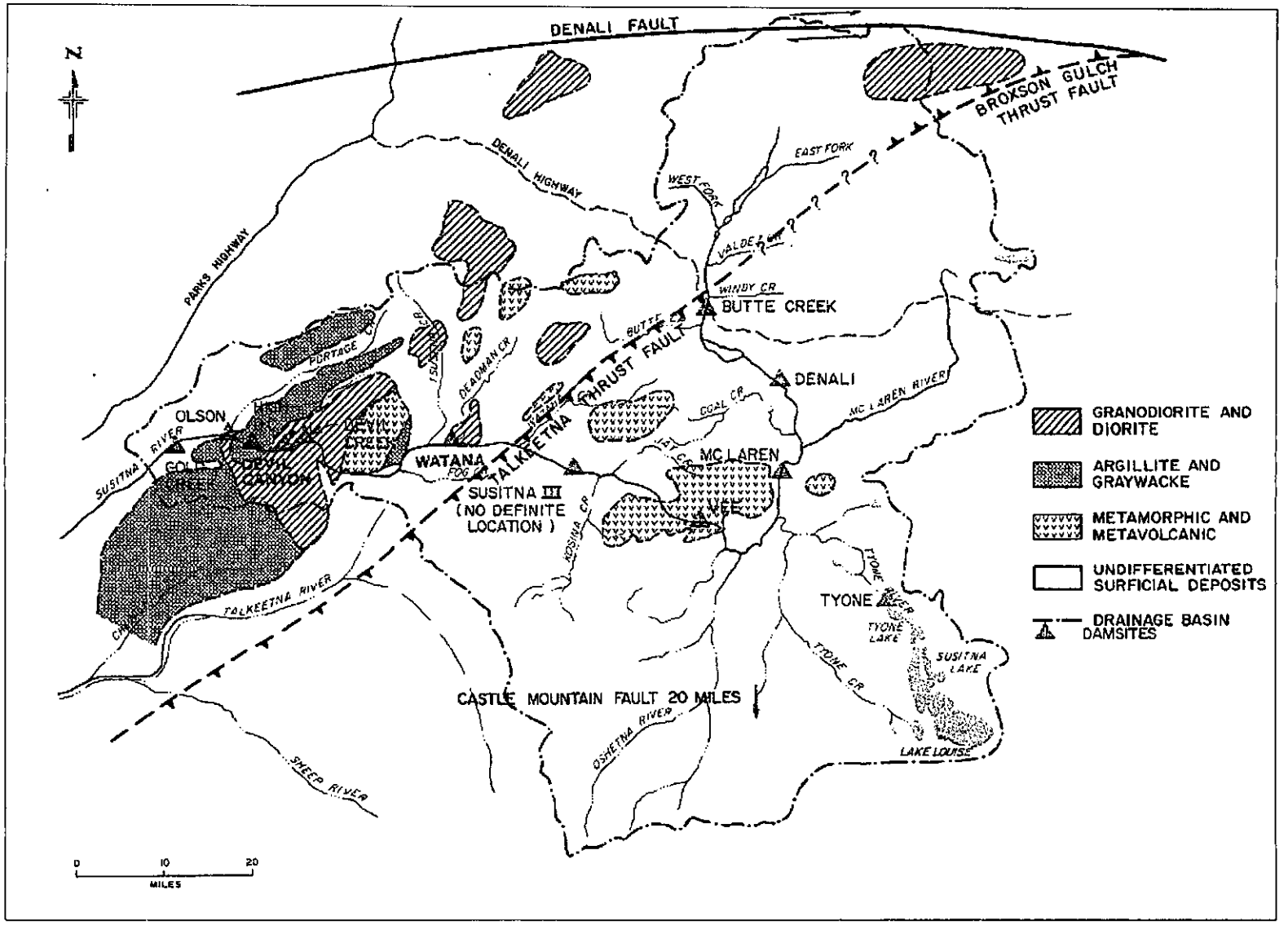
- Reduced material volume to construct
- Loads transferred to abutments
- Structurally efficient, visually appealing structures

Mauvoisin Dam, Switzerland

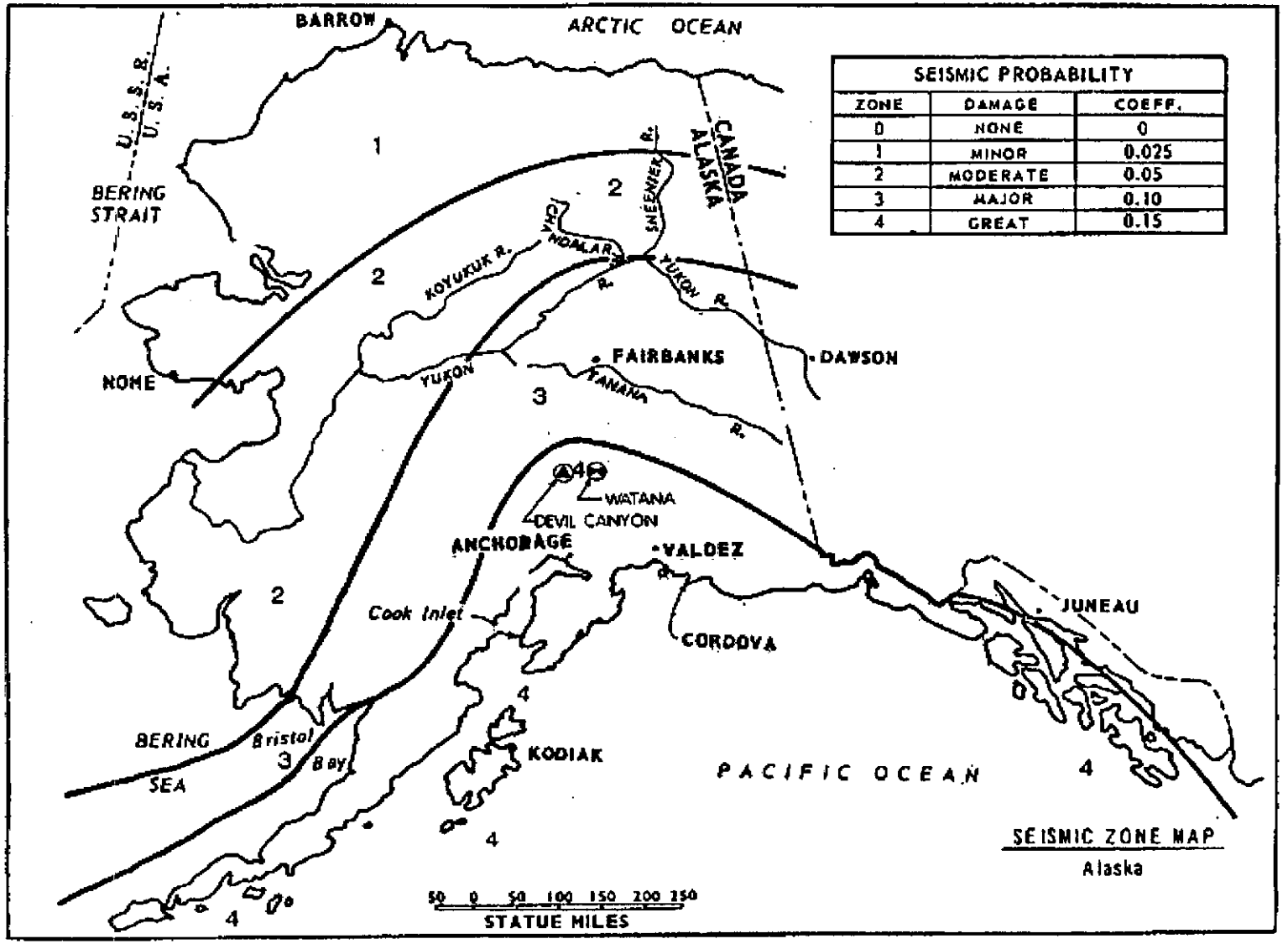


Gordon Dam, Australia

Upper Susitna Basin Geology



Seismicity



SEISMIC PROBABILITY		
ZONE	DAMAGE	COEFF.
0	NONE	0
1	MINOR	0.025
2	MODERATE	0.05
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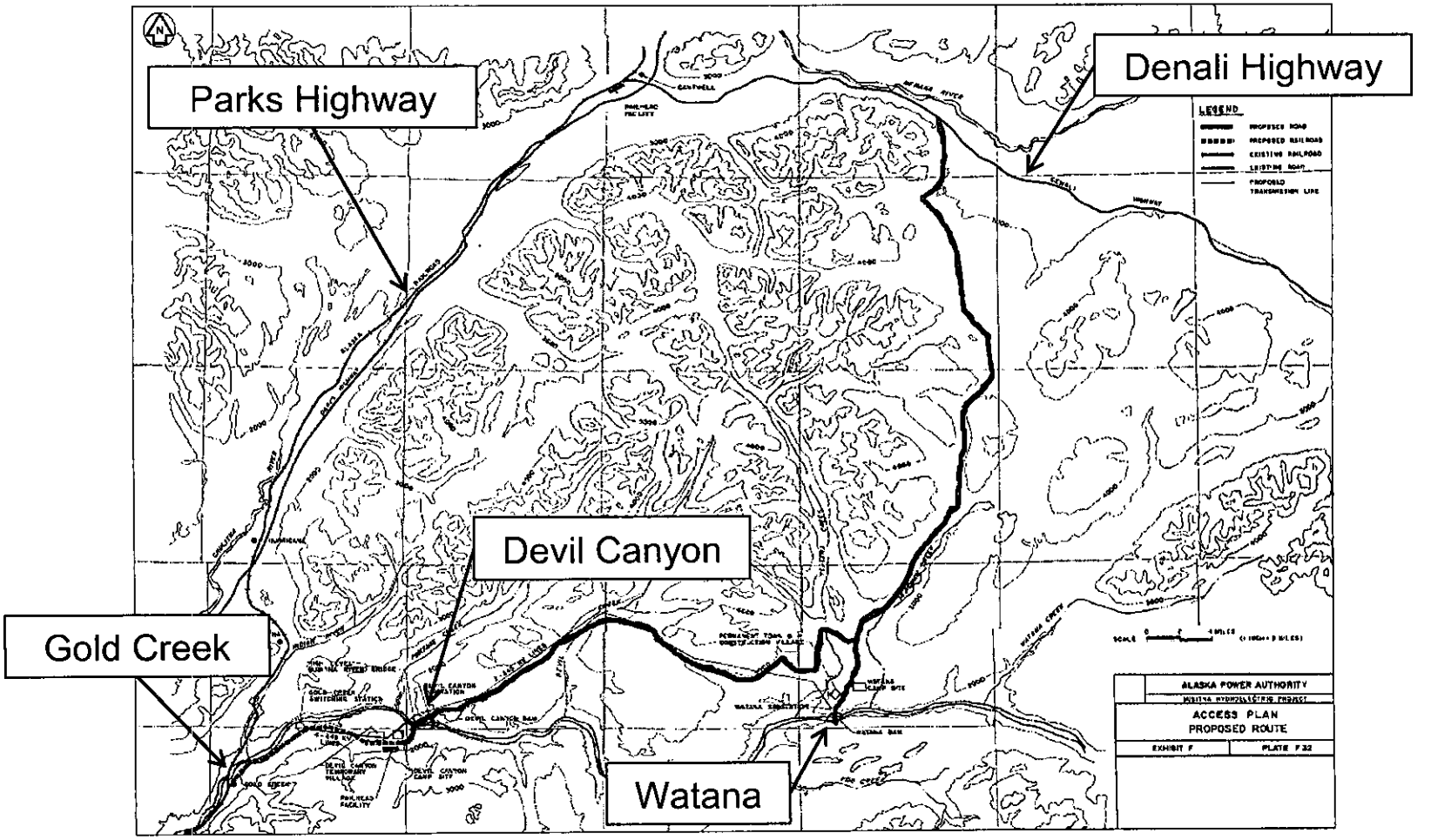
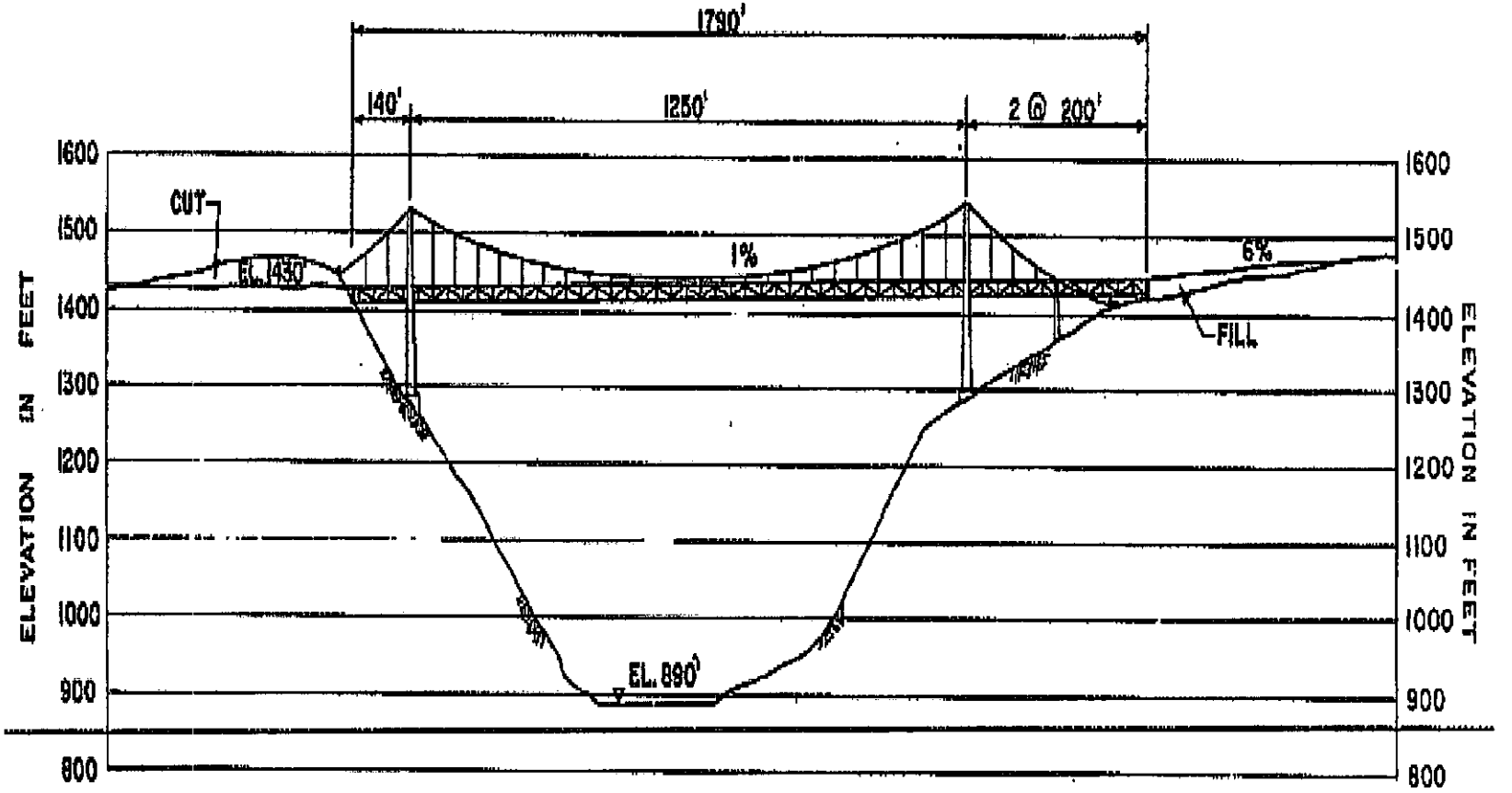


Susitna River Bridge

Substantial, new long-span suspension bridge required for project

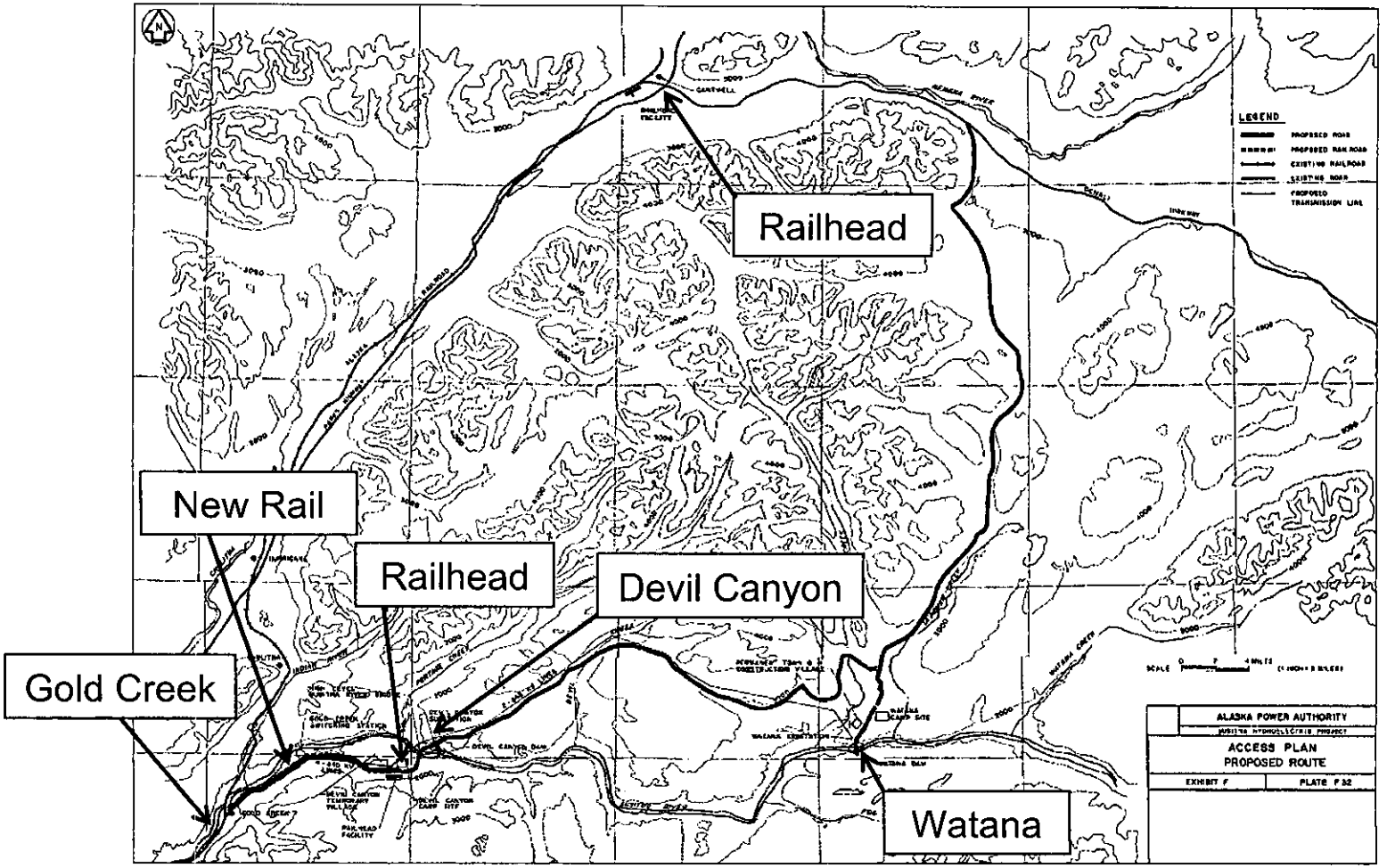


HIGH LEVEL SUSITNA RIVER BRIDGE

SCALE C

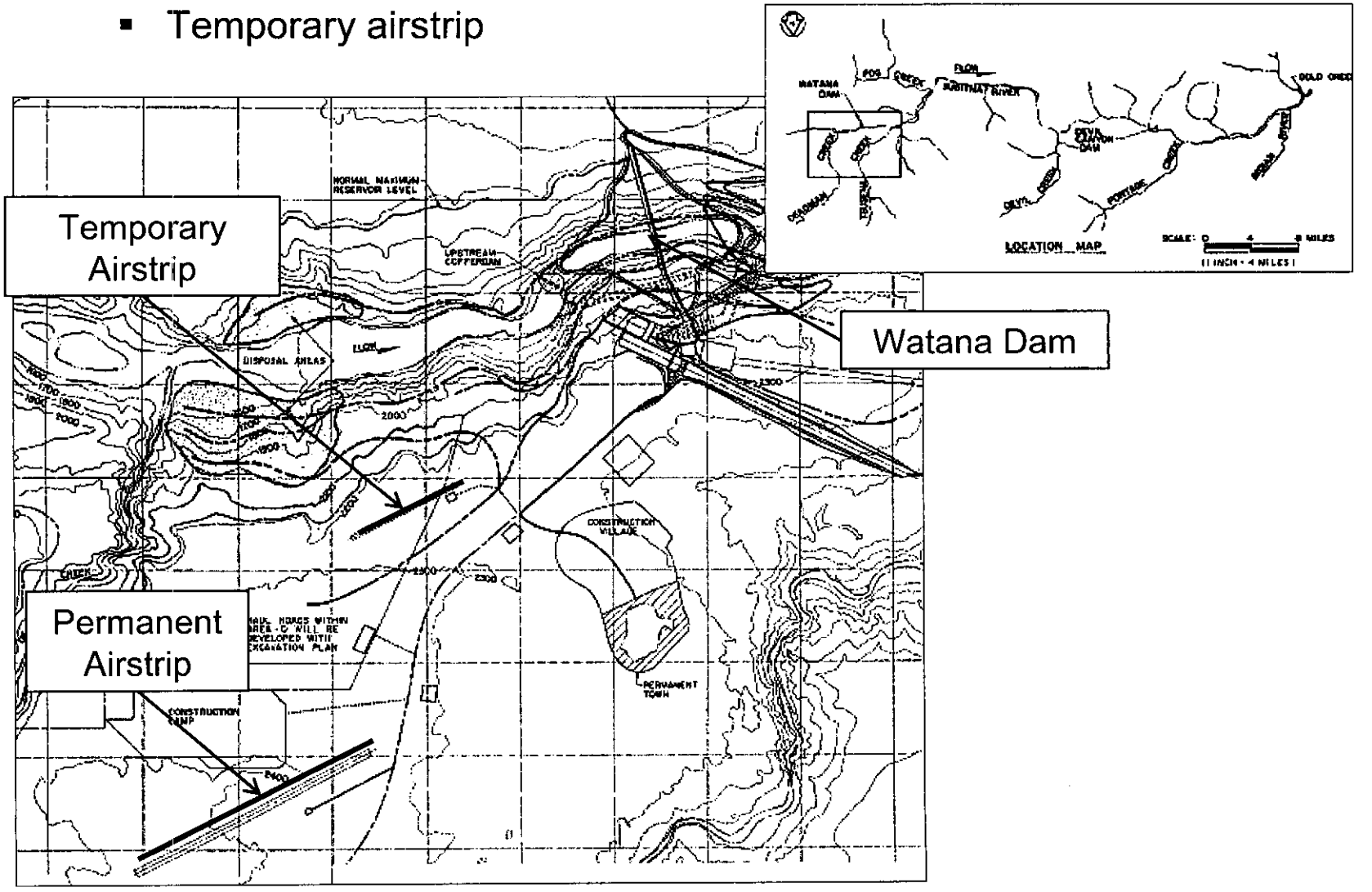
Rail

- 12-mile spur from Gold Creek to Devil Canyon
- Railhead facilities at Cantwell and Devil Canyon



Airports

- Permanent airstrip
- Temporary airstrip



Conclusions

- Remote location and large dam configurations require extensive civil works
- Large scale project, but all of these elements have been successfully done elsewhere
- Project is suited to staged construction
- Site access is particularly challenging
  - 81 miles of new road
  - 12 miles of new railroad
  - 1,200' span suspension bridge
- Technical challenges are all manageable
- Logistics and local material suitability and availability are important constructability factors

Back-up
document
only

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Susitna Hydro Evaluation Project

Seminar on the Development of Large Hydroelectric Projects with a Focus on the Susitna Project

presented to

Alaska Energy Authority

November 2008

HDR Alaska

DTA

Devine Tarbell & Associates, Inc.
Consulting Engineers, Scientists, & Regulatory Specialists

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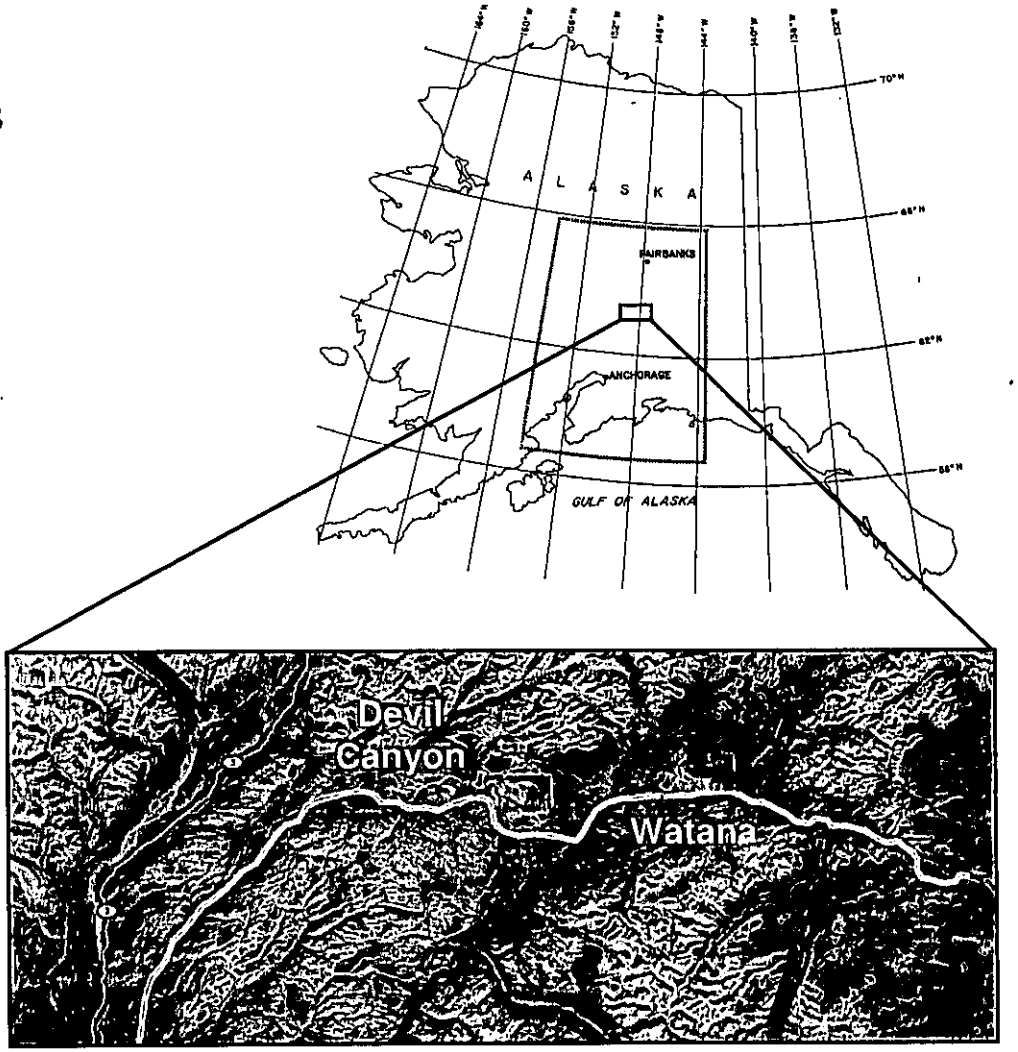
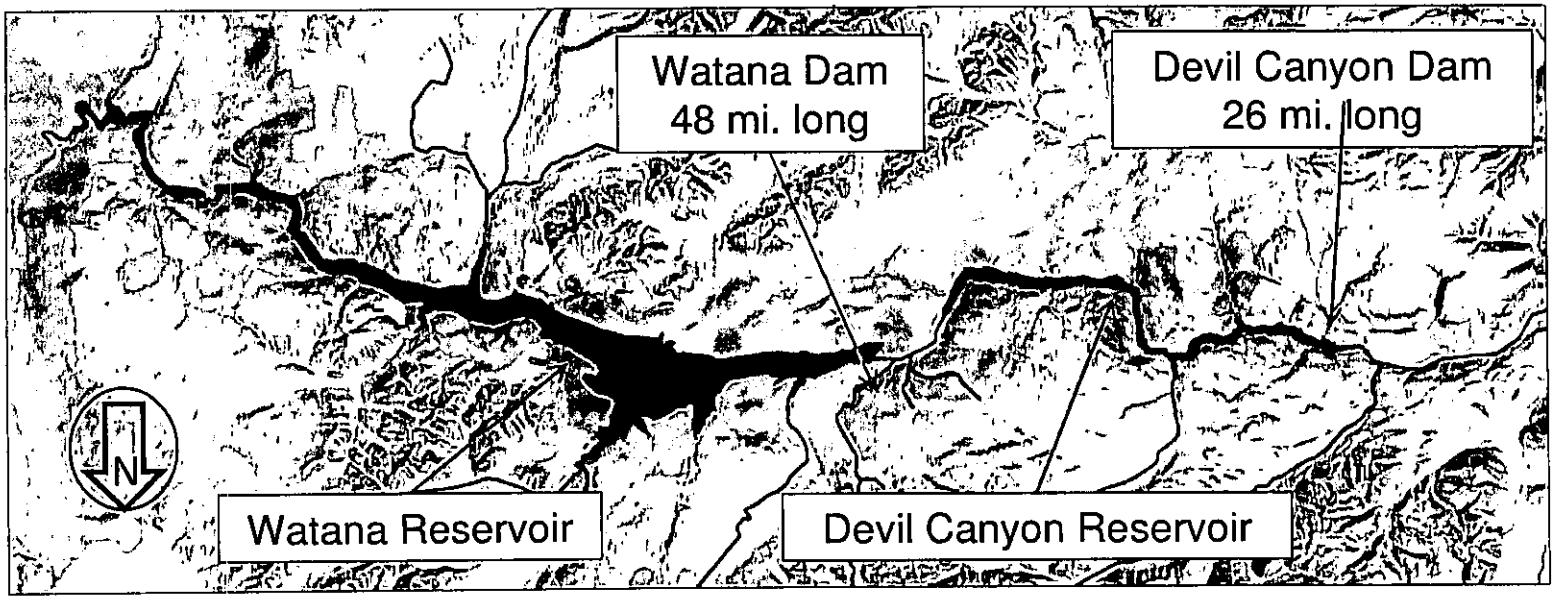
Susitna Project
Civil Works Considerations

Susitna Project - Civil Works

- Dams and related facilities
  - Spillways
  - Powerhouses
  - Tunnels
  - Intakes & outlets
  - Construction camps and villages
- Infrastructure
  - Roads and bridges
  - Rail
  - Airports
- Stage options

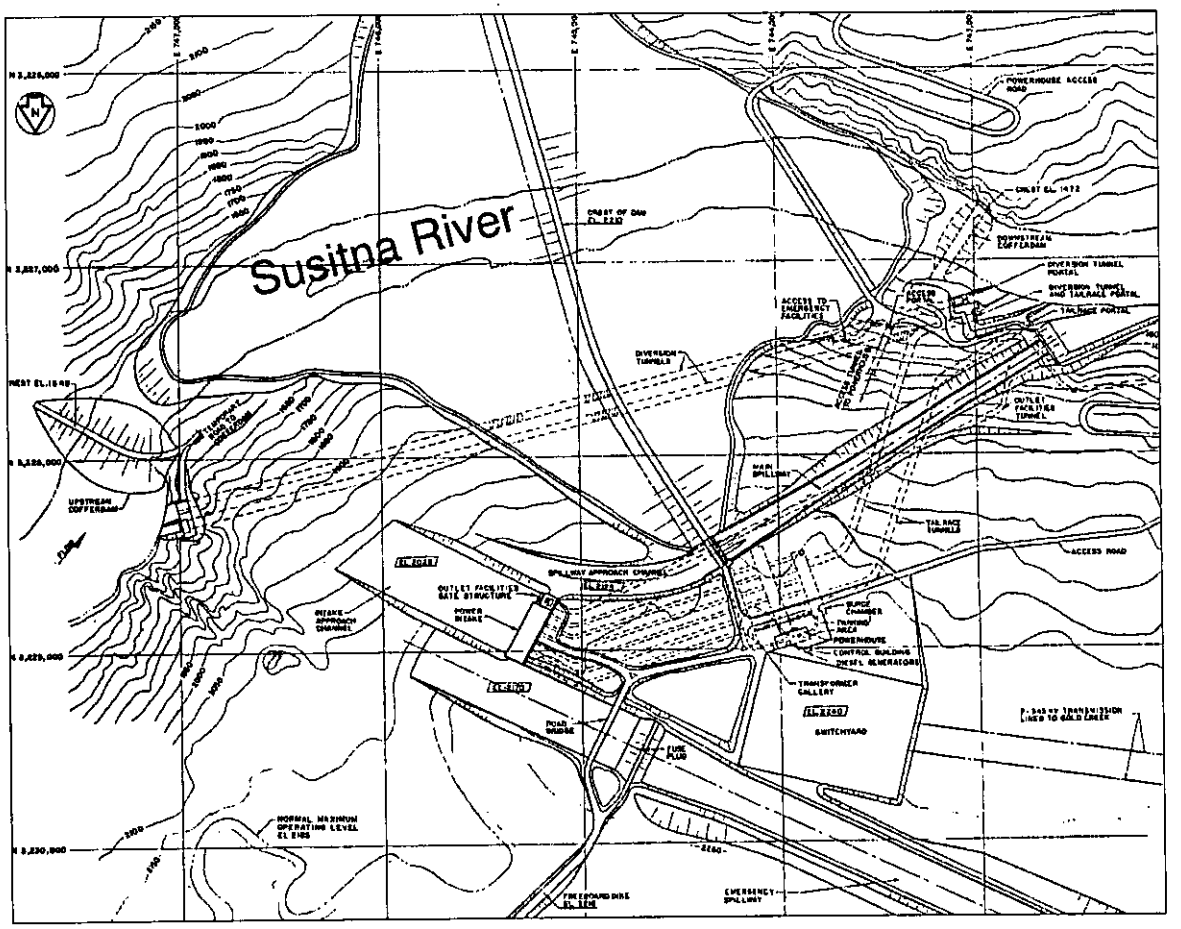


Watana and Devil Canyon Dams and Reservoirs



Watana Dam

- Rock-fill, gravity dam
- 885 feet tall
- 4,100-foot crest length

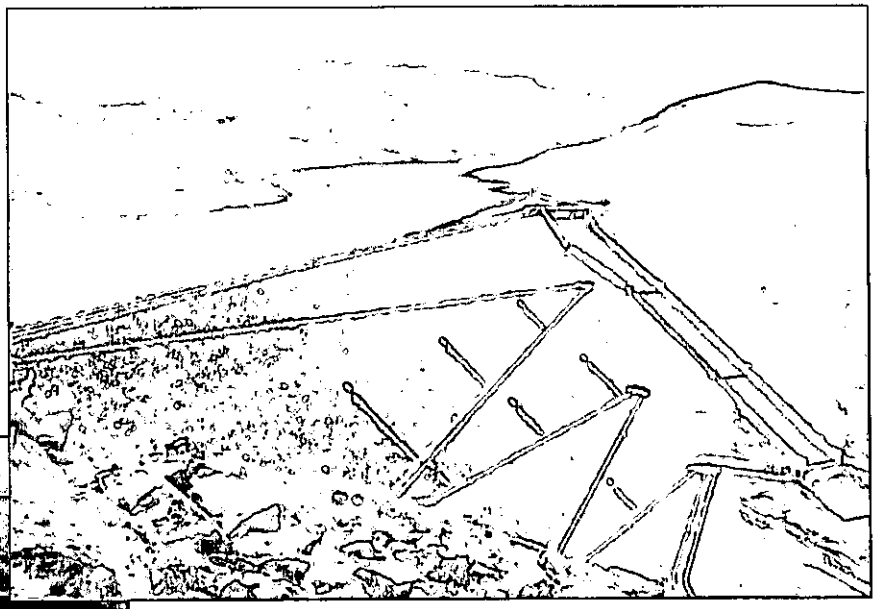


Watana Project Characteristics

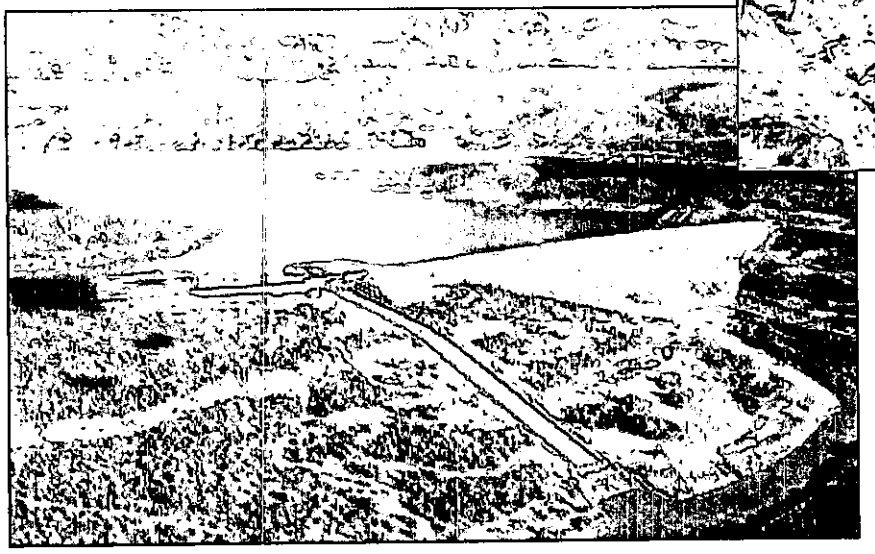
- Underground power facilities with 600-foot rockfill dam
- Dam structure: Height – 885 feet
  Crest length – 4,100 feet
- Diversion of flow during construction by two 30-foot tunnels
- Underground power facilities with six 200-MW generators
- Spillway capacity: 115,000 cfs + fuse plug 140,000 cfs

Rock-fill Embankment Dams

- Considerably more massive than arch or buttress dams but constructed with lower unit-cost materials
- Rely on weight of dam for stability and structural mass to impound water

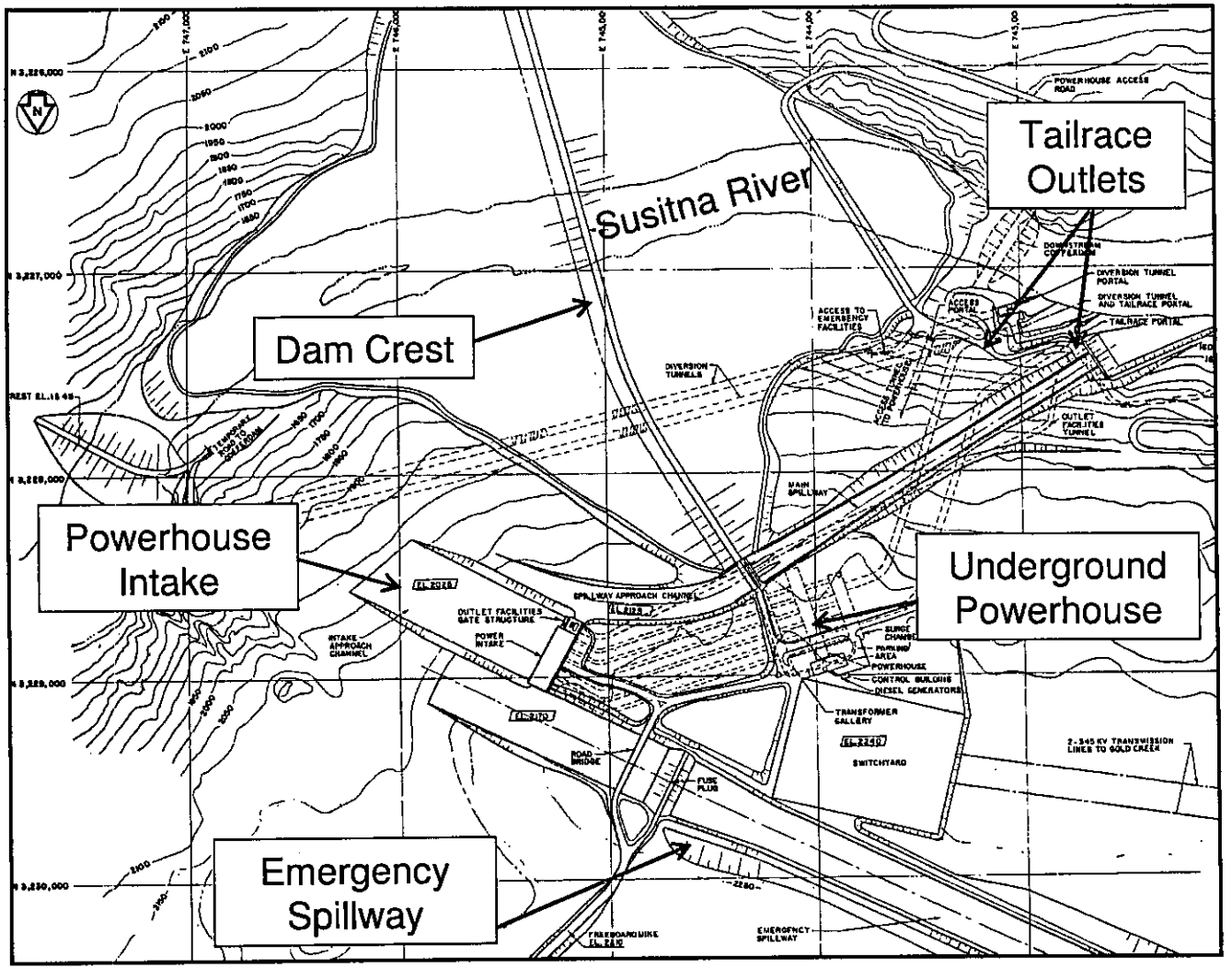


Mohle Dam, Lesotho

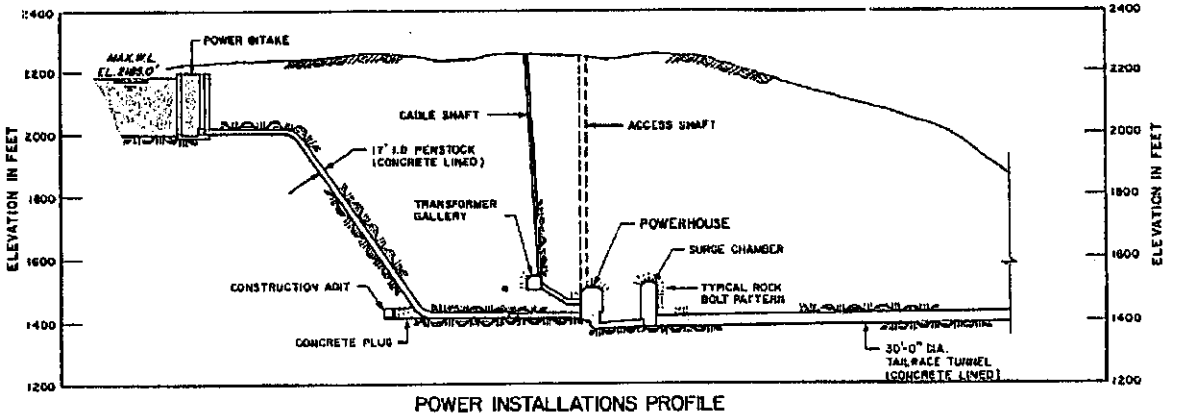


Oroville Dam, California

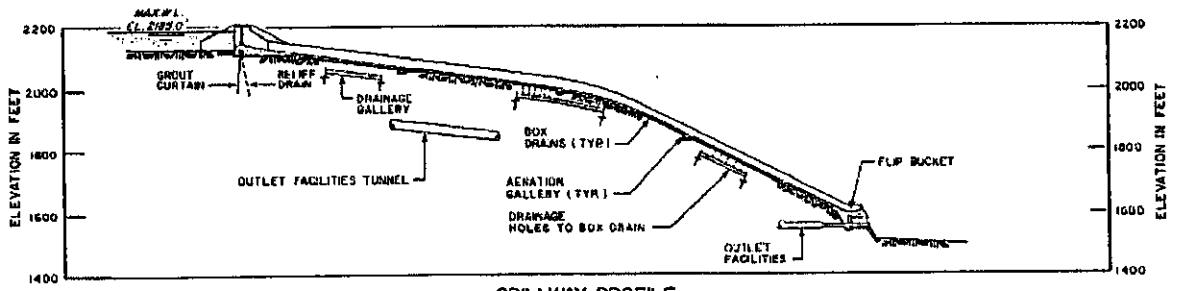
Project Layout: Watana



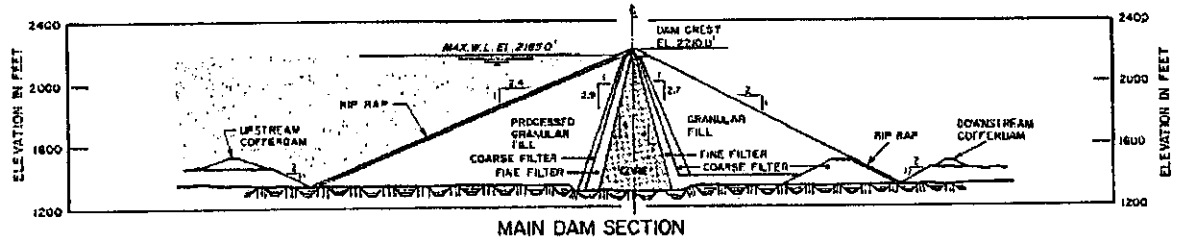
Watana Details



POWER INSTALLATIONS PROFILE



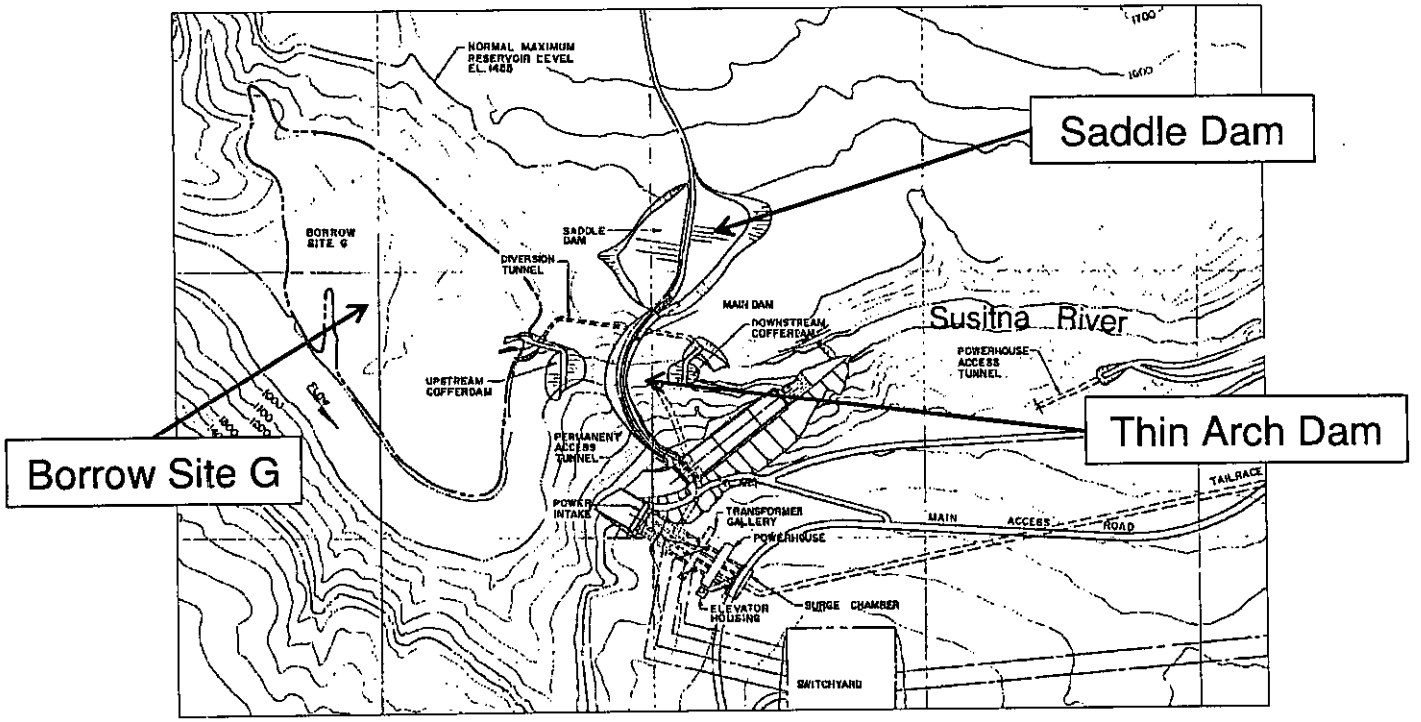
SPILLWAY PROFILE



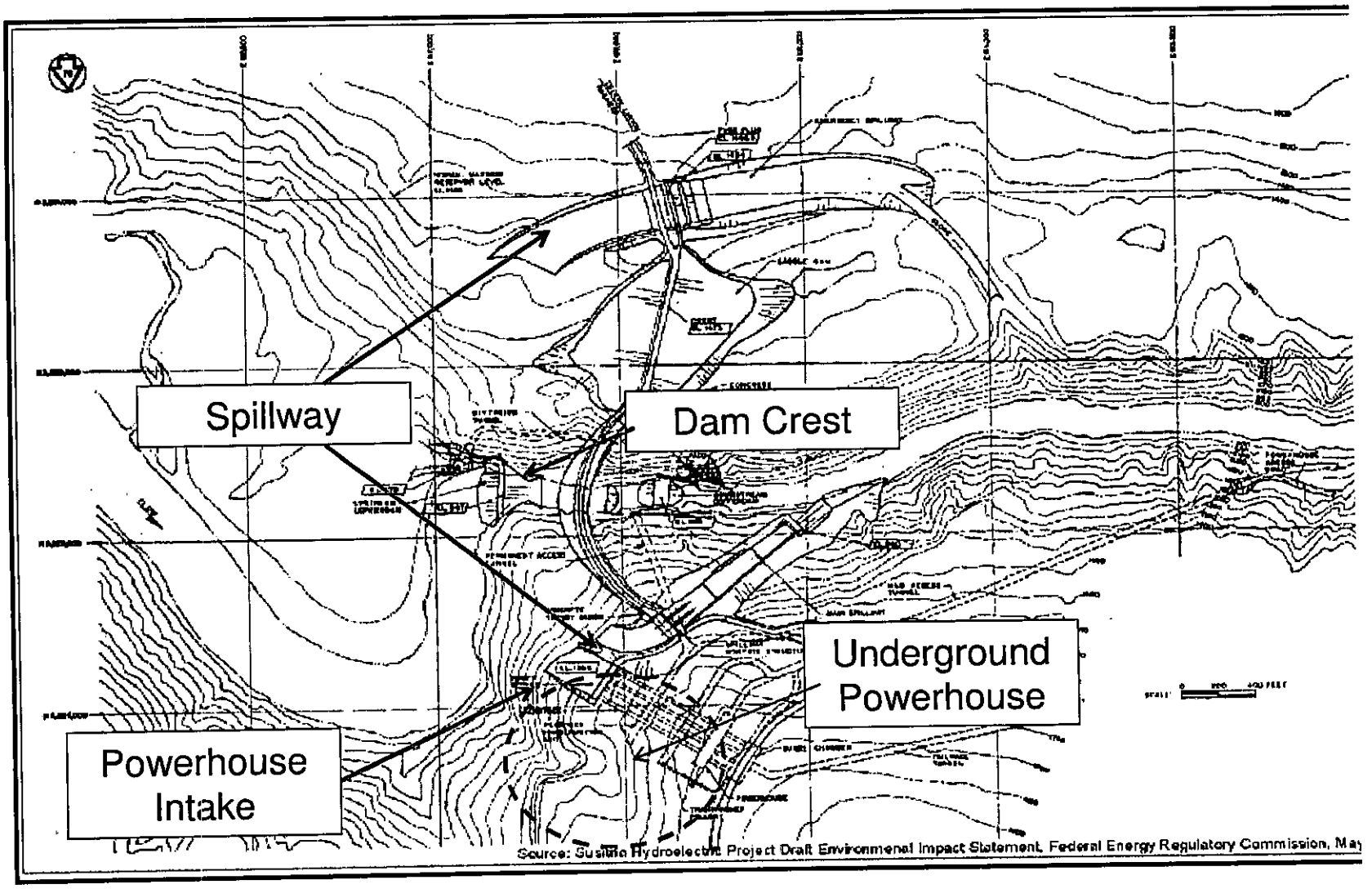
MAIN DAM SECTION

Devil Canyon Dam

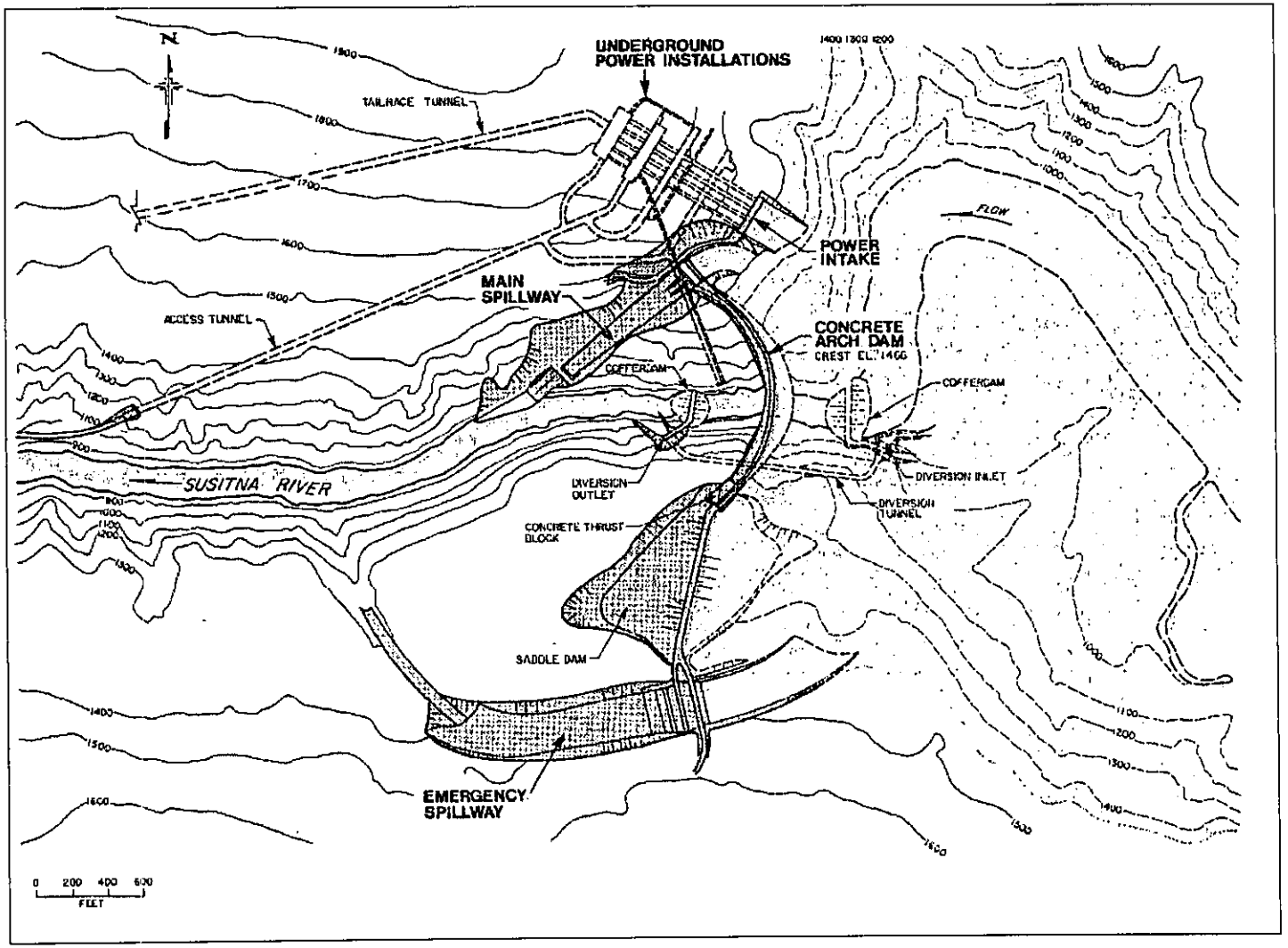
- Arch concrete dam
  - 646 feet tall above foundation
  - 1,260-foot crest length
- Earth and rockfill saddle dam
  - 245 feet tall
  - 950-foot crest length
- Located in a V-shaped canyon
- Acceptable abutment and foundation geology
- Borrow site G to provide granular material for filters and concrete aggregate.



Devil Canyon Hydropower Plan



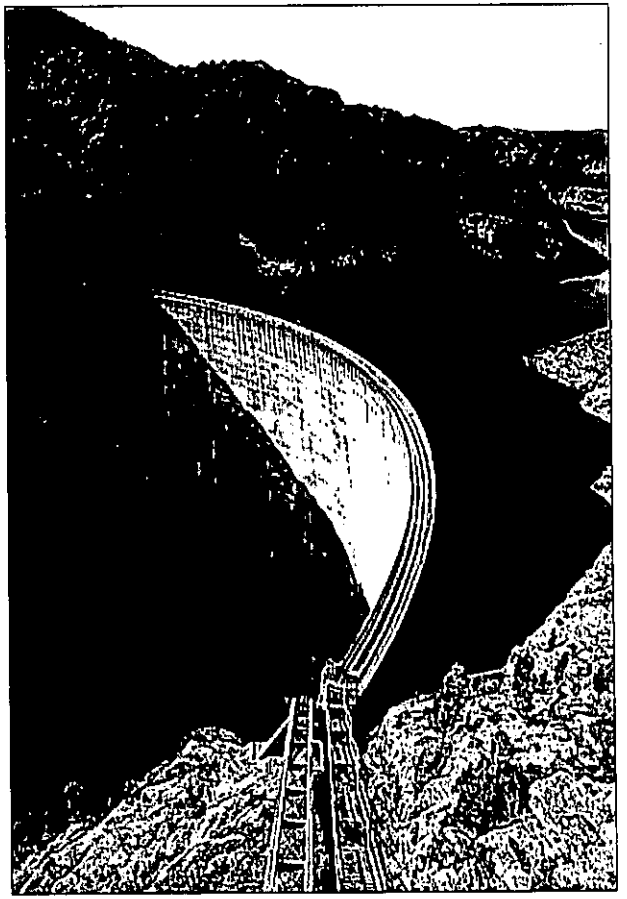
Devil Canyon General Arrangement



Arch Concrete Dams

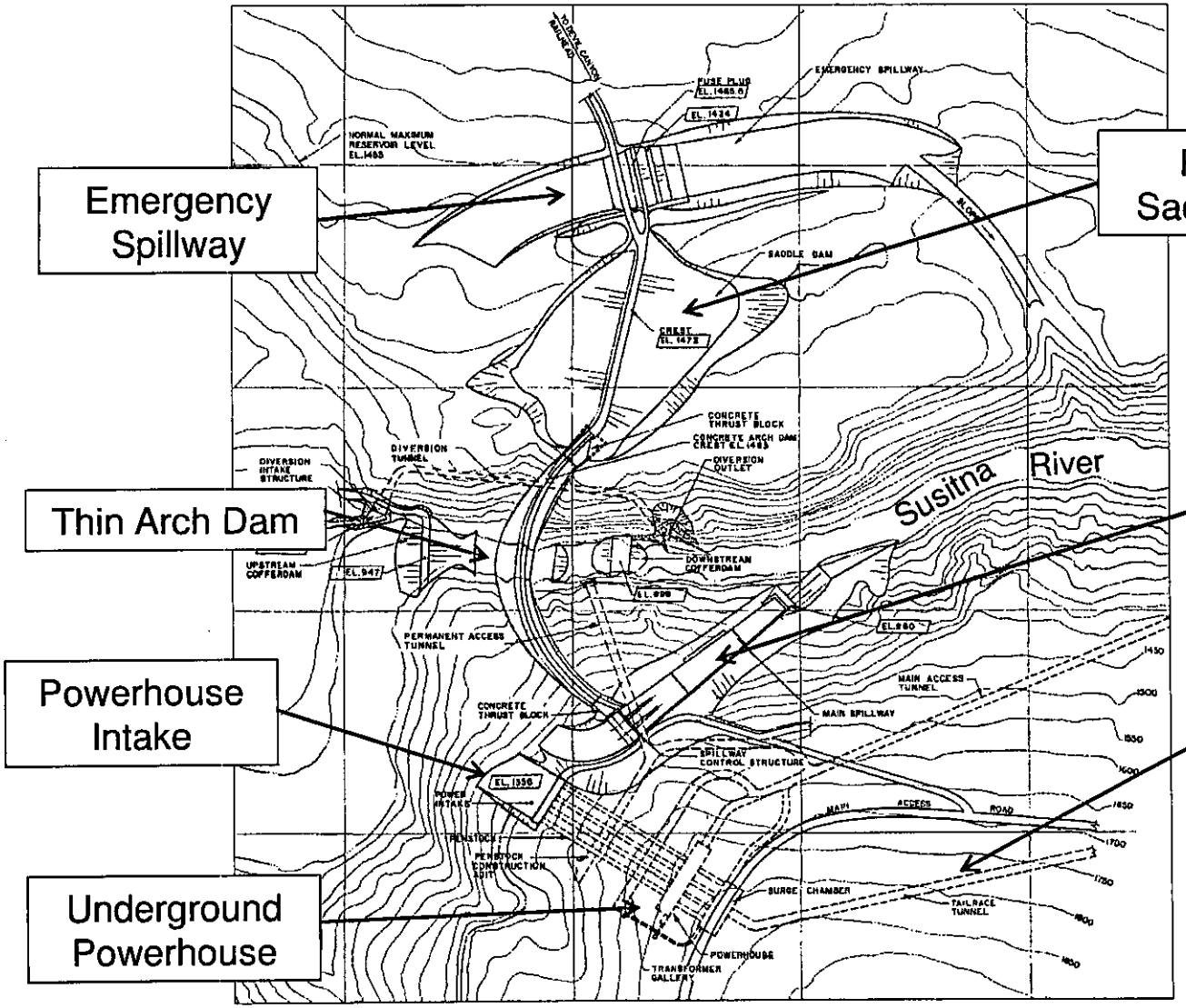
- Reduced material volume to construct
- Loads transferred to abutments
- Structurally efficient, visually appealing structures

Mauvoisin Dam, Switzerland

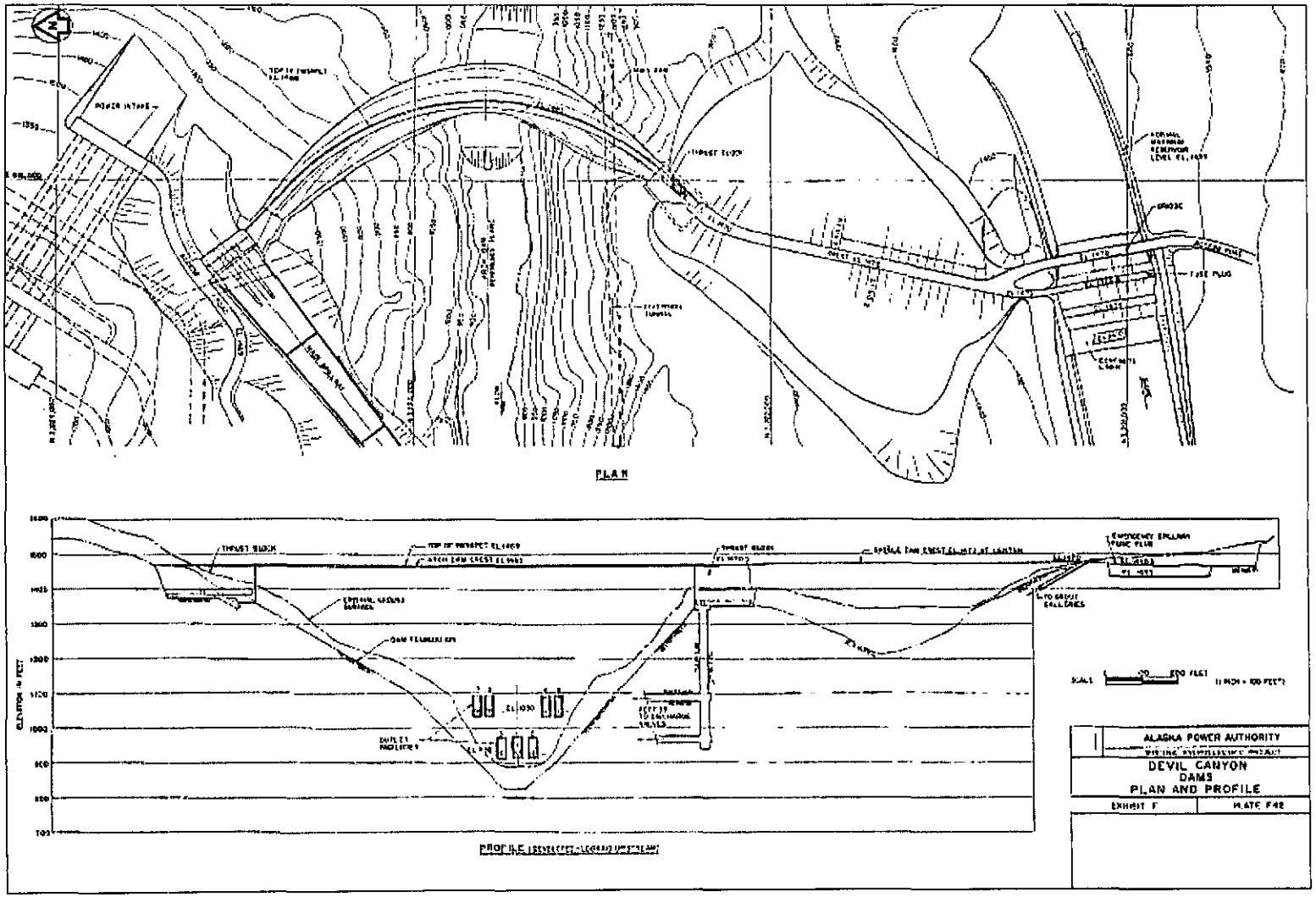


Gordon Dam, Australia

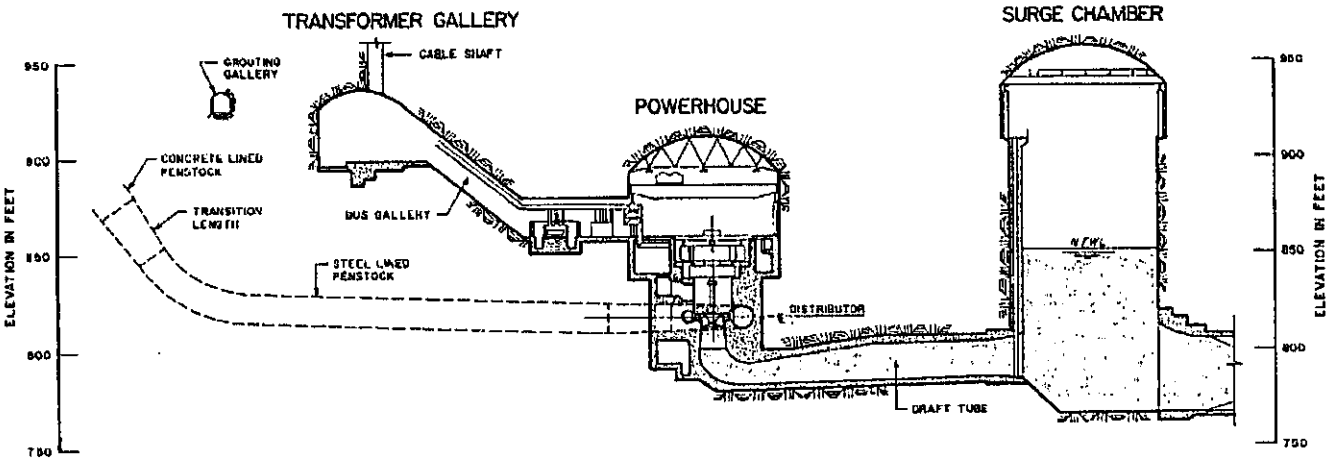
Project Layout: Devil Canyon



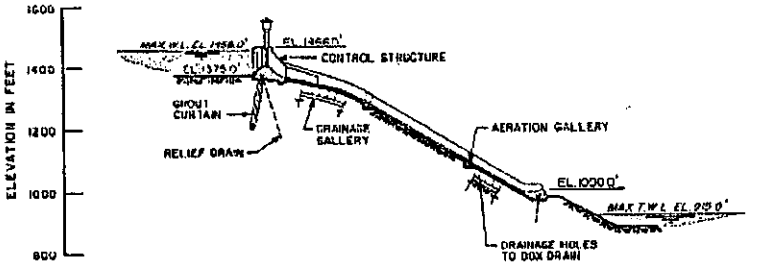
Devil Canyon Dams Plan and Profile



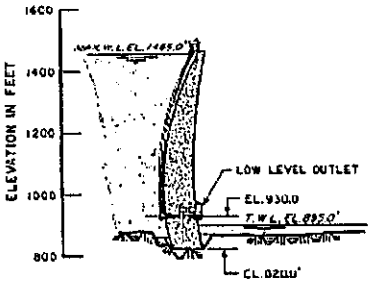
Devil Canyon Details



POWER INSTALLATIONS SECTION

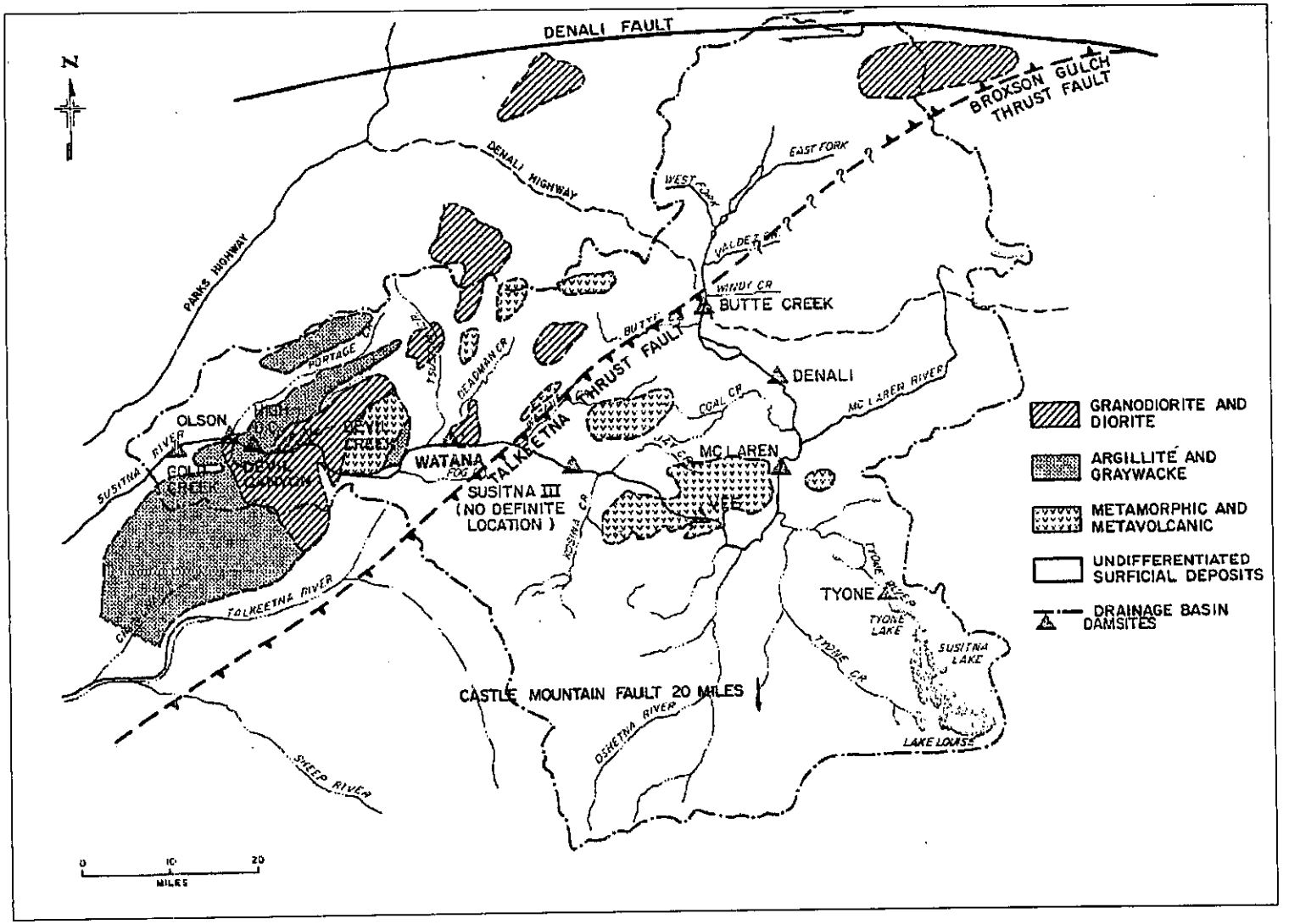


MAIN SPILLWAY PROFILE

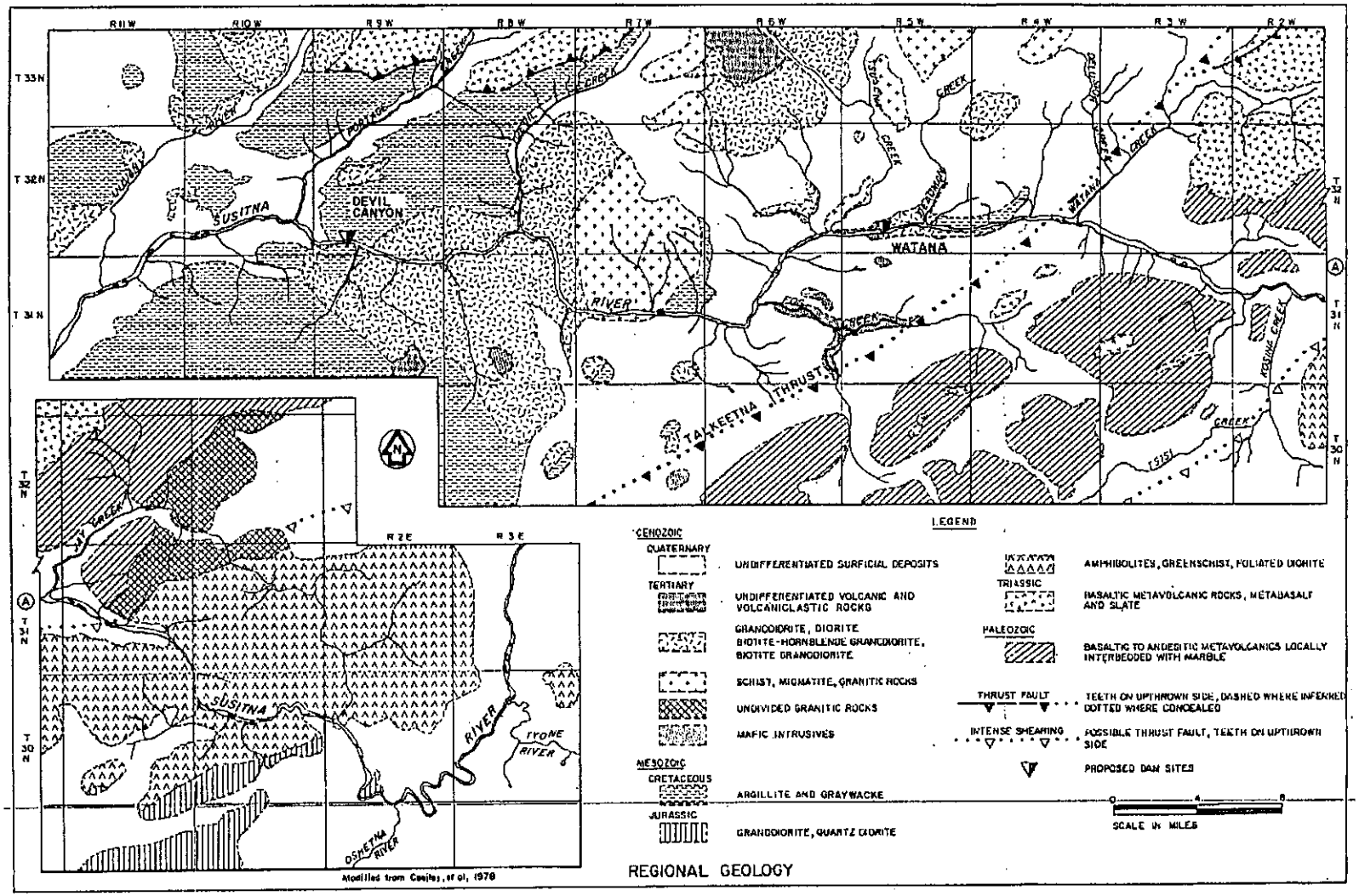


ARCH DAM SECTION

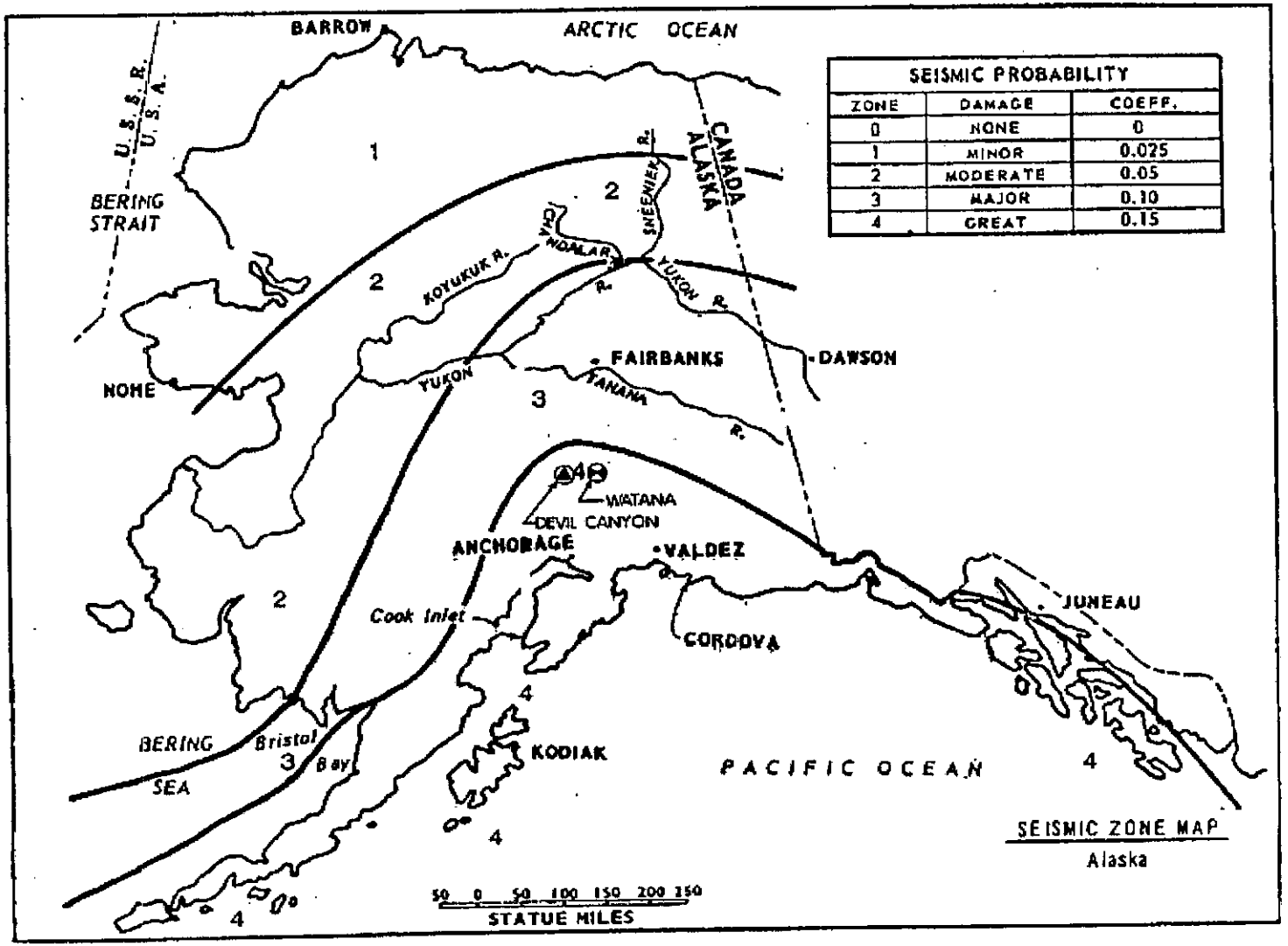
Upper Susitna Basin Geology



Regional Geology



Seismicity



SEISMIC PROBABILITY		
ZONE	DAMAGE	COEFF.
0	NONE	0
1	MINOR	0.025
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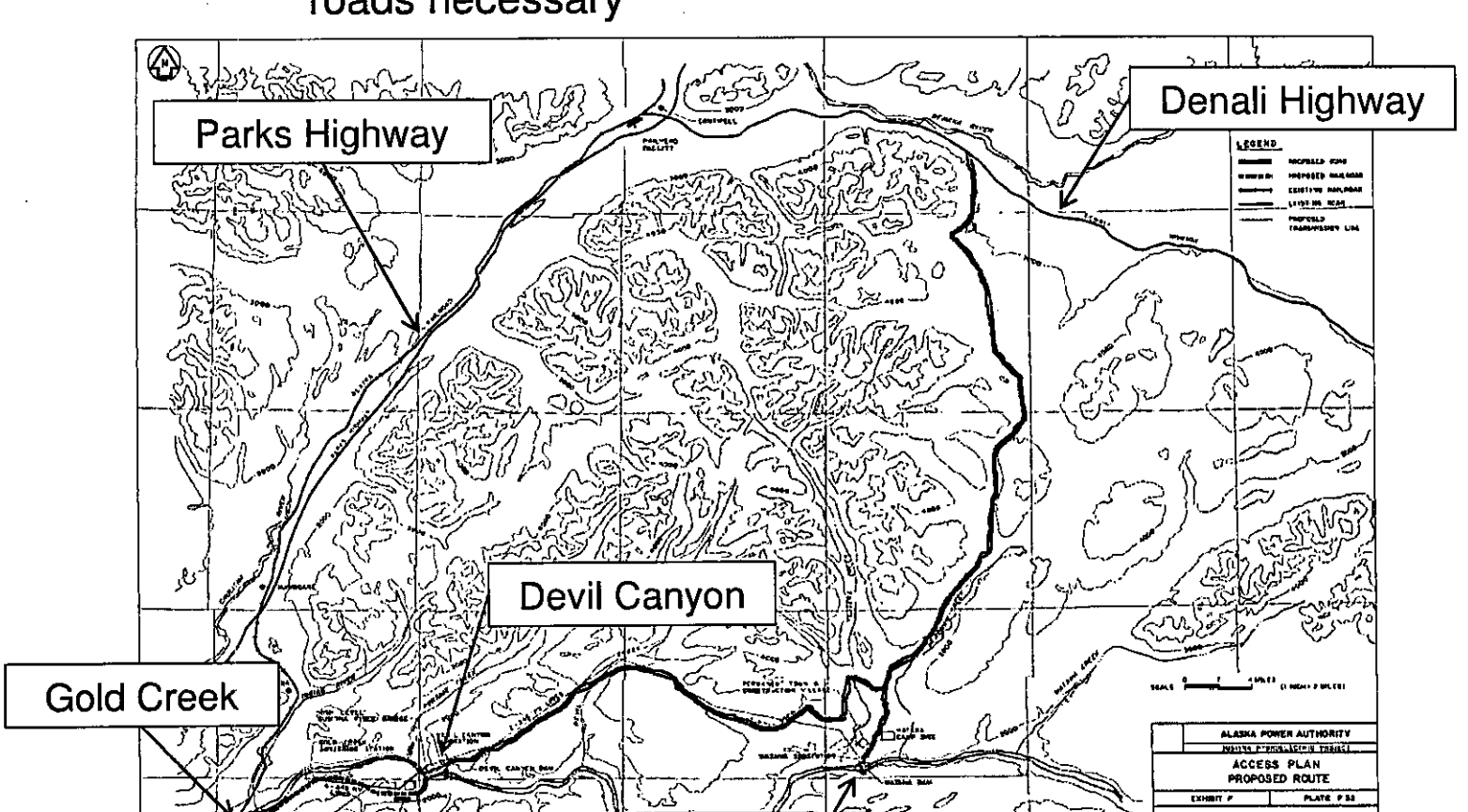
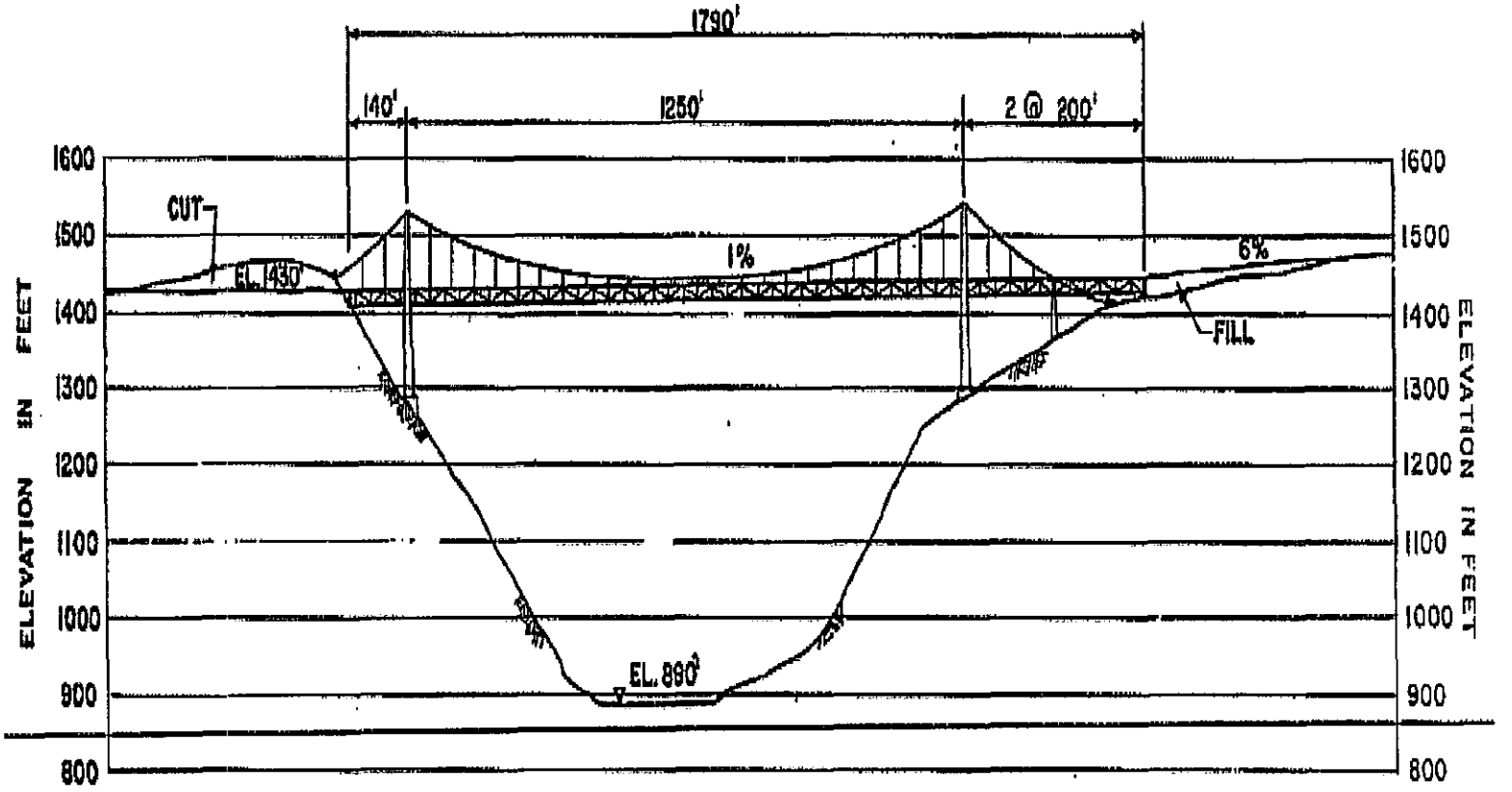
Roads

- 21 miles of road improvements along Denali Highway
- 81 miles of new permanent roadway were planned
- Additional temporary local area construction access roads necessary



Susitna River Bridge

Substantial, new long-span suspension bridge required for project

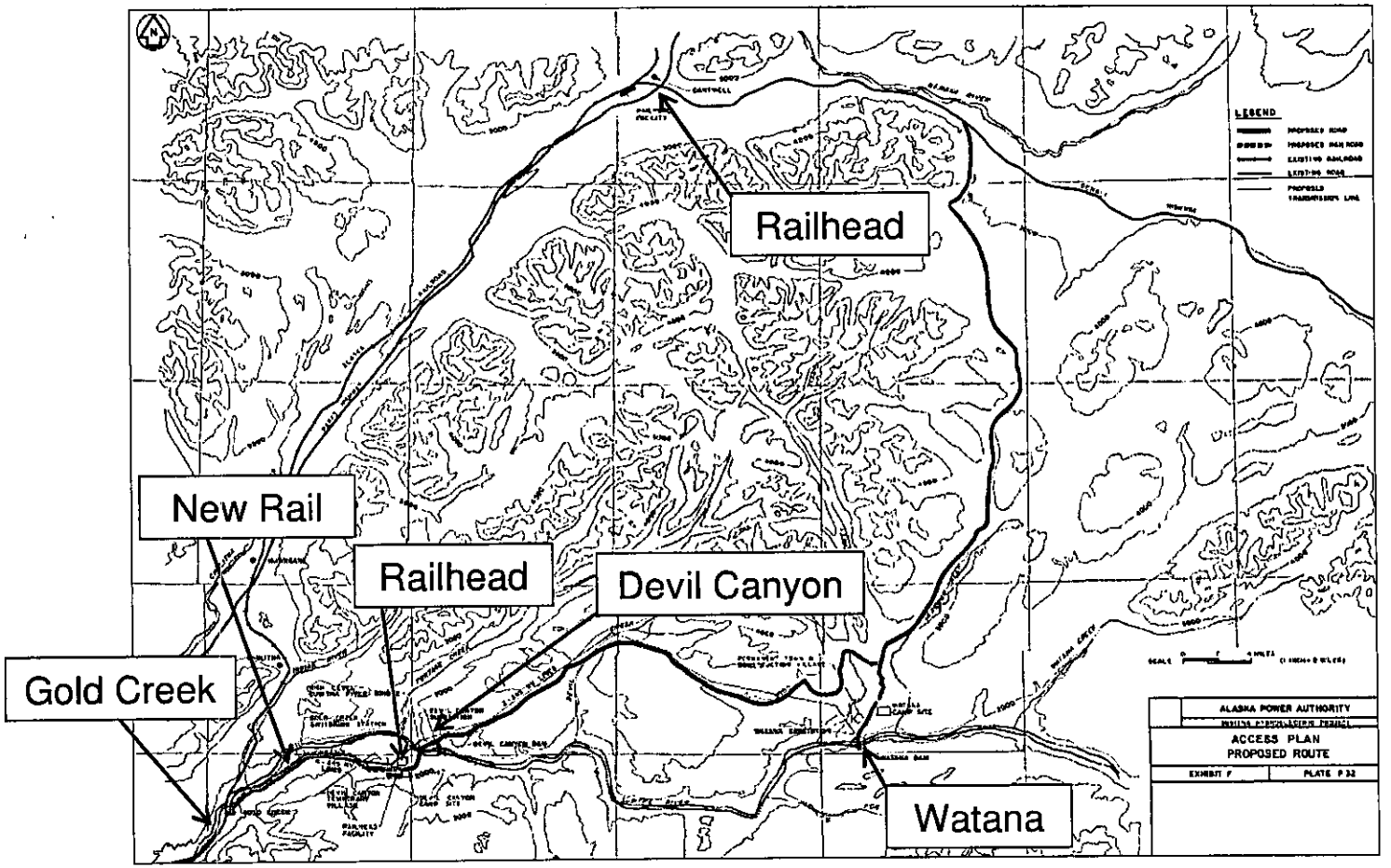


HIGH LEVEL SUSITNA RIVER BRIDGE

SCALE C

Rail

- 12-mile spur from Gold Creek to Devil Canyon
- Railhead facilities at Cantwell and Devil Canyon



Airports

- Permanent airstrip
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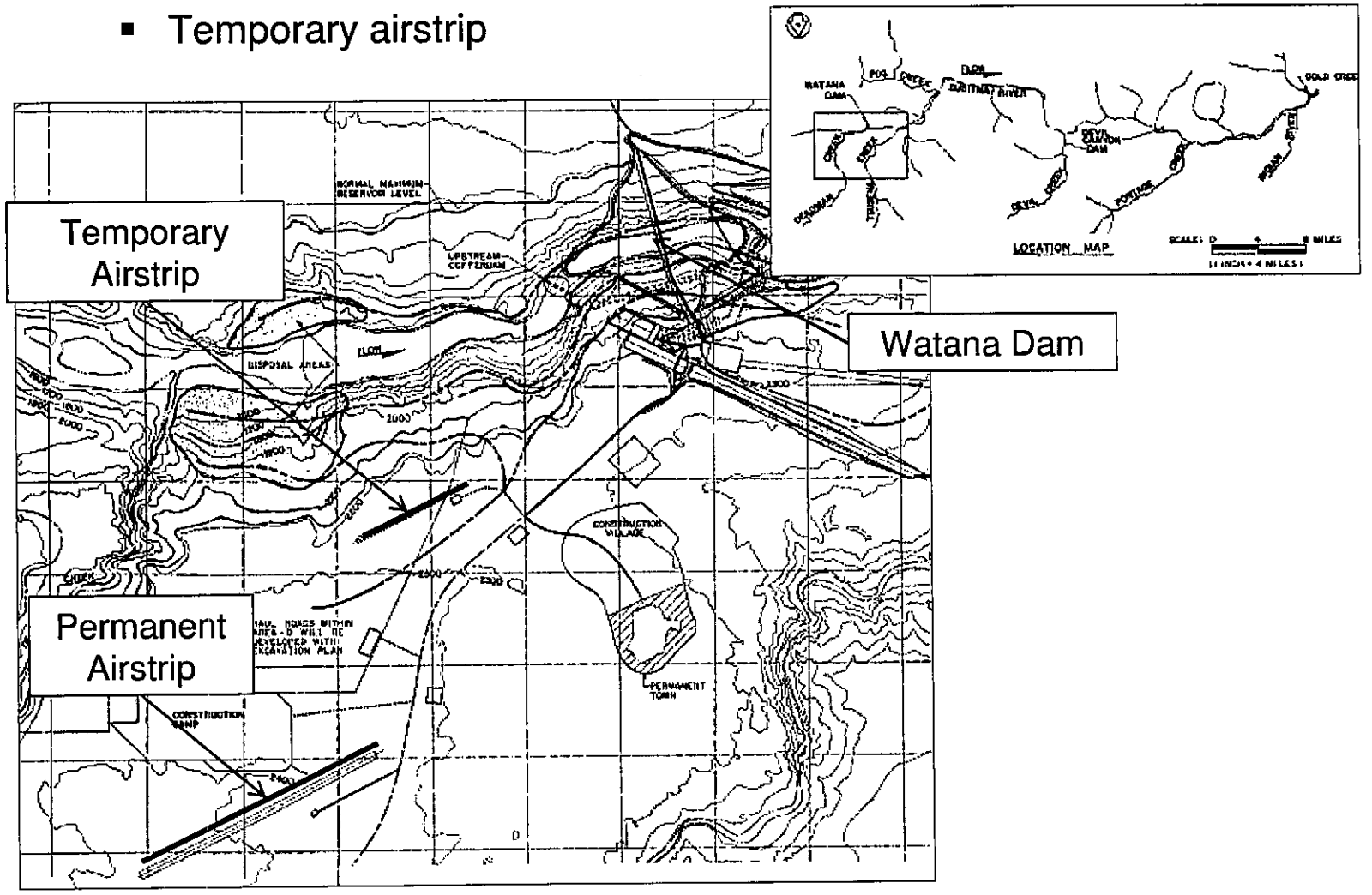
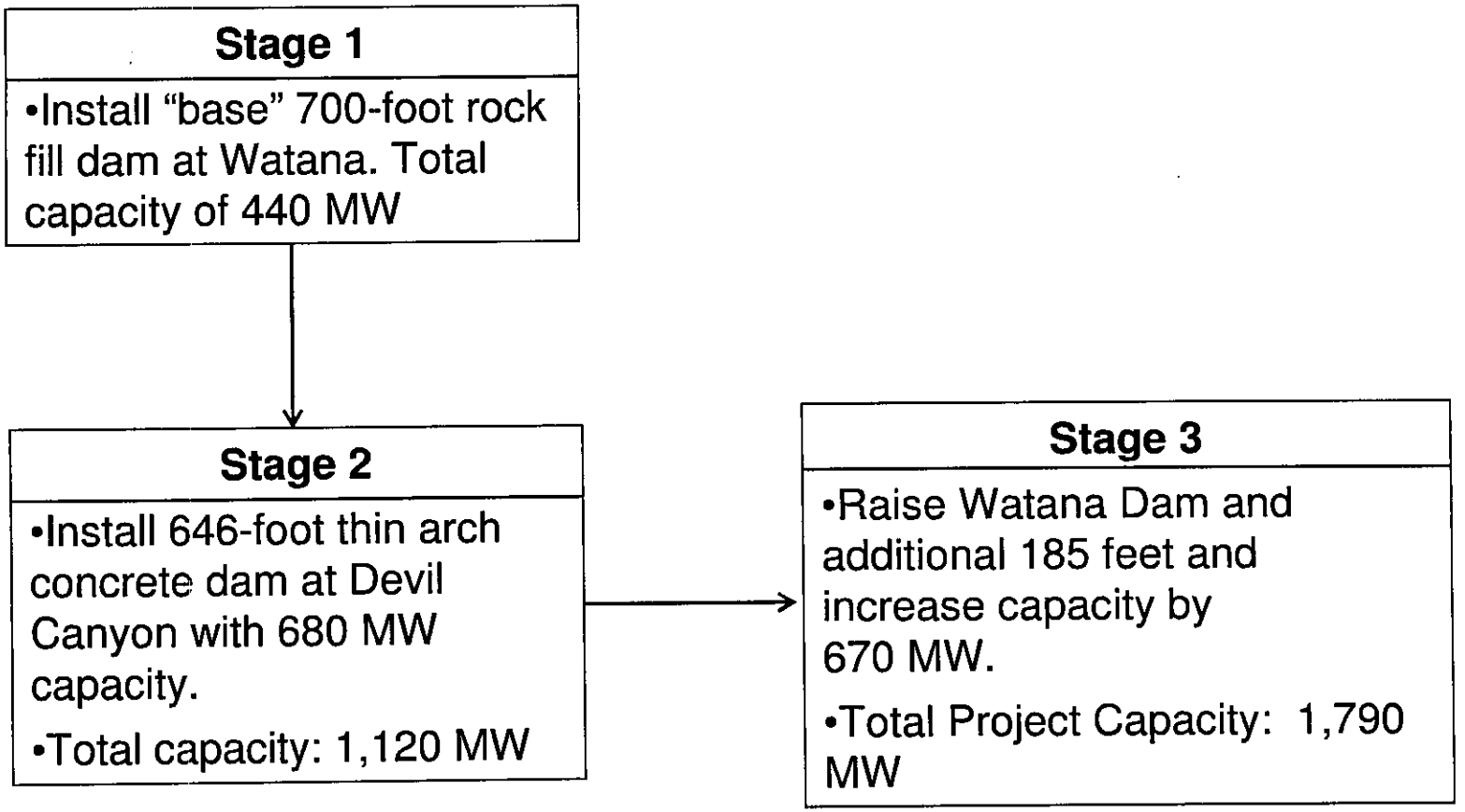


Staged Development Plan



Options Considered for Staged Development

- Option 1 – Full-scale Watana only
- Option 2 – Full-scale Watana and full Devil Canyon in stages
  - Dam, powerhouse and other features built to full-scale plans
  - Stage 1 - Install two 150-MW units, penstocks and tailraces
    Install foundations for two future 150-MW units
  - Stage 2 - Install two 150-MW units, penstocks and tailraces
- Option 3 – Watana Stage 1 only
  - Initial dam 200 feet lower than final stage
  - Powerhouse excavated to final size
  - Three150- MW units installed initially with a foundation for one more unit
- Option 4 – Full-scale Devil Canyon only

Conclusions

- Remote location and large dam configurations require extensive civil works
- Large scale project, but all of these elements have been successfully done elsewhere
- Project is suited to staged construction
- Site access is particularly challenging
  - 81 miles of new road
  - 12 miles of new railroad
  - 1,200' span suspension bridge
- Technical challenges are all manageable
- Logistics and local material suitability and availability are important constructability factors

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Chakachamna Hydropower

TDX Power
Nicholas Goodman
Eric Yould

Senate Resources Committee
February 24, 2009

Chakachamna Hydropower

- Statewide hydro Resources
- Susitna project
- Chakachamna project

Cook Inlet Natural Gas

- 1968 Price $0.16/MMBTU
- 2008 Utility Price $4.00/MMBTU
- Present Henry Hub $7.50/MMBTU
- Existing Know Reserves Limited
- Future Cost Uncertain
- North Slope Price/Availability Uncertain
- Half the Carbon Footprint of Coal

Cook Inlet Coal Generation

- Present day price $2.00/MMBTU
- Conventional has environmental issues
- IGCC is Expensive and no good sequestration solutions
- Future Carbon Tax
- Some potential for EOR
- Cook Inlet mining issues

Cook Inlet Renewable

- Wind
- Geothermal
- Tidal
- Solar
- Hydropower

Inventory of Alaska Hydropower Potential

- U.S. Bureau of Reclamation
- U.S. Army Corps of Engineers
- 256 sites with continuous power greater than 2500 KW
- 192 billion KWH energy potential*
- 40% of the U. S. untapped hydropower
- * Railbelt energy demand 5 billion KWH

Potential Major Alaska Hydropower Projects

Project Name	River System	Installed Capacity (Megawatts)	Energy (Million KWH/yr)
Holy Cross	Yukon	2,800	12,300
Ruby	Yukon	1,460	6,400
Rampart	Yukon	6,000	34,200
Porcupine	Porcupine	530	2,320
Woodchopper	Yukon	2,160	14,200
Yukon-Tayia	Yukon	3,200	21,000
Susitna	Susitna	1,500	6,500
Chakachamna	Chakachatna	320	1,600
Wood Canyon	Copper	3,600	21,900
Stikine	Stikine	2,260	9,900

Note: Railbelt energy demand is presently 5,000 Million KWH/yr

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Existing Hydropower Statewide

- 40 projects
- Most located in Southeast
- Inexpensive Electricity

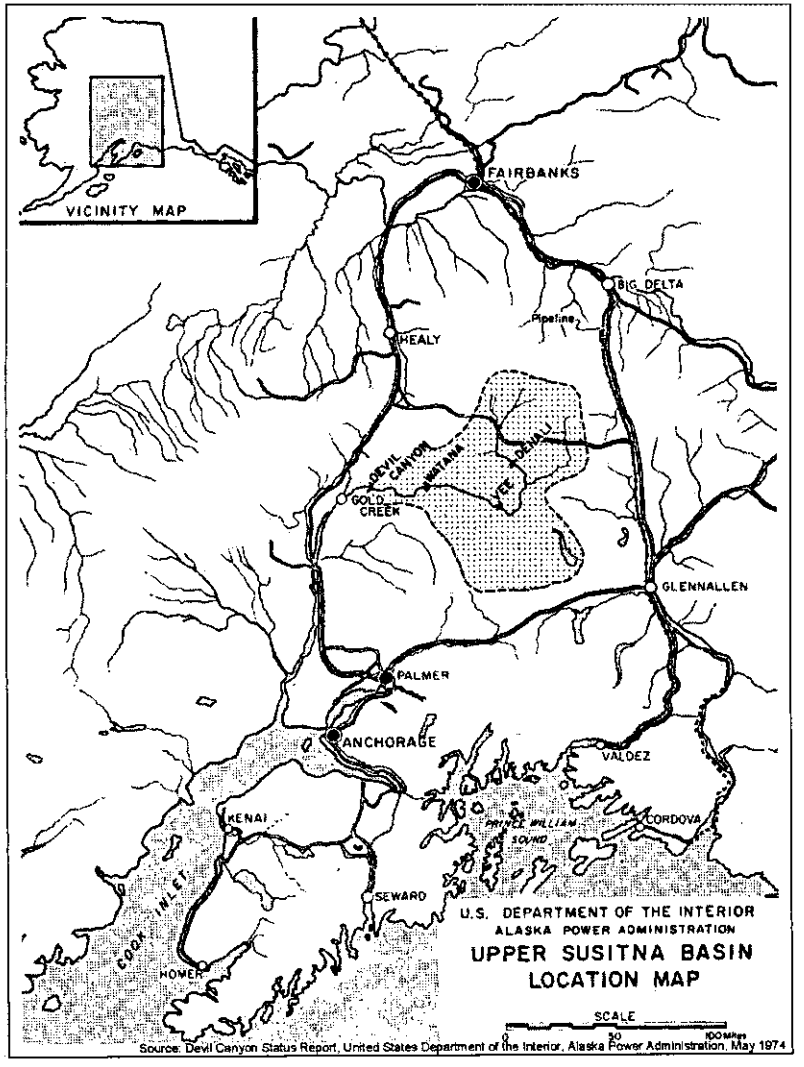
Existing Hydropower Southcentral

■ Eklutna	37.5 MW
■ Bradley Lake	115 MW
■ Cooper Lake	20 MW

Susitna Hydropower Project

- Two high head dams on the upper Susitna river located 30 miles upstream from Talkeetna
- Total Cost $5.3 Billion (1985 dollars)
- 1,400 MW installed capacity and 6.5 billion KWH of energy
- Watana built first -- 870 foot high earth fill dam
- Devil Canyon built second -- 650 foot high concrete thin arch dam
- State expenditures for exploration and FERC licensing: $160 million, through the Alaska Power Authority
- License application withdrawn in 1985 when price of oil plummeted

Susitna Project Location



Upper Susitna Dam Sites

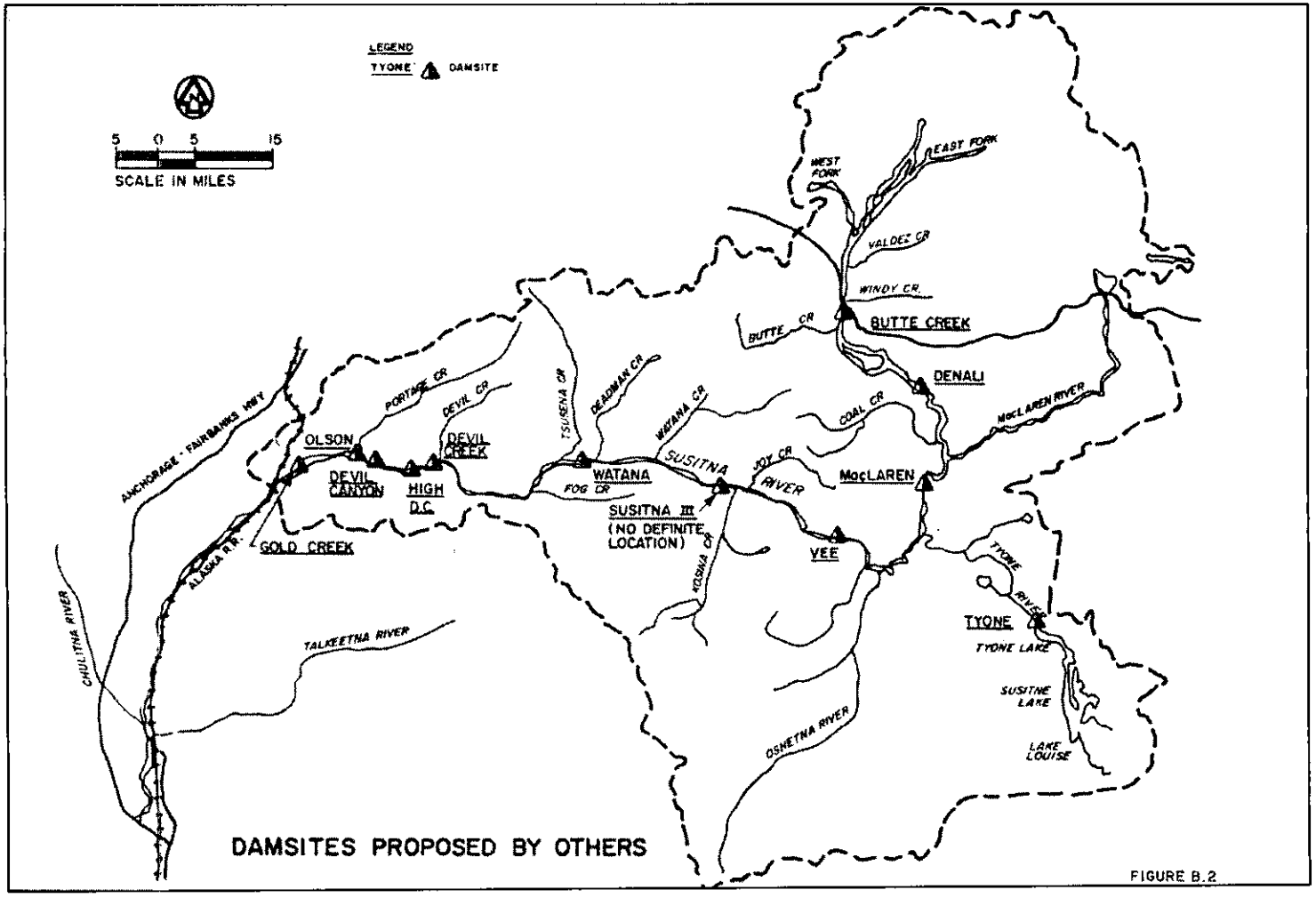
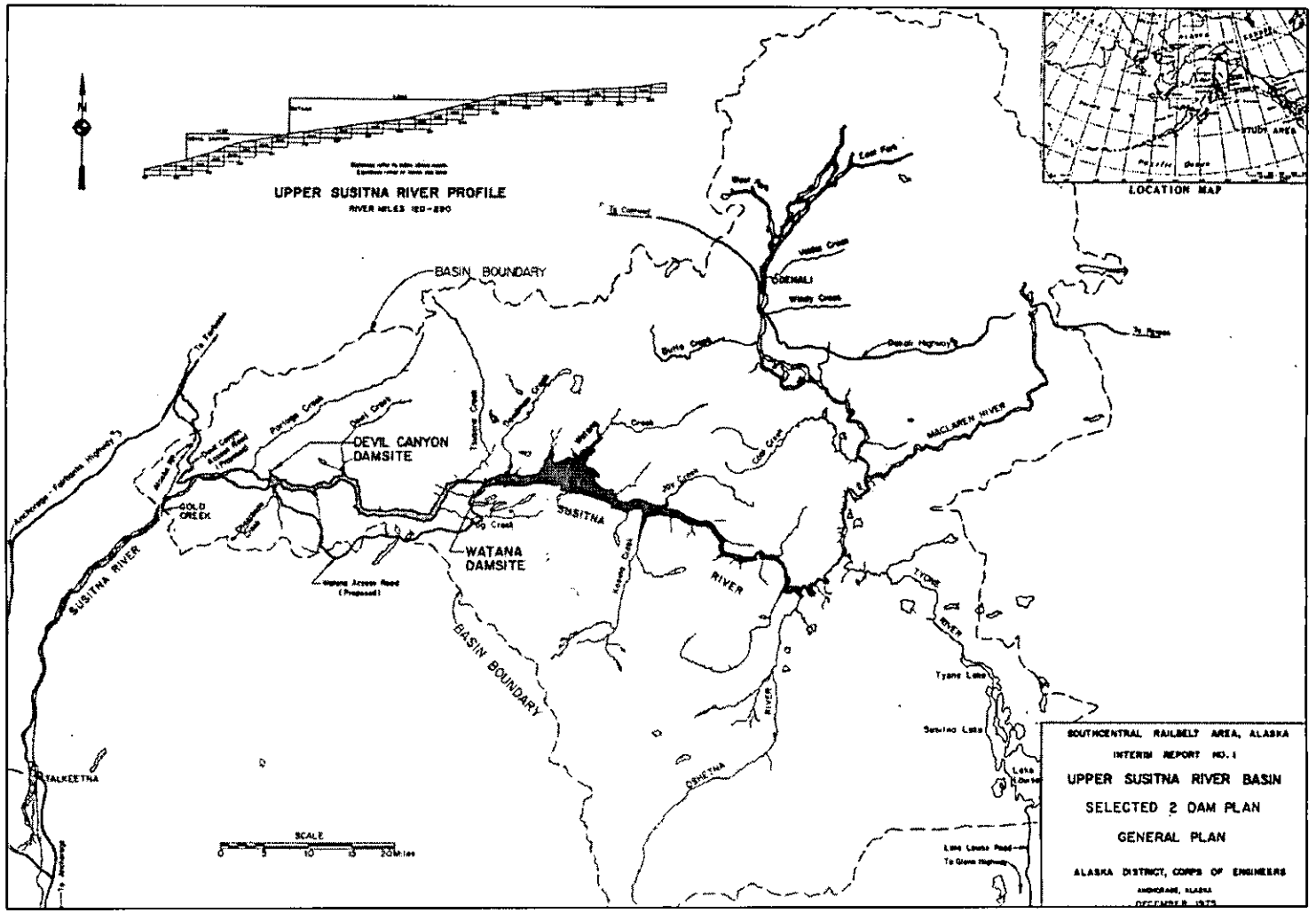


FIGURE B.2

Devil Canyon & Watana



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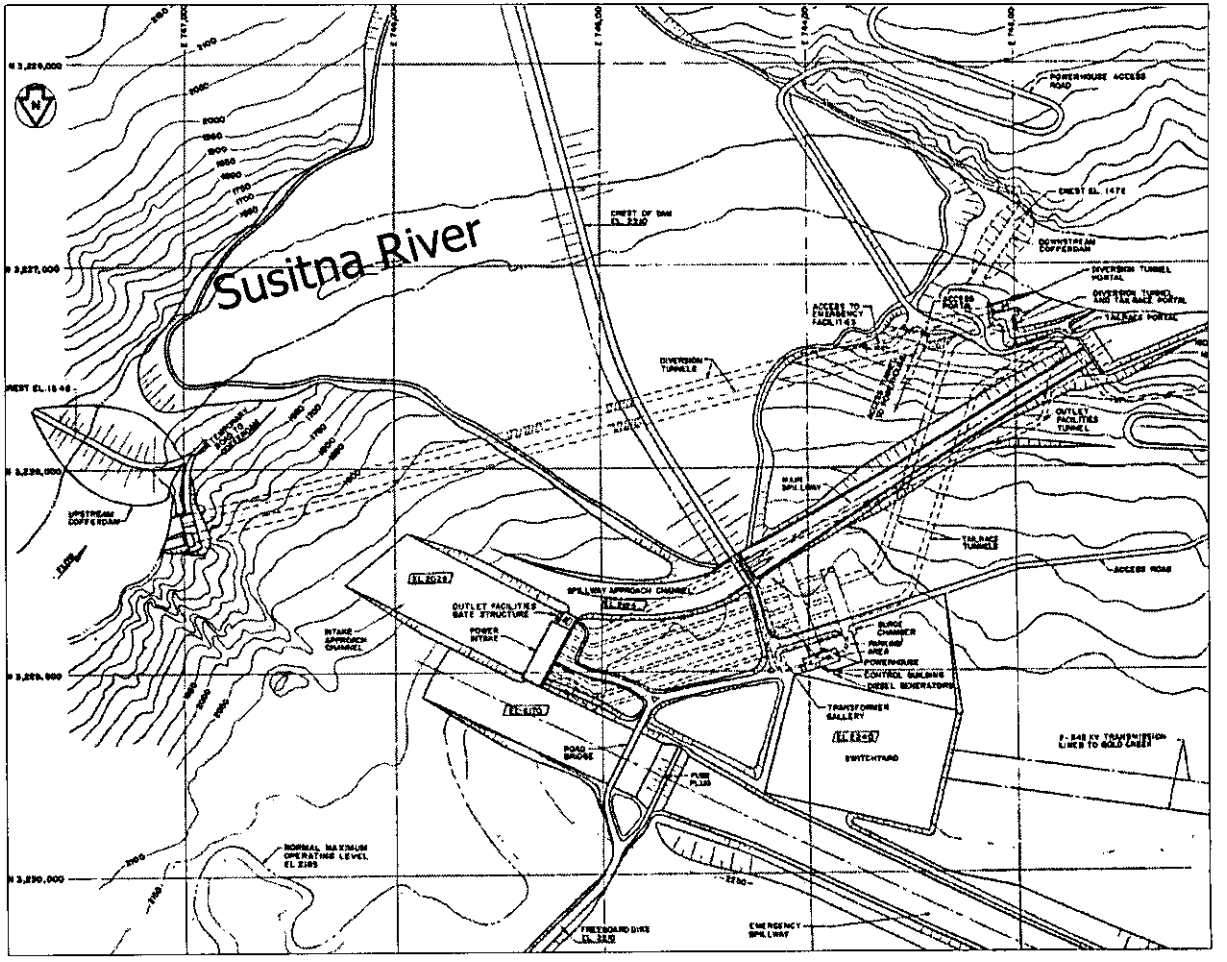

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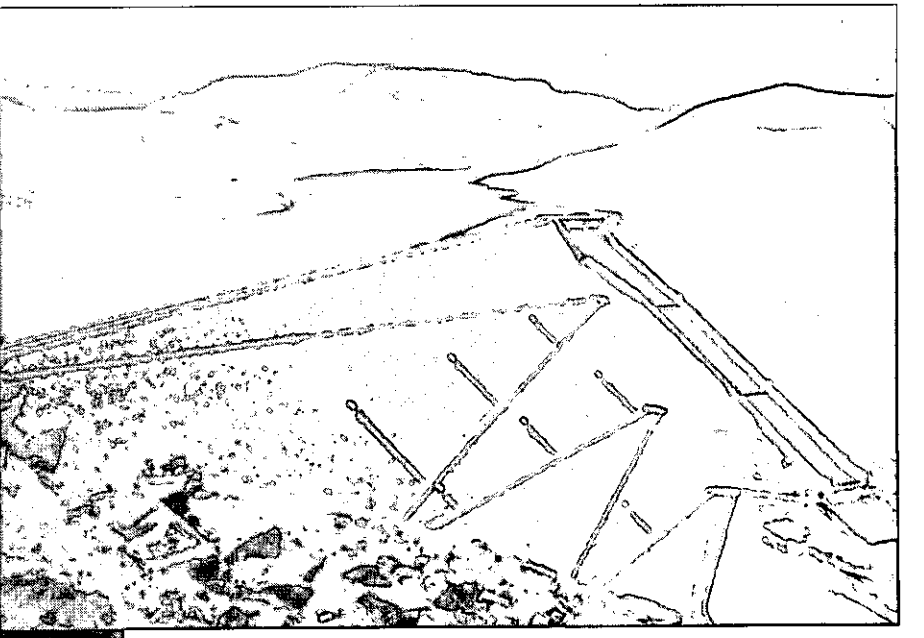
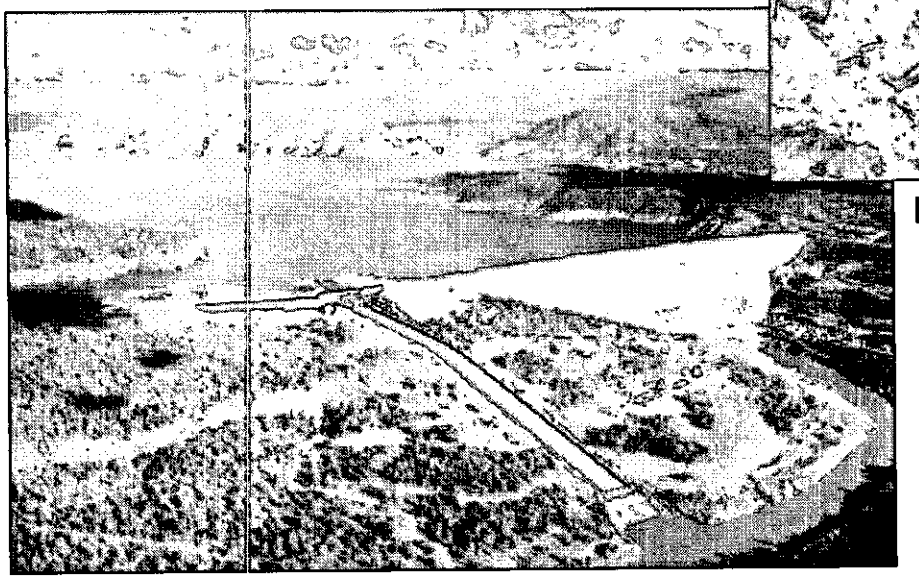
Rock-fill Embankment Dams

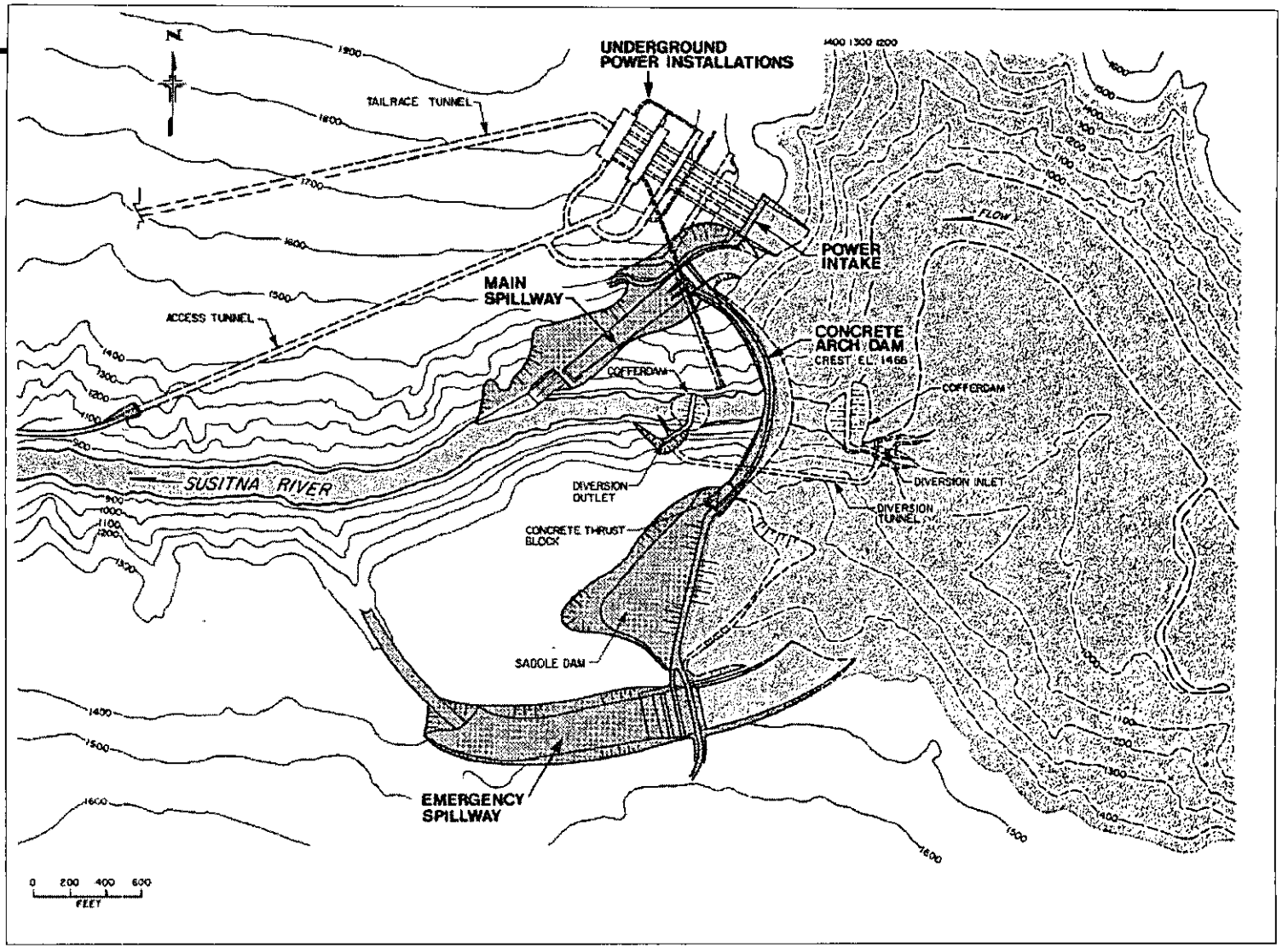


Mohle Dam, Lesotho



Oroville Dam, California

Devil Canyon General Arrangement



Arch Concrete Dams

Mauvoisin Dam, Switzerland

Gordon Dam, Australia

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Alternatives Outside the Susitna Basin

Alternative Investigated	Estimated Total Cost of Project ($ million 1982)	Total Installed Capacity of Alternative (MW)	Average Annual Energy of Alternative (GWh)
Johnson	319	210	920
Chakachamna	905	333	1,300
Snow	305	100	375
Keetna	519	100	420
Browne	681	100	418

Hydro Alternatives

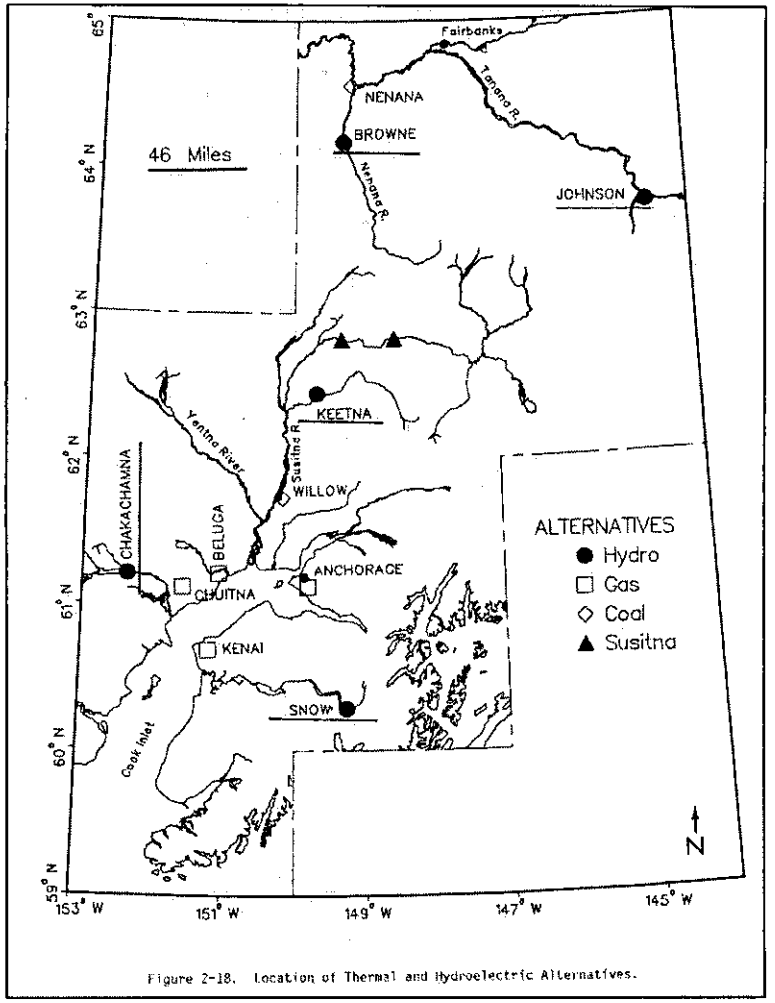


Figure 2-18. Location of Thermal and Hydroelectric Alternatives.

1700

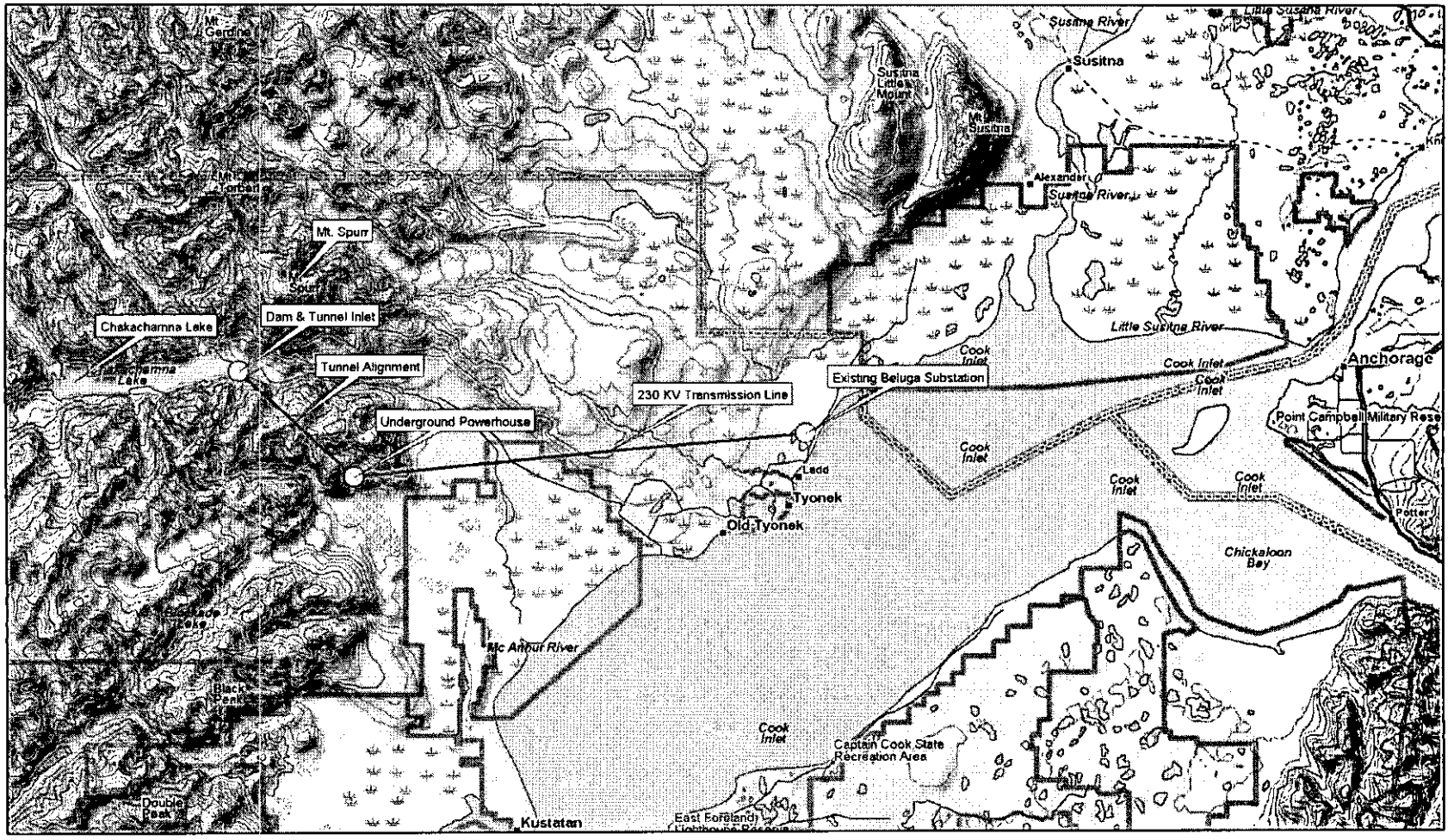
Chakachamna Hydropower Investigations

▪ Department of Interior	Late 1940s	Reconnaissance
▪ U.S. Army Corps of Engineers	1970s	Reconnaissance
▪ Alaska Power Authority	Early 1980s	Pre-feasibility
▪ TDX Power	2006	FERC permit

Chakachamna Hydro Power

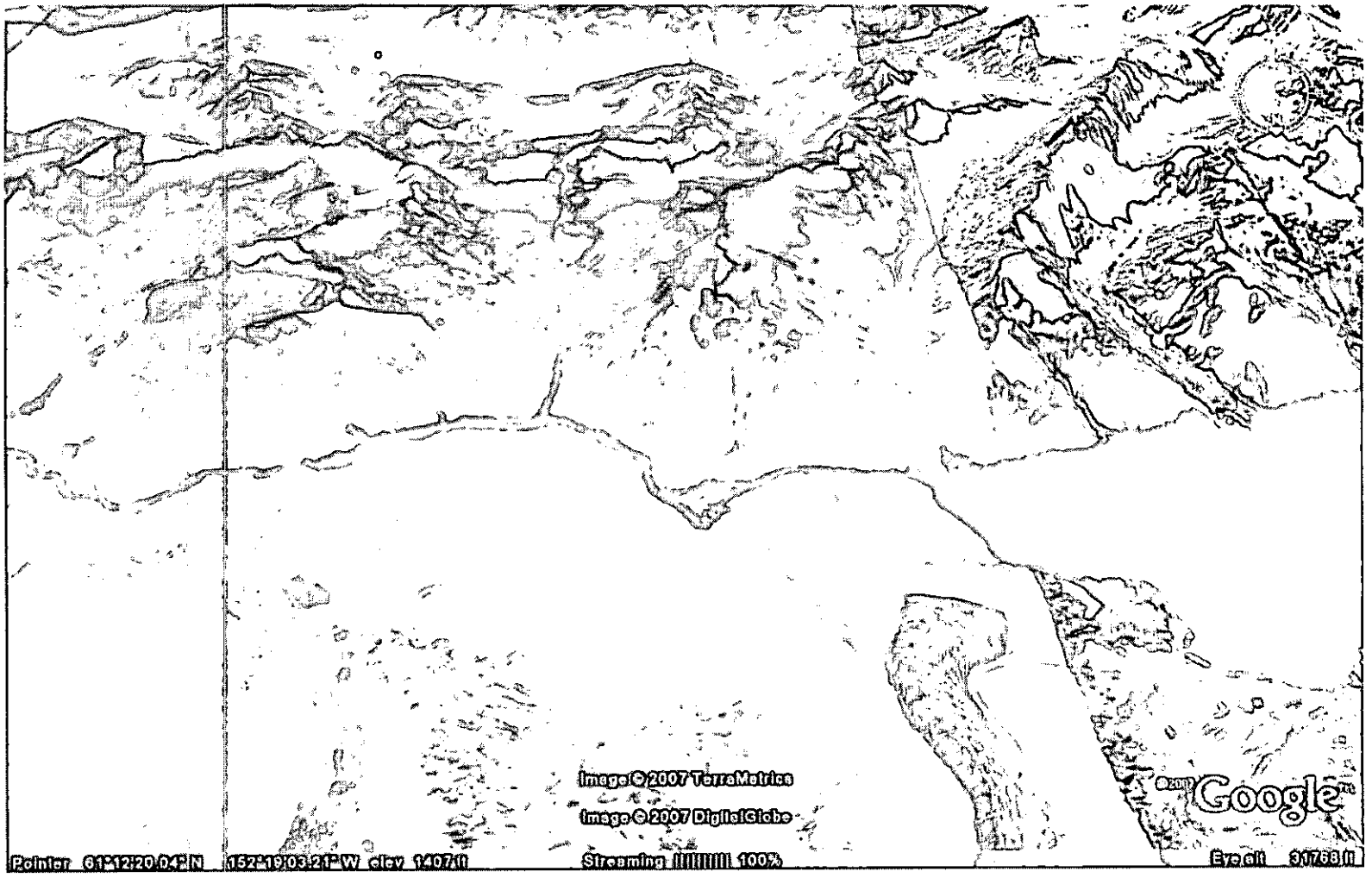
- Studied by Alaska Power Authority in early 1980's
- Being evaluated by TDX Power for Railbelt Utilities
- High head lake tap – 12 mile power tunnel
- No dam
- 330 MW creating 1.6 billion KWH annually
- Total cost of project in 2008 dollars = $1.7 billion
- Project is 40 miles from Chugach T-line at Beluga

Chakachamna Project Location



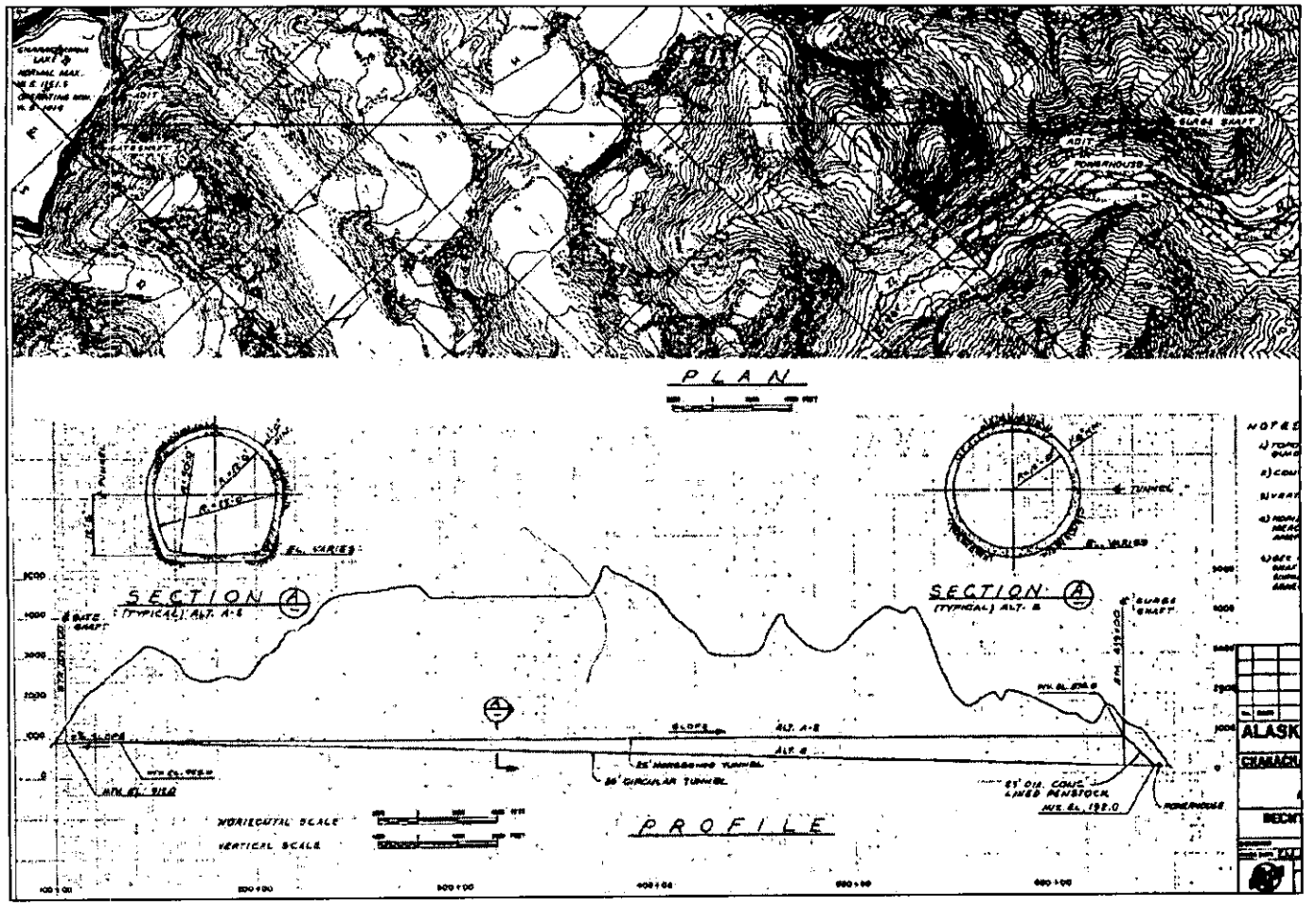
Chakachamna Aerial View

Chakachamna Dam Site

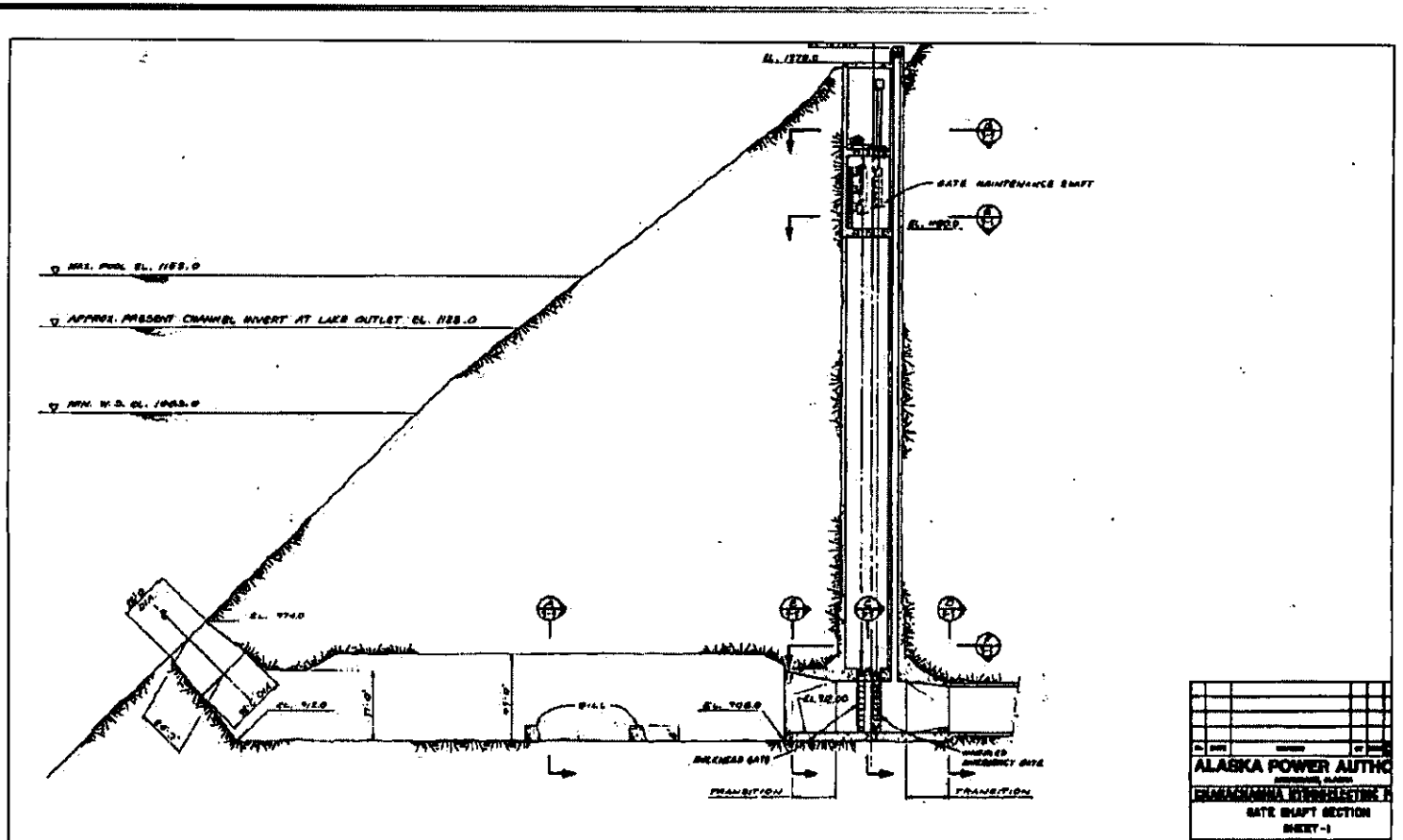


Power Plant Site

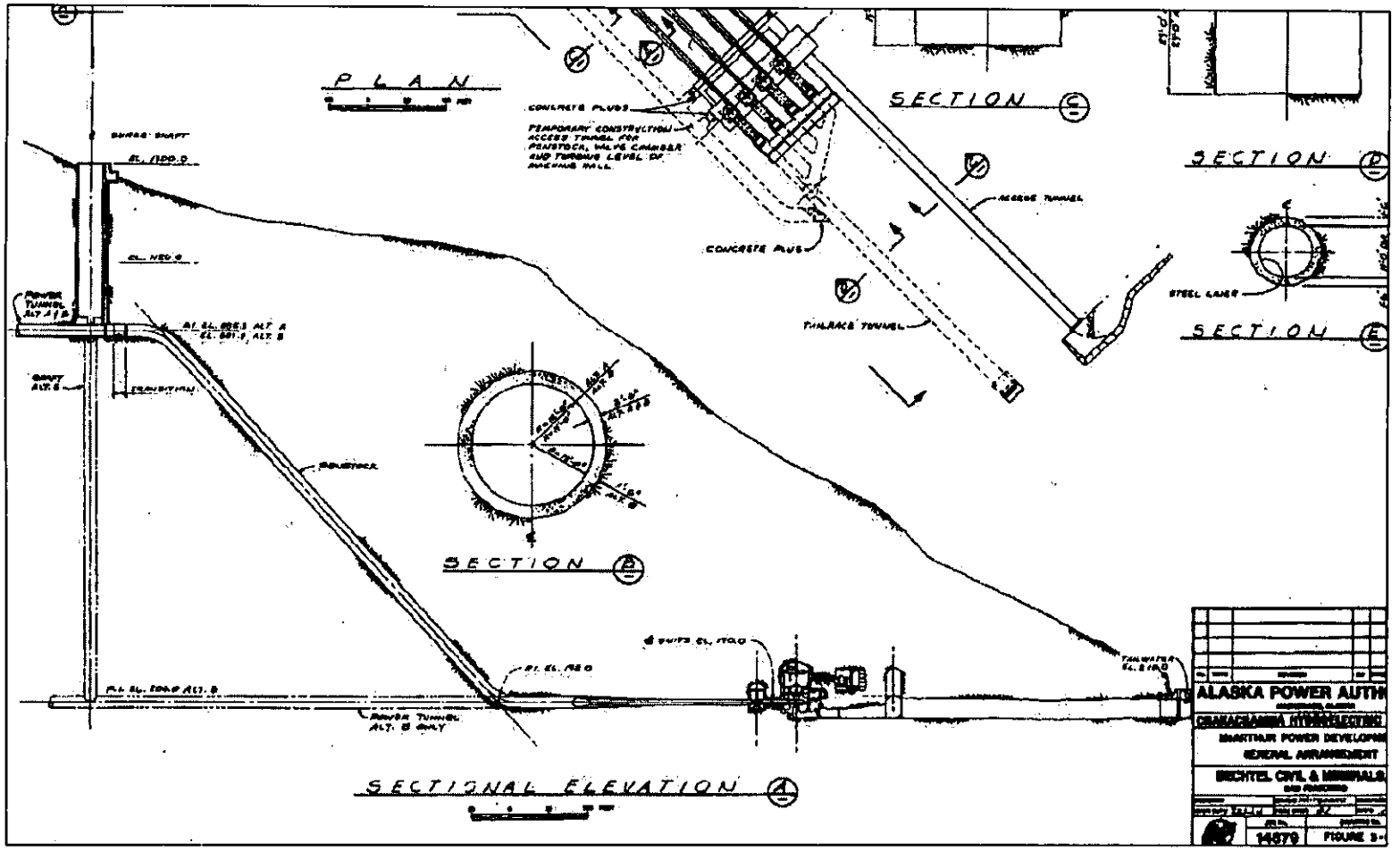
Chakachamna Selected Plan



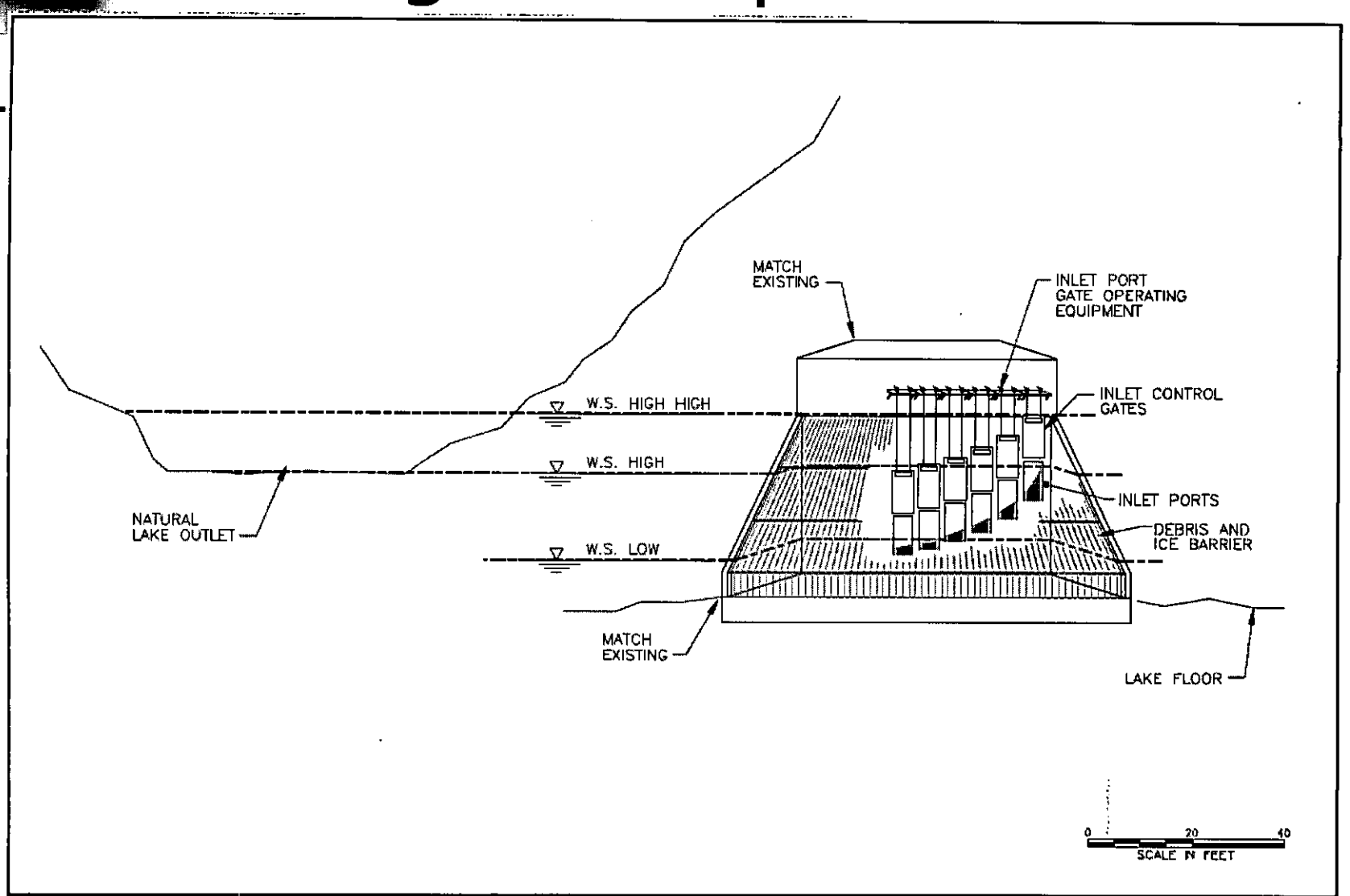
Chakachamna Lake Tap Gate Shaft Inflow to Power Tunnel



McArthur River Underground Powerhouse (Chakachamna)



Fish Passage Concepts



HDR | FISHPRO

DATE: October 2008

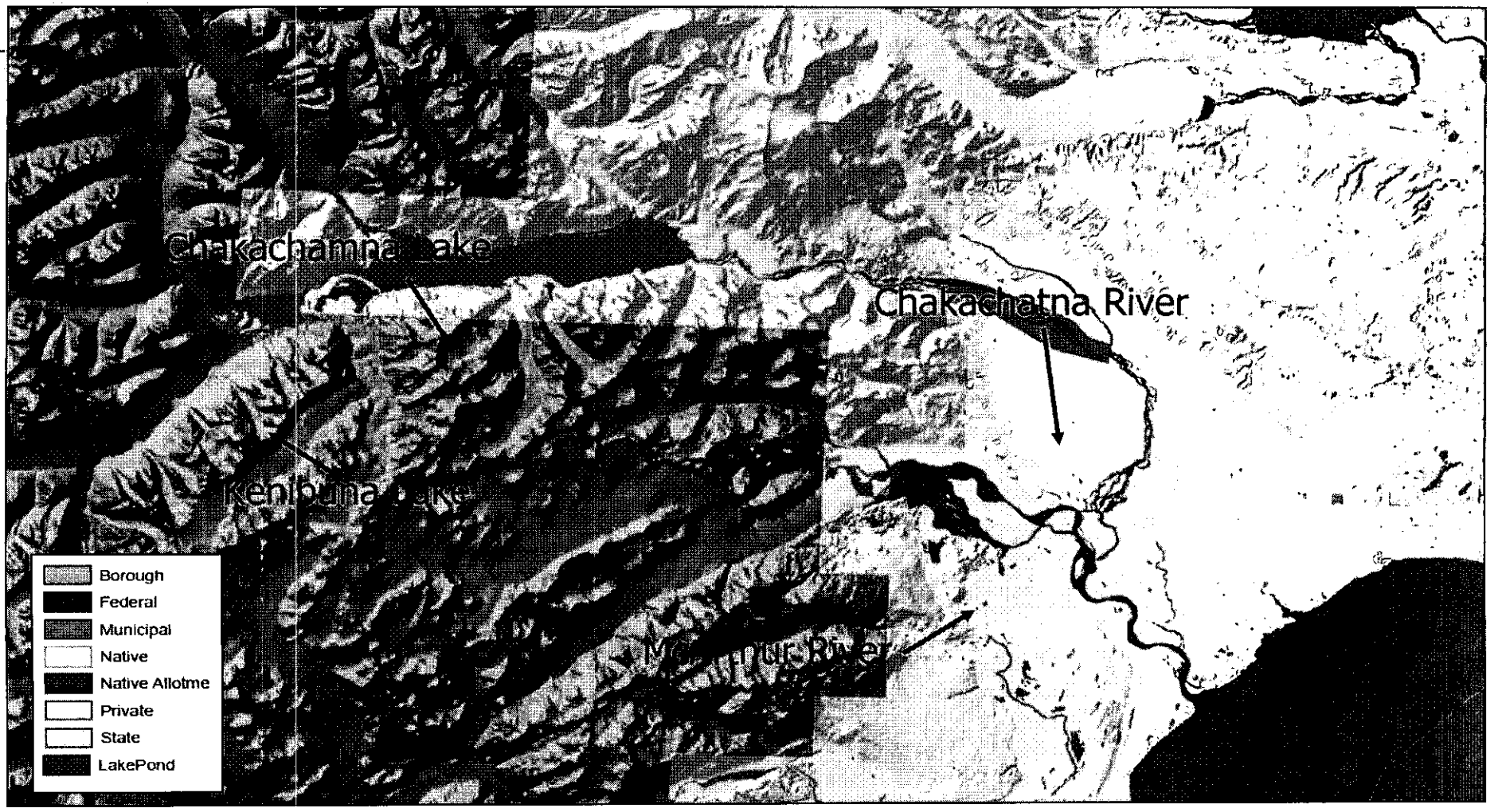
Chakachamna Fish Bypass Structure

ELEVATION

FIGURE 2

Land Status

- State
- Federal
- Borough
- Tribal
- Other Land Designations
  - Kenai Peninsula Borough
  - Trading Bay State Wildlife Refuge
  - Lake Clark National Park and Preserve



Project Area Landownership

CHAKACHAMNA FISHERIES

- 5 species of salmon use the basin
- Sockeye the main salmon species
- Dolly Varden ubiquitous in the streams
- Lake trout observed in lake
- Not a large anadromous fishery but worthy of protecting
- Fish passage at lake outlet required
- Possible temperature enhancement to river

1982 FISH INVESTIGATIONS

Chakachatna Drainage Basin	
Sockeye	43,637
Chinook	1,422
Pink	8,263
Chum	1,920
Coho	2,599

McArthur Drainage Basin	
Sockeye	34,933
Chinook	2,167
Pink	19,777
Chum	29
Coho	4,729

Cook Inlet Sockeye2007 Fish Runs

	Run	
System	**Run**	
Crescent River	109,000	
Fish Creek	37,000	
Kasilof River	1,247,000	
Kenai River	2,411,000	
Susitna River	487,000	
Minor Systems	644,000	
*Chakachamna (1982)	78,000	

CHAKACHAMNA WILDLIFE

- 56 species of birds
- 16 species of mammals
- Moose, wolves, lynx, bear, wolverine, other fur bearers
- None on the endangered species list
- Less impact than other hydro projects of similar size

Geotechnical Considerations

- Seismic – Castle Mountain Fault
- Volcanic – Mount Spurr (1992 & 1953 eruptions)
- Glacial – Barrier, Blockade, McArthur, Shamrock

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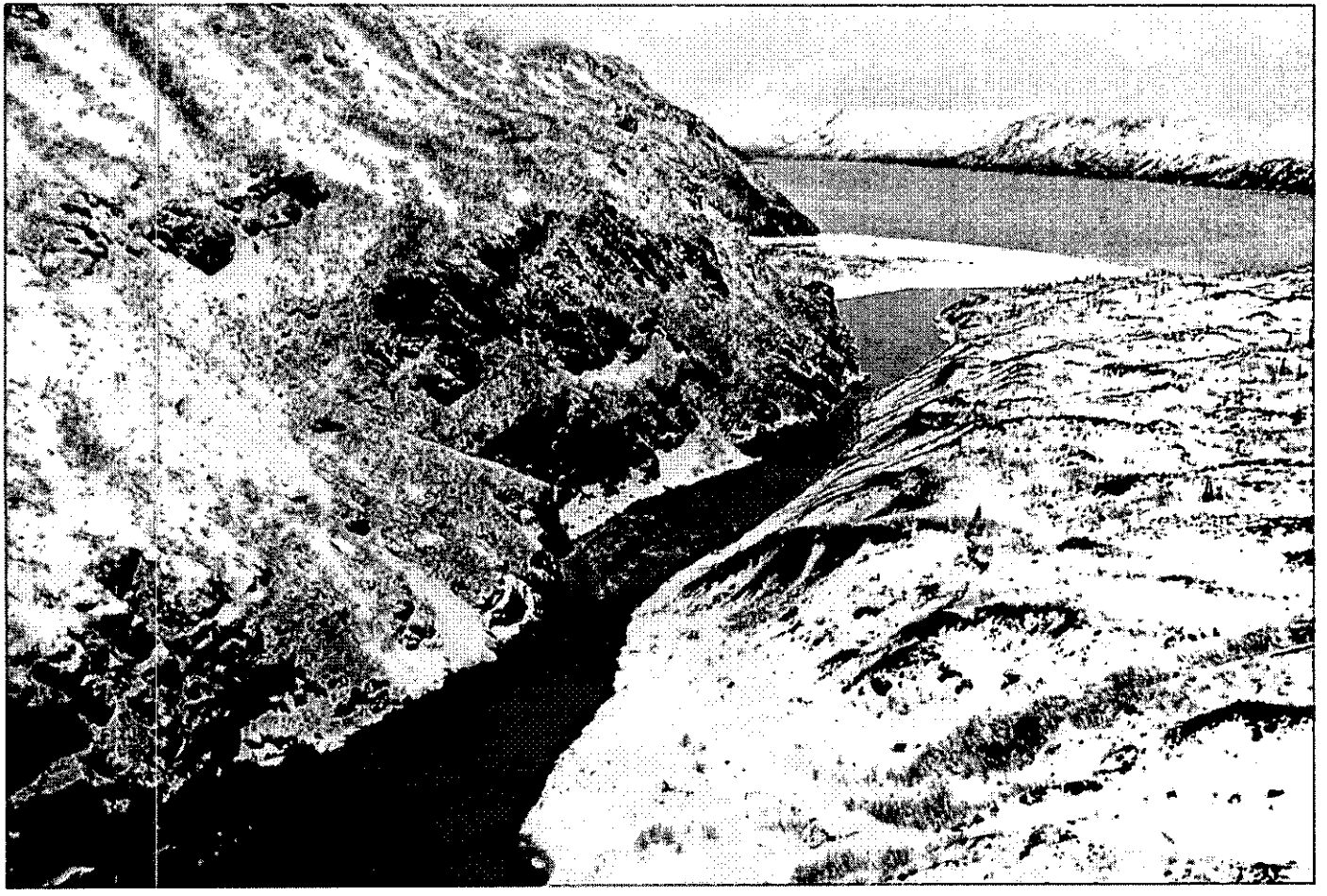
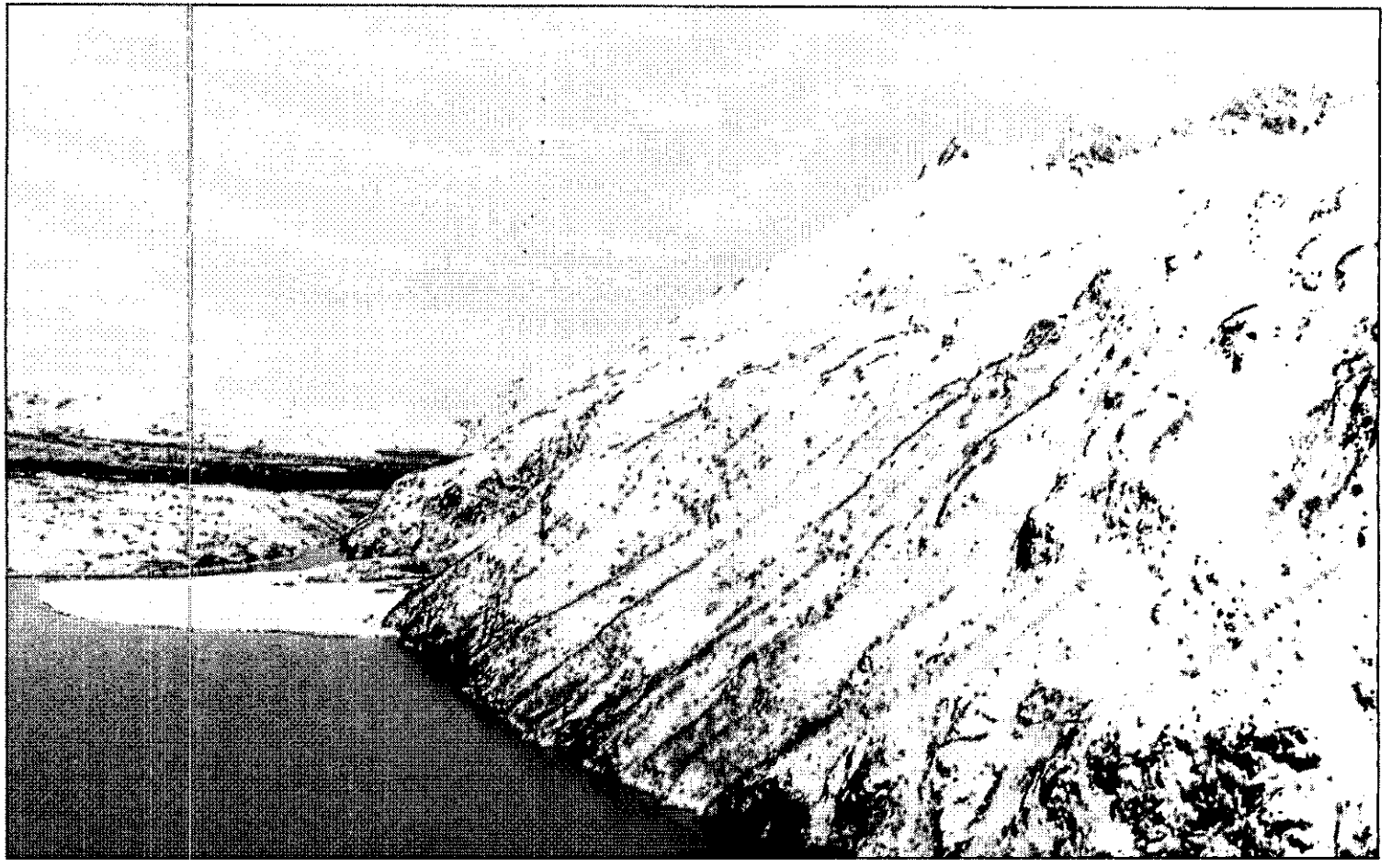
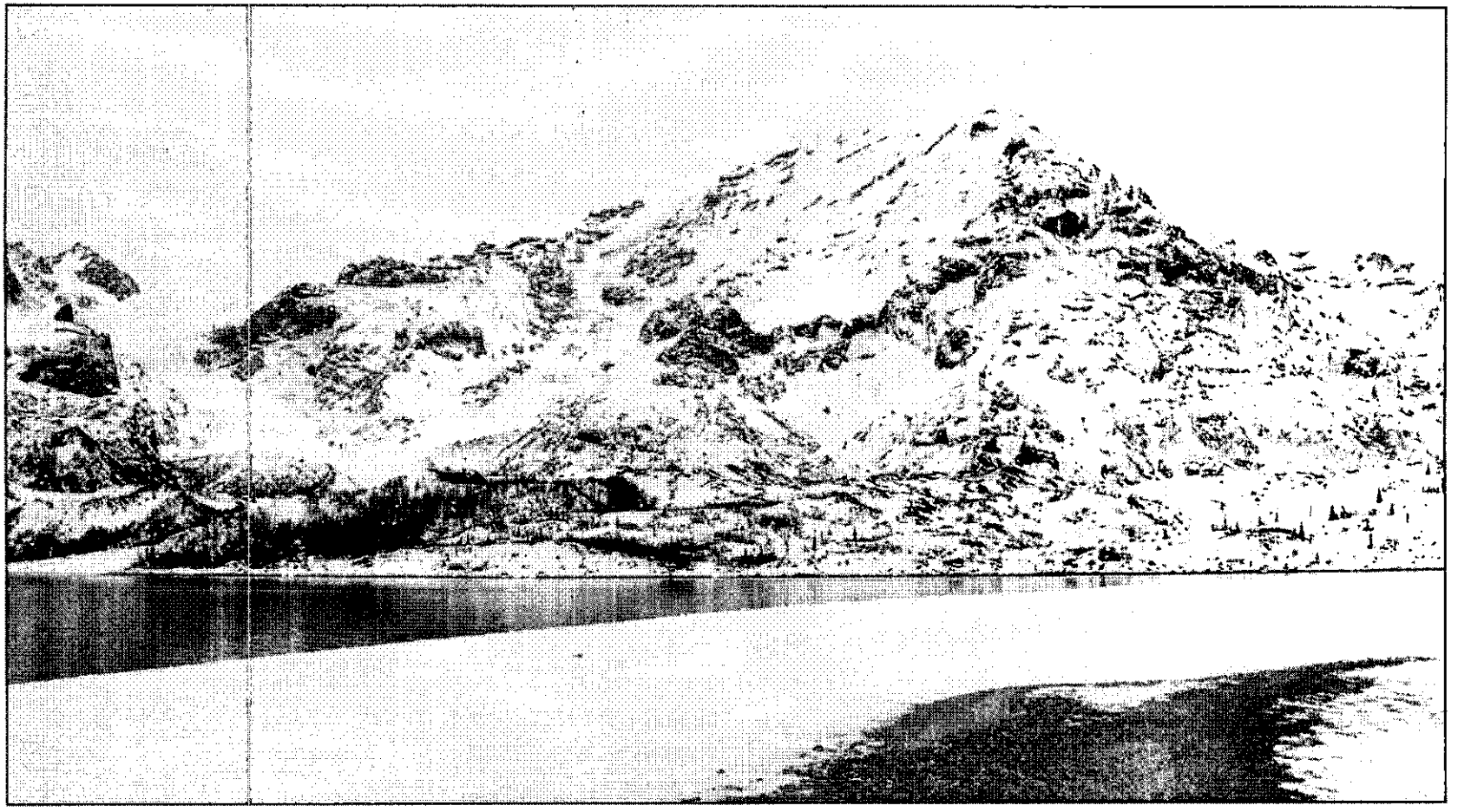
CHAKACHAMNA LAKE OUTLET



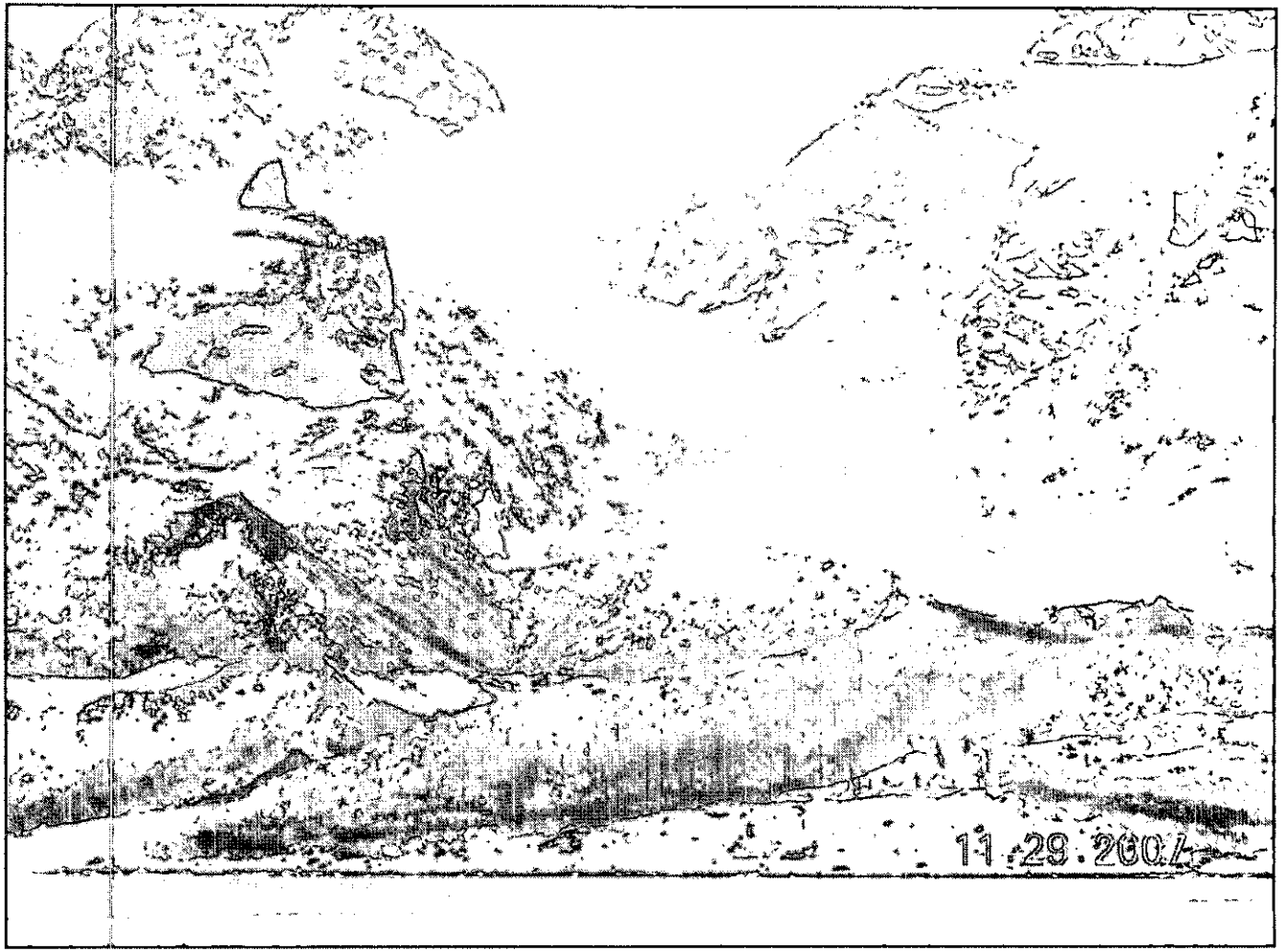
CHAKACHAMNA LAKE OUTLET



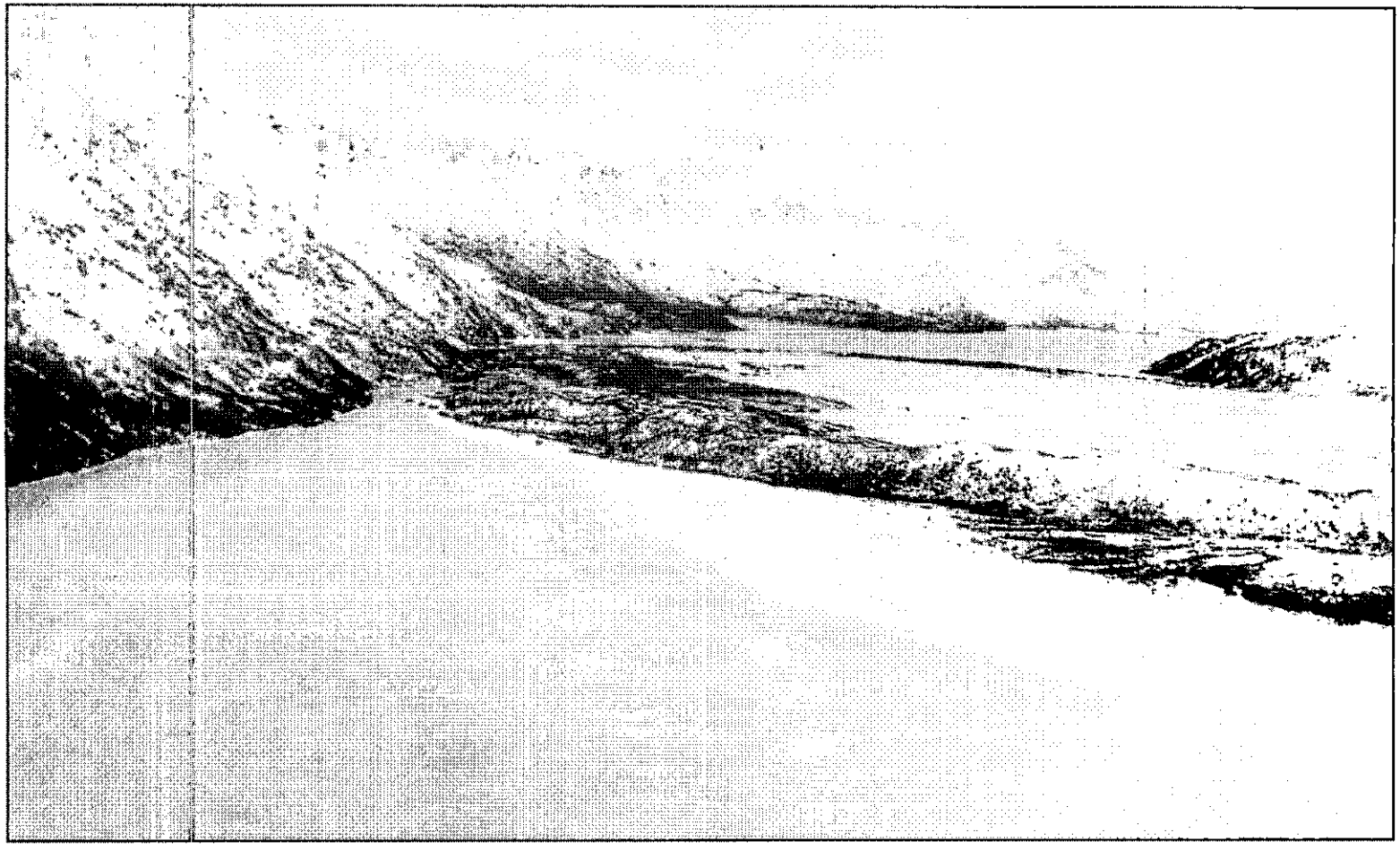
MT. SPURR GEOTHERMAL



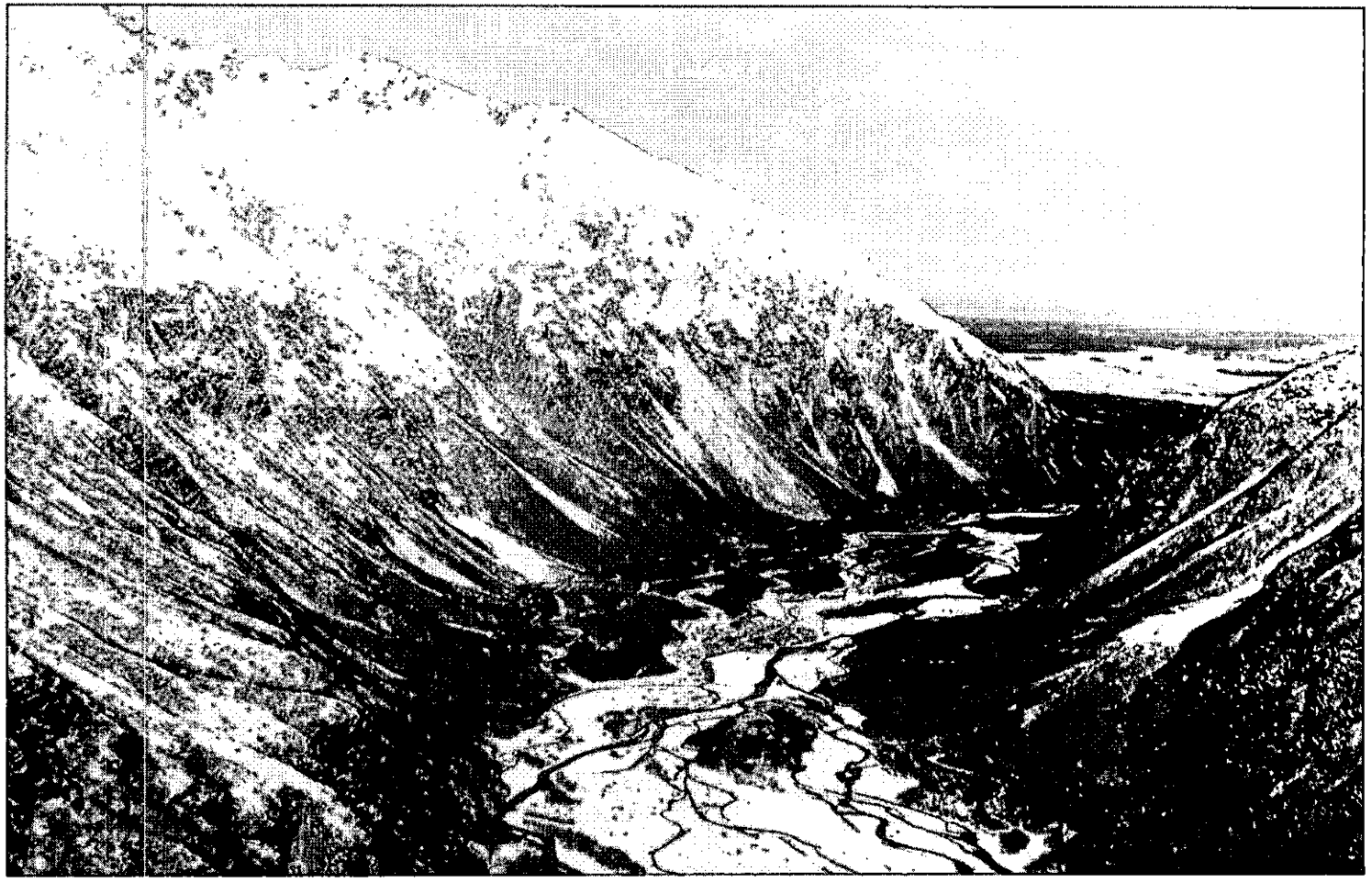
BARRIER GLACIER



KENIBUNA LAKE



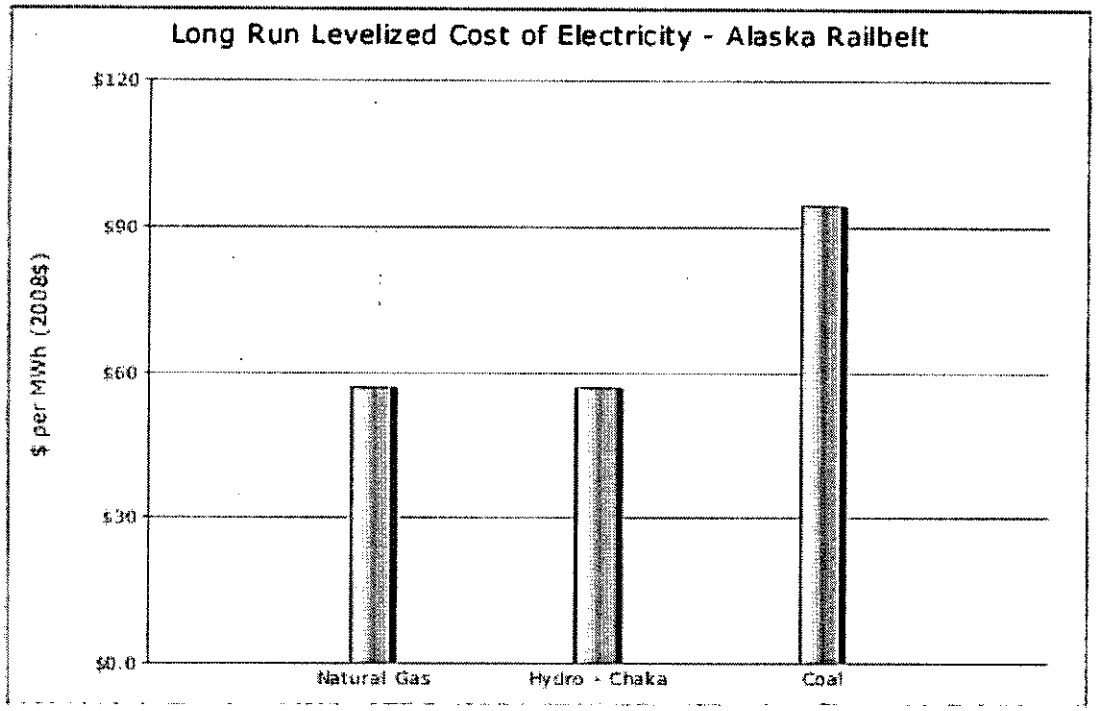
McARTHUR RIVER POWERHOUSE SITE



McARTHUR RIVER UNDERGROUND POWERHOUSE

Economic/Financial

- 1.6 Bkwh annual power production
- One third of the present Railbelt demand
- $1.7 Billion – 2008 dollars
- Debt Financing
- State Equity


Long Run Levelized Cost of Electricity - Alaska Railbelt
$120
$90
$60
$30
$0.0
$ per MWh (2008$)
Natural Gas
Hydro - Chaka
Coal
Real Discount Rate
3%
Long Run Natural Gas Price ($/MMbtu)
$5.00
CO2 Emissions Cost ($/tonne)
$12.00

Next Steps

■ Preliminary permit investigations	36 months
■ FERC licensing	18-36 months
■ Project construction	54 months
■ Power on line	2017

SUSITNA & CHAKACHAMNA COMPARED

Susitna	Chakachamna
6.5 billion KWH energy	**1.6 billion KWH**
$5.4 billion construction cost (1985$)	**$1.7 billion construction cost (2008$)**
880 foot dam at Watana **664 foot dam at Devil Canyon** **$1 billion for new transmission lines**	**No Dam** **12 mile power tunnel** **$90 million for new transmission lines**
Power on line 2024	**Power on line 2018**
Reservoirs floods 45,500 acres **90 miles of stream channel**	**Existing lake--no additional land flooded**

Hydropower Summary

- Significant Hydropower Potential
- State of Alaska Studying Susitna
- TDX Power Pursuing Chakachamna
  - Expensive
  - Long lead time
  - Requires utility support

2/25/09 MINING INDUSTRY BRIEFING

The Economic Benefits of

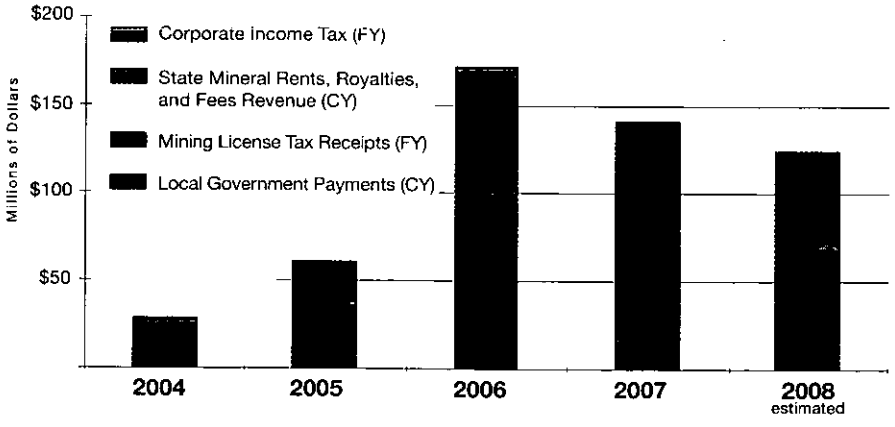
Alaska's Mining Industry

Mining is a growing force in Alaska's economy, providing jobs for thousands of Alaskans and millions of dollars of personal income throughout Alaska. Alaska's mining industry includes exploration, mine development, and mineral production. Alaska's mines produce zinc, lead, gold, silver, coal, as well as construction materials, such as sand, gravel, and rock.

In 2008, Alaska's mining industry provided:

- **3,500 direct** mining **jobs** in Alaska.
- **5,500 total** direct and indirect **jobs** attributed to Alaska mining industry.
- **$350 million** in direct and indirect **payroll**.
- Some of Alaska's highest paying jobs with an estimated **average annual wage of $82,600**, 90% higher than the state average for all sectors of the economy, second highest after oil and gas sector wages.
- **$15.6 million** in **local** government **revenue** through property taxes and payments in lieu of taxes, down 1% from 2007.
- **$105 million** to the **state** government through rents, royalties, fees, and taxes, down 17% from 2007.
- **$212 million** in payments to **Alaska Native corporations** (FY08) up 266% from FY07.
- **Jobs** for residents of more than 120 communities throughout Alaska– mostly year-round, and often in **rural areas**, where few other jobs are available.

State and Local Government Revenue Impact



2008 Economic Benefits

estimated

Exploration

- **$293 million** spent on exploration, **down 8%** from 2007.
- **59 exploration projects** spending more than **$100,000**, of which 30 exploration projects spent **more than $1 million.**

Development

- **$331 million** spent on mine construction, up 7% from 2007, on at least 7 developing and existing mines.

Production

- **$2.4 billion** in **gross mineral production value** from Usibelli Coal, Greens Creek, Red Dog, Fort Knox, and Pogo mines, placer mines, and rock, sand, and gravel operations, down 27% from 2007.
- More than **175 placer mines** produced **54,000 ounces of gold.**
- **$102 million** in production value from more than **117 active rock quarries, and sand and gravel operations.**

Exports (2007)

- **$1.3 billion** in mining exports, or **34% of Alaska's total exports.**

Usibelli Coal Mine

Coal

- Alaska's only operating coal mine, exporting a third of its production in 2008
- Fuels 40% of Interior Alaska's electricity
- Founded in 1943
- 110 employees

Greens Creek Mine

Silver, zinc, gold, and lead

- One of the largest silver producers in North America
- Largest taxpayer in the City & Borough of Juneau
- Discovered in 1979, producing from 1989 to 1993, and since 1996
- 320 employees

Red Dog Mine

Zinc, lead, and silver

- World's largest zinc concentrate producer
- Largest taxpayer in the Northwest Arctic Borough
- Discovered in 1968, producing since 1989
- 390 employees, plus 95 full-time contractors in 2008

Fort Knox Mine

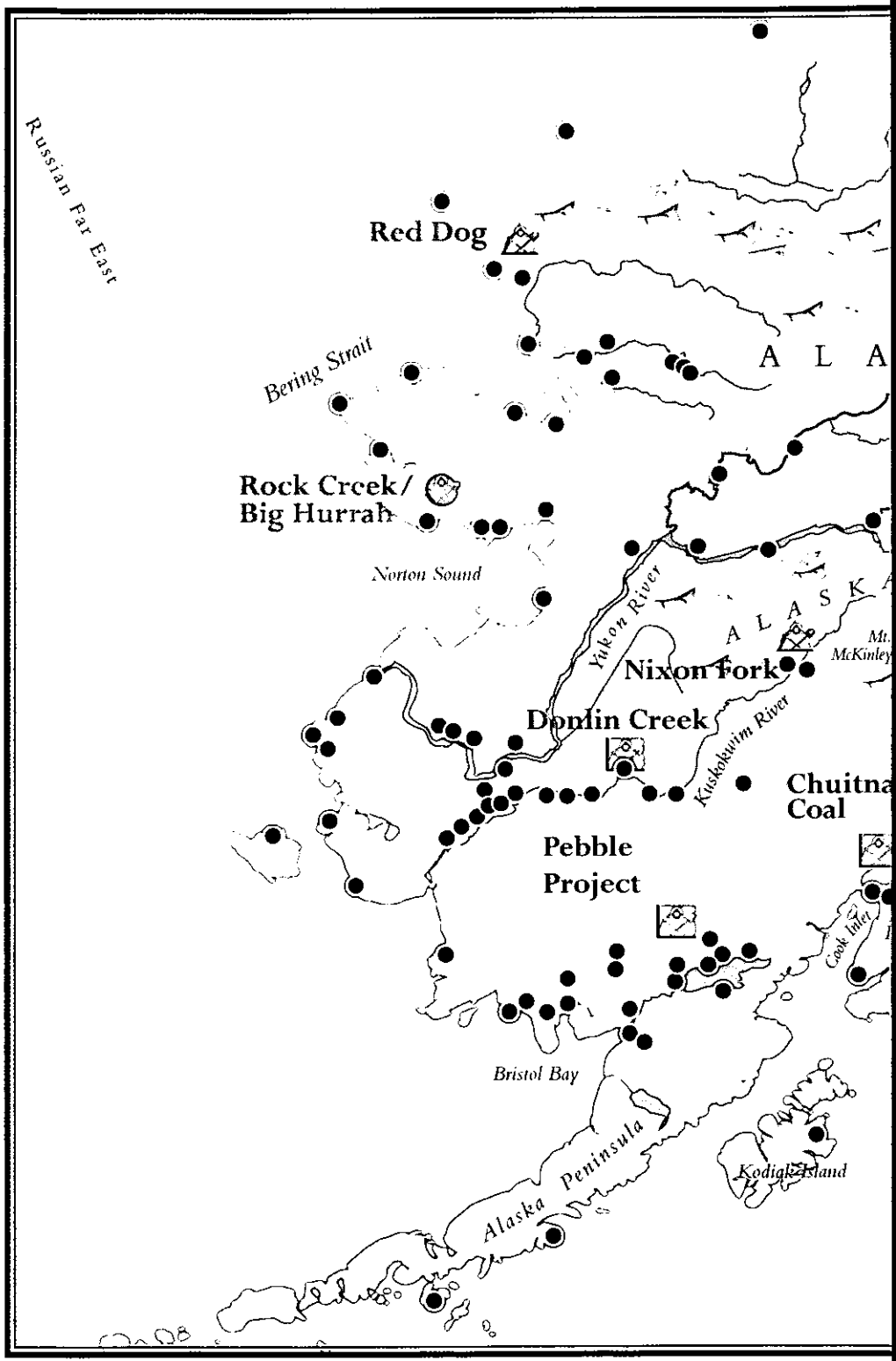
Gold

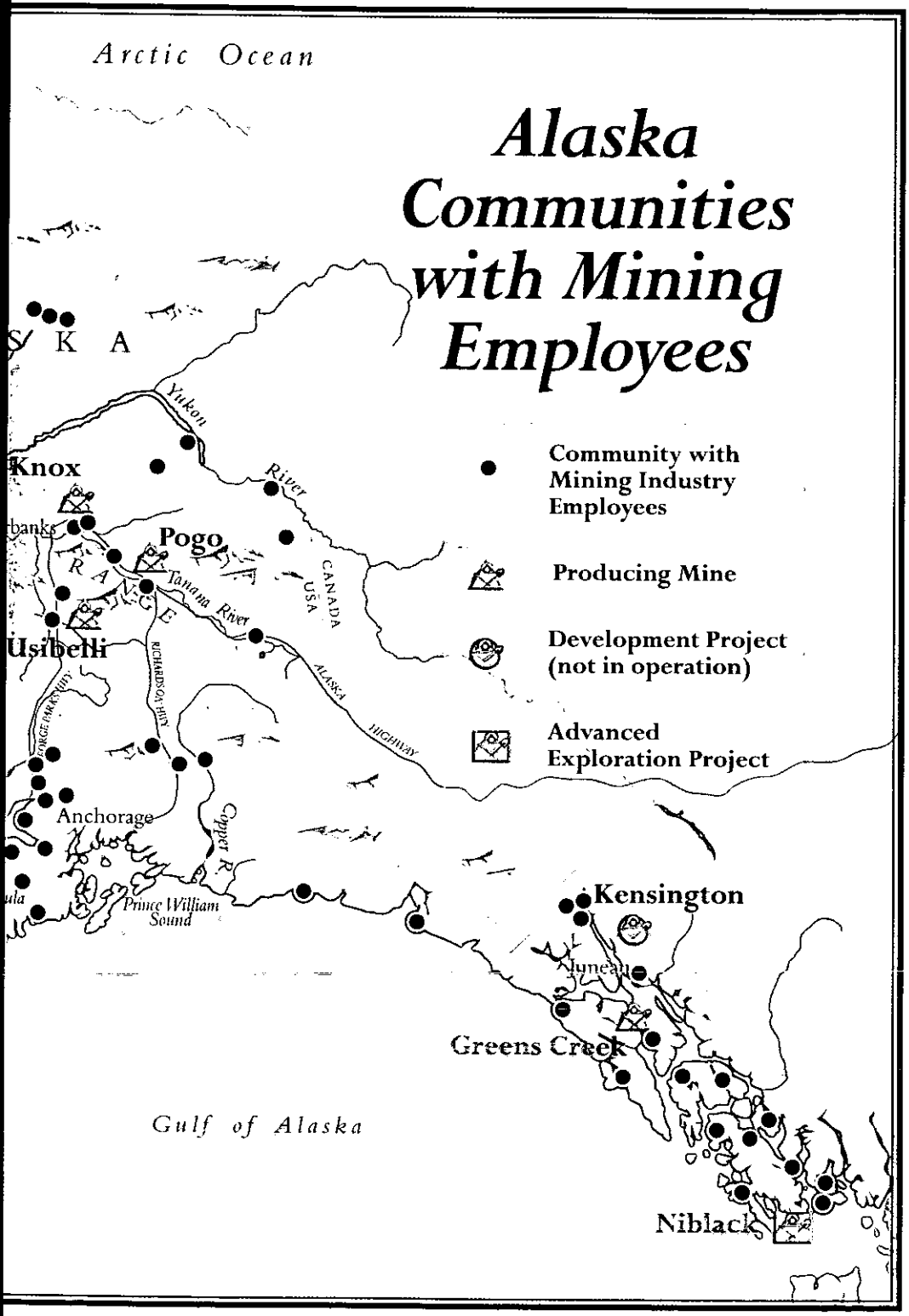
- Alaska's largest surface gold mine
- Largest single property taxpayer in the Fairbanks North Star Borough
- Discovered in 1984, producing since 1996
- 450 employees, plus 30 full-time contractors in 2008

Pogo Mine

Gold

- Approximately 700,000 ounces produced 2006 through 2008
- Significant private sector payments to the City of Delta Junction
- Discovered in 1994, producing since 2006
- 280 employees, plus 60 full-time contractors in 2008





Nixon Fork

Gold and copper

- Discovered in 1917, intermittent exploration since 1920s
- Production suspended in 2007 for additional drilling
- 75 potential production jobs

Rock Creek/Big Hurrah

Gold

- Started and suspended production in 2008
- $156 million invested through 2008
- 135 potential production jobs

Kensington

Gold

- $238 million invested through 2008
- 200 potential production jobs

Chuitna Coal

Coal

- Currently in the permitting process
- 300-350 potential production jobs

Donlin Creek

Gold

- Discovered in 1988, ongoing exploration since 1995
- 210 exploration jobs in 2008, 86% Calista shareholder hire
- 500-600 potential production jobs

Niblack

Gold, silver, copper, and zinc

- Ongoing exploration for more than 10 years
- Over $20 million invested through 2008

Pebble Project

Copper, gold, and molybdenum

- Discovered in 1987, ongoing exploration and environmental studies since 2002
- Over $300 million invested through 2008
- Over 1,000 potential production jobs

Alaska Miners Association, Inc. • 3305 Arctic Blvd., #105 • Anchorage, Alaska 99503
TEL: 907.563.9229 • FAX: 907.563.9225
WEB: www.alaskaminers.org

Strengthening Government and Communities

Mining companies strengthen Alaska's local economies by employing Alaska residents from more than 120 Alaska communities, and purchasing supplies and services from hundreds of Alaska businesses.

These mining companies are also an important source of stable revenue for local governments, as well as significant state government revenue. In 2008, Alaska's mining industry paid:

An estimated total of **$15.6 million** to **local governments**, including:

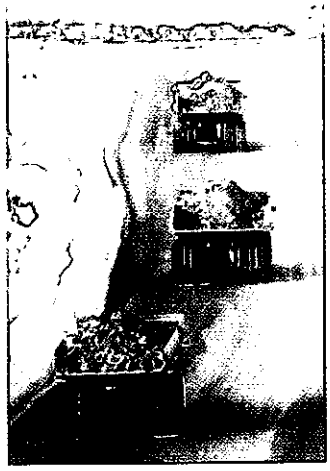
- **$11 million** in payment in lieu of taxes (PILT) by Red Dog to the Northwest Arctic Borough.
- **$2.8 million** in property taxes paid by Fort Knox to the Fairbanks North Star Borough.
- Over **$1 million** in property taxes paid by Greens Creek to the City and Borough of Juneau.
- **$500,000** in PILT paid by Pogo to the City of Delta Junction (FY08).
- **$295,400** in property taxes paid by Kensington to the City and Borough of Juneau. Once in production, the mine will be the largest taxpayer in Juneau.
- Tax payments to other local governments, including Denali Borough, City of Nome, and others.
- Mining industry employees also pay local property and sales taxes.

Largest Producing Mines State and Local Government Tax Obligations

	Land Status	State Royalty Payments	Mining License Tax	Local Govt Payments
Usibelli Coal	State	√	√	√
Greens Creek	Private		√	√
Red Dog	Private		√	√
Fort Knox	State/Mental Health Trust	√	√	√
Pogo	State	√	√	√

An estimated **$105 million to state government** in rents, royalties, fees, and taxes, including:

- **$55 million** in mining license tax, rents, royalties, fees, and other payments.
- **$50 million** in corporate income tax, making mining **Alaska's second highest corporate income tax paying sector** after the petroleum sector.



Over **$42.1 million in other state government-related revenues**, including:

- **$18.5 million** to the Alaska Railroad Corporation – $11.2 million for moving coal and $7.3 million for moving sand and gravel.
- **$22.0 million** to Alaska Industrial Development & Export Authority for the use of state-owned facilities.
- **$1.6 million** to the Alaska Mental Health Trust for rents and royalty payments, and construction material sales.

Partnering with Alaska Native Corporations

All Alaska Native corporations benefit from mining industry activity – in 7(i) and (j) **royalty sharing payments**, in **jobs** for shareholders, or through **business partnerships**.

- **$212 million** in royalties paid by Red Dog to NANA; of which $122 million was redistributed to other Alaska Native regional and village corporations
- 56% of the 485 year-round jobs at Red Dog are filled by NANA shareholders, including Teck Cominco, NANA Lynden and NANA Management Services jobs.
- Calista Corporation anticipates $700,000 in royalties for mineral agreements, including lode exploration, placer gold production, and construction material sales.
- 86% of the 210 jobs at Donlin Creek Project filled by Calista shareholders.

Projects with near-term potential will directly benefit Bering Straits Native Corporation and Sitnasuak Native Corporation (Rock Creek), as well as Goldbelt, Inc., Klukwan, Inc., and Kake Tribal Corporation (Kensington).

Special thanks to Rich Hughes, Minerals Development Specialist, Alaska Department of Commerce, Community and Economic Development, and Dave Szumigala, Senior Minerals Geologist, Alaska Department of Natural Resources for their assistance. Other sources used in this report include: State of Alaska Departments of Commerce, Community and Economic Development, Labor and Workforce Development, Natural Resources, and Revenue, Alaska Railroad Corporation, Alaska Industrial Development & Export Authority, various local and borough governments, and mining companies. Prepared by McDowell Group, Inc.

ALASKA MINERS ASSOCIATION, INC.

Issues of Concern to the Alaska Mining Industry for 2009

Actions needed by the Administration and/or the Legislature: January 2009

INTEGRITY OF PERMITTING PROCESS

Statewide Initiatives - Ensure the requirements for the ballot initiative process are open, transparent and hold proponents accountable.

State Permitting System - Support the integrity of the current, very rigorous, science-based state permitting process.

Water Quality – Support ADEC implementation of the new approved APDES program.

Water Quality Standards - Continue to revise water quality standards to ensure: 1) availability of mixing zones, 2) standards are scientifically supportable and developed using Alaska-specific criteria, and 3) are sufficient to protect water quality.

Air Quality Program - The Administration contract with air permitting experts to recommend changes that will improve DEC permit review time and address the other challenges faced by this program.

Non-Profit Foundation Money - Enact legislation to require disclosure whenever funds from 501(c)(3) non-profit foundations are involved, to include name of the source, amounts and purpose for which the moneys are given.

Wetlands - Petition the federal government to develop regulations that strictly follow the U.S. Supreme Court decisions in SWANCC, Rapanos, etc.

FISCAL ISSUES

Taxation - Maintain an equitable and stable tax structure at state and local government levels to ensure Alaska industry remains world competitive.

State Agency Funding - Provide sufficient funding for the minerals and permitting functions of the Departments of Natural Resources; Commerce, Community & Economic Development; Fish & Game; and Environmental Conservation.

Permitting Agencies - Increase salary and benefits for state agency personnel involved in minerals permitting and management so they are competitive with industry.

State Fiscal Policy - Adopt a long range fiscal plan.

State Land Entitlement - Support continued funding for DNR to process final transfer of lands from BLM.

Annual Airborne Geophysical Mapping Program - Accelerate the extremely effective program of State investment in airborne geophysical mapping along with baseline water quality mapping.

Mineral Education - Continue to support mining engineering and geological engineering, geology, the Mining and Petroleum Training Service (MAPTS), and the Delta Mine Training Center (DMTC) at levels that will ensure continued accreditation and continue funding the State's share of AMEREF (Alaska Mineral & Energy Resources Education Fund).

LAND MANAGEMENT ISSUES

State Lands - Ensure no net loss of multiple use lands and require that additions to any state parks, refuges, critical habitat areas, marine restricted areas, or any other restricted-use areas, be made only if an equal acreage of other lands already having the same designation is released and the new area being designated is first evaluated for mineral potential.

Land Transfers - Prior to any state land transfers to boroughs, land disposals/sales, or leases not required for resource development, require a detailed mineral evaluation, to include airborne geophysical surveys,

be completed to help ensure that mineralized lands or key access routes are not transferred.

Outdated Federal Withdrawals - Pursue removal of old federal land withdrawals (where purpose for withdrawal has expired) which are blocking land transfers to the State, such as PLO 5150, the outer pipeline corridor. Encourage BLM to remove such PLOs and open the lands through its land planning process.

New Federal Withdrawals - Oppose all new federal land withdrawals, roadless initiatives, marine restricted areas, Antiquities Act designations, BLM wilderness studies, etc. and fight vigorously against additional buffers or other restrictions to multiple use of federal lands in Alaska. The Alaska National Interest Lands Conservation Act (ANILCA) provides that "no more" federal land will be withdrawn for parks, preserves, monuments, wilderness designations, wild & scenic river designations, etc.

International Heritage & Biosphere Designations - Oppose establishment of international parks, biosphere reserves, and world heritage sites, such as the so-called Beringia (over the Seward Peninsula & Bering Sea), NPRA, or ANWR. International designations would - 1) surrender partial sovereignty to the United Nations, and 2) eliminate access across the affected lands and waters.

Federal Mining Law Issues - Continue to oppose changes to federal law and regulations that would be adverse to Alaska miners.

ACCESS ISSUES

Interties, Roads, Railroads, Ports - Continue investing in development of infrastructure that will help diversify the economy and encourage private investment that would benefit from such facilities.

RS-2477 Rights-of-Way - Continue to systematically and aggressively pursue the rights of the State of Alaska regarding RS-2477 rights-of-way, both administratively and in the courts. Without RS-2477s much of Alaska public lands will never have overland access.

Navigability - Continue to systematically and aggressively pursue recognition of State ownership of and authority over all navigable waters granted under the Statehood Act.

OTHER ISSUES

NEPA - The Administration develop an MOU with the Corps of Engineers to ensure timely coordination of future Environmental Impact Statements.

Energy Plan - Develop a state energy plan that addresses both local and regional needs that considers all energy sources.

Coal Development - Encourage utilization of coal liquefaction and gasification technologies for Alaska's vast coal resources.

Climate Change - Support federal actions only if they are based on sound, peer-reviewed science.

Jones Act - Because Jones Act vessels for bulk mineral shipments are not available, petition Congress to amend the Jones Act to allow use of non-Jones Act vessels for shipment of "non-petroleum bulk natural resources from Alaska".

Endangered Species Act/Essential Fish Habitat - Petition the federal government to develop new ESA and EFH regulations that strictly follow the original intent of these laws.

For further information on the above issues or for information regarding exploration and mining in Alaska please contact:

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www.alaskaminers.org

Annual Mining Industry Briefing

Joint Senate/House Resources Committees

February 25, 2009

Today's Agenda

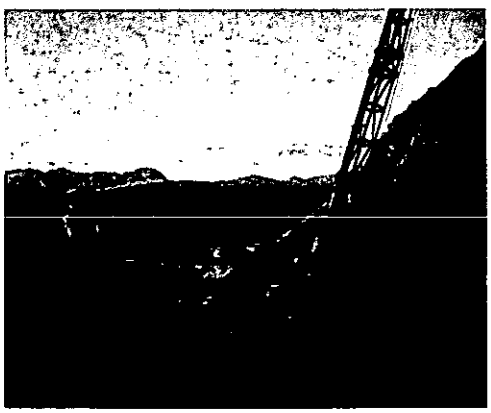
- The Economic Benefits of Alaska's Mining Industry – Jim Calvin, McDowell Group

- Review of Major Mines and Projects
- – Steve Borell, Alaska Miners Association

The Economic Benefits of Alaska's Mining Industry in 2008

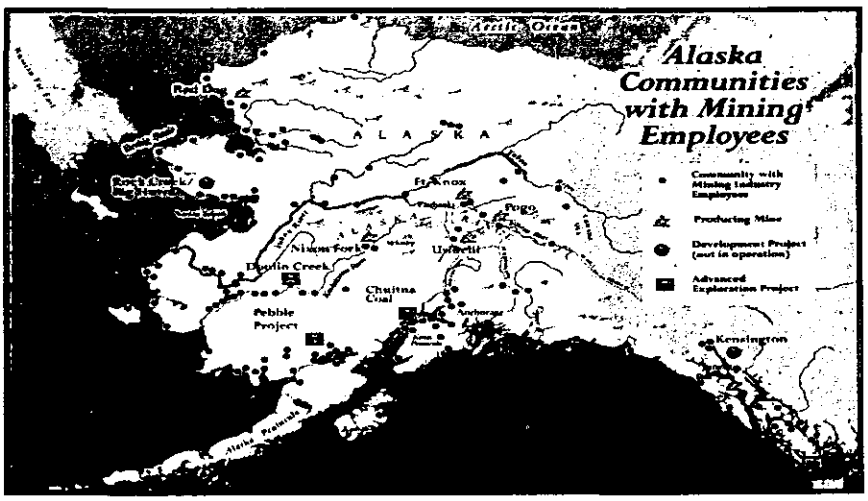
Presented by:
Jim Calvin, Principal
McDowell Group, Inc.
Anchorage • Juneau

Statewide Employment Impacts, 2008 Estimates



- 3,500 direct jobs
- 5,500 total jobs
- $350 million total payroll
- $82,600 average industry wage

Alaska Communities with Mining Employees



Largest Producing Mines
State and Local Government Tax Obligations

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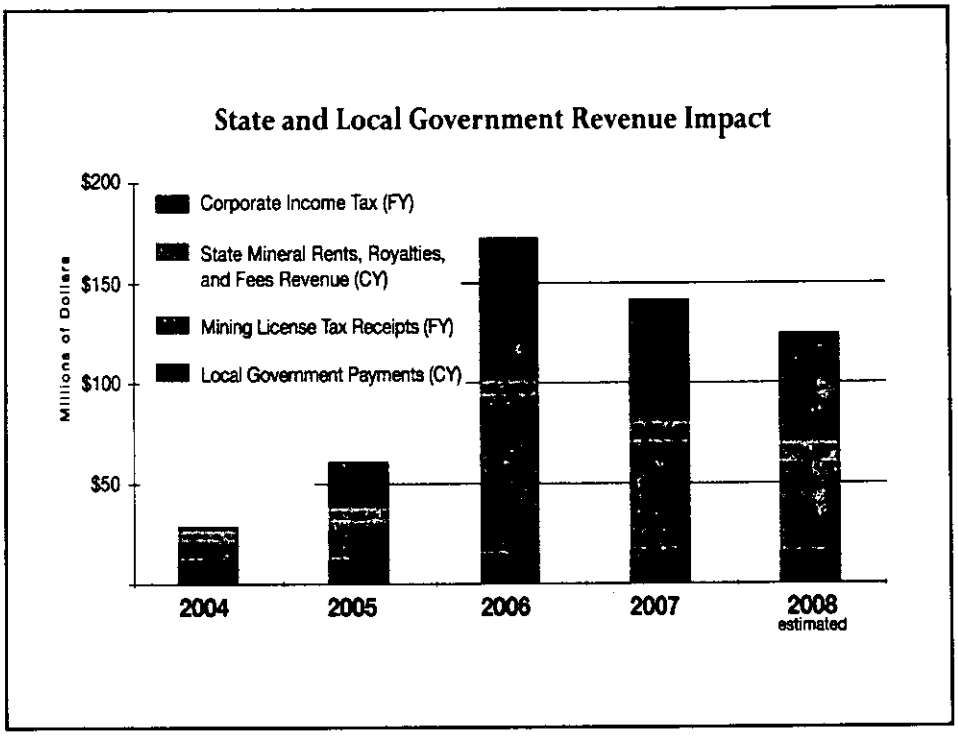
Greens Creek	Private		√	√
Red Dog	Private		√	√
Fort Knox	State/Mental Health Trust	√	√	√
Pogo	State	√	√	√



Payments to Local Government

- $15.6 million to local governments in 2008
  - $11.0 million in PILT to NWAB (Red Dog)
  - $2.8 million in property taxes to FNSB (Fort Knox)
  - $1.3 million in property taxes to CBJ (Greens Creek and Kensington)
  - $500,000 in PILT to City of Delta Junction (Pogo)
  - Additional tax payments to Denali Borough, City of Nome and others

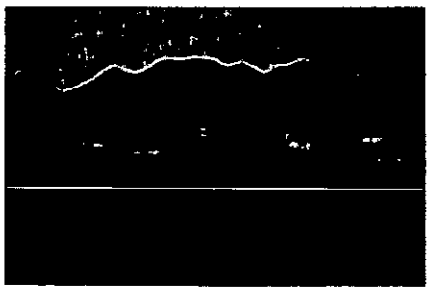
Payments to State Government

- $105 million in *estimated* 2008 state revenue
  - $55 million in mining license tax, rents, royalties, fees and other payments
  - $50 million in corporate income taxes

PLUS…

- $18.5 million to the Alaska Railroad Corporation for moving coal, sand and gravel
- $22 million to AIDEA for use of state-owned facilities (Skagway Ore Terminal and Delong Trans. System)
- $1.6 million to the Alaska Mental Health Trust for rents and royalty payments, and material sales

Rural and Native Benefits



Royalties….

- Red Dog paid royalties of $212 million to NANA in 2008
  - $122 million redistributed to other ANCSA regional and village corporations

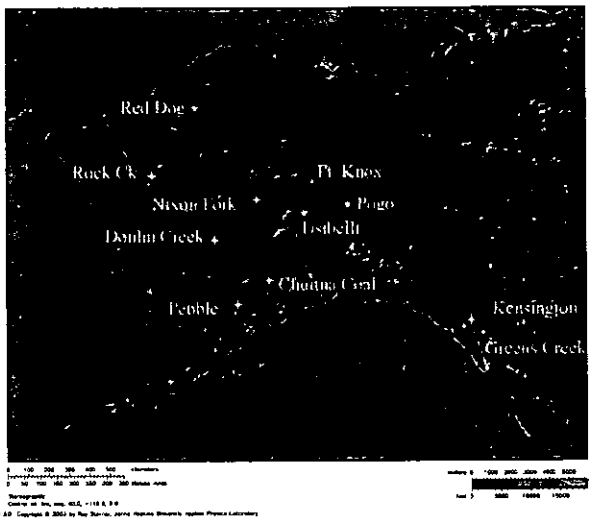
Employment….

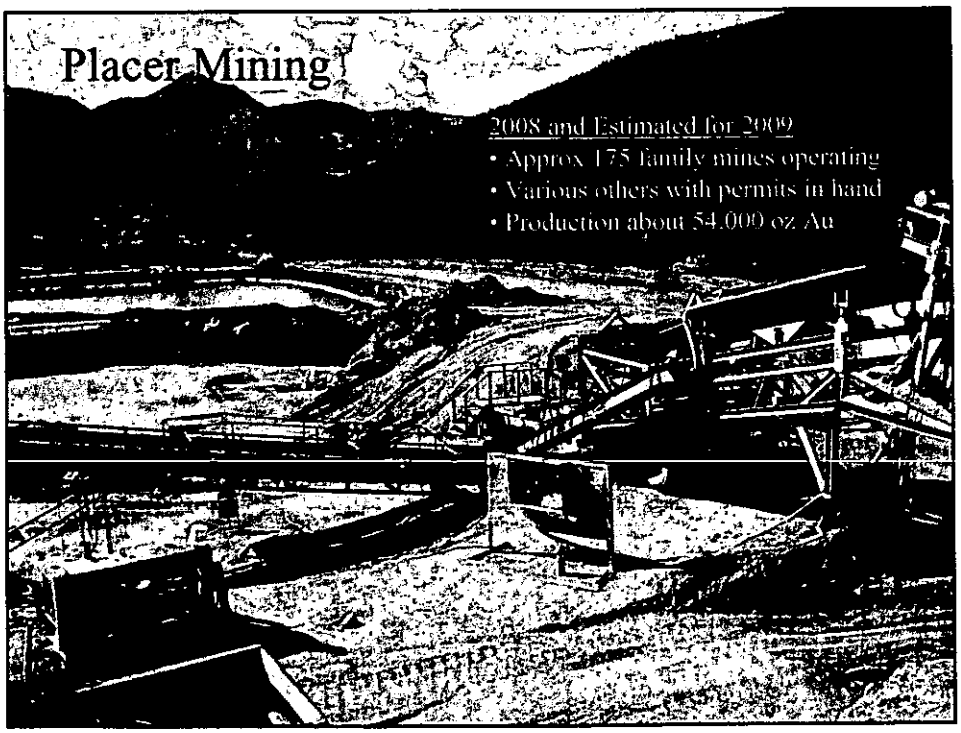
- 56% of Red Dog's 485 jobs held by NANA shareholders
- 86% of Donlin Creek's 210 jobs held by Calista shareholders

Alaska Major Mines and Projects

★ **Producing mine**

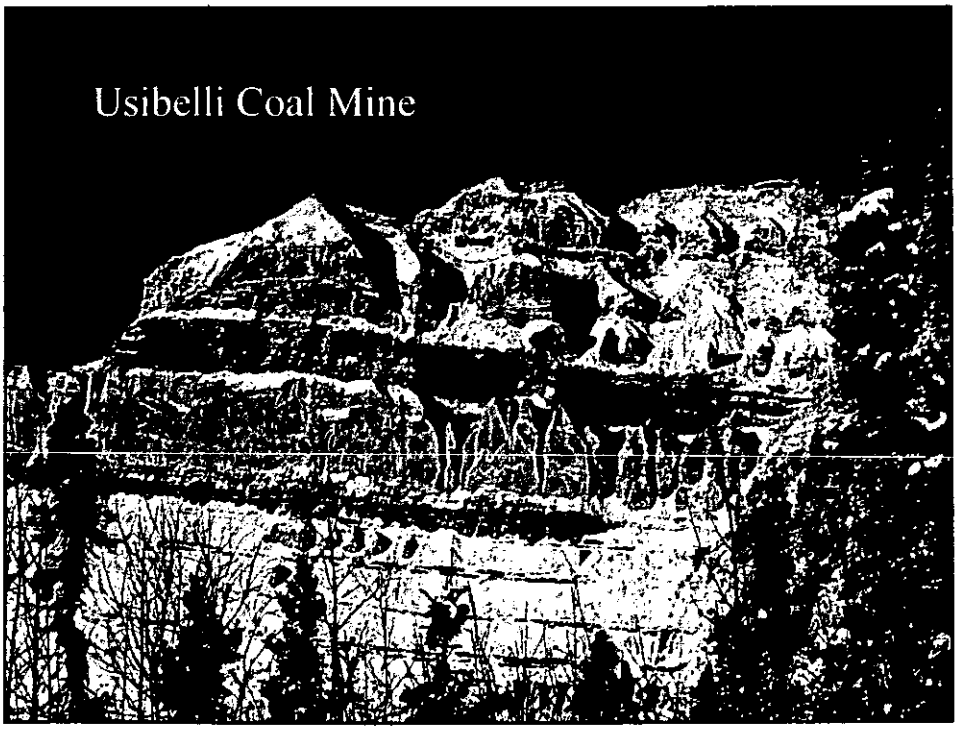
✦ **Developing and major exploration projects**

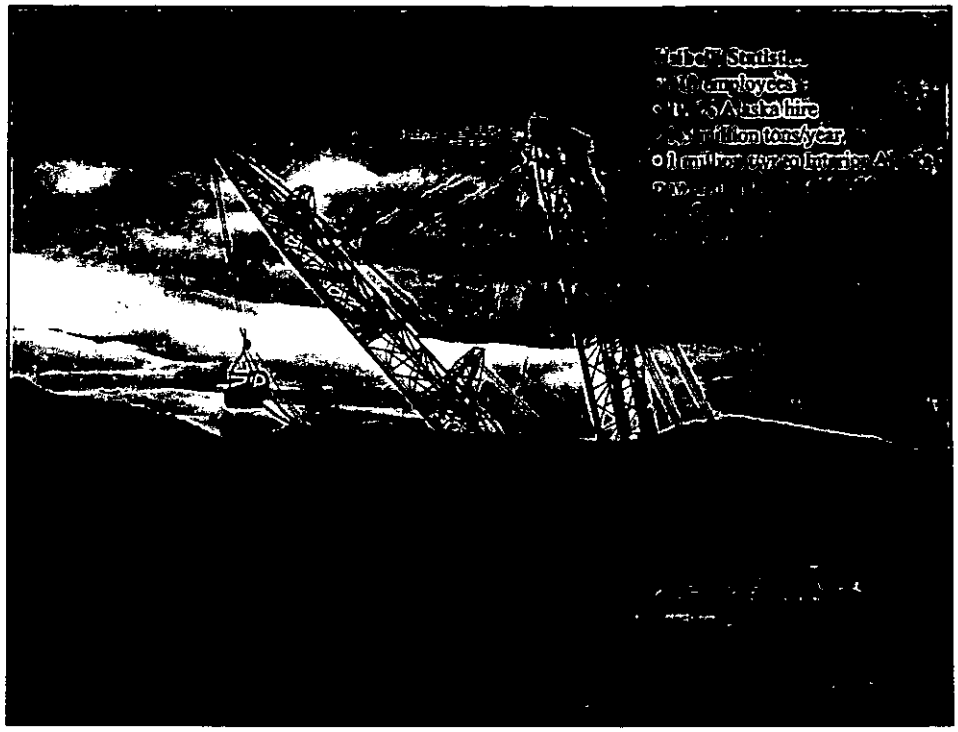




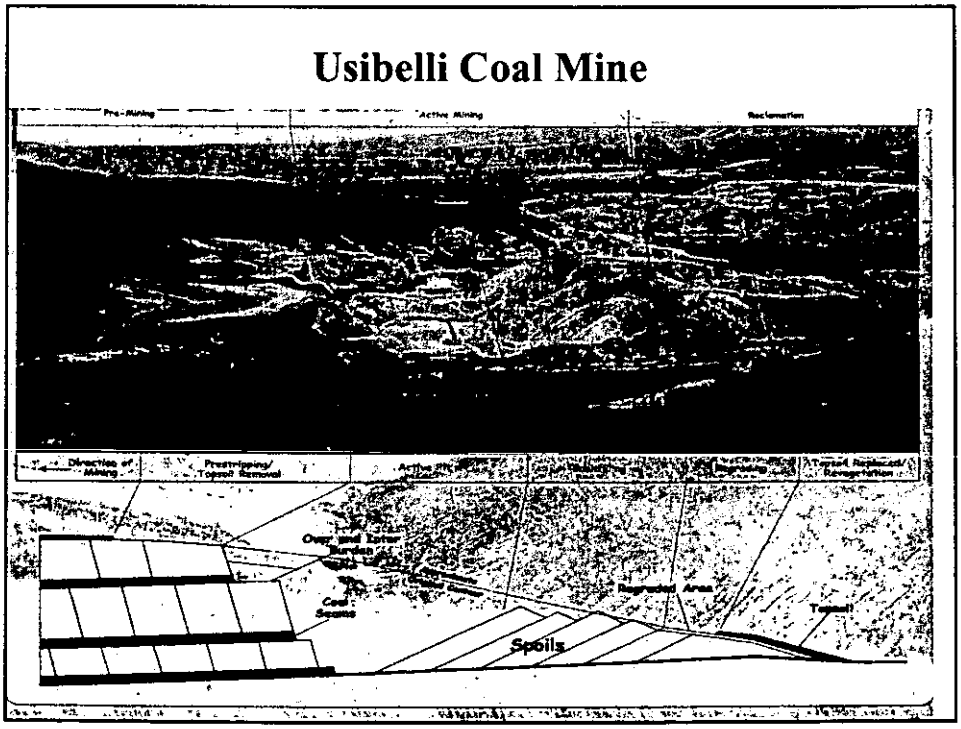
Large Operating Mines

1.	**Two Bull Ridge**	**Usibelli Coal Mine**
2.	**Greens Creek**	**Hecla**
3.	**Red Dog**	**Teck**
4.	**Fort Knox**	**Kinross Gold**
5.	**Pogo**	**Teck Pogo**

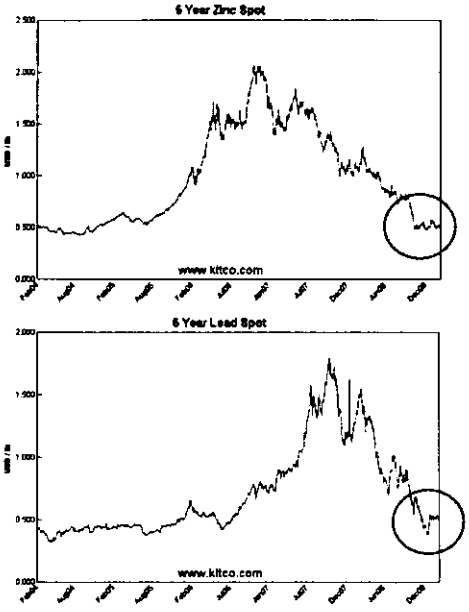




Usibelli Coal Mine

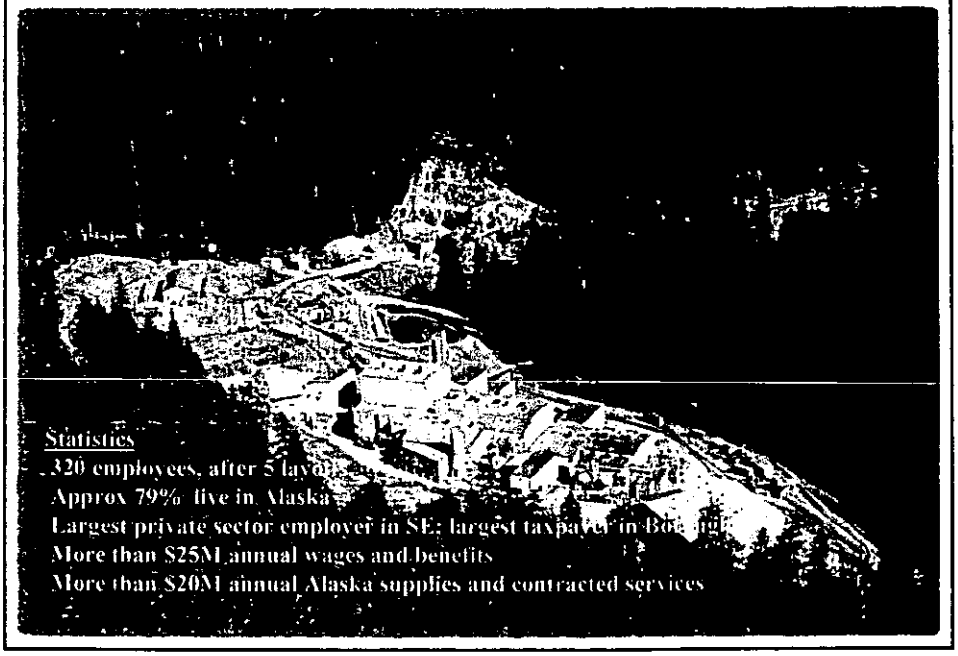


World Wide Economic Downturn - Challenges for 2009

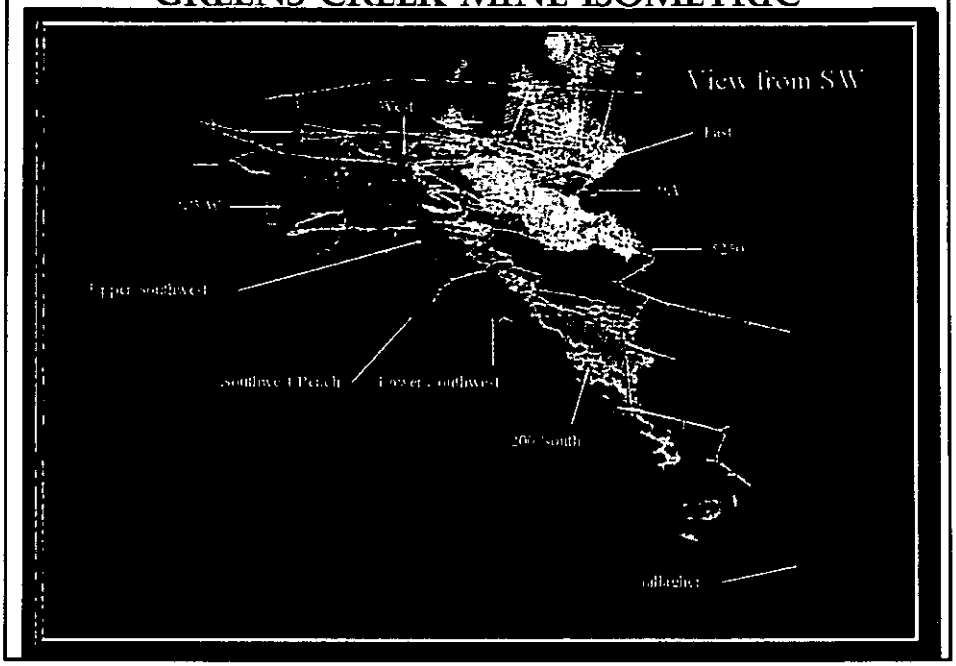


- metal prices now down to levels last seen 5 years ago
- costs still much higher than 5 years ago
- fuel purchased at the peak in July 2008 for the following year

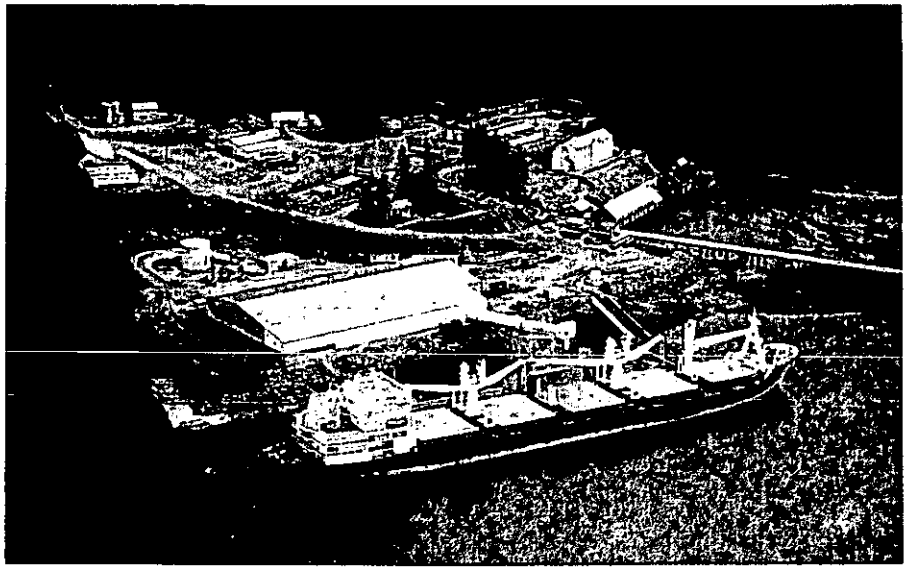
Greens Creek Mine

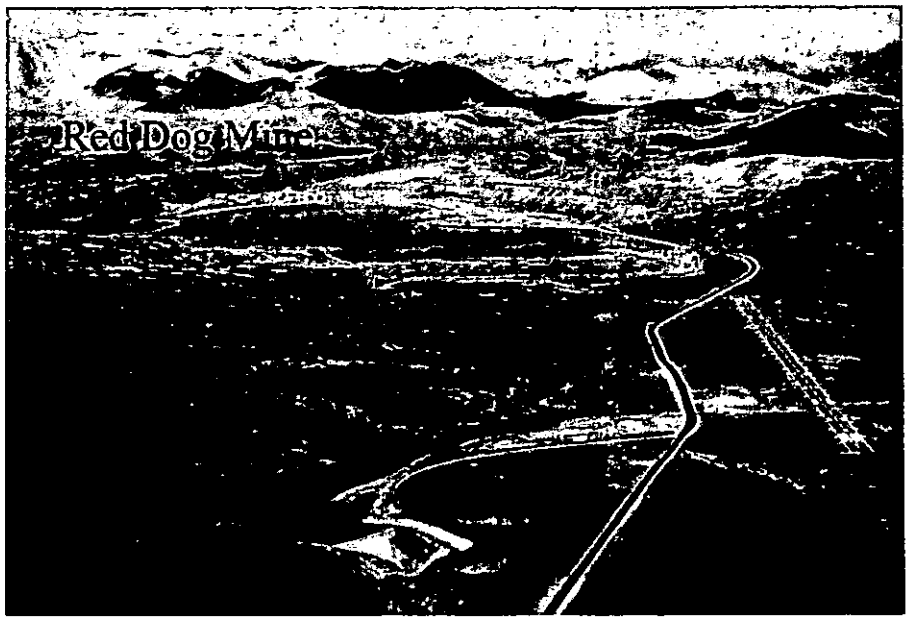


GREENS CREEK MINE ISOMETRIC

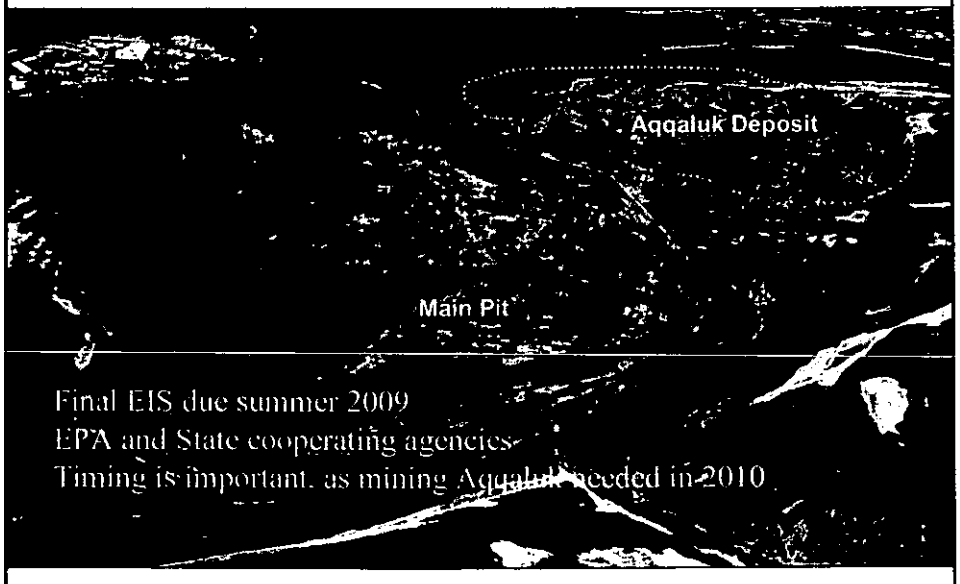


Greens Creek Ship Loading Facilities

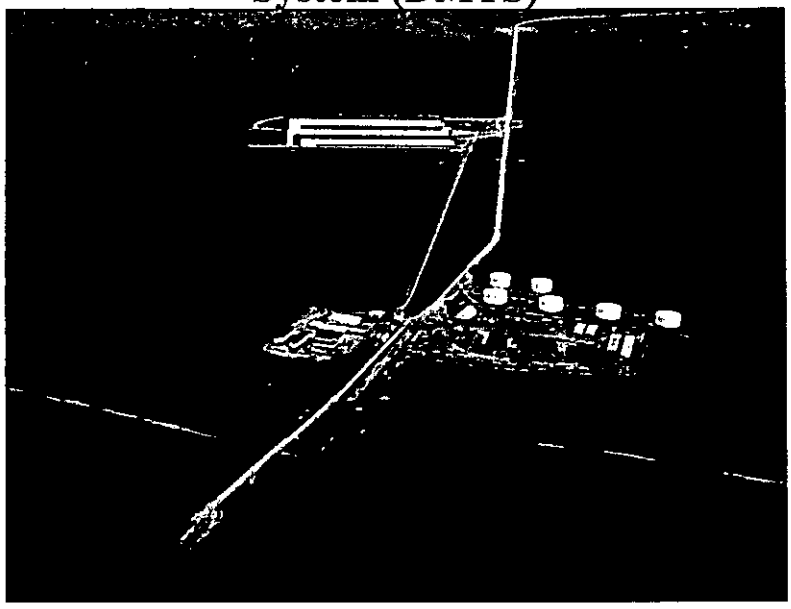




Supplemental Environmental Impact Statement
EPA studying last 20 and next 20 years operations

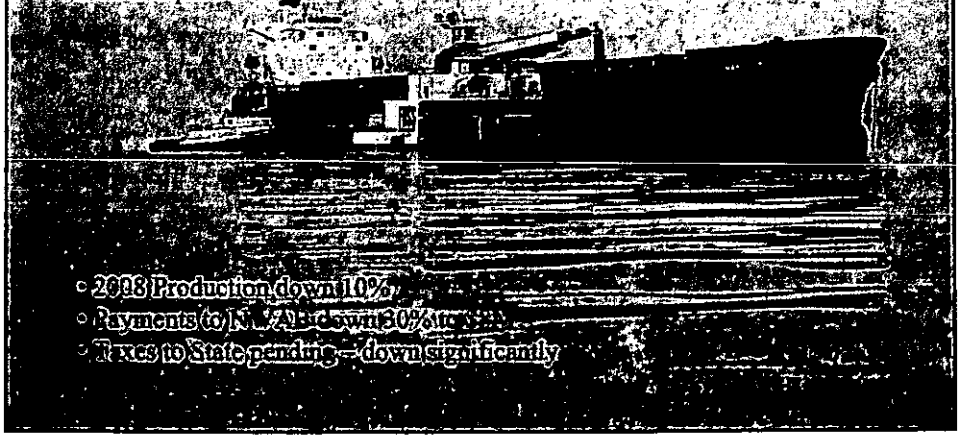


Red Dog Port Site – Delong Mts. Transportation System (DMTS)



Red Dog Statistics

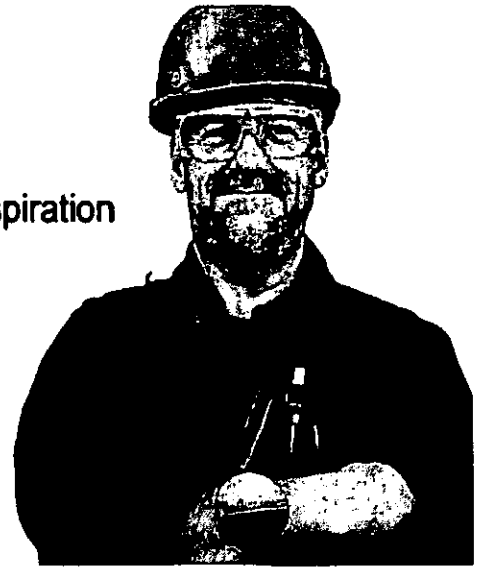
- 485 employees and full time contractors, no layoffs expected
- Improvements in safety
- 57% NANA shareholder hire
- $50M annual mine wages & benefits
- $110M with NANA JV companies
- $10.8M spent to date on search for Natural Gas
- $22.5M paid to AIDEA



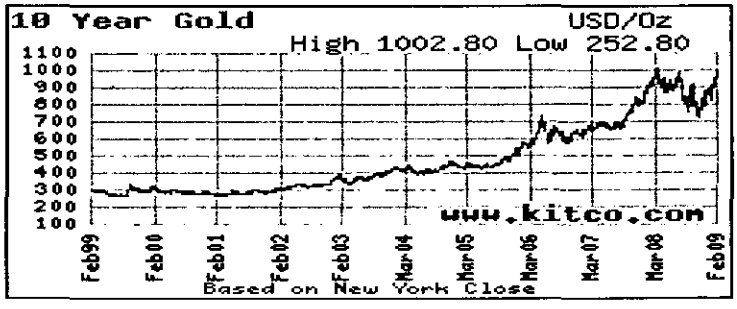
- 2008 Production down 10%
- Payments to NANA down 30% in '08
- Taxes to State pending – down significantly

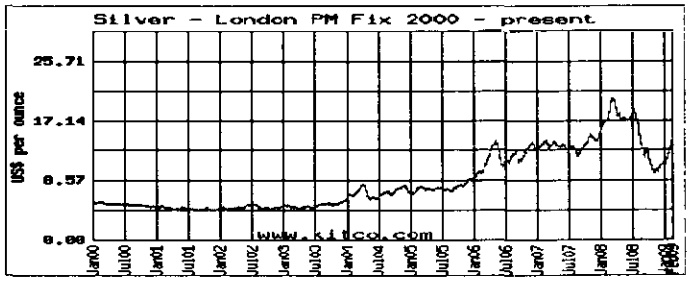
2010 Winter Olympics

Precious Medals:
The Source of Inspiration



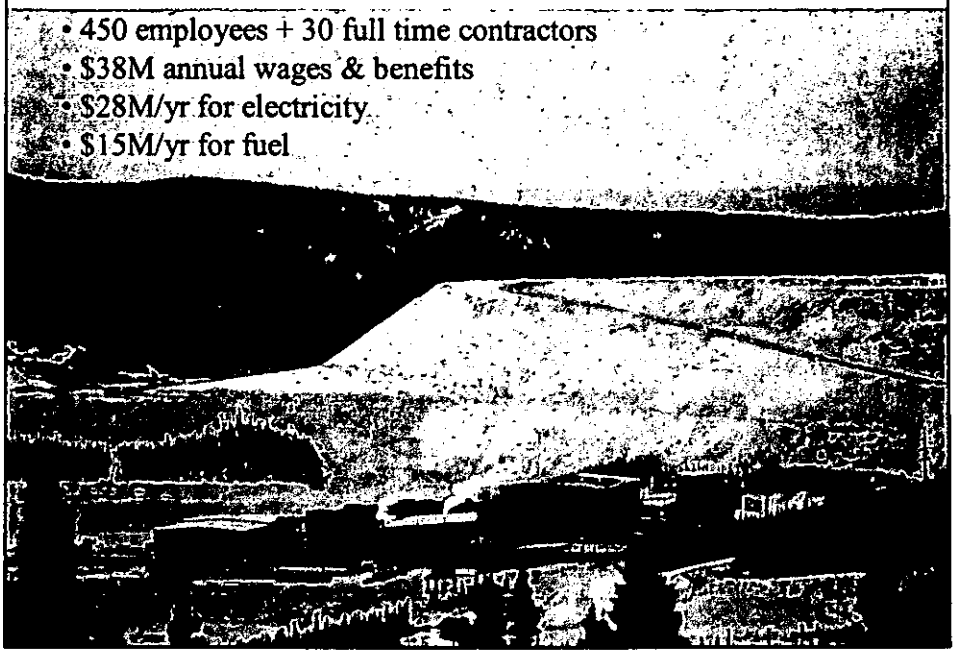
Gold & Silver Prices for Past 10 years

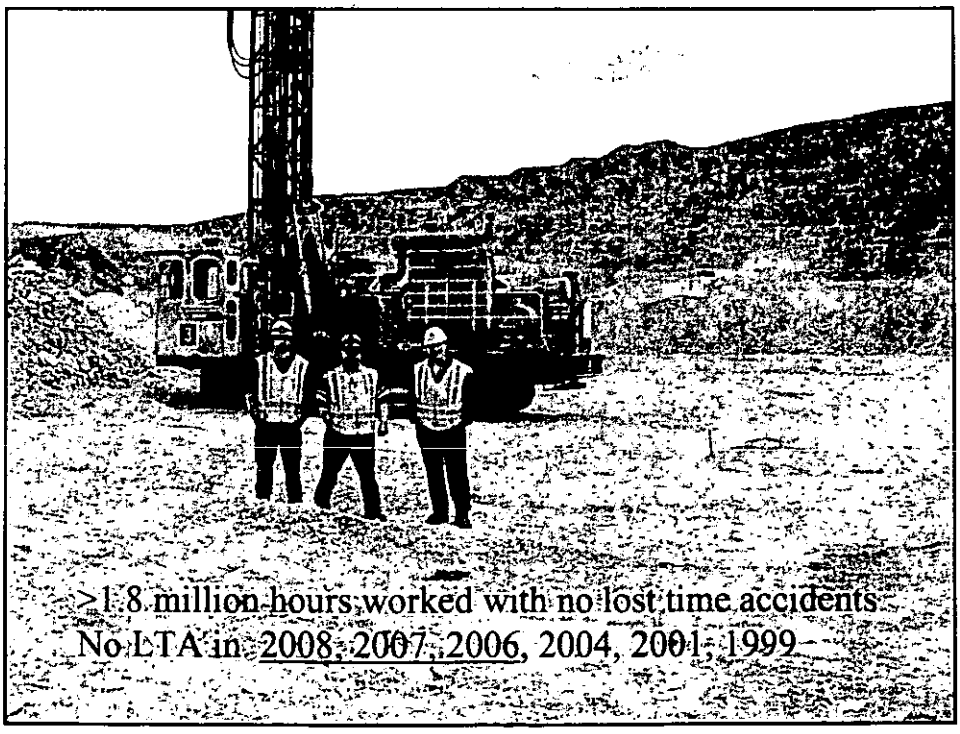




Fort Knox Statistics 2008

- 450 employees + 30 full time contractors
- $38M annual wages & benefits
- $28M/yr for electricity
- $15M/yr for fuel





> 1.8 million hours worked with no lost time accidents

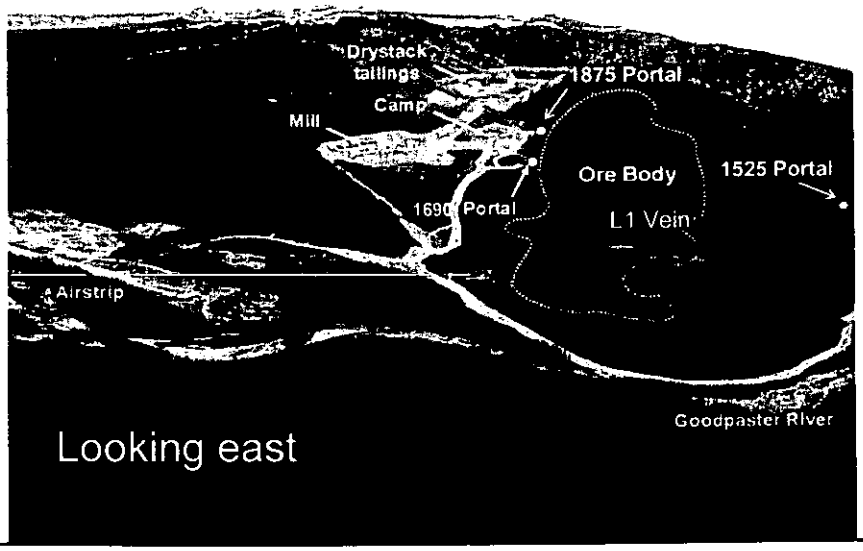
No LTA in 2008, 2007, 2006, 2004, 2001, 1999

[redacted] Fort Knox Mine

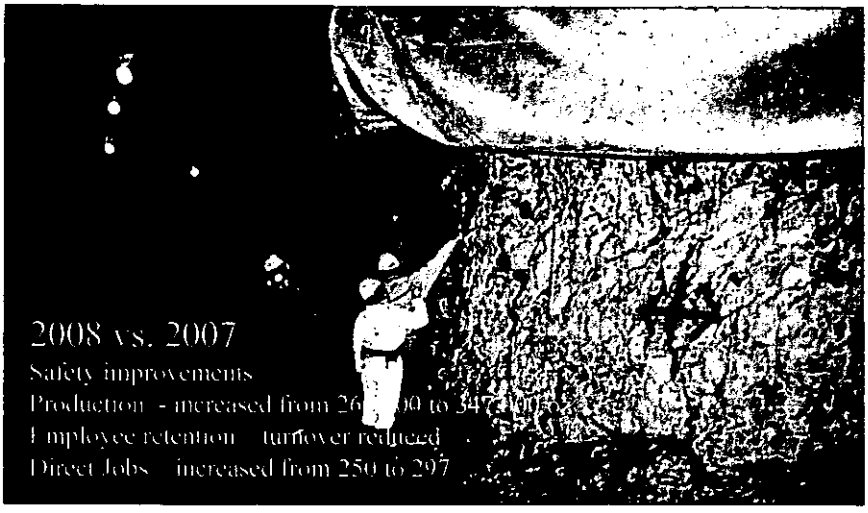
2009 Status and Plans

- Production: Approx 330,000 oz
- Heap leach facility under construction
- Phase 7 pit expansion – began Oct. 2008
- Continue exploration/drilling for potential Phase 8
- Mine life extended to 2014

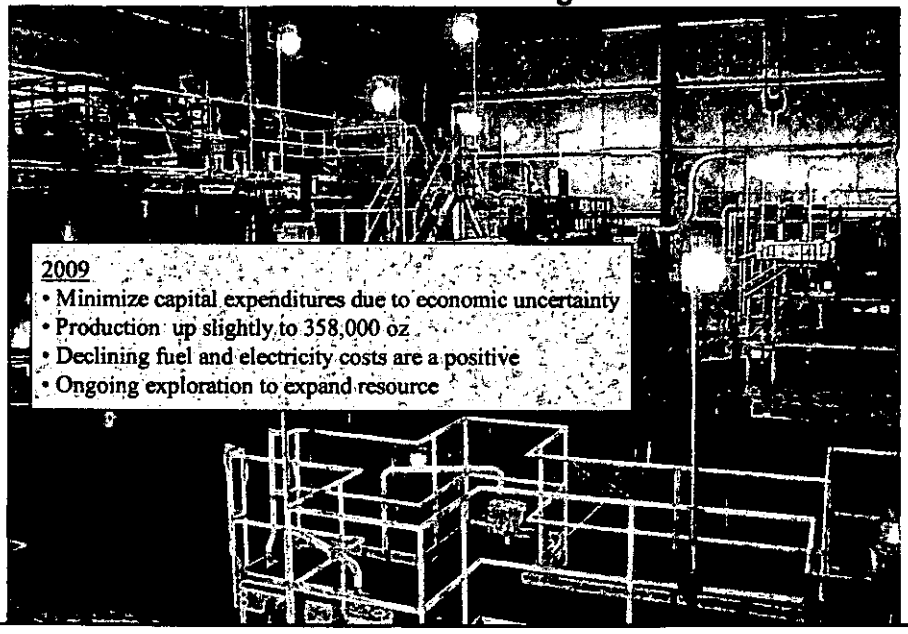
Pogo Surface Facilities & Underground Orebody



Pogo 2008 Highlights
Major Operational Improvements

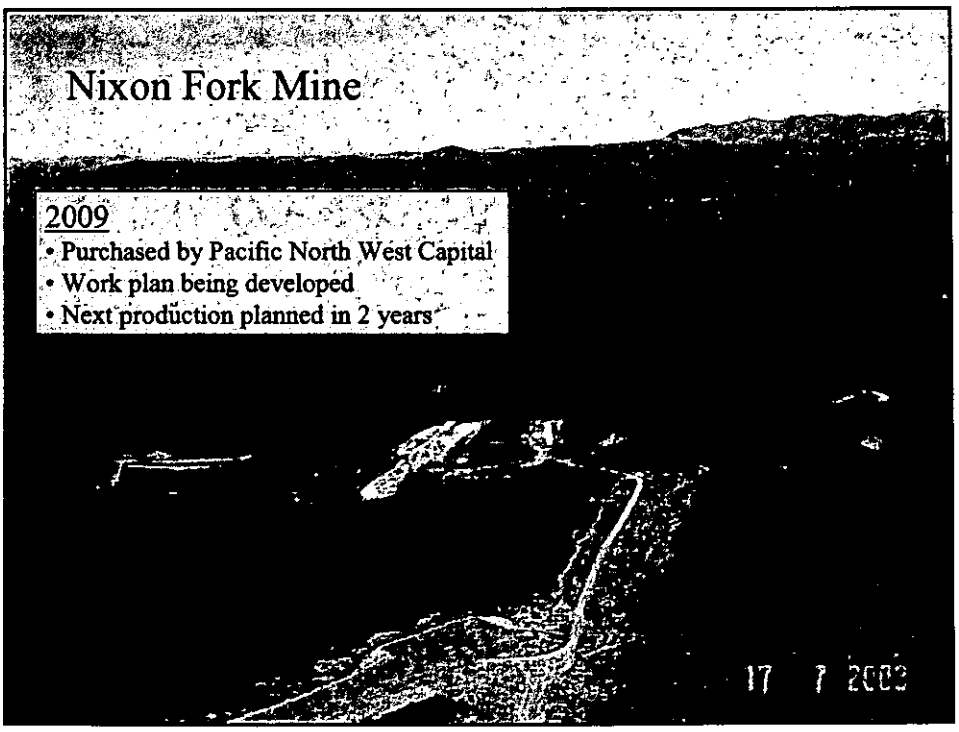


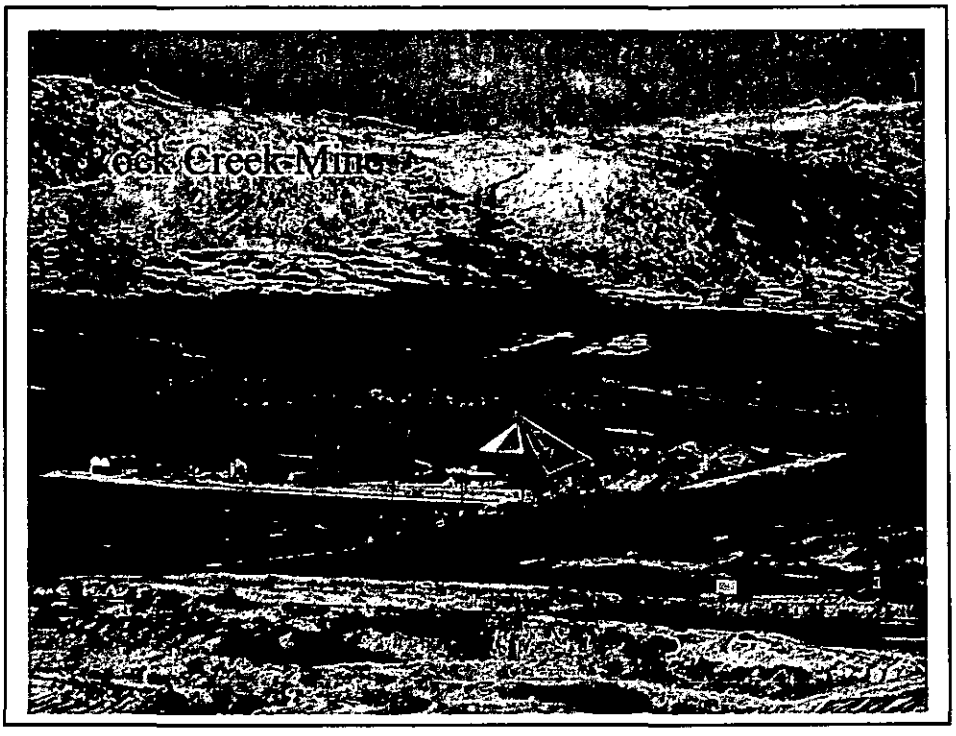
Pogo Water Treatment Plant treats mine water before discharge

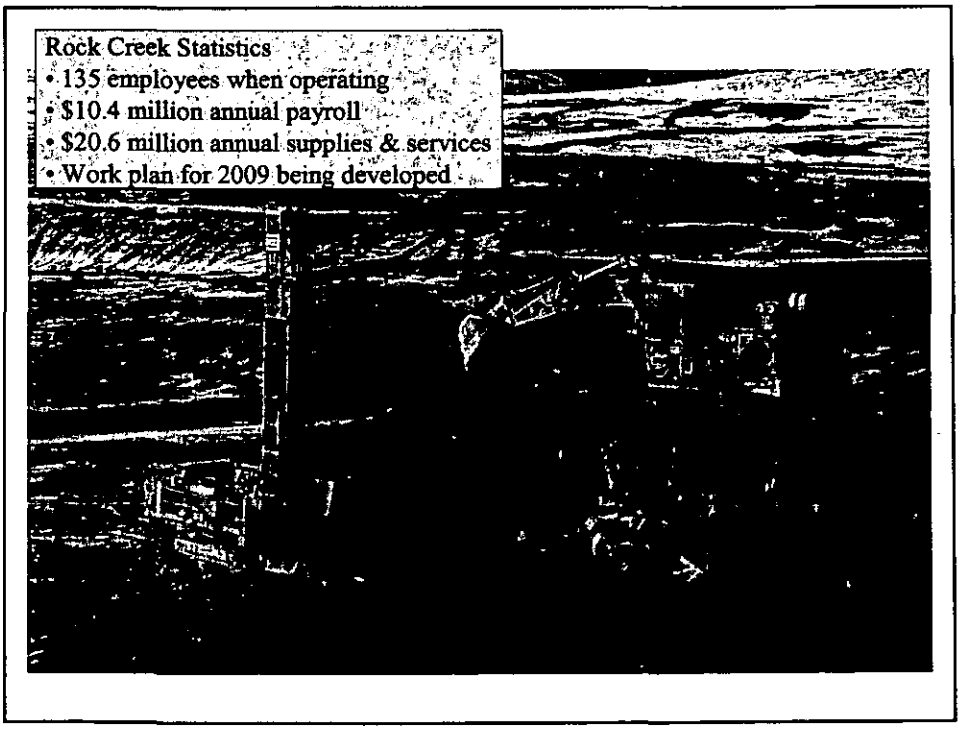


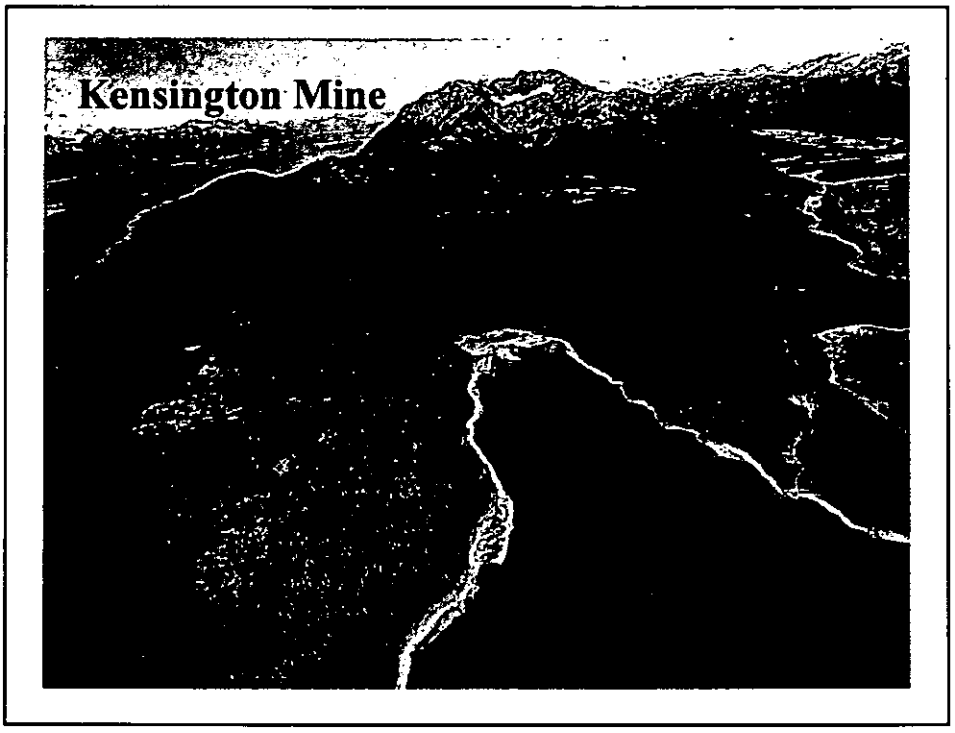
Mines Currently in Idle Status

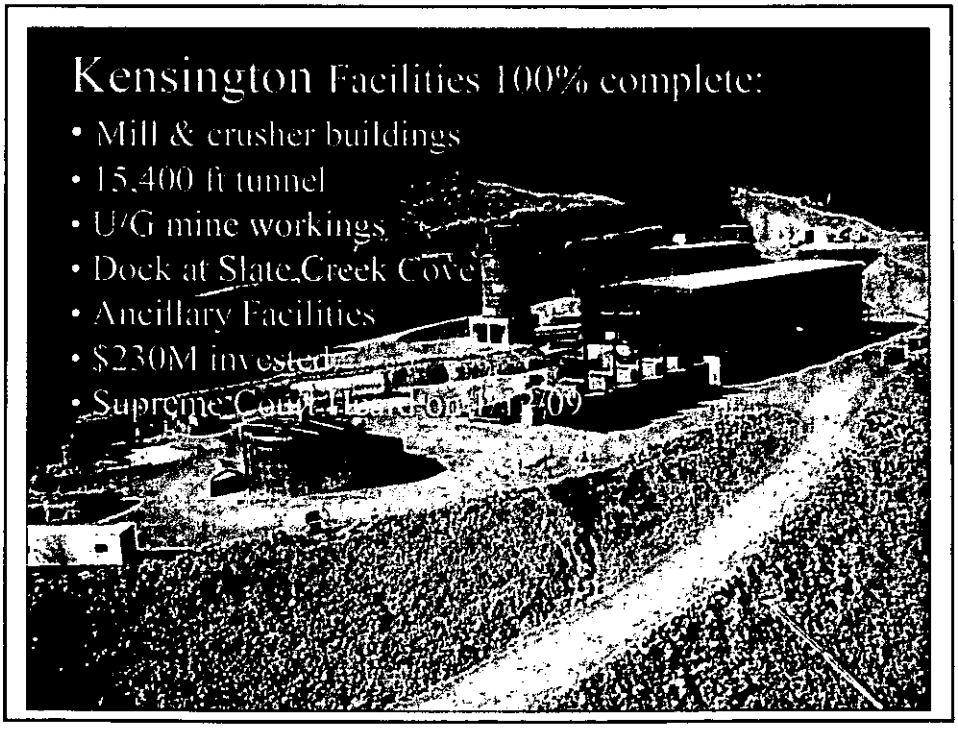
1.	Nixon Fork	Pacific North West Capital
2.	Rock Creek	Alaska Gold/NovaGold
3.	Kensington	Coeur Alaska

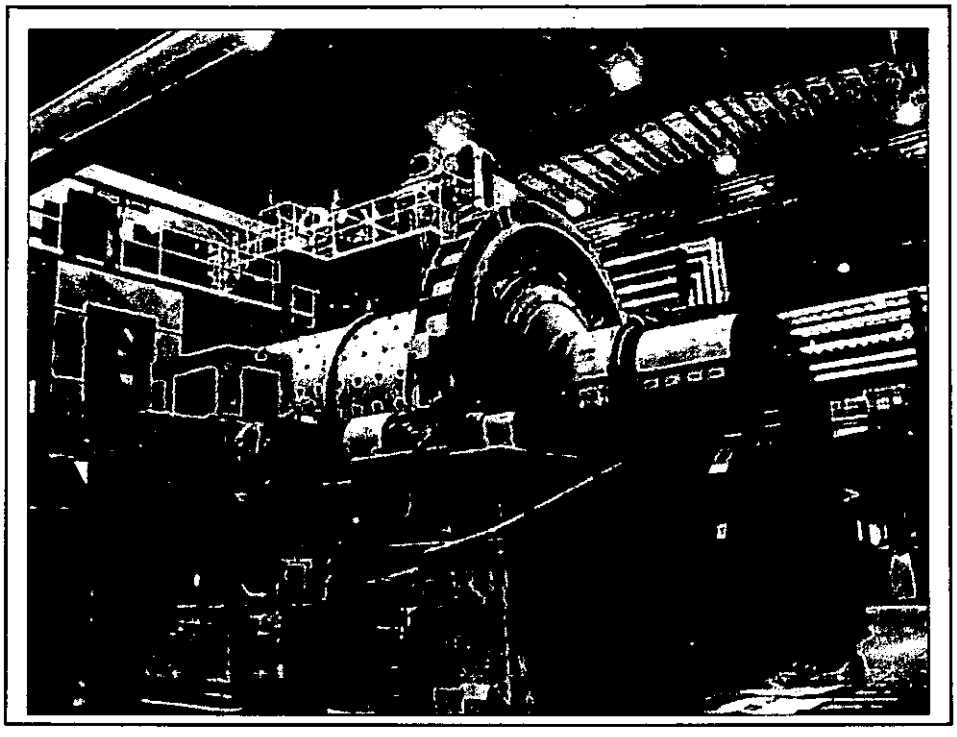



Rock Creek Mine


Rock Creek Statistics
• 135 employees when operating
• $10.4 million annual payroll
• $20.6 million annual supplies & services
• Work plan for 2009 being developed


Kensington Mine


Kensington Facilities 100% complete:
• Mill & crusher buildings
• 15,400 ft tunnel
• U/G mine workings
• Dock at Slate Creek Cove
• Ancillary Facilities
• $230M invested



Projects in Advanced Exploration and Permitting

Advanced Permitting:

1. Chuitna Coal PACRIM Coal

Advanced Exploration/Pre-permitting:

2. Donlin Creek Barrick/NovaGold JV
3. Pebble Partnership NDM/Anglo American JV

Chuitna Coal Project

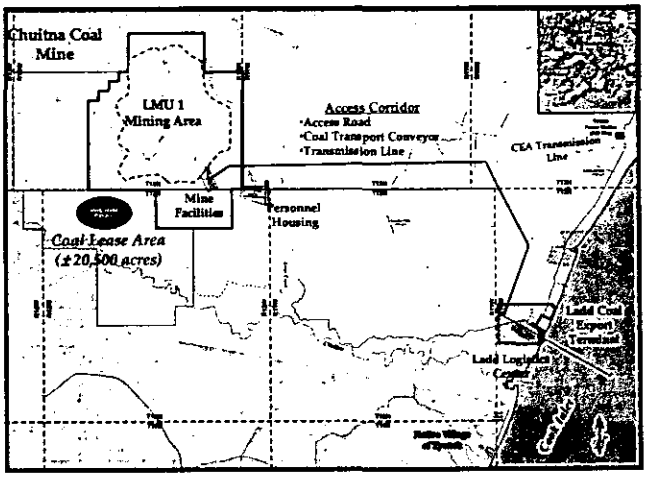
Management transition in 2008

Project Statistics
- Total Investment +$600M
- 350 full-time jobs

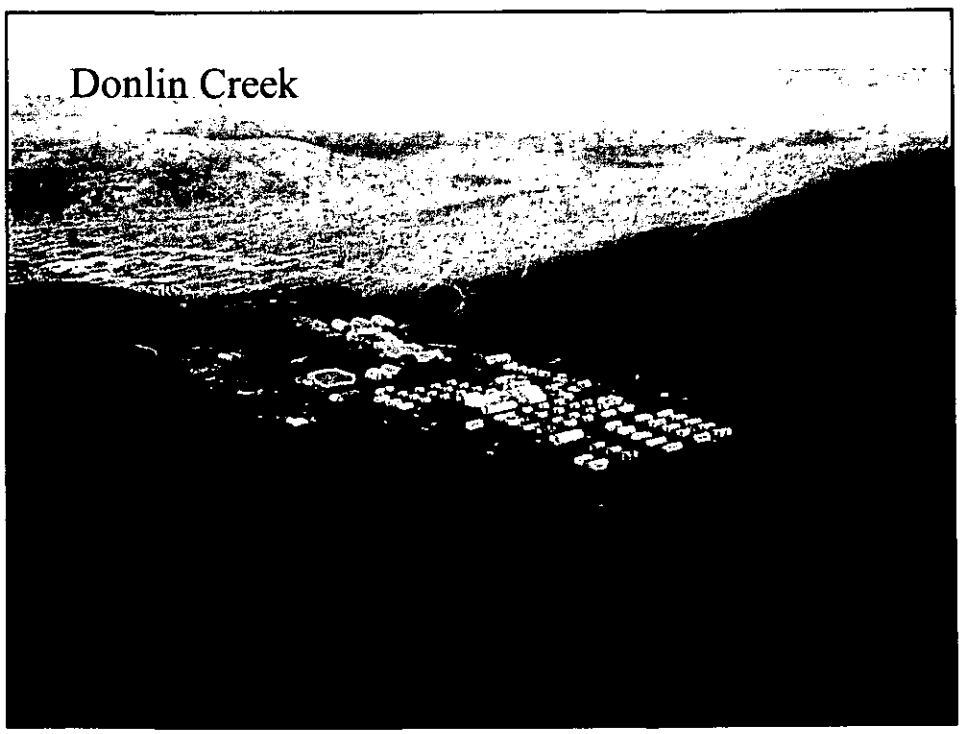
Chuitna Coal Mine
- 12MMTpy design capacity
- 300MMT mineable (LMU1)

Infrastructure
- 9 to 12 mile Access road & coal conveyor (alternatives under review)
- 138 Kv power line
- Personnel housing & airstrip

Ladd Landing
- Logistics center
- Export terminal
- Cape Class vessels 60ft draft



Permit Status
- ASCMCRA permit applications filed, public review process projected 4th Qtr 2009
- Draft SEIS in process, anticipate public review process 4th Qtr 2009
- Projected approval anticipated for late 2010



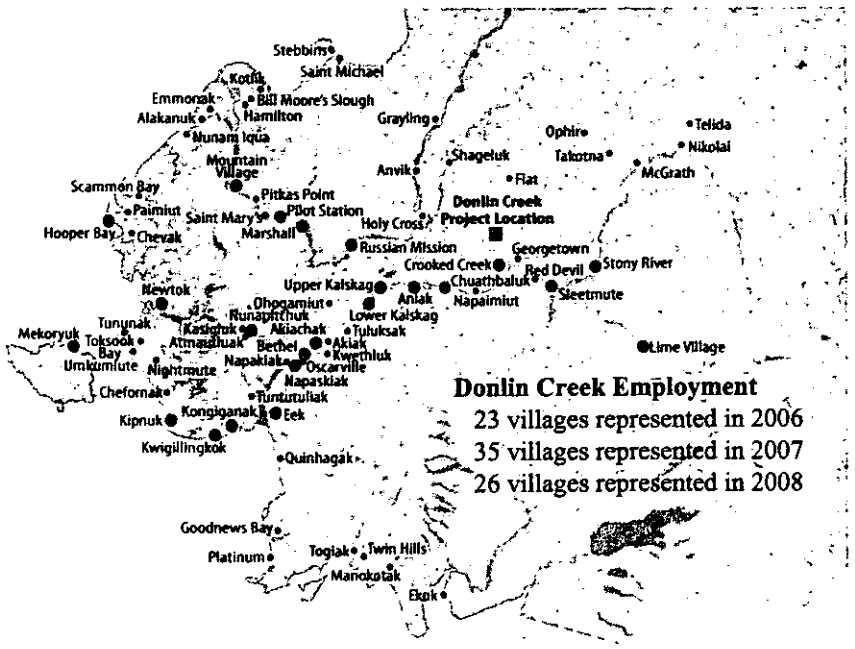
Donlin Creek Update

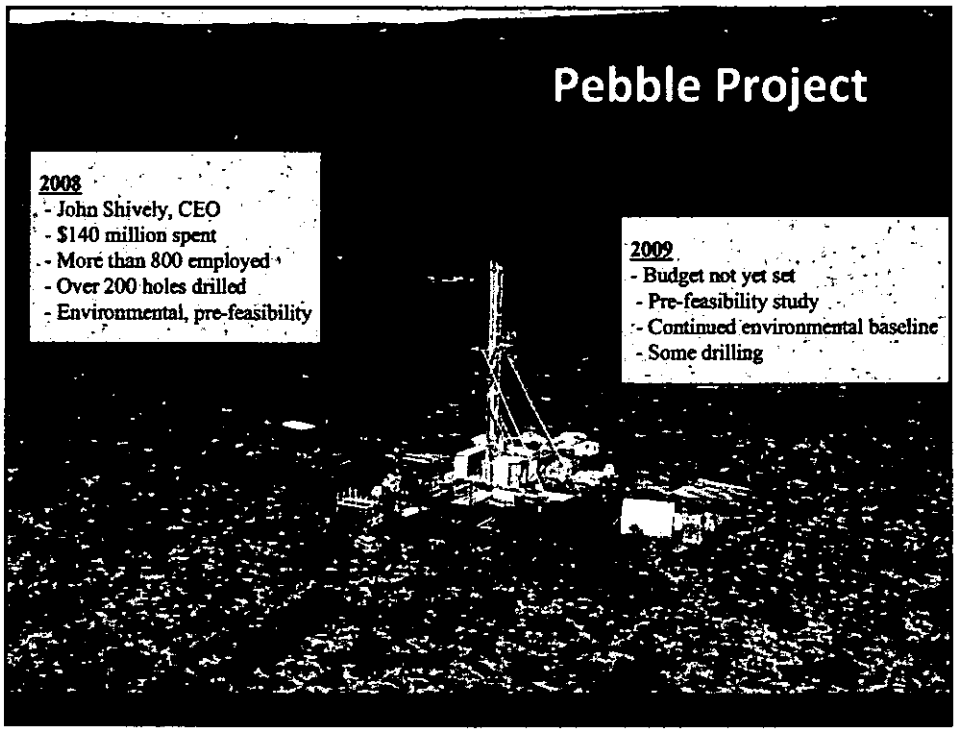
2008

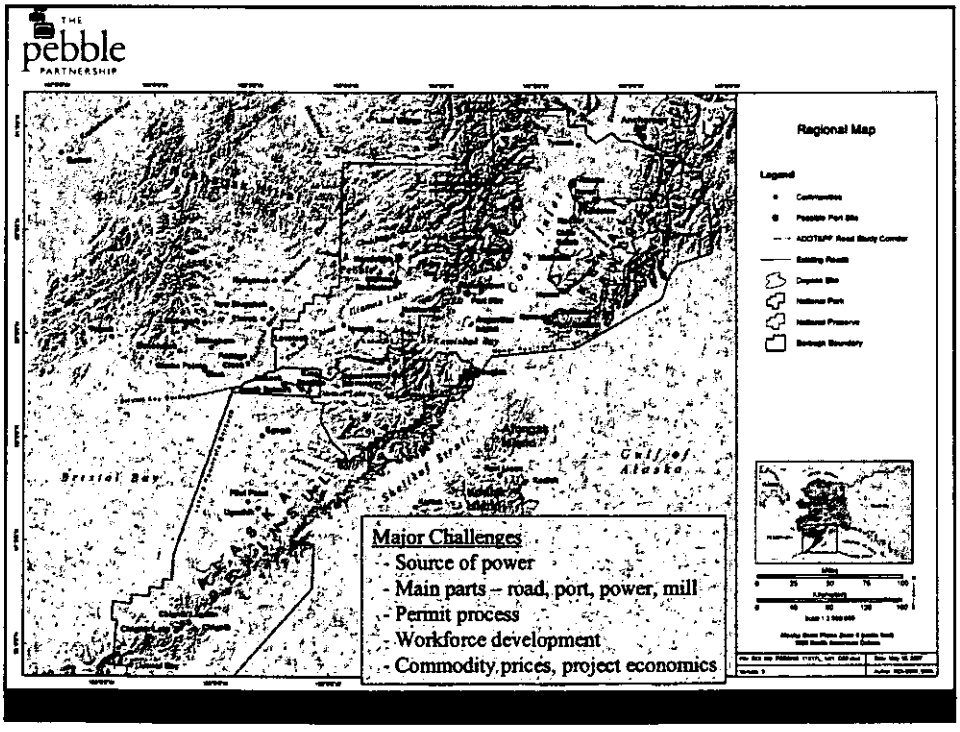
- Completed 33,500 m of drilling
- 138 employees representing 26 Y-K villages
- Advanced project engineering and baseline environmental studies

2009

- Finalize the project feasibility study
- Submit permit applications for the project
- Conduct pre-permitting meetings with Y-K region stakeholders
  - Meetings held with representatives of 35 villages to date
  - Scheduled to meet with remaining Y-K villages in March
  - Feedback will be incorporated into permit application documents and plans




Pebble Project
2008
- John Shively, CEO
- $140 million spent
- More than 800 employed
- Over 200 holes drilled
- Environmental, pre-feasibility
2009
- Budget not yet set
- Pre-feasibility study
- Continued environmental baseline
- Some drilling


THE pebble PARTNERSHIP
Regional Map
Legend
Bristol Bay
Gulf of Alaska
Major Challenges
- Source of power
- Main parts – road, port, power, mill
- Permit process
- Workforce development
- Commodity prices, project economics

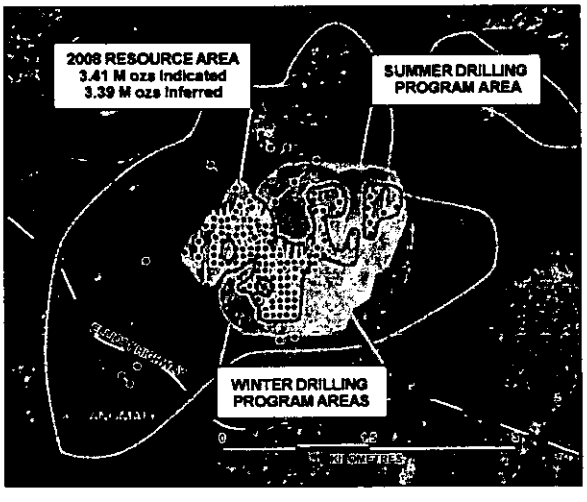
Grassroots (early stage) Exploration

- 30 projects spent >$1 million each in 2008
- Expect fewer in 2009

Examples

- International Tower Hill Mines - Livengood
- Committee Bay Resources - Niblack
- Full Metal Minerals – Lucky Shot

International Tower Hill
Livengood, Money Knob Project



Money Knob Project
Phase I & II drilling - 2008

Phase III drilling - Winter 2009

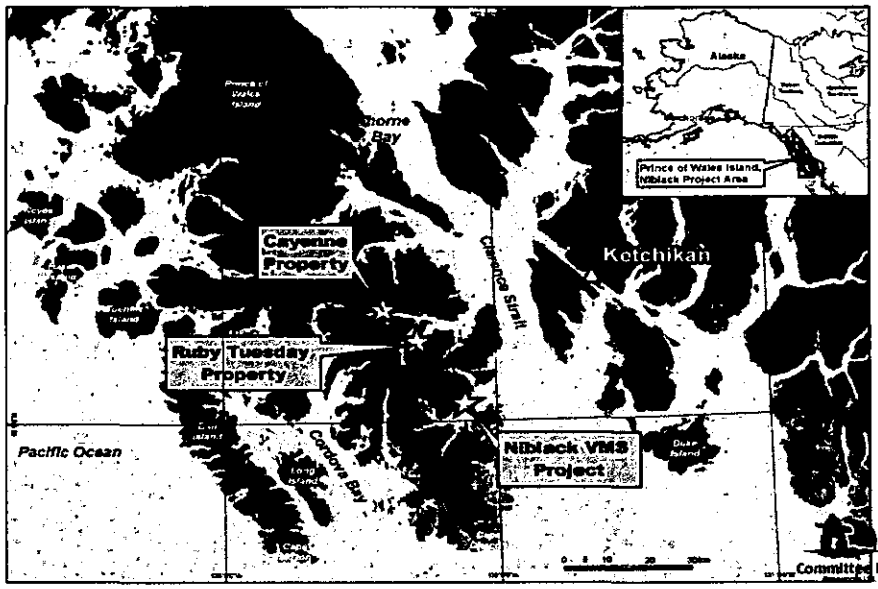
Phase IV drilling – 2009

2009 Budget = $8.5 million ($8m in 2008)

45 employees (42 in 2008)

Other Alaska Projects
$1.5m in 2009 (($2m in 2008)

Committee Bay Resources
Niblack Project



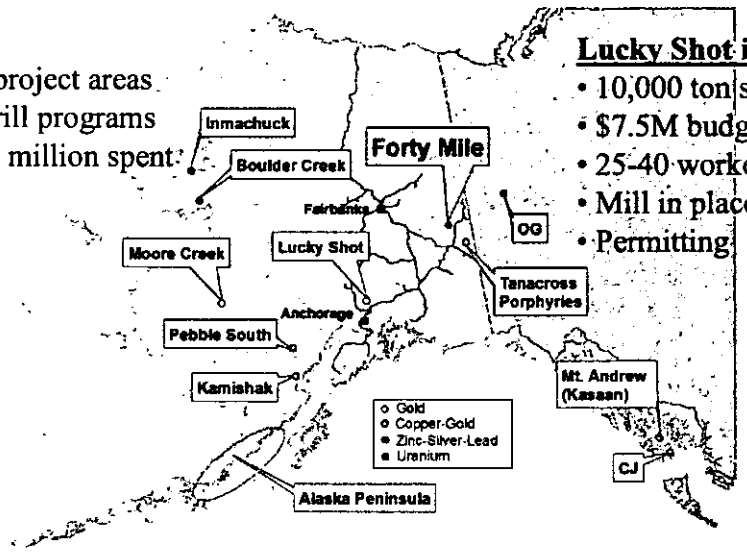
49

Niblack Project

50

Full Metal Minerals

2008
- 11 project areas
- 5 drill programs
- $21 million spent



Lucky Shot in 2009
- 10,000 ton sample
- $7.5M budgeted
- 25-40 workers
- Mill in place
- Permitting

2/26/09 WORK SESSION: COMPRE-HENSIVE ENERGY PLAN

ALASKA STATE LEGISLATURE

SENATOR LESIL McGUIRE
Chair, Senate Special Committee on Energy

MEMORANDUM

Date: February 19, 2009

To: Kirsten Waid, Senate Secretary

From: Senator Lesil McGuire, Chair
Senate Special Committee on Energy

Re: Senate Special Committee on Energy Schedule

Committee Schedule
Senate Special Committee on Energy
For the week of February 23-27

Thursday, February 26th @ 3:00 p.m. Senate Finance Room 532

Joint Senate and House Energy Committee

Work Session: Comprehensive Energy Plan

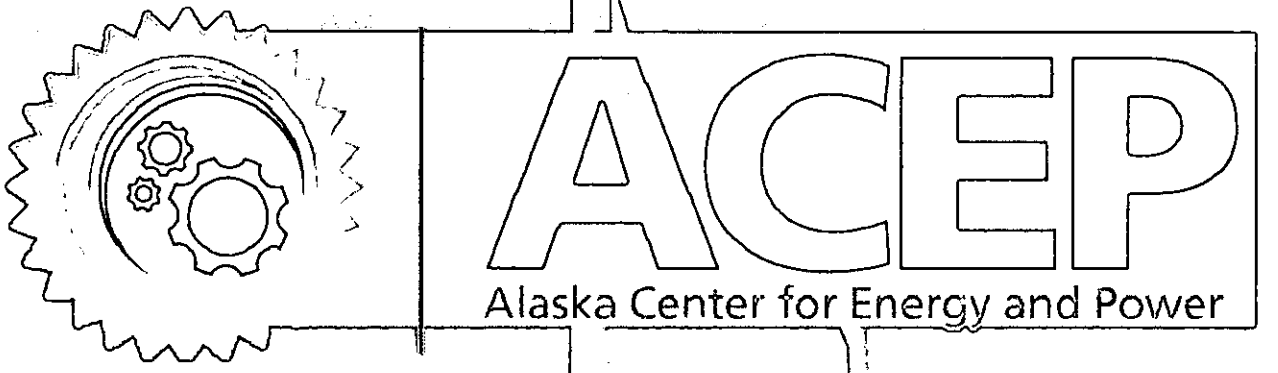
Presenters:
Gwen Holdman, Director, Alaska Center for Energy and Power
David Hobbs and Jim Meitl, Cambridge Energy Research Associates
Darrell Smith, Black Lion Energae

Friday, February 27th @ 11:00 a.m. Beltz Room 211

+ =	SB 31: GEOTHERMAL ELEC. PROD. TAX CREDIT
+	HCR 2: IN-STATE GAS PIPELINE
+	HCR 3: IN-STATE GAS PIPELINE
+	HCR 4: IN-STATE GAS PIPELINE
+	HCR 5: IN-STATE GAS PIPELINE

*	First Hearing in First Committee of Referral
+	Teleconferenced
=	Bill was Previously Heard/Scheduled

Developing Energy Policy: A Balanced Approach



Gwen Holdmann, Director
Alaska Center for Energy and Power

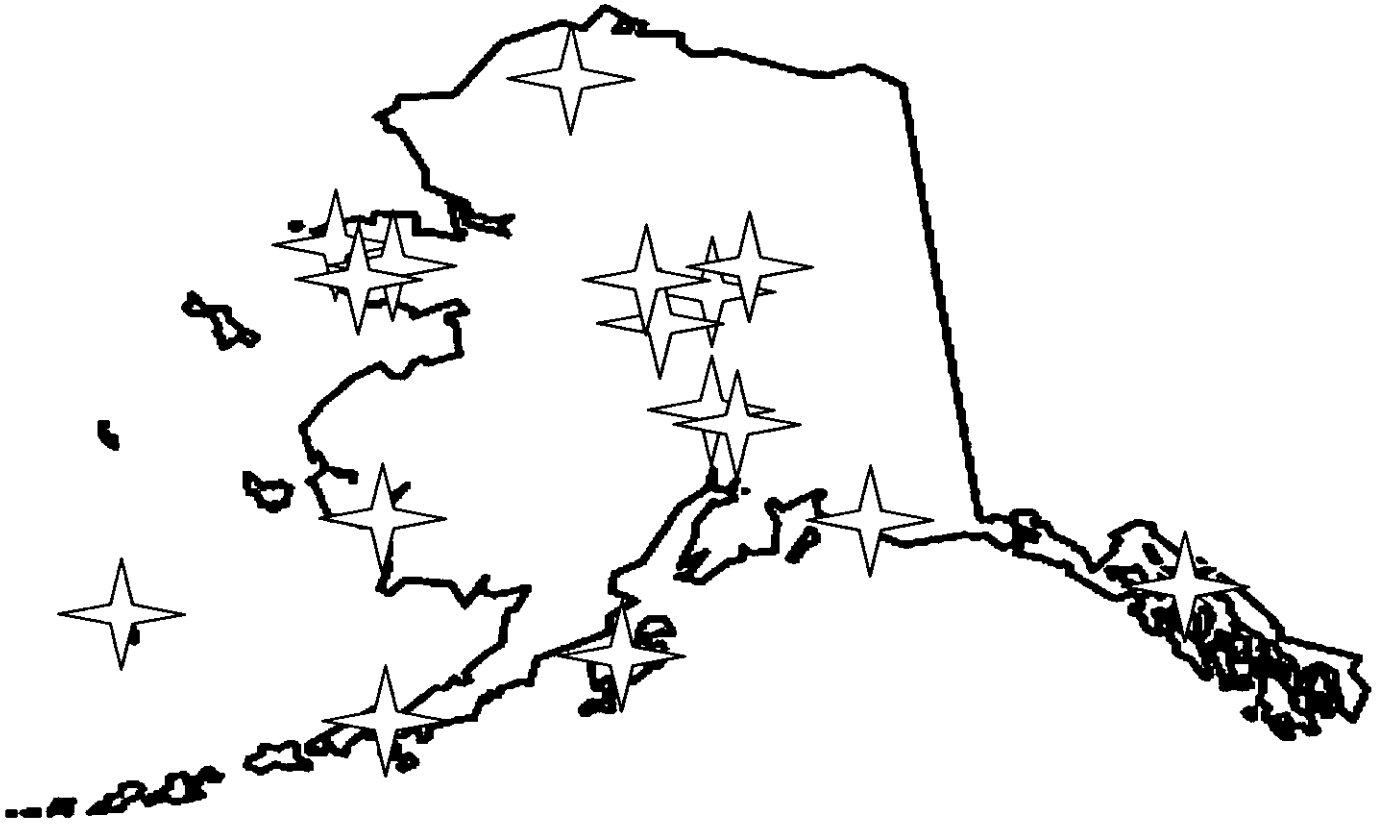
Joint Senate-House Energy Committee Meeting
Juneau, Alaska
February 26th, 2009

ACEP

Alaska Center for Energy and Power

ACEP RESEARCH MISSION: To meet state and local need for applied energy research by working towards developing, refining, demonstrating, and ultimately helping commercialize marketable technologies that provide practical solutions to real-world problems.

ACEP Current Projects



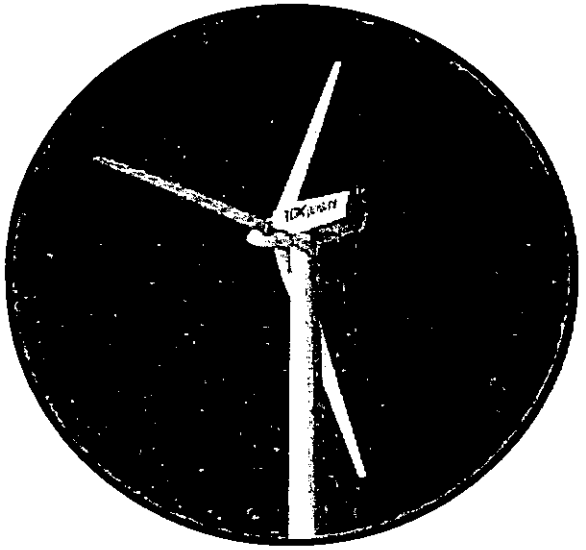
ACEP

ACEP Projects

- Waste heat capture (INE)
- Energy storage (INE, working with SNL)
- Geothermal (GI, INE, ISER)
- Tidal and In-stream hydro (SFOS, INE, UAA)
- Wind/diesel (working with NREL and AEA)
- Climate change impacts on hydro projects (GI, IARC, INE)
- Hydrogen Fuels (INE, ISER)
- Biogenic methane as an energy source (IARC, INE)
- Short-rotation woody biomass crops (AFES)
- Education and outreach (Coop. Ext)

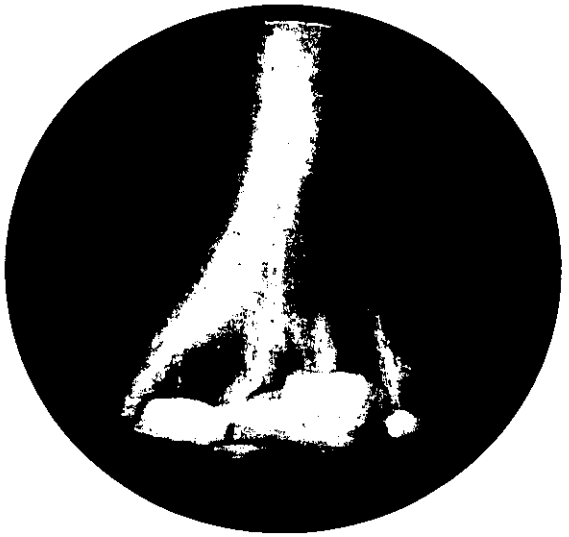
ACEP

ACEP Focus Areas



Community Energy Solutions

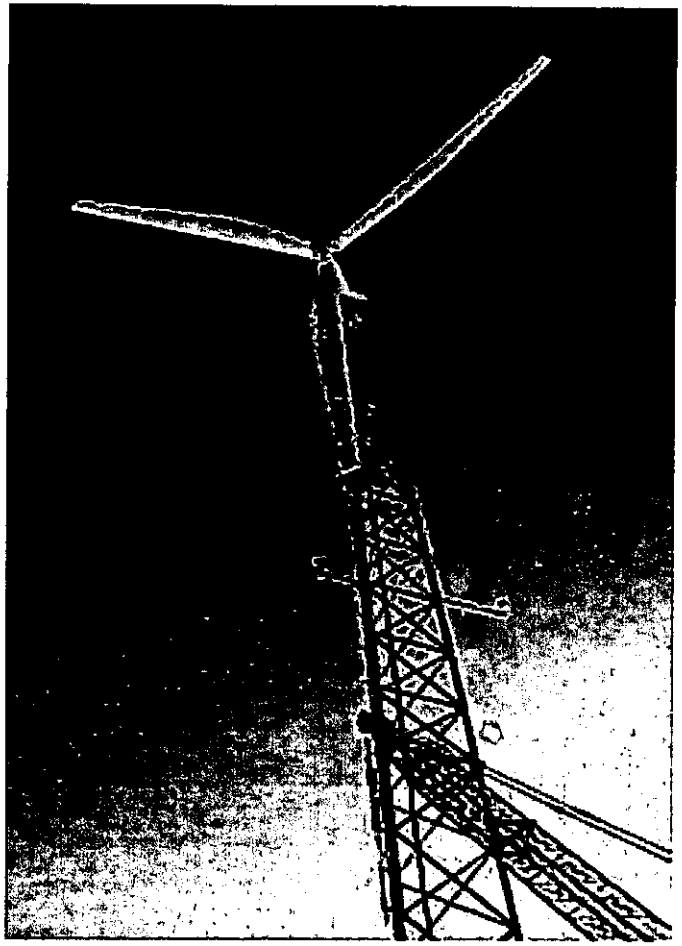
Powering the Economy



The EnergyField of the Future

ACEP

Community Energy Solutions



Diesel Efficiency
Energy Economics
Energy Storage
Geothermal
Biomass
Coal Bed Methane
Fuels
In-River Hydro
Tidal Energy
Wind Power

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Powering the Economy

Geothermal in the Aleutians
Susitna/Chakachamna
Mt Spurr
Power for Remote Mines
Etc.

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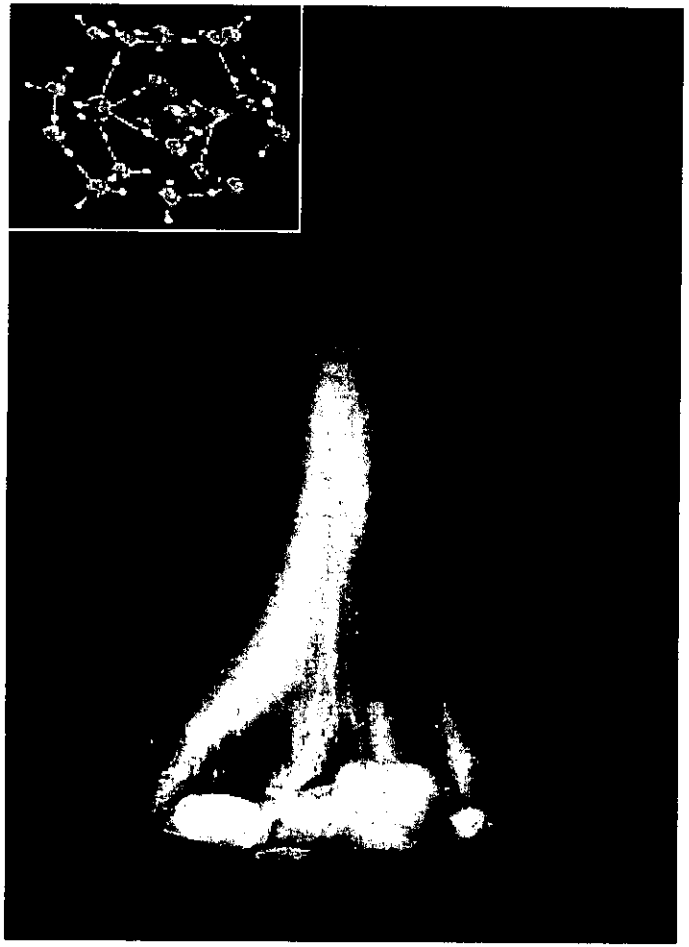
The 'Energyfield' of the Future



- Methane hydrates
- Gas pipeline
- Heavy oil
- Carbon Sequestration
- Advanced Coal Technologies
- Infrastructure
- Etc.

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What are our Goals?

- Lower the cost of energy? For whom?
- Stabilize the cost of energy?
- Community self-sufficiency?
- Build/boost local economies?
- Create jobs?
- Develop wealth?
- Reduce greenhouse gas emissions?

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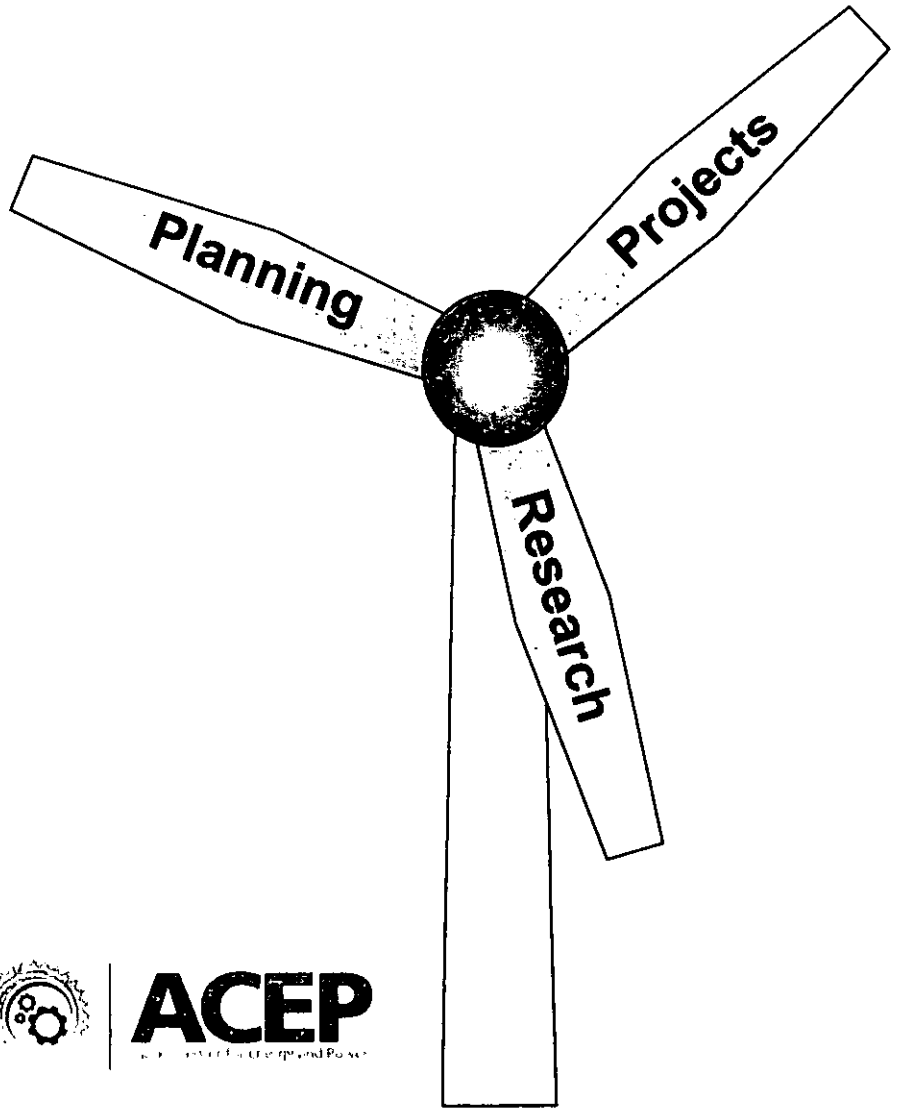
How do we get there?

- Make smart investments
- Take calculated risks
- Start with low-hanging fruit

How do we get there?



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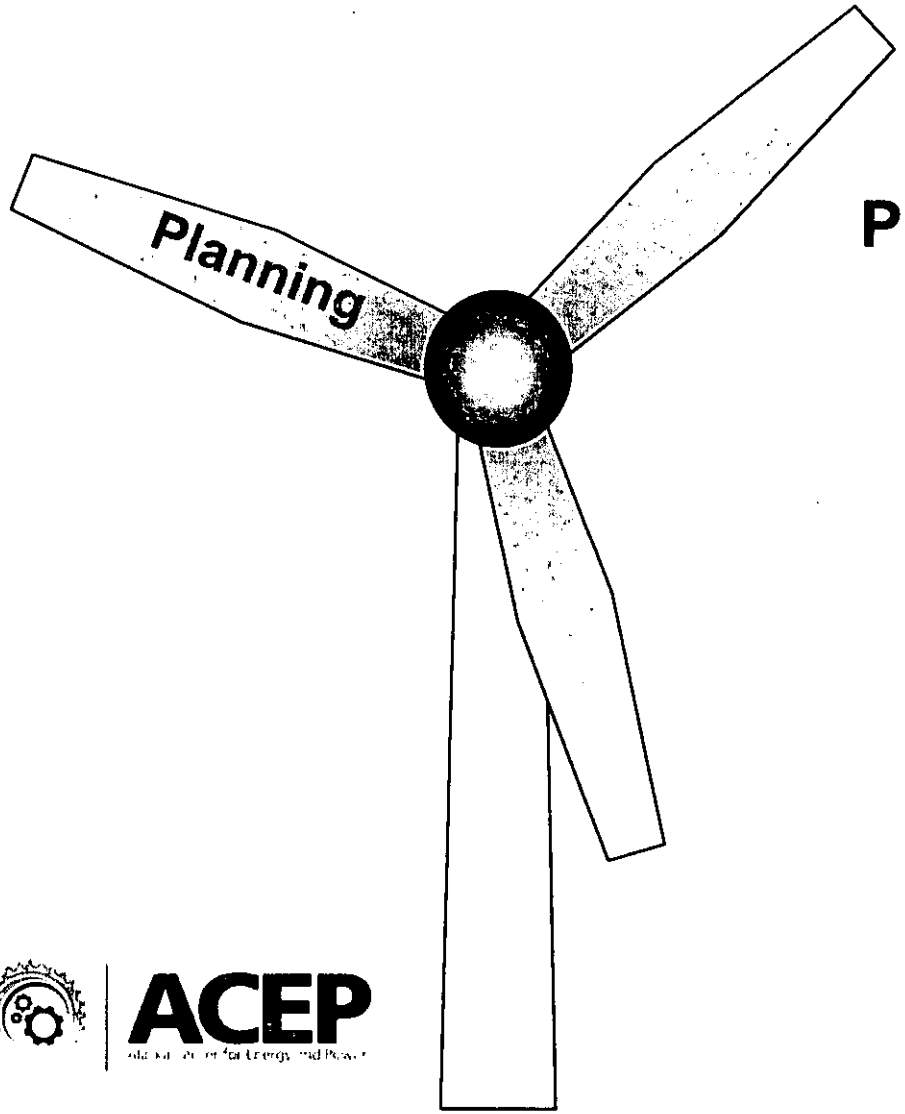
How do we get there?



Planning:

- Community level
- Regional
- Statewide

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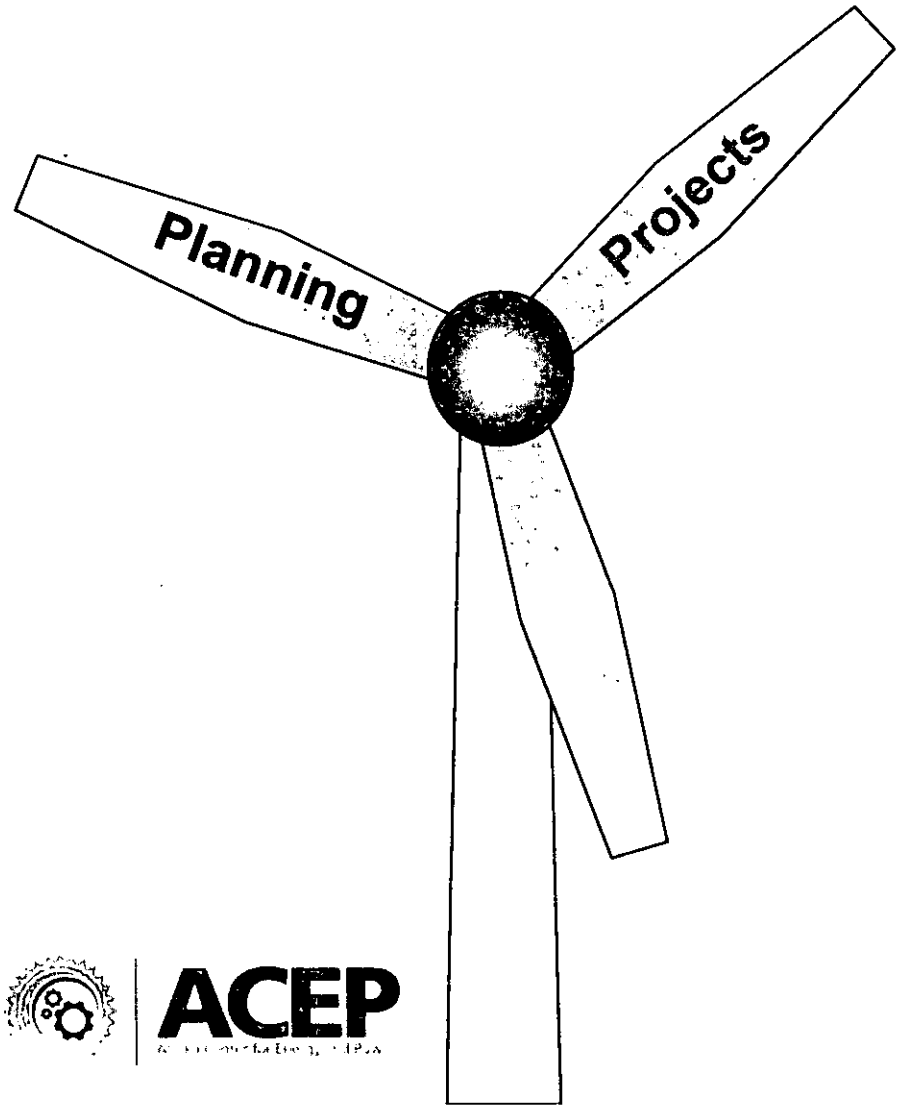
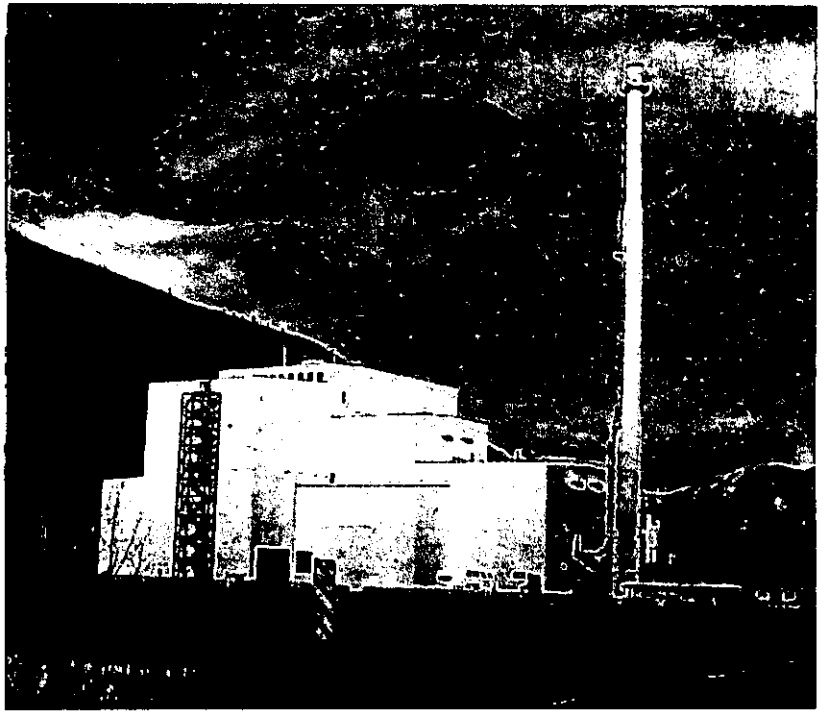
How do we get there: Projects





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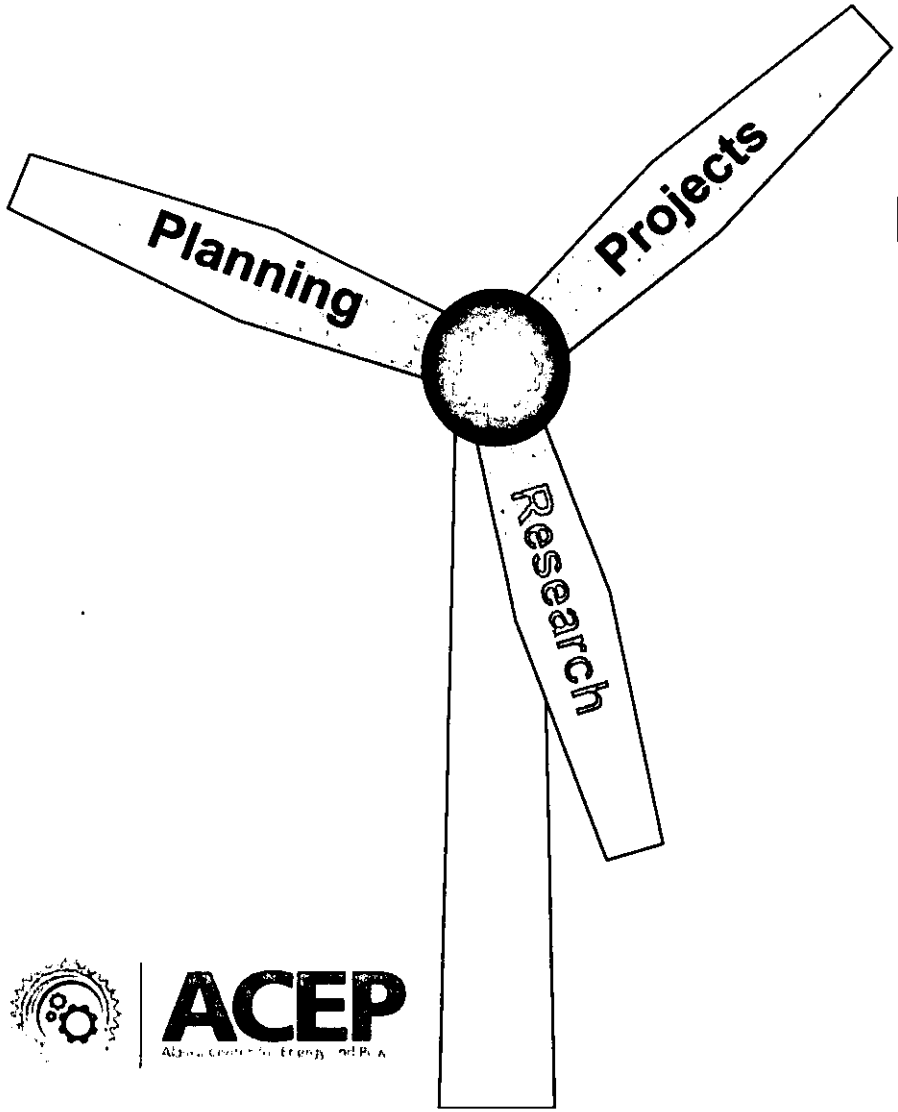
How do we get there: Research



Research:

- ‘Peering over the horizon’
- Needed for long-term success
- A good investment

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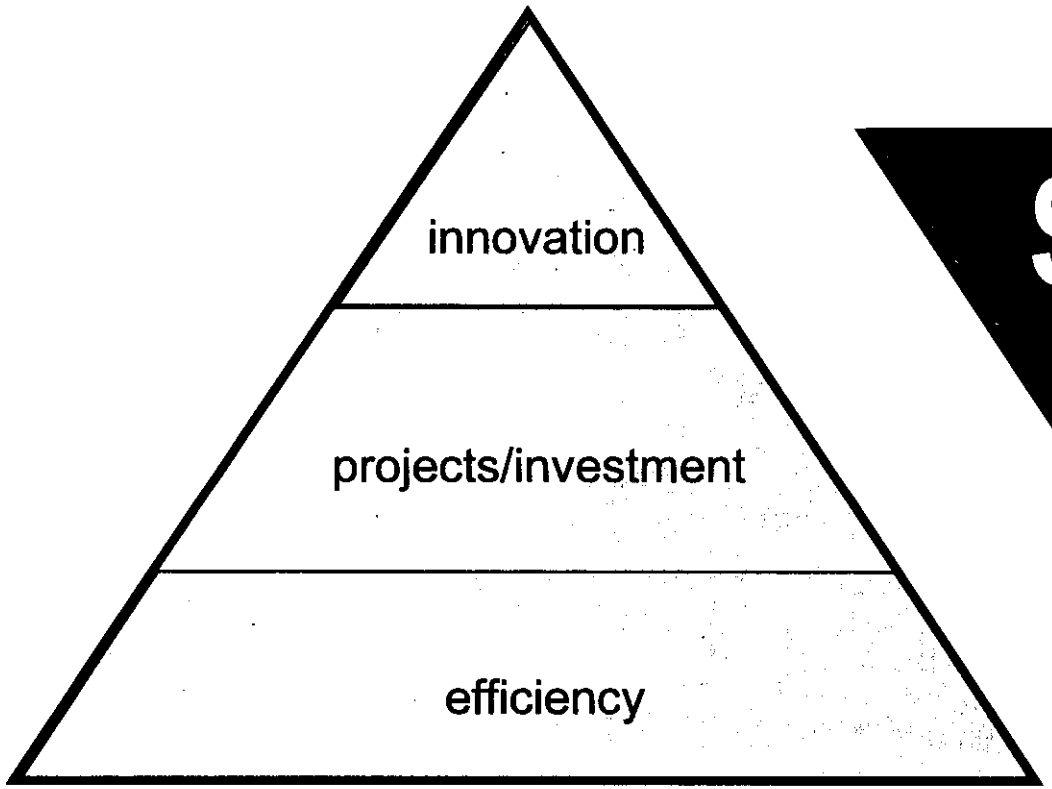
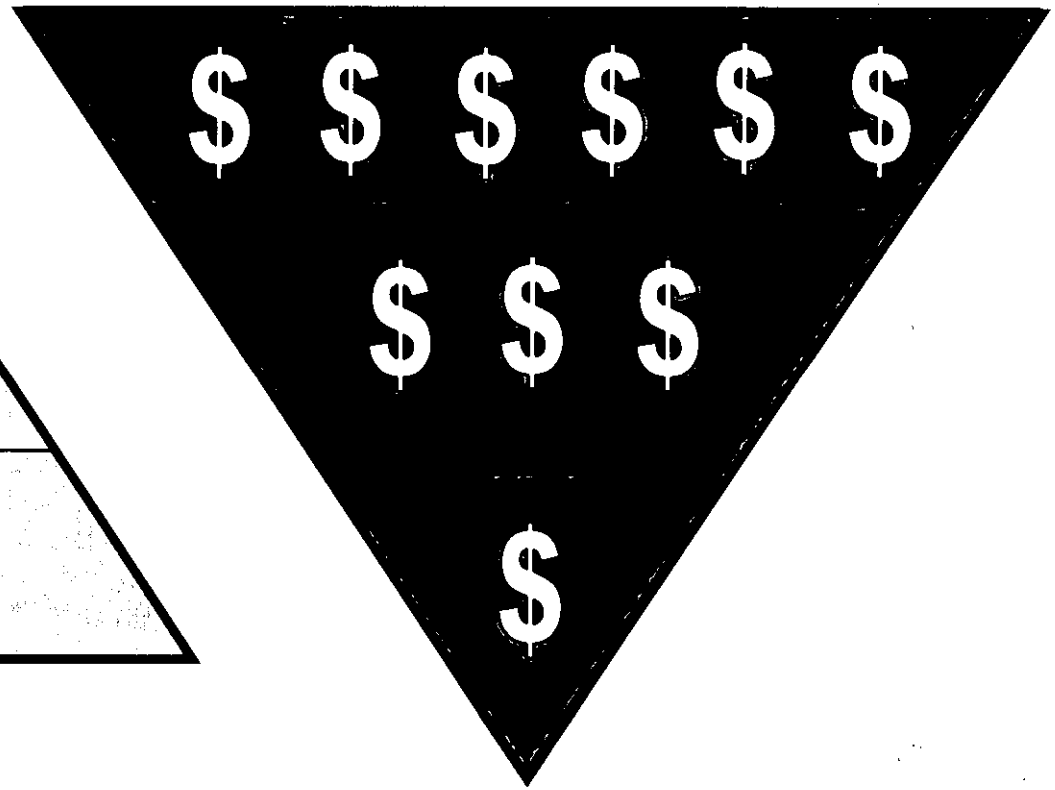
LiveLeak
LiveLeak
LiveLeak
YouTube
LiveLeak
YouTube

How do we get there?



BENEFITS

COSTS



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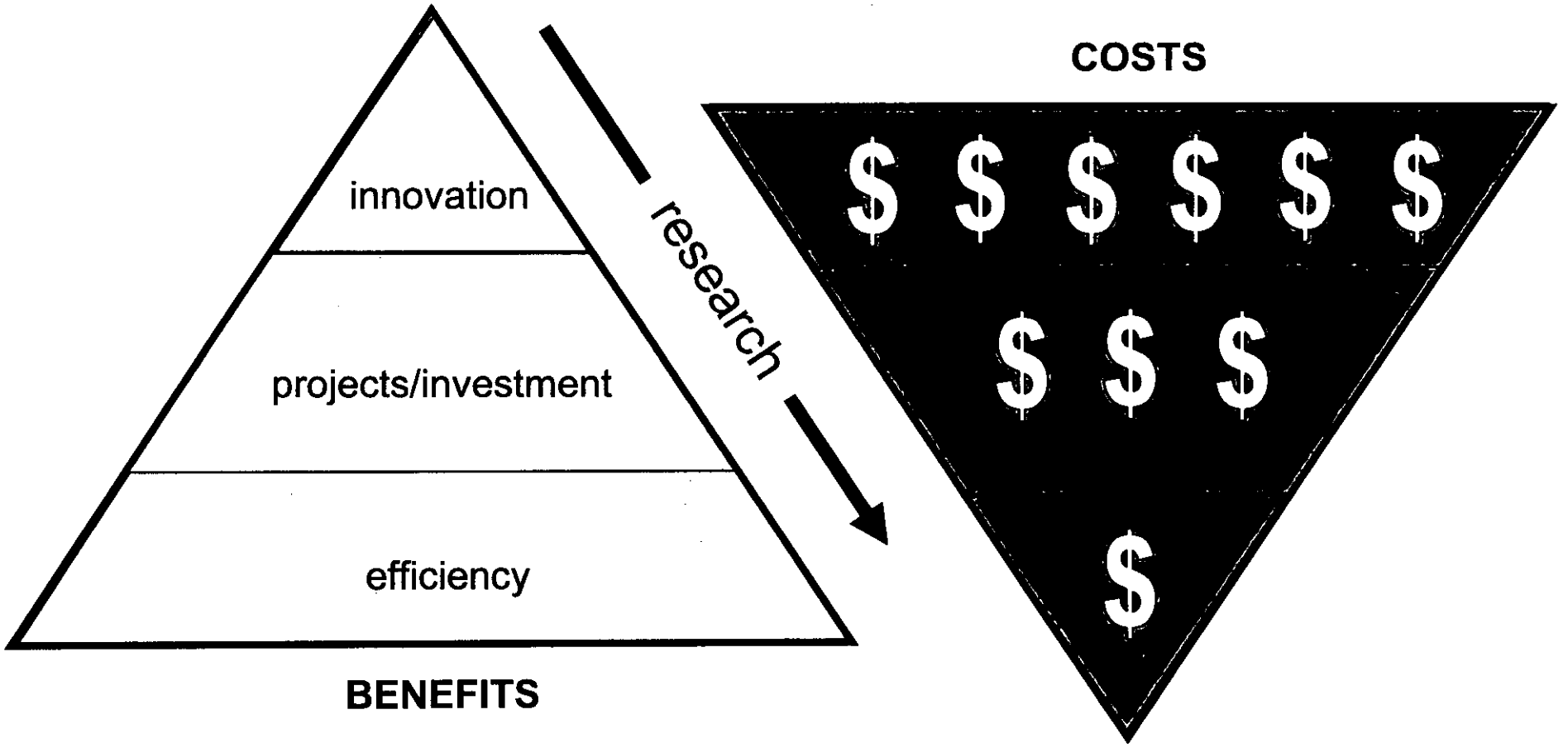
How do we get there?



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Role of ACEP

- Verify performance and reliability of equipment
- Assess technical and economic feasibility
- Test emissions
- Integration with existing power systems
- Resource assessment
- Procurement experiments
- Work with manufacturers to improve products for use in Alaska

ACEP

Role of ACEP

Serve as an impartial agent on behalf of Alaskan communities and agencies to ensure we are investing wisely in energy projects that make sense and that contribute to the long-term benefit of our residents

Help leverage external resources to address Alaska's energy challenges (funding, businesses, national laboratories, other universities, etc)

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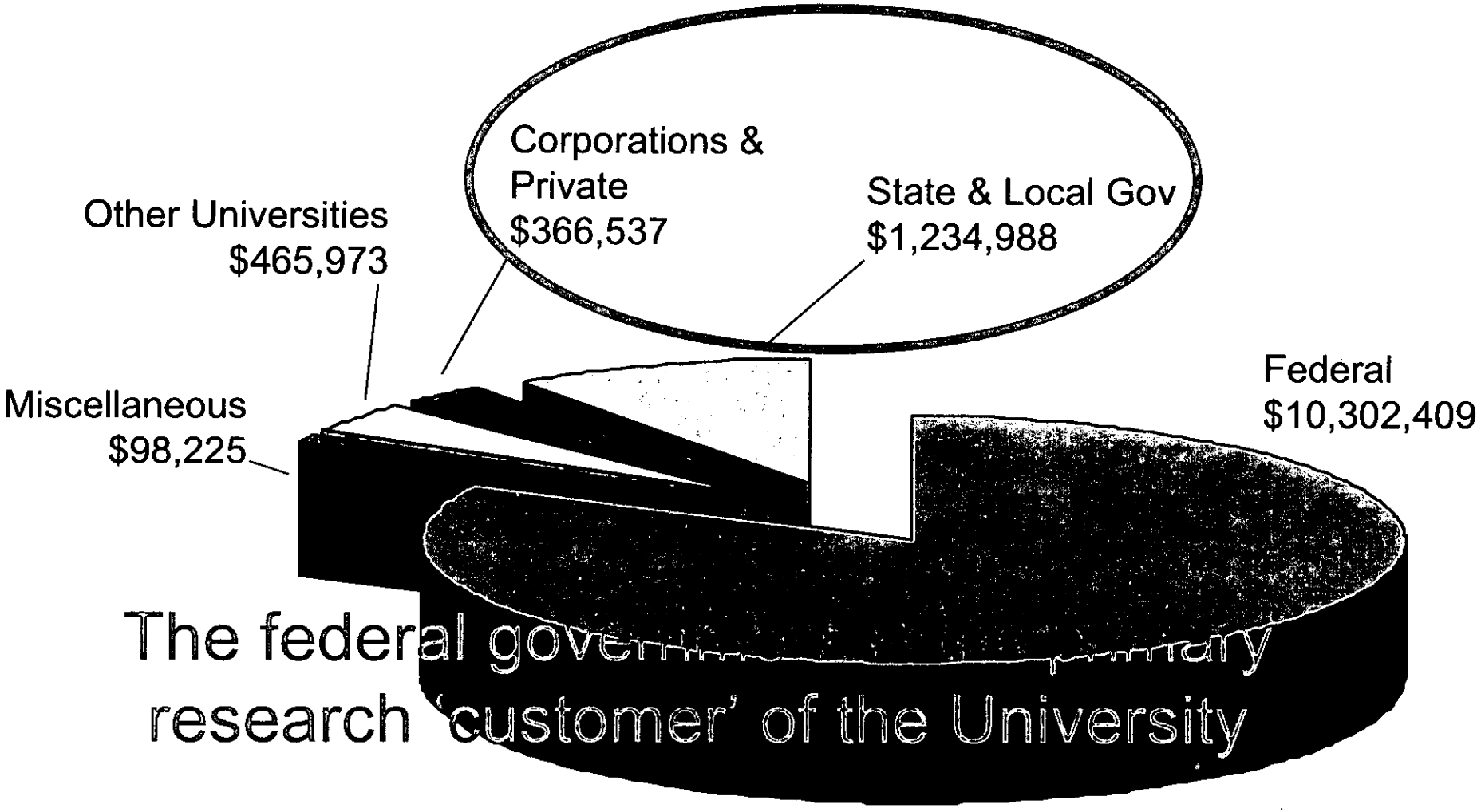
Funding Energy Research



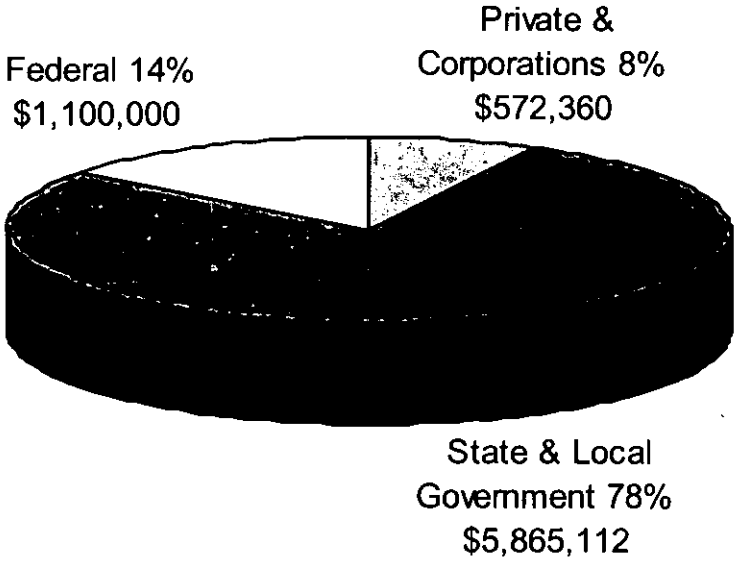
The federal government is primary research 'customer' of the University

INE 2006 Annual Report

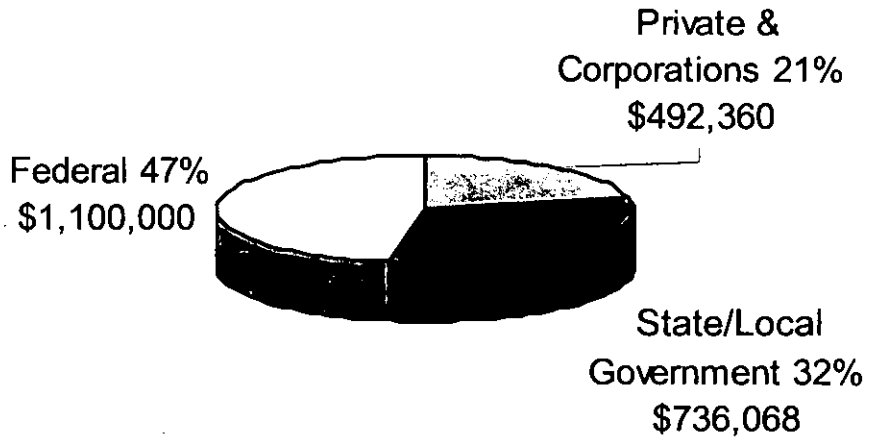
ALASKA CENTER FOR ENERGY & POWER

ACEP Funding to Date

Funding Requested
(via competitive proposals submitted)



Funding Awarded to Date



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Example from North Dakota Energy and Environmental Research Center

'The EERC is a high-tech, nonprofit branch of the University of North Dakota. The EERC operates like a business; conducts research, development, demonstration, and commercialization activities; and is dedicated to moving promising technologies out of the laboratory and into the commercial marketplace.' (from the EERC website)

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Example from North Dakota Energy and Environmental Research Center

- 84% of contracts are with private sector
- Has generated 14 spin off companies
- 290 scientists, engineers and support personnel
- Total expenditures in FY07: $27 million
- Regional impact: $94.5 million
- Receives no base state funding today – instead serves as a funding SOURCE for UND
- Substantial investment at state and federal level to develop the program initially

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FY10 University capital budget request to fund ACEP and other energy research:

- AEA-ACEP Partnership ($2M per year for 5 years)
- Rural Power Projects ($350k per year for 5 years)
- Data Information Network (ISER) ($200k per year for 5 years)
- Transportation Fuels ($250k per year for 5 years)
- Coal Technologies ($200k per year for 5 years)
- Carbon Sequestration ($250k per year for 5 years)
- Sustainable Infrastructure ($200k per year for 5 years)
- Biomass Energy ($700k per year for 5 years)

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Emerging Energy Technology Development Fund

- ☆ Would create an Alaska Energy Trust to administer grants and loans for R & D and demonstration projects for renewable energy and energy efficiency
- ☆ Would coordinate workforce training and development
- ☆ Alaska could get "first mover" advantage in several technologies including:
  - Biomass gasification
  - Tidal and Wave power
  - Energy Storage

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What a good state R&D program can do:

- Attract investment to the state
- Reduce Failures
- Improve existing projects
- Provide focus to energy initiatives
- Assist with developing prudent policy and planning
- Create jobs and develop new/expanded industries

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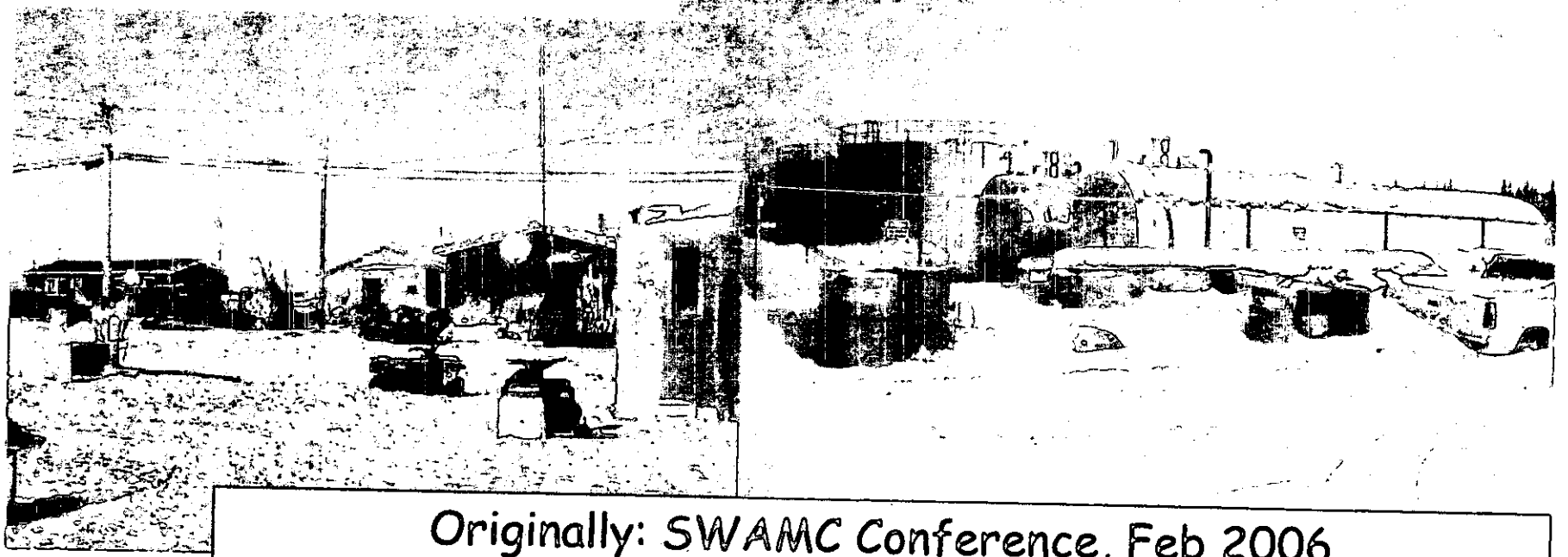
For more information visit:

www.uaf.edu/acep

ACEP

Five Almost-Practical Policies to address High Energy Costs in Remote Alaska



Originally: SWAMC Conference, Feb 2006

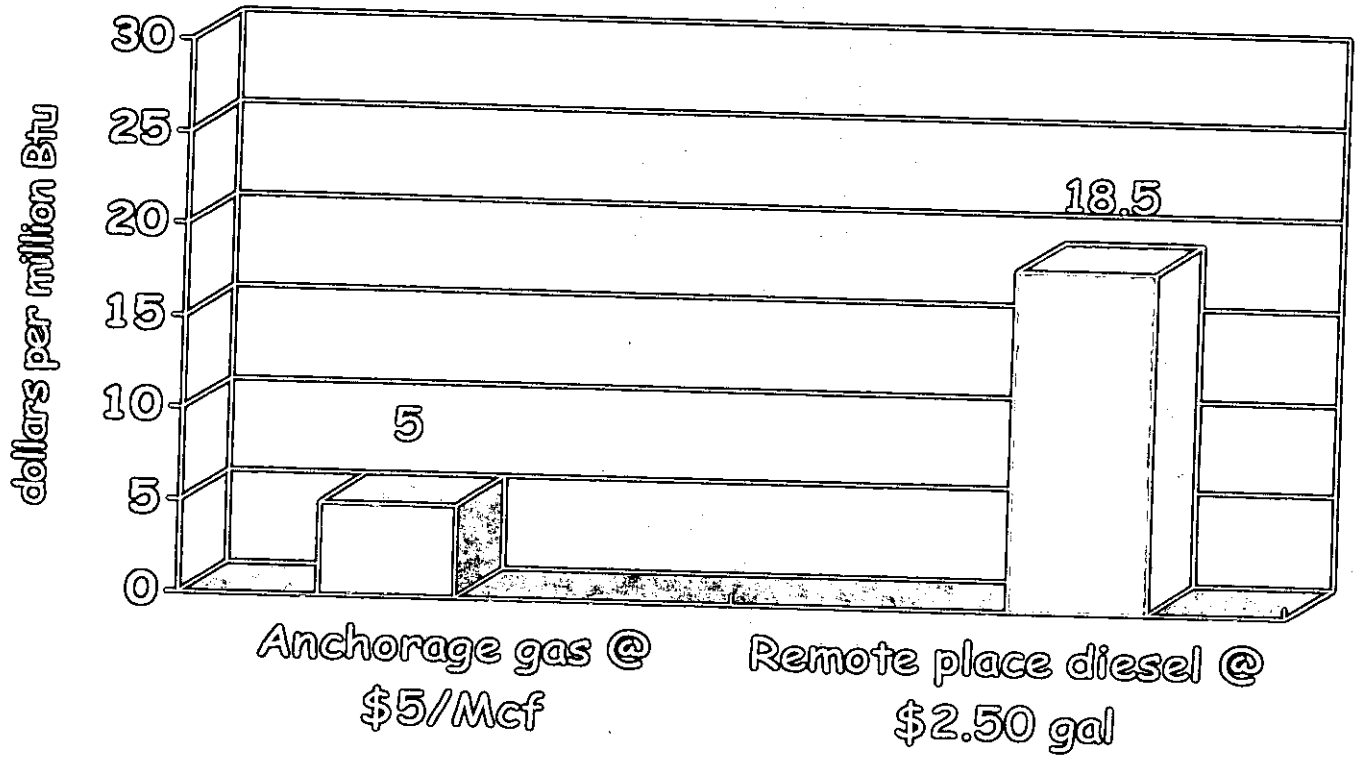
Revised Sep 2006

Steve Colt

UAA Institute of Social and Economic Research

steve_colt@uaa.alaska.edu

The Problem:
High energy COST = High energy PRICE



However, Price is Not Cost

- Very easy to reduce the price of things in remote Alaska
  - rolled-in pricing (First-class mail)
  - subsidized services (bypass mail)
  - cost-shifting (Bill the School District!)
- Much harder to reduce the cost - the overall resources used to provide energy when, where, how people need it

Physics Reminder: Energy is converted from one form to another

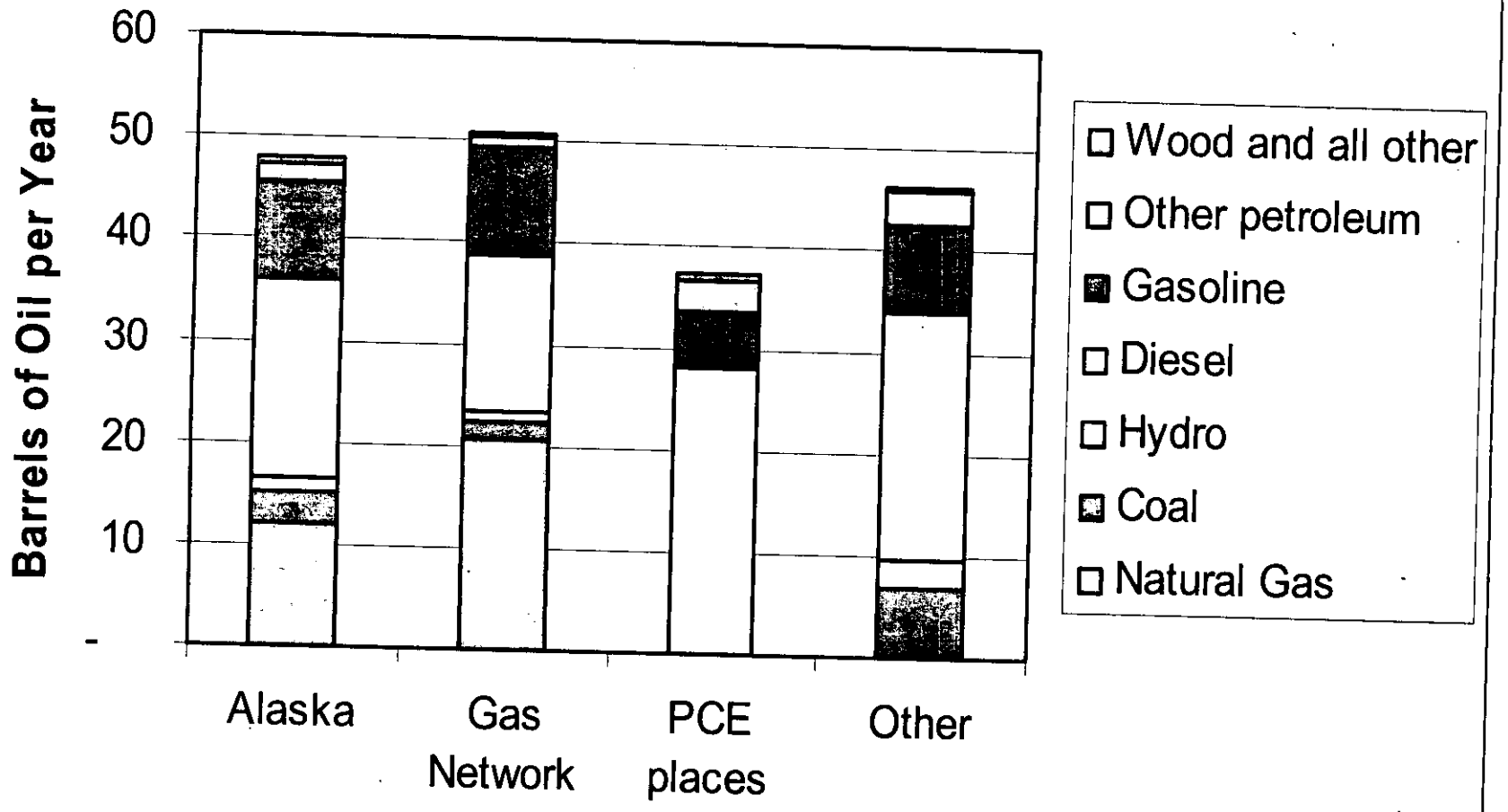
- Electricity is an energy "currency," not a primary energy source
- Hydrogen is an energy currency too!
- Example: Your Toaster

  Solar energy→ plants→Natural Gas→Electricity→Heat→

  (toast + low-grade heat)

Primary energy consumption per Alaskan

barrels oil per person per year



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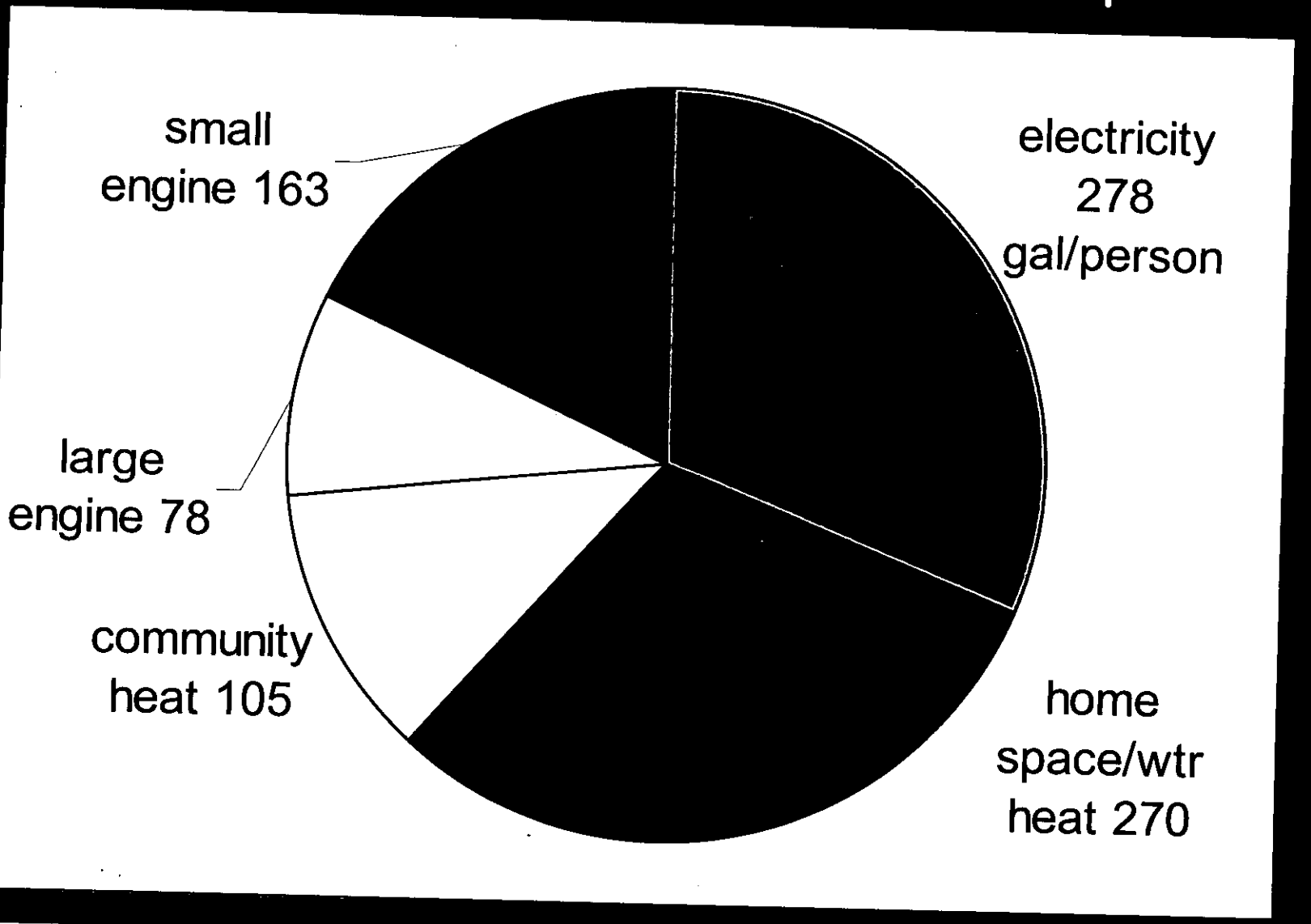
How we use it: about 900 gallons diesel/person/year in remote places

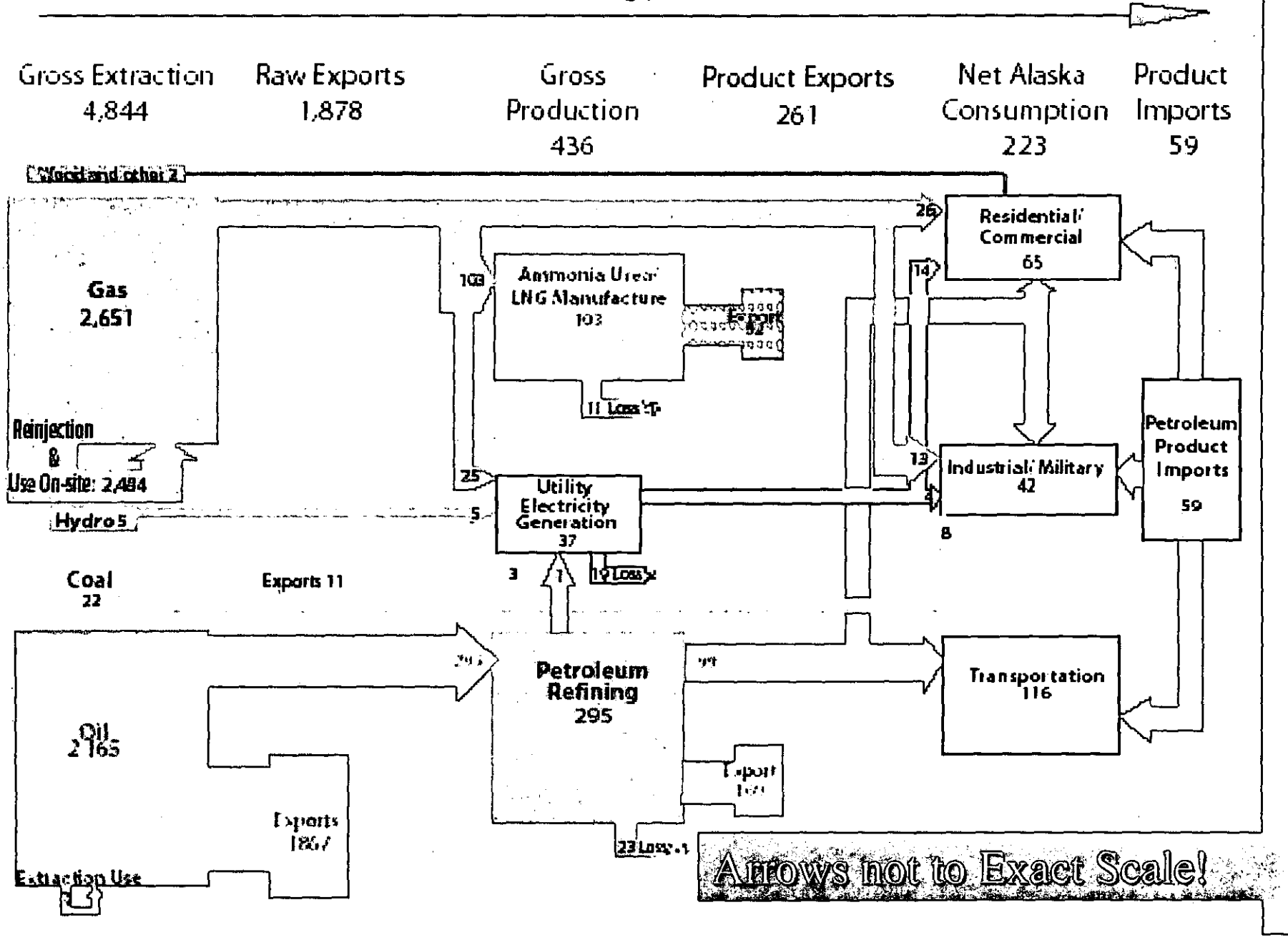


almost practical Policy #1: Share the wealth from high oil prices

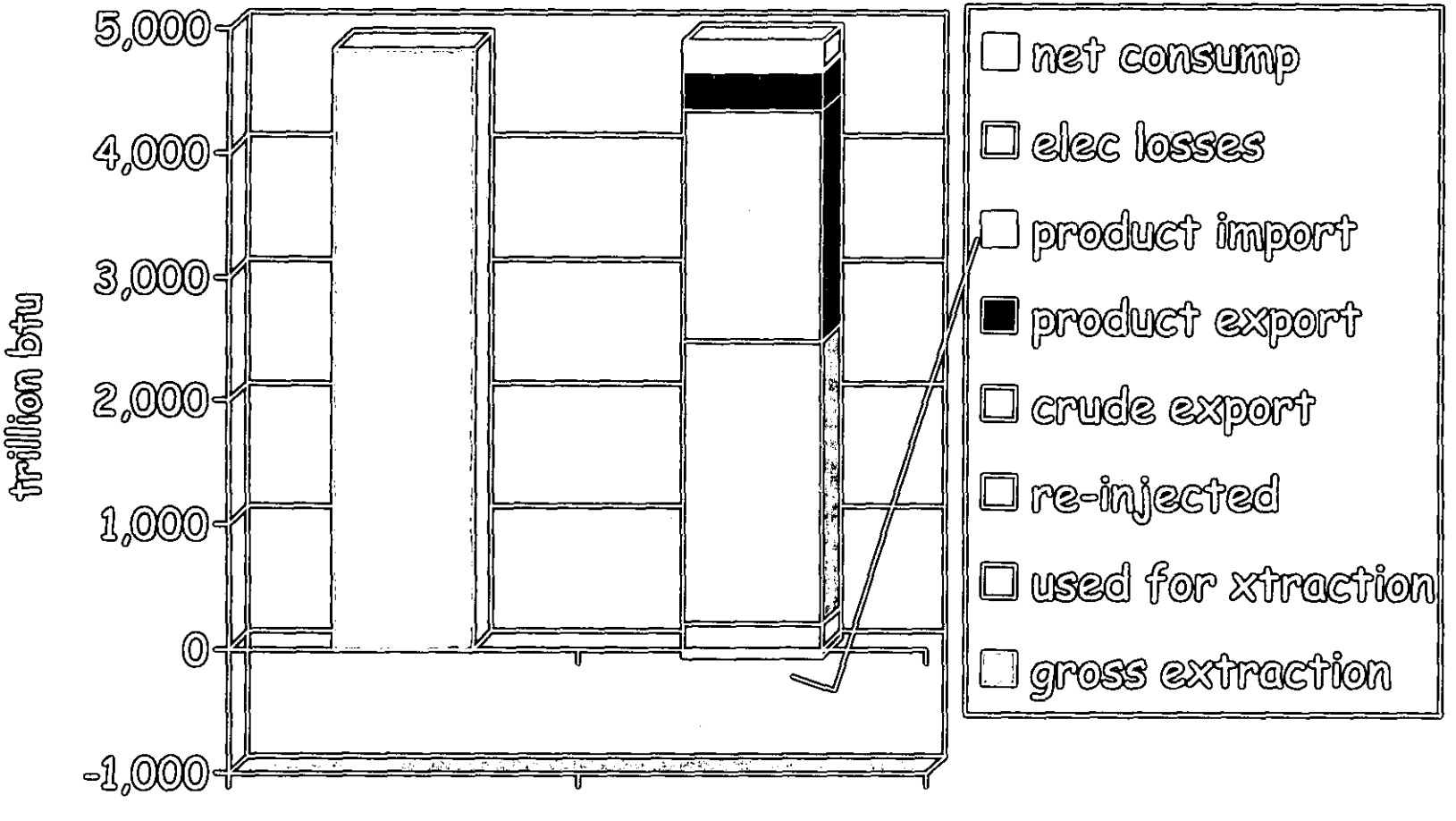
Practical because:

- Alaska is overwhelmingly a Seller of Energy.
- Therefore, we are in GREAT FISCAL SHAPE, overall, when oil prices rise.
- Short-term, do this with cash (revenue sharing) rather than fancy energy projects

2001 Alaska Energy Flow (Trillion BTUs)



Overall Disposition of Energy



Reduce the Energy Bill: Details

- Fully fund PCE, with sliding funding when diesel prices are high
- Community energy assistance tied to rising and falling oil prices

almost practical policy #2: Make PCE a Lump-Sum Payment

Practical because:

- Relatively easy to create a fair formula using existing data and program delivery channels
- Might also REDUCE program admin costs

Make PCE Lump-sum: Details

- Reward utilities for efficiency improvements
- Reward entrepreneurs for new technologies
- Reward consumers for being frugal
  - Preserve the Price Signal!

almost practical policy #3: Pre-fund energy costs (with an endowment) as part of a capital project

Practical because:

- We spend a lot of money on the "capital" budget
- It provides powerful signals for efficient design
- It's a proven, prudent way to build sustainable infrastructure
  - Most private universities require this

Pre-Fund Energy Costs as Part of a Capital Project: Details

- Include an energy (and maintenance?) endowment in all appropriations
- Maintain endowments in escrow;
- Make payments partly as lump-sum amounts to further encourage efficient facility design

almost practical Policy #3A: Include Life-Cycle Energy Costs in Evaluation of the "Low Bid"

Practical because:

- Communities could do this on their own
- Rewards designers for efficient design rather than penalizing them for higher up-front costs

almost practical Policy #4: Focus State capital $$ on Energy-Saving infrastructure, Away from Energy-Using Infrastructure

Practical because:

- You save the most $$ with up-front efficient design

almost practical policy #5: Focus State R&D dollars on Adaptation of Emerging but existing Technologies

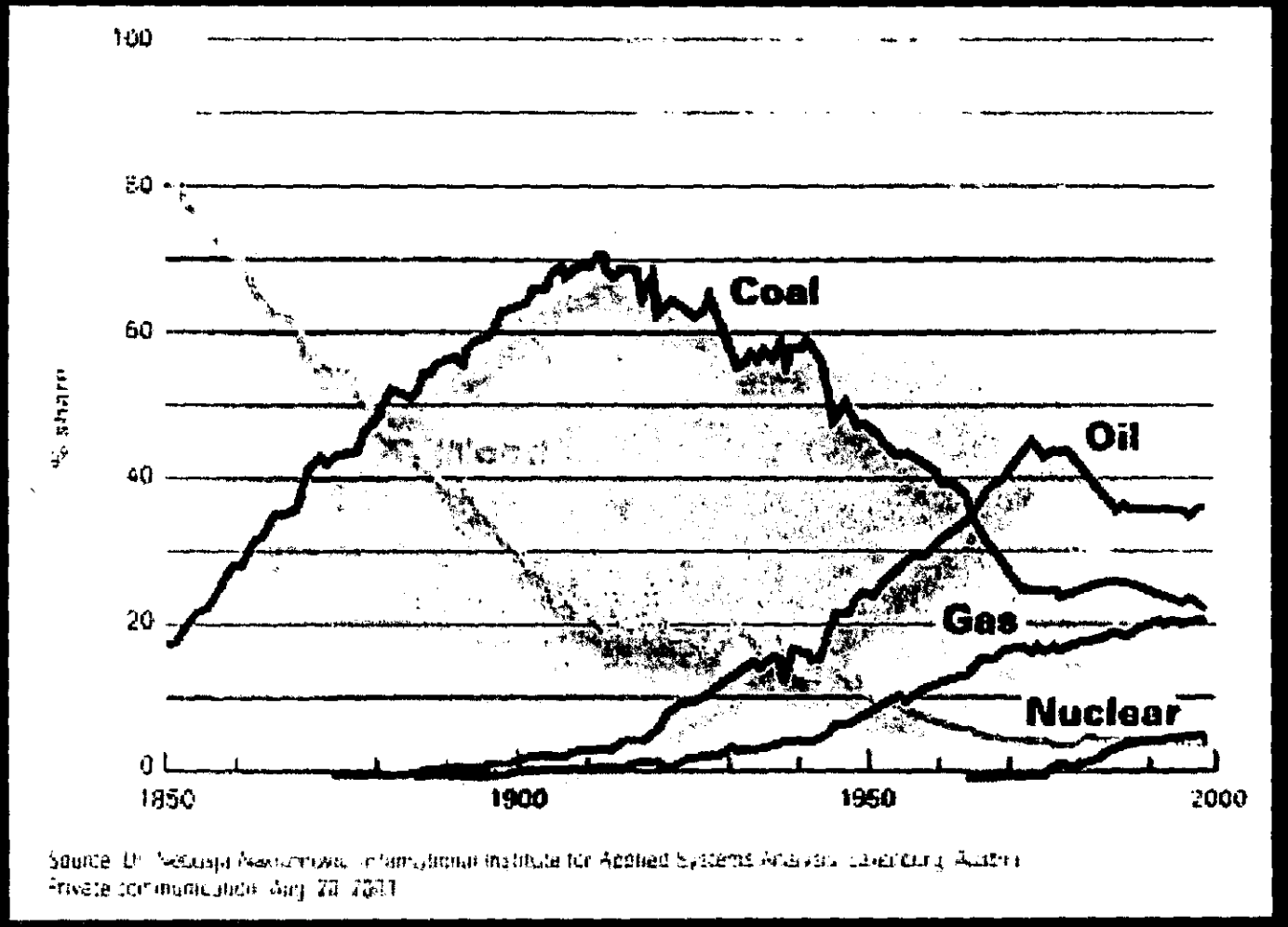
Practical because:

- Feds and private sector are conducting major efforts on "new" stuff
- Alaska is a unique market niche with harsh conditions, most technologies require adaptation

Focus on Adaptation: Details

- Continue support for wind technology, focus on shared O&M from regional nodes
- Pilot projects:
  - Direct Hydrogen combustion in vehicles
  - Small-scale coal gasification
  - Coal-bed methane
  - Biodiesel utilization

Changing Mix of U.S. Primary Energy Sources



Source: [illegible] International Institute for Applied Systems Analysis, Laxenburg, Austria
Private communication, July 28, 1981

www.iser.uaa.alaska.edu

- Other references:
-

by Scott Goldsmith, November 2003.

Alaska State Energy Policy

Introduction

Alaskans utilize energy to light and heat their homes and businesses and power their cars, trucks, trains, four wheelers, skiffs, fishing boats, and snow machines. Industry develops, refines and transports oil and gas, mining, fishing and other natural resources products. Alaska's energy policies need to be as broad as our use and production of energy.

The average Alaska household energy budget is divided with roughly 40 %spent on space heating, 35 %t for electricity, and 25 % for transportation; this varies significantly depending on the location. Historically, Alaska's energy policy and investments have been disproportionately focused on electricity generation and oil and gas development, transportation and refining. It is important that Alaska's energy policy be directed at the full range of energy uses and sources.

Alaska state agencies who carry out policy related to energy would greatly benefit from a clear and sensible energy policy. Alaska's energy policy should recognize the difference between energy costs and energy prices. Alaska's energy policy should also recognize that trade-offs exist between a policy's efficiency and its fairness (i.e. a policy that maximizes savings may not be fair and a fair policy may not maximize savings).

Current Energy Policy in Alaska

The following three goals appear to be Alaska's de facto energy policy since the discovery and development of oil and gas in Prudhoe Bay in the 1970s. This energy policy is separated into three parts reflecting three distinct energy policy goals:

1) Alaska's primary energy goal is to reduce the total cost of energy by decreasing the cost of energy supply and increasing end use efficiency without sacrificing the quality of life of any Alaskans. The cost of energy supply could be decreased by supplying needed capital, through grants and loans and management to renewable projects.

2) Alaska's secondary energy goal is to redistribute resources, in the form of price subsidies and payments to consumers, to equalize the burden of energy costs for all Alaskans in a manner that preserves the effect of natural price signals.

3) Alaska's tertiary energy goal is to ensure that energy prices are low enough in some communities to ensure that high energy prices do not cause the destruction or irreversibly damage of rural lifestyles and Alaska Native cultures. The state is willing to artificially (and possibly unsustainably) manipulate energy prices to achieve this end.

Recommendations for Future Energy Policy in Alaska

General Recommendations:

Recognize that oil prices are volatile; establish a long-term oil price forecast on which to evaluate long-term capital investments in energy project to displace fossil fuels.
Tie crude oil and natural gas price assumptions to Alaska Department of Revenue or the U.S. Energy Information Administration long-term oil price forecasts to evaluation projects. The state should determine a reasonable price for carbon emissions to incorporate within the price forecast until a federal price is established

Recognize the importance of discount rates in the evaluation of energy policies.
The discount rate has a significant impact on the net present value and the benefit cost ratio of energy projects. The discount rate reflects not only the opportunity cost of an investment but also how much the investor values the future. The discount rate should not be considered just a value used in comparing competing projects, but instead it should be considered a primary part of state energy policy.

Support establishing national and global policies for capping and reducing carbon emissions.
This will provide a more efficient outcome than a defensive posture toward greenhouse gas legislation.

Develop a carbon emissions reduction plan.
Developing a plan and state goals will provide investment certainty and stimulate markets for renewable energy projects.

Retain a share of the renewable energy grant funding at the Alaska Energy Authority for development of viable energy projects.
The Alaska Energy Authority has experience in managing and developing renewable energy projects. The agency is able to identify renewable energy projects with high rates of return for which there are no grant applications. Retaining a portion of the state's renewable energy funding would allow AEA to identify, develop and manage good projects.

Provide a mechanism for funding applied energy research within the state.
At this time, there is no state funding allocated to energy research and development (R&D). If Alaska hopes to successfully develop a suite of alternative and renewable projects in the future, it will be necessary to address some specific research questions that are directly relevant to ensuring the success of those projects. By reducing failures, prudent investment in R&D can have an excellent return on investment.

Provide a mechanism for developing and maintaining baseline data needed for conducing applied energy research.
Currently there is insufficient data on community energy and fuel use to accurately evaluate the renewable energy and other capital projects.

Recommendations related to electric energy sector:

Development of an Alaska Renewable Energy Goal
Governor Palin recently announced a goal to meet 50 % of Alaska electric energy needs with renewable energy technologies by 2025. This is currently the most aggressive goal in the country; however, Alaska currently meets 25 % of electrical energy needs with renewable energy technologies. Given Alaska's abundant resources, reaching 50 % is well within reach. Additional components of this goal could include:

1) Meet the goal of 50 % renewable energy technologies while investing in technologies and projects at the lowest cost to ratepayers and the Alaska state budget energy.

2) Give priority to integrated renewable energy projects that displace both electric generation and space heating and have the lowest cost in relation to the cost of the non-renewable energy that they displace.

3) In urban Alaska, providing low interest loans rather than grants for energy projects may provide a "market test" for energy supply alternatives while grants may be necessary in rural communities.

Recommended adjustments to the Alaska Renewable Energy Fund
The Alaska Energy Authority should retain a share of the allocated Renewable Energy Grant funding. AEA has experience in managing and developing of renewable energy projects, and the agency is capable of identifying renewable energy projects with high rates of return that may fail to submit application for grant funding.

Develop policy that positions Alaska as the world's leading exporter of small-scale, off-grid integrated energy systems and the know-how needed to adapt them to local conditions.
About two billion people live off the grid or have no electricity at all. Alaska is currently importing the equipment and some of the technical know-how for renewable energy projects under development. Alaska can be a de facto world leader and test bed for small-scale, off-the-grid energy systems while solving our energy issues one village at a time. This will require establishing some funding mechanism for research and development and demonstration projects.

Set a conservation target for communities to offset 30 % of incremental resource needs through conservation by 2020.
This goal would reduce the growth in electricity demand so that by 2020 500 GWh per year of currently forecast Railbelt needs will be met through demand reduction measures. This may include energy efficiency, conservation, and other demand side solutions.

Encourage utilities to pursue cost effective and competitive demand side management opportunities.
Energy efficiency is a critical piece of utility resource plans. Through demand side management (DSM) technologies, combined with price incentives, energy utilities play a

vital role in promoting energy conservation with investments in energy efficient technologies and building designs. Reducing electric utility peak loads energy costs can be reduced energy by avoiding the construction of new capacity or operation of inefficient peaking plants.

Explore new utility rate structures that encourage energy efficiency and conservation. A key demand side management tool is pricing structures to either discourage consumption overall, or shift demand to less costly periods. Smart meters and peak load pricing for electricity and natural gas have been shown to reduce consumption and shift demand to lower cost periods. In addition to electricity and space heat, establish solid waste utility rate structures that reward recycling and reduction of garbage to landfills.

Establish a competitive request for proposals for the use of sawmill residues, logging debris and beetle-killed timber for space heating and electricity generation to help mitigate impacts from bark beetle infestation.
The spruce bark beetle (Dendroctonus rufipennis) outbreak in Southcentral Alaska has affected 2 to 3 million acres in the past 10 years. In heavily affected stands, often all spruce trees greater than 10 cm are killed.[1] The area affected by tree death is one of the largest ever documented from an insect outbreak in North America.[2] Using this biomass for energy will reduce fire danger while restoring damaged forests and lowering energy costs.

Recommendations related to space heating:

Expand Energy Efficiency Standards for residential housing by 2010.
Expand the Alaska Housing Finance Corporation (AHFC) Building Energy Efficiency Standard (BEES) to all Alaska residential housing.

Implement Energy Efficiency Standards for commercial buildings by 2012.
Expand the Alaska Housing Finance Corporation (AHFC) Building Energy Efficiency Standard (BEES) to include commercial buildings by developing appropriate measures.

Implement an Energy Efficiency Labeling Program for buildings.
Energy performance labeling supports increased energy efficiency by making the efficiency of buildings observable, in much the same way that the Energy Star labels provide information for consumers on appliance energy use. Labeling also supports other policies and programs, such as energy-efficient mortgages, promotion of energy efficiency by realtors and property inspectors, and incentives to promote energy efficiency upgrades of houses and buildings. This program could use the AHFC AKWarm Energy Star rating system for new construction as well as the Weatherization program to rate retrofits.

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[1] Juday, Glenn P., Spruce Beetles, Budworms, and Climate Warming, Department of Forest Sciences, University of Alaska Fairbanks, no date. http://www.cgc.uaf.edu/Newsletter/gg6_1/beetles.html
[2] Werner, R.A., and Holsten, E.H. 1983. Mortality of white spruce during a spruce beetle outbreak on the Kenai Peninsula in Alaska. Canadian Journal of Forest Research 13(1):96-101.

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Require new state public sector buildings to integrate environmental design to achieve the highest standards for greenhouse gas emission reductions, water conservation and other building performance measures.
Buildings have many environmental impacts, including energy demand, water consumption, waste water production, the embodied energy of building materials, solid waste production, and in some cases, disposal of toxic materials.

Continue to fund the home weatherization programs through the Alaska Housing Finance Corporation.
These programs are well structured to address the needs of homeowners throughout Alaska. Research indicates that the programs reduce energy use by 25 %. The program also attempts to train energy raters and weatherization crews living in the communities and regions where the work is occurring thus fostering local work skills and employment.

Fully fund the Low Income Energy Assistance Program (LIHEAP).
This program assists households with high energy costs when oil prices increase while maintaining market prices signals to encourage efficient use of energy. State revenues also increase when oil prices increase so the funding is more readily available to fund this "counter cyclical" program. The program has an administrative structure in place to readily respond to pressures on household budgets of rising energy prices and is available for all regions of Alaska.

Policy recommendations related to industrial energy use

Develop an Industrial Energy Efficiency Program for Alaska to address specific challenges faced by Alaska's industrial sector.
Establish an Industrial Energy Efficiency Program for Alaska to address challenges and issues faced by the industrial sector. The program will encourage industry driven investments in energy efficient technologies and processes; reduce emissions and greenhouse gases; promote self generation of power; and reduce funding barriers that prohibit energy efficiency in the industrial sector. Some specific strategies include developing a results-based pilot program with industry to improve energy efficiency and reduce overall power consumption and promote the generation of renewable energy within the industrial sector.

Eliminate routine flaring at oil and gas producing wells and production facilities by 2019 with an interim goal to reduce flaring by 50 percent by 2014.
Reducing flaring is an issue for many jurisdictions and the World Bank is leading a Global Gas Flaring Reduction Partnership. Routine associated gas flaring is considered gas that meets an economic threshold for conservation. Operators will be required to perform an economic analysis of all sources of continuous solution gas flaring and subsequently tie in any gas that shows a net present value greater than zero.

Explore opportunities and new technologies to develop underground disposal of carbon dioxide (sequestration or carbon capture and storage).
Geological carbon sequestration involves disposing of carbon dioxide safely and permanently in carefully selected underground locations. There are opportunities to

dispose of carbon dioxide into depleted gas reservoirs or specific formations with saline water, or to use the carbon dioxide to enhance oil recovery.

Establish policies and measures to reduce industrial greenhouse gas emissions. Alaska industries with the highest greenhouse gas emission estimates are those engaged in the energy production and energy delivery business accounting for approximately 36 % of greenhouse gas air emissions.

Policy recommendations related to transportation

Support the development of community transit systems and plans to provide alternatives to private passenger vehicles for transportation. On-road vehicles account for approximately 18 % of Alaska transportation greenhouse gas emissions and a similar proportion of household energy budgets. Community transportation systems provide accessibility to underserved members of the public including senior citizens, low income workers, the physically handicapped and students and facilitate their ability to get to jobs, school, medical facilities, and purchasing food, clothing and other essentials. In Anchorage in 2008, the People Mover transported over 4.2 million riders an average of 4.52 miles per rider displacing approximately 1 million gallons of gasoline and 20 million pounds of CO_2 one gallon of gasoline creates 20 pounds of CO_2).[3]

Enhance transportation planning and decision-making criteria by adding CO_2 emissions as criteria in transportation decisions. By adopting criteria that estimates a project's CO_2 emissions for regional and statewide transportation plans and state transportation improvement program projects (STIP), the public and decision makers can be informed on what projects' CO_2 emissions will be and can make decisions accordingly.

Make transportation investments where existing or planned development will encourage public transportation use, walking, and bicycling. Use the statewide transportation and STIP criteria to support greenhouse gas (GHG) reducing programs and projects. Give greater emphasis to Plan and TIP criteria and projects that support sustainable land use and transit-oriented development; that promote transit, ridesharing, and travel demand management coordination; and that include bicycle and pedestrian improvements that will generate significant use of these modes.

Remove from law the limits on the percentage of Alaska Department of Transportation's State Transportation Improvement Program (STIP) that can be spent on enhancements. Also remove any limits on the ability of communities to improve pedestrian, bicycle and trail projects and safety programs.

[3] Anchorage People Mover rider ship statistics provided by Alton R. Staff, Planning Manager, Anchorage Public Transportation Department, February 24, 2009.

Encourage more compact communities and land use policies to reduce energy use from the dependence on single occupancy vehicles and reduce the cost of transportation to Alaska families by giving priority to projects in areas identified in local and regional plans as being suitable for concentrated development and/or redevelopment, support initiatives that increase sustainability.
According to John Horsley, Executive Director, American Association of State Highway Transportation Officials (AASHTO), one third of transportation's contribution to emission reductions will be shaped by transportation reauthorization investments, policies and improved fuel efficiency standards. The other two thirds will come from federal, state, and local energy policies, local land use policies, the effect of higher fuel prices, and new technologies.[4]

Support the acquisition of clean and fuel-efficient vehicles for public fleets.
State and regional agencies and urban municipalities should buy more efficient cars and trucks and increase the use of lower-carbon fuels. By doing this, agencies and municipalities will assemble a cleaner fleet and save money on energy.

Support legislation that encourages the expanded use of electric cars.
Electric cars have the potential to reduce energy costs in Alaska communities with excess electricity from renewable sources. These include small, Southeast Alaska communities off the highway system and remote communities developing wind generation facilities. Electric cars, and potentially electric four wheelers, are well suited for off-highway use and are a natural fit for these communities.

Support initiatives to eliminate unnecessary idling.
Consider developing an anti-idling regulation that prohibits idling the engine of any motor vehicle while the vehicle is stopped in excess of five minutes (with exceptions for activities such as maintenance and operating equipment such as delivery lifts). With technology that is now available, buses can be automatically switched off if left idling for over five minutes.

Consider environmental issues during transportation project selection.
In particular, air quality and the reduction of pollutants (CO, NOx, VOCs, particulates, and CO_2), the protection of water resources (soil and water contamination, stormwater management, and wetlands impacts), open space, and fish, wildlife and ecosystem preservation; and value those projects that reduce negative impacts.

[4] Horsley, John, Executive Director, American Association of State Highway Transportation Officials (AASHTO), Reauthorization and Climate Change, presentation at the Transportation Research Board Annual Meeting, January 2008.

Alaska State Legislature
Senate Special Committee on Energy

Cambridge Energy Research Associates Qualifications

February 26, 2009 • Juneau, Alaska

David Hobbs, Managing Director

Michael Marinovic, Vice President, Consulting

James R. Meitl, Senior Director, Business Development

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The CERA Mission

To provide insight into the energy future...

- Provide comprehensive, **integrated** research and thought leadership on market fundamentals, industry dynamics, and strategy in the energy sector
- Offer unique **insights**, often well ahead of conventional wisdom, into the most pressing challenges—economic, geopolitical, financial, technological, regulatory, environmental, and managerial
- Help clients **anticipate** the energy future and make informed strategic, investment, and market decisions
- Foster a **community** of senior-level decision makers

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Source: Cambridge Energy Research Associates.

CERA Strategic Consulting and Advisory Services

- **Our Perspective.** Concerns over climate change, energy security and economic development are reshaping the competitive landscape of the global energy business. Through our unique integrated global energy scenarios and outlooks, we analyze markets in a global context while bringing quantitative results at the local level.

- **Our Approach.** Few consulting firms can match CERA's unique blend of profound energy industry knowledge, leading research, and hands-on experience. In working with our clients on strategy engagements, we leverage our deep knowledge and market leading research from all parts of the energy industry.

- **Our Experience.** CERA has provided the energy industry with advice and critical insight for more than 20 years. We have a diverse clientele of more than 400 leading governments, energy firms, and non-governmental organizations worldwide providing CERA with unparalleled breadth and depth of experience.

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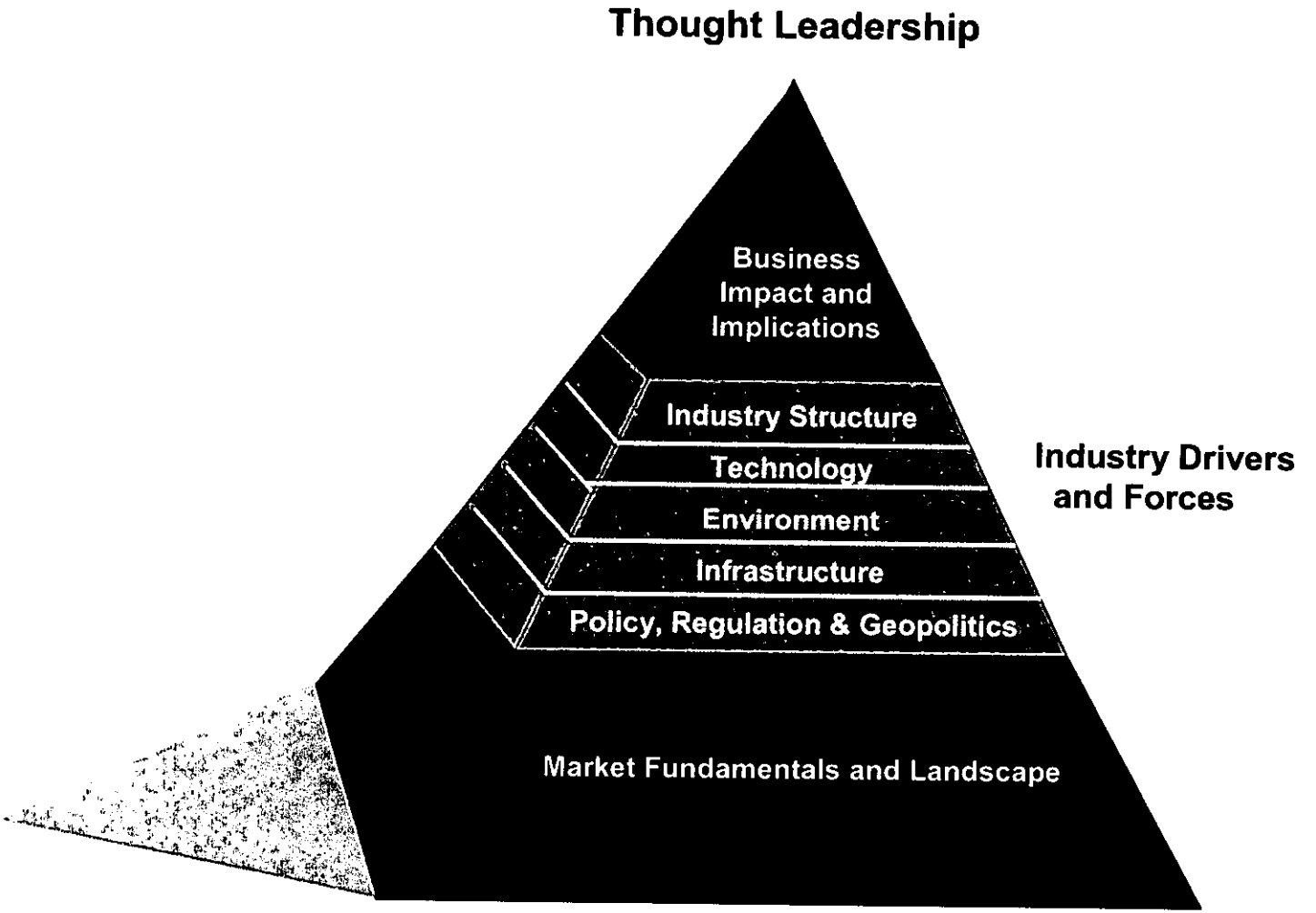
CERA Advisory and Consulting Services

Insight delivered through analysis of fundamentals, industry drivers, and strategy



Source: Cambridge Energy Research Associates.

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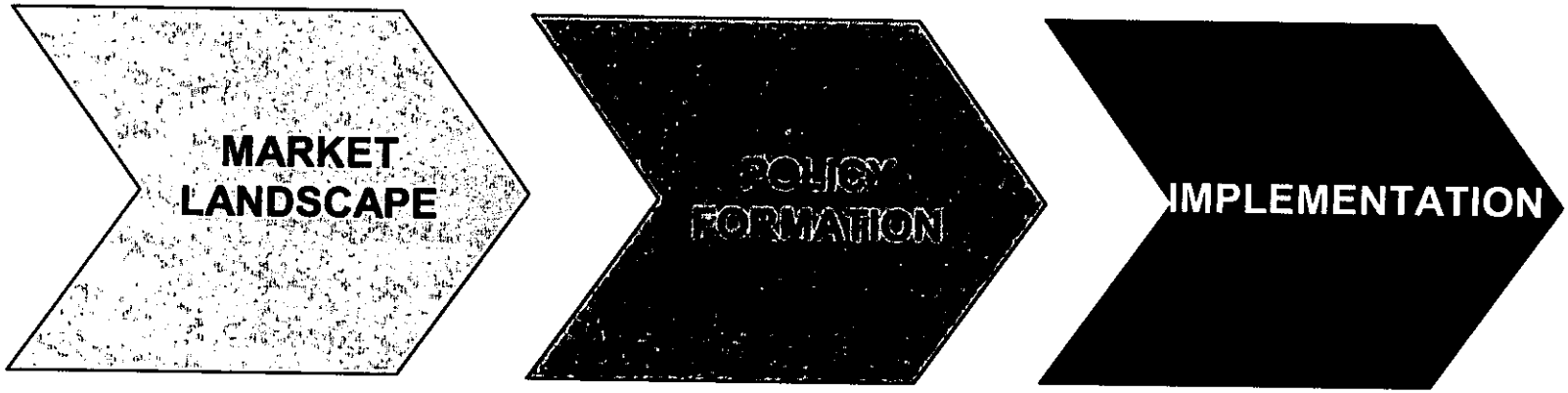
Policy Methodology and Selected Previous Engagements

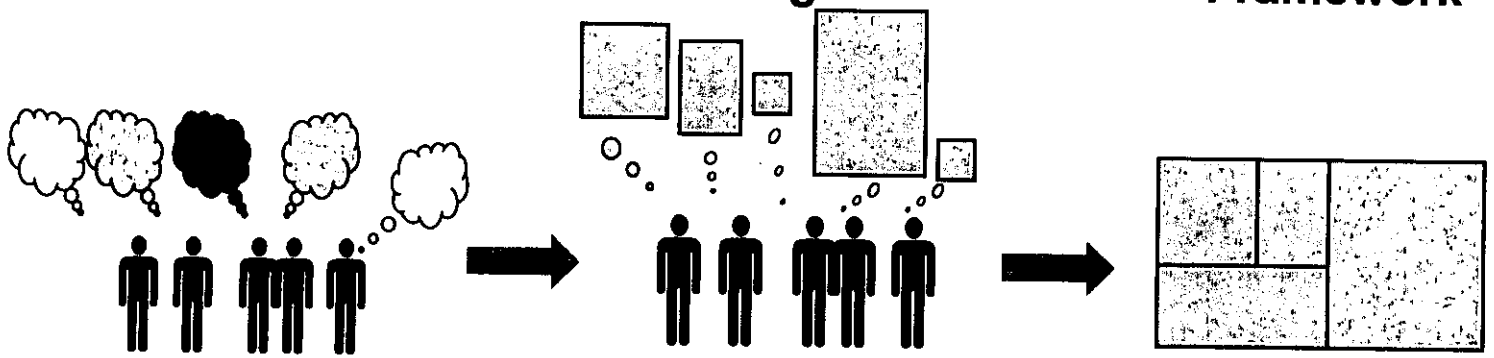
Energy Policy Roadmap Components



Diverse Views

Structured Dialogue

Common Framework



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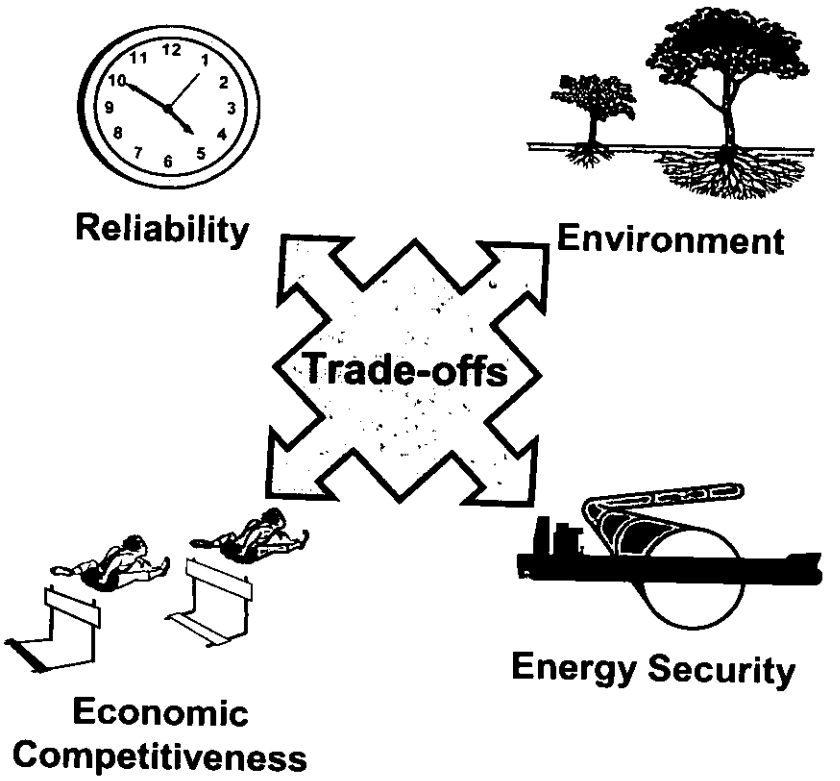
Role of the Market Landscape in Developing an Energy Roadmap

Defining the Landscape → *Defining the Policy Choices*

- Growth objectives
- Social, environmental and planning constraints & commitments
- Outside Linkages
- Geopolitical, economic, fuel and technology outlooks
- Supply and demand projections regionally and Globally
- Current Institutional Structures



Source: Cambridge Energy Research Associates.

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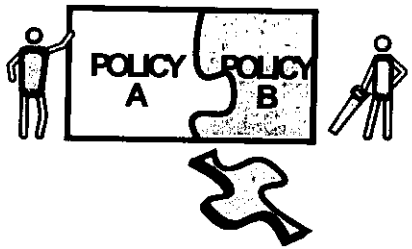
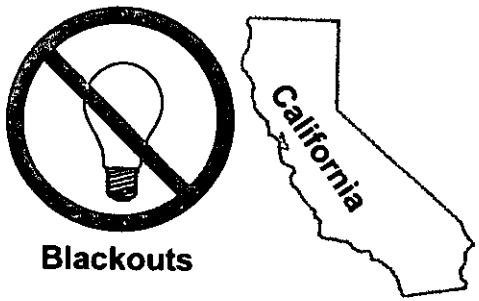
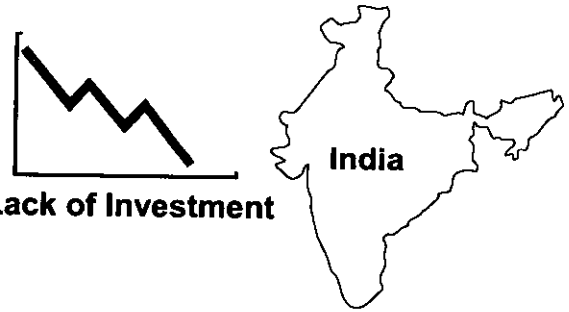
Policy trade-offs Must be Recognized and Resolved Early on



Or Face the Consequences…





China

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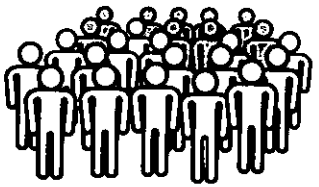
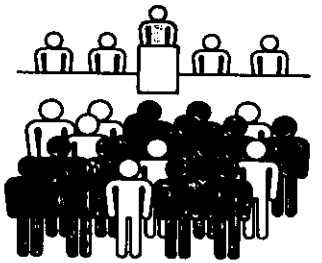
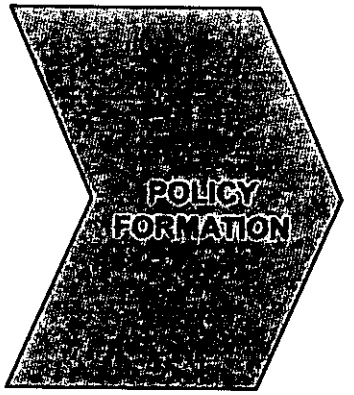
Four Key Policy Formulation Questions

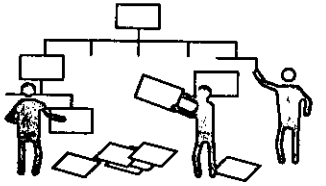


Who Decides?

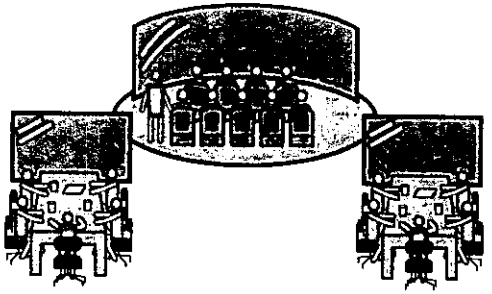


Who is consulted?





Which Topics?



What Institutions?

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We have assisted oil and gas clients in developing a broad range of strategies across the world.

Corporate
- IOC's strategy for high-oil price environment
- Independent's corporate portfolio strategy
- Supermajor's CO2 strategy

National Energy and Resource Development
- National resource plan based on fundamental gas demand supply forecast
- Create national resource planning and dev't

Business Unit & Regional
- SE Asia regional upstream gas strategies
- North Sea regional and country strategies
- West Africa business unit strategies

Exploration & Country Entry
- Middle East country gas entry strategy
- Atlantic Margin exploration strategy
- Various other country entry strategies

Major Resource Development
- Caspian region mega investments
- GOM and West Africa DW developments
- Major new Siberian resource development

Operating Asset Strategies
- Arctic mega asset renewal strategy
- Mature offshore asset cluster strategies
- Steam and CO2 flooding investments

Unconventional Resources
- In-situ and mined oil sands
- Tight gas, CBM and shale gas developments
- New unconventional resource technologies

LNG and GtL
- LNG liquefaction investments
- Portfolio assessment of GtL opportunities
- IOC's LNG portfolio strategy

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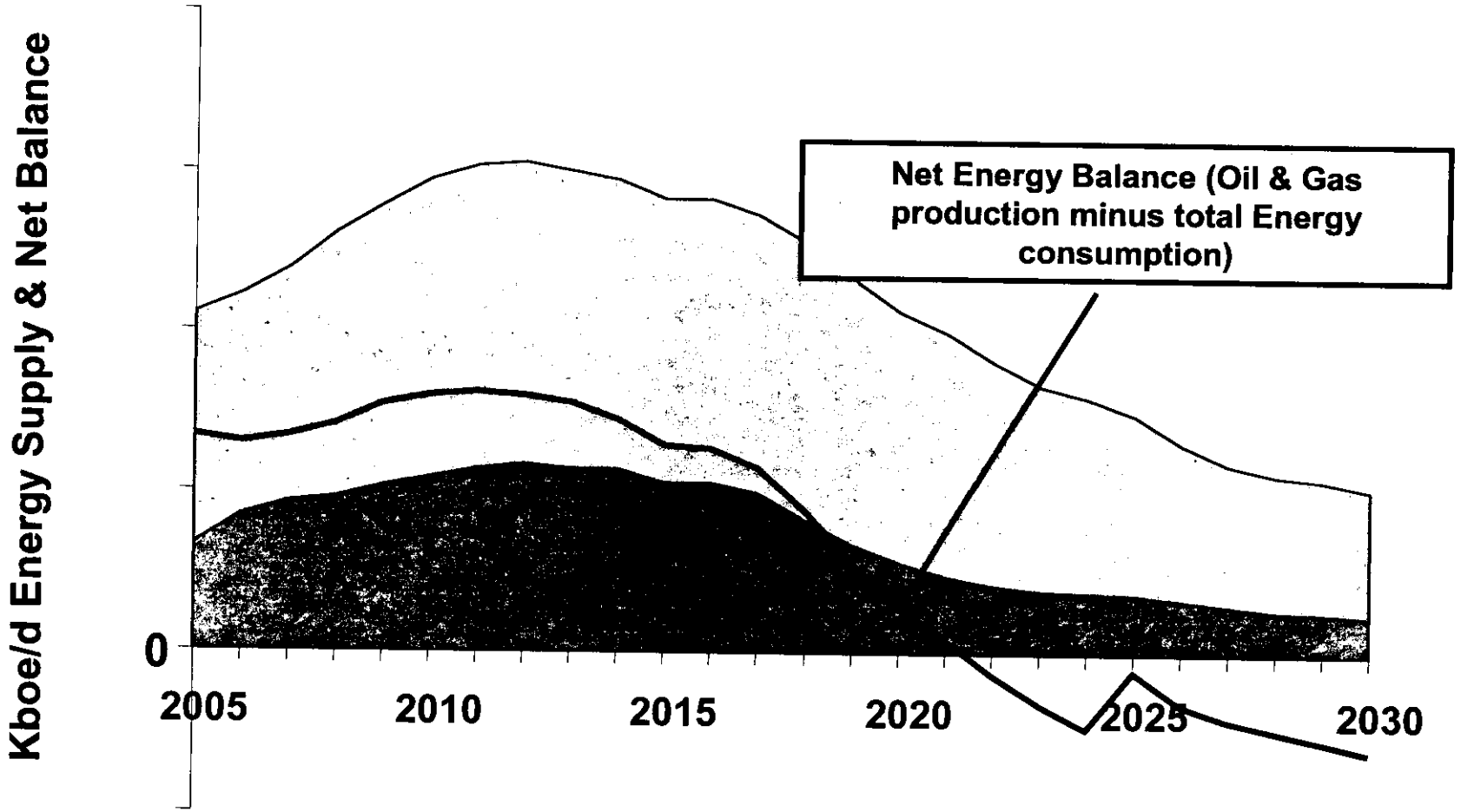
Case Example

Oil & Gas Producing Country (2007)

Emerging Energy Balance Shift Drove the Need for Policy Review



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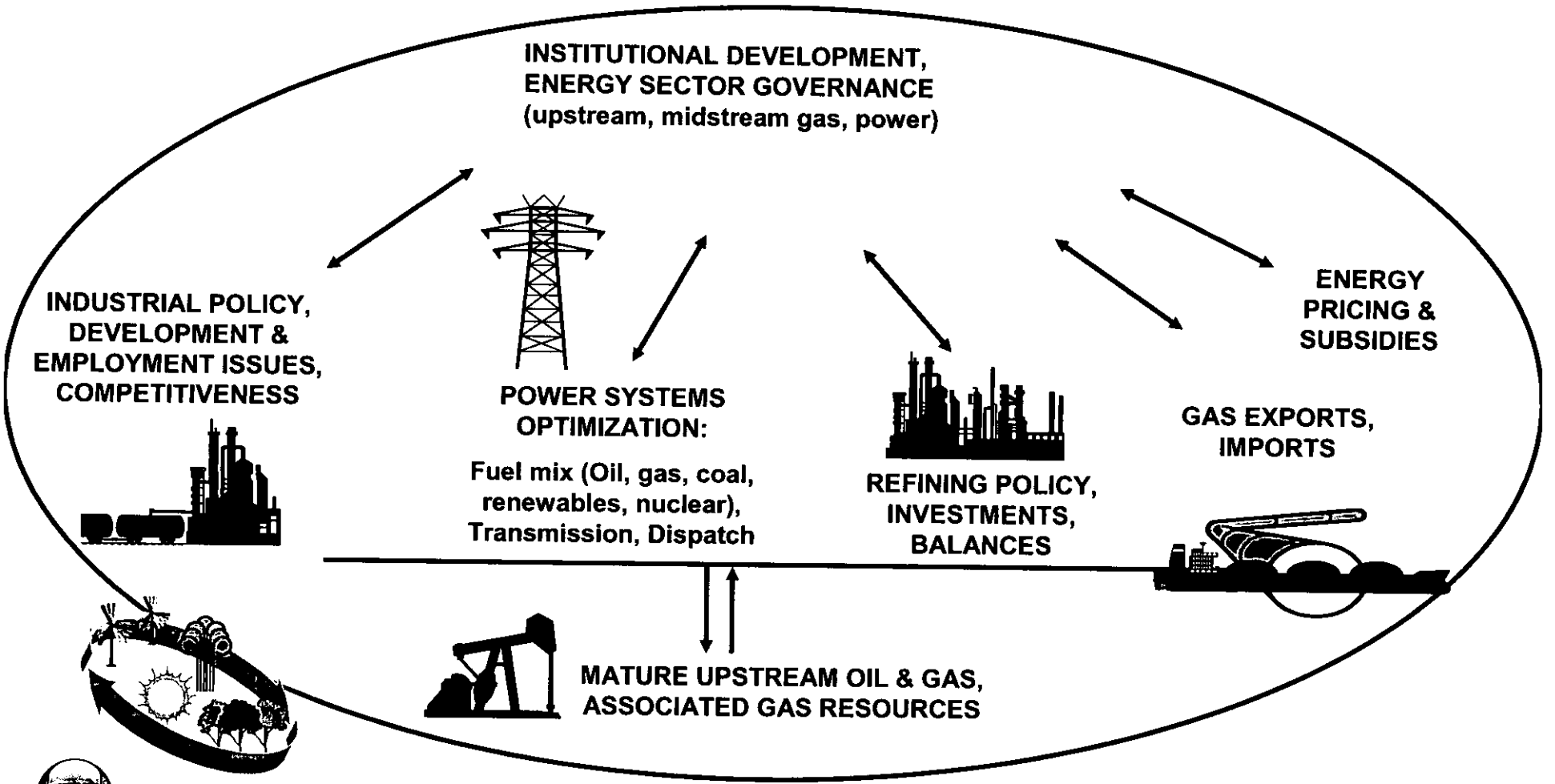
Source: CERA analysis, study data

Study Embraced the Entire Energy Spectrum



ENVIRONMENT POLICY ; ENERGY EFFICIENCY
EMISSIONS, CDM, INTERNATIONAL REPUTATION

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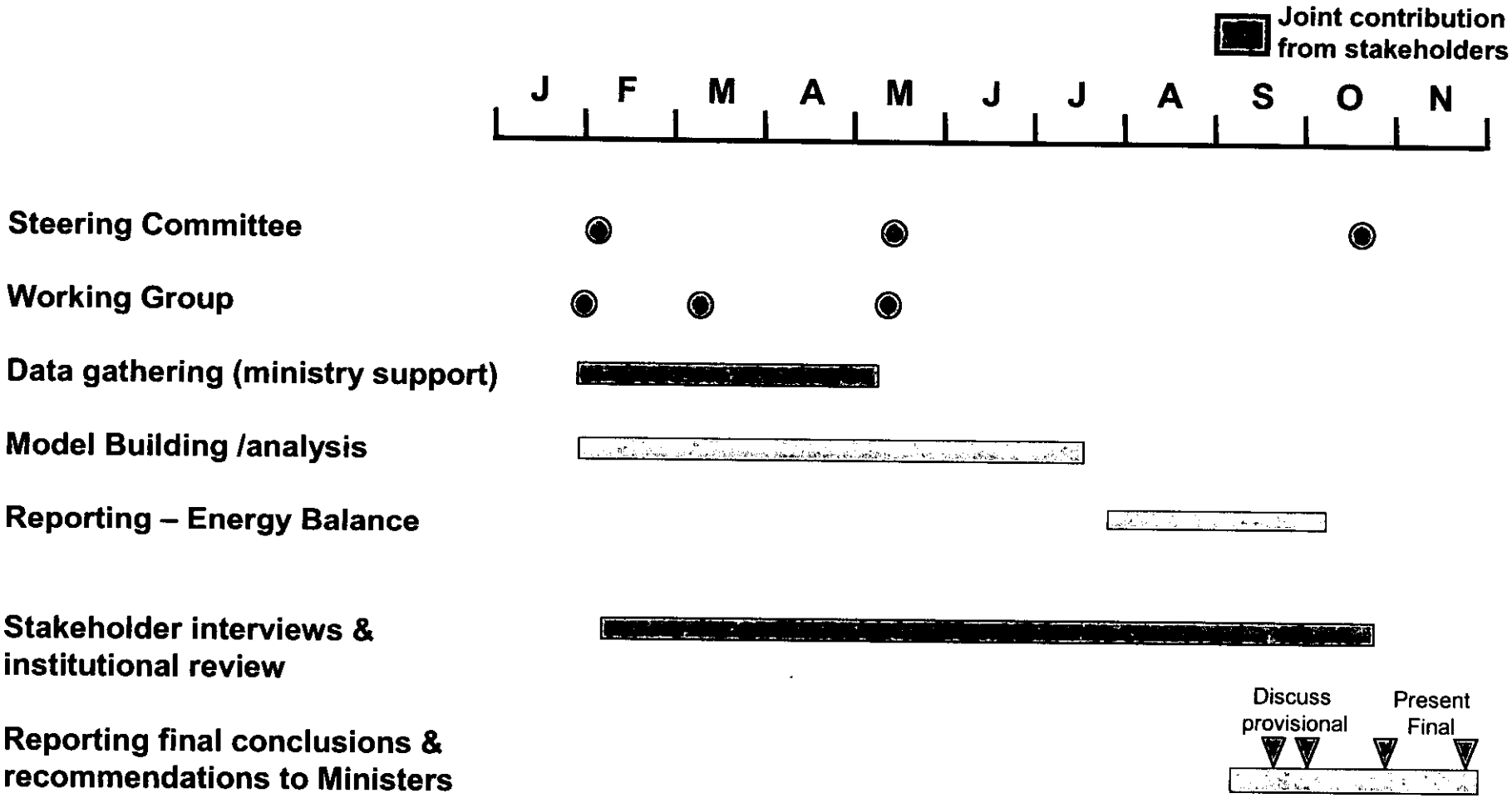
Case Example

Stakeholders were Engaged Throughout



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Case Example

Notional Country Energy Strategies were Developed to Test Stakeholder views

Notional Country Strategy

1. Policy Focus	Restrict / control demand across all sectors	Depend on neighbours for supplies	Give preference to upstream oil energy needs
2. Energy Supply Policies.			
3. Energy Demand Policies			
4. Energy Export Policy			
5. Fuel Mix Policy			
6. Industrialization / development policy			
7. Energy User contracts			
8. Employment			
9. Environm. Policy			
10. International Diplomacy			
11. Govt Regulatory Approach			
12. Foreign companies			

As part of the Stakeholder engagement process, CERA conducted a workshop to surface constraints / agendas affecting policy choices

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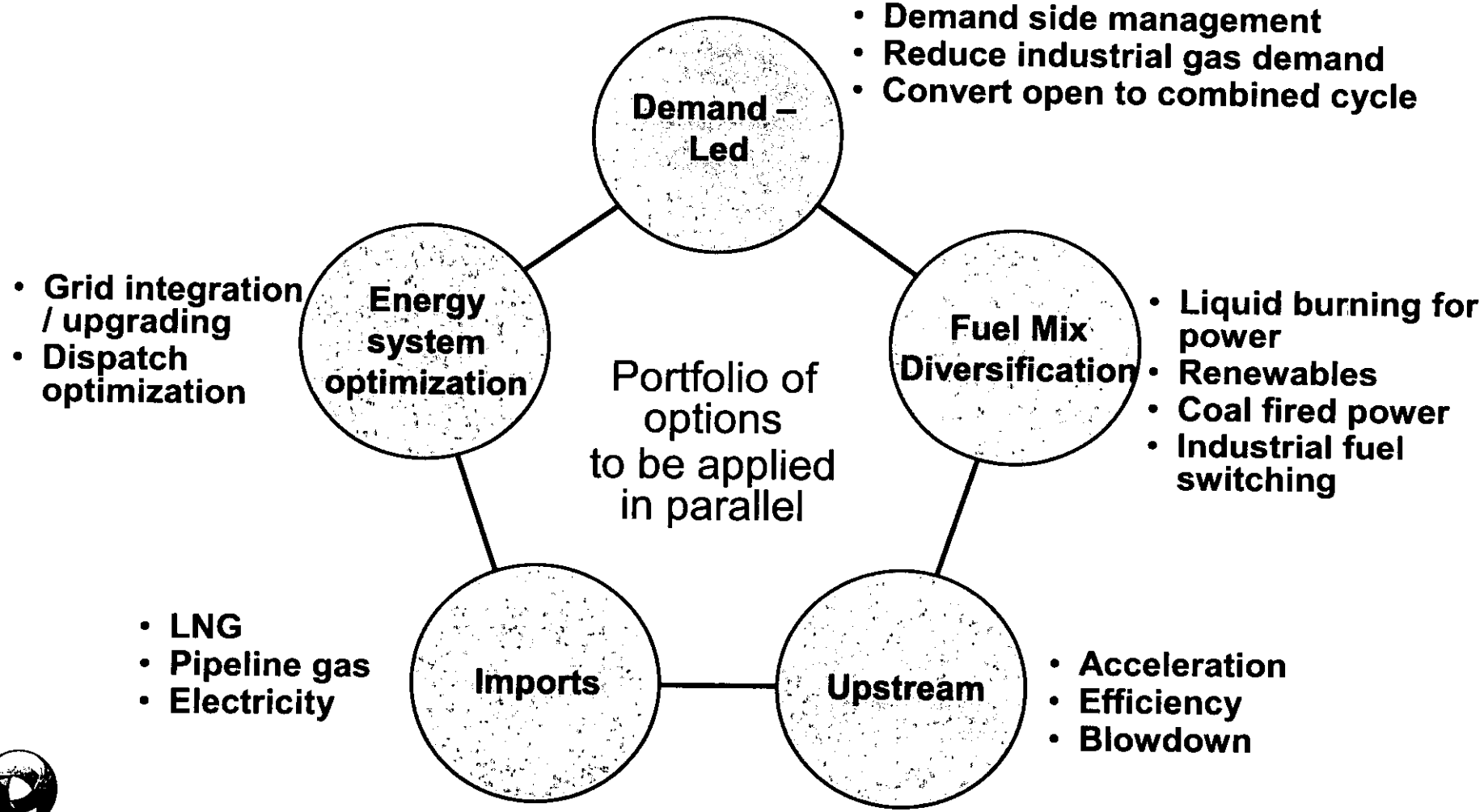
The Study Analysed a Portfolio of Options to Optimize Future Energy Balance



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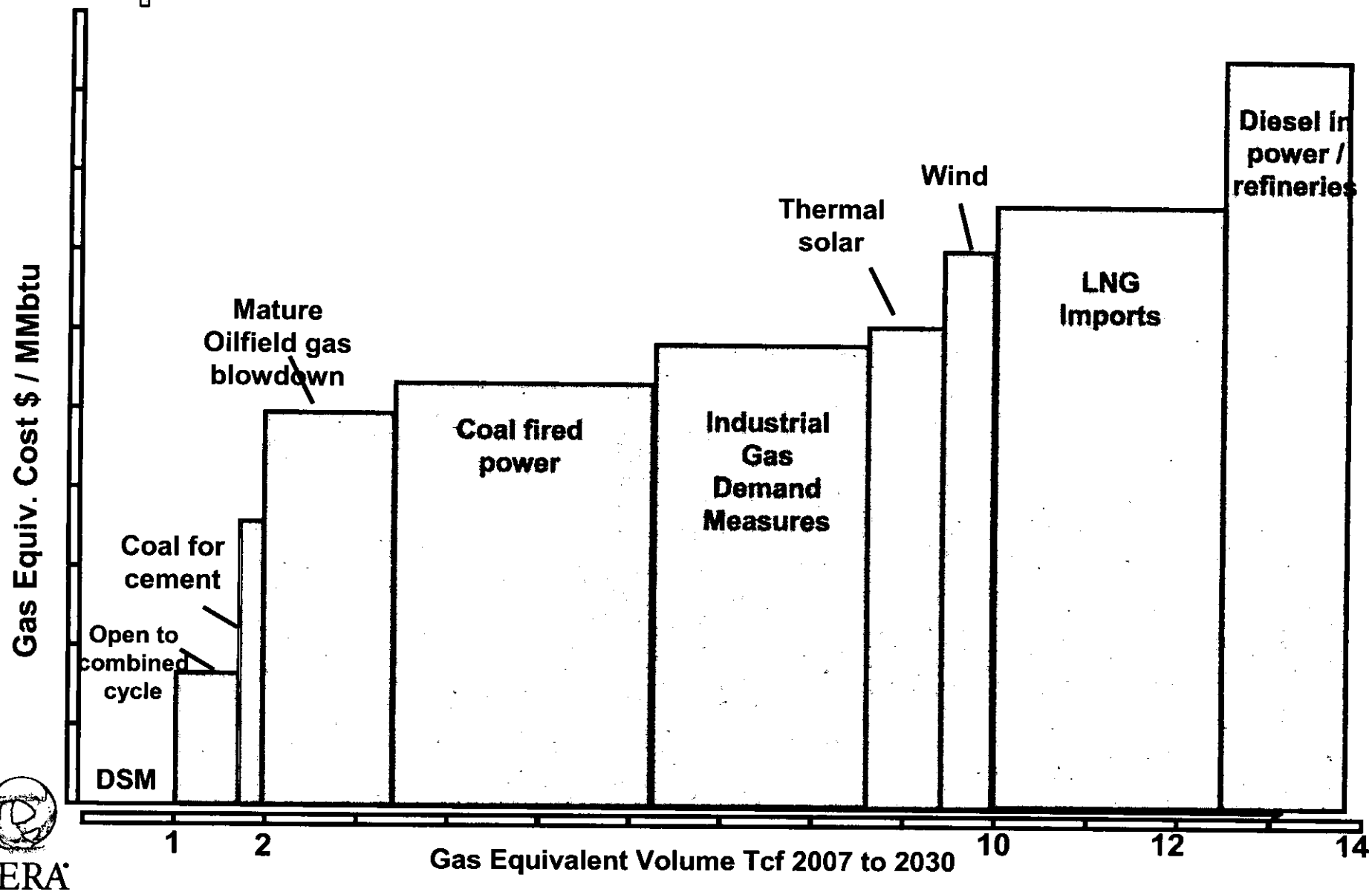
Costs of Energy Balance Options were Compared

Case Example



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Qualitative Considerations were Critical in Developing Final Energy Policy Recommendations

Qualitative Factors to Consider	Key Questions
Strategic Fit	• Willingness to depend on neighbours ? • Attitude toward existing gas user contracts ? • What value does diversification have (gas or fuel sources) ? • Is there a strategic upside for certain options
Risks and Vulnerabilities	• What risks or uncertainties impact implementation ? • How robust is an approach to different global energy scenarios ? • How might institutional capability influence do-ability ?
Alternatives & Trade-offs	• Do more radical options exist ? • What- if certain options excluded ?

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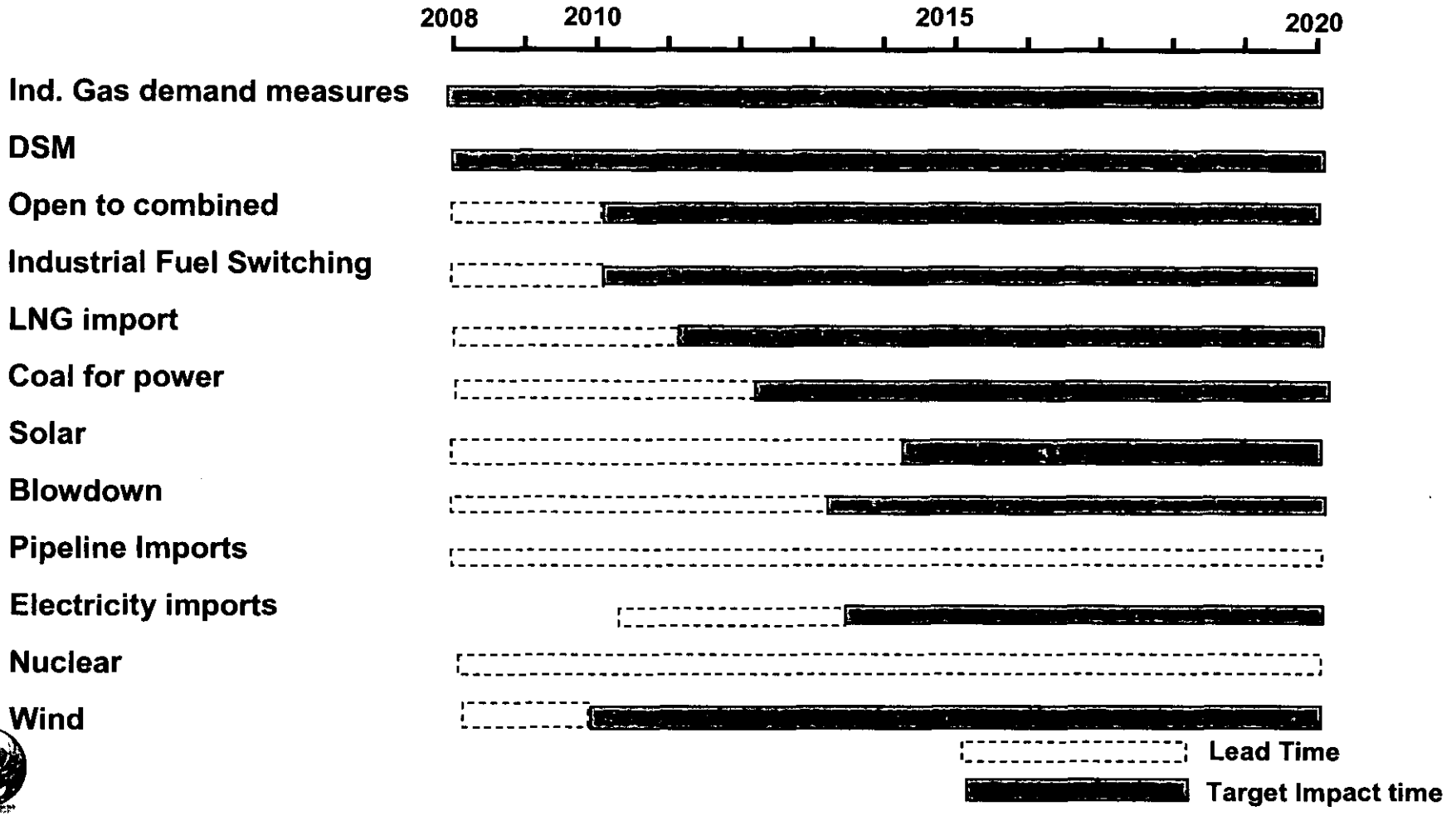
Case Example

Early Planning for Implementation was Recommended

Conservative / prudent planning assuming firm supply and no pipeline imports



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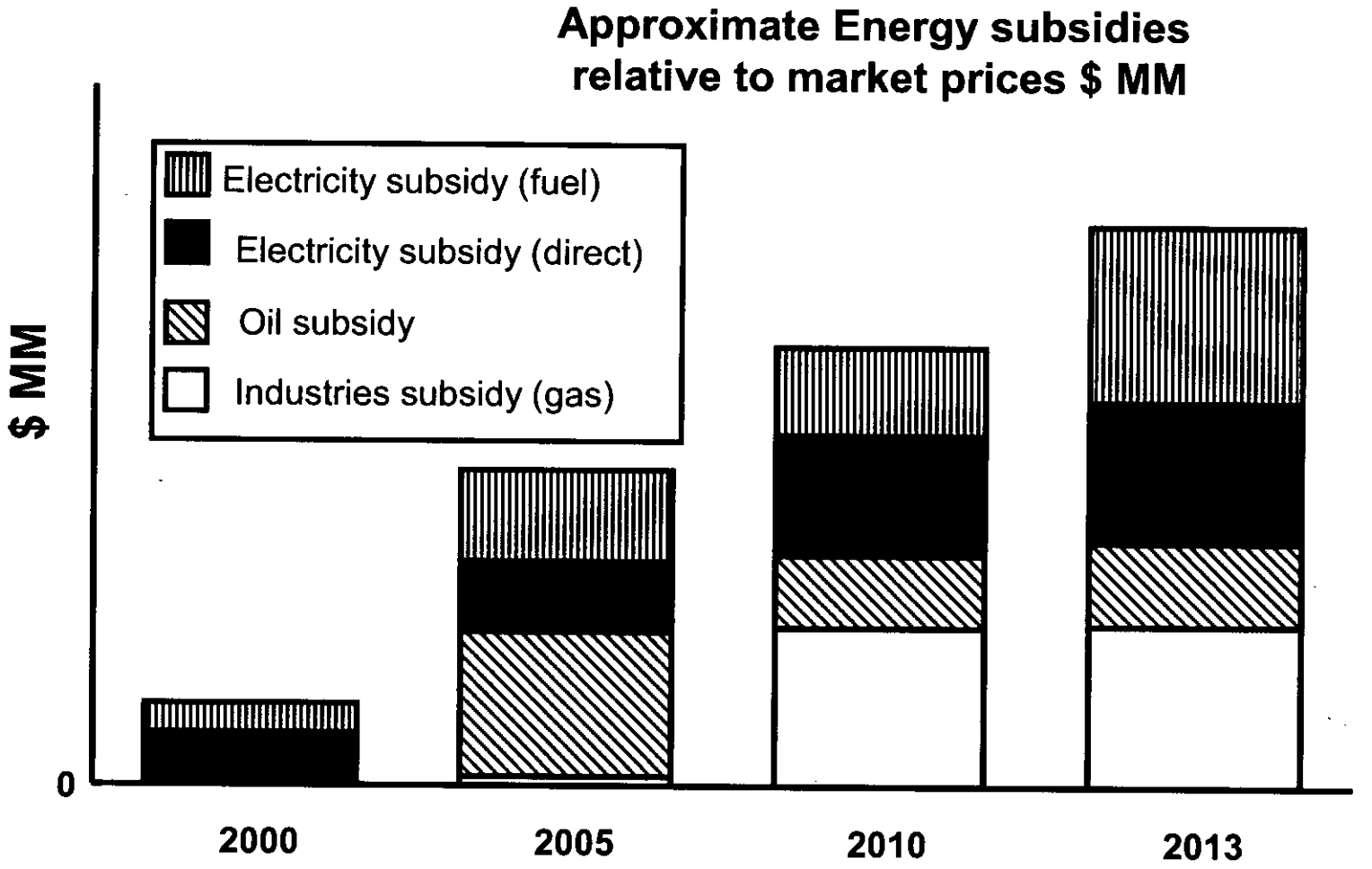
Identifying the Cost of Energy Subsidies Assisted Pricing Policy Thinking



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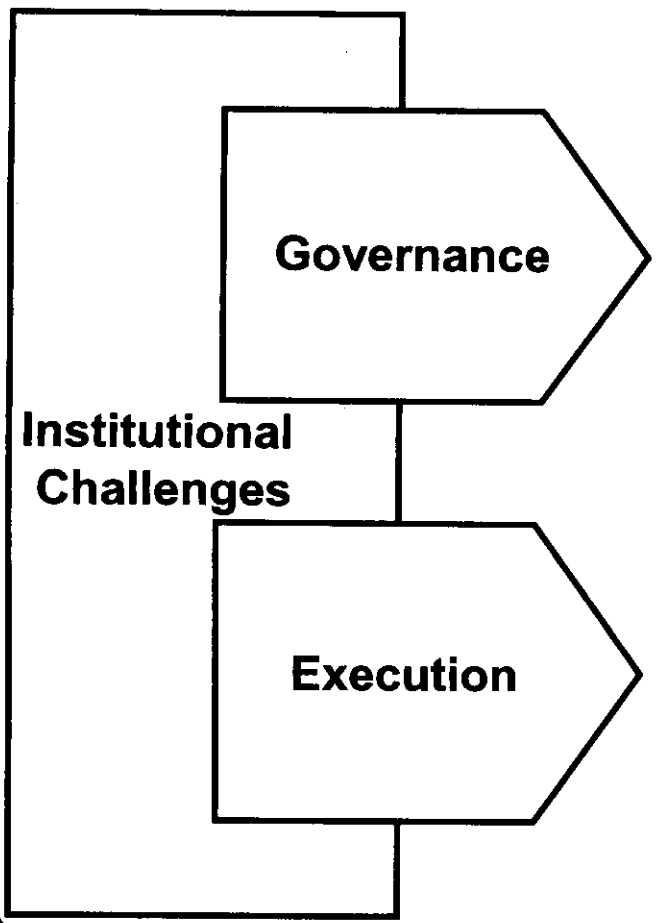
Case Example

Identification of Institutional Challenges and Solutions were Important When Recommending a Policy Roadmap



- Long term sector planning and data inventory
- Policy setting
- Designing and creating new institutional structures
- Allocating responsibilities and following-up
- Independent technical capability

- Co-ordinating wide range of policy actions (arising from this study)
- Individual actions are doable, but delivering all in parallel is a major challenge

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Learnings : Key Success Factors for Energy Policy Related Projects

- **Tailored, issue driven analysis**
  - — Identify critical issues to address early on
  - — Tailor model / analysis to focus on those issues
  - — Broad remit for recommendations : technical, economic, institutional, etc.
- **Build on existing knowledge**
  - — Review existing reports, work with local experts
- **Seek and build senior Stakeholder consensus**
  - — Early engagement with full range of stakeholders
  - — Continue to seek their views as project progresses
- **CERA's independence and objectivity**
  - — Flexibility to explore and deliver sometimes sensitive messages

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Selected Additional Energy Policy Experience

- World Bank – Yemen
- Ministry of Finance Economic Affairs – Barbados
- ExxonMobil – US
- Brazilian Petroleum Institute –Brazil
- Government Authority –Pakistan
- Ministry of Petroleum / Sonangol – Angola
- Bureau Of Minerals and Petroleum – Greenland
- Ministry of Energy – Kuwait
- Nigerian National Petroleum Corporation – Nigeria
- General Planning Council – Libya
- Confidential – Middle Eastern Country
- Directorate General of Hydrocarbons – Gabon
- Agencia Nacional de Hidrocarburos – Colombia
- JNOC / JOGMEC – Japan
- SOCAR – Azerbaijan
- Chinese NOC – China
- Government of Kazakhstan – Kazakhstan
- PetroEcuador – Ecuador
- ONAREP - Morocco

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Recent Strategic Consulting Experience Related to Climate Change and Clean Energy

- **Assessment of Voluntary Carbon Markets.** CERA developed a framework to assess the current and potential future demand for energy efficiency services, green power procurement and carbon offsets by businesses to achieve voluntary GHG emissions reductions.

- **GHG Policy Analysis.** CERA developed carbon abatement cost curves to inform the development of policy and business strategies related to the implementation of GHG policies.

- **GHG Policy and Market Strategies.** CERA has advised a variety of clients on the business risks and opportunities related to emerging GHG policies and markets.

- **Investment Strategies.** CERA has advised on investment and business strategies for technology providers and power generators by using a scenario framework to assess the potential risks and opportunities for various strategy options.

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CERA Scenarios – Testing Strategies against a Range of Different Futures

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CERA's Scenario Process

INPUTS

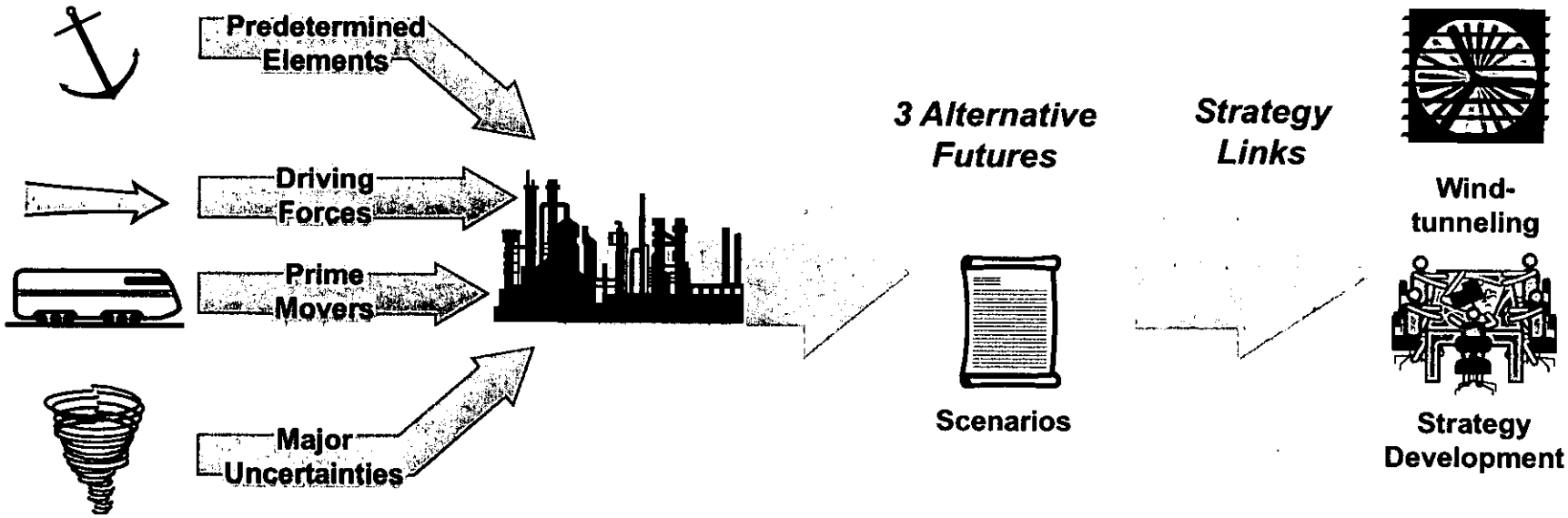
Factors that will shape the future

SCENARIOS

Combine inputs into alternative views of the energy future with signposts for each

STRATEGY

Apply scenarios to develop and test strategies



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Source: Cambridge Energy Research Associates.
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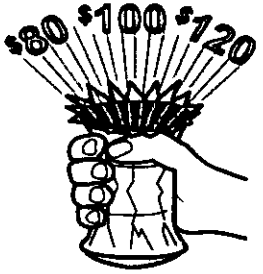
CERA's Global Energy Scenarios are the Backbone of Our Vision of the Future

ASIAN PHOENIX The center of global economic and political gravity shifts to Asia. Strong growth in China and India puts them on a path to eventually challenge the United States for global economic pre-eminence. Piecemeal international efforts to manage carbon emissions.



BREAK POINT Oil supply difficulties limit production growth. Average annual oil prices surpass $150 per barrel (nominal). Fear of peak oil encourages moves to enhance energy efficiency and accelerate growth of alternative fuels. Oil loses its monopoly on transportation. Strong, coordinated international focus on limiting CO_2 emissions drives carbon prices and research and investment in clean energy

GLOBAL FISSURES Widespread political backlash against free trade and globalization, combined with global trade and political disputes and growing security concerns over ongoing terrorist threats results in lower economic growth and weaker energy demand. Little to no effort to limit carbon emissions.

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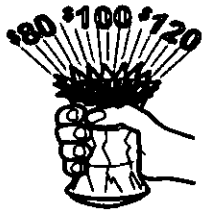
Source: Cambridge Energy Research Associates.

2008 US Scenarios Policy Drivers



RPS	Tax Incentives	Cap-and-Trade
❑ The 29 existing state standards remain in effect but increased compliance flexibility temper demand.	❑ Federal ITC and PTC peter out during the lead-up to federal cap-and-trade policy.	❑ RGGI continues, followed by WCI and a program in the Midwest. ❑ A federal program takes effect in 2015. ❑ Prices stay at $20-$35/ton.
❑ All existing, proposed and non-binding state goals are met.	❑ The PTC and ITC are extended through the start-up of federal cap-and-trade policy and are slowly phased out.	❑ A federal program starts up in 2012, requiring a 30% reduction below 2007 levels by 2030 leading to $100/ton prices by 2020. ❑ RGGI gets integrated into the federal program.
❑ A difficult economic environment saps the momentum behind state programs.	❑ The PTC fails to get extended past 2009 and the ITC reverts back to 10%.	❑ RGGI continues operating up until 2018 but prices remain at $2/ton. ❑ A federal program, as well as additional regional programs stall.

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2008 US Scenarios Overview

	ASIAN PHOENIX	BREAK POINT	GLOBAL FISSURES
International Outlook	❑ Trend economic growth. ❑ Continued growth in world trade. ❑ India, China, FSU, and Middle East continue development of home markets.	❑ Productivity suffers from high commodity prices, reducing long run growth potential. ❑ Increased reliance on multilateral trading agreements and international solutions to regional conflicts.	❑ Economic growth slows as international trade declines. ❑ NA and European backlash against globalization. ❑ Focus shifts to national adjustment issues. ❑ Emergence of resource nationalism.
Technology Outlook	❑ Technology development dependent on government subsidies and demonstration projects.	❑ Rapid pace of technology development requires more public/private initiative and risk sharing. ❑ Domestic/foreign joint ventures develop.	❑ Technology development directed toward promoting energy security within North America.
Regulatory Environment	❑ Continuing experimentation with alternative regulatory solutions. ❑ State challenge federal initiatives.	❑ Enhanced commitment to competitive solutions at the federal and state levels. ❑ Move toward multi-state regional compacts.	❑ States successfully assert regulatory authority over resource adequacy planning and infrastructure siting issues.
Industry Structure	❑ Continuation of current hybrid environment with mix of competitive and regulated entities.	❑ Increasing reliance on private capital and market-determined returns on gas and power investments.	❑ Increasing reliance on traditional vertically-integrated utilities and command and control regulation and policies.

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Source: Cambridge Energy Research Associates.

2008 US Scenarios Overview (continued)

	ASIAN PHOENIX	BREAK POINT	GLOBAL FISSURES
Economic Growth	❑ Recession of 2008-09 is not severe. ❑ 2011: return to long-term trend growth. ❑ Slowing population/labor force growth after 2020 reduces trend growth.	❑ High energy prices make recession of 2008-09 worse. ❑ Productivity growth slows as capital is substituted for energy in production process.	❑ Recession delayed to 2009-10 but is severe as world trade shrinks. ❑ Productivity growth well below historic norms.
Growth in Power Demand	❑ 1.6% CAGR to 2020. ❑ Recession slows growth until 2013. ❑ 1.6% CAGR after 2020 even as population growth slows.	❑ 1.1% CAGR to 2020 due to rising real power prices and sharper recession. ❑ 1.0% CAGR after 2020 as real prices escalate and population growth slows.	❑ 1.1% CAGR to 2020. ❑ 1.4% CAGR after 2020 despite declining population growth rate.
Investment	❑ Near term drivers: demand growth and tighter reserve margins. ❑ Long term drivers: continued demand growth, aging plants and environmental programs.	❑ Aggressive push for renewables and GHG legislation. ❑ Early retirement of fossil fuel units and accelerated investment in transmission. ❑ Investment requirements similar to AP.	❑ Need for transmission and generation reduced. ❑ Lower demand growth and greater reliance on domestic coal and natural gas.
Policy and Regulation	❑ Rising nominal retail rates. ❑ Some states end retail choice and reduce renewables targets. ❑ Federal GHG legislation by 2015. ❑ Many states move to reassert control over resource adequacy.	❑ 2012: Federal GHG legislation begins. ❑ Aggressive state RPSs. ❑ Regional transmission planning initiatives. ❑ FERC asserts federal authority over transmission siting.	❑ Increasing emphasis on energy security and independence. ❑ Emphasis on local reliability. ❑ Regional climate change initiatives abandoned.
Technology	❑ Focused in generation, transmission, and distribution (metering). ❑ Reliance on government subsidies for commercial scale development.	❑ Strong push for renewables, GHG abatement, and efficiency accelerate smart grid development. ❑ Commercialization of CC&S, PHEV, and storage technologies accelerated.	❑ Low economic growth pressures government budgets to support new technologies. ❑ Funding for new initiatives delayed a decade.

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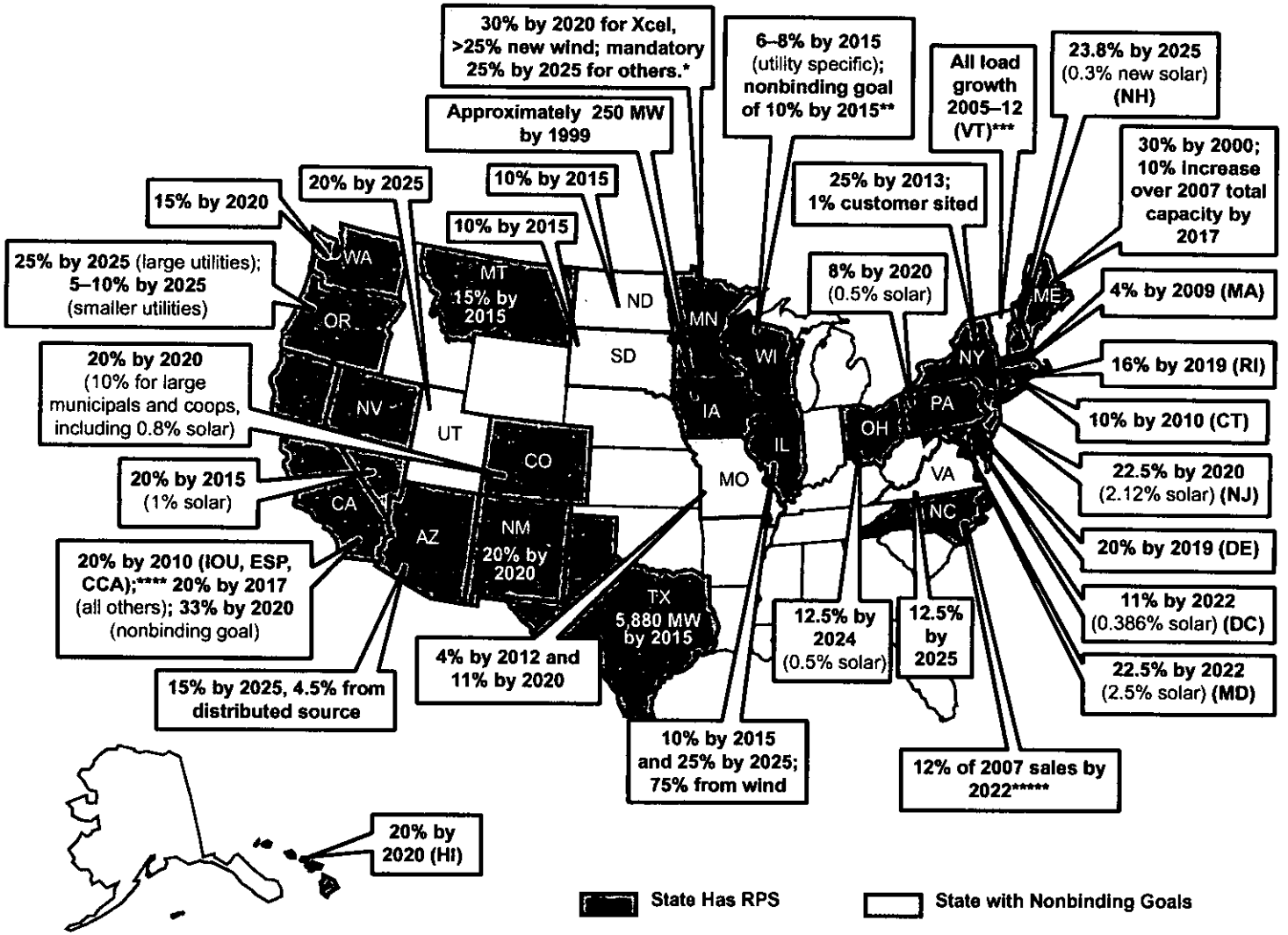
State Renewable Portfolio Standards Driving Renewable Investments



Source: Cambridge Energy Research Associates, Database of State Incentives for Renewable Energy (DSIRE).
*Previous Minnesota RPS was a nonbinding goal except for Xcel Energy.
**Vermont's voluntary standard becomes mandatory in 2013 if it is not met by 2012.
***California: IOU = investor-owned utility; ESP = energy service provider; CCA = community-choice aggregator).
****Wisconsin requires all utilities to increase renewables contributions by 6 percent over the 2001–03 average level by 2015and has a nonbinding goal of 10 percent by 2015.
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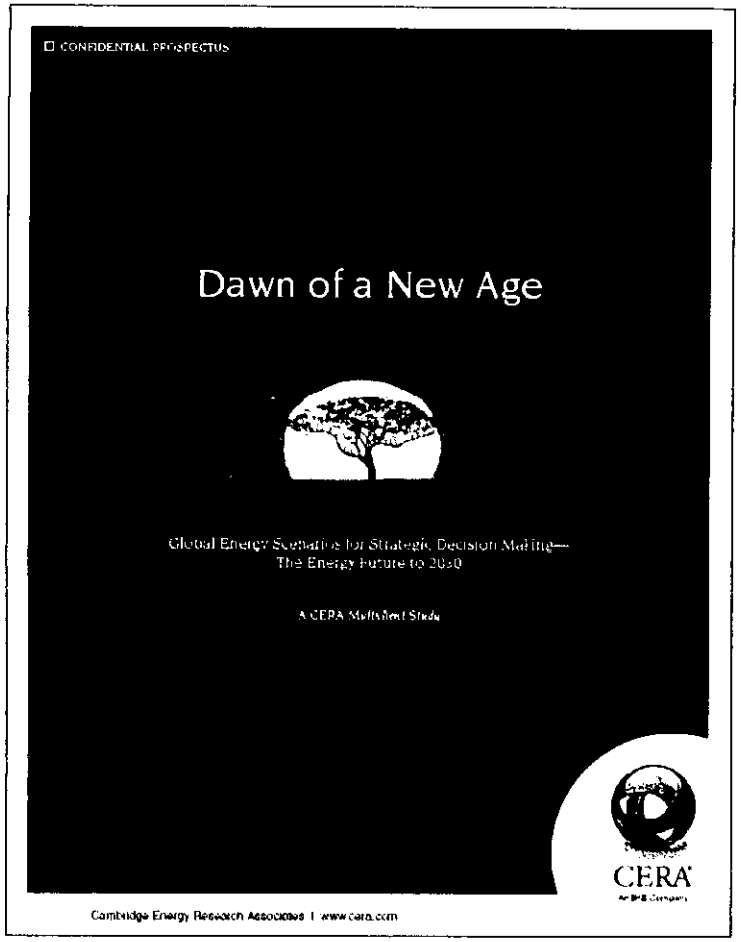
Selected CERA Studies

Global Energy Scenarios
Dawn of a New Age Multiclient Study



CERA's *Dawn of a New Age* study presents three long-term global energy scenarios to assess different paths for global energy supply and demand and to help define key risks and opportunities for a range of energy segments and geographic regions.

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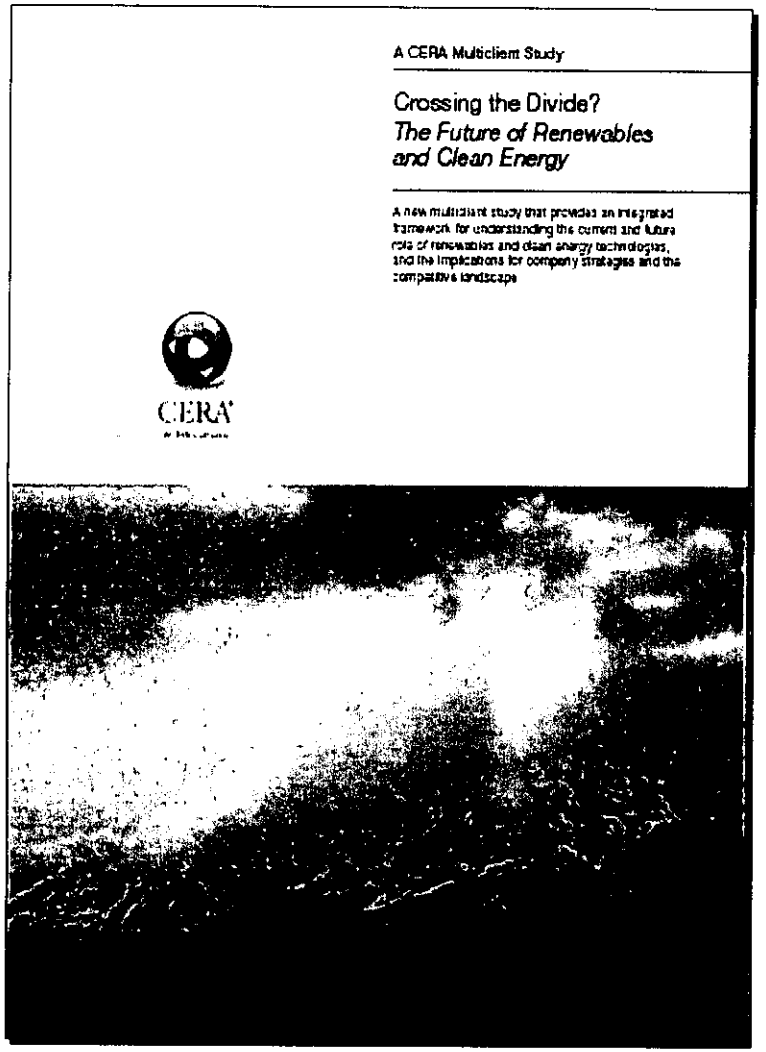
Clean Energy Technologies
Crossing the Divide Multiclient Study



CERA's *Crossing the Divide* study presents three long-term global energy scenarios to assess the winners and losers among various clean energy technologies and help define key risks and opportunities for a range of energy segments and geographic regions.

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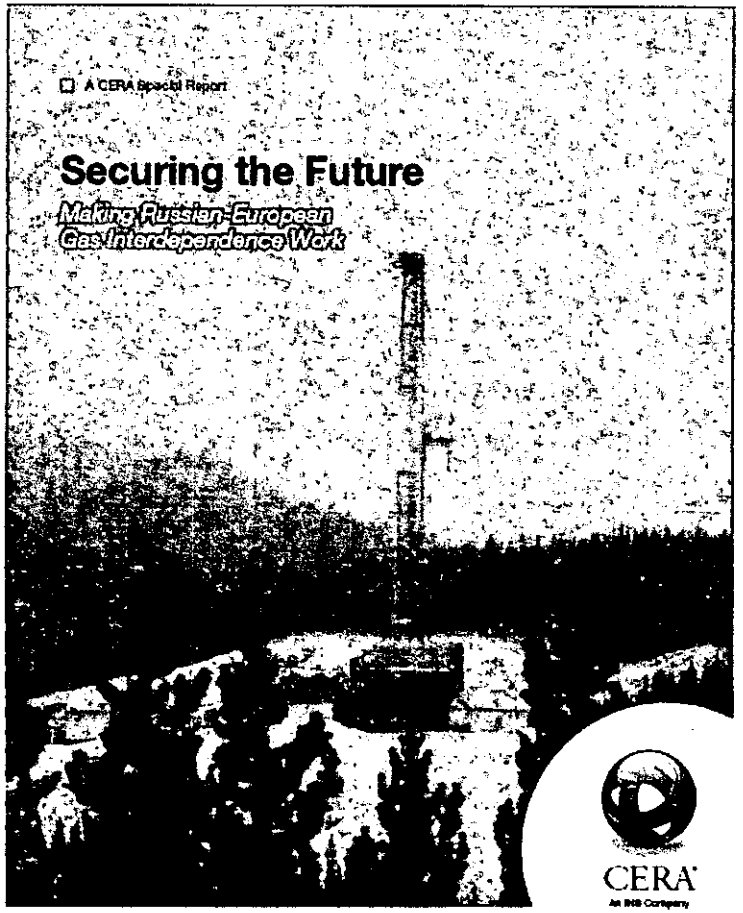
Multi Stakeholder Dialogue

Securing the Future Multiclient Study



CERA's *Securing the Future* study resulted from an extensive dialogue between multiple stakeholders to understand what was (and was not) achievable in securing the benefits of the gas trade between Europe and Russia. It identified the requirements to ensure mutual benefits and identified the risks to all parties from failing to nurture a trade that has benefited all parties for several decades.

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An IHS Company

CERA is part of the IHS Group
The leading provider of insight and critical information in four key domains

About CERA

- Leading international energy research and advisory firm
- Founded in 1983
- An IHS Company
- Global presence with offices in 14 countries.
- Staff of over 200 professionals including leading energy market, industry, and geopolitical experts covering all major sectors on a regional and global basis
- Extensive network of distinguished Senior Associates
- Diverse clientele of senior executives at leading energy industry corporations—an exceptional community of strategy and planning executives—and leading policymakers globally.

CERA
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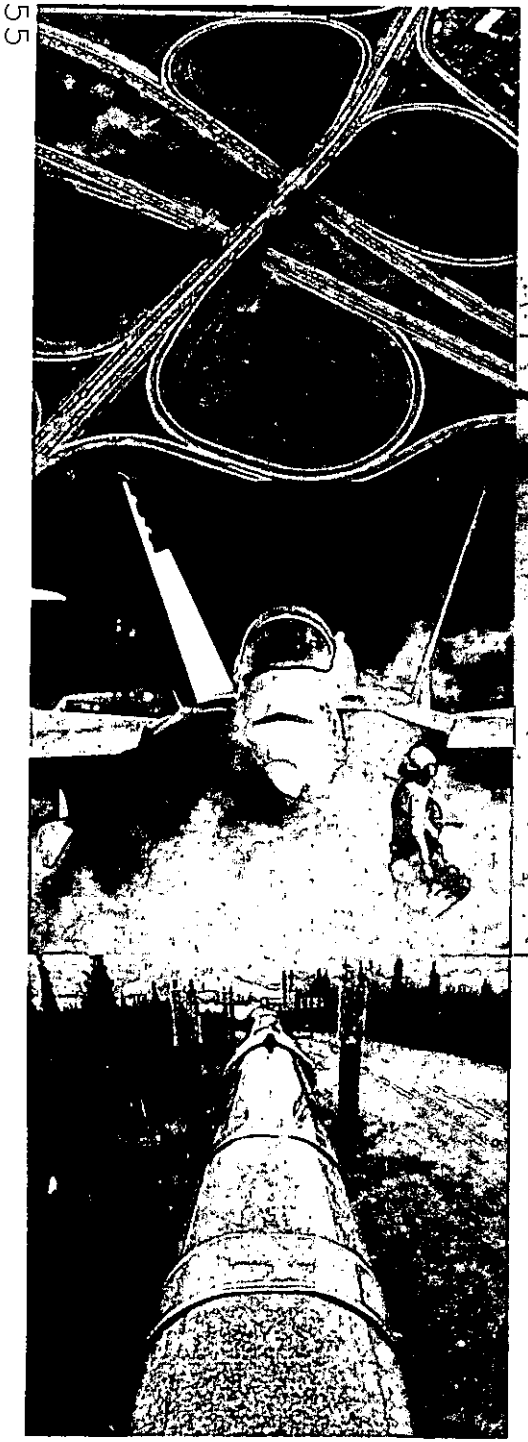

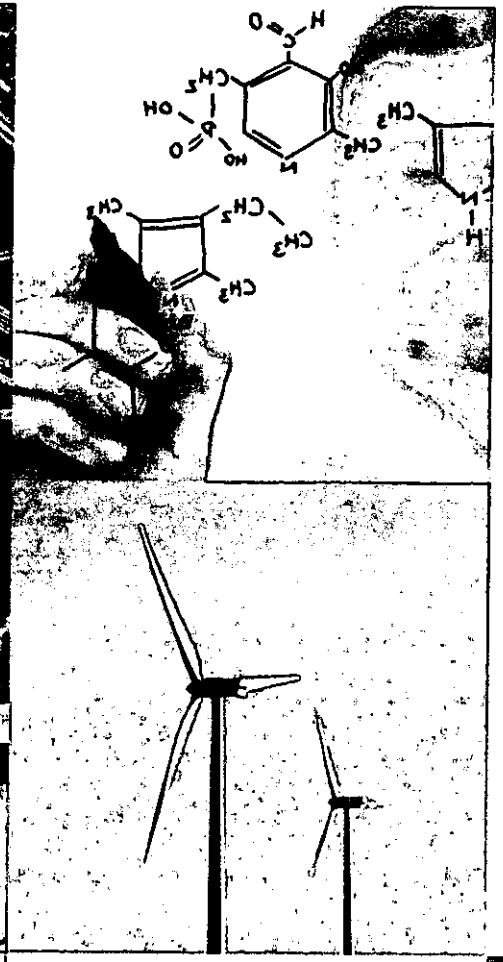

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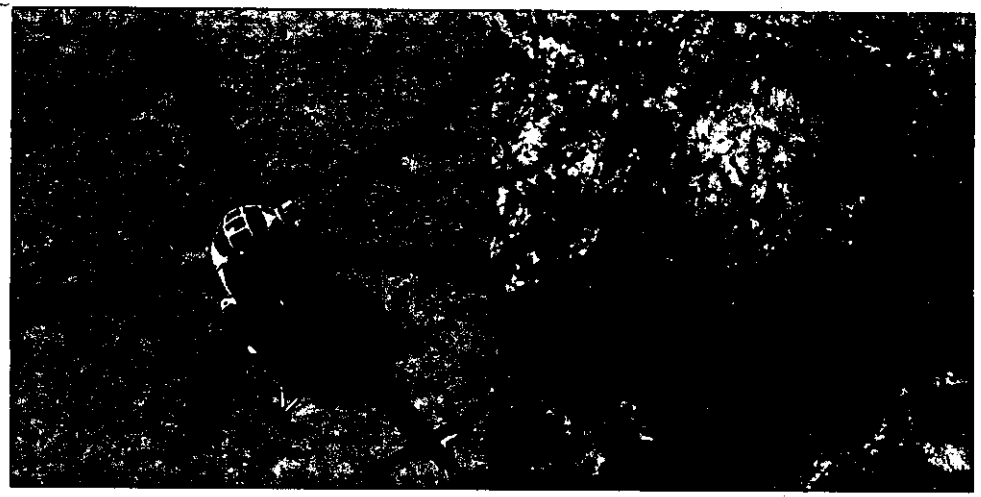

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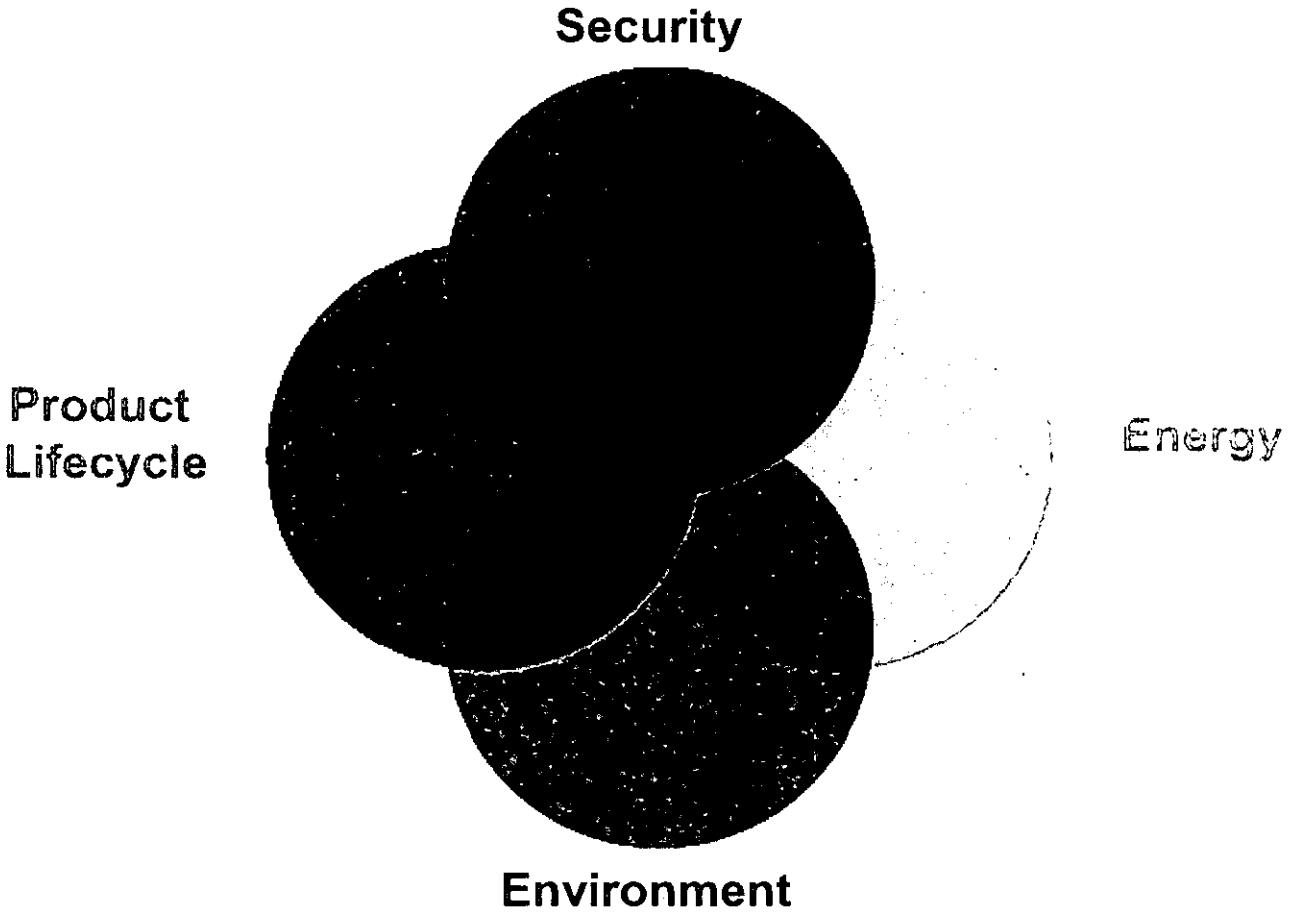
Four Domains of Insight and Critical Information



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If you have any questions about this presentation or CERA in general, please feel free to contact

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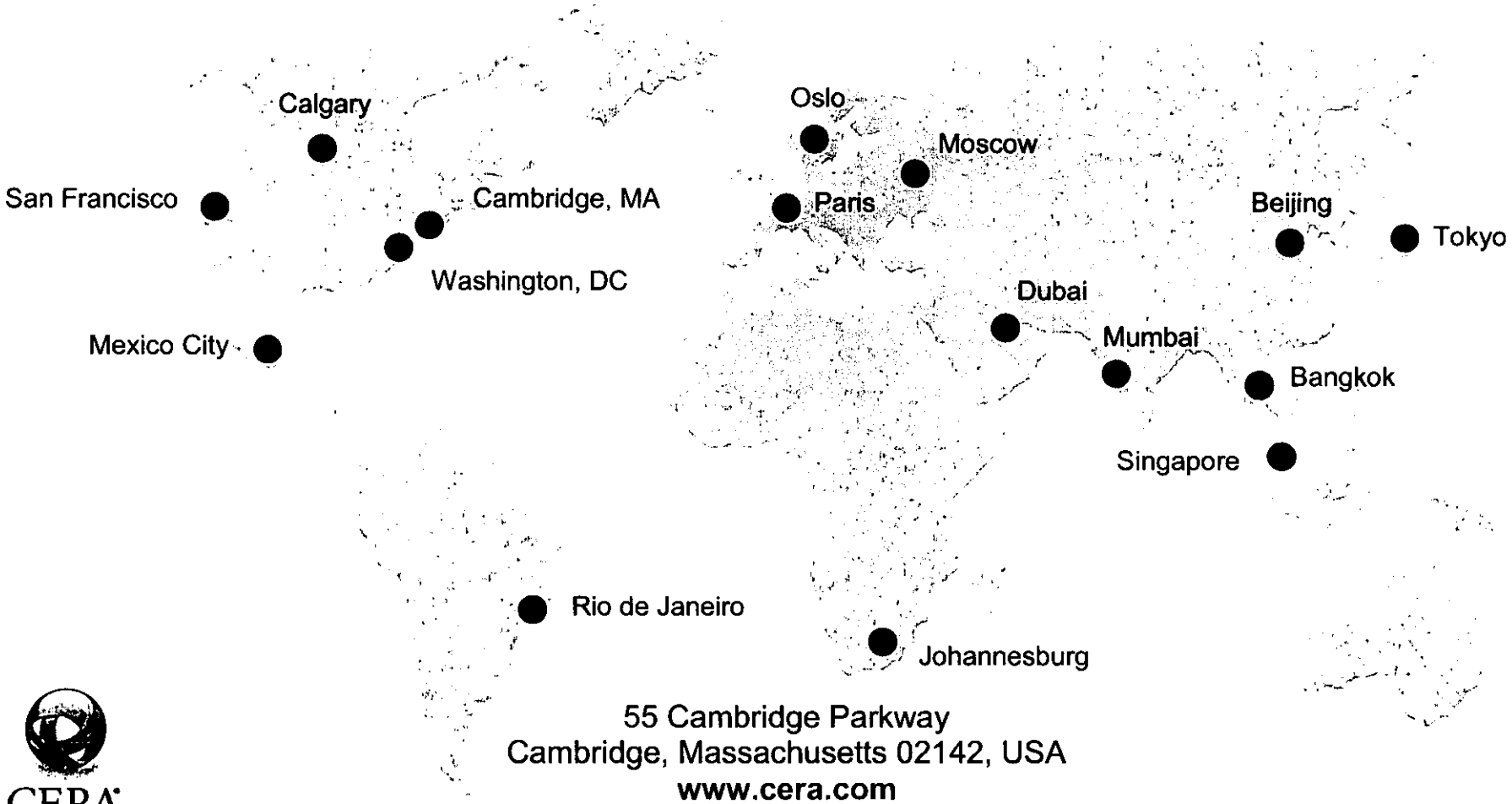

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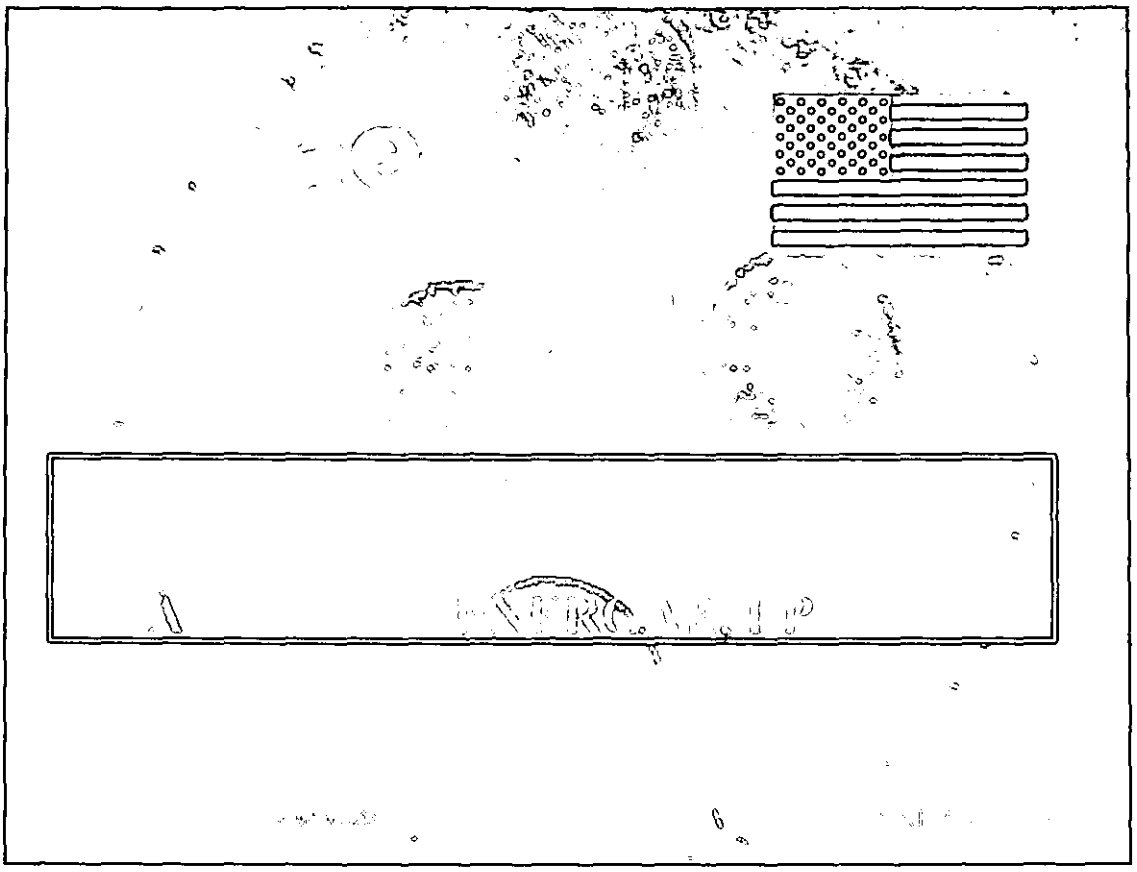

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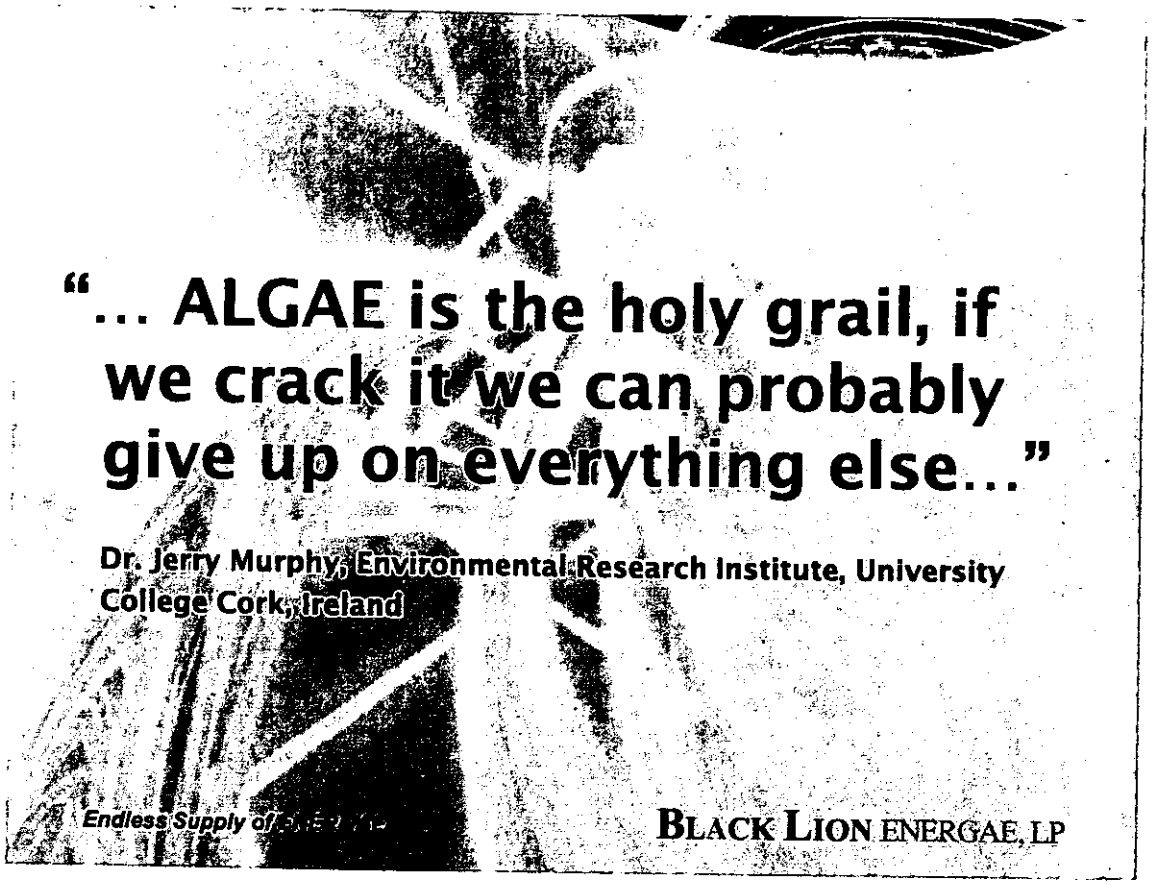
"... ALGAE is the holy grail, if we crack it we can probably give up on everything else..."
Dr. Jerry Murphy, Environmental Research Institute, University College Cork, Ireland
Endless Supply of
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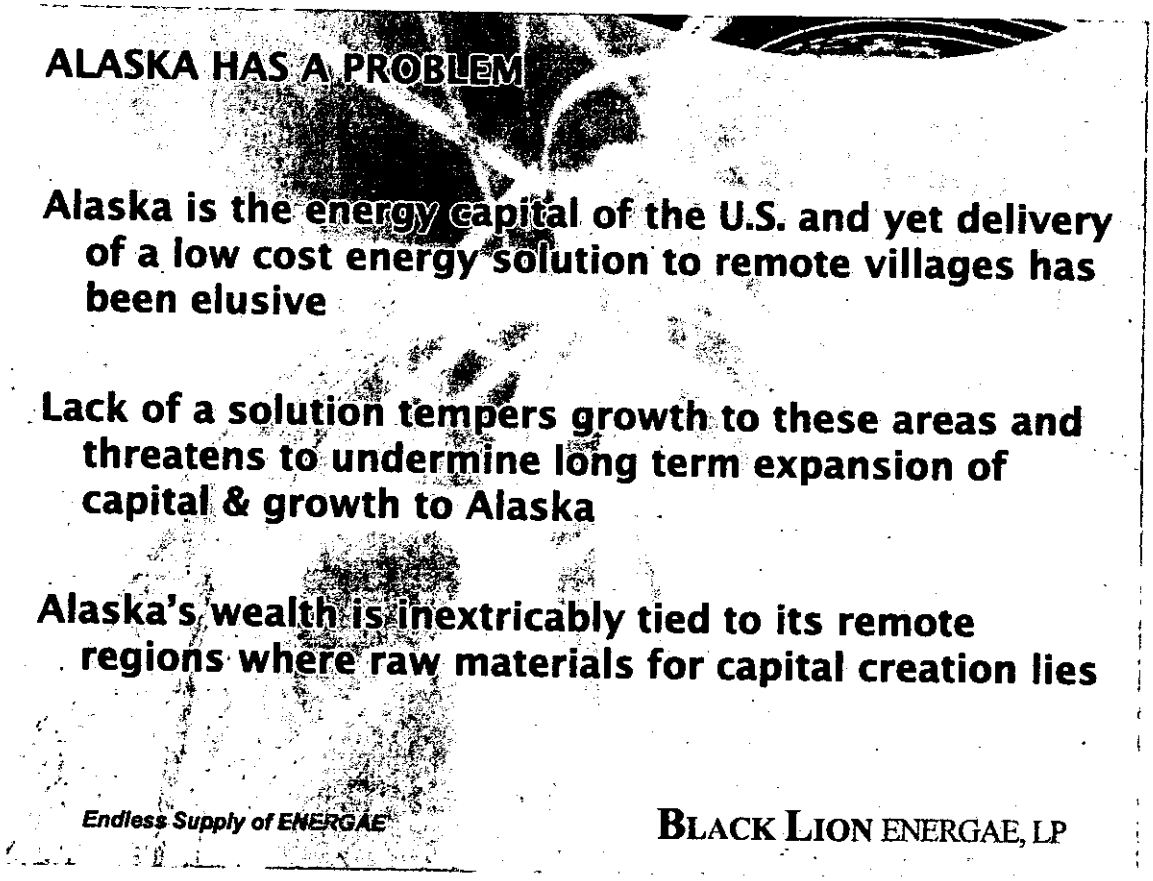
ALASKA HAS A PROBLEM
Alaska is the energy capital of the U.S. and yet delivery of a low cost energy solution to remote villages has been elusive
Lack of a solution tempers growth to these areas and threatens to undermine long term expansion of capital & growth to Alaska
Alaska's wealth is inextricably tied to its remote regions where raw materials for capital creation lies
Endless Supply of ENERGAE
BLACK LION ENERGAE, LP

ALASKA HAS A PROBLEM

Alaska is perceived a big oil's big brother, yet fuel costs in remote villages are among the highest in the world - higher than Central America or other developing countries who have no access to oil finds

the long term financial health of Alaska's Native Corporations and remote regions lies with delivery of a cost effective energy solution to its own; you can have all the wealth in the world, but if you can't provide for your own, you have a problem

energy alternatives

diesel fuel - $.24 to $.25 per kwh

- efficient energy source - yet, even with Alaska's abundant oil resources, they can't supply remote areas inexpensively
- costly transportation
- environmentally challenged

solar - $.35 to $.45 per kwh

- too much land required for 1 megawatt of power
- heat value non-existent/limited in winter months

wind - $.25 to $.29 per kwh

- average efficiency rating on wind generators is 35%
- costly to install and maintain relative to energy return
- lack of energy grid to maximize return

natural gas – $.09 per kwh

- perfect source; too costly to install relative to total population
- costly conversion from current diesel energy platforms

geothermal – $.29 per kwh

- excellent source, but, few areas have access
- costly conversion of current diesel energy platforms

coal $.06 to $.08 per kwh

- lowest cost energy source, but infrastructure non-existent
- unwanted discharge – "true clean coal" solution elusive
- costly conversion of current diesel energy platforms

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Alaska needs an energy platform solution that provides the following:

• kwh	– low cost
• environment	– safe
• diesel platform	– combined with no interruption
• transportation	– current infrastructure
• scalable	– energy platform expanded as need dictates
• set-up time	– months, not years
• infrastructure	– reasonable costs
• maintenance/upkeep	– low
• renewable	– "green"
• operation	– ease of use

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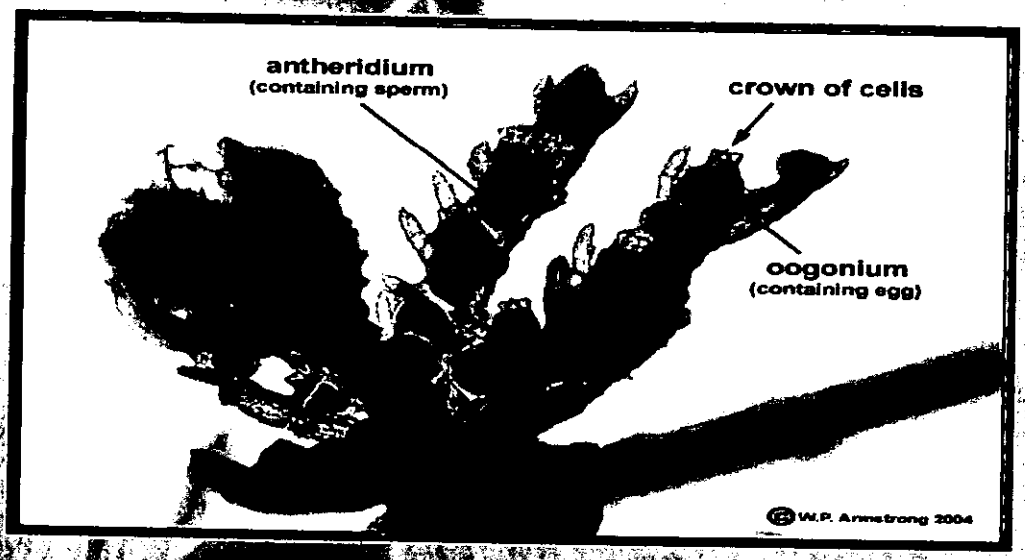
Alaska needs Algae



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ALGAE

$.15 per kwh

- current diesel system
- manufactred oil
- self-sustaining energy
- weather
- BTU quantity/quality
- maintenance
- turn-key systems
- ongoing operation

- retained, enhanced
- on site, at will
- does not require outside source to function
- operates in sub-zero under low cost greenhouse
- manipulate relative to need
- low cost
- RWE builds, maintains
- locals without Phds

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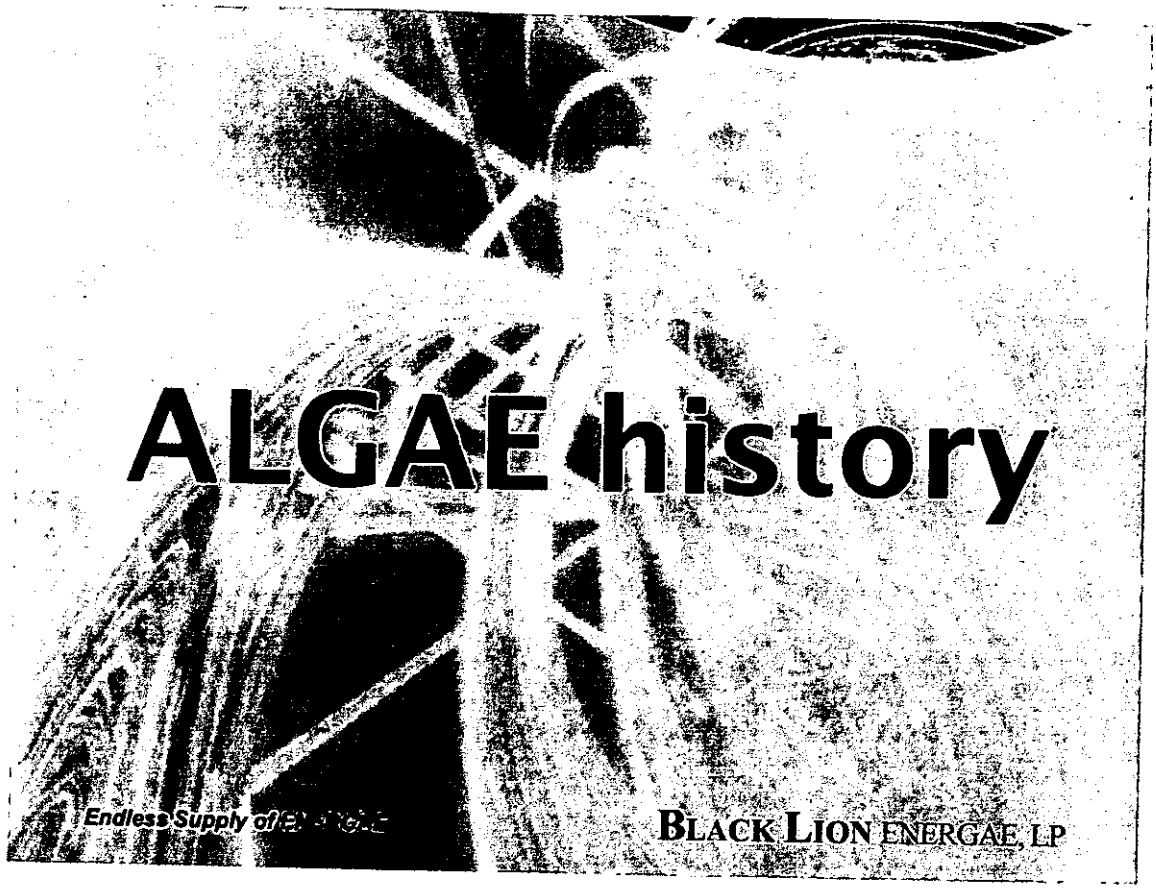
ALGAE history
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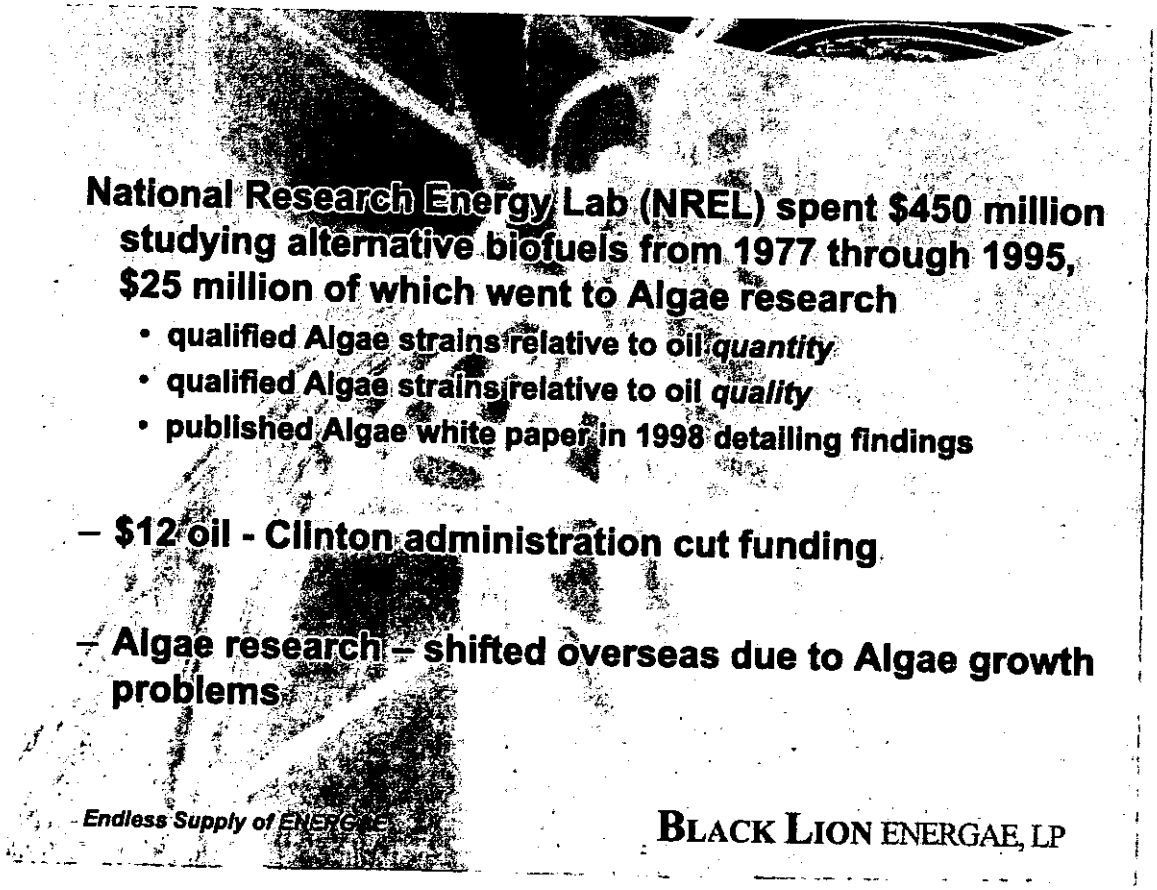
National Research Energy Lab (NREL) spent $450 million studying alternative biofuels from 1977 through 1995, $25 million of which went to Algae research
• qualified Algae strains relative to oil *quantity*
• qualified Algae strains relative to oil *quality*
• published Algae white paper in 1998 detailing findings
– $12 oil - Clinton administration cut funding
– Algae research – shifted overseas due to Algae growth problems
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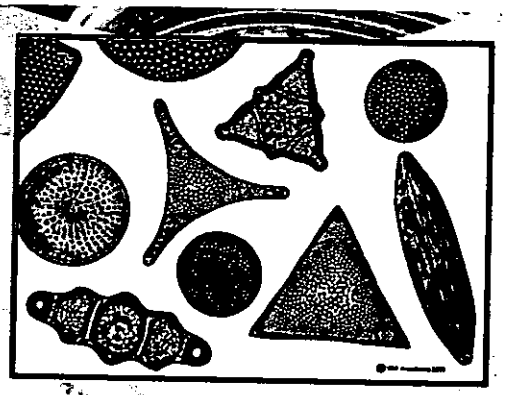
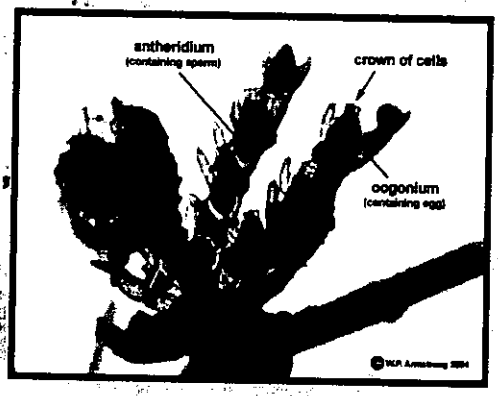
bad ALGAE - massive growth, limited energy value

dunaliella tertiolecta
dunilelia salina
butryoccocus braunii
cymbella
nitzschia
amphora
bacillariophytes



good ALGAE - massive growth, much energy value

green algae
dunilelia salina



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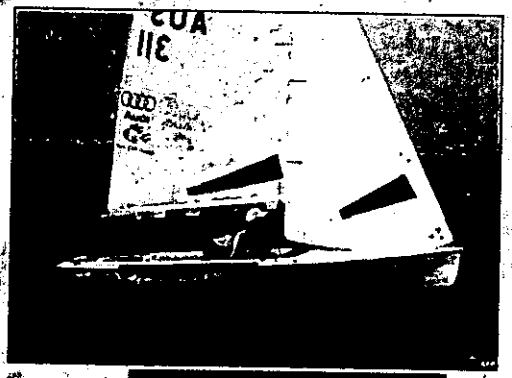
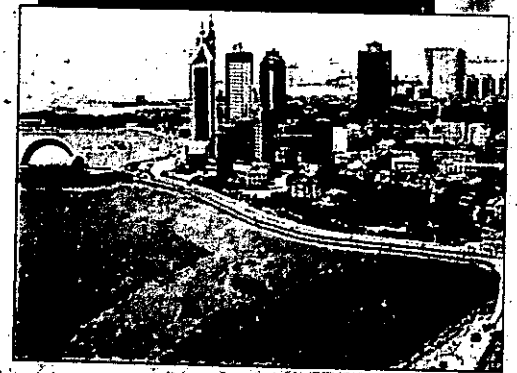
ALGAE growth worldwide - exploding



Indian Ocean, 2008



Shanghai, China - the world's most populous city, Pacific Ocean, 2008

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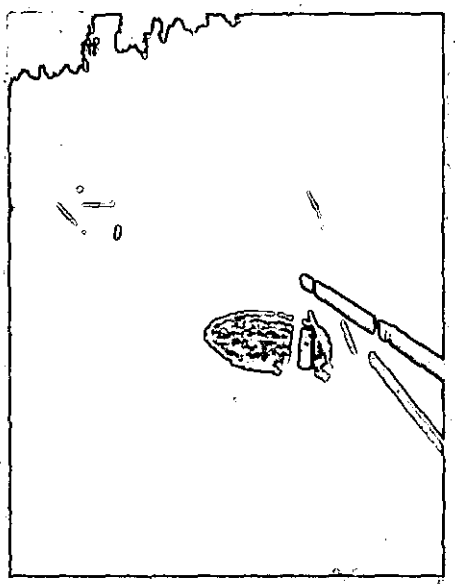
The Carolinas were hard hit with ALGAE problems

They turned to two men to find a solution: Richard Armstrong & Tim Tompkins



Armstrong – physicist, electrical engineer, bio-systems & process systems specialist

Tompkins – chemical engineer, bio-engineer

together Armstrong & Tompkins built $7 billion in pulp, paper, & energy in the southern states – BF Goodrich, Duke Power, Bowater, Rhone Poulec, GE & others

Armstrong & Tompkins had worked to solve "bad" ALGAE growth problems for these companies. Armstrong & Tompkins never had to put out a resume to bid a job, word of mouth & reputation was enough

Carolinas - "...get rid of it, or find a use for it..."

Armstrong & Tompkins visited ALGAE research centers worldwide

what they found... ALGAE was loaded with oil; firms were growing it

but, two major problems associated with ALGAE oil eluded solutions

Endless Supply of ENERGAE

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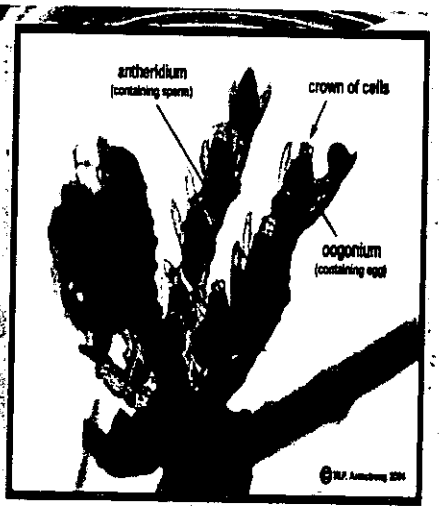
Problem 1 - Growth: starving the ALGAE increased the oil value, but it slowed the growth



Problem 2 - Oil Extraction: extracting energy from ALGAE's 'tight' cell walls was costly

After much research, personal capital & trial & error Armstrong & Tompkins invented solutions

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In developing their solutions, Armstrong & Tompkins' visited all known ALGAE bioreactors....

ALGAE bioreactor - a man-made incubation unit in which ALGAE is grown in order to produce oil & other ALGAE bi-products

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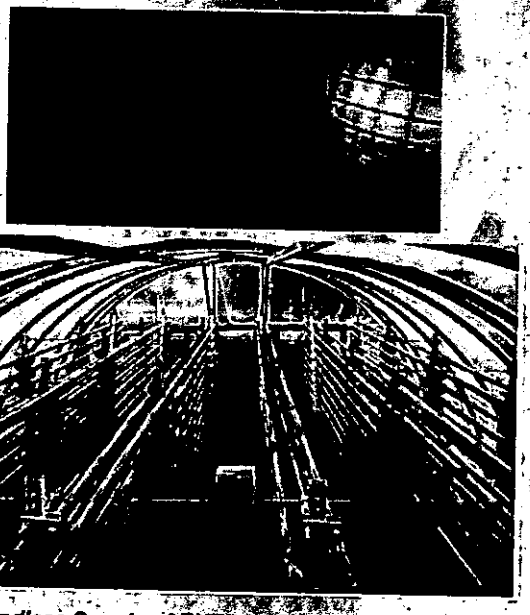
many good ideas.....but most fell short...either too costly to build or they couldn't efficiently extract oil



Endless Supply of ENERGAE

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Armstrong & Tompkins *A.T. Bioreactor* design principles

- Produce large quantities of high energy value Algae and bi-product
- Cost effectively produce the oil & bi-product
- Complete automation to manage input/ouput

if you could build a customizable, fully automatic, computer controlled engine to grow massive amounts of oil, *what would it look like?*

the engine would need to be high tech, ultra durable, made of thermo-isolated materials to prevent energy loss. it would need to achieve optimal nutrient monitoring, optimal light exposure, optimal water flow, optimal CO2 & NOx intake & exchange, and optimal oil extraction.

it would look like this...

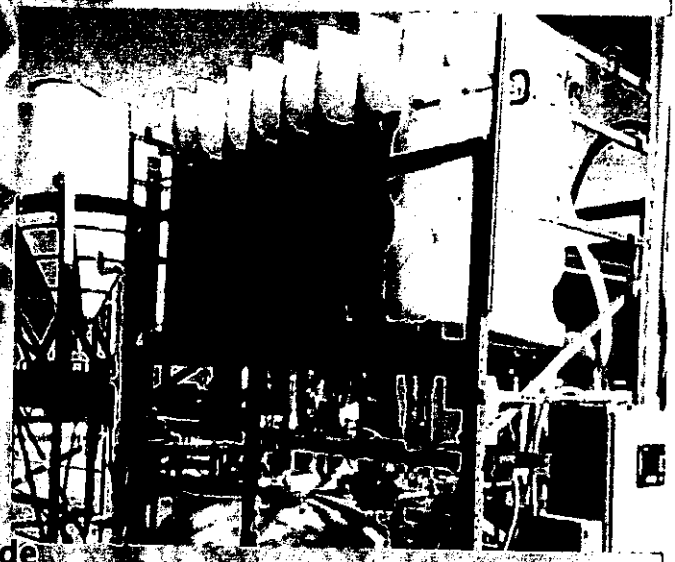
It would have

full automation

constant monitoring of
- nutrients
- light
- gas exchange/intake
- water flow
- PH level
- temperature controlled

continuous harvesting

self- sustaining – low quality oil burned to provide electricity for the entire unit



Endless Supply of [illegible]

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ALGAE optimization & automation produce the following:

low cloud point

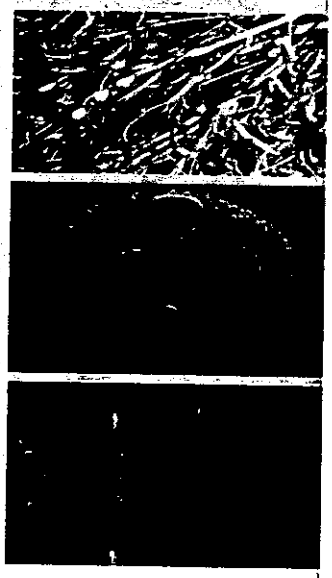
cleaner oil

low sulfur

fuel for vehicles – direct use

high quality oil & BTU value

sucks up nasty gases while growing



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ALGAE traits

35% to 80% of body weight in oil

fastest growing organism known to man

ALGAE oil combined with diesel fuel produces superior burn ratios & cleaner fuel

ALGAE can eat noxious gases produced by burning fuel - turns them into harmless organic carbons

Endless Supply of ENERGAE

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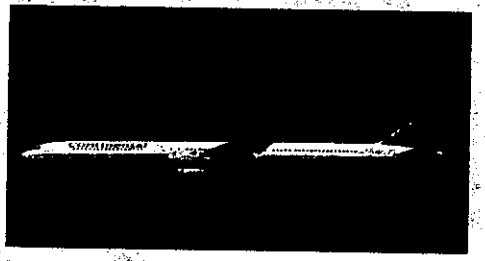
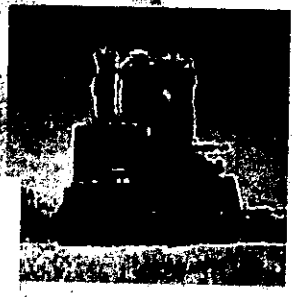
products derived from ALGAE oil

- jet fuel
- gasoline
- plastics
- hydrogen
- Ethanol





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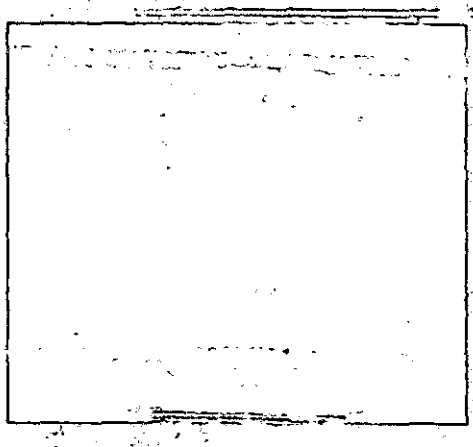
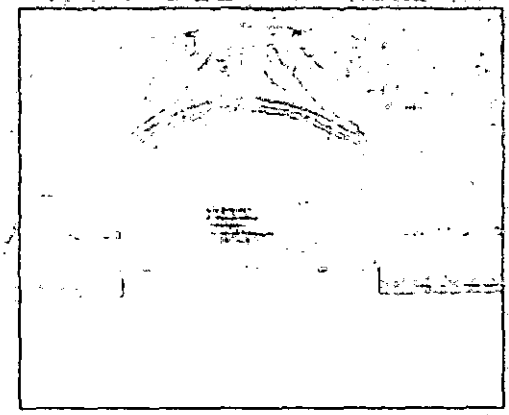
sample Algae growth rate





It took 30 hours for ALGAE to grow 20 fold in Armstrong & Tompkins bioreactor using their proprietary nutrient solution & automation

Armstrong & Tompkins Bioreactor

A.T Bioreactor	Others
closed System	· open pond system
full Automation	· partial automation
super strains	· local wild strains
98% of oil extracted using proprietary harvesting methods	· 45% of oil extracted using "pressing"
cleaner oil extraction	· less quality oil
low cost to produce	· high cost to produce
low cost to build	· high cost to build
optimal CO2 intake	· poor CO2 management

some of RWE curent agreements

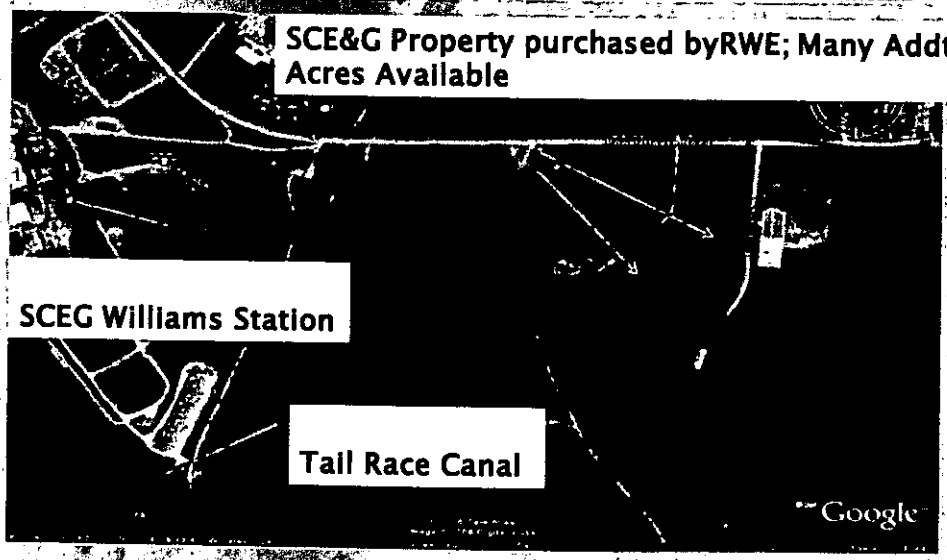
1. Universities – super Algae strains

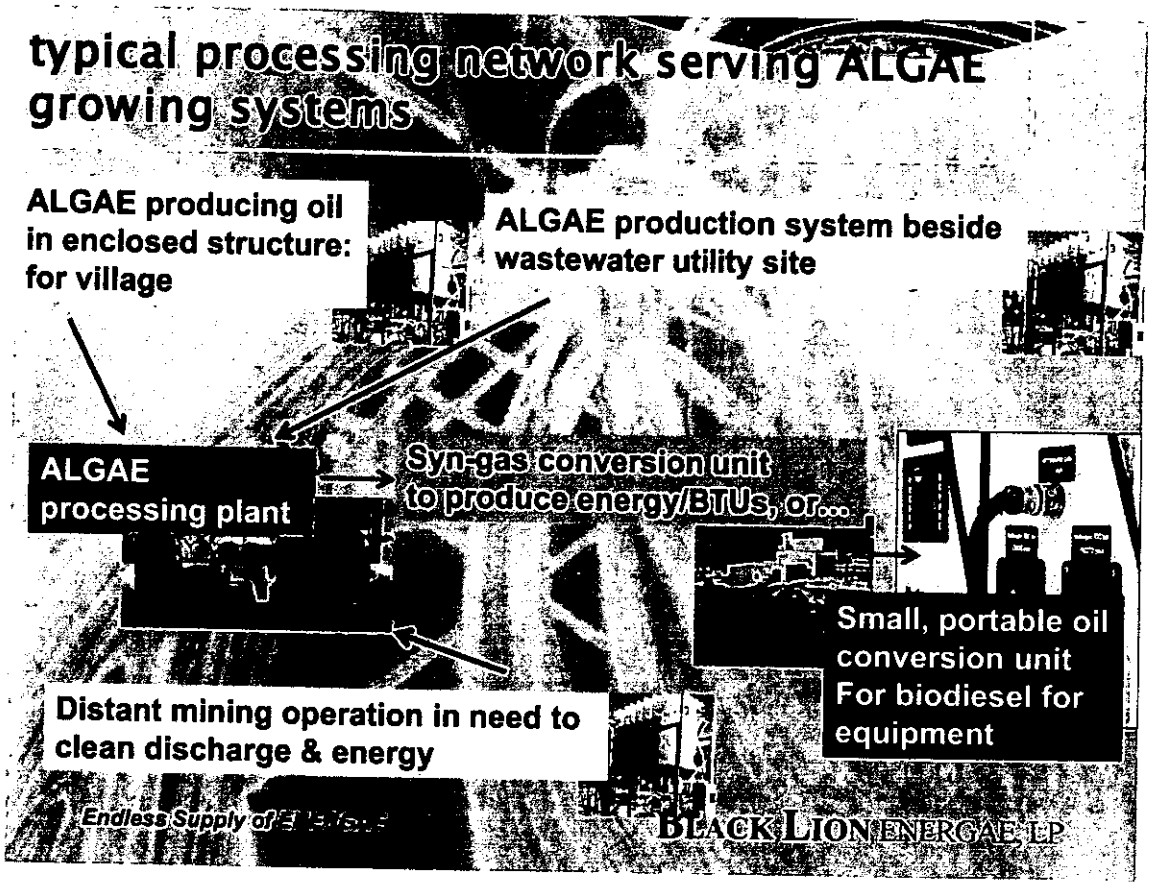
2. South Carolina Power & South Carolina Gas & Electric, the largest power production companies in the Carolinas
   - free CO2 and NOx

3. State of South Carolina –
   - $13 million in tax credits,
   - pays for all worker training,
   - 250,000 acres for $25 an acre

4. largest coal-fired power production company in the nation

S.C.EG & S.C. Power – RWE's owned site




typical processing network serving ALGAE growing systems
ALGAE producing oil in enclosed structure: for village
ALGAE production system beside wastewater utility site
ALGAE processing plant
Syn-gas conversion unit to produce energy/BTUs, or...
Small, portable oil conversion unit For biodiesel for equipment
Distant mining operation in need to clean discharge & energy
Endless Supply of
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BTU & system production
Endless Supply of ENERGY
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our vision – U.S. native groups

Native owned lands in Alaska and the Southwest hold the keys to energy production in the U.S.

Southwest U.S. – perfect for growing Algae low cost, but they lack the capital

Alaska – can provide the capital

Together, the native groups can help provide the energy needs for the U.S., and in the process return an investment for their shareholders

ALGAE BTU value groups:

oil

- bio-lubricants
- gasoline, ethanol additives, plastics

cake – natural drying, no drying agents

- synthetic gas
- omega 3s & other vitamins
- feed

oil & cake production & profit

1540 bioreactors per acre	≈	38,500 gallons of oil per annum
	+	285 tons of cake
Biodiesel spot price $1.90 per gallon	=	$73,150
Cake $120 a ton	=	$34,200
cost to produ $.85 per g	=	$32,725
		======
Net profit (~acre)	=	$74,625

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Net profit	=	$74,625
shipping	=	$11,550
conversion @ modular biodiesel plant in Alaska	=	$13,475
distribution from southwest	=	$4,620
		=====
EBITDA		$44,980

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cost per gallon of ALGAE oil to Alaska

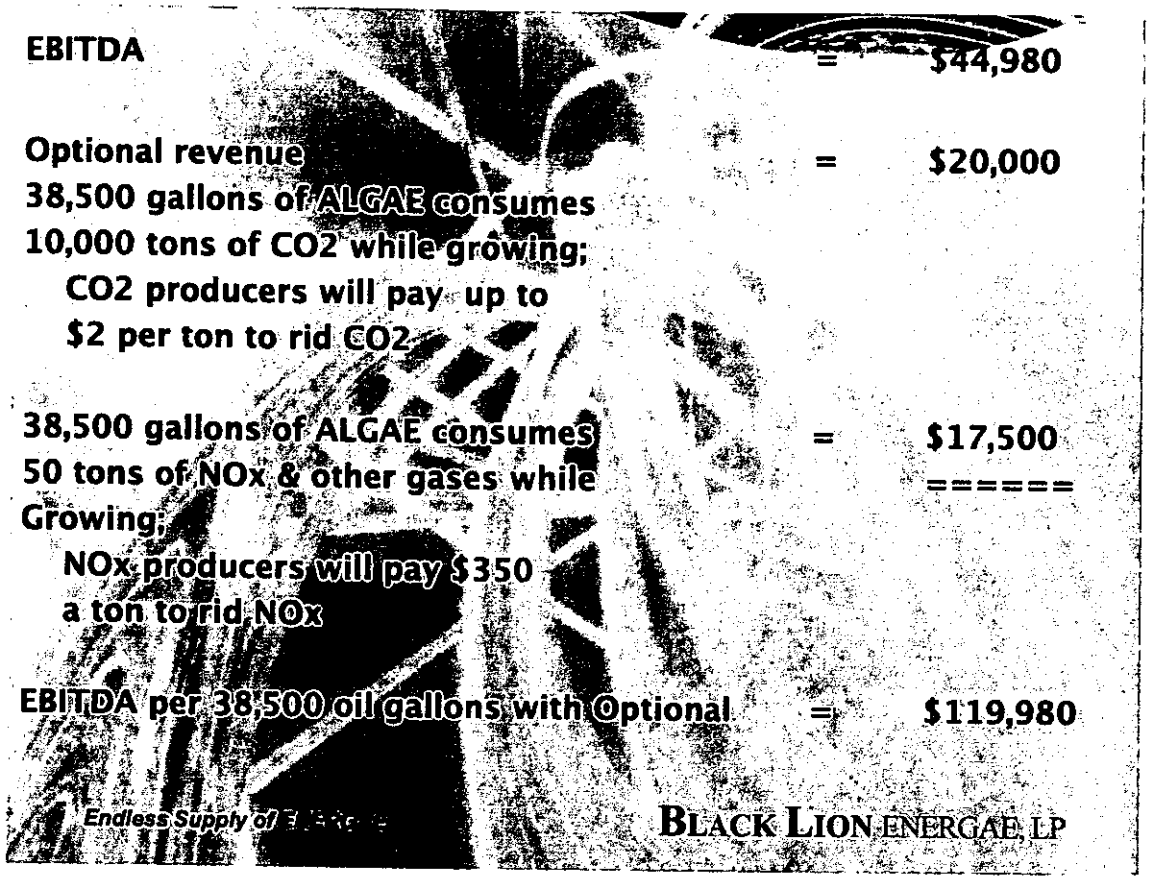
production		$0.85
shipping to port		$0.30
shipping to villages	=	$0.35
conversion at villages	=	$0.45
Misc.	=	$0.10
Middleware markup	=	$0.25
		====
Total		$2.30
offsetting cake revenue reduction	=	$0.90
Net cost per gallon	=	$1.40

optional revenue source - CO2 & NOx

ALGAE eats CO2 & NOx

ALGAE chemically changes CO2 & NOx gases into organic carbons

organic carbons are harmless to the environment and can be consumed by animals as feed when dried


EBITDA = $44,980
Optional revenue = $20,000
38,500 gallons of ALGAE consumes
10,000 tons of CO2 while growing;
CO2 producers will pay up to
$2 per ton to rid CO2
38,500 gallons of ALGAE consumes = $17,500
50 tons of NOx & other gases while
Growing;
NOx producers will pay $350
a ton to rid NOx
EBITDA per 38,500 oil gallons with Optional = $119,980
Endless Supply of
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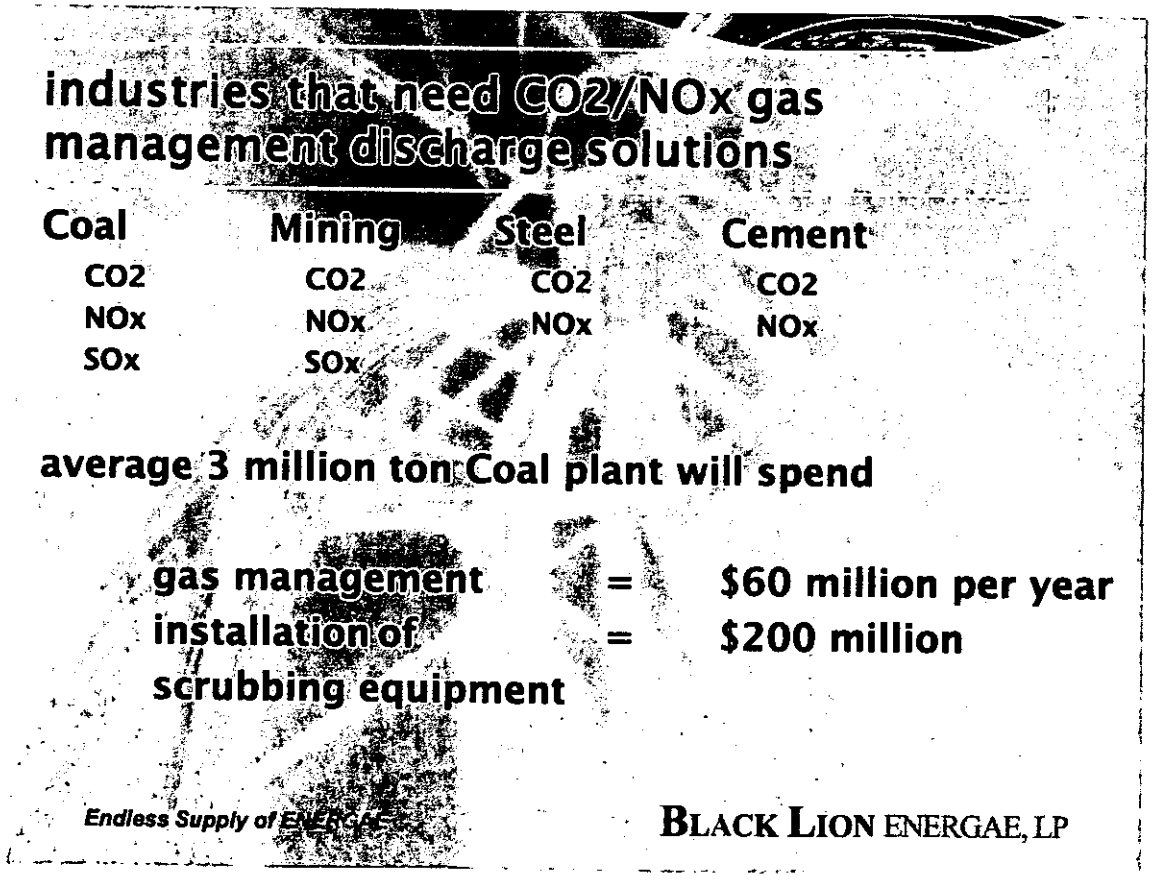

industries that need CO2/NOx gas
management discharge solutions
Coal
CO2
NOx
SOx
Mining
CO2
NOx
SOx
Steel
CO2
NOx
Cement
CO2
NOx
average 3 million ton Coal plant will spend
gas management = $60 million per year
installation of = $200 million
scrubbing equipment
Endless Supply of
BLACK LION ENERGAE, LP

ALGAE solution

800 acres of ALGAE beside a 3 million ton coal plant:

gas discharge reduction	=	$35 million
oil/cake net revenue	=	$39.58 million
		=====
combined annual savings	=	$74.58 million
		or $24.86 per ton
scrubbing cost installation reduction	=	$120 million or $4.50 per ton (amor. 15 yrs)

$24.86 + $4.50 = $29.36 per ton

Endless Supply of ENERGAE

BLACK LION ENERGAE, LP

ALGAE systems allow for an environmentally safe expansion of the coal, petroleum and mining industries in Alaska and beyond

ALGAE sucks up the nasty discharges, turning them into organic carbons which are harmless

Endless Supply of ENERGAE

BLACK LION ENERGAE, LP

Proposal: State of Alaska sponsored

ALGAE pilot project in Alaska, expected costs & installation

2.25 megawatt power system

first step: perform low cost feasibility study to determine costs associated with creating 2.25 megawatts of power

second step: if viable cost-wise, install

- **ALGAE bioreactors**
- **newest, small scale Florida Hydro wind design to provide electrical generation for dark winter months, growing ALGAE under artificial lighting**
- **covered enclosure**
- **optional oil processing & diesel production units**

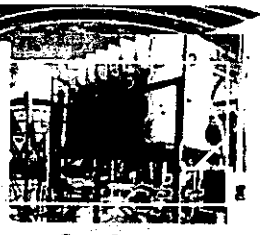
expected system cost for first/single 5 megawatts of power

feasibility study	=	$0.250 million
3000 Algae bioreactors & set-up costs	=	$1.50
syn-gas processing station	=	$1.25
optional oil processing station	=	$1.75
enclosures	=	$2.00
wind	=	$2.00
		=====
Total		$8.75 million

Endless Supply of ENERGAE

BLACK LION ENERGAE, LP

expected ALGAE BTU value



3000 units (system)	~	75,000 gallons of oil per system per year +
	+	540 tons of biomass
BTU value oil (syngas)	=	12,242 megawatts per annum
BTU value biomass	=	5,975 megawatts
wind	=	1,000 megawatt
		====
	=	19,217
combined syngas BTU value	~	2.25 megawatts per hour

Endless Supply of ENERGAE

BLACK LION ENERGAE, LP

monitoring/maintenance, pilot project year 1

testing/monitoring costs - 1 fulltime employee to manage system & maintenance - RWE manager for communication/ electrical distribution	= $150,000 = $75,000
RWE phase study	= $100,000
Total	= $325,000

Endless Supply of ENERGAE

BLACK LION ENERGAE, LP

expected revenue from energy production

2.25 megawatts & $.20kwh	= $3.94 million
10,000 gallons of oil not converted to BTU value for study and distribution @ $3.00 a gallon	= $0.03
total	= $3.97 million

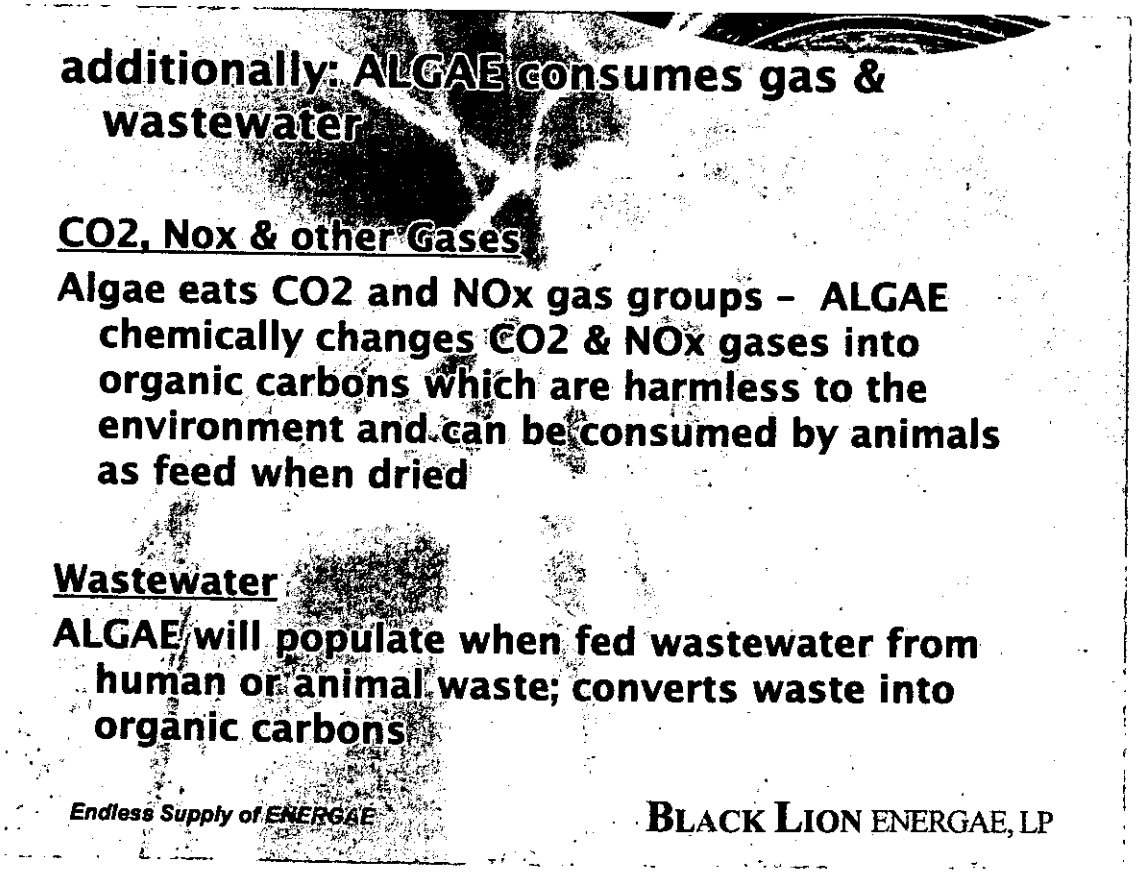
Endless Supply of ENERGAE

BLACK LION ENERGAE, LP

village prototype system can be profitable in first year of operation

produces 2.25 megawatts of energy

additionally: ALGAE consumes gas & wastewater



CO2, Nox & other Gases

Algae eats CO2 and NOx gas groups – ALGAE chemically changes CO2 & NOx gases into organic carbons which are harmless to the environment and can be consumed by animals as feed when dried

Wastewater

ALGAE will populate when fed wastewater from human or animal waste; converts waste into organic carbons

RWE offers

turn key ALGAE systems

on-site plant management

product management

Endless Supply of ENERGAE

BLACK LION ENERGAE, LP

CO2 and NOx consumption Models as it relates to mining & coal

Endless Supply of ENERGAE

BLACK LION ENERGAE, LP

In January 2009 the EPA fined Kentucky Utilities' largest coal-fired power plant $140 million in fines and equipment upgrades to clean-up NOx & Sulfur Oxide emissions. The plant had already spent $270 million

Both the EPA & the E.U. have a ZERO tolerance for NOx emissions

But, what of CO2?
- World currently operating under TWO CO2 models

E.U./Kyoto model: Each country/industry is allotted "x" CO2 emissions

All CO2 emissions are monitored

If you exceed CO2 emissions you must
1. purchase carbon "credits" or
2. be heavily fined

U.S. Model:

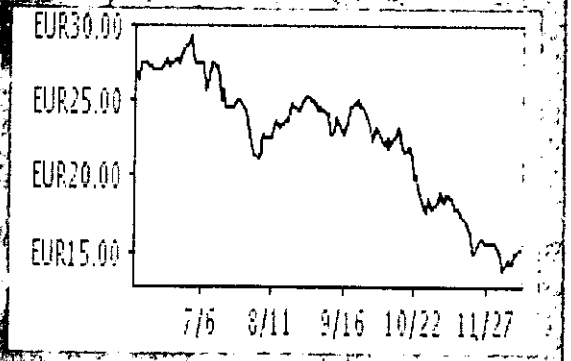
...voluntary...but...

ALL CO2 emissions are NOW recorded by the EPA

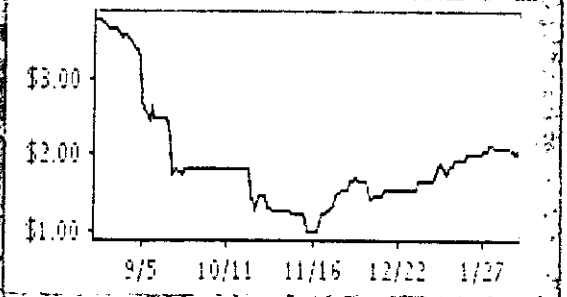
California is mandating a CO2 trading market

Mandatory Carbon Trading Market in Europe

($15 E.U. converts to $19 U.S.)



Voluntary Carbon Trading Market in the U.S.



E.U. Problem: there are not enough carbon credits relative to demand - $30 billion traded in 2008

U.S Problem: The US Supreme Court gave the EPA the "right" to mandate all CO2 emissions

Coal Problem: coal plants must spend addtl $50 million per ton of coal produced per annum to clean-up CO2 emissions, not including NOx upgrades

Mining Problem: water and gas discharge from mining operations run into multiple millions of clean-up

minimal cost to clean CO2/NOx gases in Alaska

CO2 per coal ton	$3 to scrub/sequester $6 for equipment to scrub
NOx per coal ton (bound & thermal)	$5 to scrub $8 for equipment to scrub
	==== $22 per ton
small sized coal plant 1.5 million tons of coal per annum	1.5 X $22 = $33 million per

TVA TWO POWER "Lines" ~ 1000 Megawatt each – are SHUT DOWN, due to

- being "over limit" on CO2 & NOx
- annual revenue loss = $500 million per annum
- cost to correct: $200 million + $50 million per year operating costs

Increased EPA [illegible] on coal, mining, steel & cement now being set [illegible] mandates

Endless Supply of ENERGAE

BLACK LION ENERGAE, LP

RWE Solution: ALGAE system

- consumes all CO2
- consumes all Nox & other nasty gases
- reduces need for costly scrubbing equipment
- puts people back to work
- produces additional revenue streams
- cleans up mining, cleans up coal

RWE's solution – half the corrective cost of using scrubbing – RWE's solution produces revenue

EPA's solution for TVA – $250 million COST not including ongoing $50 million per annum!

Endless Supply of ENERGAE

BLACK LION ENERGAE, LP

other revenue sources from algae cake & oil

- Plastics
- Fertilizers
- Cosmetics
- Enzymes
- amino-acids
- Antioxidants
- superoxide dismutase
- Phycocyanin
- carotenoids, etc.

mining

Algae can be programmed to suck up mining's "other" output, turns output into harmless organic carbons for fertilizer and animal feed

produces badly needed low-cost energy for remote mining locations

potential combined NET revenue if oil & cake separated and sold individually

oil	–	$1.05 per gallon
cake	–	$0.90 per gallon
CO2/Nox	–	$1.94 per gallon
Royalties	–	$0.12 per gallon
		======
subtotal	–	$4.01 per gallon

foreign petroleum oil

how does Algae compare?

*D.O.E . Figures	No. 2 Diesel Fuel	Algae Oil
Cost per gallon At $40 per barrel oil? At $10 Barrel oil = ($.22)	($.86)	N/A
Cost to Grow Oil or Convert Diesel Fuel	($0.93)	($0.85)
Convert Algae Oil to No. 2 Diesel Fuel	N/A	($0.45)
SG&A & Marketing	($0.25)	($0.25)
Shipping/Handling	($0.25)	($0.30)
Subtotal	($2.04)	($1.85)
Bi-Product Revenue Cake	NA	$0.90
Bi-Product Revenue Carbon Credits	N/A	$1.94
Bio-Diesel $1.00 per gallon credit	N/A	$1.00
Total	**($2.04)**	**$1.99**

Endless Supply of ENERGAE

BLACK LION ENERGAE, LP

In January 2009, $17 billion left American pockets to purchase foreign oil – $381,000 per minute

the U.S. imports 67% of the oil it consumes

we have a solution

Canada – 2.028 million barrels per day
Saudi Arabia – 1.482 million barrels per day
Mexico – 1.296 million barrels per day
Venezuela – 1.072 million barrels per day
Nigeria – 0.775 million barrels per day
Iraq – 0.467 million barrels per day

Endless Supply of ENERGAE

BLACK LION ENERGAE, LP

other oils vs. ALGAE oil

350 gallons – Palm Oil per acre per year

Fatty acid – HIGH Conversion to Diesel – LOW

303 gallons Canola/Rapeseed

Fatty acid – LOW Conversion to Diesel – HIGH

150 Soy Oil

Fatty acid – LOWER Conversion to Diesel – VERY HIGH

38,500 gallons & more Algae Oil

Fatty acid – Extremely Low Conversion to Diesel – 1 to 1

competitors

Valcent Products – No revenues, demonstration model, produces product called Vertigro – website claims similar gallons per acre but system is costly

Solazyme – The company utilizes proprietary genetic engineering methods to develop and optimize commercially relevant biochemical pathways ys production of hydrocarbons

LiveFuels – A national alliance of labs and scientists dedicated to transforming algae into biocrude by the year by the year 2010. Working on breeding various strains of algae, driving down the costs of harvesting algae and extracting fats and oils

Infinifuel Biodiesel – Nevada – home to a unique biodiesel project under development and is being touted as the world's first geothermal powered and heated biodiesel plant. Geothermal "wells" will be used as energy to grow ALGAE on 300 acres; still under development.

PetroAlgae – commercializing environmentally friendly ALGAE developed by a research team at Arizona State University that generates over two hundred times more oil per acre than crops like soybeans. Using a cost-effective, modular cultivation process that can be scaled. Working on converting ALGAE oil to plastics.

Sapphire – a developer scalable photo-bioreactors for the production of alternative oil products from algae oil. Sapphire's closed photo-bioreactors are expensive, but designed for high-end oil market products. Bill Gates dumped over $50 million into this project and they make oil for $2.50 a gallon and more.

production/value goals

	2009	2010	2011	2012	2013
RWE oil in MGPY	3	15	30	60	100
RWE Partner MGPY	0	15	40	60	100
	===	===	===	===	===
	3	30	70	120	200
Projected Value Per Unit	$1665	$2368	$3780	$6890	$11,450

Based on Profit per Unit current unit price $1000

Richard Armstrong Resume

Richard Armstrong, President, Chairman

SUNY- Binghamton, Electrical and Chemical

Brome CC, Math and Physics Major

Senior member ISA, Instrumentation Society of America

Extensive experience in building large chemical plants. ***Project design/manager on over 5 billion dollars in projects on pulp & paper & chemical processes including transesterification processes.*** **Experience includes project design, start-up and commissioning of pulp dryers, bleach plants, paper machines, scrubber systems, electrical distribution, emergency generators, plant automation, system networks, electronic primary and final control elements and programming/configuration of PLC's and distributive control systems for boiler houses, chemical batch reactors, conveyor systems, Pharmaceuticals, pulp and paper plants as well as petrochemical.**

- **Has extensive experience in negotiating large equipment purchases.** ***Every project over the last 30 years has been on budget and on time.***
- **Partial list of clients:** ***Bowater Pulp & Paper, Rhone Poulenc Chem., BF Goodrich, Duke Power, Phillip-Morris, AMEX, GE***

TIM TOMPKINS RESUME

Tim Tompkins, CTO

Technical Association for the Pulp and Paper Industry (TAPPI) – member since 1989

Carolinas Air Pollution Control Association (CAPCA) – member since 1996

B.S., Pulp and Paper Technology

N. C. State University

Engineer on over 2 billion dollars in projects on boilers, Pulp & Paper & chemical processes and often managed these facilities. **Pulping and bleaching projects include a new 50 ton-per-day chlorine dioxide plant and storage tank system, bleach plant modifications, recycle and de-ink pulp facilities, pulp dryer system modifications, pulp mill studies, chilled water system modernization, and design of several cooling tower systems. Papermaking projects include white water system modifications, vacuum pump installations, cleaner modifications and additions, post consumer waste recycle system, and ground calcium carbonate system. Environmental projects include scrubber additions and modifications, storm water collection and treatment, and several Cluster Rule related jobs that included: studies, capital cost, design, and construction.**

2/27/09 OVERVIEW: PEBBLE MINE

1894

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Pebble Prospect

Presentation to the Senate Resources Committee

John Shively, CEO

Ken Taylor, VP Environment

February 27, 2009

THE pebble PARTNERSHIP

The Pebble Partnership

A Shared Commitment to Sustainable Development and Social and Community Responsibility.

Northern Dynasty has delineated one of the world's great orebodies, assembling one of the most extensive environmental databases in the history of resource development.

Anglo American US brings a depth of corporate resources and a successful track record of global leadership in modern mining practices.

www.pebblepartnership.com

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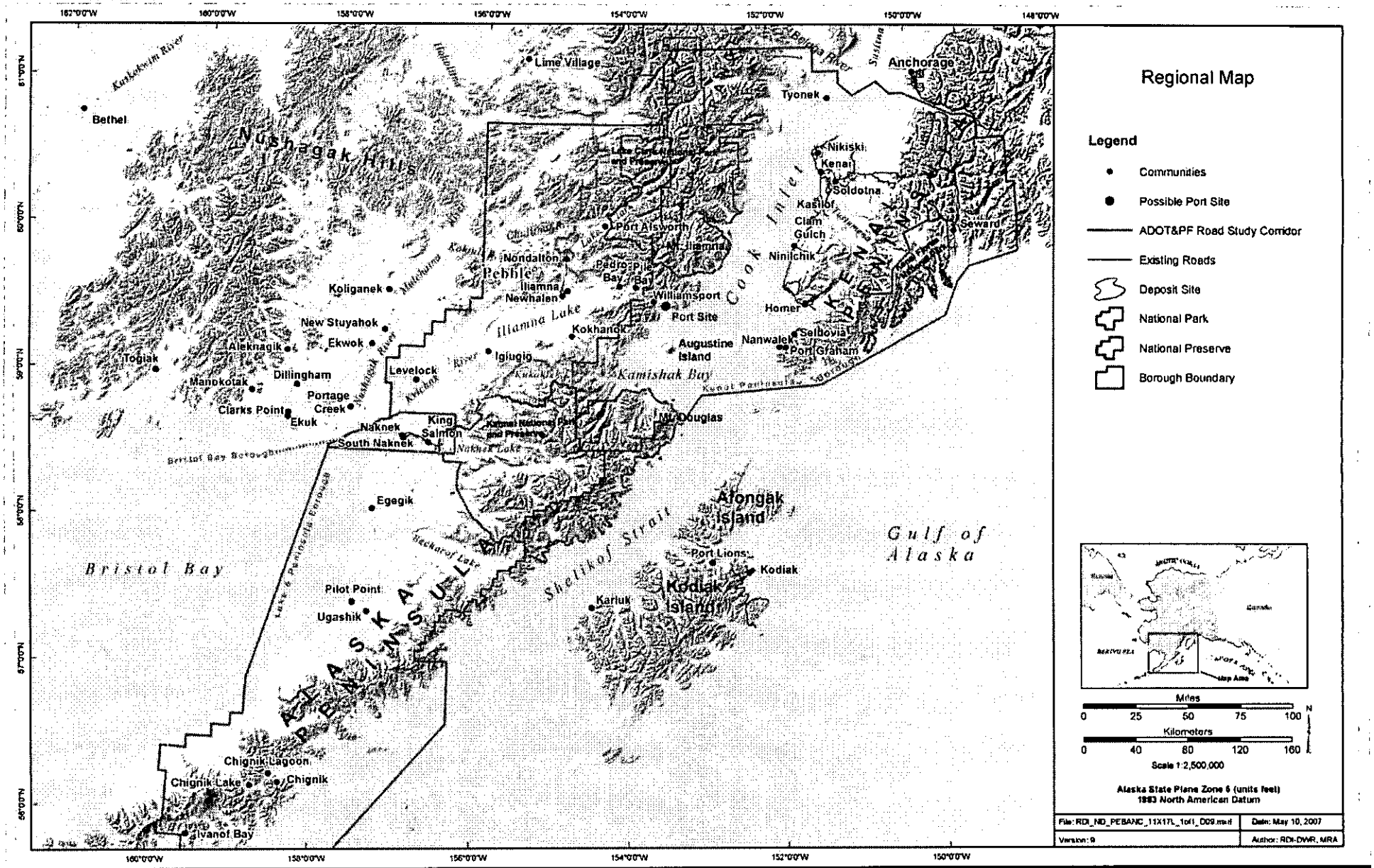
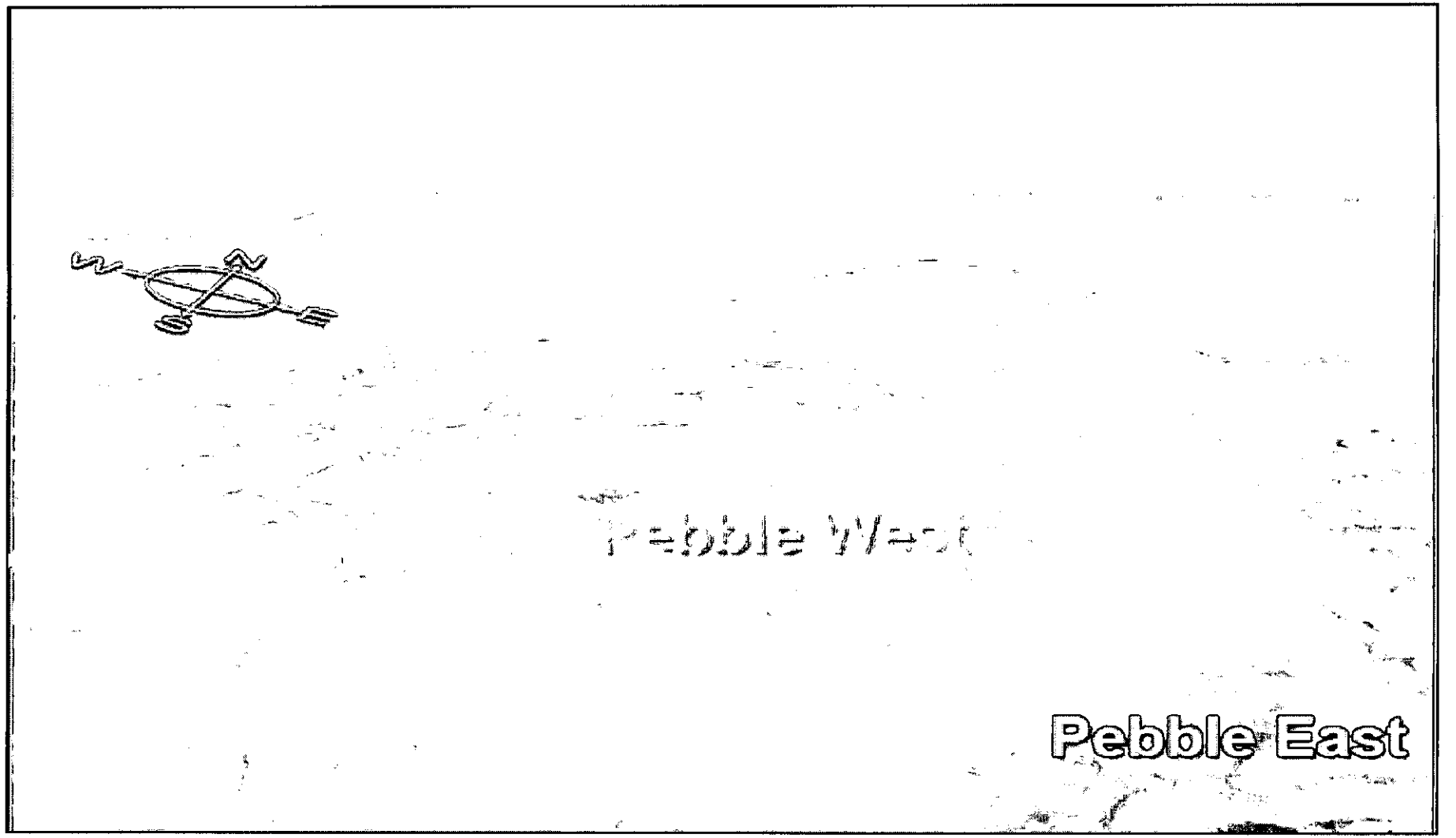
Prospect Location



Pebble Prospect – Deposit Topography



1898

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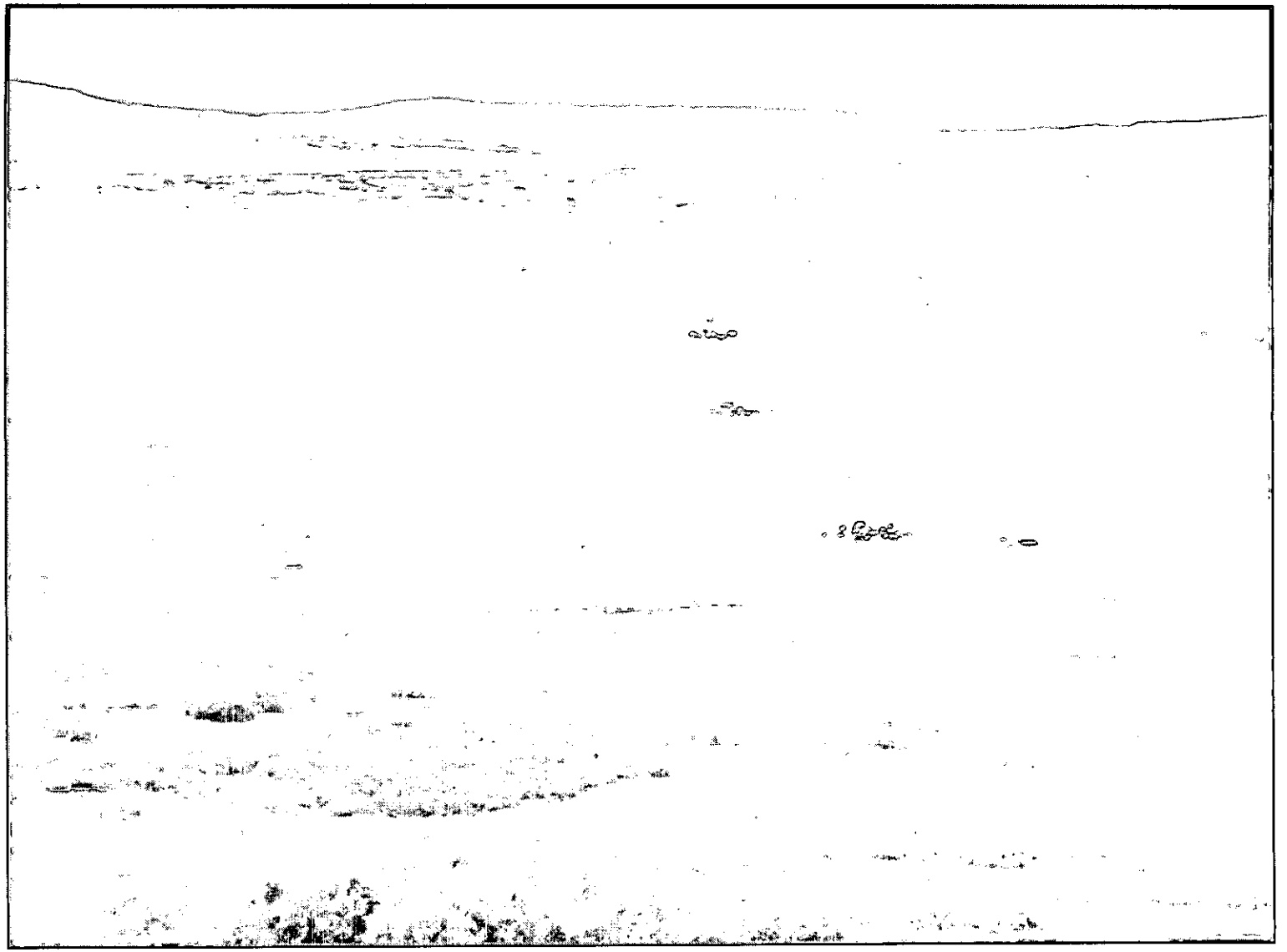
Low Footprint Exploration



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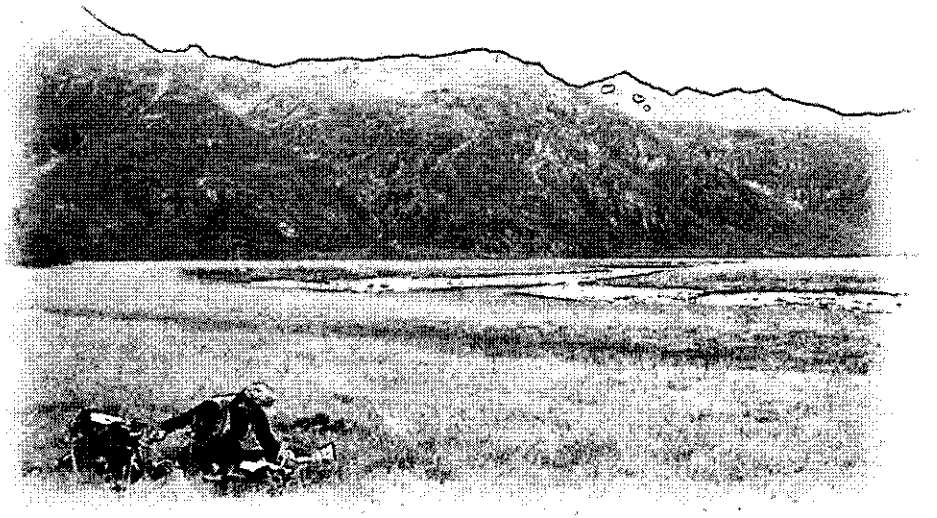
Environmental Studies

- Surface Water
- Water Quality
- Groundwater
- Geochemistry
- Snow Surveys
- Analytical QA/QC
- Fish & Aquatic Resources
- Macroinvertebrates
- Wetlands
- Trace Elements
- Flow Habitat Study
- Iliamna Lake Study
- Marine
- Wildlife
- Air Quality
- Noise

- Cultural Resources
- Subsistence
- Land Use
- Recreation
- Socioeconomics
- Visual Aesthetics
- Impact assessment & management
- Mine closure & reclamation



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HydrologyStudies

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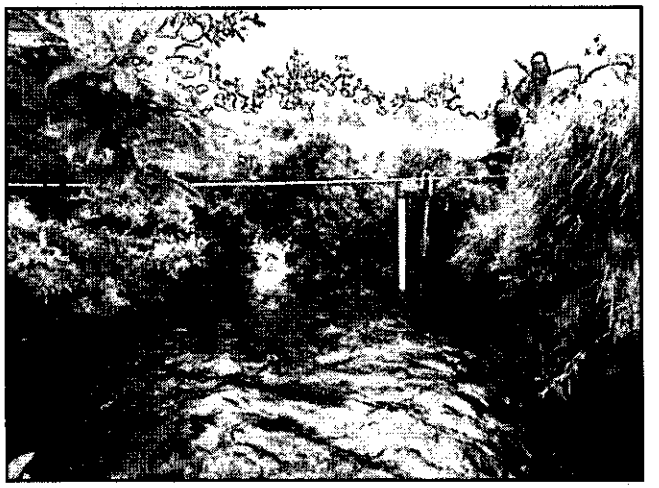
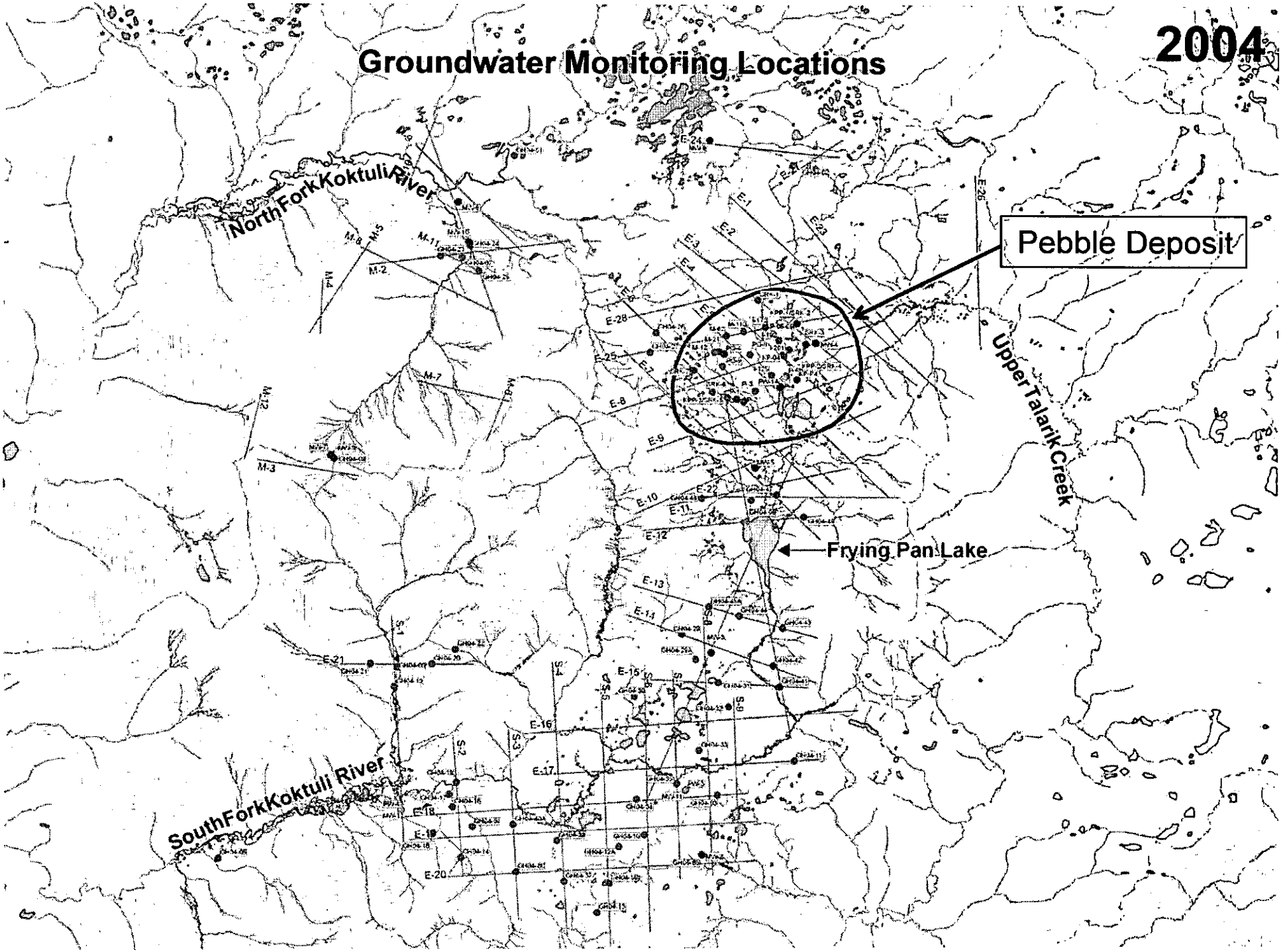
Field Activities

- **29 Continuously Gaged Stations**
  - During Ice-Free Months
  - Winter Field Measurements
  - 3 operated by the USGS
  - 6 operated by APC Services



- **>125 Instantaneous Measurement Sites**
  - Water Quality
  - Groundwater Model Calibrations (baseflows)
  - Fisheries and Instream Flow Assessments

- **Scheduled Monthly Field Visits**
  - 42 Sites
  - 29 - all continuously gaged stations (rating curve) development)
  - 13 - Water Quality Stations
  - 12 Measurements per year per station


Groundwater Monitoring Locations
2004
North Fork Koktuli River
South Fork Koktuli River
Pebble Deposit
Upper Talarik Creek
Frying Pan Lake
M-1
M-2
M-3
M-4
M-5
M-7
M-8
M-11
M-12
E-1
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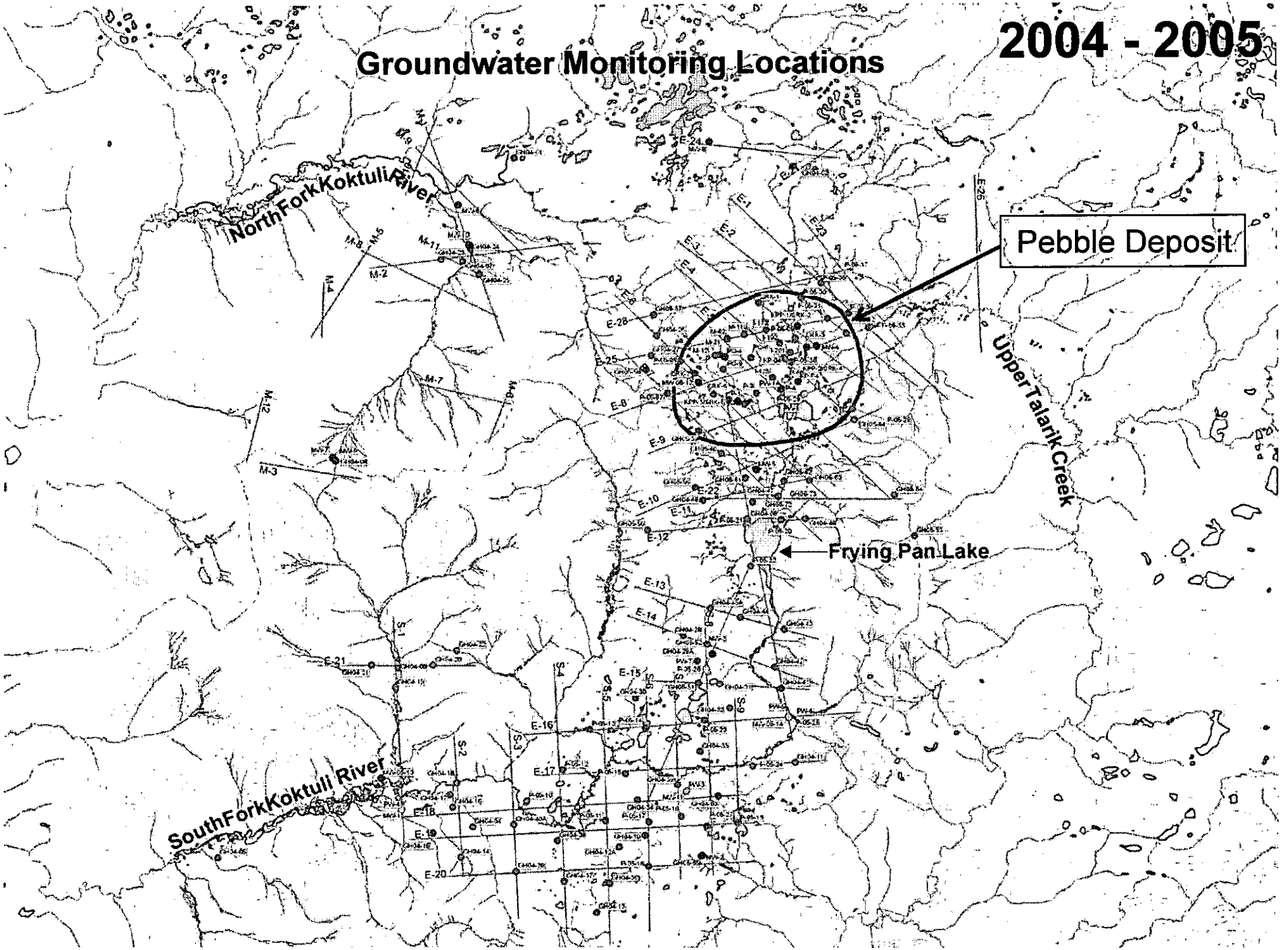
Groundwater Monitoring Locations
2004 - 2005
North Fork Koktuli River
South Fork Koktuli River
Pebble Deposit
Upper Talarik Creek
Frying Pan Lake
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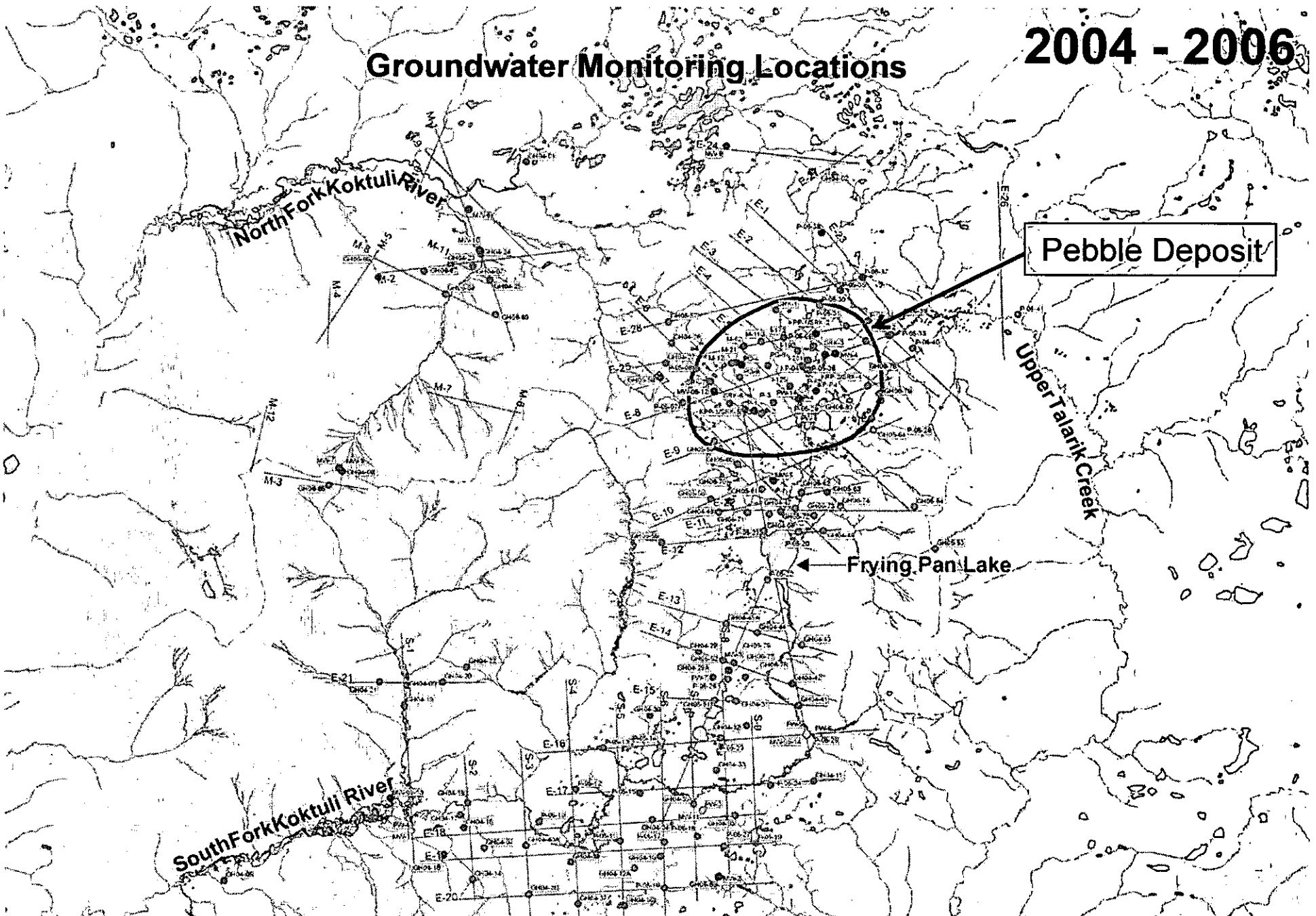
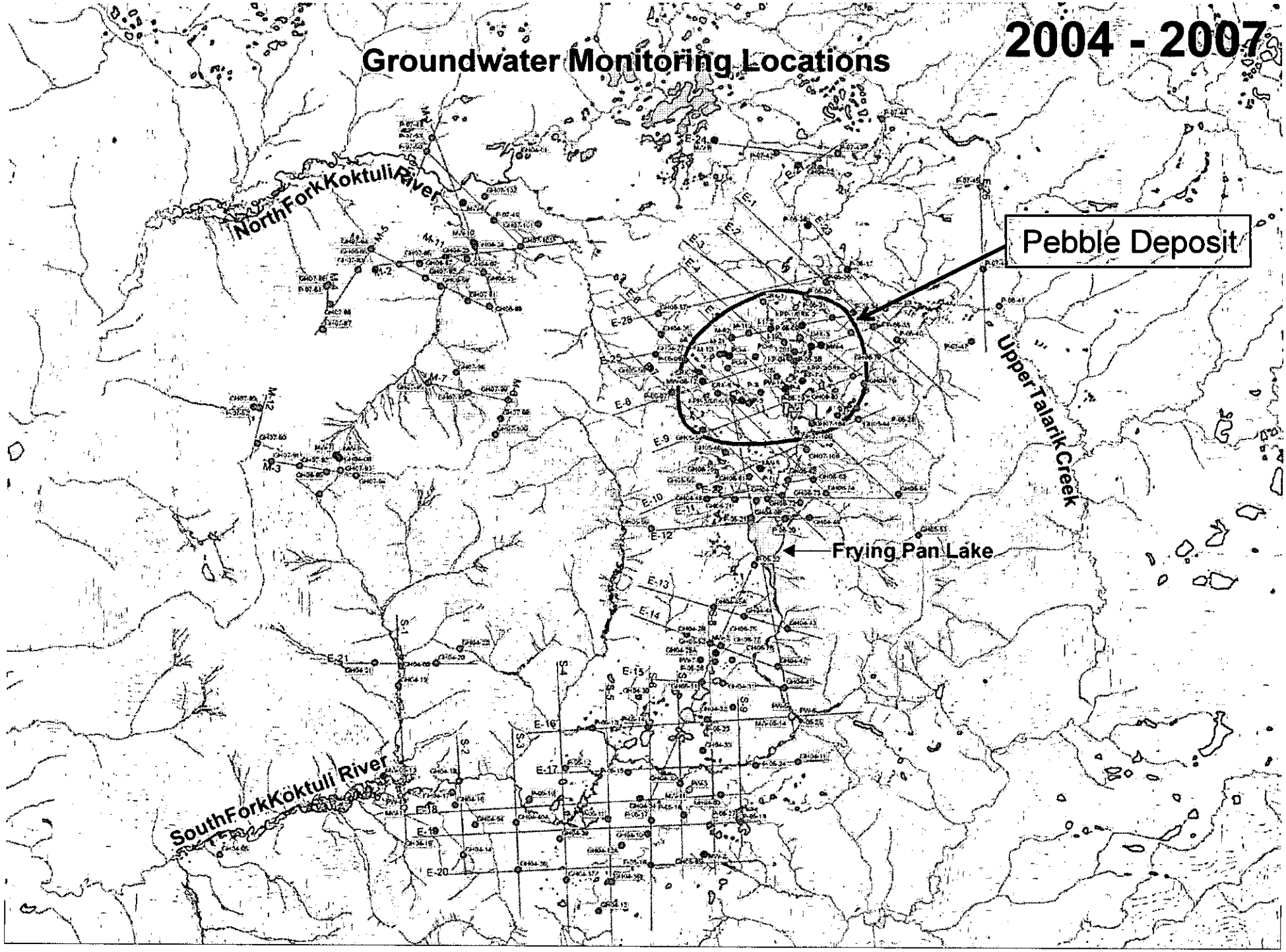
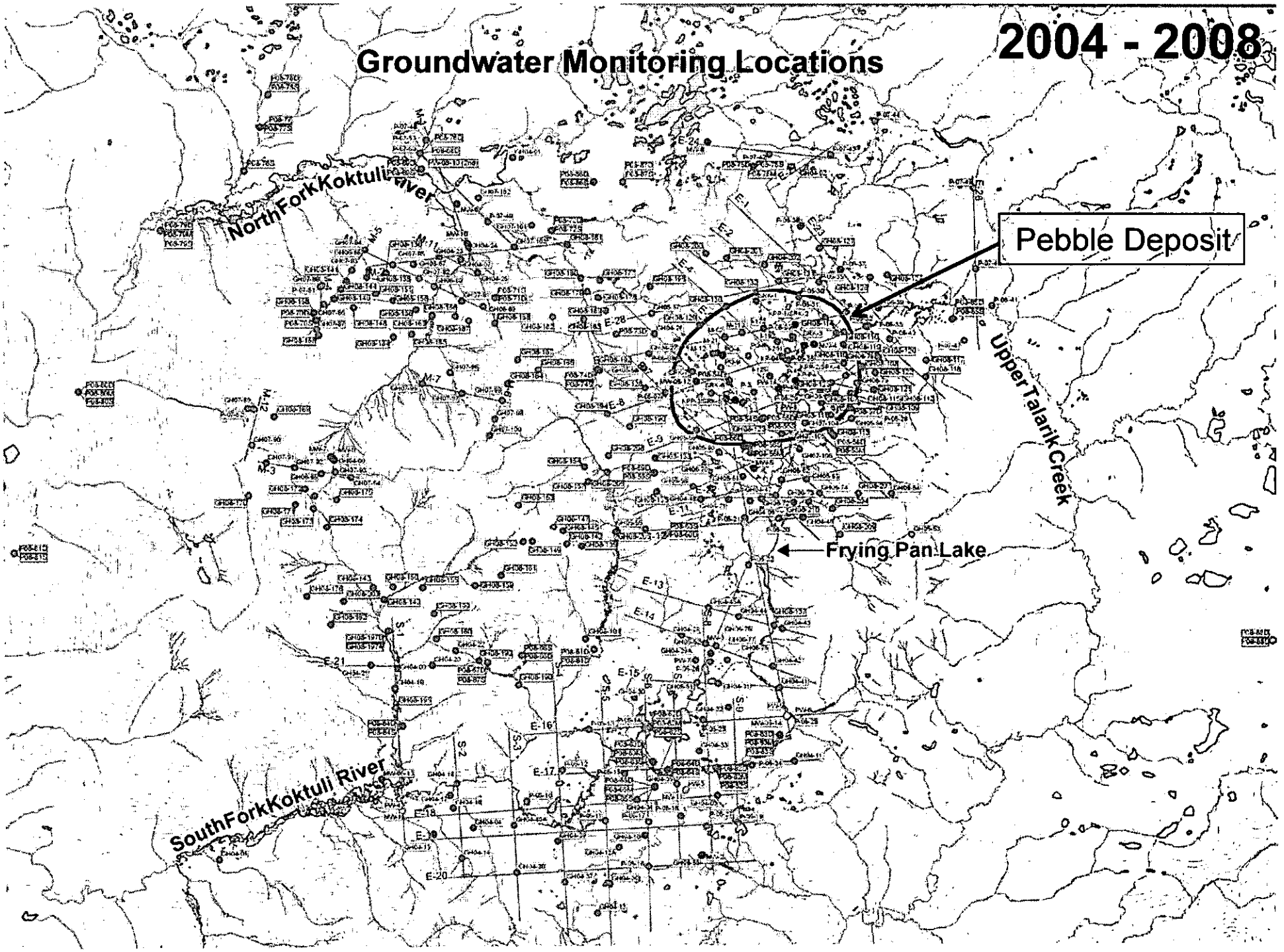
1903


Groundwater Monitoring Locations
2004 - 2006
Pebble Deposit
North Fork Koktuli River
South Fork Koktuli River
Upper Talarik Creek
Frying Pan Lake


Groundwater Monitoring Locations
2004 - 2007
North Fork Koktuli River
Pebble Deposit
Upper Talarik Creek
Frying Pan Lake
South Fork Koktuli River

1905


Groundwater Monitoring Locations
2004 - 2008
Pebble Deposit
NorthForkKoktuliRiver
SouthForkKoktuli River
UpperTalarikCreek
Frying Pan Lake

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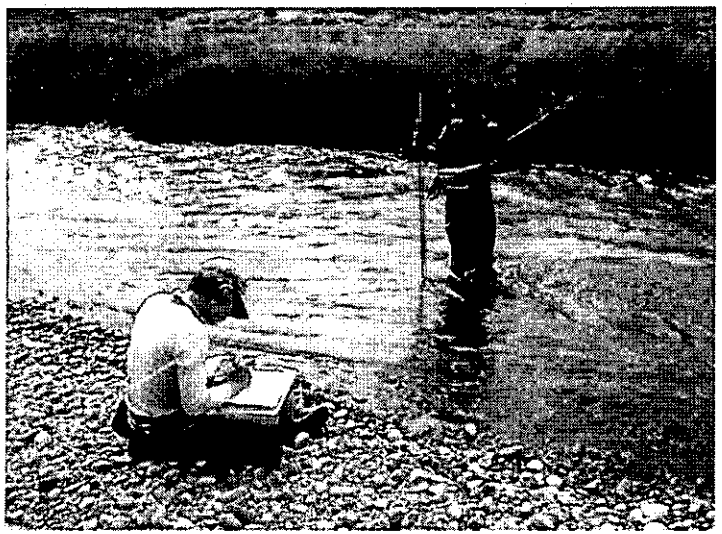
Fish Studies



Fish Data QAQC Progress Summary

2004-2007 Database	QC Method	Total # of Tables	Total # of Records	Percent Complete		
				Level 1	Level 2	Level 3
Fish Distribution	100% Hard Copy	9	23843	100	100	20
Habitat	100% Hard Copy	10	4591	100	100	40
Radio Telemetry	100% Electronic	3	1778	100	100	10
Road Corridor	100% Hard Copy	8	2872	100	100	30
Salmon Fish Counts	100% Electronic	2	674	100	100	10
Salmon Redd Locations	100% Electronic	1	2877	100	100	10
Channel Morphology	20-100% Electronic	4	3698	100	>95	0
Intragravel Temperature	20-100% Electronic	3	229791	100	85	0
Off-Channel Habitat	100% Hard Copy	1	4653	100	50	0
Y Valley	QC Level 2 Pending	6	1060	100	0	0

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Pre-Permitting Environmental/Socioeconomic Data

- RELEASED:
  - Meteorology (2008)
  - Surface Water Hydrology (2008)
  - Surficial Geology (2008)
  - Groundwater Hydrology (2008)
  - Trace Elements *Sediments and Soils* (2008)
  - Groundwater and Surface Water Quality (2008)
  - Trace Elements *Vegetation and Fish/Mammal Tissue* (FEB 2009)
- Future Releases:
  - Macroinvertebrates and Periphyton (2009)
  - Marine Habitats (2009)
  - Marine Nearshore Fish and Benthic Invertebrates (2009)
  - Noise (2009)
  - Lake Iliamna Studies (2009)
  - Visual Resources (2009)
  - Terrestrial Habitat and Wildlife (2009)

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Permitting

Agencies involved in permitting large hard rock mine in Alaska:

- AK Department of Natural Resources (lead agency)
- AK Department of Environmental Conservation
- AK Department of Fish and Game
- AK Department of Transportation & Public Facilities
- AK Department of Commerce, Community and Economic Development
- AK Department of Law
- US Environmental Protection Agency
- US Army Corps of Engineers
- US Fish and Wildlife Service
- US National Marine Fisheries Service
- US Bureau of Land Management
- US Forest Service

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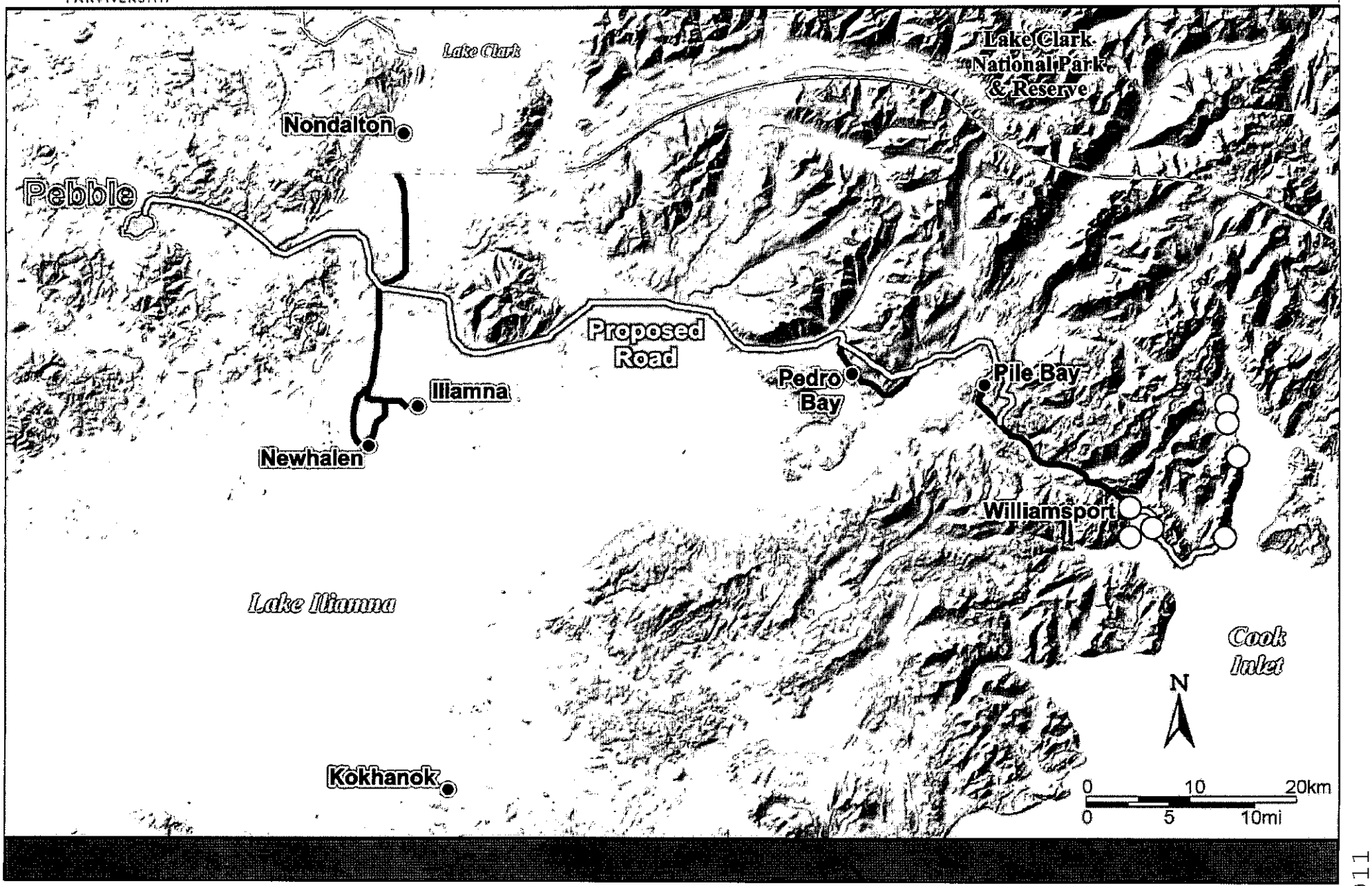
Road Corridor & Port Site



1911

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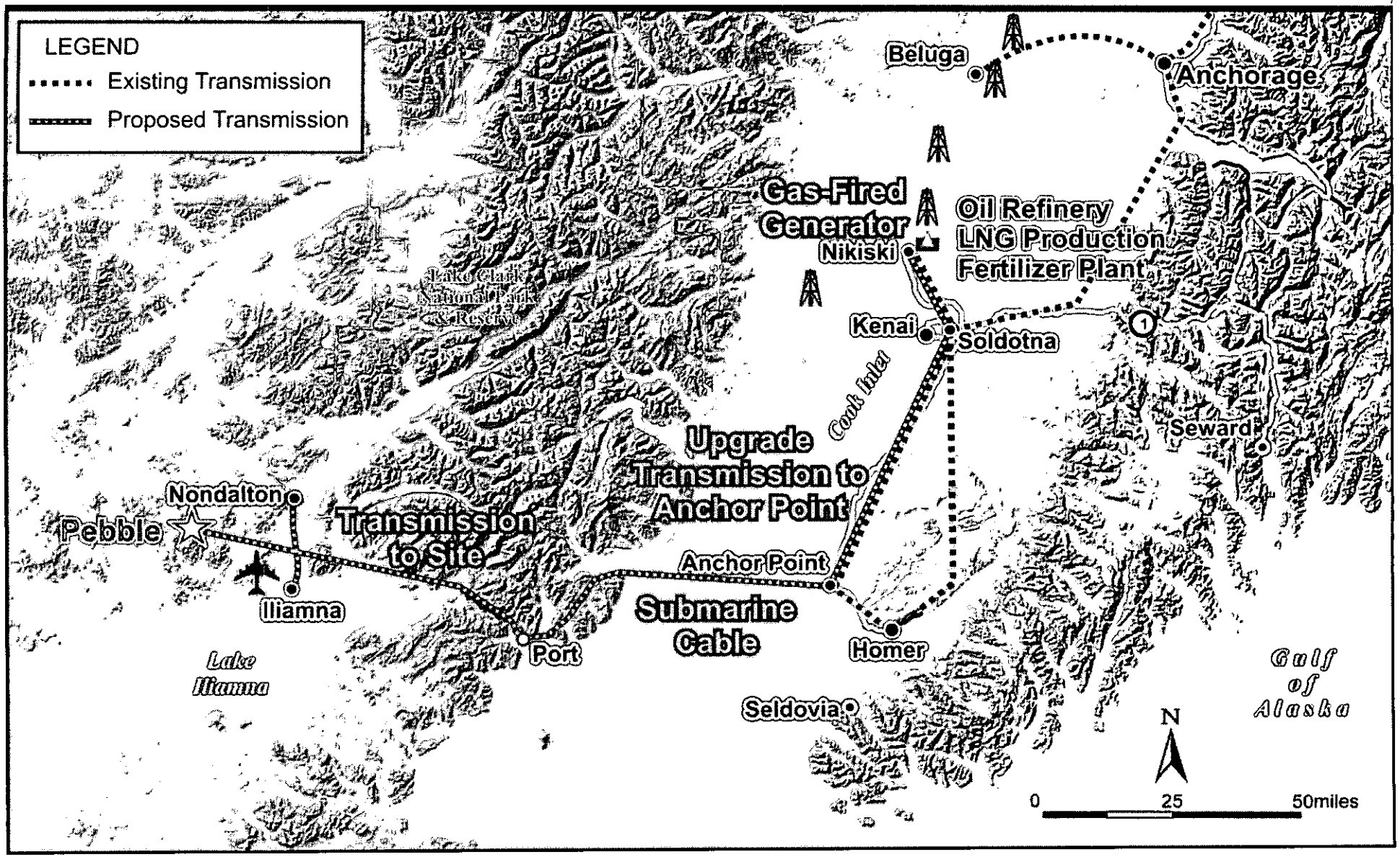
Power



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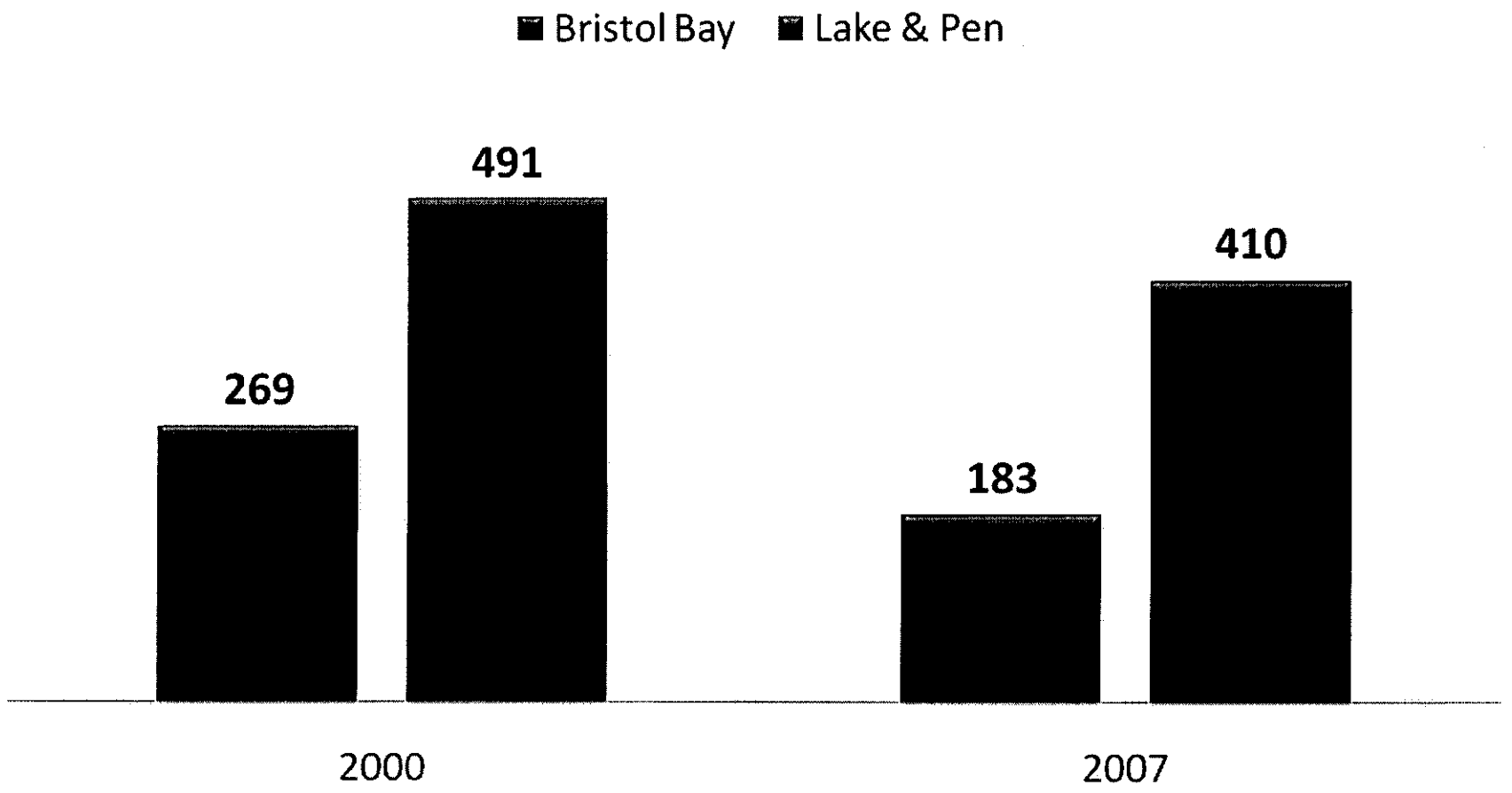
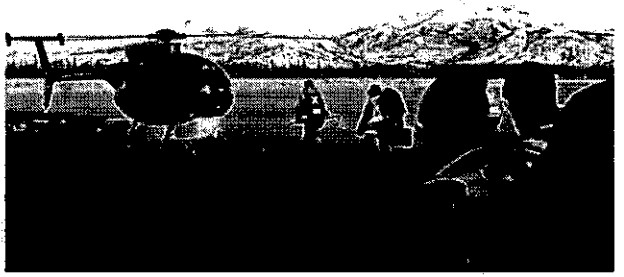
Region School Population





Pebble Prospect

www.pebblepartnership.com

1915

The Process and Requirements for Large Mine Permit Applications in Alaska

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Senate Resources Standing Committee

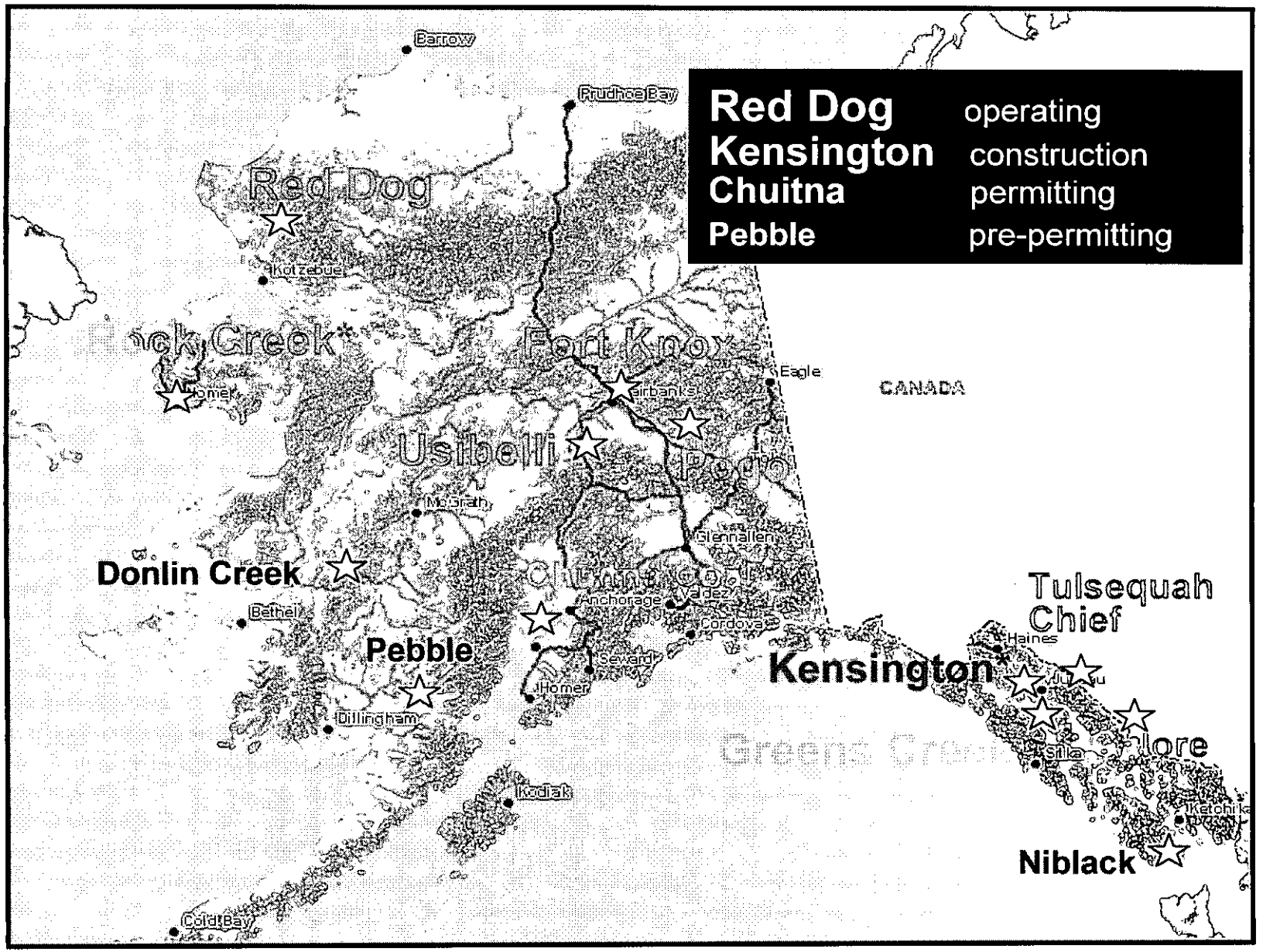
February 27, 2009

Ed Fogels, Director

Office of Project Management and Permitting

Alaska Department of Natural Resources

Large mining projects in Alaska



*Temporary Closure

*Litigation

No Single Permit to Mine: there are many permits & authorizations

STATE

- Plan of Operations (DNR)
- Reclamation and Bonding (DNR)
- Waste Management Permits and Bonding (ADEC)
- Certification of NPDES and ACOE Permits (ADEC)
- Sewage Treatment System Approval (ADEC)
- Air Quality Permits (ADEC)
- Fish Habitat and Fishway Permits (ADF&G)
- Water Rights (DNR)
- Right of Way/Access (DNR/DOT)
- Tidelands Leases (DNR)
- Dam Safety Certification (DNR)
- Cultural Resource Protection (DNR)
- Monitoring Plan (Surface/Groundwater/Wildlife) (DNR/DEC)
- Coastal Zone Consistency Determination (DNR)

(These are only some of the authorizations required)

FEDERAL

- US EPA Section 402 NPDES Water Discharge Permit
- US EPA Air Quality Permit review
- US EPA Safe Drinking Water Act (UIC Permit)
- US ACOE Section 404 Dredge and Fill Permit
- US ACOE Section 10 Rivers and Harbors Act
- US ACOE Section 106 Historical and Cultural Resources Protection
- NMFS Threatened and Endangered Species Act Consultation
- NMFS Marine Mammal Protection Act
- NMFS Essential Fish Habitat
- NMFS Fish and Wildlife Coordination Act
- USFWS Threatened and Endangered Species Act Consultation
- USFWS Bald Eagle Protection Act Clearance
- USFWS Migratory Bird Protection
- USFWS Fish and Wildlife Coordination Act

State Agencies

LARGE MINE PERMITTING TEAM

- Department of Natural Resources
  Lead State agency for coordination: AS 27.05.010(b)
- Department of Environmental Conservation
- Department of Fish and Game
- Department of Transportation & Public Facilities
- Department of Commerce, Community and Economic Development
- Department of Law
- Department of Health & Social Services

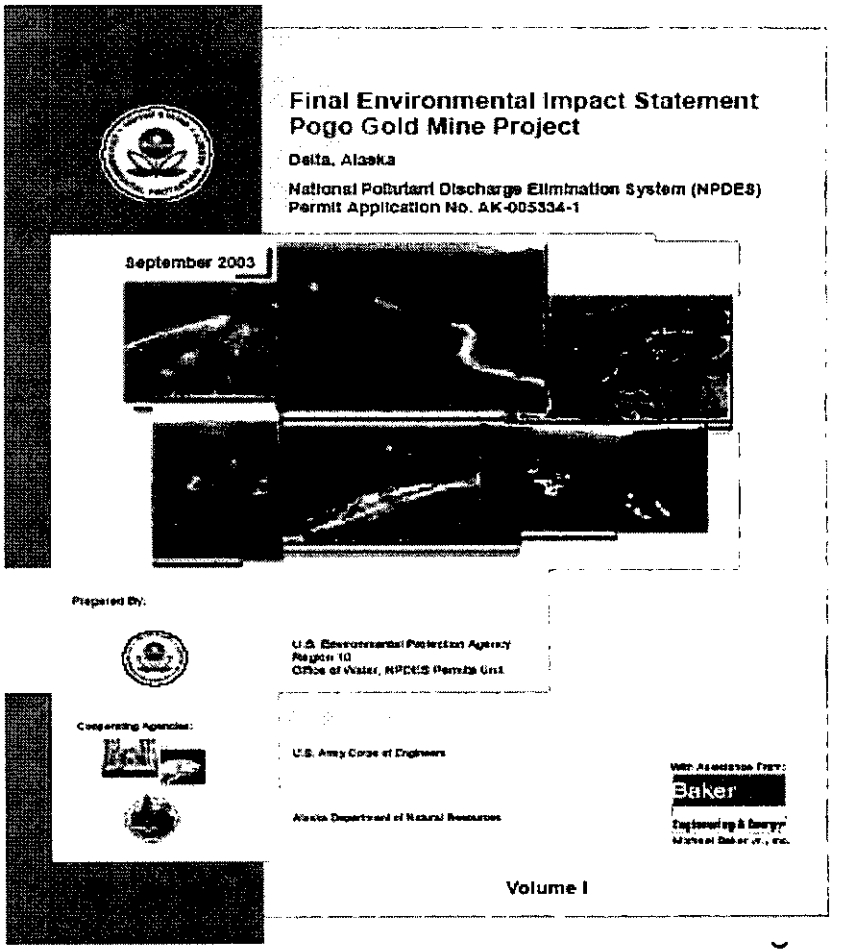
Federal Agencies

- US Environmental Protection Agency
- US Army Corps of Engineers
- US Fish and Wildlife Service
- National Marine Fisheries Service

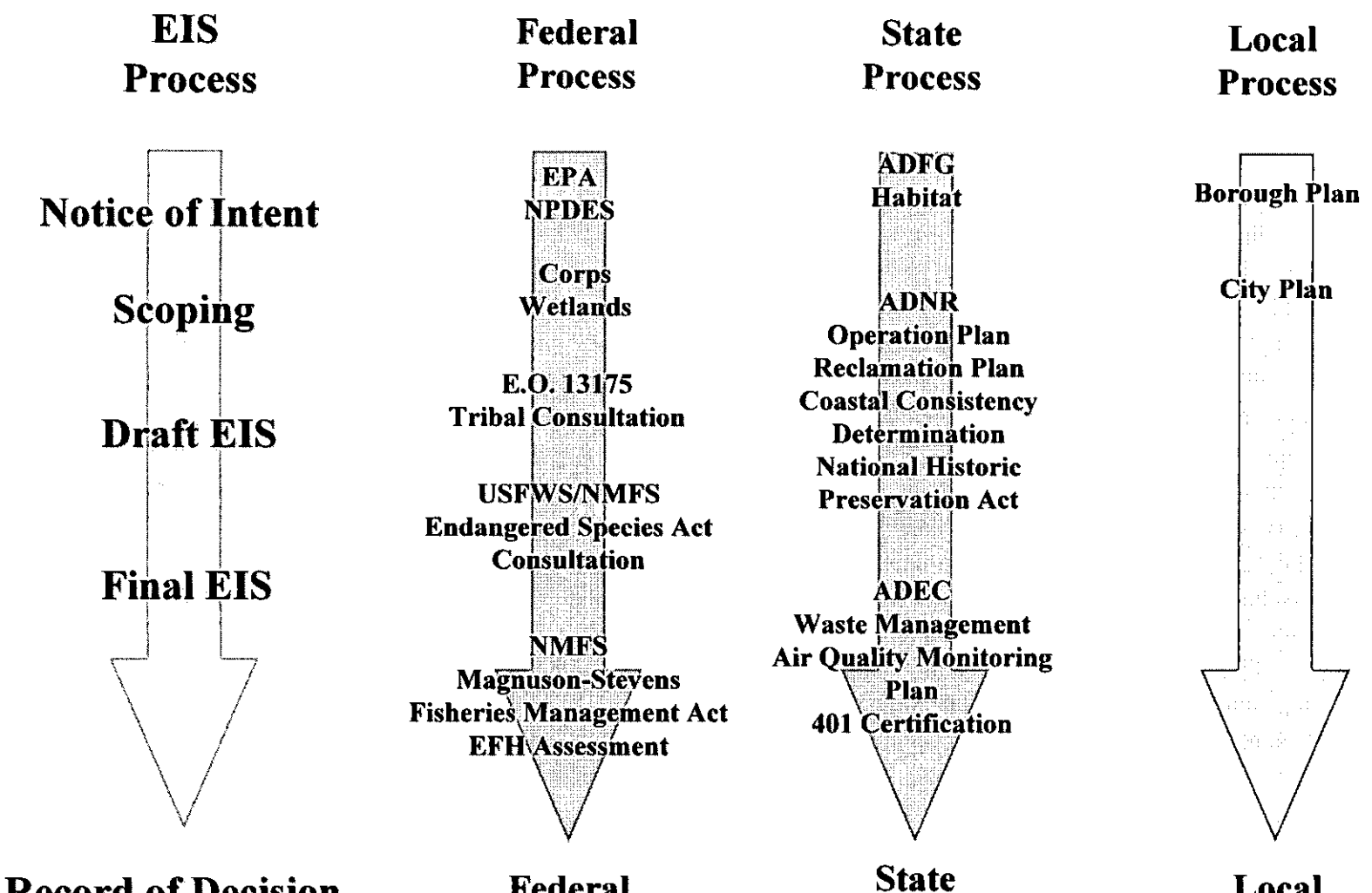
- Bureau of Land Management
- U. S. Forest Service
- National Park Service

NEPA - EIS

- EIS Content
  - proposed project and alternatives to the project
  - description of the affected environment
  - analysis of the environmental consequences of the proposed project and alternatives



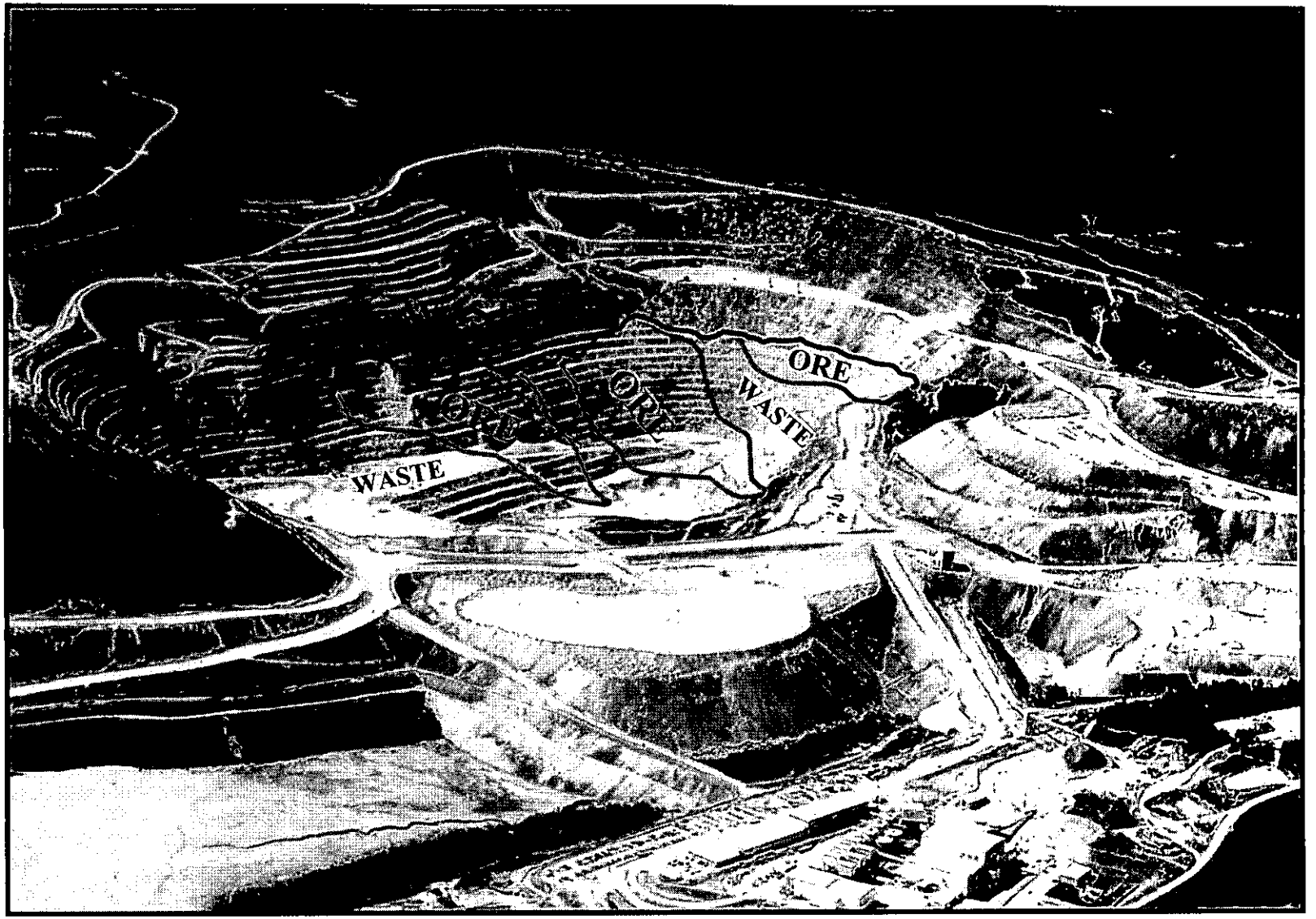
Parallel Process

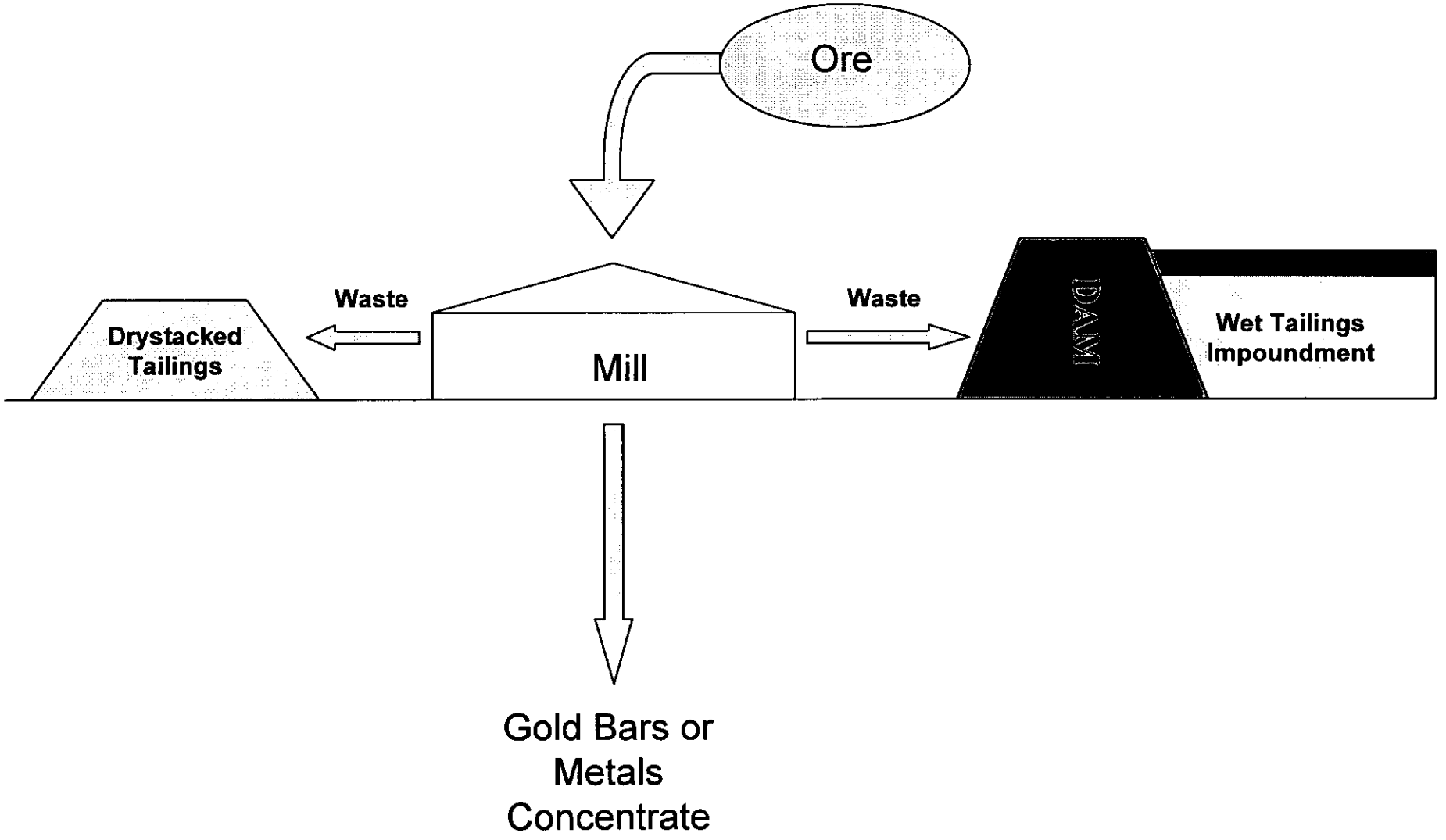


1922

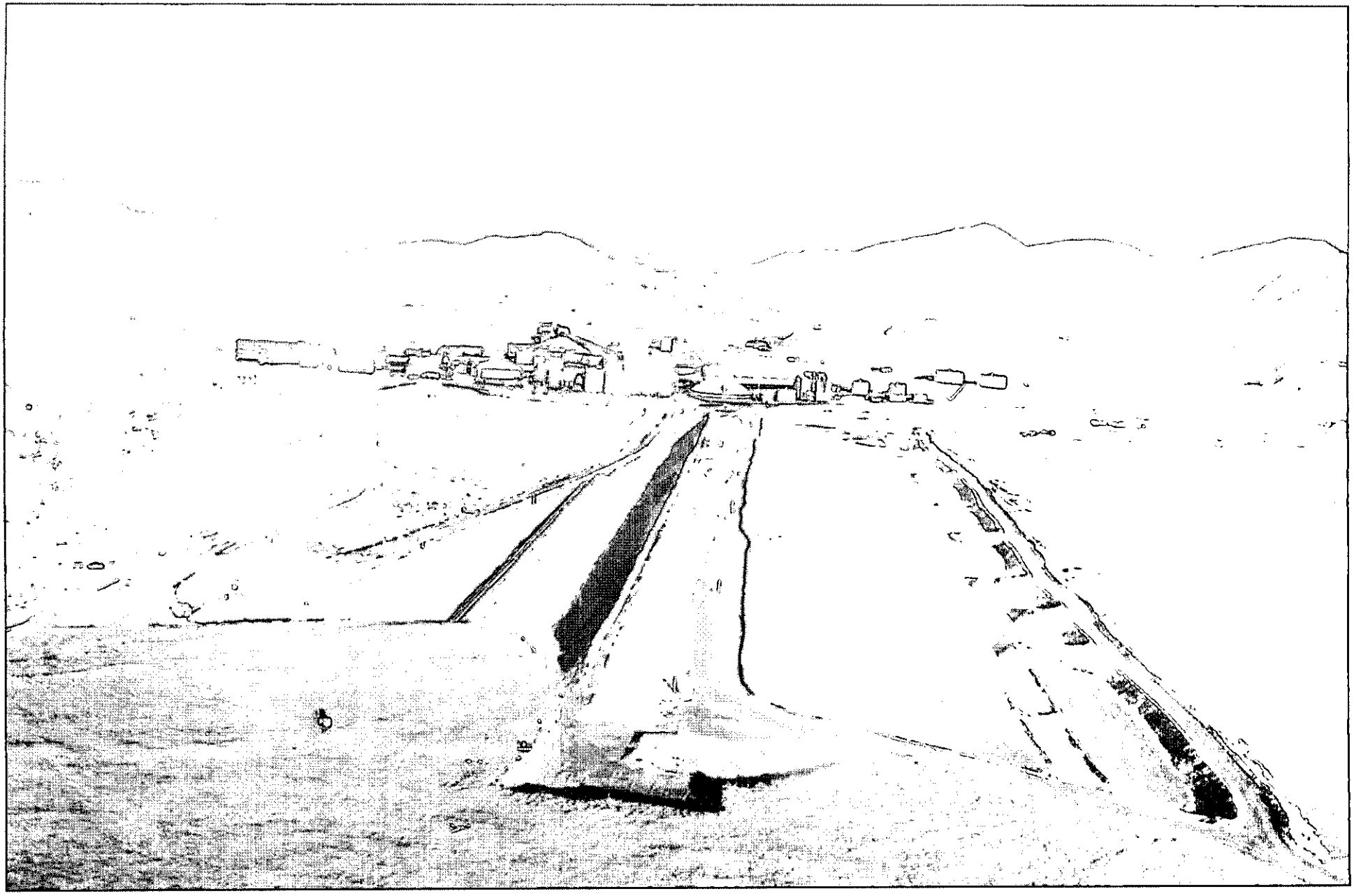
Ore and Waste

A generalized example, based on Fort Knox

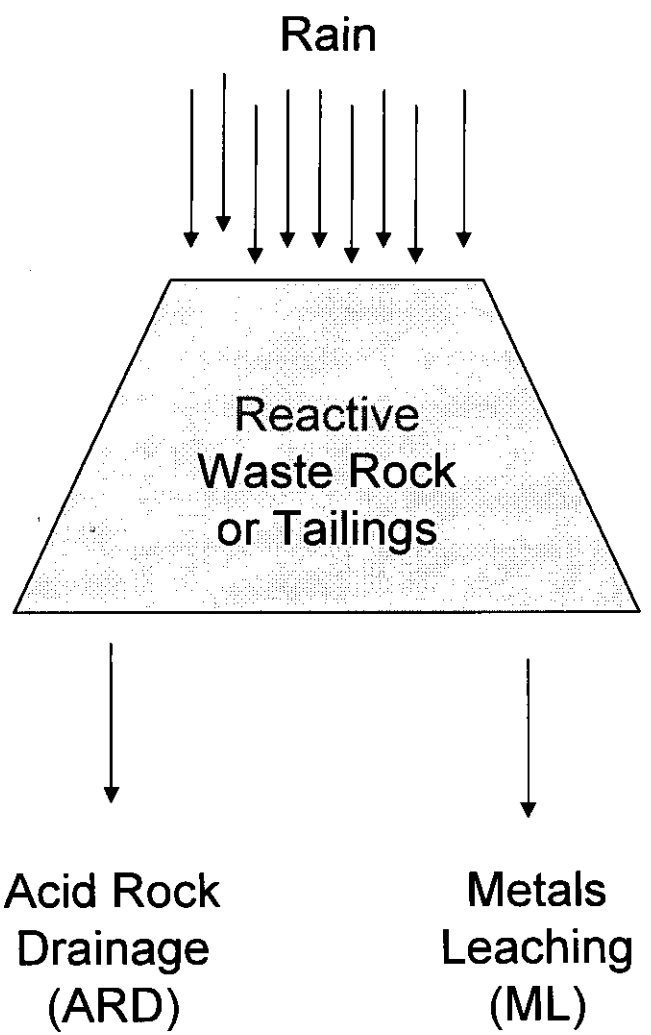


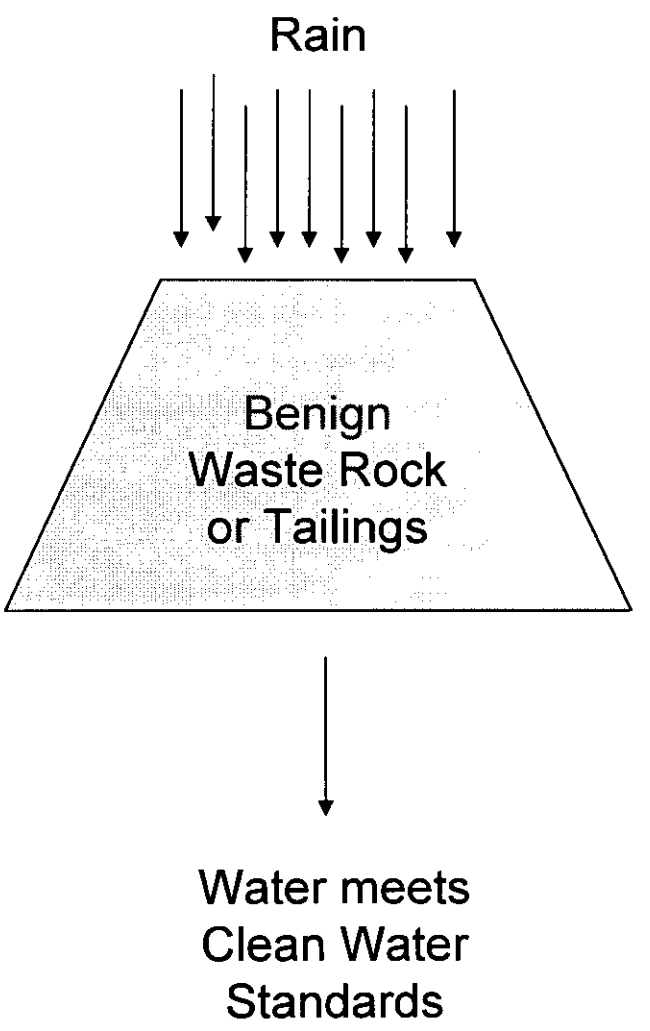

Ore
Waste
Waste
Drystacked Tailings
Mill
DAM
Wet Tailings Impoundment
Gold Bars or Metals Concentrate

Red Dog Tailings Dam & Mill Facilities



1925


Rain
Reactive
Waste Rock
or Tailings
Acid Rock
Drainage
(ARD)
Metals
Leaching
(ML)


Rain
Benign
Waste Rock
or Tailings
Water meets
Clean Water
Standards

1926

ADEC Integrated Waste Management Permit

- Integrated Waste Management Permit
  - 18 AAC 60 – Solid Waste Management
  - 18 AAC 70 – Water Quality Standards
  - 18 AAC 72 – Wastewater Disposal
- Typical Wastes Managed
  - Tailings
  - Waste Rock
- Potential contaminants controlled
  - Acid Rock Drainage
  - Metals Leaching
  - Process Chemicals
- Financial Assurance Required

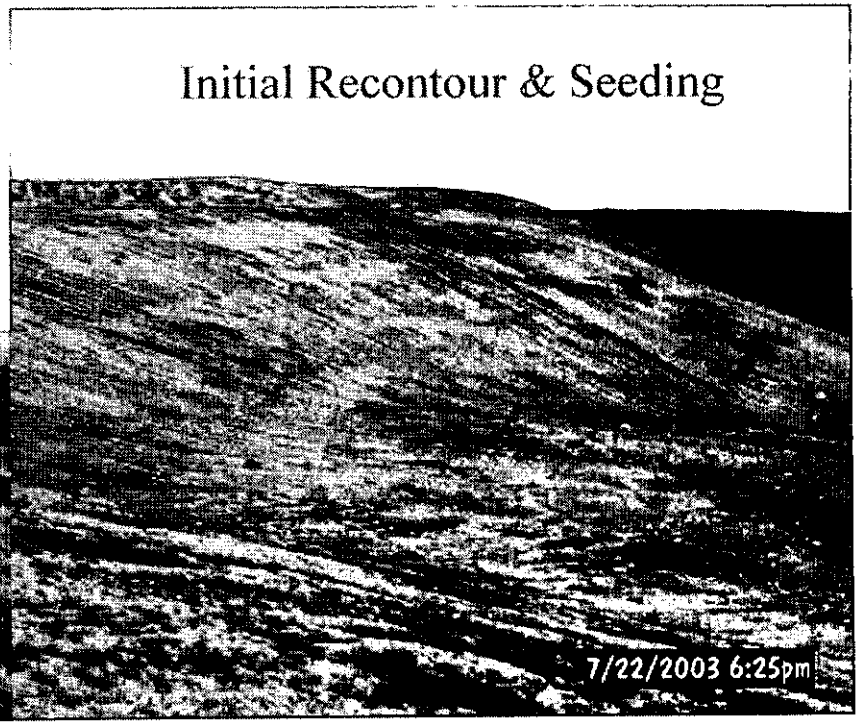
RECLAMATION PLAN APPROVAL

Issued by DNR

Division of Mining, Land and Water/Mining Section

- Minesite must be returned to a stable condition, compatible with the post-mining land use (AS 27.19.020)

- Financial Assurance must ensure State can do reclamation even if company cannot.



Illinois Creek Reclamation

1929

DAM SAFETY CERTIFICATION
Issued by DNR
Division Of Mining, Land And Water/Dam Safety Unit

- All dams (tailings and water storage) must be designed to State standards.
- Includes seismic standards
- Financial assurance for long term care and maintenance

Financial Assurance is based on a detailed engineering analysis

Teck-Pogo Inc.
teckcominco

Reclamation & Closure Plan Update

Table F.1: Demolition Hourly Labor Wage Rates

Description		General Demolition Crew	Mechanical Crew	Heavy Equipment Operator	Electrical Crew	Foreman	Laborer
Base Hourly Rate - straight time		$26.55	$26.04	$27.77	$30.83	$30.55	$23.43
Overtime for 50 hour week	10.0%	$2.66	$2.60	$2.78	$3.08	$3.06	$2.34
Adjusted Hourly Base Rate		$29.21	$28.64	$30.55	$33.91	$33.61	$25.77
Social Security, Medicaid, Unemployment, Liability, and Workers Comp Insurance	21.7%	$6.34	$6.22	$6.63	$7.36	$7.29	$5.59
Total Direct Hourly Labor Costs		$35.54	$34.86	$37.18	$41.27	$40.90	$31.37

Labor Indirects
Benefits - percentage of adju
Field Overhead - percentage
Small Tools Allowance - rate
Camp and/or Travel Allowan
Total Indirect Hourly Costs

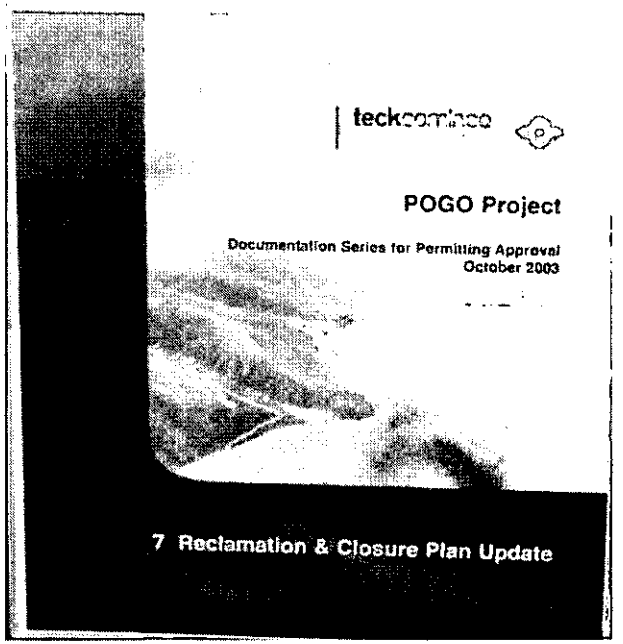
Total Hourly Costs

Teck-Pogo Inc.
teckcominco

Reclamation & Closure Plan Update

Table F.2: Hourly Equipment Rates ($)

Equipment	Equipment Lease Rate	Maintenance & Fuel	Support & Transport	Total
Excavator 330	31.00	52.00	16.60	100.00
Excavator 375L	48.00	89.00	27.40	164.00
Excavator 235	31.00	52.00	16.60	100.00
Dozer D10R	79.00			
Dozer D8R	42.00			
D6R Dozer	30.00			
Grader 16G	34.00			
Water Truck	20.00			
Tamrock DHI	45.00			
Shotcrete Machine	20.00			
Picker Truck	30.00			
Re-shedding	15.00			
Shear on 375L	65.00			
FE Loader 950	30.00			
FE Loader 980G	45.00			
FE Loader 992G	62.00			
Dump Truck 140y	25.00			
Self Load Flat Bed	50.00			
Low Bed Truck	35.00			
Dump Truck 17cy	31.00			
Crane Truck 20T	45.00			
Crane Truck 50T	70.00			
Track Sudder 528	50.00			



amec

POGO: RECLAMATION COST ESTIMATE
(SEPTEMBER 2003)

Project Number: U41SF
Currency: USD 4Q2002

Description	Qty	Unit	Unit Direct Hr	Total Direct Hr	Total Direct Lab Cost	Unit Mat	Total Mat Cost	Unit Sub	Total Sub Cost	Unit Equip	Total Equip Cost	Total Cost
Phase I: Post-Construction				4,988	287,345		13,213		26,400		156,977	483,935
Phase II: Reclamation Concurrent with Mining												
A-07 WELLS				115	6,294		1,200		0		0	7,494
A-09 GRAVEL PADS				383	21,312		900		0		25,013	47,224
A-12 ROCK PILES				2,928	165,891		0		0		197,786	363,677
A-13 LINERS UNDER ROCK PILES				629	35,340		0		0		41,040	76,381
A-14 PADS UNDER ROCK PILES				340	19,996		870		0		23,860	44,726
A-19 EXPLOSIVES STORAGE				406	22,515		0		0		10,904	34,418
R-01 SURFACE BOREHOLES				2,000	114,060		50,000		0		31,260	195,320
S-00 WATER QUALITY ASSURANCE				0	0		0		10,000		0	10,000
Phase II: Reclamation Concurrent with Mining				6,781	386,408		52,970		10,000		329,662	779,241

Financial Assurances for Alaska Mines

Not static, audited & recalculated every 5 years or when significant changes occur

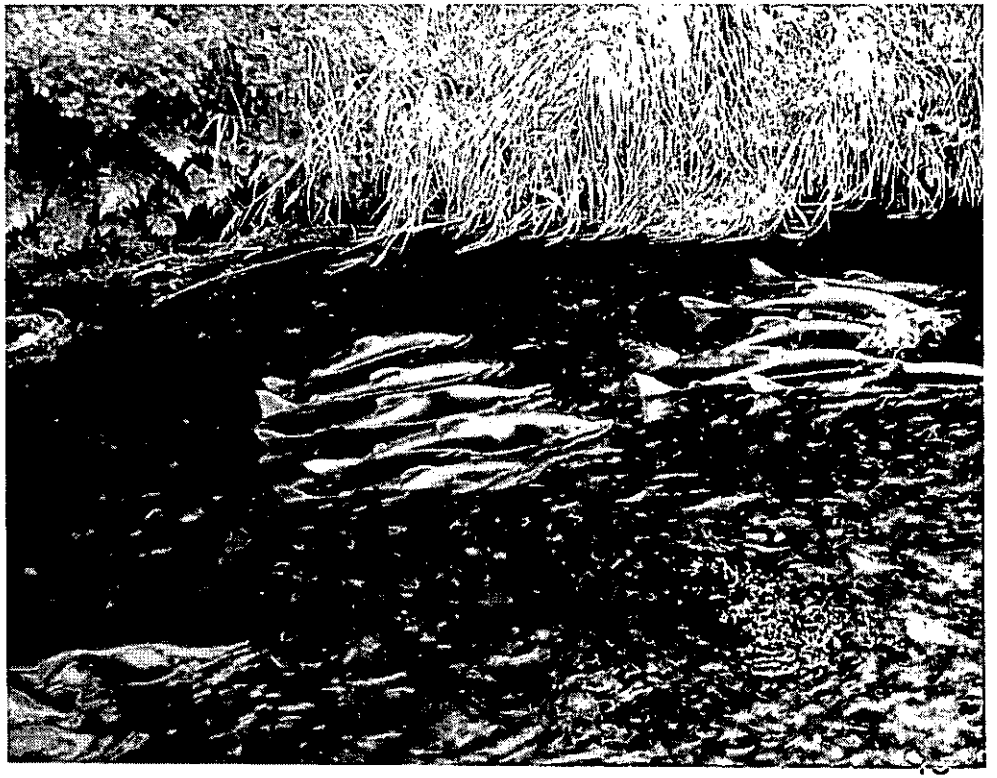
Operation	*Total Bond ($ Millions)*
Greens Creek Mine	$29.2
Red Dog Mine	$154.9
Fort Knox (& True North) Mine	$37.6
Usibelli Coal Mine & Exploration	$11.3
Kensington Project	$7.4
Rock Creek Mine	$6.8
Pogo Mine	$27.6
Nixon Fork Mine	$3.5
TOTAL	$278.3

Title 16 Permits

Issued by ADF&G Habitat Division

•AS 16.05.841: Fishway Act

For activities within or across a stream used by fish that could represent an impediment to the efficient passage of fish. e.g., culverts; water withdrawals; stream realignments or diversion; dams; low-water crossings; and construction, placement, deposition, or removal of any material or structure below **ordinary high water**



•AS 16.05.871: Anadromous Fish Act

All activities within or across a specified anadromous waterbody and all instream activities affecting a specified anadromous waterbody require approval from the OHMP, including construction; road crossings; gravel removal; mining; water withdrawals; the use of vehicles or equipment in the waterway; stream realignment or diversion; bank stabilization; blasting; and the placement, excavation, deposition, or removal of any material

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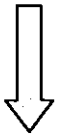
Monitoring Plan Approval (ADEC/DNR/ADF&G)

- Air Q
- Water Q
  - Surface
  - Groundwater
- Fish & Wildlife Studies

Baseline

Operation (Compliance)



Post-Closure (Compliance)

Environmental Audits

- Environmental Audits on 5 year schedule tied to reissuance of permits
- All environmental systems audited
- Audits evaluate Agencies as well as operations
- Audits by 3rd party experts
- Financial Assurances revisited and recalculated based on Audit results

Take Home Message

- Many permits required, many agencies involved.
- Experienced agency professionals involved in permitting and regulation
- Financial Assurance required

1936

Take Home Message

- There are many ways to prevent contamination from occurring and control or remediate contamination once it occurs.
- Key to this:
  - Understand waste characteristics, water balance, and environmental conditions.
  - Minimize footprint and minimize contact with water
  - Design for closure
  - Appropriate Monitoring & Inspection
  - 5-Year Environmental Audits

1937

CHECK US OUT AT:

http://www.dnr.state.ak.us/opmp/

or

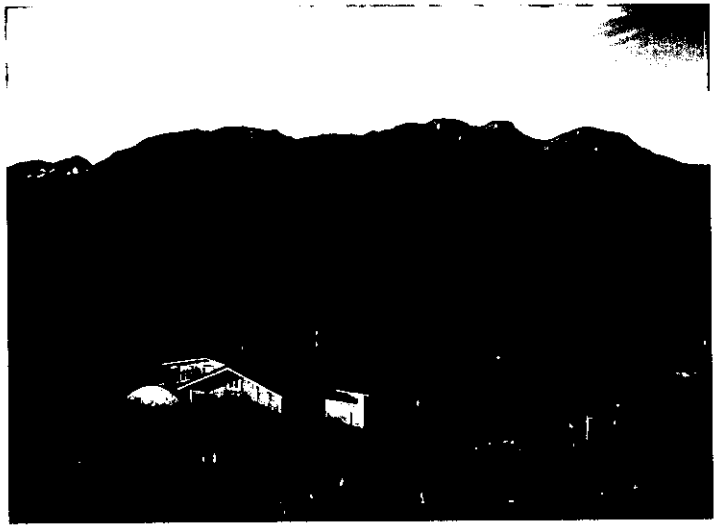
http://www.dnr.state.ak.us/mlw/mining/largemine.htm

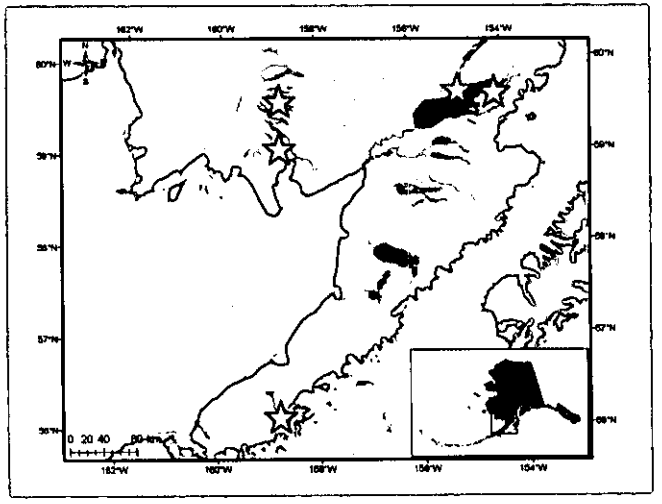
Ed Fogels, Director DNR/OPMP
Ed.Fogels@alaska.gov

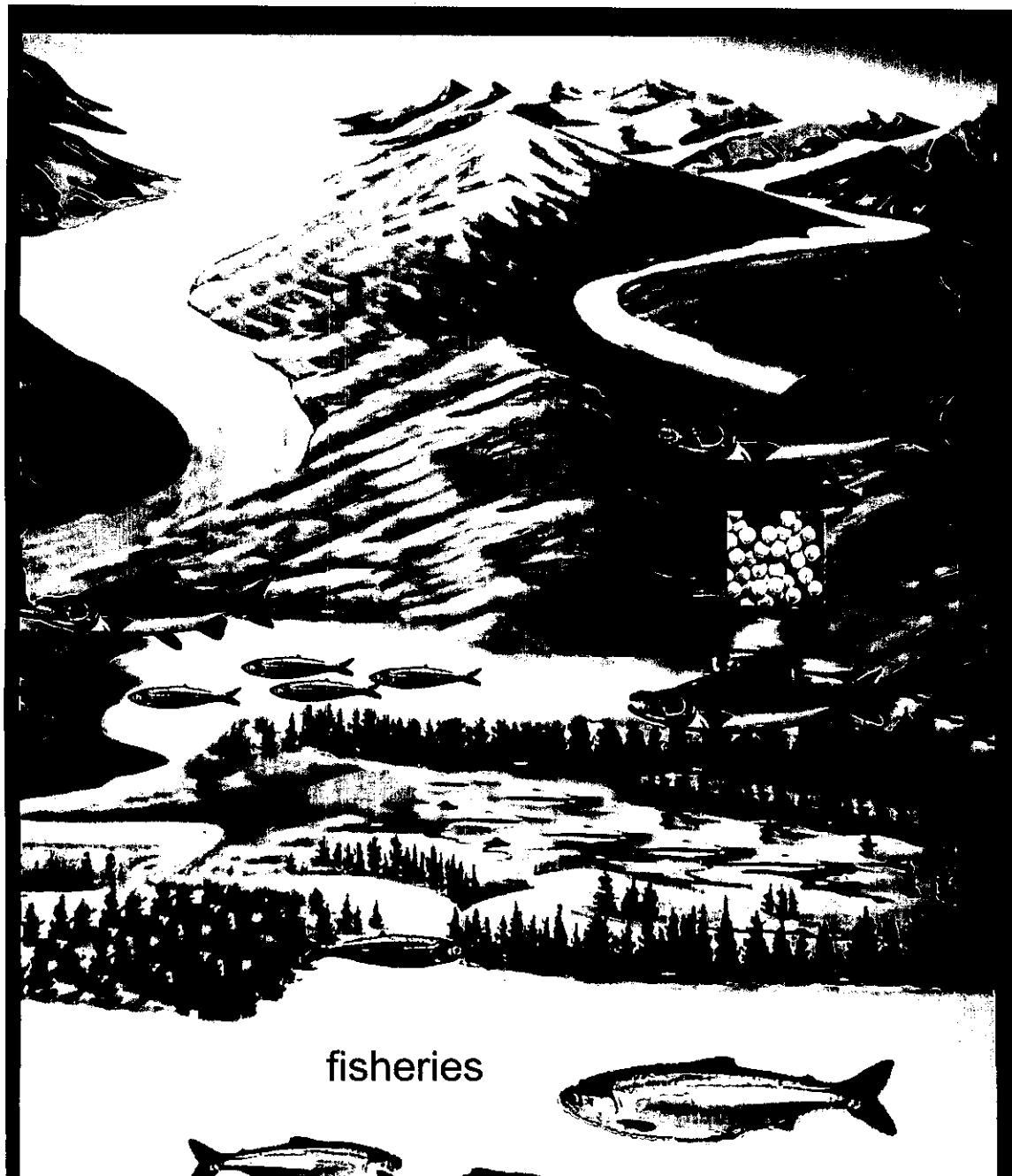
(907) 269-8423

Daniel Schindler, Ph.D., (deschind@u.washington.edu)
University of Washington
Fisheries Research Institute

Salmon research in Western Alaska 1946-2009







Adapted from Alexis Rockman painting, 1998

Habitat and Life Cycle
Sockeye (Red) salmon

Spawning

Embryo incubation (~9 mos.)

Juvenile rearing in lakes
(1-2 years)

Smolt migration

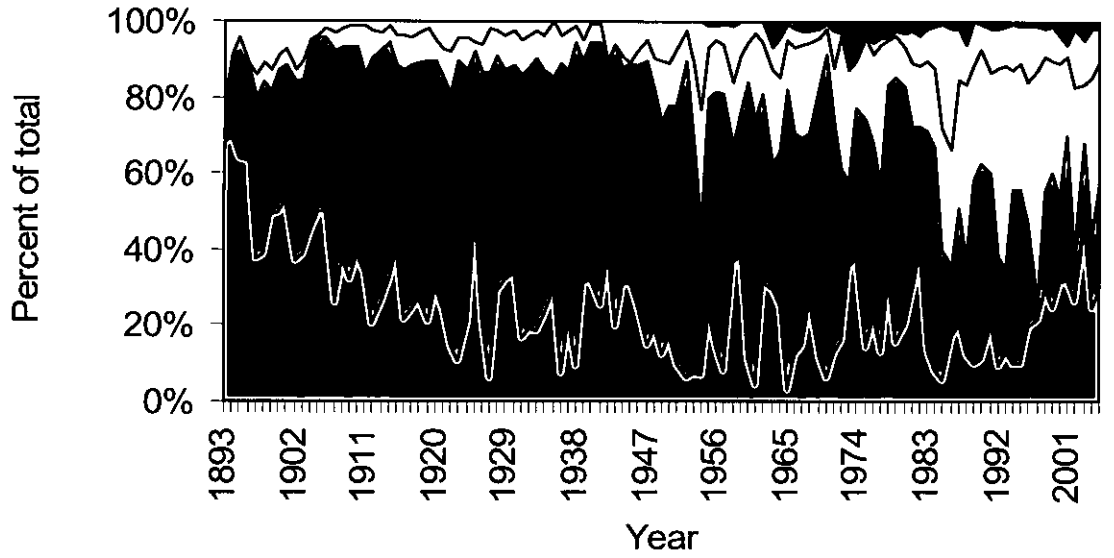
Ocean residency
(1-3 years)

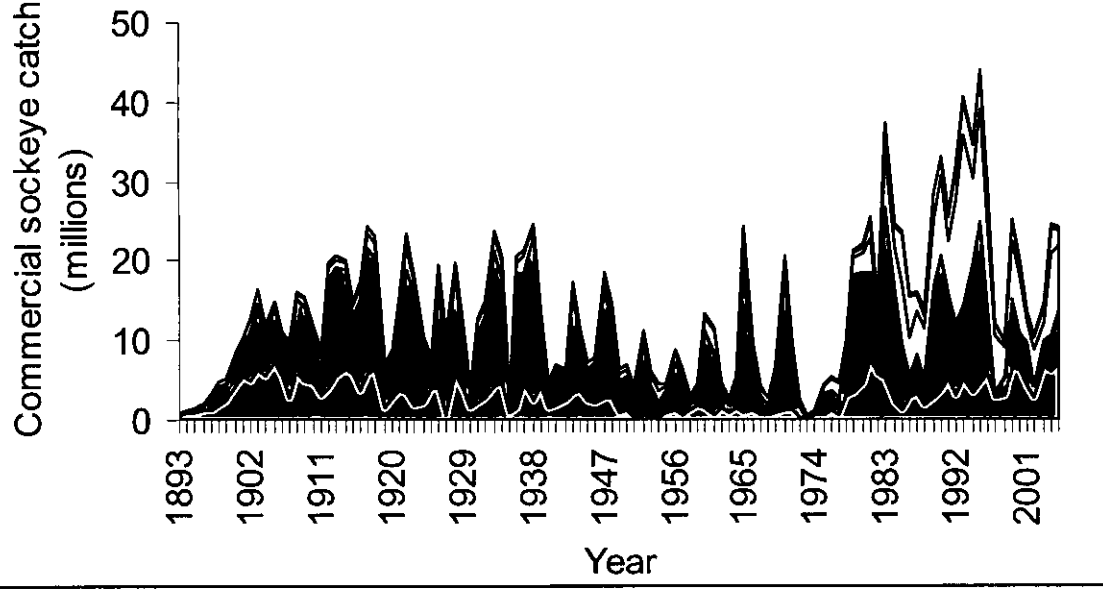
Return migration

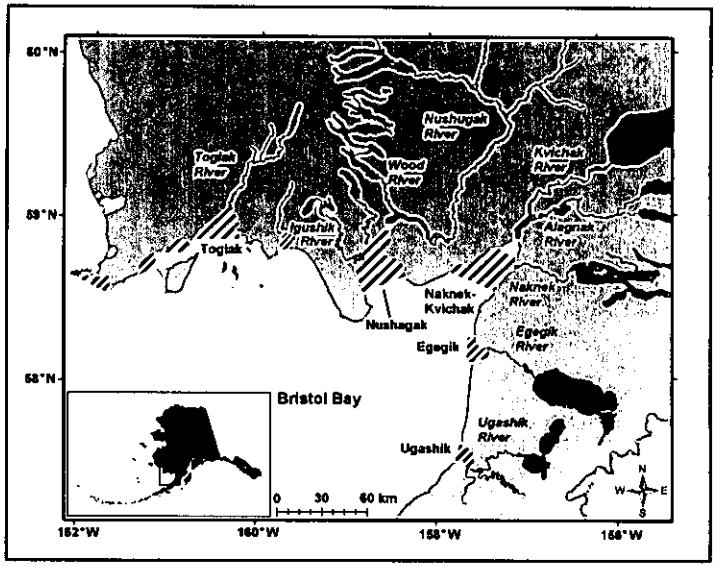
Why do habitat networks matter to fisheries?

- portfolio effect -

Bristol Bay sockeye salmon fisheries





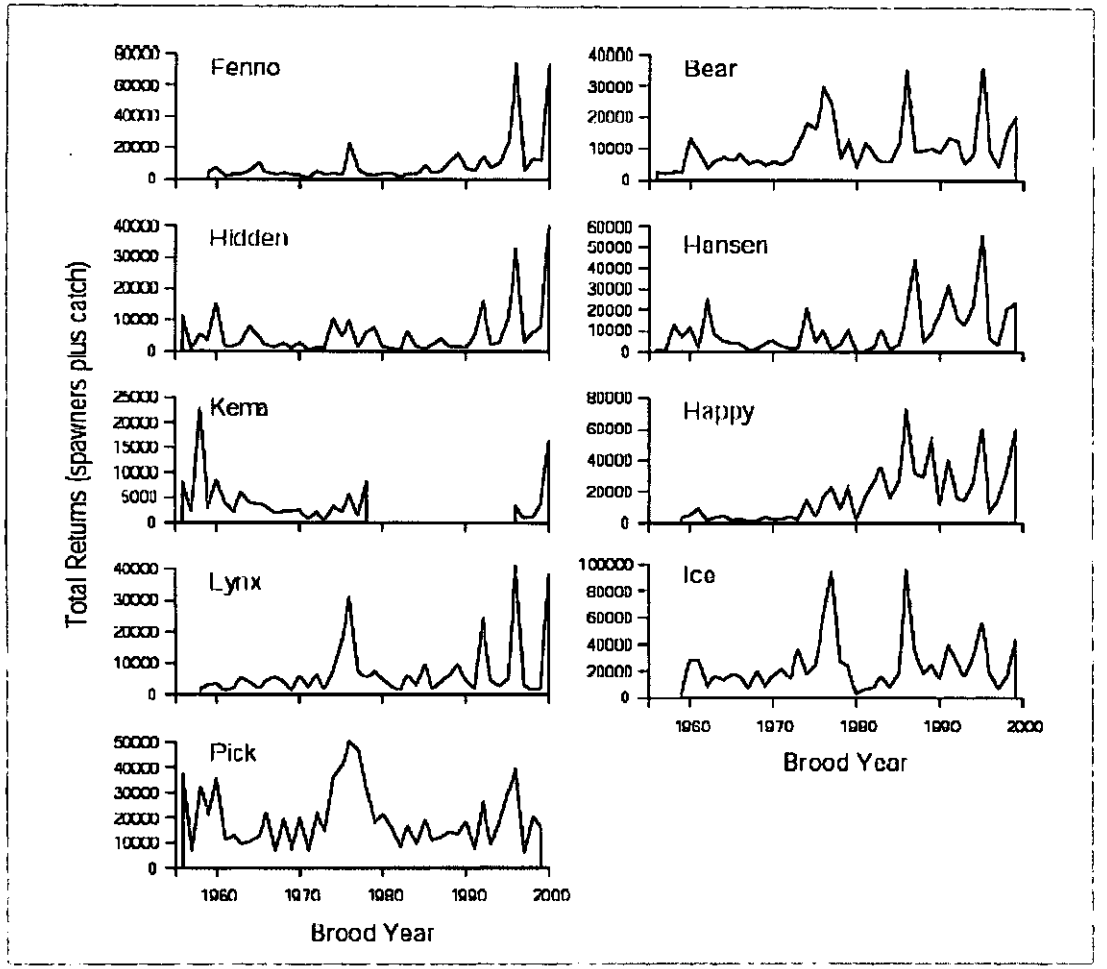


- Togiak
- Ugashik
- Egegik
- Naknek-Kvichak
- Nushagak

data from ADFG

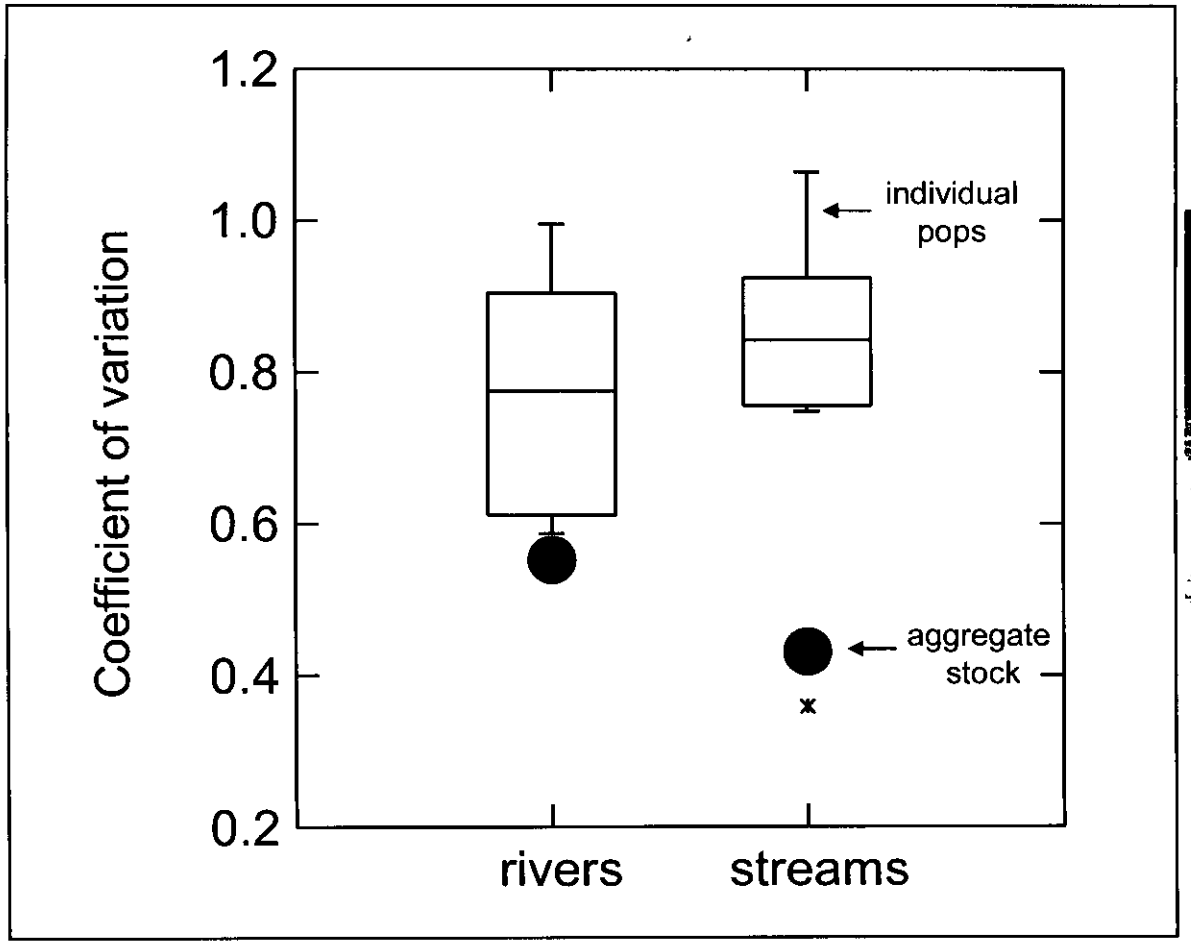
updated from Hilborn et al., *Proceedings of the National Academy of Sciences* (2003)

Sockeye populations in spawning streams (Wood River, Bristol Bay, Alaska)



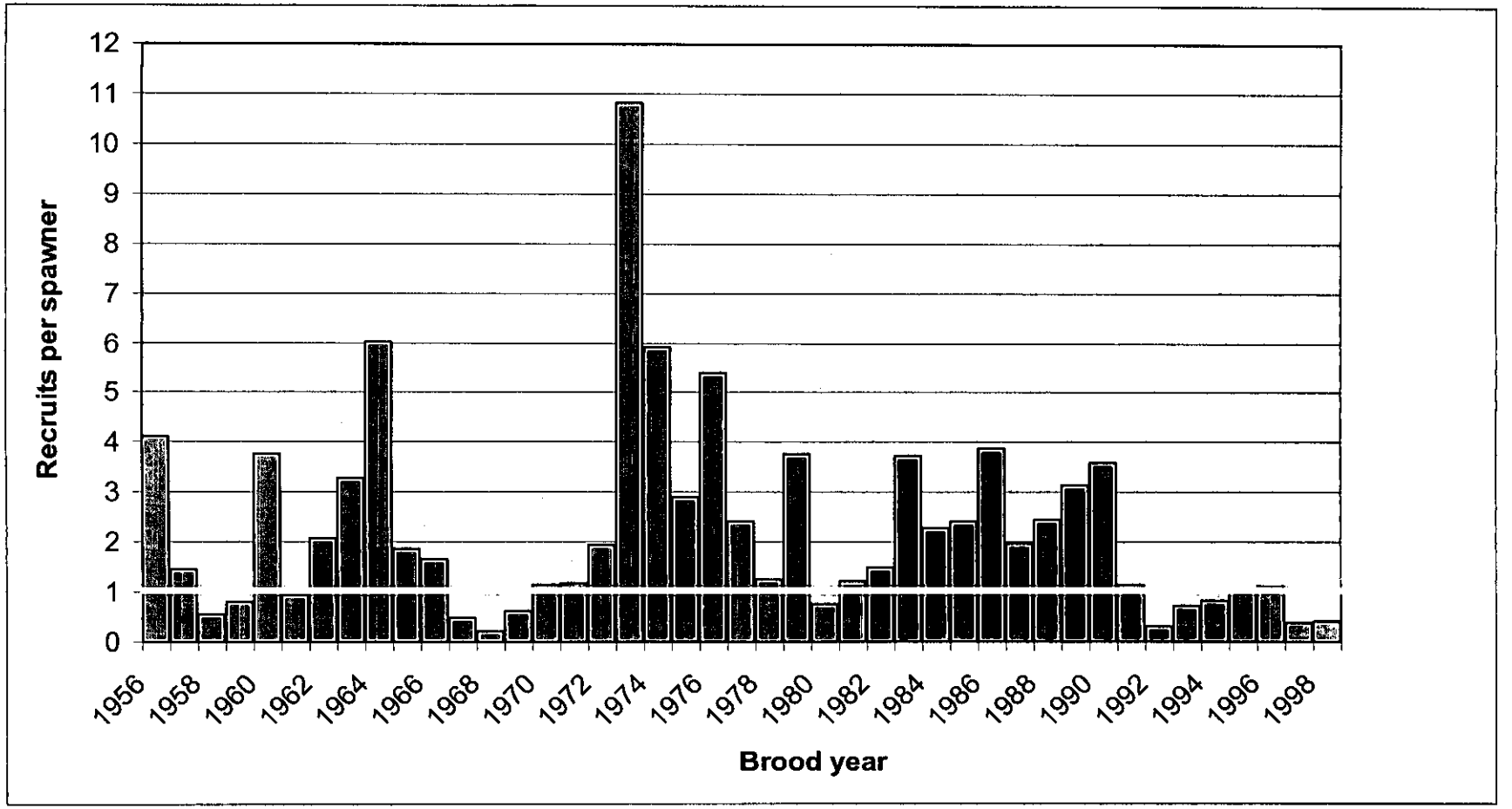
Portfolio effect in Bristol Bay sockeye salmon stocks

Annual returns, 1956-2007, for rivers (8) and streams(13)

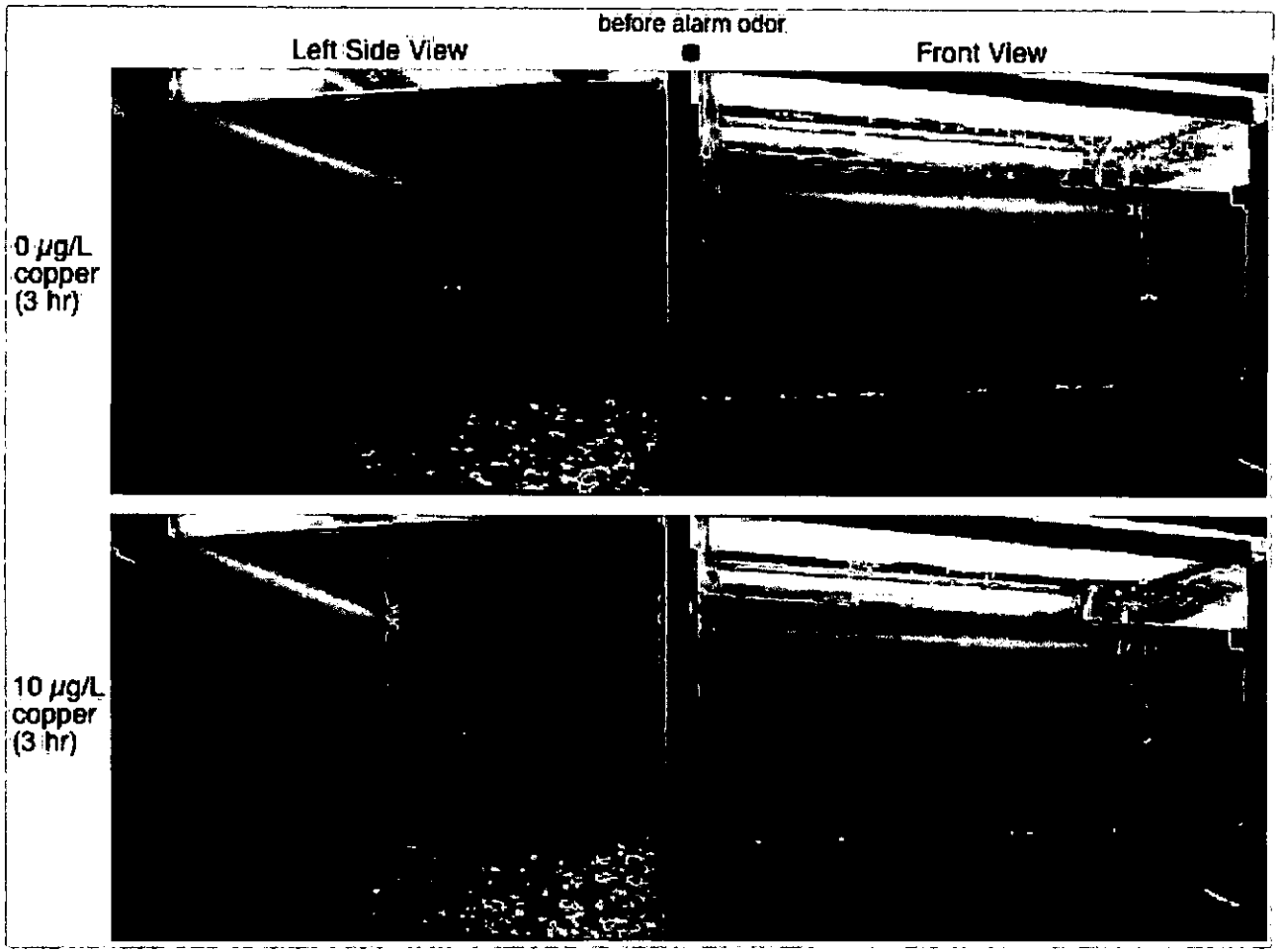


Recovery of Kvichak River sockeye

- capacity for renewal in natural populations -



Direct and indirect effects of toxins in the environment (copper as an example)



Sandahl et al., (2007) Environmental Science and Technology

ALASKA STATE LEGISLATURE

Senate Resources Committee

Senator Lesil McGuire, Co-Chair
State Capitol Building, Room 125
Juneau, Alaska 99801-1182
Phone (907) 465-2995
Fax (907) 465-6592
sen.lesil.mcguire@legis.state.ak.us

Senator Bill Wielechowski, Co-Chair
State Capitol Building, Room 115
Juneau, Alaska 99801-1182
Phone (907) 465-2435
Fax (907) 465-6615
sen.bill.wielechowski@legis.state.ak.us

AGENDA

Friday, February 27, 2009

Pebble Mine Overview, Permitting & Associated Issues

The Pebble Partnership: John Shively, CEO, & Ken Taylor, Vice President - Environment

Department of Natural Resources: Ed Fogels, Director, Office of Project Management and Permitting, & Dick Mylius, Director, Division of Mining Land and Water (online)

Bristol Bay Native Corporation: Mel Brown, Director

Birch Horton, Bittner & Cherot: Bill Horn, Esq. (on-line)

University of Washington Fisheries Research Institute: Dr. Daniel Schindler

Center for Science in Public Participation: Dr. Kendra Zamzow, Environmental Geochemist

Lodge owner: Brian Kraft

Written Testimony for Senate Resources Committee
Hearing on Pebble Mine Permitting and Associated Issues
February 27, 2009

Contents:

Q&A for DEC/DNR/ADF&G re: Proposed Pebble Mine

Biological, Technical and Legal Q&A - Nunamta Aulukestai & Trout Unlimited Alaska

Legislative Legal Memo on Takings of Mineral Rights

Bill Horn & Trout Unlimited Memo to AK Board of Fisheries re: Takings of Mineral Rights

Sustainability of Bristol Bay Salmon Fisheries -Dr. Daniel Schindler

Analysis of the Potential Impacts of Copper Sulfide Mining on the Salmon Resources of the Nushagak and Kvichak Watersheds -Lance Trasky

Climate Change, Ecosystem Impact, and Management for Pacific Salmon.
- Dr. Daniel Schindler et. al.

Bio-complexity and Fisheries Sustainability -Dr. Daniel Schindler et. al.

Alaska Law Review: Pebble Mine: Fish, Minerals, and Testing the Limits of Alaska's "Large Mine Permitting Process" -Geoffery Y. Parker, Frances M. Raskin, Carol Ann Woody, Lance Trasky

Bristol Bay Map and Map of Proposed Pebble Mine Site

Questions and Answers for DEC/DNR/ADF&G to House Fisheries/House Resources HB 134 field hearings and Pebble site tour

These answers were provided by staff from DEC Division of Water and DNR Division of Mining, Land and Water, and DNR Office of Project Management and Permitting. For more information, please contact Ed Fogels, DNR/OPMP, (907) 269-8423 (ed.fogels@alaska.gov).

1. Large Scale Tailings Facilities

a. Is a liner always required for a large scale tailings facility?

No, liners are normally not utilized to line the 'basin area' of large tailings facilities; however, synthetic liners are sometimes used as a low-permeability layer within the tailings dam. A prospective mining company must demonstrate how they will protect groundwater quality down-gradient of the tailings facility. All tailings facilities must have some form of seepage control, typically consisting of drainage materials and grout curtains, compacted soil, and / or synthetic liners in various combinations designed to meet the unique performance requirements of each project.

b. What material are liners made from?

Liners may be made of geologic, synthetic, or geosynthetic materials. Typically a geologic liner is composed of clay or other fine-grained material, which is compacted to achieve a permeability and thickness that comply with Department of Environmental Conservation regulations (18 AAC 60). Geomembranes, commonly referred to as synthetic liners, are made of a variety of polymers including polyvinylchloride (PVC), 'high', 'linear low', and 'very low' density polyethylene (HDPE, LLDPE, VLDPE), polypropylene (PP), and ethylene interpolymer alloy (EIA), among others. A geosynthetic clay liner (GCL) includes processed bentonite clay laminated with synthetic geotextile fabrics. Geomembranes are typically 30 to 100 mils (0.030 to 0.10 inch) thick depending upon the specific synthetic material and application.

c. On a scale as large as Pebble, is this a significant cost factor?

Yes, synthetic liners and their installation are relatively expensive. Costs can vary greatly depending on the details of the design, required products (type, polymer formulation, thickness or weight, etc.), quantity of materials that are purchased (economies of scale), project location (shipping and installation environment), and any required sub-grade preparation, and are therefore very site-specific. Budget estimates for material costs for synthetic liners typically used in the mining industry may be in the range of US$0.65/ft^2 for GCLs, US$0.50/ft^2 for 80-mil HDPE, and US$0.19/ft^2 for 16 oz/YD^2 geotextile fabric for sub-liner. We have seen cost estimates for lining a 1,000 acre tailings facility ranging from $110 million to $290 million.

d. Have advances in liner technology occurred in the recent past?

The variety of synthetic liner products has been relatively stable over the recent past, although novel products or product improvements occur regularly due to the competitive nature of the

1948

industry. Geotextiles in general (including synthetic liners) have provided substantial benefits to a variety of mining and civil engineering projects, but they should not be considered a panacea. Engineer's understanding of product performance continues to improve, but challenges remain. The 'long-term' life span of synthetic liners is an area of uncertainty, and depends on a number of factors such as composition, construction, stress, and exposure to sunlight. .

e. What agencies have authority over tailings facility design – does one agency take the lead role in permitting?

The Department of Natural Resources is the lead state agency for coordinating the permitting of mining projects. However, the permitting and regulatory oversight for the waste associated with tailings facilities falls mainly to the Department of Environmental Conservation through issuance of a Waste Management Permit for mine tailings disposal and any required waste water treatment and/or discharge. The purpose of this permit is to ensure that all water leaving the facility during operations and after closure meets standards, and that water quality is protected. The permit requires operational and post-closure monitoring, and requires financial assurance to make sure any long term treatment and monitoring can be funded.

The Department of Natural Resources' Office of Dam Safety conducts the technical review of proposed dams and companies must receive a Certificate to Construct prior to beginning work on the dam. The Dam Safety Engineer conducts inspections during the construction of the dam and reviews 'as-built' drawings, construction reports prepared by the professional engineer responsible for quality assurance / control, and the Dam Operating Plan. The mining company must receive a Certificate to Operate before they can place tailings in the facility. The designs for any modifications or the ultimate abandonment of the dam are also reviewed by the Dam Safety Engineer and must be approved prior to any actions being taken by the company. The construction and ultimate closure of tailings facilities is also reviewed by the Department of Natural Resources' Division of Mining, Land & Water to ensure that the closure plan complies with the requirements of the State Reclamation Act (AS 27.19). All projects must obtain a Reclamation Plan Approval prior to initiation of construction activities and projects located on state land must also receive a Plan of Operations Approval.

f. In a typical tailings impoundment, similar to what could be expected at Pebble, how deep is the water used to cover the tailings?

In a conventional tailings impoundment, water depth can vary from 0 to perhaps 50-feet depending primarily on the topography of the tailings basin, but also on the physical and chemical characteristics of the tailings, and requirements for water in the milling process. Also, some tailings facilities may have a water cover during the mine's life, but at closure, the water is removed and replaced with a dry or wet-soil cover.

g. What depth below the surface of the sediment beneath a tailings pond does the water permeate?

This depends on a number of factors, such as the permeability of the liner (if used), the nature of the material that the facility is built on, and the type of tailings stored in the facility. In all cases

the applicant must model the expected seepage from the facility, and demonstrate the pathways the seepage will follow and how this seepage water will be intercepted should it not meet water quality standards. When a dam is used to impound mine tailings, water behind the dam will follow the path of least resistance. Often tailings dams are designed and constructed to convey tailings water as underground seepage to the toe of the dam where a system of wells and pumps create a barrier to outward underground flow.

h. How fine is waste rock in a hypothetical tailings pond? Is the consistency of glacial silt a fair characterization, or will the tailings be coarser?

The actual size of the tailings depends on the ore processing method. In general, tailings are usually fine sand to silt sized material, which is very similar to glacial silt.

i. At the end of operations, is it normal to completely cover the tailings and make dry land, or will a lake remain in perpetuity?

Reclamation of a tailings facility is designed based on a wide variety of factors such as the site water balance, geochemistry of the tailings, quality of the water remaining in the tailings pond, seepage chemistry, and other site-specific factors. If the tailings material has potential for acid-generation or metals leaching, it may be necessary to maintain a water cover in perpetuity. In other cases, it is quite feasible to provide for either a wet-soil or dry-soil cover with re-vegetation of the surface material.

2. Mine Pit

a. Hypothetically after the termination of operations at Pebble a large pit is left, and this fills with water. Is the rock in the Pebble area expected to leach heavy metals or other materials into the water?

At this point in the exploration process it is uncertain what the tendencies for heavy metal leaching or other water quality impacts might be. As is typical for most mines, this data is developed through extensive drilling and water quality monitoring programs that most often go on for years, prior to submission of permit applications to regulatory and resource agencies. Baseline water quality and rock characterization information that is used to predict these conditions will be submitted as part of the permitting process, and will be evaluated by DEC and DNR prior to issuance of any permits. These documents, along with proposed permits must be provided to the public and public comments received.

It is possible that the pit might fill with water containing heavy metals and acid rock drainage. If a mine were permitted, it would be based on the proposed mining plan along with extensive, supporting rock and water chemistry data. It is impossible to predict any outcomes without knowing the activity (type of mining procedure and concurrent closure techniques), specific locations, and baseline data. However, any predictions will be conservative in nature. They will protect the environment to the highest prevailing quality or level while considering a range of scenarios.

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A clear understanding the rock geochemistry and the water quality of any water that contacts mine rock and tailings is usually the single most important factor that agencies consider in deciding if a mine's design is permissible or not. These water quality predictions drive the design of tailings storage facilities, waste rock dumps, and closure plans.

b. Will agencies require a contingency plan for a potential pit filling and discharge of heavy metals into adjacent streams?

State agencies must approve a closure plan for all mines, including any open pits that are to remain after closure. If the lake is to fill with water, the closure plan must show what the predicted water quality in the pit will be—if this water won't meet water quality standards, then it must be treated before leaving the site.

The major purpose for requiring rock to be characterized and baseline water quality to be established prior to permit issuance is to predict whether metal leaching will be a problem. The results of these studies are used to establish operating permit conditions, short and long term treatment requirements, and to predict water quality in the pit at closure. This information is also used to estimate the long term costs associated with mine closure so that adequate financial assurances can be required from the mine developer to protect the state.

In all cases, the natural quality of the receiving water will be strictly protected through redundant containment, and by vigilant monitoring, recordkeeping, and reporting. All discharged water must meet Alaska Water Quality Standards or the highest prevailing, natural, quality of the receiving water.

3. Water Quality Monitoring wells

a. To what extent are water quality monitoring wells required in areas downstream of a tailings dam?

The location and number of monitoring wells is dependent on very site specific hydrogeologic data and on the design of the tailings storage facility. Complicated geologic conditions may indicate that numerous wells are needed. Less complicated subsurface conditions may allow fewer wells. It is important that all the potential subsurface pathways be identified that could allow contamination to escape and that provisions for sampling such as a monitoring well be provided In general, the number of wells will depend on the site hydrogeology and the size of the facility.

b. What are the monitoring requirements during operation of the tailings facility - how often is monitoring required and by whom?

Monitoring frequency is established in a permit and again is site dependent. It is important that sampling be frequent enough to detect small changes over time. Typical monitoring and sampling for important contaminants of concern may be weekly or even daily. Less critical contaminants may be sampled monthly or even quarterly.

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Environmental sampling is typically performed by the permittee or sometimes by an independent lab or firm under the permittee's direct control. By design and through mandate, the Clean Water Act requires self monitoring and reporting by permittees. Analytical work for compliance must be performed at a testing lab with an approved quality assurance and quality control plan.

c. How deep do monitoring wells go?

Monitoring wells extend into the aquifer that would most likely be affected if a release occurred. This is usually the upper most aquifer, but in some cases, deeper aquifers may need to be sampled as well.

d. How many years after the end of operations is monitoring required?

Under 18 AAC 60.397, Post-closure care requirements for a Class I or Class II MSWLF, Section (a) requires a minimum of 30 years post-closure care, which includes groundwater monitoring among several other requirements. Consequently, post-closure monitoring must continue for 30 years or until background water quality or Alaska Water Quality Standards are met, which ever is longer.

4. Bonding

a. How does mine bonding work (for instance, is there a formula that is applied, what agencies weigh in, is bonding often a commissioner level discussion)?

Bonding or Financial Assurance is the amount of money that is necessary to reclaim a mining project, under the terms of the approved reclamation plan, and conduct post-closure monitoring and water treatment, if necessary. The amount of the financial assurance is calculated as if the State has to take over the project and conduct the reclamation effort. As such, the costs are higher than it would normally take the mining company to do the job. Normally the company makes the calculation and provides all the data, including vendor quotes, to the ADNR and the ADEC to review. Our engineers thoroughly review the calculations, sometimes conducting our own independent calculations, and ultimately derive a cost figure that is protective of the State. There is no formula, since all projects are different and reclamation costs can vary considerably depending on the location and type of mine. No project can begin construction until the financial assurance package is in place. The bond calculation is not normally an issue at the Commissioner's level; however, should there be a serious dispute over the bond amount, the company can avail itself of the Commissioner's office for additional review.

Regarding DEC's part in bonding, AS 46.03.100(f) requires the permittee to provide DEC with proof of financial responsibility for managing and closing the facility in a manner DEC finds will control or minimize the risk of the release of unauthorized levels of pollutants to state waters. Consequently, DEC's portion of the bond is for managing and protecting water quality. This is dependent on the operation, the operational control strategies, and closure plan.

b. Should monitoring of water quality be required in perpetuity, how do bonding requirements treat this?

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In the event that water at a closed mine site will need treatment in perpetuity, a trust fund must be established that will fund the effort. It is a sort of water treatment "permanent fund". The trust fund receives contributions from the mining company over the life of the mining operation such that at mine closure the fund is large enough that the costs of monitoring and water treatment can be funded from the annual earnings; the principal of the fund would remain untouched. Before the mine can begin operations, financial assurance must be in place to make sure that the full trust fund will be in place in the event of unexpected closure.

c. Please explain any changes to bonding standards that have occurred and if a mine as potentially large as the proposed Pebble mine will require changes to existing standards.

In the past the bonding standards were mostly set up to address the issues of placer mining and the bonding was capped at $750 per acre of land to be reclaimed. This was changed by the legislature in 2004 to make hard rock mines exempt from the $750 cap. Even a mine as large as Pebble would not require a change in bonding standards. The standards now require that an adequate financial assurance package be in place such that the State could conduct the reclamation and closure plan at any point in the life of the mine. The bond amount is monitored and updated regularly to reflect any change in conditions that warrant a significant change. This can include changes in fuel costs, the mine reclamation plan, equipment rental rates, etc. Also, the State requires that the bond be reviewed by an independent third party expert to make sure it is still adequate, or to recommend changes if it is not adequate.

BIOLOGICAL, TECHNICAL QUESTIONS AND ANSWERS ABOUT PEBBLE MINE

Compiled for the Senate Resources Committees
by Nunumta Aulukestai - Caretakers of Our Lands & Trout Unlimited Alaska
February, 2009

BIOLOGICAL QUESTIONS AND ANSWERS

1. Do sulfuric acid, copper, and other minerals at the proposed Pebble Mine site, pose significant risks to fish?

Yes. The chemical nature and location of the rock at the proposed Pebble Mine site makes the release of sulfuric acid and toxic copper into waters a virtual certainty. That is why the project is so controversial.

Pebble is a low grade metallic sulfide deposit containing copper, gold and molybdenum. The deposit is located at groundwater level, in a wet climate, where the groundwater flows through permeable soils to feed surface waters in the Bristol Bay drainages, the most productive salmon habitat and fisheries in the world.

Sulfur is chemically reactive. Exposing sulfur to air and water creates sulfuric acid, which dissolves copper (and other heavy metals) into solution where it is highly toxic to fish, particularly salmon. Mining, milling and processing the ore exponentially increases the rate of exposure of sulfur to air and water, and exponentially increases the amount of sulfuric acid generated. The mine walls,[1] the wastes, and the dust will generate sulfuric acid. A recent study of metallic sulfide mines permitted in recent years in the U.S. found that a whopping 85% of these mines polluted surface water and an astronomical 93% polluted ground water, despite that fact that at the time of permitting, fully 89% of the environmental documents predicted that the mines would not do so.[2] The proposed Pebble Mine is virtually certain to create acid mine drainage that puts metals toxic to fish into water.

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[1] The mine itself, whether by open pit or underground block caving, is likely to fill with water, be acidic, and require permanent care and treatment.

[2] Kuipers, J.R., Maest, A.S., MacHardy, K.A., and Lawson, G. 2006. *Comparison of Predicted and Actual Water Quality at Hard Rock Mines: The reliability of predictions in Environmental Impact Statements*. The authors also found that although 100 percent of the environmental impact statements prepared before mining commenced predicted that the mines would be able to comply with water quality standards. In fact, after mining was underway:

76% of the mines polluted ground or surface water in excess of water quality standards;
60% of mines polluted surface water severely enough to exceed water quality standards;
52% of mines polluted ground water severely enough to exceed water quality standards;
73% of mines exceeded surface water quality standards despite predicting that mitigation would result in compliance;
77% of mines that exceeded groundwater quality incorrectly predicted that mitigation to correct problems would result in compliance;

Pebble is purported to contain about 0.6% desirable metals. If developed, it will yield about 8.15 billion tons of wastes – including reactive sulfide wastes and toxic agents such as cyanide used in processing – that will have to be left forever on public land, along with the abandoned mine.

Thus, six factors make Pebble controversial: (1) it is a metallic sulfide deposit; (2) it is located at groundwater; (3) it will yield a tremendous amount of waste containing sulfur; (4) such mines are virtually certain to create sulfuric acid, that dissolves copper and other heavy metals into solution, and which is highly likely to pollute groundwater and surface water, where the dissolved metals are toxic to fish; (5) the area is in the heart of the most productive salmon habitat and fisheries in the world; and (6) the governmental success rate in permitting, so as to prevent such contamination, has been demonstrated to be exceptionally poor – a 93% failure rate.

2. How does copper affect fish?

Although copper in trace amounts is important for growth and reproduction in all living organisms, copper is extremely toxic to aquatic organisms and causes irreversible harm at concentrations just over that required for growth and reproduction. Lethal and sublethal effects are well documented. Sublethal effects on salmon include: (1) impairment of sense of smell (olfaction); (2) interference with migration; (3) impairment of ability to fight disease (immune response); (4) difficulty breathing; (5) disruption of ability to osmoregulate (move between salt and fresh water); (6) impairment of ability to sense vibrations via their lateral line canals (a sensory system that helps fish avoid predators); (7) impairment of brain function; (8) alteration of enzyme activity, blood chemistry and metabolism; and (9) alteration of natural hatch rates.[3]

3. What does the Pebble Limited Partnership propose? Answer: Huge dams and tailings facilities that must contain waste forever in an active earthquake zone.

The Pebble Limited Partnership (PLP) proposes nothing different from low grade metallic sulfide mines that have already failed. PLP simply proposes a greater scale – to accommodate as much as 8.2 billion tons of waste.

As at other large mines of metallic sulfides, PLP proposes to separate the reactive, sulfur-bearing tailings (3-5 percent), from the non-reactive "bulk" tailings (95-97 percent). The reactive tailings, and the reactive waste rock that is not of high enough metal content to process, will have to be stored under water forever in huge tailings storage facilities. These will have to be maintained forever. The allegedly non-reactive "bulk" wastes after processing will be the

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When the permitting agency tried to get the mine operator to fix the problems, the fixes failed 75% of the time; and

Of the mines analyzed that polluted ground and surface water, 63% released toxic metals such as lead, mercury, cadmium, copper, nickel, or zinc; 58% released arsenic and sulfates; and 53% released cyanide.

[3] *See* Woody, C. A., PhD, *Copper: Effects on Freshwater Food Chains and Salmon: A literature review*, submitted to the House Fisheries Committee.

texture of silt or sand, will be discharged to form what PLP calls "beaches" around the reactive tailings storage facilities.

PLP has proposed to build five dams, to create two mammoth toxic tailings lakes to store the reactive sulfur-bearing wastes plus toxic materials used in ore processing, such as cyanide or xanthates. The lakes would cover more than 10 square miles according to PLP's applications to DNR filed in 2006. The dams would be as high as 740 feet and grow to over four miles long. They would be larger, in these respects, than the Three Gorges Dam in China that is often said to be the largest dam in the world. The risk of over-topping during storm events and due to snow melt is substantial due to the relatively wet climate compared to such mines in arid parts of the western United States.

These two tailings impoundments would contain about 2.5 billion tons of waste. Given the amount of waste – 8.2 billion tons -- one can expect more dams containing more waste.

All of this would occur in an area susceptible to large earthquakes, much like the magnitude 7.9 earthquake which occurred on November 3, 2002, on a previously unrecognized splay fault south on the Denali fault system. PLP proposes dams engineered to a magnitude 7.8 seismic event, which is smaller than the quake that occurred in 2002 on the Denali Fault. Because the dams must last forever, larger seismic events are a statistical certainty.

4. Is the Pebble Limited Partnership's "no net loss of fish" policy an empty promise?

Yes. PLP's "no net loss" policy applies only to the habitats destroyed by building the mine, rather than to the greater and more complex events that occur, such as lethal and sublethal effects originating from acid mine drainage as discussed above.

Salmon memorize or "imprint" a complex map of chemical smells as they migrate from natal freshwaters to saltwater. When the fish return to natal habitats to spawn, they follow their noses using this memorized map. This behavior, called "homing," isolates breeding populations in space and time and results in genetic divergence and population-specific adaptations among local populations. If salmon cannot smell, or if the chemical signature of a salmon's natal stream changes, then fish will likely stray to and spawn in non-natal habitats, which generally reduces spawning success. Alteration of natural adaptive behaviors such as homing, migration and spawning due to water pollution can reduce wild salmon survival and change basic population structure.

For salmon, a healthy population structure is positively associated with genetic diversity and resilience to disturbance such that large, highly structured populations have high genetic diversity and probability of persistence. In contrast, small, unstructured and randomly-mating populations are vulnerable to inbreeding, demographic stochasticity (e.g. randomly induced mutation), genetic drift and thus, reduced evolutionary potential, and increased probability of extinction. Thus, the potential changes in population structure due to increased salmon straying rates arising from the effects of acid mine drainage has huge implications for sustainable fisheries, for which, probability of persistence is determined, in part, by the genetic integrity and biodiversity of stocks.

Pebble Limited Partnership's "no net loss" policy will be a source of endless dispute involving PLP, governmental agencies and the public. While loss of fish production from

building the mine is a straightforward matter, the more complex and greater losses will be matters of dispute due to other variables, such as harvest, natural variation in freshwater and saltwater survival rates, climate change, etc. Thus, PLP's "no net loss" policy is an empty promise.

LEGAL QUESTIONS AND ANSWERS

5. Does the state permitting process and standards protect the public and the fish when authorizing a large project like the proposed Pebble Mine?

No. To authorize Pebble Mine, various state permits will be required. For example, DNR is likely to issue- (1) dam authorization and construction permits under AS 46.17; (2) authorizations to appropriate water under the Water Use Act, AS 46.15; (3) surface land lease permits under AS 38.05.255; (4) Anadromous Fish Act and Fishways Act permits under AS 41.14.870 and AS 41.14.840; [4] and (5) permits necessary for rights-of-way or easements under AS 38.05.850. DNR also determines whether these and other state permits are consistent with the Alaska Coastal Management Plan (ACMP). [5]

Although DNR claims that its so-called "large mine permitting process" protects the public interest, *no statute establishes this so-called process, and DNR has not adopted any regulations specific to this so-called process.* Instead, under AS 27.05.010, DNR is simply the State's lead agency for most matters involving mining in Alaska. DNR created the process to coordinate permits for large mines. DNR did so by undertaking a personnel action that established a job position for a "large mine coordinator" who works with state agency staff and the mining company to expedite permitting and implement *pre-existing* statutes and regulations.[4] So, one must look at both how the process is expedited and the pre-existing statutes.

Regarding how the process is expedited, a mining company proposing a large mine can choose to enter into a contract with DNR by which the company pays DNR employee salaries involved in reviewing and expediting the company's permit applications. This presents a

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[4] The Andromous Fish Act, AS41.14.870, requires permits for activities in anadromous waters that affect fish and game. The Fishways Act, at AS 41.14.840, requires permits for obstructions that would otherwise block fish passage. The Murkowski Administration transferred the authority for both statutes from ADF&G to DNR in eliminating the ADF&G Habitat Division.

[5]The Murkowski Administration dismantled the Coastal Management Program by eliminating enforceable guidelines and habitat standards which required that permits be consistent with a high level of protection for fish and wildlife habitat. In the same vein, ADEC issued mixing zone regulations to allow discharge of harmful substances into salmon spawning areas.

[6]Although ADF&G is charged by statute, at AS 16.05.020, with protecting, preserving and maintaining fish, game, and the uses of them, the elimination of the ADF&G Habitat Division and transfer of all ADF&G permitting authority – except for refuges – eliminates its statutory ability to implement its charge in all locales in Alaska except state refuges such as that proposed by SB 67 (the Jay Hammond State Game Refuge bill). Furthermore, given recent reports of the difficulty in hiring staff in these agencies, both DNR and ADF&G probably lack the technical capacity and staff to review a project as complex as the Pebble Mine.

palpable conflict between DNR's duties to perform objective analysis and the funding of DNR staff who perform that analysis.

Regarding existing statutes, for the most part they provide vague standards at best and lack anything approaching a standard based on actual performance by a mining company or an agency. For example, AS 38.04.005 establishes DNR's overall policy of managing "for maximum use of state land consistent with the public interest." This standard is derived from Art. VIII, section 1, of the Alaska Constitution. The result is a vague standard that allows DNR wide discretion and no guidance about how to exercise that discretion. Similarly, the Water Use Act, at AS 46.15.080, administered by DNR, provides that DNR must find that a water appropriation is in the "public interest" and that in determining the public interest, DNR shall "consider:" (1) benefit to the applicant; (2) the effect of economic activity resulting from the appropriation; (3) effect on fish and game and on public recreation; (4) the effect on public health; (5) the effect of loss of alternate uses of water; (6) harm to other persons; (7) the intent and ability of the applicant to complete the appropriation; and (8) the effect upon access to navigable or public water. Requiring that DNR "consider" a matter does not require that any particular action be taken with regards to any of the matters "considered." In contrast, performance standards might say, for example, that DNR's decision must "protect" fish and game and habitat by not allowing acid mine drainage or perpetual care and treatment of mining wastes. No such protective standards currently exist.

Finally, AS 38.05.135(e) governs leases and disposals of certain public resources, and provides DNR with wide discretion to determine what is in the "state's best interest." A "best interest finding" is not required for leases for millsites, tailings disposal, and other mine related facilities under AS 38.05.255, however. Such a lease will likely be required for the Pebble Mine, but no protections for public process are in place for that decision. This also is true for a permit, right-of-way, or easement under AS 38.05.850.[5]

Thus, DNR statutes provide vague standards to protect the public interests in fish, fishing, and other public resources and uses of them. That causes two problems:

On one hand, the lack of clear standards frustrates the ability of the public to provide meaningful input.

On the other hand,, the lack of clear standards frustrates the ability of agencies, like DNR, to make factually grounded decisions or to respond to the public in any meaningful way.

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[7] AS 38.05.850 applies to "permits, rights of way, or easements on state land for roads, ... and ... pipelines not subject to AS 38.05, ... electric transmission and distribution lines, ... and other similar uses or improvements." The access road from Cook Inlet to Pebble will require as many as 120 stream crossings. Despite efforts to protect stream habitat, road construction activities and bridge and culvert installation can be expected to impact streams and fragment habitat. Downstream habitat will be altered as runoff patterns for seasonal flows are disrupted. Roads and their associated dust, increased access, and effects on hydrology are likely to all have significant effects on natural ecosystems of this region, including increased competition between commercial, subsistence and sport users of the fish and wildlife. Contamination at mine port loading facilities in Alaska has been an issue at Skagway, Red Dog, and Greens Creek.

DNR, when faced with a 93% failure rate at similar mines around the country, and in much more arid climates, is not credible in its claim that its permitting process will work when others have failed. This is why it is so important for the Legislature to pass legislation that provides processes and standards that will serve the public by protecting Alaska citizens' interests in the natural resources that belong to them.

Finally, the track record of one of the companies that will be developing and operating Pebble Mine shows that Pebble is likely to pollute the Bristol Bay watersheds. In Colorado, a mine in which Anglo American's subsidiary, AngloGold, was the majority owner, repeatedly violated its state-issued Clean Water Act permits. The U.S. Environmental Protection Agency fined the mine operators the maximum allowed under the Clean Water Act.[8] Anglo American's record in Colorado shows that Alaskans cannot rely on the permitting system to protect the Bristol Bay watersheds. Companies routinely violate their permits and, if they are caught, they consider the fines simply a cost of doing business.[9]

6. Will an unconstitutional "taking" of private property occur if the legislature enacts a statute that applies to the proposed Pebble Mine, and that makes it more difficult or infeasible to develop the mine?

No. This is a red herring issue raised by the Pebble Limited Partnership. A mining claim is a very limited, *exclusive*, property right. It amounts to a right to be *first in line* to explore and develop the claimed minerals, but it never creates a right to obtain permits to mine the minerals. It does not preempt the State legislature's constitutional power under Article VIII, section 2, of the Alaska Constitution, to enact natural resource statutes that revise the standards under which a claim might be developed, even if those laws render the mine infeasible. Nor does a mining claim preempt the State's police powers to enact laws to protect public health, safety, its economic interests, or the environment, even if those laws render the claim infeasible.[10]

LEGAL SERVICES

DIVISION OF LEGAL AND RESEARCH SERVICES
LEGISLATIVE AFFAIRS AGENCY
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MEMORANDUM December 7, 2006

SUBJECT: Taking of mineral rights, just compensation, and NAFTA (Work Order No. 25-LS0146)

TO: Representative Paul Seaton
Attn: Louie Flora

FROM: Donald M. Bullock Jr.
Legislative Counsel

You requested an opinion on the effect of the federal or state government limiting or precluding the development of a mine on state land that was open to mineral development and is being developed by a mining company. You asked about the effect of takings laws on such government action and referred me to HCR 29 (24th Alaska Legislature) that calls on the commissioner of natural resources to report to the legislature the commissioner's conclusion regarding whether mineral development is the most appropriate land use classification for the area encompassing the proposed Pebble mine project.

You also asked about the implication of chapter 11 of the North American Free Trade Agreement on a foreign mining company developing a mine in Alaska that is then subject to the tightening of state environmental standards or outright prohibition of resource extraction in an area in which the company is working.

Acquisition of mineral rights

Under Alaska law, a person obtains exclusive rights to possess and extract minerals on state land open to claim staking by discovery, location, and recording, subject to existing claims and to any denial of or restriction in the tentative approval of state selection or patent of the land to the state.[1] A person's acquisition of mineral rights requires no discretionary action by the Department of Natural Resources to authorize or permit the right to the minerals within the claim.[2] The rights are acquired simply by satisfying the

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[1] Article VIII, sec. 11, Constitution of the State of Alaska; AS 38.05.195; AS 38.305.275.

[2] With your permission, I talked with Tom Crafford, Acting Large Mine Coordinator in the Department of Natural Resources regarding the discretion of the department in recognizing the rights to mineral deposits. Mr. Crafford confirmed that his department does not have discretion in the granting of mineral rights, so long as the potential location

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three requirements – discovery, location, and filing. Discovery is the finding of the mineral, location is the marking of the land where the mineral was found, and filing is the recording of the interest in the recorder's office for the region in which the interest is located.

Not all state land is open for mining. The commissioner of natural resources has the authority to classify land so that mining, mineral entry or location, mineral prospecting, or mineral leasing is precluded or designated as an incompatible use.[3] However, the discretion to classify land as being closed to mining has been exercised on a limited basis; according to the Department of Natural Resources, approximately 92 percent of the 91 million acres for which the state has received title are open to mineral entry and the acquiring of mineral rights by staking mining locations.[4]

Although a person may acquire mineral rights by performing the three necessary steps, those rights are "subject to existing claims and to any denial of or restriction in the tentative approval of state selection or patent of the land to the state."[5] In *Beluga Mining Co. v. State, Dept. of Natural Resources*, the court found that the mining company had a property right in its claims, but had no right to mine because "its mining 'rights' were prospective and contingent, and were subject to existing claims."[6] Until any conflicting rights are identified and resolved, the holder of the right to extract the minerals proceeds at the holder's risk. If there are no "existing claims" or the land is not subject to the tentative approval of state selected land, my opinion is that the mining rights vest and development is then only subject to the holder obtaining any required permits.

Once a person has acquired mineral rights, state policy appears to favor the continued holding of those rights, even when the holder has failed to fully comply with statutory requirements. For example, AS 38.05.185(b) requires that the lessee or holder only comply with statutory requirements "as nearly as possible under the circumstances" to avoid the invalidation of the interest. That subsection reads as follows:

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holder meets the statutory requirements. In other words, a person whose rights are not subservient to a prior interest holder, who acquires the rights by following the statutory requirements, and who maintains those rights by satisfying the annual work and rental payment requirements, has the rights to those minerals.

[3] AS 38.05.300. See also. *Moore v. State, Dep't of Natural Resources*, 992 P.2d 576, 578 (Alaska 1999).

[4] See the page published on the Internet at *http://www.dnr.state.ak.us/mlw/mining/min_prop.htm* (accessed 11/9/2006).

[5] AS 38.05.275(a).

[6] *Beluga Mining Co. v. State, Dept. of Natural Resources*, 973 P.2d 570, 575 (Alaska 1999).

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> (b) The failure on the part of a mining lessee or a locator to comply strictly with AS 38.05.185 - 38.05.275 and regulations adopted under those sections does not invalidate the rights of a mining lessee or a locator if it appears to the satisfaction of the commissioner that the mining lessee or the locator complied as nearly as possible under the circumstances of the case, and that no conflicting rights are asserted by any other person.

The statutes and cases interpreting those statutes point to the conclusion that a person holding a mineral interest that is superior to competing claims has an ownership interest in the minerals that are located. The holder of the interest can continue to hold that interest so long as the holder can "compl[y] as nearly as possible under the circumstances" with the requirements in AS 38.05.185 - 38.05.275," including the satisfaction of the annual rental and labor requirements.[3]

However, perfection of the mineral rights does not in itself allow the interest owner to develop a mine; the owner must obtain all the necessary government-issued permits before extracting the minerals for which the rights are held. In the case of a large mine, the Large Mine Project Team in the Department of Natural Resources coordinates the timing and completion of the numerous permits.[4] Although there is a process of negotiation, modification, and amendment for permit terms and conditions, once the mine owner or operator qualifies for the permits, the mining operation can proceed.

Government liability for taking a mineral or mining right

Article I, sec. 18, Constitution of the State of Alaska, and amendment V of the U.S. Constitution prohibit the government taking of private property without just compensation. The acquisition of mineral rights by the first claimant who discovers a valuable mineral deposit, stakes a location, and files a mining claim has a legally

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[3] AS 38.05.185(b).

[4] AS 38.05.210 (annual labor requirement); AS 38.05.211 (annual rental requirement).

[5] For more information on permitting large mine projects in the state, go to the internet site at *http://www.dnr.state.ak.us/mlw/mining/largemine/* (accessed Nov. 22, 2006). The large mine projects listed on that site are Chuitna Coal, Fort Knox Mine, Greens Creek Mine, Kensington, Nixon Fork Project, Pebble Gold Project, Pogo Project, Red Dog Mine, Rock Creek Project, True North Mine, and Tulsequah Project. A document summarizing the large mine permitting process is available on the Internet at *http://www.dnr.state.ak.us/mlw/mining/largemine/lmpt_process.pdf* (accessed Nov. 22, 2006).

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protected interest,[9] that if taken by the government, entitles the holder to just compensation.

The takings doctrine is implicated when the state deprives a person of a property right. In the case of mineral rights that have been located and are not subject to a prior existing claim, the voiding of those mineral rights or regulatory action that denies all economically feasible use of those mineral rights may be found by a court to constitute a per se taking of that property interest.[11]

The issue of whether or not a mine may be allowed on particular state land initially is decided when the commissioner of natural resources classifies state land as either open or not open to mining.[12] The classification of land as available for mining opens the land to discovery, location, and filing for the mineral rights. For example, the land on which the proposed Pebble Gold Project may be developed is classified as available for mineral development as part of the Bristol Bay Area Plan.[13] Once a holder has established mineral rights -- a protected interest -- the state may not take those rights without just compensation. HCR 29 (24th Alaska Legislature) calls for the commissioner to revisit the decision of classifying the area in which the Pebble Gold Project is located for mineral development. Since the claims have already been filed, a reclassification of the land use could amount to a taking of the mineral rights that have vested and a court could require the state to compensate the holder for those rights.

If the state chose to terminate the mining activity, one option would be for the state to purchase the mineral rights from the holders. Presumably, the state would offer the fair market value for the rights, an appropriate measure of compensation used for

---

[9] *Trustees for Alaska v. State*, 736 P.2d 324, 332 (Alaska 1987). Although this case described the federal location system for establishing mineral rights, it is applicable to the state's system. The difference between the state and federal systems was that at the time *Trustees* was before the court the federal requirements did not include the payment of rent and royalties nor was there a state requirement of payment. Following the decision in *Trustees*, the legislature enacted AS 38.05.211 that requires the payment of annual rent to the state for "each mining claim, leasehold location, prospecting site, and mining lease."

[11] See, *Beluga Mining Co. v. State, Dep't of Natural Resources*, 973 P.2d 570, 575 (Alaska 1999).

[12] AS 38.05.300.

[13] The Bristol Bay Area Plan, that describes land use and classification in the area of the proposed Pebble Gold project and includes area maps, is published on the Internet at *http://www.dnr.state.ak.us/mlw/planning/areaplans/bristol/pdf/bbap_complete.pdf* (accessed Nov. 22, 2006).

condemning property through the state's exercise of the power of eminent domain.[14] Another possibility for the state to stop the mining activity would be to impose such extensive requirements for necessary permits that the developer could not economically proceed with the project. With regard to this second option, a regulation that denies the property owner all economically feasible use of the property may be found to be a "per se" taking by the state, and the state would again be in the position of paying just compensation.[15]

A court may also examine governmental action on a case-by-case basis for the purpose of determining whether the action amounts to a taking that justifies compensation to the holder of the property right. This type of examination involves an analysis of the following four factors: (1) the character of the governmental action; (2) its economic impact; (3) its interference with reasonable investment-backed expectations; and (4) the legitimacy of the interest advanced by the regulation or land-use decision.[16] In *Beluga*, the court used the four-factor analysis to consider whether the state had engaged in a taking. With regard to the third element, the *Beluga* court found that the plaintiff failed to establish a basis for concluding that it had "reasonable investment backed expectations" because the claims were always contingent upon state permission to mine and other adverse existing claims.[17]

As a practical matter, it seems reasonable for a mine developer to expect that permits for a mining project will eventually be issued although the requirements are subject to negotiation. My understanding from talking to a staff member[18] of the large mine project team in the Department of Natural Resources is that government agencies have discretion in developing the terms and conditions for each permit, but once the terms and conditions are agreed upon by the applicant (generally the case) the permits are issued and the mining operation proceeds. If there is some point in the permitting process that gives discretion to the decision maker whether or not to issue a permit and the denial of that permit is the basis for stopping the development of the mine, that discretionary step may be a basis for a court to find that the investment-backed expectations were not reasonable.

My impression from the existing statutory scheme and court cases on this issue is that mining rights that have vested through discovery, location, and filing, and that are not

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[14] *Dash v. State*, 491 P.2d 1069, 1073 n. 11 (Alaska 1971).

[15] *Beluga*, 973 P.2d at 575.

[16] *Spinell Homes, Inc. v. Municipality of Anchorage*, 78 P.3d 692, 702 (Alaska 2003). The four factors are referred to as the "Sandberg factors" based on the decision in *Anchorage v. Sandberg*, 861 P.2d 554 (Alaska 1993).

[17] *Beluga*, 973 P.2d at 576.

[18] Tom Crafford, Acting Large Mine Coordinator, *supra*.

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subservient to prior or other existing claims are protected property interests and that the state's taking of those interests would require the payment of just compensation under the state and federal constitutions.

Compensation for the taking of mineral or mining rights

Should a court find that the taking of mineral interest constitutes a taking under art. I, sec. 18, Constitution of the State of Alaska or amendment V of the U.S. Constitution, the court, or the parties in negotiations, would need to determine the amount of just compensation to be paid to the holder. Since fair market value has been recognized as a basis for determining just compensation,[19] the fair market value of the interest must be determined.

The valuation of mineral rights was raised in *Phillips v. United States*, in which the 9th Circuit Court of Appeals addressed the determination of the speculative value of a mining claim.[20] The Court wrote:

> 3. The "Element of Speculation" in Mineral Right Does Not Preclude Their Having an Ascertainable Market Value.
>
> "How could the jury arrive at a dollars or cents figure for a mineral interest except by pure guess?" rhetorically asks counsel for the appellee.
>
> The Supreme Court has answered this question.
>
> In Montana Railway Co. v. Warren, 1890, 137 U.S. 348, 352, 11 S.Ct. 96, 97, 34 L.Ed. 681, the Court said:
>
> > "There remains for consideration but a single point, — that there was admitted in evidence on the trial the opinions of witnesses as to the value of the land, which were not based upon the sale of the same or similar property, and were not therefore the opinions of persons competent to so testify. It appears that the land taken was a strip running through a mining claim, which had been patented and belonged to the defendants in error. The claim adjoined the Anaconda mining claim, which had been developed and worked, and demonstrated to contain a vein of great value. The claim in controversy had been developed so far as to indicate that *possibly, perhaps probably*, the same rich vein extended through its territory. It had not been developed so

[19] *Dash v. State*, *supra*.

[20] *Phillips v. United States*, 245 F.2d 1, 5 (9th Cir. 1957).

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> far that this could be affirmed as a fact proved. The strip taken ran lengthwise through the claim; and, upon the trial witnesses were permitted to testify as to their opinion and judgment of its value. It may be conceded that *there is some element of uncertainty in this testimony, but it is the best of which, in the nature of things, the case was susceptible.* That this mining claim, *which may be called 'only a prospect,'* had a value fairly denominated a 'market value,' may, as the Supreme Court of Montana well says, be affirmed from the fact that such prospects are the constant subject of barter and sale. Until there has been full exploiting of the vein its value is not certain, *and there is an element of speculation, it must be conceded, in any estimate thereof. And yet uncertain and speculative as it is, such prospect has a market value;* * * *"[1]

In other words, a court determining the appropriate amount of just compensation to be paid to the holder of mineral rights taken by the state would consider testimony and other evidence relating to the fair market value. Some of the evidence will be speculative, particularly the quantity of valuable minerals in place, the cost of extraction, and the expected profit.[2] I expect the fair market value will reflect the present value of future expected earnings from the minerals. An award based on the expected market value of the minerals that does not take into consideration the cost of developing the mine and the mining, transportation, and marketing of the minerals, including the cost of financing the mining operation, would be excessive and inequitable. Ultimately, if the parties are unsuccessful in negotiating an agreed price for the taking, the determination of fair market value must be determined by a fact finder.[3]

---

[2] Another example of valuation testimony is found in *United States v. L.E. Cooke Co.*, 991 F.2d 336, 339 (6th Cir. 1993). In that case, the federal government was condemning land in which the L.E. Cooke Company held coal interests. Part of the action was the determination of the value of the coal lease interests for the purpose of determining just compensation. Regarding the leasehold owners expert witness, the court wrote:

> Because Cooke had the burden of persuasion in this action, its expert witness, John Praskwiecz, testified first. Praskwiecz, a licensed mining engineer, regularly performs reserve studies, mine feasibility studies, and appraisals for his employer, Gaddy Engineering Company.
>
> ...
>
> Praskwiecz testified that reserve evaluations involve a determination of the amount of coal that is mineable and merchantable within a given piece of property and that mine feasibility studies are economic studies to determine the cost of mining coal, such as the selection of equipment and method of mining. The coal industry categorizes reserves according to standards established by the United States Geological Survey. Praskwiecz

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Foreign held mineral interests in Alaska and the relevance of chapter 11 of the North American Free Trade Agreement.

You asked whether Chapter 11 of the North American Free Trade Agreement (NAFTA) may be utilized by a foreign company that has invested in exploration of a mineral resource and is then subject to tightening of state environmental standards relative to mineral extraction or the outright prohibition of resource extraction in an area where the company has been actively exploring.

The use of ch. 11 of NAFTA as a tool for a foreign corporation to bypass or otherwise challenge state law and policy was discussed in a 2004 article that appeared in STATE

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testified that such reserves are either proven, i.e., one-quarter mile from a known point of coal thickness; probable, i.e., one-quarter to three-quarters of a mile from that point; inferred, i.e., three-quarters of a mile to one and one-half miles from that point; or potential, i.e., over one and one-half miles from the known point of coal.

After explaining the procedures he used and the sources of information he relied upon, Praskwiecz concluded that the tracts at issue contained 47,000 tons of proven coal and 1,066,000 tons of probable coal, for a total of 1,113,000 tons. Praskwiecz concluded that the remaining 487,000 tons of coal reserves had no economic value, and he ignored them. When questioned about the quality of the coal in the four seams present in the Cooke property, Praskwiecz stated, "The quality is a low to middle quality steam coal, which can definitely be sold on the steam coal market, and at a price." J.A., vol. II, p. 27. On cross-examination, Praskwiecz acknowledged that only one of the data points he used in his evaluation was actually located on a Cooke tract and that the quality of the coal seams fluctuated in Lawrence County. Also, he admitted that there were some impurities present in the coal but not, in his opinion, enough to affect the coal's marketability.

Praskwiecz further testified that in his opinion the highest and best use of the Cooke tracts was coal mining. In determining market value, Praskwiecz testified that the preferred approach in the industry is to use comparable sales. However, he identified only two sales which were similar enough to be considered comparable and found that these were insufficient to establish a market trend. Instead, he used a discounted cash flow analysis. When his calculations were completed, Praskwiecz determined that the present net value of the Cooke leases was $427,000 and that this was the fair market value at the time of taking.

EAGLE EYE PHOTO

LEGISLATURES, a publication of the National Conference of State Legislatures (NCSL).[22] The article included a discussion of several cases in which a foreign company sought damages based on state and local government action relating to the corporation's investment. In *Methanex v. United States*, a Canadian corporation sought damages from the United States because of its alleged loss of future profits resulting from the California legislature's ban on MTBE.[23] In a second case, Metalclad, a U.S. multinational corporation brought suit for damages against Mexico after state and local officials in a Mexican state used their land-use regulatory authority to stop the development of a hazardous waste facility in which Metalclad has invested.[24] In another case involving California, Glamis Gold is pursuing a claim against the United States based on provisions in California's mining law that protect Native American sacred sites that Glamis Gold argues will deprive the company of future profits.[25] In each of these three cases, the federal government that was a party to NAFTA -- Mexico and the United States -- is the defendant.

In 1993, the Congress of the United States enacted the North American Free Trade Agreement Implementation Act.[26] Sec. 102 of the Act addresses the relationship between NAFTA to United States and state law.[27] With regard to state law, sec. 102 requires the President to consult with the states for the purpose of achieving conformity of state laws and practices with NAFTA and to assist the states to identify those state laws that may not conform to the agreement.[28] Further, with regard to legal challenges to state law, the section states that, "No State law, or the application thereof, may be declared invalid as to any person or circumstance on the ground that the provision or application is inconsistent with the Agreement, except in an action brought by the United States for the purpose of declaring such law or application invalid."[29]

---

[22] William T. Warren, *Trade Agreement Trade-offs*, STATE LEGISLATURES, July/August 2004, at 20-23.

[23] *Id.* at 21. "MTBE" is methyl tertiary butyl ether, a fuel additive in motor gasoline. See, *http://www.epa.gov/mtbe/faq.htm#background* (accessed Dec. 6, 2006).

[24] *Warren* at 21.

[25] *Id.* at 21-22.

[26] Pub. L. 103-182, 107 Stat. 2057.

[27] Sec. 102 is codified as 19 U.S.C. 3312.

[28] 19 U.S.C. 3312(b)(1)(B).

[29] 19 U.S.C. 3312(b)(2).

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Given the nature of mineral rights in this state -- that the interests vest following discovery, location, and filing -- state action that amounts to a taking requires just compensation to be paid to the holder of the property interest that is the subject of the taking. As discussed above, Alaska courts have recognized that regulatory action can amount to a taking and require compensation to be paid. The suits brought under ch. 11 of NAFTA that are based on a regulatory taking of an economic interest possibly could be resolved under Alaska law if the court finds that a regulatory taking has occurred. The remedy for a regulatory taking under NAFTA, in the form of a suit for damages against the host country, is available to a foreign corporation regardless as to whether a particular state recognizes a regulatory taking such as our court described in *Beluga*, supra.

NAFTA and the North American Fee Trade Agreement Implementation Act do seem to complicate a state's exercise of control over environmental concerns by raising the possibility of a suit against the federal government based on state regulation and, under the Implementation Act, requiring a state and federal government to coordinate regulatory actions for consistency under NAFTA.[10]

I do not know the extent of any interaction related to NAFTA between the state and federal government. You may wish to contact the office of the governor or the governor's office in Washington, D.C. for more information.

Summary

The commissioner of natural resources identifies land in the state that is open for mining. When a person acquires mineral rights through discovery, location, and filing, that person acquires a property interest that requires the state to pay just compensation if the property is taken either as a per se taking or a regulatory taking that deprives the owner of all economic use of the interest.

The North American Free Trade Agreement provides a means for a non-U.S. corporation to try to recover damages from the federal government based on what is found to be a regulatory taking by a state or local government.

If I may be of further assistance, please advise.

DMB:med
06-511.med

[10] Northern Dynasty, the developer of the Pebble Gold Project, is a corporation based in Vancouver, British Columbia, and potentially could seek protection of its investments under ch. 11 of NAFTA.

Bristol Bay

Stronghold for Sockeye Salmon

Map produced by:

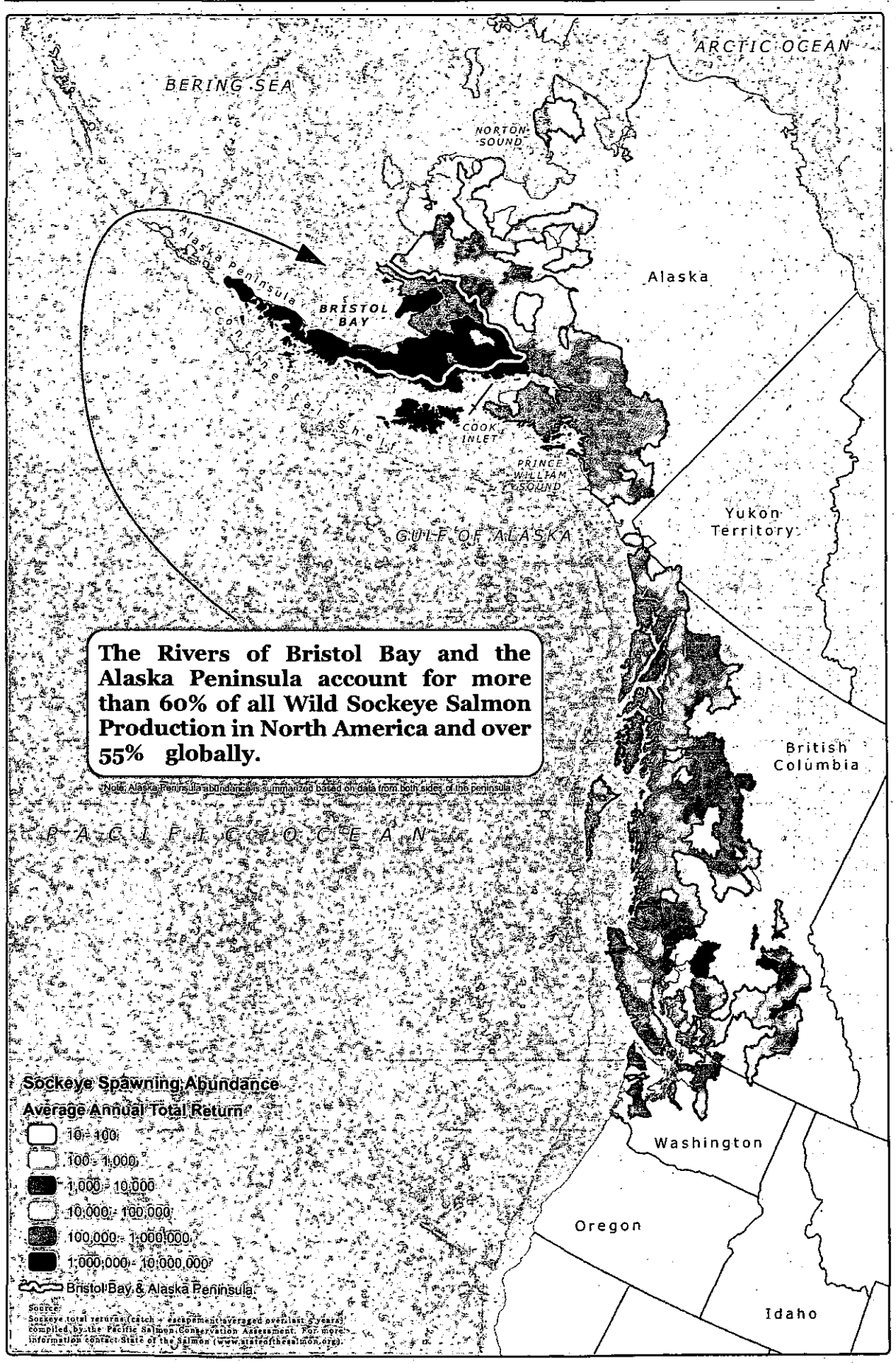
STATE OF THE SALMON

KNOWLEDGE ACROSS BORDERS

State of the Salmon is a joint program of Ecotrust and WSC

ecotrust

THE WILD SALMON CENTER



The Rivers of Bristol Bay and the Alaska Peninsula account for more than 60% of all Wild Sockeye Salmon Production in North America and over 55% globally.

Note: Alaska Peninsula abundance is summarized based on data from both sides of the peninsula.

1970

The Proposed Pebble Mine

Relationship to Observed Salmon Populations

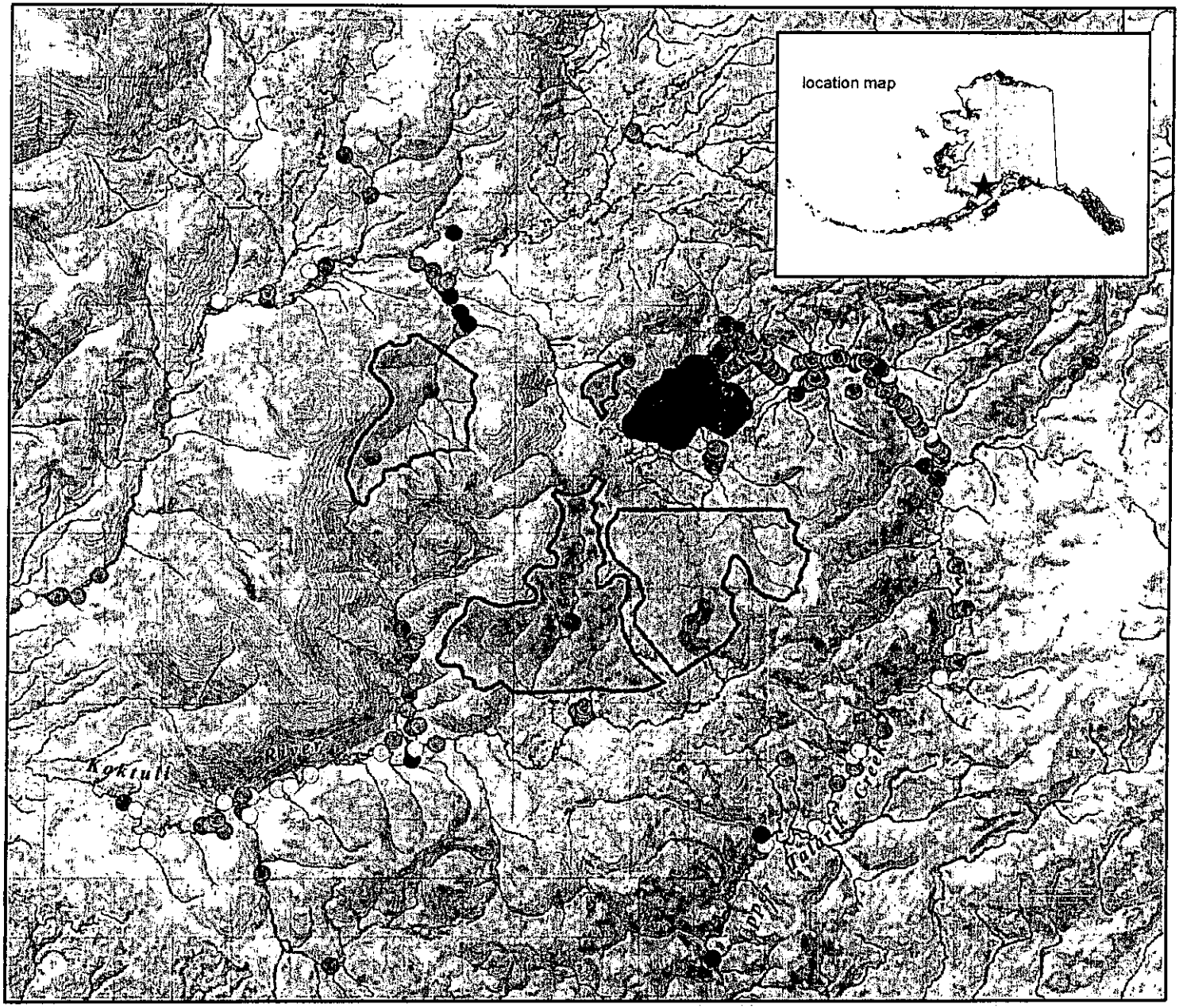
Legend

- Mine Pit
- Mill Site
- Tailings

Salmon Observations, 2004-2006:

- Chinook
- Chum
- Coho
- Sockeye

This map portrays the relationship between the proposed Pebble Mine and local salmon populations. Fish data depicts the distribution, abundance, and variety of species, and was supplied by the Alaska Department of Fish and Game.



Data Source:

Fish: Fisheries report in reference to Permit No. SF-2004-114 and Amendment No. SF-2004-114-A-1, from HDR Alaska, Inc., to Alaska Department of Fish and Game, Division of Sport Fish, dated November 23, 2004.

Report of collecting activities for the Pebble Project in reference to Permit No. SF-2005-049, from HDR Alaska, Inc., to Alaska Department of Fish and Game, Division of Sport Fish, dated October 25, 2005

Report of collecting activities for the Pebble Project in reference to Permit No. SF-2006-057, from HDR Alaska, Inc., to Alaska Department of Fish and Game, Division of Sport Fish, dated February 2, 2007.

Pebble Mine Project: The following files were downloaded from: http://www.dnr.state.ak.us/mlw/mining/largemine/pebble/ as of February 5, 2007:

Pebble Project Initial Application for Certificate of Approval to Construct a Dam
Tailings Impoundment A – Figures
Tailings Impoundment G – Figures

Miles
0 0.5 1 2 3 4 5

February 23, 2007
fish_distribution_salmon.mxd
Coordinate System: UTM, Zone 5, NAD27, CM: -155.5

Analysis of the Potential Impacts of Copper Sulfide Mining on the Salmon Resources of the Nushagak and Kvichak Watersheds

Final Report
January 10, 2008

For The Nature Conservancy

Lance Trasky & Associates
January 10, 2008

1972

This report, *Analysis of the Potential Impacts of Mining a copper sulfide deposit on the Salmon Resources of the Nushagak and Kvichak Watersheds*, was prepared by Lance Trasky and Associates, commissioned by The Nature Conservancy in Alaska, and funded by the Gordon and Betty Moore Foundation during the summer of 2007.

An Executive Summary and Key Findings, excerpted from this document, is available from The Nature Conservancy, should you wish to review the material in a more condensed format.

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LIST OF ABBREVIATIONS

ADEC	Alaska Department of Environmental Conservation
ADF&G	Alaska Department of Fish and Game
ADNR	Alaska Department of Natural Resources
ADN	Anchorage Daily News
AWC	Anadromous Waters Catalog
BBAP	Bristol Bay Area Plan for State Lands
CERCLA	Comprehensive Environmental Response and Recovery Act
Corps of Engineers	United States Army Corps of Engineers
CWA	Clean Water Act 33 USC 1251
Cu	the symbol for copper
EIS	Environmental Impact Statement
EPA	The United States Environmental Protection Agency
FDA	The United States Food and Drug Administration
HCN	The symbol for cyanide
Hg	the symbol for mercury
ICMI	International Cyanide Management Institute
ICOLD	International Committee On Large Dams
LD/50	the lethal dose required to kill 50% of the test organisms in a set period of time
LMPP	Large Mines Permitting Process
mg/l	milligram per liter or one part per million or ppm
ng/l	nano gram per liter or one part per trillion or ppt
NDM	Northern Dynasty Mines, Incorporated, also known as Northern Dynasty Minerals, Ltd., a Hunter Dickinson Group Company and Pebble East Claims Limited.
NEPA	National Environmental Policy Act
N.K.	North Fork Koktuli River
RCRA	Federal Resource Conservation and Recovery Act
S.K.	South Fork Koktuli River
TRI	EPA Toxic Release Inventory
TSA	Tailings Storage Facility
USGS	United States Geological Survey
ppb	one microgram per liter or one part per billion ppb
ppt	one nanogram per liter or one part per trillion
U.T	Upper Talarik Creek
N.K.	North Fork Koktuli River
404 Permit	A wetlands fill permit issued under section 404 of the Clean Water Act
ug/l	microgram per liter, part per billion or ppb
USCOLD	United States Committee On Large Dams

INTRODUCTION: The world class salmon resources and the natural and human systems dependent on them gave The Nature Conservancy (TNC) the impetus to make the Nushagak-Mulchatna watershed a priority for conservation. There is no salmon producing system in the world that is as productive and healthy as Bristol Bay and the Nushagak system is one of the key salmon producers in Bristol Bay.

Northern Dynasty Mines, Inc's announcement that they intend to develop the world's second largest copper mine at the headwaters of the two largest sockeye salmon producing systems in Bristol Bay has raised concerns within TNC about how mining would affect salmon habitat and the Bristol Bay salmon fisheries, and whether TNC can achieve its conservation goals if the mine moves forward.

The purpose of this analysis is to inform TNC board members and staff by providing a science-based review of:

(1) the scale and duration of the proposed Pebble Project and the nature of the ore deposit;

(2) the possible extent of impacts the Pebble Project could have on fish and fishermen if developed, particularly potential impacts to salmon from copper sulfide mines and the associated mineral processing, slurry pipelines, tailings disposal sites, and access roads; and

(3) the effectiveness of State and Federal statutes and regulations in avoiding potential impacts from large mines, and particularly sulfide ore body mines.

1. DESCRIPTION OF THE PROPOSED PEBBLE MINE AND ASSOCIATED FACILITIES

1.1 Pebble Prospect: Northern Dynasty Mines Pebble Project mineral claims are located on 58,000 acres of state land located approximately 25 miles north of Lake Iliamna (Figure 1). An additional 586 square miles of claims have been staked in the surrounding area by other mining companies (Anchorage Daily News, 2007b). The Pebble Project claims are located within the Lake and Peninsula Borough. Based on reserve estimates released by NDM, the Pebble Project prospect ranks as the second largest copper mineral deposit in the world (Northern Mines, 2007). Northern Dynasty Mines estimates the ore body contains approximately 82 million ounces of gold and 67 billion pounds of copper worth approximately 200 billion dollars (Anchorage Daily News, 2007a).

The Pebble project, as currently envisioned, would include:

- An open pit mine or an underground mine, or both. The most recent plans indicate that the open pit at Pebble West would be about 1700 feet deep and cover about 2 square miles. Pebble East has not been fully explored but appears to be of comparable size and underground block caving techniques might be used to mine to a depth of 5000 feet(Northern Dynasty Mines, 2007;

- Various stream diversion channels, wells and devices to dewater the pit and extract water for mine processes;
- A mill to crush and process the ore;
- At least two tailings "ponds" to store up to 8 billions tons of reactive and non reactive mine waste and tailings. These "ponds" would cover at least 10 square miles;
- The ponds would be created by five dams constructed of waste rock from the mine(s),. Approximately 9 miles of dams would impound the reactive tailings "ponds." The largest dam would be 740 feet high;
- A deep-water port in Iniskin Bay, on the west side of Cook Inlet to load ore carriers;
- A new 104 mile road to connect the mine to the port;
- Two 104 mile long, 15 inch parallel pipelines to transport a slurry of copper ore concentrate from the mill to the port and return the water to the mine area;
- A 300 megawatt power plant and 135 mile transmission line from the Kenai Peninsula to the mine site.

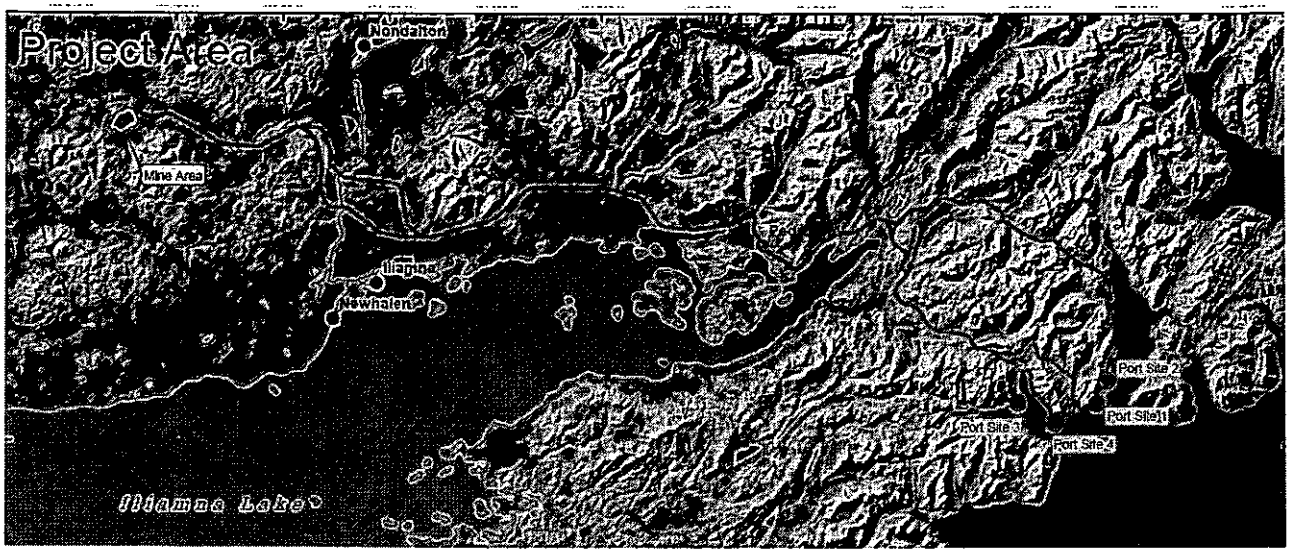

Figure 1. Location Map: Mine, Road and Port

To supply the electrical power needed for the mine a new 200 to 300 megawatt power plant would have to be constructed somewhere in the rail belt (NDM, 2007). NDM estimates that 2000 people would be employed in the construction of the mine facilities, and that 1000 people would be employed by the mine over its 40 to 70 year life span (Anchorage Daily News, March 27, 2007a). An unknown number of additional people would be employed in the construction and operation of the port, pipeline, and power plant.

1.2 Ore Deposit: The ore body is located at the headwaters of Upper Talarik Creek in the Lake Iliamna drainage and the North and South Forks of the Koktuli River in the Mulchatna River drainage (Figure 2). The deposit is low-grade copper-gold-molybdenum porphyry comprised of 0.6% copper, 0.37g/t gold, and 0.039% molybdenum. The ore body, compromised of the Pebble

East and West deposits, is approximately 12,500 feet (2.6 miles) long and up to 8,000 feet (1.6 miles) wide (Northern Dynasty Mines, 2007). The Pebble West and Pebble East deposits are approximately 1,700 and 5,000 feet deep respectively (Northern Dynasty Minerals, Ltd., 2007). According to a February 20, 2007 NDM press release, the Pebble West deposit contains 4.1 billion metric tons of ore, and the Pebble East deposit contains 3.4 billion metric tons. The total deposit of 7.5 billion metric tons is equivalent to approximately 8.4 billion U.S. tons of ore. Both the amount of ore and the size of the deposit may increase with additional drilling.

The Pebble West deposit is primarily chalcopyrite ($CuFeS_2$) and the Pebble East deposit is composed in part of bornite (Cu_5FeS_4). Both of these copper deposits are referred to as sulfide ores because the copper is locked up in a compound containing iron and sulfur. The composition of the ore is important because sulfide ores will form sulfuric acid when exposed to oxygen and water (United States Office of Surface Mining and Reclamation, 2007 and Acid Drainage Technology Initiative, 2007). At a 0.6 percent copper equivalency each ton of ore mined will yield approximately 12 pounds of copper, 0.37 grams of gold, 0.78 pounds of molybdenum and 1,987 pounds of waste rock (Phelps Dodge, 2007).

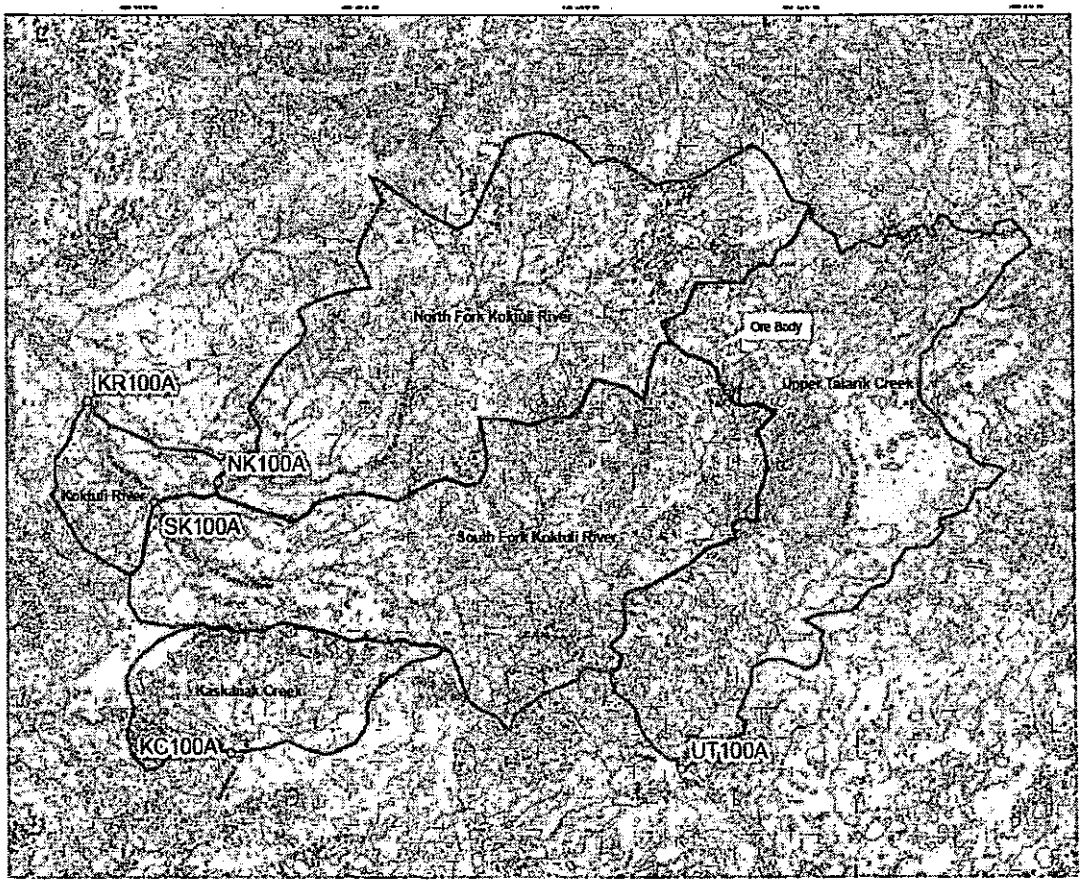

Figure 2. Stream Drainages Impacted by Pebble Mine

1.3 The Mine: The ore body would be mined through a combination of open pit and underground-block cave mining. The Pebble West deposit is exposed at the surface and is suitable for open pit mining (Northern Dynasty Mines, 2007). Open pit mining is commonly used to extract massive amounts of low grade copper ore that are at or near the surface of the earth. An open pit mine has the appearance of a series of benches or terraces (Figure 3). The mine is opened by stripping off the vegetated overburden and non ore bearing rock which would be dumped in a tailings disposal area, or used in the construction of tailings disposal areas. The streams which flow through the mine and tailings disposal area would be diverted and the water appropriated for mine use (Northern Dynasty Mines, 2006). Because the mine would extend below the ground water table, ground water from the surrounding area would flow into the pit or tunnels. A series of wells would be drilled around the mine to prevent the mine from flooding. Water from the wells and water that enters the pit would be pumped out into a water storage area for use in milling, for forming the slurry in the waste and concentrate pipelines, to submerge reactive waste rock to prevent oxidation and acid formation, to reduce dust generation, and to protect downstream resources (Northern Dynasty Mines, 2006).

Figure 3. Chino Open Pit Copper Mine, New Mexico (source Wikipedia)

The process of recovering copper from the ore body begins when miners drill and blast the ore and overburden. Detonation of explosives placed in large patterns of deep drill holes break the

solid rock. Large shovels, some lifting nearly 100 tons of material in a single bucket "bite", fill trucks holding up to 350 tons of ore that haul the broken rock to the mill to be crushed (Phelps Dodge, 2007).

The Pebble East bornite deposit is deeper but contains more copper per ton of ore (Northern Dynasty Mines, 2007). Because of the cost of removing and storing the overburden that covers the ore body, Northern Dynasty has said they might mine the Pebble East deposit using block caving. Block caving is an economic method of mining large underground ore bodies with a consistent grade of ore throughout. A series of large tunnels are cut into the base of the ore body. A thick block of ore is undercut by removing a slice of ore. The un-supported block of ore breaks and caves under its own weight. The broken ore is drawn off from tunnels below as the caved mass falls due to gravity (Figure 4). The broken ore is loaded into ore carriers and transported to the mill.

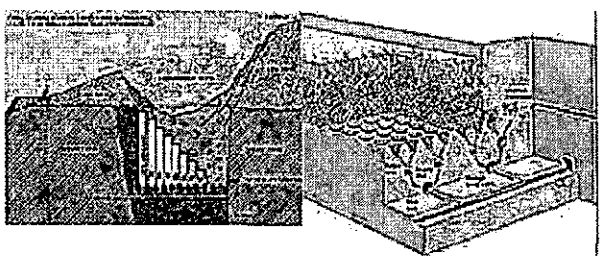

Figure 4. Block Caving (Source Atlas Copco Group)

Upon completion of mining, the Pebble West chalcopyrite pit would encompass about 2 square miles, and would be about 1700 foot deep. The Pebble East mine would cover a similar area, but would be up to 5000 feet deep (Northern Dynasty Mines, 2007). Because the water table is at the surface in the mine area, after pumping stops both Pebble West and East would fill with water and probably overflow into adjacent drainages. Based on experience from other mines where block caving was used, (Gilbride and Kehrman, 2005) the surface over the Pebble East block caving area may subside after mining is completed (Blodgett, 2002).

1.4 Processing Ore: At the mill the ore is dumped into crushers. The crusher breaks the large rocks into smaller and smaller pieces. After crushing, the ore is sent to the concentrator where huge grinding mills reduce it to the consistency of face powder. The sulfide ore is then screened to approximately 0.5mm and then sent to the froth flotation cells for recovery of copper. The copper mineral is recovered and concentrated by a process called flotation. In flotation, the finely ground ore is mixed with water to from a slurry. Certain chemicals or reagents that coat only the desired copper minerals are added in small amounts. Rising air bubbles capture the coated mineral particles and float them to the surface where they are skimmed off and dried. This dried material is called copper concentrate and is approximately 30 percent copper, 27 percent iron and 33 percent sulfur, with smaller quantities of gold, molybdenum and other metals (Phelps Dodge, 2007). A separate selective flotation step separates the molybdenite (molybdenum disulfide) from the chalcopyrite. The copper concentrate would be sent to the port site via slurry pipeline

for shipment to a smelter. The tailings which remain at the bottom of the tank are disposed of in the tailings impoundments.

Gold that is associated with the copper pyrite complex would likely be processed with the copper at a remote location (Crafford, 2007). The gold that is not associated with the copper pyrite complex might be processed on site. Cyanide is the primary means used by the mining industry for leaching gold from ore (ICMI, 2007). Although Northern Dynasty Mines initially stated that no cyanide would be used at the proposed Pebble Project Mine (Anchorage Daily News, 2004j) they later backed away from that statement (Bristol Bay Times, June 23, 2005). Gold could be removed from Pebble ore by means of either heap leaching or agitated pulp leaching (ICMI, 2007). In heap or dump leaching the ore or agglomerated fine ore is stacked in heaps on a pad lined with an impermeable membrane. Cyanide solution is introduced to the heap by sprinklers or a drip irrigation system. The solution percolates through the heap leaching the gold from the ore, and the resultant gold bearing solution is collected on the impermeable membrane and channeled to storage facilities for further processing. Heap leaching is attractive due to the low capital cost involved, but is a slow process and the gold extraction efficiency is a relatively low 50-75% (ICMI, 2007).

In a conventional agitated leaching the milled ore (slurry) is conveyed to a series of leach tanks. The slurry is agitated in the leach tanks, either mechanically or by means of air injection, to increase the contact of cyanide and oxygen with the gold and enhance the efficiency of the leach process (ICMI, 2007). The cyanide then dissolves gold from the ore and forms a stable gold-cyanide complex. The waste from which the gold was removed by any means is referred to as tailings. This residue is usually partially dewatered to recover the solution, treated to neutralize or recover cyanide, and is then sent to the tailing storage facility. Because of the very large volume of ore to be processed a very large amount of cyanide would be required to process the ore.

1.5 Tailings Storage Facilities: According to Northern Dynasty's 2006 Pebble Project Initial Application for Certificate of Approval to Construct a Dam, two tailings impoundments A and G would be constructed in stages to hold approximately 2.5 billion tons of mine waste. If the ore has a 0.6% copper equivalency as reported, 99.4% of every ton of ore mined will be waste (Northern Dynasty, 2007). This means that if all of the 8.4 billions of tons of ore were extracted, approximately 8.3 billion U.S. tons of waste would be produced over the life of the mine.

Because of the potentially harmful nature of this waste, NDM has proposed to construct two very large earthen structures they call Tailings Storage Facilities (TSF) to hold the waste and prevent it from entering the environment. Because this waste would be stored in perpetuity, these facilities would need to be constructed to permanently preclude catastrophic failure, prevent leakage into ground or surface water, and prevent mobilization of wind blown dust from the surface. The TSFs would store reactive and nonreactive tailings solids from the mill, reactive mine rock and water used to process ore (Northern Dynasty Mines, 2006). Nonreactive mine rock is relatively inert. Reactive rock contains sulfur and when exposed to oxygen and water forms sulfuric acid.

Tailings Storage Facility A would be enclosed by three earth fill dams across the valley of the South Fork Koktuli River: a north embankment 700 feet high and 2.9 miles long, a southeast embankment 710 feet high and 1.3 miles long and a southwest embankment 740 feet high and 3 miles long (Northern Dynasty Mines, 2006), (Figure 5). The surface area of TSF A would be approximately 7 square miles, not including the foot print of the dams. The containment dams would be constructed of waste rock and nonreactive tailings. Northern Dynasty is designing the tailings storage facilities to withstand a magnitude 8.7 earthquake without release of tailings or process water (Northern Dynasty Mines, 2006). According to Northern Dynasty a magnitude 8.7 earthquake would be the largest quake expected in the mine area in a 3000-5000 year period.

Tailings Storage Facility G would be constructed approximately 2 miles west of the mine pits and would fill the valley of tributary 1.190 of the North Fork of the Koktuli River with mine waste. Two earthen dams would form the impoundment (Northern Dynasty Mines, Inc., 2006). The main dam would rise to a final height of 450 feet and a smaller saddle dam would be 150 feet high (Northern Dynasty Mines, Inc. 2006). The surface area of TSF G, not including the footprint of the dams, would cover approximately 3.6 square miles and would cover approximately 4 miles of a tributary to the North Fork of the Koktuli River (Figure 5). It would be constructed to the same standards and of the same materials as TSF A.

TSF G is designed to store tailings and process water from the mill process, and would hold approximately 0.5 billion tons of reactive (acid forming), nonreactive, and potentially reactive waste. Surface water runoff and supernatant process water would form a permanent cover over a portion of the TSF, and the interstices between the tailings would be saturated to prevent oxidation of the sulfide waste. Some water would be transferred from the supernatant pond for use in the milling process. NDM contemplates total containment and recycling of all water within the impoundment with no surface water discharge to the environment. Based on Northern Dynasty Mine's water rights applications, a very large quantity of water, likely between 100 and 300 billion cubic feet, would be permanently entrained in the tailings mass over the mines 40 to 70 year life if there are no discharges from the mine or any of its facilities (Northern Dynasty Mines, 2006).

The structural integrity of the dams is critical, because the mechanical stability of the tailings mass is very poor, due to its small grain size and the typically high water content (Lottermoser, 2003). Northern Dynasty mines has stated that the mine will be a zero discharge facility and that much of the water appropriated from area streams and ground water over the mine's 40 year life would be stored in the tailings facilities. The tailings would be saturated with water to prevent oxidation of the sulfides in the waste and formation of acid. The upstream face of the dams would be lined with a high density polyethylene liner to control seepage. Because all tailing storage facilities leak, a complex system of drains, pipes, and pumps would be buried under the dams to collect leakage and return it to the tailings storage facility (Julein, et al. 2002, Bjelkevik, 2005, and Northern Dynasty Mines, 2006). After the ore is mined out and the company leaves, the tailings dams and the pollution control system would have to be maintained in perpetuity, to prevent the acid generating mine waste and other toxic chemicals in the two tailings facilities from draining into the Koktuli River or Upper Talarik Creek. Because the mine is on state land, the Department of Natural Resources would have to resume responsibility for maintenance of the

tailings storage facilities after mine closure, presumably using bonds from the company to cover the costs of on-going pollution management.

Although, the ADNR Pebble Project website states that approximately 2.5 billion tons of waste rock and mill tailings would be produced and disposed of in the tailings storage facilities (Northern Dynasty Mines, Inc., 2006), those estimates don't appear to be current. The most recent reserve estimates released by Northern Dynasty Minerals Ltd. in February 2007 are 8.4 billion tons (7.6 billion metric tons) of ore containing 67 billion pounds of copper at 0.6% copper equivalency per ton of ore. Based on those reserves estimates, if all of the ore were mined the mine would produce approximately 8.3 billion tons of mine and mill waste. This is almost three times the design capacity of Tailings Storage Facilities A and G of 2.5 billion cubic yards. If correct, Tailings Facilities A and G would either have to be expanded or other tailings storage facilities would have to be constructed in another location to hold the additional waste. Other disposal options considered by Northern Dynasty include building more tailings storage facilities in other stream drainages or discharging the waste into Lake Iliamna.

1.6 Water Use: A large mine requires a tremendous amount of water. NDM has applied for all of the ground and surface water within the boundaries of the mine area, up gradient of the downstream limit of water extraction (Northern Dynasty Mines, Inc., 2006).

The mine area encompasses a drainage area of approximately 35 square miles and includes the headwaters of Upper Talarik Creek, and the North and South Forks of the Koktuli River. According to Northern Dynasty Mine's 2006 ground and surface water rights applications, all surface and ground water within the mine area would be used in the mining process or stored in the tailings storage facilities over the 40 to 70 year life of the mine (Northern Dynasty Mines, 2006). Northern Dynasty has stated that no water would be discharged from the mine, port, or tailings storage facilities.

Northern Dynasty's surface water applications from the North and South Fork of the Koktuli River and Upper Talarik Creek headwaters for the Pebble Mine are presented in Table 1 (Northern Dynasty Mines, Pebble Project Water Use Application, July 7, 2006).

Table 1. Pre and Post Development Stream Flows

Stream	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	June	July	Aug.	Sept	Annual
SFK													
DL 1													
Pre Development (cfs)		54	41	26	17	11	8	13	109	36	19	20	82	36
Post Development (cfs)		0	0	0	0	0	0	0	0	0	0	0	0	0
SK 100B 1														
Pre Development (cfs)		338	256	159	106	69	53	83	673	237	119	129	517	228
Post Development (cfs)		284	215	133	89	58	44	70	564	201	100	109	434	192
Percent Reduction		16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%
NFK														
DL2														
Pre Development (cfs)		30	30	17	6	5	5	18	81	28	15	17	39	24
Post Development(cfs)		0	0	0	0	0	0	0	0	0	0	0	0	0
NFK 100A														
Pre Development (cfs)		389	385	217	82	71	66	238	1649	365	192	216	510	315
Post Development(cfs)		359	355	201	76	66	61	220	969	337	177	200	470	291
Percent Reduction		8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%
UTC														
DL3														
Pre Development (cfs)		32	29	15	9	5	3	25	42	20	15	14	38	21
Post Development (cfs)		0	0	0	0	0	0	0	0	0	0	0	0	0
UTC 100 B														
Pre Development (cfs)		341	314	117	118	77	59	279	445	222	172	164	407	231
Post Development (cfs)		309	285	162	109	72	55	254	403	202	157	150	369	210
Percent Reduction		9	9	9	8	7	6	9	9	9	9	8	9	8

Note: SK 100B1 is approximately 12 stream miles below DL1, NFK 100 A is located 18 miles downstream from DL2, and UTC 100 b is located approximately 18 stream miles below DL3

Surface water would be removed via pumping, gravity and channeling, and stored in reservoirs.

A separate application has been submitted to withdraw all of the ground water flowing from the mine area into the North and South Forks of the Koktuli River and Upper Talarik Creek drainages (Northern Dynasty Mines Ground Water Application, 2006). The Pebble Mine site receives between 35 and 40 inches of precipitation annually, The long term mean annual precipitation is estimated to be 36 inches (Northern Dynasty Mines, 2006 Application for Water Rights). The mine site is covered with permeable glacial material and is probably saturated with ground water. The upper layer of bed rock is also heavily fractured and permeable.

Northern Dynasty has requested 19.4 cubic feet per second of ground water from the Upper Talarik Creek drainage, 11.78 cubic feet per second from the South Fork Koktuli watershed, and 12 cubic feet per second from the North Fork Koktuli River drainage (NDM Pebble Project 2006 ground water application). These ground water withdrawals would be used for mine functions and to dewater the mine pit (NDM Pebble Project 2006, Application for Water Rights. Ground water withdrawals also serve a secondary purpose of preventing contaminated ground water from the mine pit, mine facilities and tailings storage facilities from leaking into fish bearing surface waters. Ground water would be removed by pumping.

Northern Dynasty has applied to take approximately 136 cubic feet per second of surface and ground water from the three watersheds which drain the site over the life of the mine. This adds up to approximately 100 to 300 billion cubic feet of water over the projected 40 to 70 years of mining. The water would be used in the milling process, dust suppression and to slurry ore concentrate in the slurry pipelines. If there is no discharge from the mine as claimed, all of the water, minus evaporation, would ultimately be stored in the tailings storage facilities (TSF).

1.7 Roads, Barge Landing Areas, Port and Pipeline: Three barge landing areas, one at Williamsport and two in Lake Iliamna are being considered for the project. These sites would be used to bring in equipment for initial construction of the road, port facility and mine. A deep water port site for the project would be sited at Iniskin Bay (Northern Dynasty Mines, 2006). Facilities would be constructed at the Iniskin Bay site to receive, dry, and store processed copper concentrate from the mine. A solid fill dock would be constructed into Iniskin Bay to load deep water vessels with copper concentrate to be transported to a foreign port for refining. A 104 mile long all weather road and a 15 inch diameter slurry pipeline would be constructed to transport copper concentrate from the mine to the Iniskin Bay port (Northern Dynasty Mines, 2007). A second pipeline would return slurry water from the port to the mine. One or more pump stations would be required to move the heavy concentrate through the 104 mile long pipeline. Another alternative would be to truck the concentrate, or a portion of the concentrate, such as molybdenum, which is not easy to transport by pipeline, to the port.

The road and the pipelines would cross approximately 120 streams including over 80 with year around flows. Many of these streams provide spawning and rearing habitat for salmon and high value resident fish species such as Dolly Varden and grayling. According to Northern Dynasty the road alignment and port site were selected by the Alaska Department of Transportation and Public Facilities. The access road corridor crosses both Native Corporation and State owned land (BBAP, 2005). According to Sean McGee, NDM spokesman, the road would be controlled by Iliamna area villages and would not be open to public use (NDM, 2007). The sites being evaluated for the port at Iniskin Bay appears to be a very productive marine environment with significant populations of marine mammals including threatened Stellar Sea Lions, seabirds and fish such as herring. Land ownership at Iniskin Bay is mixed with private, state, and ANSCA village corporation holdings.

1.8 Power Plant and Transmission Line: An enormous amount of electrical power would be required to run the Pebble Project Mine, Port Facilities, and pump stations for the slurry pipelines. According to the Pebble Project website (Northern Dynasty Mines, 2007) the power requirements for the Pebble mine would be 100 megawatts during construction and start up and 300 megawatts during operation. To put this in perspective the Pebble Project's projected power needs are 66% of Chugach Electric's highest ever peak load of 457 megawatts. Chugach Electric is Alaska's largest power producer, supplying electricity to nearly 75% of south central Alaska's population including the Homer Electric Cooperative. (Chugach Electric Association, 2006). Power for the Pebble Mine would be purchased from Homer Electric Association (HEA) and would be produced by a power plant at Nikiski and supplied to the mine via a 55 mile long submarine cable across Cook Inlet to the port site at Iniskin Bay and an 85 mile long transmission line from the port to the mine site (McGee, 2007 and Northern Dynasty Mines, 2007). One route for the transmission line would transect the Iniskin Peninsula from north to south. The source of the electricity that HEA would provide for the Pebble Mine has not been identified, but Northern Dynasty has stated that the initial 100 megawatts could be supplied from Homer Electrics current generating capacity and would not require any additional generating capacity. The additional 200 megawatts of power required for the Pebble Mine project would require HEA to acquire additional generating capacity.

2. TOXICITY OF COPPER, MERCURY, AND CYANIDE TO FISH AND AQUATIC LIFE

2.1 Overview: Of the three primary metals to be extracted from the Pebble Project ore, gold is benign. Molybdenum is generally reported in the literature to be acutely toxic to various adult fish species at relatively high concentrations (70 to over 2000ppm) but to have physiological effects at levels as low as 2.5 ppm. (Davies et al. 2005, Hamilton and Buhl, 1989 and Reid, 2002). However, copper and copper compounds are acutely toxic to fish and other aquatic life at low part per billion levels (ppb) (Eisler, 1991, Eisler, 2000, Environmental Protection Agency, 2007f, and Hamilton and Buhl, 1990).

Northern Dynasty has not provided information on the other metals and elements present in Pebble Ore. However, ground waters react chemically with rocks in their path and collect mobile components typical of the rocks they have passed through (Giblin, 2001). The analysis of water samples from the Pebble Mine area indicates that many of the other heavy metals and elements on the Environmental Protection Agency's list of priority pollutants including antimony, arsenic, cadmium, chromium, lead, mercury, nickel, selenium, and zinc are also present in ground and surface waters. (Northern Dynasty Mines Inc., 2005, Environmental Protection Agency, 2007 f). These other metals are also toxic to salmon and other fish at very low concentrations (Eisler, 2000).

The current levels of these metals in the surface and groundwaters draining the proposed Pebble Project site are measurable, but with the exception of copper and mercury, below levels known to be toxic to fish and aquatic life (Northern Dynasty Mines Inc., 2005). Mercury, which is present in the water at the Pebble Project site and is often found at elevated levels in and around mineralized areas, is a potent neurotoxin which presents a health threat to both aquatic life and humans (Munn and Short, 1997). Cyanide, commonly used in gold extraction, is one of the most rapidly acting lethal poisons known (Eisler, 1991).

A study of recently permitted large sulfide based copper and gold mines, found that mining often increases the concentrations of copper and other pollutants in ground and surface waters to levels that are toxic to fish and other aquatic life (Kuipers, et al. 2006).

Because copper and other heavy metals are already present in waters at the proposed Pebble Project site, and are toxic at extremely low levels even very small mining related increases from fugitive dust, groundwater contamination or acid mine drainage could increase the concentrations of pollutants to levels that are toxic to fish and aquatic life.

Mercury, biomagnifies, or increases in concentration as it moves up the food chain, and accumulates in the tissues of aquatic organisms such as fish. Several other metals in the deposit such as cadmium, arsenic, lead, and zinc also accumulate or build up in the tissue and organs of aquatic organisms (Sadiq, 1992 and Sorenson, 1991).

To understand how these mining related pollutants affect fish and aquatic life, three pollutants of particular concern, copper, mercury and cyanide, will be examined in greater detail. However, the same concerns apply to the other potentially harmful metals and pollutants likely present in

the ore body and already present in ground and surface water at the proposed Pebble Project Mine site.

2.2 Copper Toxicity: The element copper (Cu) is essential to the growth and metabolism of fish and other aquatic life, but may cause irreversible harm at levels slightly higher than those required for growth and reproduction (Eisler, 2000). The element copper (Cu) and many copper compounds when dissolved in water are toxic to fish and other aquatic life in the low part per billion to part per trillion range. Copper ions have acute toxic, chronic, and behavioral effects on fish and the aquatic life that they feed on. Research has shown that although salmon and trout will avoid low levels of copper in water, but do not avoid high levels of copper because it destroys their olfactory nerves and then kills them if their exposure is long enough.

Table 2 contains the Environmental Protection Agencies 2007 Updated Aquatic Life Copper Criteria species mean acute and chronic toxicity copper levels for the same genus or species of aquatic organisms present in the Pebble Project area

Table 2: EPA 2007 Updated Copper Toxicity To Selected Species

	Acute Toxicity (ug/l)	Chronic Toxicity (ug/l)
Cladoceran (Daphnia sp.)	6	8.96
Amphipods	9.6	
Pink Salmon	40.13	
Coho Salmon	22.93	
Rainbow Trout	22.19	11.9
Sockeye Salmon	54.82	
Chinook Salmon	25.02	
Bull Trout (Salveliuns confluents)	25.02	19.7
Brook Trout (Salvelinu us fontinalis)		60.4
Northern Pike (Esox lucius)		

n

Note: The EPA site did not list detrimental behavioral effect of copper even though those effects are documented in the scientific literature.

2.2.1 Factors Affecting Copper Toxicity: Researchers have found that copper toxicity to freshwater fish and other aquatic life is affected by several factors including hardness, alkalinity, pH, water temperature, organic and inorganic complexation, ,synergistic effects with other metals such as zinc and age, size and species of fish (Environmental Protection Agency, 2007i, Chakoumas, et al.1979 and Eisler, 2000). Water hardness, alkalinity and pH are interrelated and appear to be particularly important. Because of the variability in individual species tolerance and the effect of water hardness on toxicity some researchers have recommended that copper criteria should be developed on a site specific basis (Finlayson and Verrue, 1982). For example, in tests to determine the relative sensitivity of bull trout (Salvelinus confluentus) and rainbow trout to acute copper toxicity, bull trout were found to be as sensitive to copper mortality as rainbow trout at water hardness levels of 100 ppm of $CaCO_3$, but 2.5 to 4 times less sensitive at 220 ppm $CaCO_3$ (Hansen et. al, 2001).

Hardness is a measure of dissolved calcium and magnesium in water. Alkalinity is a measure of the capacity of water to neutralize acid. Potential of Hydrogen or pH is a measure of the acidity or alkalinity of water. The ADEC acute and chronic copper Aquatic Life Criteria for Freshwater is calculated from a formula based on the hardness of the receiving waters (Alaska Department of Environmental Conservation, 2003

Hardness: The toxicity of dissolved copper to fish is dependent on the concentrations of dissolved calcium and magnesium in water, or hardness (Alaska Department of Environmental Conservation Water Quality Criteria Manual, 2003). Copper and certain other metals such as cadmium are more toxic to fish in soft waters than in hard water (Chakoumas, R. et al. 1979, Sayer, et al. 1989, Lauren, D. and D. McDonald, 1986, Lauren, D. and D. McDonald, 1984,Waiwood, K. and F. Beamish, 1978, and Howarth, R. and J. Sprague, 1978. Water with 0-60 ppm as calcium is considered soft, 61 to 120 ppm is moderately hard, and 121 and above as hard to very hard (USGS, 2007). Hardness concentrations reported by Northern Dynasty ranged from 4.3 to 24.9 ppm in the North Fork of the Koktuli River, from 8.6 to 29.1 ppm in the South Fork of the Koktuli River, and from 10 to 45.2 ppm in Upper Talarik Creek (Northern Dynasty Mines, 2005 Water Chemistry Report). These water samples fall within the soft to moderately soft range. The fresh water aquatic life copper criterion contained in the ADEC Alaska Water Quality Criteria Manual were used to calculate the acute and chronic toxicity levels for copper for the hardness levels reported for Upper Talarik Creek, and the North and South Forks of the Koktuli River (ADEC, 2003). For the low and high hardness concentrations reports for these streams the acute fresh water aquatic life criteria for dissolved copper range from 0.722 ppb to 6.36 ppb, and the 4 day chronic criteria range from 0.600 ppb to 4.54 ppb. Dissolved copper levels in some of the water samples from all four streams exceeded the lowest ADEC Freshwater Aquatic Life Criteria for these hardness levels, including one location on the South Fork Koktuli River which exceeded the lowest water quality criteria on all but one sampling period. Copper levels at this site were between 2.5 to 4.9 ppb (Northern Dynasty Mines, 2005). Because Pebble Mine Area surface waters are relatively soft, lower concentrations of copper will be toxic to salmon and other species of fish.

Alkalinity: The acute and chronic toxicity of copper is also inversely correlated with alkalinity (Chakoumakos et al. 1979 and Lauren and McDonald, 1986). Alkalinity is a measure of the capacity of substances (usually bicarbonate and carbonate) dissolved in water to neutralize acidic pollution such as acid mine drainage. Alkalinity is important because it protects or buffers against rapid pH changes that are harmful to fish and other aquatic life. When acid is introduced the pH levels in low alkalinity streams can drop to a point which eliminates fish and acid intolerant forms of aquatic life. Copper is more toxic at low alkalinity levels and increasing alkalinity levels reduces copper toxicity in rainbow trout and Chinook salmon (Lauren, D. and D. McDonald, 1986 and Welch et al 2000). For protection of aquatic life the alkalinity should be at least 20 ppm calcium carbonate equivalent (Alaska Department of Environmental Conservation, 2003). Alkalinity concentrations in the Pebble Project study area (reported as equivalent concentrations of CaCO3) ranged from 11 to 32 ppm for the North Fork of the Koktuli River, from 7.0 to 35 ppm for the South Fork of the Koktuli River, and from 16 to 56 ppm for Upper Talarik Creek(Northern Dynasty, 2005). Although, site specific sampling data was not available, Northern Dynasty reports that most of the main stem sampling sites exceeded the minimum chronic aquatic-life criteria of 20ppm during the May through October sampling period

(Northern Dynasty, 2005). However, some of the sampling locations were clearly well below the minimum 20ppm criteria for protection, and no data was provided during the winter low flow periods when alkalinity levels might be lower or higher. (Sutcliffe and Carrick, 1998). To fully evaluate this issue water quality data needs to be collected throughout the year and during high and low stream flows.

pH: The toxicity of copper and certain other heavy metals is inversely correlated with the pH (i.e. copper is more toxic in acidic waters) (Welch et al. 1993, Lauren and McDonald 1986). The pH reflects the acidity or the alkalinity of a solution. The pH scale ranges from 0 to 14. A pH of 7 is considered neutral, pH numbers below 7 indicate an acidic solution and above 7 an alkaline solution. The ADEC Water Quality Standard For Designated Uses states that pH for Growth and Propagation of Fish, Shellfish , and Other Aquatic Life, " May not be less than 6.5 or greater than 8.5 and may not vary more than 0.5 pH from natural conditions." Northern Dynasty 2005, reported that pH levels ranged from 7.0 to 8.1 in the in the North Fork Koktuli River, from 6.6 to 8.4 in the South Fork Koktuli River, and from 6.8 to 7.7 in Upper Talarik Creek. Although, pH levels are currently in the slightly acidic to slightly alkaline range, the low alkalinity levels reported for these stream indicates a limited capacity to prevent harmful changes in pH if acid mine drainage occurs.

2.2.2 Acute Toxicity: Copper is a serious pollutant in the aquatic environment and its toxicity to important species has been well studied. (Sorenson, 1991, and Eisler, 2000). Exposure to copper causes ionoregulatory and respiratory problems in freshwater fish. Exposure to 49 ppb of dissolved copper for 24 hours caused a rapid decline in blood sodium, chloride, and oxygen tension and increased heart beat in rainbow trout. At the same time arterial blood pressure doubled. Heart failure caused death. Because gill tissue controls oxygen and electrolyte levels in fish, these changes were probably caused by gill tissue damage observed in fish which were exposed to copper (Wilson and Taylor, 1992).

Researchers at EPA's Corvallis Environmental Research Laboratory found that dissolved copper (Cu) is acutely toxic to juvenile Chinook salmon and steelhead trout at levels of 17 to 38 ppb of copper. Steelhead trout *(Onchorynchus mykiss)* are more sensitive than Chinook salmon *(Onchorynchus tshawytscha)*, and salmon fry and smolt are more sensitive than newly hatched alevins (Chapman, G.A., 1978). They also found that copper is acutely toxic to adult male Coho salmon and adult male steelhead at 46 and 57 ppb respectively (Chapman, G.A. and D.G. Stevens, 1978). California Department of Fish and Game toxicologists found that median lethal concentrations for juvenile Chinook salmon in 96 hour flow through tests were 26 to 34 ppb of copper.

When exposed to copper, the incipient lethal level was between 37 and 78 ppb for sockeye salmon but between 25 and 55 ppb for pink salmon during the egg to fry stage. Growth and hatching were no better than mortality as indicators of toxic effects of copper. Copper inhibited egg capsule softening, but associated mortalities during hatching occurred only at concentrations also lethal to eggs and alevins. Copper was concentrated by eggs, alevins and fry in proportion to exposure concentrations. Copper concentrations of 105 and 6.8 ppm in pink salmon eyed eggs and fry, respectively, coincided with mortalities. (Servizi, J.A. and

D.W. Martens, 1978). Several studies found that salmon fry, smolt and adults acute copper toxicities were lower than developing eggs.

Canadian researchers conducted tests in artificial stream to determine the attraction and avoidance responses of rainbow trout to lethal copper concentrations (0.5 to 4.0 ppm) over 96 hours (Pedder, S. C. J. and E. J. Maly, 1985). At all concentrations, there was an initial attraction period for copper and then subsequent avoidance of the more highly contaminated waters. Attraction was greatest in tests employing higher concentrations (3.0 and 4.0 ppm) of copper; but this attraction led to high mortality. These results indicate that observed trout behavior subsequent to copper discharges contributed to high mortality. The results also suggest that behavioral response of organisms to toxicants must be incorporated into work attempting to set reasonable water-quality standards in natural water bodies (Pedder, S. C. J. and E. J. Maly, 1985).

2.2.3 Chronic Toxicity: Exposure to elevated, but sublethal, levels of copper reduces the viability and increases the mortality rate of salmon and other fishes over time. For example, Coho salmon, which were exposed to sublethal levels of aqueous copper (1/4 and 1/2 of the dose which killed one half of the population in 4 days (LC50), lost their appetite and ceased growing or showed decreased rates of growth (Buckley, J.T. et al. 1982).

Copper is broadly toxic to the salmon olfactory nervous system (Baldwin, D.H. et al. 2003). Exposure to 1.0 to 20.0 ppb copper impaired the neurophysical responses of juvenile Coho salmon olfactory receptor neurons to natural odorants within 10 minutes of exposure. The inhibitory effects of copper were dose dependent but were not influenced by water hardness. Toxic thresholds for the different receptor pathways were found to be 2.3 to 3.0 ppb over background. Short term influxes of copper to surface waters appear to interfere with olfactory senses that are critical for spawning, feeding, predation avoidance, and migration of wild salmonids (Baldwin, D.H. et al. 2003).

In laboratory tests exposure to 25 to 300 ppb of copper significantly reduced the number of olfactory receptors in Chinook salmon and rainbow trout due to cellular necrosis (death of cells). These levels caused histological damage and neurological impairment to the olfactory system that these fish require for survival. Chinook salmon olfactory receptors were found to be harmed by lower does of copper (50 ppb) than rainbow trout (200 ppb). Chinook salmon were more susceptible to olfactory damage at lower levels of copper than rainbow trout in copper contaminated waters (Hansen, J.A. et al. 1998).

Exposure to low levels of dissolved copper reduces the resistance of rainbow trout to disease. The effect of exposure to sublethal concentrations of copper (6.4, 16.0, and 29 ppb) on the immune systems of rainbow trout was measured after 3, 7, 14, and 21 days of exposure by researchers at the University of California Davis (Dethloff and Bailey, 1989). They found that the immune system was altered at all concentrations with the greatest effects at higher concentrations. Consistent alterations in immunological parameters suggest that these parameters could serve as indicators of chronic metal toxicity in natural systems (Dethloff and Bailey, 1998).

Exposure of Chinook salmon and rainbow trout to sublethal levels of copper increased their susceptibility to *Vibrio anguillarum* infections: Vibrio is a serious disease of fish. Exposure levels were 9% (parts per trillion range) of the copper LC50 for 96 hours. Vibriosis mortality was also greater in exposed fish than unexposed fish. Rainbow trout stressed by copper required 50% less pathogens to induce a fatal infection than non-exposed fish (Baker, R.J. et al. 1983). Exposure of rainbow trout to sublethal levels of copper in water increased their susceptibility to infectious hematopoietic necrosis (IHN) virus. In most instances, the percent mortality was twice as great in the stressed groups compared with those groups which were not stressed but received the same virus dose. Although the level of copper in the water influenced the mortality rates, the length of exposure did not prove to be critical, as similar results were obtained after 1, 3, 5, 7, or 9 days of exposure. When different virus challenges were employed, the percent mortalities were again greater in the stressed fish at all virus doses tested, and at one dose, mortalities were noted in the stressed group but not in the untreated group (Hetrick. et al. 1979).

2.2.4 Behavioral Effects: Exposure to sub lethal levels of copper can have a detrimental effect on the behavior of salmonids, and reduce their survival. Rainbow trout which were exposed to copper and nickel solutions in a linear Plexiglas chamber with countercurrent flow avoided copper concentrations of 6.4 ppb total copper (Giattina et al. 1982). When copper concentrations were gradually increased, rainbow trout initially avoided low copper concentrations, but were attracted to higher concentrations (330-390 ppb) that are considered lethal. The 24-hour average concentration of these two metals presently considered adequate for the protection of freshwater aquatic life fell within the 95% confidence limits for threshold avoidance concentrations. This suggests that environmental impacts predicted on the basis of toxicity tests alone do not reflect potentially important behavioral changes caused by sub chronic concentrations of copper and nickel. Avoidance tests, therefore, may prove to be a valuable tool for screening toxic chemicals, providing additional information and a broader perspective for evaluating the impact of aquatic contaminants on fishery resources (Giattina, et al. 1982).

Tests of the responses of Chinook salmon and rainbow trout to sub lethal levels of copper, cobalt, and a mixture of copper and cobalt found that behavioral avoidance of copper varied greatly between Chinook salmon and rainbow trout in soft water (less than 40 ppm hardness). Chinook salmon avoided at least 0.7 ppb of copper, whereas rainbow trout avoided at least 1.6 ppb copper. Furthermore, following acclimation to 2 ppb of copper, rainbow trout avoided 4 ppb of copper and preferred clean water, but Chinook salmon failed to avoid any copper concentrations and did not prefer clean water. The failure to avoid high concentrations of metals by both species suggests that the sensory mechanism responsible for avoidance responses was impaired. Exposure to copper concentrations that were not avoided could result in lethality from prolonged copper exposure or in impairment of sensory-dependent behaviors that are essential for survival and reproduction (Hansen. et.al.1999).

The spawning migration of adult male Chinook salmon was monitored by radio telemetry to determine their response to the presence of copper, lead, zinc and cadmium contamination in the South Fork of the Coeur d'Alene River, in Idaho. The majority of the fish avoided the contaminated South Fork and moved up the non-contaminated North Fork to spawn. Metals levels in the South Fork waters were cadmium 6.90ppb, copper 2.0 ppb lead 23.0 ppb and zinc 2,220 ppb at hardness of 108 ppm. The results agree with laboratory findings that wild fish will

avoid spawning streams with high levels of metals contamination (Goldstein, et al. 1999). The results were also consistent with a study of wild Atlantic salmon (Salmo salar) which demonstrated that spawning salmon avoided sublethal concentrations of copper and zinc in a stream contaminated by a base metal mine by returning downstream prematurely (Saunders and Sprague, 1967).

To put the potential for behavioral effects in context, background median dissolved copper levels reported in the 2004 Northern Dynasty Water Chemistry report ranged between 0.28 and 1.88 ppb (Northern Dynasty Mines, 2005). However, dissolved copper levels in some of the water samples from the North and South Forks of the Koktuli River and Upper Talarik Creek streams exceeded the lowest ADEC Freshwater Aquatic Life Criteria for these hardness levels, including one location on the South Fork Koktuli River which exceeded the lowest water quality criteria on all but one sampling period. Copper levels at this site were between 2.5 to 4.9 ppb (Northern Dynasty Mines, 2005).

2.3 Mercury Toxicity: The element mercury is a heavy metal that has no known metabolic purpose and is toxic to living organisms (United States Geological Survey, 1994). Mercury occurs in many areas of southwestern Alaska and has been found in surface and ground water in the Pebble Mine area (United States Geological Survey, 1994, Northern Dynasty, 2005). Mercury is harmless in insoluble forms such as mercuric sulfide, but is poisonous in soluble forms such as mercuric chloride or methylmercury. Most authorities agree on six points (Eisler, 1987):

- mercury and its compounds have no known biological function and the presence of metal in the cells of living organisms is undesirable and potentially hazardous;

- forms of mercury with relatively low toxicity can be transformed into forms of very high toxicity, such as methylmercury, through biological and other processes;

- mercury can be bioconcentrated in organisms and biomagnified through the food chain;

- mercury is a mutagen, teratogen, and carcinogen, and causes embroycidal, cytochemical, and histopathological effects;

- some species of fish and wildlife contain high levels of mercury that are not attributable to human activities; and

- human use of mercury should be curtailed because the difference between tolerable natural background levels of mercury and harmful effects in the environment is exceptionally small

Mercury is of particular concern because mining may increase the amount of mercury in the environment (Maprani, et.al. 2003, Sexauer et al. 2003, National Risk Management Research Laboratory, 2003 and Earthworks, 2007) and mercury levels in organisms tend to increase (biomagnify) as it moves up the food chain and build up (bioaccumulate) in predatory fish such as coho salmon, trout and pike which feed on insects and small fishes containing mercury

(Wren and McCrimmon, 1986). The toxicity of mercury to salmon, trout, and other aquatic organisms is affected by the form of mercury, environmental conditions, and the sensitivity of the individual species and life stage (NOAA, 1996). Toxilogical effects include neurological damage, reproductive impairment, growth inhibition, developmental abnormalities, and altered behavioral responses (NOAA, 1996).

Mercury is not only toxic to aquatic life, but it is very toxic to humans and animals that consume fish. Consumption of methylated mercury contaminated fish led to the poisoning of Japanese fisherman and their families in Minamata, Japan, in the 1950s. The U.S. Food and Drug Administration (FDA) recommends that pregnant women and those who may become pregnant, avoid eating any fish species known to contain elevated levels of methylmercury, an organic form of mercury that can accumulate in the food chain. The deleterious effects of mercury consumed by animals that eat fish include reproductive failure, damage to intestines, stomach disruption, DNA alteration, and kidney damage. Methylmercury is also known to cause nerve damage.

2.3.1 Acute Toxicity: Alaska Department of Environmental Conservation (ADEC) Aquatic Life Criteria for Fresh Waters one hour average for acute mercury toxicity is 1.4 ppb (ADEC, 2003). In tests, concentrations of total mercury lethal to aquatic organisms range from 0.1 to 2.0 ppb mercury per liter of water (Eisler, 1987). Survival of rainbow trout (*Oncorhynchus mykiss*) alevins hatched from eggs exposed to 0.24 ppb mercuric chloride was significantly reduced (Birge, et al. 1979). Rainbow trout eggs exposed to mercuric chloride in sediments (0.18 ppb-107 ppb) and in the overlying water (0.25 ppb-6.4 ppb) experienced 55-100% mortality in 10 days (Birge, et al. 1979). Brook trout (*Salvelinus fontinalis)* exposed to 0.93 ppb in the water column experienced increased mortality and deformities, and stopped spawning (McKim, et al. 1976).

2.3.2 Chronic Toxicity: The presence of sublethal levels of organic mercury in lakes and streams affects the health and survivability of wild fishes. At comparatively low concentrations mercury adversely affects the reproduction, growth, behavior, metabolism, blood chemistry and oxygen exchange of fish (Eisler, 1987). Reproduction is inhibited among sensitive species at water concentrations of 0.03-1.6 ppb Eisler, 1979). Fathead minnows (*Pimpephales promelas*) which were exposed to 0.12 ppm methylmercury per liter of water for 3 months failed to reproduce (Birge, 1979) Brook trout (*Salvelinus fontinalis*) exposed to 0.93ppm methymercuric chloride in the water column stopped spawning (McKim et al. 1976). Reduced growth of sensitive species of aquatic organisms has occurred at concentrations of 0.04 to 1.0 ppb of mercury per liter of water. Growth reduction in rainbow trout (*Oncorhynchus mykiss*) was observed after 64 days of exposure to 0.04 ppb of methylmercury in water (Eisler, 1987).

The ADEC four day chronic toxicity criteria for mercury in freshwater is 0.77ppb, but it is noted that this may be under protective if a substantial part of the mercury in the water column is methyl mercury. (ADEC, 2003).

2.3.3 Behavioral Effects: The presence of very low levels of mercury in the water column can alter the behavior of fish in a manner that reduces their survival. After 24 hour exposure to 100, 50, and 10 ppb of mercury, the ability of mosquito fish to avoid predation by bass was

impaired. The degree of effect showed positive correlation with mercury concentration (Kania and O'Hara, 1974). Golden shiners (*Notemigonus crysoleucas)* which were fed a diet containing 959 ng (0.959 ppb) of methylmercury per gram of food for 90 days accumulated 518 ng (0.518ppb) of mercury per gram of body tissue. The predator avoidance behavior of these fish was also substantially altered. The authors concluded that mercury exposure at levels currently occurring in many lakes in the northern United States alters fish predator avoidance behavior in a manner that may increase vulnerability to predation, and has significant implications for food chain transfer of mercury to predators (Webber and Haines, 2003).

2.3.4 Mercury is Altered, Absorbed and Concentrated by Aquatic Organisms: A concern is that Pebble Project mining might release small amounts of mercury into nearby lakes and streams that would be converted to methylmercury and biomagnified to levels which would be harmful to aquatic life. Methylmercury is the most toxic form of mercury and it bioaccmulates and biomagnifies as it moves through the aquatic food chain (Wren and McCrimmon, 1986, Neuman and Ward, 1999). The mercuric ion combines with other inorganic and organic ions or molecular groups, and can be methylated (NOAA, 2005). Methylation in aquatic habitats is primarily a biological process. Microorganisms are able to convert the mercury that reaches surface water to methyl mercury and most organisms absorb this substance quickly. Fish are among the organisms that absorb methyl mercury from water. Rainbow trout, which were exposed to methyl mercury for 24 days, steadily accumulated mercury over the entire time period. Exposure was through (0.07-1.33 ug Hg/L) solutions in water, through food consumption (8.0-380.5 ng of Hg/L), or both. Nearly 70% of the methyl mercury ingested and 10% of the methyl mercury passing over the gills was assimilated by the rainbow trout and incorporated in their tissue (Phillips and Butler, 1978).

Mercury in the water column is accumulated by bacteria, aquatic plants, invertebrates, fish and mammals, and the concentration of mercury in the tissue of these species tends to increase with increasing trophic levels. This process is known as biomagnification. Even though mercury levels in the water column may be relatively low, methylmercury accumulates quickly and depurates very slowly in aquatic organisms (NOAA, 2005). As a result methylmercury often reaches very high levels in higher trophic species such as predatory fish, and birds and mammals that feed on fish. (Wren and McCrimmon, 1986, Neuman and Ward, 1999).

The percentage of methylmercury in tissue, as compared to total mercury, also increases with age in both fish and invertebrates. This is called bioaccumulation. Methylmercury levels in adult predatory fish may reach up to 100,000 times the levels in the water column (Eisler, 1987).

2.3.5 Present Levels of Mercury: Ground water samples taken near the Pebble West ore body had mercury levels that were 1.6 to 2.4 times the ADEC criteria for maximum allowable human health levels of trace metals in ground water of 50 parts per trillion (ppt) mercury (Northern Dynasty Mines, 2005). This is an indication that mercury is present in the rock and is being released into the ground water (Giblin, 2001). Because NDM has said that the mine would not intentionally discharge any water over its life and if they are successful in preventing contaminated ground water from leaving the mine site, much of this water and the mercury in it would ultimately end up stored in the tailings storage facilities.

Measurable levels of mercury have also been found in the waters of Upper Talarik Creek (0.0049 ppb), North Fork Koktuli River (0.0048 ppb), and South Fork Koktuli River (0.0053 ppb) Northern Dynasty Mines, 2005). These levels show that mercury is already present in the mine area, but in concentrations below the ADEC human health standards for drinking water and aquatic organisms of 0.050 ppb. However, it should be noted that the ADEC mercury standards for Alaska are higher than the human health and water quality standards set by the Great Lakes States. The human health criterion adopted by the Great Lakes States is 3.1 ng/L which is equivalent to a fish residue value of 0.035 ug of methyl mercury per gram of fish tissue. The water quality standard for fish and wildlife is 1.3ng/l or 0.013ppb.

Mercury was found to be present in tissue samples from Chinook and coho salmon, Dolly Varden, grayling, and northern pike taken from the North and South Forks of the Koktuli River (including Frying Pan and Big Wiggly Lakes), and Upper Talarik Creek drainages, (McLarnon, 2006). Mercury levels reported for all species appear to be well below the Food and Drug Administration human consumption action limit of 1.0 mg/kg (1 part per million wet weight) action level, except for large northern pike. Methylmercury concentrations in muscle tissue of large pike from Big Wiggly and Frying Pan Lakes were as high as 0.625 mg/kg.

The higher levels of mercury in the largest pike are consistent with previous studies which have shown that mercury bioaccumulates and that mercury levels are highest in long lived large predatory fish. The levels of mercury in northern pike muscle tissue from Big Wiggly and Frying Pan Lakes, however, exceed mercury levels in walleyes *(Stizostedion vitreum)* from Franklin D. Roosevelt Lake, a reservoir on the Columbia River, and from the upper Columbia River, an area contaminated by wastes from metal mining and associated processing activities. Mercury concentrations in walleye muscle from the Colombia river study area ranged from 0.11 to 0.44 mg/kg (wet weight) and were positively correlated with age, weight, and length of the walleye (Munn, M. and T. Short, 1997). In comparison, mean tissue concentrations of mercury in predatory fish such as walleye, northern pike, and bass from mercury contaminated areas of the Great Lakes were greater than 0.5 mg/kg with maximum levels exceeding 2 mg/kg in 1998 (Environmental Protection Agency, 2001 and International Joint Commission, 2004). The 2006 HDR report did not provide any data on mercury levels in large grayling or Dolly Varden from Upper Talarik Creek or the North and South Forks of the Koktuli River, so it is not known if they have also accumulated higher levels of mercury. Mercury levels in small juvenile resident fish and juvenile salmon were relatively low, which is to be expected because of the limited time they were exposed to mercury in the water.

2.4 Cyanide Toxicity: Cyanide in its commonly found compounds and breakdown components are toxic to fish and other aquatic life at very low levels. A cyanide is a substance that is found in combination with other chemicals in the environment. A cyanide is any chemical compound that contains the cyano group CN consisting of a carbon atom triple bonded to a nitrogen atom. There are many types of cyanide compounds but the most common are potassium, sodium, and calcium cyanide. Cyanide compounds that can release the cyanide ion are highly toxic

Cyanide compounds are widely used by the mining industry to assist in the extraction of both precious and non-precious metals from rock. Consequently, cyanide and related compounds

often are contained in discarded mine wastes, or enter surface waters through spills (Moran, R., 1998). Fish kills from accidental discharges of cyanide are common (Eisler, et al. 1999).

Cyanide in waste water discharges from mines is often measured using the weak acid dissociable (WAD) analytical procedure (ICMI, 2007). The WAD analysis measures free and weakly complexed forms of cyanide. The WAD procedure has been adopted by industry and regulatory agencies because it is believed to measure the toxicologically significant forms of cyanide.

The use of the WAD procedure, however, may fail to detect other forms of cyanide and certain toxic breakdown products of cyanide (Moran and Brackett, 1998). Cyanide also tends to react readily with many other chemical elements, and is known to form, at a minimum, hundreds of different compounds. (Flynn and Haslem, 1995). The toxicity of complex cyanides is usually, but not always, low, but the degradation products often include free cyanides which are toxic. Free cyanides readily degrade in the open environment but persist in groundwater. Many of these cyanide-related breakdown compounds, while generally less toxic than the original cyanide, are known to be toxic to aquatic organisms. In addition, they may persist in the environment for long periods of time, and there is evidence that some forms of these compounds can be accumulated in plant (Eisler, 1991) and fish tissues (Heming, 1989). Despite the risks posed by these cyanide-related breakdown compounds, regulatory agencies may not require mine operators to monitor this group of chemicals in mining-related waters. Therefore, while much of the cyanide used at mining sites does break down fairly readily, either as a result of natural degradation or the various treatment processes sometimes employed, significant amounts of the original cyanide may form potentially toxic compounds that remain (Eisler, 1991. "Water samples from mining sites where cyanide is used as a process chemical may have WAD and/or total cyanide concentrations that are quite low or undetected, yet when the same samples are analyzed specifically for cyanates and thiocyanates, they may show tens of milligrams per liter (ppm) or more of these compounds." (Moran and Brackett, 1998).

2.4.1 Acute Toxicity: Cyanide toxicity is caused by the free cyanides (HCN and CN-) that inhibit cytochrome oxidase and thereby suppress aerobic respiration at the cellular level. Death comes from failure of the heart and central nervous system. The Environmental Protection Agency's acute toxic criteria for freshwater is 22 ppb (Environmental Protection Agency, 2007f).

Fish are the most susceptible organisms and sensitive species exhibit lethal effects at as low as 20 to 76 ppb. Juvenile Atlantic salmon exposed to mixtures of cyanide and ammonia in freshwater for 24 hours were killed by 73 ppb of cyanide (Alabaster et al., 1983). The lethal toxicity of cyanide to juvenile rainbow trout varied from 52 ppb for trout that received exercise before exposure, to 43 ppb for trout which didn't (McGeachy, S. and G. Leduc, 1988). Free cyanide levels apparently do not increase in an organism or in the food chain over time, as many heavy metals do. Free cyanides are toxic to aquatic plants (phytotoxic) but at higher concentrations than those associated with adverse effects in fish (Eisler, 1991).

2.4.2 Chronic Toxicity: The Environmental Protection Agency's chronic toxic criterion for cyanide is 5.2 ppb (Environmental Protection Agency, 2007h). Sublethal effects of cyanide in fish include reduced reproductive capacity (decreased egg number and viability, and reduced

embryo and larval survival), impaired swimming ability, altered growth, and hepatic necrosis (Eisler, 1999). Growth of juvenile rainbow trout was reduced by 40 to 95% when exposed to hydrogen cyanide concentrations (HCN) of 20 and 30 ppb respectively for 18 days (Dixon, D. and G. Leduc, 1981). In the same study, liver damage occurred at HCN concentrations as low as 10 ppb.

Canadian scientists found that exposing male juvenile rainbow trout to concentrations of 10 to 30 ppb of HCN reduced the number of dividing spermatogonia in the testes by 13 and 50% respectively (Ruby, S. et al. 1979). They concluded "that short term exposure to sublethal concentrations of cyanide may cause permanent damage to the fixed number of primary spermatogonia within the testes, thereby reducing the reproductive capacity of the species." Exposure to sublethal levels of cyanide to a fungal pathogen increased infections in adult rainbow trout by 33% over the control (Carrballo, et al. 1995).

2.4.3 Behavioral Effects: Information on the behavioral effects of very low levels of cyanide on fish and other aquatic life is limited, probably due to its toxicity. Cyanide has a strong, immediate and long lasting inhibitory effect on the swimming ability of fish, leaving them vulnerable to predation and unable to feed efficiently (Leduc, 1984). Free cyanide concentrations as low as 10 ppb can rapidly and irreversibly impair the swimming ability of salmonids in well aerated water (Doudoroff, 1976). Osmoregulatory disturbances which were detected at HCN concentrations as low as 10 ppb, may affect migratory patterns, feeding and predator avoidance (Leduc, et al. 1982, Leduc, 1984). Loss of swimming ability, feeding ability and ability to avoid predators will reduce survival.

3. SOURCES, PATHWAYS, AND EXAMPLES OF POLLUTION FROM RECENTLY PERMITTED MINES

3.1 Overview: Based on an extensive review of the literature, the Kuipers Report and EPA records it appears that most or all sulfide ore body mines in areas where the sulfides are exposed to precipitation, ground or surface water pollute, and the only question is the degree to which they pollute and how much damage occurs (Kuipers, et al. 2006, and ADN, 8/2/2006). Annual precipitation in the Pebble Project area is projected to be 36 inches including 64 inches of snow fall (Northern Dynasty Mines, 2005, and ADCED. 2007). The water table is high and the valley floors at the project site are dotted with numerous small streams, lakes, ponds and wetlands.

There are several ways that metallic and acid pollution from sulfide ore body mines has entered surface and groundwater. These include chronic leaks of acid and heavy metal contaminated water from tunnels and mine pit walls before and after mine closure; chronic leaks from tailings piles and tailings storage areas; discharges from treatment facilities catastrophic failures of tailings dams and storage areas; slurry pipeline breaks; fugitive dust; and, failure of pollution control measures after closure or abandonment (Lottermoser, 2003).

The scale of the Pebble Mine; the amount of precipitation at the mine site; the high water table, the nature and location of the ore body: and the value of the fishery resources in the area likely to be affected by the mine , mean that the common pollution control problems associated with

sulfide mines elsewhere in the U.S. and Canada, and the risks associated with chronic or catastrophic leakage would be magnified many times (Leslie, 1989, Environmental Protection Agency, 1994b and Environmental Protection Agency, 2007i).

3.2 Acid Mine Drainage: Copper sulfide mines are often sources of acid mine drainage (U.S. Office of Surface Mining Reclamation and Enforcement, 2007). Acid mine drainage at copper mines in the United States and Canada is a serious problem. Acid mine drainage from recently permitted mines has contaminated ground and surface waters and eliminated salmon and aquatic life from thousands of miles of formerly productive streams in the United States (Environmental Protection Agency, 1994b and Environmental Protection Agency, 2007i).

Because the Pebble Copper Deposit is compromised of sulfide ore it presents a high risk of developing acid mine drainage (Environmental Protection Agency, 1994b). Open pit and subsurface mining of the Pebble Copper ore body will largely occur below the water table which is very near the surface in the project area. After the mine is closed pumps, collection systems and treatment facilities will have to be maintained in perpetuity, or water will flood the mine pit and tunnels and leak into ground and surface waters (Younger, 2002). This introduction of water is the initial step in most acid rock drainage situations, where the sulfides in the waste rock and mine walls has already oxidized (Morin and Hutt, 2001). Because of the sulfide content in the mine walls if the pit fills with water there is a good chance that will develop acid sulfide conditions with high levels of dissolved metals (Northern Dynasty Mines, 2005 and Castro, J and J. Moore, 2000). Unless the tailings dams holding billions of tons of mine waste and complex systems of drains, collection systems, and pumps which collect and return leakage back into the impoundments are successfully maintained in perpetuity, the waste will eventually leak into the ground water and adjacent streams. The mine could develop an acid mine drainage problem over its 40 to 70 year life or, more likely, after it is closed or abandoned and turned back to the State of Alaska.

When the copper and iron sulfides (pyrite) in chalcopyrite and bornite ores or mine waste are exposed to oxygen rich water, the sulfide oxidizes to sulfate, the iron oxidizes to iron oxide or hydroxide, and sulfuric acid is released (Environmental Protection Agency, 1994b). Copper, nickel, zinc and other metals present dissolve in the acid water. Colonies of bacteria and other organisms also contribute to the generation of acid equivalents. These microbes occur naturally in the rock, but the limited amount of oxygen and water present keeps their numbers low. Before mining, the acid generation process is slow and the amount of metals entering ground water is low because of the limited surface of the ore body exposed to oxygen and water. However, after mining breaks up the ore body and powders the ore, the amount of surface exposed to oxygen and the speed of the process increases exponentially (U.S. Office of Surface Mining Reclamation and Enforcement, 2007).

Although, several chemical processes contribute to the formation of acid mine drainage, pyrite oxidation is the primary contributor. The following four equations are accepted to explain the pyrite oxidation process (Acid Mine Drainage Technology Initiative, 2007).

Equation 1 $FeS2 + 7/2\ O2 + H2O = Fe2+ + 2\ SO_4^{2-} + 2\ H+$
Equation 2 $Fe2+ + 1/4\ O2 + H+ = Fe3+ + ½\ H2O$

Equation 3 $Fe^{3+} + 3\ H_2O = Fe(OH)_3 + 3\ H^+$
Equation 4 $FeS_2 + 14\ Fe^{3+} + 8\ H_2O = 15\ Fe^{2+} + 2\ SO_4^{2-} + 16\ H^+$

The sulfide ore, when exposed to water and oxygen, reacts to form iron ions and sulfuric acid (H_2SO_4). This reaction is catalyzed by the bacteria *Thiobacillus ferrooxidans* (Ohmura et al. 1993). Each molecule of sulfuric acid can then dissociate to produce two acid equivalents (U.S. Office of Surface Mining, Reclamation, and Enforcement, 2007). In some mines the heat from this reaction has produced temperatures of 120 degrees and the pH has gone as low as -3.6. The chemistry of the oxidation of pyretic ores subsequently reactions of iron ions, is very complex and this complexity has inhibited the development of effective treatments for acid mine drainage.

The sulfide based chalcopyrite and bornite ores which comprise the Pebble Claims will generate acid when exposed to air and water (Acid Drainage Technology Initiative, 2007 and Environmental Protection Agency, 1994b). On page 8-11 of the Northern Dynasty Mines 2004 **Progress Report on Geochemical Characterization and ARD/ML** the report states that, "Evidence that oxidation (of core samples from the ore body) has occurred in storage is illustrated by the general increase in sulfate sulfur relative to sulfur as the age of the core increased (Figure 6). The oxidized core (95^{th} percentile) indicates that as much as 50 percent of sulfur in the core has oxidized, though typically no more than 3 percent has oxidized, indicating that oxidation can be expected to continue for many decades if the core is exposed to weathering." The regression line for the 50^{th} percentile implies that if core had been produced in 1983 it would be acidic." (Northern Dynasty Mines, 2005). The report summary concludes, "Testing of rock core with variable ages (1 to 15 years) stored at the site showed progressive oxidation by the conversion of sulfide to sulfate and decreasing neutralization potentials. Based on these results the overall time frame for acidification of waste rock at Pebble Project appears to be from 0 to 40 years," (Northern Dynasty Mines, 2005).

The Northern Dynasty's 2004 progress report also indicates that the mine will produce two kinds of waste rock: un-mineralized overburden which will be a minority of the waste rock, and non economic mineralized rock from in and around the ore body, the majority of the waste rock. Ore processing will produce non reactive scavenger tails and bulk cleaner tails, and acid generating pyrite tailings. Copper ore that is not economic to mine (less than 0.3% copper equivalent) will be left exposed in mine tunnels and pit walls. Drill cores from the pit area indicate that the pit walls will contain reactive rock and will generate acid if exposed to air and water (Northern Dynasty Mines, 2005).

The key questions are: (1) whether there are alkaline producing minerals in the ore which might neutralize the acid generated by the sulfide ore (U.S. Office of Surface Mining Reclamation and Enforcement, and 2007), and, (2) whether the state and federal permitting agencies will correctly classify the Pebble ore before approving the project so that acid generating rock, rock exposed on the pit walls and mine tunnels and mine waste are properly treated or stored.

David Chambers of the Center for Science in Public Participation reviewed NDM's "Draft Environmental Baseline Studies, 2004 Progress Reports, Chapter 8, Geochemical Characterization & Metals Leaching/Acid Rock Drainage (Northern Dynasty Mines, 2005). He found that the majority of the 399 samples from 65 cores from the ore body, which were

analyzed for sulfur content (acid generating potential) and acid neutralizing potential (related to calcium carbonate content), were clearly in the acid generating category with a ratio of less than 1 Neutralizing Potential/1 Acid Generating Potential. This means that there does not appear to be sufficient alkaline minerals in the ore to neutralize acid that may be produced.

He also drew the following conclusions from the data in the report: (1) The sulfur in the sample is sulfide which generates acid; (2) "Sulfur concentrations in the pre-Tertiary rock (i.e., most of the ore and non-overburden waste) are typically between 1-5 % and up to 9%" (sulfur concentrations in the 1-5% range are in the range for concern for acid mine drainage); (3) "Evidence that oxidation (of core samples) has occurred in storage is illustrated by the general increase in sulfate sulfur relative to sulfur as the age of the core increases" which means that acid generation has already occurred in the older samples taken from the site; and (4) Preliminary calculations indicate that it would take 40 years for nearly all of the pre-Tertiary rock to become acidic under site conditions (Chambers, 2006). This means that the most severe problems will likely occur near or at the end of the mine life, or after closure or abandonment. (Younger, 2002).

Examples of recently permitted large mines with acid mine drainage (AMD) problems include:

Summitville Mine, Colorado: The Summitville gold mine is located in the San Juan Mountains of southwestern Colorado Environmental problems developed soon after the initiation of open-pit mining by Galactic, a subsidiary of Canadian Mining Company SCMCI. Acidic, metal rich drainage into the Wightman Fork of the Alamosa River increased significantly from numerous sources on site.

Cyanide-bearing processing solutions began leaking into an under drain system beneath the heap leach pad, where they then mixed with acid ground waters from the waste dump. Cyanide solutions also leaked from transfer pipes directly into the Wightman Fork several times over the course of mining.

Open-pit mining exposed large volumes of previously unoxidized sulfides including pyrite, enargite, and chalcopyrite to weathering. The reaction of these previously unoxidized sulfides with oxygenated ground water resulted in acid-mine drainage with high concentrations of metals. (Bigelow and Plumblee, 1995). Even though the Canadian company operating the mines was fined, at least a dozen different cyanide spills totaling more than 86,000 gallons entered Cropsy Creek, one of the waterways at the top of the drainage that leads to the Alamosa River and eventually to the Rio Grande.

In 1990, state regulators discovered that trout in three farm ponds that took in water from the Alamosa were killed and that 15,000 young trout stocked by the state in the Terrace Reservoir downstream from Summitville had died (Bigelow and Plumblee, 1995). Even though threats of further action against the mine's operators by state regulators continued and the EPA began to propose involvement in halting pollution at the mine, some 294,365 ounces of gold and 319,814 ounces of silver worth more than $113 million at current spot-market metals prices were mined before events reached a crisis point late in December, 1992.

Early in December 1992 -- just days after informing state regulators that the mine would require at least $20 million to clean up, Galactic announced it was filing for bankruptcy. At that time the estimated clean up cost exceeded the bonds Galactic had posted with state mining regulators by more than $15 million. The bankruptcy created several immediate concerns. Earlier in 1992, the company had brought a water treatment plant on line to begin treating the estimated 150 to 200 million gallons of spent cyanide processing solutions remaining in the heap; however, treatment was proceeding so slowly relative to influx of snowmelt waters that the waters were in danger of overtopping a containment dike and flowing directly into the Wightman Fork. In addition, piping carrying the processing solutions to the treatment plant would have frozen within several hours, releasing cyanide solutions and stopping water treatment.

At the request of the State of Colorado, the U.S. Environmental Protection Agency (EPA) immediately took over the site under EPA Superfund Emergency Response authority and increased treatment of the heap leach solutions, thereby averting a catastrophic release of cyanide solution from the heap. Summitville was added to the EPA National Priorities List in late May, 1994. Ongoing remediation efforts include decommissioning of the heap leach pad, plugging of the Reynolds and Chandler adits (tunnels), backfilling of the open pit with acid-generating mine waste material and capping of the backfilled pit to prevent water inflow. The total cost of the cleanup to the U.S. Government and EPA has been estimated to be in excess of $200 million dollars.

In spite of costly remediation efforts, some level of acid discharge will likely continue from the site. Significant volumes of unweathered sulfides and soluble salts are dispersed throughout the site on roadways, in soils, and in other surficial materials. These solids are a long-term source of metals and acid that will be difficult to remediate.

In May, 1994, four months after the Reynolds adit was plugged, a plug on the Chandler adit (located 150 feet above and 2400 feet north of the Reynolds adit) failed and began leaking acidic, metal-rich waters into the Wightman Fork. Although the Chandler is currently being re-plugged, the leak underscores the fact that it is difficult to prevent leakage of ground water from a highly fractured and mined mountain. The plugging of the Reynolds adit also resulted in the predictable reactivation of acid seeps and springs that had drained the site prior to underground mining (Bigelow and Plumblee, 1995). Long-term leakage of acid ground water from these natural discharge points is unavoidable.

Formosa Mine, Oregon: The 76-acre Formosa Mine is located on Silver Butte between the headwaters of the two streams, about 25 miles south of Roseburg, Oregon (The Oregonian, 2007). Pollution from the Formosa Copper Mine has killed all aquatic life in 18 miles of the two streams while changing their color to shiny bronze and silver. A Canadian mining company owned by Japanese business interests went bankrupt in 1995, leaving U.S. taxpayers with the cleanup bill, and one of the worst cases of mine pollution in Oregon history. Cleanup costs could run from $10 million to $30 million or more. At least 5 million gallons of "acid rock drainage", heavy with toxic metals, flow annually into the creeks, through both ground and surface waters (Environmental Protection Agency, 2007n).

Middle Creek and its South Fork have historically been high value habitat for steelhead, coho salmon and trout. Pollution from the mine is so severe that even insect life is gone in the upper reaches of the creeks, along with any chance of rearing fish. "It's dead. It's just a dead stream," said Ken Marcy of the U.S. Environmental Protection Agency. "If you look at the upper reaches of Middle Creek and the South Fork, there is absolutely nothing living in it." In September 2007, twelve years after the mine began polluting, EPA officials put the abandoned Formosa Copper Mine on the National Superfund List. A Superfund listing makes federal dollars available to pay for the cleanup. During the next several years the EPA will complete a remedial investigation and feasibility study that will lead to a proposed plan for clean-up of the site (Environmental Protection Agency, 2007n).

Zortman-Landusky Mine, Montana: The Zortman-Landusky Gold Mine is located in north Central Montana south of the Fort Belknap Reservation and began operating in 1977. The mine has caused extensive surface and ground water contamination (Bureau of Land Management, 2007). According to Westerners for Responsible Mining (2007) the mine has experienced over a dozen cyanide spills, including one spill that released 50,000 gallons of cyanide solution and contaminated a community drinking water supply.

Even though the environmental analysis for the mine predicted that there would not be an acid mine drainage problem, the mine developed a serious acid mine drainage problem as it began to mine environmentally risky sulfide ores in 1992 (Bureau of Land Management, 2007). In 1993 the State of Montana, the Fort Belknap Tribes and the Environmental Protection Agency filed suits against the company for impacts to water resources due to long-term water quality violations, including cyanide, acid and metal discharges to surface and groundwater. In 1997, in response to the lawsuits, the company agreed to construct an additional water treatment plant, to study environmental damage to the ground water, and to increase water quality monitoring. In 1998, the company filed for bankruptcy, leaving the state of Montana with the liability for $33 million in long-term water treatment and reclamation costs.

The State of Montana has determined that water pollution generated by the mine is so severe that expensive water treatment systems will have to be operated forever. Reclamation and water treatment at the abandoned mine cost approximately $768,000 annually (Bureau of Land Management, 2007)

In 2002 the State of Montana filed suite against BLM alleging that the reclamation plan violates state law and in 2003 the Fort Belknap tribes filed suit under the Clean Water Act again because the defunct mine site has continued to discharge toxic pollutants into ground and surface water resources (Bureau of Land Management and Westerners for Responsible Mining, 2007).

Gilt Edge Mine, South Dakota: The Gilt Edge mine is located about five miles east of Lead, in the northern Black Hills. It is a 260-acre, open-pit, cyanide heap leach gold mine operated by Brohm Mining Corporation. Early testing by Brohm Mining Corporation's (BMC) predecessor indicated that acid generating material would not be a problem. Therefore, under a state mining permit, BMC, in 1988, began developing two open pits, a large cyanide heap leach pad, and a 12 million cubic yard valley-fill waste rock dump, as well as other operations. Shortly after mining began, cyanide began leaking into the groundwater and nearby Strawberry and Bear Butte

Creeks (Westerners for Responsible Mining, 2007). As the pit was mined, sulfidic ore was exposed. Mining continued until the permitted reserve was mined out in 1992. Acid mine drainage was confirmed emanating from BMC's waste dump in 1993. At that time, the state issued BMC a notice of violation and order and required BMC to prepare a mine permit amendment to address the acid mine drainage issue and to increase the reclamation bond. BMC's parent corporation was experiencing financial difficulties at that time, which ultimately resulted in a financial reorganization in Canada in 1993 (Environmental Protection Agency, 2007h).

Due to appeals of a U.S. Forest Service approval to allow additional mining on the National Forest and lack of financing, the company notified the state that it would abandon the property in 1998. Governor William J. Janklow took BMC to the 8th Circuit Court and was successful in getting both a Temporary Restraining Order and Preliminary Injunction issued that prevented BMC from abandoning the mine. Meanwhile, environmental groups sued BMC for alleged violations of the Clean Water Act. In 1999, a creditor that had been providing limited funding to maintain operations at BMC in hopes of getting U.S. Forest Service approval for additional mining, refused to provide additional funding, and BMC's parent company filed for bankruptcy in Canada in July 1999. After the operator became insolvent, the mine was left with 150 million gallons of acidic, heavy metal-laden water in three open pits that needs to be treated, and millions of yards of acid generating waste rock that needs to be cleaned up (Environmental Protection Agency, 2007h).

South Dakota (SD) Governor, Janklow averted a discharge of acid water from the bankrupt mine by authorizing the South Dakota Department of Environment and Natural Resources (DENR) to pay for water treatment. In February 2000, Governor Janklow requested that EPA Region VIII propose the site for the Superfund National Priorities List (NPL) and provide immediate emergency response and long-term remedial cleanup. The Gilt Edge site was listed on the Superfund National Priorities List on December 1, 2000 (Environmental Protection Agency, 2007h).

Molycorp Mine, Questa, New Mexico: An EPA remedial investigation is being conducted under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) at the Molycorp Mine (Environmental Protection Agency, 2007o). The Molycorp Mine site is located 4 miles east and the tailings ponds are 1 mile east of Questa, New Mexico. The active mine and tailings ponds are adjacent to the Red River a tributary of the Rio Grande. There is a state fish hatchery two miles downstream and the Red River's lower reaches are designated as a Wild and Scenic River. Over the years there have been numerous pipeline breaks spilling into and along the flood plain of the Red River, threatening the fishery and nearby endangered species habitat. Other threats to ground and surface water include seepage from the tailings ponds and acid metal-laden water from the weathering of the waste rock piles at the mine site. Contaminants include arsenic, lead, cadmium, zinc, aluminum, cobalt, and molybdenum (Environmental Protection Agency, 2007o).

Red Dog Mine, Alaska: The Red Dog Mine is a massive lead zinc sulfide deposit in Northwestern Alaska at the headwaters of the Wulik River. The mine is located on NANA Regional Corporation Lands and is operated by Teck Cominco. Teck Cominco has been cited by the EPA for over 618 water quality violations since the mine began operating in 1989

(Anchorage Daily News, 2006b). In 2005 Red Dog produced nearly 500 million pounds of toxic materials - mostly waste rock containing heavy metals, such as lead, zinc, cadmium, selenium, and mercury (Environmental Protection Agency, 2007j, Anchorage Daily News, 2005b). Most of this waste was stored in permitted non-RCRA surface impoundments or disposed of on land. However, approximately 320,000 pounds of methanol, lead and zinc were discharged into the air as fugitive emissions (Anchorage Daily News, 2005b and Environmental Protection Agency, 2007j).

Most of the billions of pounds of acid generating waste produced over the mines 20 to 30 year life will be stored behind a tailings dam. The dam will have to be maintained in perpetuity to prevent chronic or catastrophic spills into surface and ground waters (Tom Crafford, DNR 2007, and Chambers, 2005). Acidic and metals contaminated water leaking from the tailings impoundment and waste rock piles will have to be captured, pumped back into treatment facilities and treated forever (Teck Cominco, 2002). The current State reclamation and long term maintenance bond for the Red Dog Mine is $11, 010,250. However, the cost of reclamation and treatment at the Red Dog Mine is estimated to be over $100,000,000 (Chambers, 2005). The Alaska Department of natural Resources is currently evaluating the size of the bond required for perpetual maintenance of the mine (Crafford, 2007). Additional discussion on pollution at the Red Dog Mine is presented in Section 5.5.

Discussion of Sulfide Mines, In General: In researching the available information on acid mine drainage in the United States, it was difficult to find examples of active or closed or abandoned sulfide ore mines which are not polluting U.S. waters to some degree. This is consistent with the findings of the Kuipers Report. It is possible that some exist. However, the fact that no mine in an area with substantial precipitation has been able to meet the criteria in Wisconsin's 1998 Sulfide Mining Moratorium Act gives credence to the finding that almost sulfide mines pollute to some degree (Kuipers et al, 2006). The Wisconsin Sulfide Bill prohibits the state issuance of permits for new metallic sulfide mines unless one such mine in North America is certified by the Wisconsin Department of Natural Resources to have operated for 10 years and been closed for 10 years without causing pollution. The criteria in the bill were directed in part at stopping the Crandon zinc-copper mine near the Mole Lake Chippewa Reservation, proposed by Toronto's Rio Algom Corporation. The bill also reflected Wisconsinites lack of confidence in state and federal regulators to prevent pollution from this mine. The Sulfide Mining Bill does not stop the mine directly, but adds the new criteria at the end of the permit process. To date no one has apparently come forward with an example, and the mine has not been approved.

At least two states Michigan and New Mexico have adopted laws designed to prevent the storage of untreated toxic mine waste in facilities which will require perpetual care (see: Section 5.6 and Appendix 6).
Researchers who studied recently permitted, large mines in the United States found that that sulfide mines are likely to develop pollution problems (Kuipers, et al. 2006). The study found that mines, such as those involving metallic sulfide deposits (like Pebble) and those that are near ground water (like Pebble), have such a high risk that water quality exceedances are near certain for acid drainage or contaminant leaching. The analysis found that 85% of these sulfide based mines polluted surface water, 93% of these mines polluted ground water, and of the mines that

developed acid mine drainage, 89% of the environmental documents for these mines predicted that they would not (Kuipers, et al. 2006).

The consistently high incidence of serious surface and ground water pollution problems at large metals mines in the United States is of concern considering there have been state and federal laws and regulation in place since the early 1970's to prevent pollution. These agencies employ mining experts with many years of experience with these types of mines, but still approve mining plans which have failed to predict or prevent serious pollution problems.

3.3 Tailings Dam Failures: The failure of one of the tailings dams proposed for the Pebble Mine could release billions of tons of mine waste into the Nushagak River or Kvichak River drainages. Although, state and federal permits for all large mines in the United States since the enactment of NEPA, CERCLA, and RECRA contain provisions designed to prevent the discharge of toxic effluent from tailings storage facilities, and should contain construction standards to prevent the catastrophic failure of mine dams, a significant number of tailings dam failures have occurred in the United States.

According to the World Information Service on Energy (WISE), there have been 85 major mine tailings dam failures worldwide, reported since 1960. Of these, 17 failed because of rain or flooding, 47 failed because of structural problems and 11 collapsed in earthquakes. Twenty four of the 85 tailings dams which failed were copper or gold mines. Failures occurred in all types of tailings dams, upstream, downstream, and center, which is the type proposed for the Pebble project (USCOLD, 1994 and Northern Dynasty, 2006). The largest number of failures occurred in tailings dams constructed using the upstream technique (Bruce et al. 1997). However, the difference in reported failures could be because there are many more upstream dams constructed (Bruce et al. 1997).

The International Commission On Large Dams (ICOLD compiled information on reported tailings dams' failures, breaches, and mudflows world wide (ICOLD, 2001 and 2003, and Cambridge, 2005). ICOLD reported that there have been 72 tailings dam accidents in the U.S. and 11 in Canada since 1960 (ICOLD, 2001). Most of the reported dam failures in the United States (47) and in Canada (8) were from copper, gold, and uranium mines.

A few examples of recent tailings dam failures in the United States and elsewhere and the consequences include the following.

Martin County Coal Corporation, Ohio: On Oct 11, 2000, a coal tailings dam at Martin County Coal Corporation's preparation plant near Inez, Kentucky, USA failed, releasing slurry consisting of an estimated 250 million gallons of water and 155,000 cubic yards of coal waste into local streams (American Geological Institute, 2003). About 75 miles (120 km) of rivers and streams turned an iridescent black, causing a fish kill along the Tug Fork of the Big Sandy River and some of its tributaries. At least 395,000 fish were killed in the spill and Martin Coal has spent more than $46,000,000 on cleanup (American Geological Institute, 2003). Towns along the Tug River were forced to turn off their drinking water intakes. The spill contained measurable amounts of metals, including arsenic, mercury, lead, copper and chromium, but not enough to pose health problems in treated water. The full extent of the environmental damage isn't yet

known, and estimates of the cleanup costs go as high as $60 million (World Information Service on Energy, 2006).

Brewer Gold Mine, South Carolina: In 1990 a tailings dam at the Brewer Gold Mine failed after heavy rains and spilled 10,000,000 gallons of sodium cyanide solution into Little Fork Creek (Environmental Protection Agency, 2005d). Fish were killed in the Lynches River for at least 49 miles downstream (EPA, 1991). The British mining company which operated the mine abandoned the site in 1999 and EPA declared it a superfund site in 2004 because of heavy metals pollution and acid mine drainage.

Baia Mare Gold Mine, Romania: In 2002 a tailings dam at the Baia Mare Gold Mine in Romania, operated jointly by Australian and Romanian mining companies, failed, releasing 130,000 cubic yards of mine waste contaminated with about 120 tons of cyanide and heavy metals into the Tisza River. The spill disrupted drinking water supplies for 2.5 million people and caused a massive fish kill in the Tiza River.

Grouse Creek Mine, Idaho: The Grouse Creek Mine operated by Hecla Mining Company began mining in 1994 and used cyanide vat leaching to extract gold. The Grouse Creek Mine was originally permitted as a zero discharge facility. When it opened, the mine was hailed as environmentally friendly by company officials and the EPA and Idaho DEQ regulators who permitted the mine. In 1994, a major landslide at the mine buried nearby Jordan Creek and numerous cyanide spills and leaks also occurred. The leaks occurred because plastic and clay liners under the tailings impoundment failed (Westerners for Responsible Mining, 2007). In 1996, Hecla was fined $85,000 by the EPA for violating its discharge permits. Cyanide and mercury exceeded allowable discharge levels by more than five times over a period of 13 months. By the time the mine ceased operations in 1997, it had over 250 water quality violations. Two years after the mine quit operations, cyanide was still flowing into Jordan Creek at over 12 times the levels at which chronic exposure to the chemical negatively affects fish and other aquatic organisms. Jordan Creek is important habitat for endangered Chinook salmon, steelhead and bull trout. The cost of cleaning up pollution at the mine is estimated to be $60 million dollars, $53 million dollars more that the $7 million dollar bond Hecla was required to post (Earthworks, 2007).

Bald Mountain Mine, Nevada: The Bald Mountain mine released 8,000 gallons of cyanide solution used in heap leaching of gold in 1993 and 1994 (U.S. EPA, 1995t).

Buffalo Creek Valley, West Virginia. On February 26, 1972 the failure of a coal waste impoundment at the head of Buffalo Creek killed 125 people, destroyed 500 homes, and caused over 400 million dollars in damages (Association of State Dam Officials, 2007).

3.3.1 Discussion: The size and location of tailings storage facilities (TSF) proposed for the Pebble Project mine and the fact that these facilities would have to remain intact for thousands of years after the mine is closed presents a substantial threat to surface waters and downstream fish populations.

According to the United States Geological Survey there were approximately 1,897 coal mines, 8 uranium mine, and 1965 mines and processing plants for 74 types of nonfuel minerals and materials operating in the United States in 1997(United States Geological Survey, 2003). There were approximately 106 active metals mines during the same period (United States Geological Survey, 2003). The Metals Mining Services reported that the number of metals mines decreased from 179 to 125 between 1997 and 2002(Metal Mining Services, 2007). No figures on the number of mines or mine tailings dams in the 1960's were found. Assuming that there were somewhere between 200 and 400 metals mines with one or more tailings dams in operation from 1960 to 1995 (the latest date figures are available from ICOLD). The failure rate from tailings dams at U.S. metals mines during that period may have been between 12 and 24 percent. However, The Environmental Protection Agency estimated that there were approximately 1000 active metals mines with one or more tailings impoundments in the United States in 1994 which if accurate would make the failure rate around 5% (Environmental Protection Agency, 1994t). This is consistent with a study by Davies and Martin who found that "the failure rate of upstream tailings dams, which is the most common type of tailings dam is quite high, and it appears that every twentieth dam fails" (Lottermoser, 2003). It also appears that the rate of tailings dam failures has increased in recent years since a pervious peak that occurred in the 1930's (Davies, 2002). Most of the tailings dam which failed was small, 300 feet or less in height, when compared to the proposed Pebble Project dams (Lottermoser, 2003).

With the exception of most power dams which are regulated by the Federal Energy Regulatory Commission, and dams owned by the federal government, the safety of dams is regulated by the states, and precise information on the number of tailings dams and the rate of tailings dam failures is not available (Bruce, 1997). The Association of State Dam Officials estimates there are approximately 78,000 dams of all types in the United States (Association of State Dam Officials, 2007). Around 3,361 dams have known structural or hydraulic deficiencies, leaving them susceptible to failure (Association of State Dam Officials, 2007).

The Pebble Project would be the largest copper mine in the United States and the second largest in the world. The two TSFs described in the Description of the Pebble Mine and Associated Facilities (Northern Dynasty Mines, 2005), are only designed to store 2.5 billion cubic yards of saturated reactive and nonreactive mine waste rock, and mill waste in perpetuity. However, the most recent reserve estimates from Northern Dynasty Mines indicates that the mine would generate over 8 billion tons of waste which would have to be disposed of (Northern Dynasty Mines, 2007). This means that if all of the reserves were mined, the two tailings storage facilities would have to be several times larger than currently proposed, or additional facilities of a similar size would have to be constructed in other drainages.

The Pebble Project TSFs would be enclosed by some of the largest earth fill dams ever constructed. The United States Large Dam Safety Program, which provides guidelines and technical assistance to state dam regulators, classifies a large dam as over 100 feet in height or a storage capacity greater than 50,000 acre feet (FEMA, 2007). The proposed Pebble Project TSF's would encompass over 10 square miles and be enclosed by over nine miles of dams with a height of up to 740 feet (Northern Dynasty Mines, 2006). The TSFs would be the final resting place of the waste rock and mill tailings which at this point have a negative economic value. The sole purpose of these TSFs would be to: (1) keep the billions of tons of mine waste saturated

with water so they don't generate acid, and (2) keep the toxic waste from leaking or flowing out into the ground water and adjacent drainages.

These massive tailings facilities would be constructed on top of the present headwaters of the North and South Forks of the Koktuli River. However, because of the height of the 750 foot high dams and the topography, a dam breach at the south end of TSF A could flow into either the South Fork of the Koktuli River and the Nushagak River, or Upper Talarik Creek, and down to Lake Iliamna. If the dams were breached, it might not be economically or physically feasible to clean up the billions of tons of waste that have been washed downstream or to restore these streams.

As previously described, the most common causes of tailings dam failures are earthquakes and floods, which overflow the tailings storage facilities and cut down through the earthen dams, and cause structural failures. Northern Dynasty has said that they will construct the earth fill tailings dams to the Alaska Dam Safety Programs High Potential standards. High potential is the standard that dams are constructed to if there is a likelihood of the loss of human life if the dam fails. Any current design of tailings storage facilities has to be based on the fact that they will have to survive forever. The relatively few years of data available on the magnitude of earthquakes, volcanic eruptions, floods, and storm events in Southwestern Alaska may not adequately predict events that could happen over the time scale the facilities will have to endure.

The Pebble tailings dams would be constructed on top of glacial till and fractured bedrock in a seismically active area. The design of the dams, constructed of waste rock and overburden, is based on current understanding of the location of local faults and force of future earthquakes. However, if one earthquake in the next 10,000 years is stronger than the maximum predicted, or if a previously undetected fault extends into the mine area the dams may fail and release the stored waste into the Nushagak and Kvichak drainages. An earthquake would not have to destroy the dams to release the toxic materials stored in the TSF into the ground water and into adjacent salmon spawning streams. If an earthquake just opened cracks in the bedrock below the dam, it could allow the hundreds of billions of cubic feet of contaminated water stored in the facility to leak out into ground and surface waters.

The Pebble Mine is located in an area with heavy precipitation, frequent storms and extreme temperatures. Flooding and overtopping of earth fill dams is one of the most frequent causes of dam failures. Dam design will be based on current climatic conditions and flood data available at the time of permitting. However, there are only a few years of weather and stream flow data available for the mine site and region.

Currently available data may not be an accurate predictor of the 5,000, 10,000, or 100,000 year floods at the mine site. It also does not take into account climatic change which could result in heavier and more frequent rainfall. For example, United States Geological Survey predictions of 100 year or greater flood flows for the Kenai Peninsula which experienced at least three floods which exceeded USGS 100 year flood predictions in a 20 year period may have to be revised because of rapidly melting glaciers and more severe rainstorms (Eash and Rickman, 2004). In another example, waste from the tailings impoundment at the Red Dog Mine had to be dumped

into Red Dog Creek when unanticipated levels of snowmelt and rainfall threatened to over top the dam the year after the mine opened (ADN 1990).

Even if in the short term, the risk that the tailings dams will leak or fail in any year can be reduced to a very small percentage, over the infinite period that these dams will be expected to hold their toxic contents in place, the probability that a release will occur eventually becomes 100 percent.

Complex, manmade structures deteriorate as they get older. Over enough time, the complex system of liners, pipes, drains and pumps necessary to control leakage under the mine waste and maintain the stability of the 750 foot high dams, will deteriorate and fail in the corrosive environment and crushing weight of billions of tons of tailings. Any pollution control structures placed in or under the tailings impoundments or 750 foot high earthen fill dams would either be extremely expensive to fix or would not be accessible and could not be repaired or replaced.

Northern Dynasty has stated that they would be required to establish a fund to maintain the dams in perpetuity (Crafford, 2007). However, there is no guarantee that the amount will be adequate or available to deal with the problems that will become evident over the millennia that the dams will need to remain intact. There are many recent examples where the restoration bonds accepted by state and federal agencies have proven to be inadequate to construct or maintain pollution control facilities at a mine sites after closure, or where the mining corporation has dissolved and the state and federal governments have had to pay the cleanup and restoration costs (see Summitville Mine, Gilt Edge Mine, and Illinois Creek Mine in Alaska) (Chambers 2006). There is also no way to predict how social and economic conditions may change over the thousands of years that the TSFs and associated pollution control systems will need to remain intact and function properly (Bjelkevik,2005).

3.4 Slurry Pipeline Breaks: Northern Dynasty has proposed to use a104 mile long slurry pipeline to transport more than 67 billion pounds of copper concentrate from the mine to the port site on Iniskin Bay (Northern Dynasty, 2006). A return pipeline would transport slurry water back to the mine site for reuse. No discharge is currently proposed at the port site. These pipelines would cross over 120 drainages, of which more than half support important populations of spawning and rearing salmon and high value resident fish (Northern Dynasty Mines, 2005, ADF&G, 2003, Wiedmer, 2007). Although, slurry pipelines are an economical way to transport large quantities of mineral over long distances, there is also a substantial risk that the pipeline carrying abrasive and corrosive material will leak or break one or more times over its 40 to 70 year life.

Most slurry pipeline breaks occur as the result of abrasion and corrosion, but earthquakes have caused at least one major spill (Mining Watch, 2004). In Alaska there would also be a substantial risk that the concentrate might freeze and break the pipe if the flow stopped because of a pump failure or other problem in the winter (Coulter, 1976, McKetta, 1992 and Julien, et al. 2002).

Streams are always at the lowest point in a valley. Because of the mountainous terrain between the Pebble Mine site and the Iniskin Bay port site, a large quantity of copper concentrate could flow down the pipeline and into a river or stream in the event of a break at or near the crossing.

Because of the toxicity of copper to fish and aquatic life, a slurry spill that enters one of the salmon streams transecting the proposed pipeline route, such as the Newhalen River, could do substantial short and long term damage (see section on copper toxicity. A concentrate spill in a large stream would be difficult to clean up because the material would sink to the bottom and become incorporated into the substrate (Mining Watch, 2004).

Slurry pipeline breaks are fairly common, and here are five examples of recent slurry pipeline spills in the United States and one in Argentina:

Black Mesa Pipeline, Arizona: Corrosion in the 273 mile long Black Mesa coal slurry pipeline caused ruptures and seven spills between 1997 and July 1999 (The Arizona Republic, 2002). Eight additional spills occurred in 2001-2002. The most recent incident occurred on January 19, 2002, when 500 tons of coal slurry spilled into Willow Creek, a tributary of the Big Sandy River in northwestern Arizona. Coal sludge in Willow Creek was 8 inches deep. The company did not report the spill as required by the Comprehensive Environmental Response and Liability Act (CERCLA). The Arizona Department of Environmental Quality and the EPA say the pipeline maintained by Black Mesa Pipeline, Inc. has leaked more than half a million gallons of coal slurry in 15 separate spills. The pipeline company was fined $128,000 in 2001 for illegally discharging 485,000 gallons of coal slurry in seven spills between December 1997 and July 1999 (Federal Register, 2001).

Alumbrera Mine, Argentina: An earthquake on September 17, 2004, measuring 6.5 on the Richter scale caused a pipeline to break at the Alumbrera mine in Argentina, sending copper and gold concentrate into the Villa Vil River. An unknown amount of mineral concentrate filled approximately two kilometers of the Villa Vil River, which provides water for domestic consumption and irrigation to the municipality of Andalgalá in Catamarca Province. While the flood of concentrate which reached 12 meters in height left a layer of solids on top of the riverbed and river banks, the water component of the slurry penetrated up to two meters deep, carrying with it the toxic metals (Mining Watch, 2004). As a precaution, water supplies for irrigation and domestic use were cut in the whole area.

Mountain Pass Mine, California: In 1977, a major pipeline break at the Mountain Pass Mine spilled more than 2 million gallons of radioactive water onto public land on the Ivanpah Playa (Great Basin Mine Watch, 2007). The Mountain Pass Mine is located along the I-15 corridor, between Las Vegas, NV, and Baker, CA, and borders on the Mojave National Preserve. It is a rare earth mine that produces a group of minerals called lanthanides. The mine has been listed by the EPA as California's largest polluter.

Chino Mine, New Mexico: Phelps Dodge Corp. paid a $42,150 civil penalty to the New Mexico Environment Department (NMED) over contamination resulting from pipeline spills at the company's Chino Mine in New Mexico (American Metal Market, 2003). The Phoenix-based copper producer also agreed to replace the pipeline and improve pipeline operating procedures. The settlement covered three spills of tailing slurry and process water from Chino pipelines: a 480,000 gallon spill on December 8, 2000, an 18,000 gallon spill on December 21, 2000 and a 20,000 gallon spill on January 19, 2001. According to the New Mexico Environment Department, 45 spills occurred at the Chino Mine between 1990 and 2001.

Century Mine, Ohio: In 2005, more than 30,000 gallons of coal sludge spilled from a pipeline that did not have a required permit, killing most of the fish in Capatina Creek. The spill resulted from a fist-sized hole in the three-mile-long pipeline that runs from American Energy Corp.'s Century Mine to a disposal area for slurry, a mix of water and impurities generated in coal processing (The Akron Beacon Journal, 2005).

3.4.1 Discussion: The only reported slurry pipeline break in Alaska was a 200,000 gallon concentrate spill at the Red Dog Mine in 1998 (ADN 1989). However; there have been a number of oil pipeline breaks from accidents, corrosion and sabotage. It is very difficult to protect a long unguarded pipeline from malicious acts, and impossible to prevent accidents and natural forces, such as earthquakes and floods. It is also not possible to judge the day to day diligence and effectiveness of state agencies in monitoring and regulating pipeline maintenance in Alaska, except where a notable event such as an oil spill and pipeline shut down occurs. The recent break of one of the main pipelines in Prudhoe Bay in 2006 due to corrosion and poor maintenance resulted from British Petroleum's failure to properly maintain the pipeline. However, oversight of oil pipeline safety was an Alaska Department of Environmental Conservation responsibility. This incident raises questions about the ability of state agencies to guarantee that measures to prevent slurry pipeline breaks can be effectively enforced.

3.5 Dust and other Emissions from Large Scale Mining is a Serious Environmental Problem: In the process of large-scale mining, dust and other emissions are an inevitable problem. These dust particles originate from: ore crushing, conveyance of crushed ore, loading bins, blasting, motor vehicle traffic, use of haul roads, waste rock piles, windblown tailings, processing ore and disturbed areas (Kennedy, B., 1990). Dust from the Pebble Project Mine would contain copper and iron sulfides, and likely other toxic heavy metals such as mercury, cadmium, and zinc which are present in fairly high levels in water samples from the mine area (Northern Dynasty, 2004). Sulfide dust from the Pebble Project Mine could also form sulfuric acid and dissolve the copper and other metals present when it comes in contact with water. Windblown dust can travel for miles and contaminate nearby lakes and streams with harmful levels of heavy metals. The Pebble Project Mine site, haul road, and proposed Iniskin Bay port site are areas with frequent storms and high winds (Northern Dynasty Mines, 2005, and Leslie, 1989). All of these facilities are located near salmon and high value resident fish streams, and in the case of Iniskin Bay, a productive and pristine marine environment. Dust containing heavy metals, can cause also human health problems.

Three examples of mining related dust problems that were not prevented by permit conditions or agency monitoring are:

The Red Dog Mine, Alaska: The Red Dog Mine in N.W. Alaska is an example of how dust from mining activities without effective monitoring and regulation can become a serious environmental problem. Beginning in 1989, trucks hauling concentrate for the mine to the port spread lead, zinc and cadmium dust along the haul road unbeknownst to mine officials and state and federal regulators. In 2000 scientists found extremely high levels of heavy metals in moss (*Hylocomium splendens*) on National Park Service lands adjacent to the haul road. The study confirmed that the source of this contamination was dust from trucks hauling concentrate (Ford and Hasselbach, 2001). Levels of lead, zinc, and cadmium in samples downwind from the Red

Dog haul road equal or exceeded the maximum levels of these heavy metals from samples from severely polluted regions in other areas of the world (Ford and Hasselbach, 2001).

In 2004, scientists measured the magnitude and severity of contamination from fugitive dust from the Red Dog Mine on National Park Lands adjacent to the 55 mile long haul road between the mine and port site on the Chukchi Sea (Hasselbach, L., et al. 2005). Trucks hauling sulfide based lead zinc concentrate were covered with lead zinc dust generated in the loading and unloading process at the mine and port site. The dust was then blown or washed from truck surfaces by rain during transit from the port to the mine and back. The concentrate trucks were also poorly covered (until new trucks were acquired in 2001), and concentrate-dust blew from the trucks as they were driven from the mine to the port. Surface soil levels of 27,000 mg/kg (27 times the EPA industrial cleanup standard was found near port operational areas in a 1996 monitoring summary. Researchers measured lead and cadmium levels in moss adjacent to the Red Dog haul road within the Cape Krusenstern National Monument. Lead contamination was found to extend 25 kilometers (15 miles) north of the road, and 45 kilometers (27 miles) south of the haul road (Hasselbach et al. 2005).

Mining related dust deposition can be distinguished from natural deposits in the area by the composition of the dust and dust concentrations at the soils surface (USGS, 2003). Lead and cadmium levels within 10 meters of the haul road ranged from 6.9 to 24.3 ppm for cadmium and 271 to 912 parts ppm for lead. The Environmental Protection Agency's acute toxic standard for cadmium and lead in water are 2.0 parts per billion and 65 parts per billion respectively. The chronic toxicity standard for cadmium and lead are 0.25 ppb and 2.0 ppb respectively (Environmental Protection Agency, 2007f).

The report estimates that over 3,592 (8,872acres) hectares of National Park Land are contaminated with greater than 2 ppm of cadmium and 58,067 hectares (143,425 acres) of land are contaminated with greater than 20 ppm of lead from fugitive dust resulting from the movement of ore concentrate. Trucks using the haul road and loading area are not the only source of dust pollution in the Red Dog Mine area. Similarly elevated levels of lead, cadmium and zinc have also been found in a subsequent study of mine dust on private property downwind of the mine (Clark, 2005).

Seward Coal Dock, Alaska: Coal dust from the Alaska Railroad's coal loading facility in Seward has been a problem since the 1980's (Anchorage Daily News, 2007f). After a particularly serious event in the spring of 2007 which coated boats and cars and blackened the air in Seward, the railroad was cited and ordered to come up with a plan to control emissions from the loading facility.

Nevada Gold Mines: The 1998 EPA Toxic Release Inventory (TRI) reported that northern Nevada metals mines released approximately 7 tons of mercury to the atmosphere in 1998 (National Risk Management Research Laboratory, 2000). The primary source of these omissions appeared to be ore processing. As a result of the 1998 TRI report, the State of Nevada and EPA first instituted a voluntary program to control emissions from these mines, and then in 2007 the State of Nevada instituted a mandatory regulatory program (Nevada DEP, 2007. Nevada adopted the regulations because "Mercury emissions from mining are not regulated under the National

Ambient Air Quality Standards (NAAQS) or under the National Emission Standards for Hazardous Air Pollutants (NESHAPS) for gold or silver mining." "Although, there are regulatory requirements under title V of the Clean Air Act (CAA) mercury is also not regulated under the New Source performance Standards (NSPS) Regulations." (National Risk Management Research Laboratory, 2003).

Although, a regulatory program to control emissions was instituted, it does not appear that mercury emissions from the northern Nevada mines have been abated as of 2007 (EPA, 2007e). There are also allegations that emissions from the mines have not been accurately reported (Hayes, 2005). According to a 2007 Earthworks report, researchers at the University of Nevada found very high levels of mercury in air samples taken at three Northern Nevada gold mines. Earthworks also reported that "According to EPA's (2005) Toxics Release inventory, northern Nevada gold mines release over 4,600 pounds of mercury into the air each year -- about 18 times the amount of mercury released by the average coal-fired power plant (Earthworks, 2007 and EPA, 2007e). Northern Nevada's gold mines are the largest single industrial source of U.S. mercury air emissions west of Texas." (Earthworks, 2007). Mercury emissions from Nevada mines have been implicated in high mercury levels in fish in Utah and Idaho (Hayes, 2005, and Utah Department of Environmental Quality 2007).

3.5.1 Discussion: The Pebble Mine site is located in an area with strong and frequent winds blowing from both the east and west (Northern Dynasty, 2005, Leslie, 1989). Dust would be generated by primarily from blasting, ore hauling, and storing tailings because it is not possible to completely control dust from all of these activities particularly in an open pit mine (Kennedy, 1990). It is likely that land and water downwind of the mine pits, mill, tailings storage facilities, and port would be contaminated for some distance by dust and emissions from the Pebble Mine over the 40 to 70 year life of the mine. This dust is likely to be contaminated with copper, mercury and other heavy metals found in the ore. This dust might increase concentrations of heavy metals in surface waters to levels that are harmful to fish and other aquatic life.

3.6 Groundwater Pollution: In spite of state and federal regulations and stipulations designed to prevent it, groundwater pollution continues to be a serious problem at mines in the United States (Kuipers, et al. 2006). Acid drainage, heavy metals and mine chemicals from closed and abandoned mine pits, tunnels and tailings storage facilities have seeped into the groundwater under mines tainting aquifers (see the section on acid mine drainage). This contaminated groundwater has surfaced in lakes and streams, killing aquatic life.

Groundwater is the part of precipitation that seeps down through the soil until it reaches an impermeable layer of rock material that is saturated with water. Water in the ground is stored in the spaces between rock particles (Environmental Protection Agency, 2007g). Since groundwater moves from the surface down through rocks and subsurface soil, it has a lot of opportunity to dissolve substances as it moves. Because water is such an excellent solvent it can contain lots of dissolved chemicals. For this reason, ground water will often have more dissolved substances than surface water. Naturally occurring contaminants are present in the rocks and sediments. As ground water flows through sediments, metals such as copper, mercury, iron, cadmium and manganese are dissolved and may later be found in high concentrations in the water (Environmental Protection Agency, 2007g).

Like streams and rivers, ground water moves down gradient from high areas to low areas at right angles to subterranean contour lines. However, because these contours are covered with up to hundreds of feet of permeable soil, it is often difficult to model the direction and rate of flow with any degree of accuracy. Groundwater moves through the subsurface like water on the surface, except it travels more slowly. In sand and gravel it may move up to 5 feet per day, in other types of material it may move a few inches per day (Environmental Protection Agency, 2007g). Northern Dynasty's 2004 baseline studies report indicates that the movement of groundwater in the mine area is relatively rapid (Northern Dynasty Mines, 2005).

Results from the analysis of ground water from 12 monitoring wells that Northern Dynasty drilled shows that many of the dissolved trace metals on the Environmental Protection Agency's list of priority pollutants including: antimony, arsenic, beryllium, cadmium, chromium, copper, lead, mercury, nickel, selenium, silver, and zinc (Environmental Protection Agency, 2007f) are present in the ground water in the mine area and under the proposed tailings dam sites. Most of these same metals are found in the steams which drain the mine area, albeit in lower concentrations. Dissolved metals found in monitoring wells were generally from 0.1 to 0.7 of the state human health and aquatic life criteria, except for mercury and cadmium. Four wells had mercury levels which exceed the human health standard for mercury of 0.050 parts per trillion with levels up to 0.122 parts per trillion. One well had cadmium levels 1.4 times the allowable standard (Northern Dynasty Mines, 2005.

The presence of heavy metals in ground water from undisturbed mineralized areas is common. However, because of the limited amount of ore body exposed to water and oxygen prior to mining, the levels in the ground water and entering surface waters usually do not reach toxic levels (Environmental Protection Agency, 1994b).

The streams receiving ground and surface water from the Pebble Mine site can be classified as gaining or losing. Gaining streams receive much of their water from groundwater, and the water level in the stream is generally at the same elevation as the water table in the adjacent aquifer. Water quality in the stream will be affected by the quality of groundwater entering the stream. Because the water table elevation is approximately the same as the gaining stream surface elevation, both elevations may be used to predict the general direction of groundwater flow. Losing streams lose water to the adjacent aquifer because the water table has dropped below the stream level. If there is no major source of upstream flow, the stream may dry up between rainfall events (Environmental Protection Agency, 2007g).

Northern Dynasty has installed stream gauges to monitor surface flow and monitoring wells to provide information about groundwater quality and movement. Based on stream flow information provided in Northern Dynasty Mines, Inc. 2004 Environmental Studies Reports and their 2006 water rights application, it appears that groundwater from the mine area is an important contributor to stream flow in the North and South Forks of the Koktuli River and Upper Talarik Creek (Northern Dynasty Mines, 2005 and 2006). This appears to be particularly true during critical summer and winter low flow periods when there is little precipitation and surface run off.

There was little or no precipitation in the mine area between the time the stream gauges were installed in July until mid to late September, 2004 (Northern Dynasty, 2005). During these dry periods it is assumed that the streams studied approached base flow conditions in which the only contributing flows were from groundwater. During this period, gauges on the South Fork Koktuli River showed that it gained water at station SK 136A and at the vicinity of station SK 100A. Station SK 136 is at the very headwaters of the South Fork on the southern edge of the Pebble West ore body, and SK 100A is 27 miles downstream near the confluence with the North Fork Koktuli River. The remaining 26 miles of the South Fork shows a losing pattern, where stream flow is lost to groundwater. According to the 2004 report the section from SK 100 B (mile 12.2) to SK 100 F (mile 18.45) was losing water during the study period. In mid July, the midsection of the South Fork around SK 100C (mile 17.6) was reported to be dry. The section between SK 100 C and SK 100 F is thought to be losing water to the Kaskanak Creek Basin. During the same time period, the North Fork Koktuli River lost water at all locations except NK 119B. This stream gauge is near the confluence of tributary NK 119 and the North Fork Koktuli. Similarly, Upper Talarik Creek gauges showed that it gained groundwater from its headwaters and the areas of the proposed Pebble East and West pits (UT 100D), but lost water from the area just below the Pebble East pit (UT 100D) down to UT 100B, 14.62 miles downstream.

3.6.1 Discussion: Groundwater flow dynamics in the Pebble Mine area have important implications for fish habitat and water quality. Groundwater is the most important water source to stream gravel during low flow periods in July and August when sockeye, Chinook, and chum salmon are spawning, and from January through March when incubating eggs and over wintering juvenile salmon require a consistent inflow of ground water to survive (Groot and Margolis, 1991). The removal of ground water from these drainages would reduce both the amount of available spawning area for salmon and resident fish species, and critical over wintering habitat. This in turn would reduce salmon and resident fish production from these three streams.

Based on the direction of ground water flow and the presence of seeps and upwelling there appears to be a connection between groundwater origination from the area of the Pebble West and East ore bodies, and from under proposed Tailings Storage Areas A and G, and the three streams draining the mine area (Northern Dynasty Mines, 2005). This means that pollutants leaking from the mine pit or from under the tailings storage areas into the groundwater could be conveyed into the North and South Forks of the Koktuli River and Upper Talarik Creek. Mining may also increase the level of harmful pollutants in the ground water, by breaking up the rock containing metals and sulfur and exposing them to groundwater as it percolates through the ground (Younger, et al. 2002).

Gossan Creek is an example of how groundwater pollution emanating from mines affects streams. Gossan Creek, a first-order stream in the Upsalquitch River watershed in the Canadian Province of New Brunswick, contained elevated concentrations of mercury and other heavy metals, as a result of leaching from a gold-mine tailings disposal site (Maprani, et al. 2003). Field and laboratory research revealed that the tailings pile was a point source of mercury into the aqueous system. A contaminated ground water plume originated from the tailings pile and discharged into the headwaters of Gossan Creek. The ground water and the headwaters of the stream system were found to contain high concentrations of mercury (up to 60 ppb), Cu, Al, Fe, Zn, Mn, Ni, Co, As and cyanide (CN). The levels of all mercury compounds were measured in

the stream and it was found that mercury levels declined by 95-99% within 4 km from the source. The loss of mercury from the water was attributed to accumulation in the sediments and biota and to evaporation from the stream to the atmosphere (Maprani, et al. 2003).

Northern Dynasty has indicated that over the 40 to 50 year operating life of the mine they intend to try to capture all of the groundwater from the mine and tailings storage areas and use it in the mining process or return it to the tailings ponds. However, after cessation of mining, Northern Dynasty would pass on the responsibility and liability for preventing ground and surface water pollution from the closed or abandoned mine pit and or tunnels, and up to 8.2 billions tons of mine waste and hundreds of billions of cubic feet of mine process water stored in the tailings storage facilities to the ADNR. The ADNR would have to insure that (1) both the surface and ground water emanating from the water filled mine which may be acidic and contaminated with heavy metals and, (2) the water leaking from the tailings ponds which is also likely to be contaminated with heavy metals and mine chemicals would be captured and treated in perpetuity. If successful, this would prevent contaminated ground water from reaching these streams and killing aquatic life.

The questions which have to be asked are: (1) is it feasible to capture all of the ground water flowing through underground aquifers and cracks in the bedrock over a 35 square mile area during active mining; (2) is it possible that these groundwater capture systems at the mine and tailings storage facilities will not fail or breakdown over the tens of thousands of years they will have to operate to prevent chronic pollution after mine closure or abandonment; (3) is it possible that a larger than anticipate earth quake, rainfall event, or accident might occur that would result in an catastrophic release of contaminated water from the mine or tailings storage facilities , and (4) during the eons that pollution control measures will have to function at the closed or abandoned mine and tailings storage facilities , will state regulators detect and prevent leakage or an equipment failure before pollution reaches the waters of Nushagak or Kvichak drainages?

Considering that recently permitted large metals mines in the United States have consistently polluted ground water and that the state and federal regulatory process' have not been effective in preventing it, a risk of serious ground water pollution from the Pebble Project exists, particularly over an almost infinite time frame(Kuipers, et al. 2006).

4. RESOURCES AT RISK: FISH

4.1 Fish Populations at Mine Site: The proposed Pebble Project copper mine is located at the headwaters of the North and South Forks of the Koktuli River and Upper Talarik Creek. The proposed Pebble West Pit is drained by tributaries of Upper Talarik Creek and the South Fork Koktuli (Figure 5). The Pebble East Ore body is contiguous with the eastern portion of the Pebble West Pit, and appears to extend eastward under the main stem of Upper Talarik Creek. The Koktuli River is a tributary of the Mulchatna River and is part of the Nushagak River drainage. Upper Talarik Creek discharges into Lake Iliamna which is part of the Kvichak River drainage.

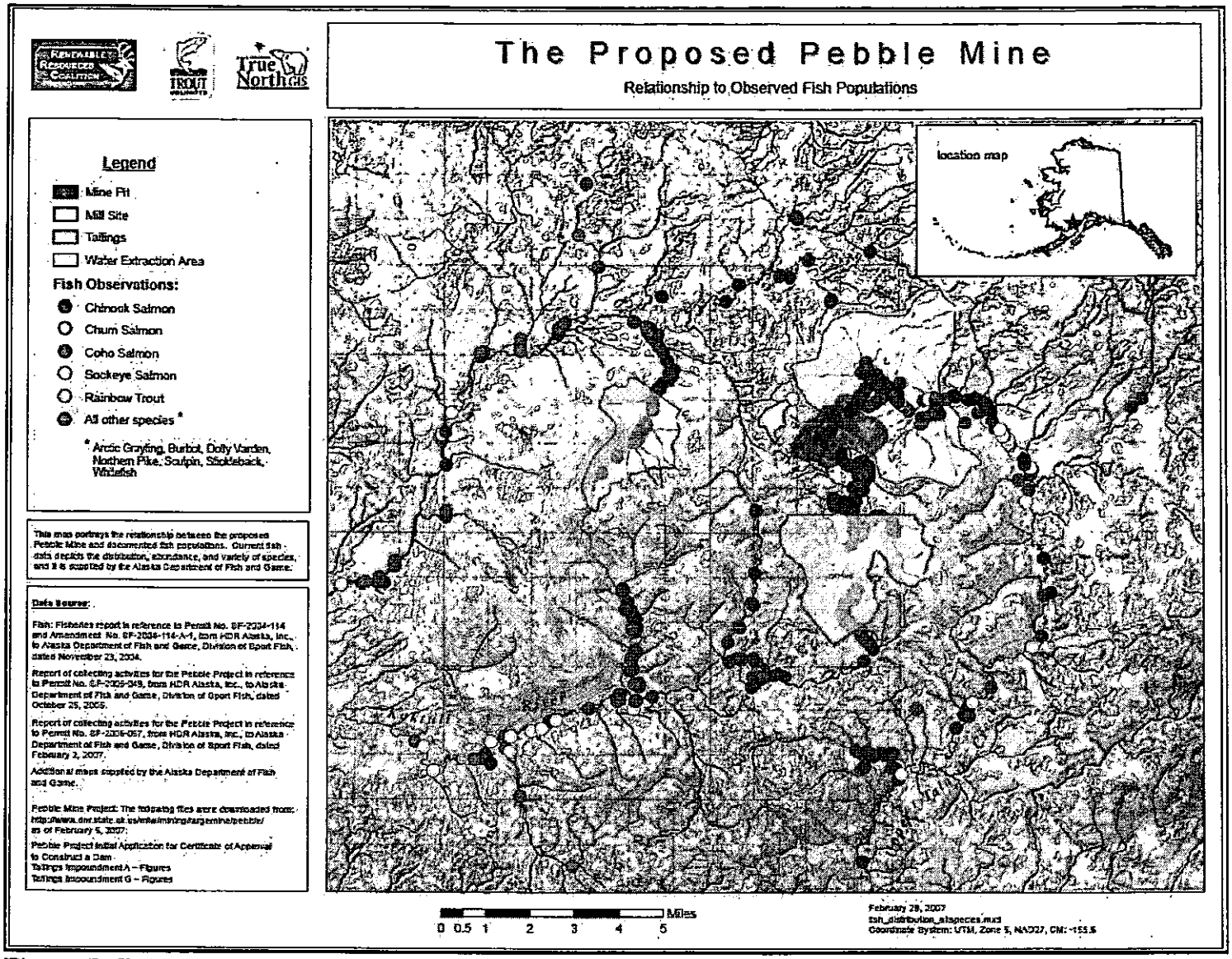

Figure 5. The Relationship of the Proposed Pebble Project Copper Mine to Existing Fish Stocks
(Note: figure used with permission of the Renewable Resources Coalition)

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The fish species present in the portions of Upper Talarik Creek and North and South Fork Koktuli River drainages which would be directly affected by the Pebble Mine are shown in Table 3 (Northern Dynasty Mines, 2005).

Table 3. Number of Fish by Species from Spot Samples Taken from Area Directly Impacted by Pebble Mine and Associated Facilities

	Drainage				
	South Fork Koktuli			North Fork Koktuli	Upper Talarik Creek
Species	Below FPL	FPL	Above FPL	Stream 1.19	
coho	45	0	13	41	536
chinook	0	0	0	20	0
sockeye	0	3	0	0	0
rainbow trout	0	0	0	0	1
Dolly Varden	4	0	0	451	12
grayling	279	44	47	28	0
northern pike	27	589	40	0	0
burbot	1	0	0	0	0
scuplin	122	0	112	461	305
stickleback	1	0	0	0	0
whitefish	1	0	0	0	0

Note: FPL is Frying Pan Lake. Stream 1.19 is a tributary to the North Fork Koktuli which would be covered by Tailings Storage Facility G. (Northern Dynasty Mines, 2006)

Preliminary fish sampling by Northern Dynasty contractors in 2004 found juvenile coho, Chinook and sockeye salmon was well as high value resident fish species such as Dolly Varden (Salvelinus *malma*), Arctic grayling (Thymallus *arcticus*), and northern pike (Esox *lucius*) in the reaches of Upper Talarik Creek and the North and South Forks of the Koktuli River which would be occupied by the mine and tailings storage facilities (TSF) (Table 2). Sampling methods used included electroshocking, angling in lakes and ponds, and hoop nets in Frying Pan Lake. In the 2004 fish surveys Frying Pan Lake and its upstream tributaries were found to support adult and juvenile northern pike, Arctic grayling and rearing juvenile sockeye and coho salmon (Northern Dynasty Mines, 2005). The headwaters of Upper Talarik Creek and its tributaries, including the portion which may be impacted by the extension of the Pebble East ore body, were found to provide spawning and rearing habitat for Chinook, sockeye and coho salmon, and Dolly Varden (Table 3). The data in Table 2 is from spot samples of fish taken at a number of locations in stream segments within the mine area which would be excavated, dewatered or buried under tailings storage facilities. Most of the salmon collected were rearing juveniles, but that could be an artifact of the time and location, and method used to take the samples. The HDR fish data is not quantative, but the samples do confirm the presence of substantial numbers of rearing salmon and high value resident fish in the portions of these streams which would be dewatered, buried, or otherwise impacted by mining activities.

The amount of sampling in the mine area was limited, and fish species and numbers in the mine area could vary at different times and locations. For example, stream flow's in July and August of 2004 were unusually low (United States Geological Survey, 2007, Northern Dynasty, 2004).

If 2004 Northern Dynasty samples were taken when the upstream migration of adult and rearing juvenile salmon into the mine area was blocked or restricted because portions of the upper South Fork Koktuli were dry, the number of adult and juvenile salmon in the sampling area might be substantially less than years or months when fish movements were not restricted.

4.2. Fish Populations Downstream From The Mine: The North and South Forks of the Koktuli River and Upper Talarkik Creek downstream from the mine are important salmon and high value resident fish spawning and rearing streams. These streams are also important contributors to the Nushagak and Kvichak drainage commercial, subsistence and recreational fisheries. Estimates of the number of spawning adult salmon in Upper Talarik Creek (U.T.), North and South Fork Koktuli Rivers (SFK and NFK), and Y Valley Creek at the proposed port facility are shown in Table 4 (Northern Dynasty Mines 2005).

Table 4: Adult Salmon Point Estimates of Escapement (2004-2005)

Species	Year	U.T	SFK	NFK	Y Valley
Chinook	2004		7265	7136	
Salmon	2005	194	3243	5621	
Sockeye	2004	12,400	9295	2338	
Salmon	2005	62771	6791	4140	
Coho	2004	8452	1224	1660	
Salmon	2005	6277	3203		
Chum	2004				
Salmon	2005			1510	11149

Note: HDR Alaska , Inc.fisheries scientists conducted stream surveys and then extimated fish numbers in the study area by day, using linear interpolation for the days not surveyed.

Fish surveys by both Northern Dynasty contractors and the Alaska Department of Fish and Game confirm that the North and South Forks of the Koktuli River and Upper Talarik Creek are important and productive systems which produce substantial numbers of Chinook, coho, and sockeye salmon (ADF&G, 2007). The North Fork of the Koktuli River is also a locally important chum salmon producer. When considering aerial escapement estimates it should be noted that aerial surveys escapement counts are only indexes and may only count a fraction of the salmon in a stream (Jones et al. 1998, and Visser et al. 2002). Furthermore, in a normal year, a large, but unknown percentage of the salmon produced in these streams (50 to 65 percent), are caught in the commercial and subsistence and are not included in spawning estimates. The Koktuli River is one of the most important Chinook salmon spawning streams in the Nushagak River drainage (ADF&G, 2006). In some years it hosts up to 25% of all of the Chinook spawning in the Nushagak river system (ADF&G, 2007). Upper Talarik Creek is a very productive system, providing spawning and rearing habitat for large numbers of sockeye and coho salmon to the Kvichak river drainage.

The North and South Fork of the Koktuli River and Upper Talarik Creek also support large numbers of other high value resident fish species, including Arctic grayling, Arctic char, rainbow trout, Dolly Varden, and northern pike. The Koktuli River and Upper Talarik Creek provide sport fishing opportunities for rainbow trout, coho and Chinook salmon.

4.3 In The Nushagak And Kvichak River Drainages: Lake Iliamna, the Mulchatna River, and the portions of the Nushagak River drainage downstream from the proposed Pebble mine would be affected if high volumes of acid mine drainage and heavy metals flowed from the mine into the Koktuli River and Upper Talarik Creek. Together the Kvichak and Nushagak River drainages have historically been the biggest producers of sockeye and other species of salmon in Bristol Bay, which is the world's largest producer of sockeye salmon (Alaska Department of Fish and Game, 2007). The 2006 inshore Bristol Bay sockeye salmon run of slightly more than 43.1 million fish was the 9th largest inshore run since 1952 (Salomone, et al. 2007). Historically, the Kvichak River drainage, which includes the Alagnak, Lake Iliamna, and Lake Clark drainages, has been the largest sockeye salmon producing system in Alaska and the world (Burgner, 1991). The Nushagak River drainage, which includes the Wood River, Mulchatna and Nuyakuk Rivers, is also the largest producer of Chinook and chum salmon in Bristol Bay (Westing, et al. 2006).

Estimates of total run size, including catch and escapement from the Nushagak and Kvichak-Naknek drainages are provided in Table 5 (Westing et al. 2006).

Table 5: Total Inshore Run of Salmon, Nushagak and Kvichak River Drainages (1985-2005)

	Numbers Of Salmon		
	High	Low	20 Year Average
NUSHAGAK RIVER			
Sockeye Salmon	8,900, 322	4,527,953	6,188,579
Chinook Salmon	244,107	75,216	144,334
Chum Salmon	1,090,975	255,777	655,802
Coho Salmon see note	260,310	93	107,534
Pink Salmon see note	243,890	204	83,793
KVICHAK-I NAKNEK			
Sockeye Salmon	33,229,901	1,411,225	12,673,623
Chinook Salmon see note	7,477	567	3,788
Chum Salmon see note	446,908	8,719	185,803
Coho Salmon see note	29,988	0	7,219
Pink Salmon see note	648,569	4,590	144,627

Note: numbers for Nushagak River coho and pink salmon, and Kvichak and Naknek Chinook, chum,coho, and pink salmon are catch only. No escapement numbers are available.

Commercial Fishery: The Bristol Bay sockeye salmon fishery is the largest in the world and the largest source of private sector income in the Bristol Bay region (Morstad.and Baker, 2006). The Bristol Bay fishery employs over 4239 workers and annual income from the fishery has reached as high as $350 million dollars (Dufield, 2007).

The 2006 harvest of nearly 29.0 million sockeye was the 8th largest since 1893, and the 2006 inshore run of 43.1 million sockeye was 23% above the 20-year average (Salomone, et al. 2007). The 2006 Bristol Bay commercial harvest of approximately 106 thousand Chinook salmon was the fifth largest in the last 20 years and 51% above the 20-year average of 70 thousand. The harvest of approximately 53 thousand coho salmon in Bristol Bay was well below the 20-year average of 103 thousand, but the Nushagak River was above its 20 year average and provided 81% of the coho catch. The chum salmon harvest of approximately 2.1 million was the largest in 20 years.

The 2006 harvest of all salmon species in Bristol Bay totaled approximately 31 million fish. The ex-vessel value of the catch was $93,935,000 (Salomone et al. 2007). The ex-vessel value is the amount paid to fishermen for their fish at the dock.

The Kvichak and Nushagak River systems provided most of the Bristol Bay salmon production (catch and escapement) in 2006. The total inshore sockeye run into the Nushagak District, which includes the Nushagak River and its tributary the Wood River, was more than double the forecast, coming in at 16.0 million sockeye in 2006. The Kvichak –Naknek District which includes both the Kvichak and Naknek River drainages and the Nushagak District provided 63% of the total 2006 Bristol Bay catch of 29 million sockeye. The Kvichak River drainage (includes the Alagnak River) and the Nushagak River drainage (includes the Wood River system) together provided over 65 % of the Bays 14.6 million sockeye salmon escapement (Salomone, et al. 2007). The Nushagak River drainage provided 80% of the total Bristol Bay Chinook catch, and 81% of the coho harvest.

Subsistence and Recreational Fisheries: The Kvichak and Nushagak River drainages also support economically and socially important subsistence and recreational fisheries. Bristol Bay residents are dependent on the harvest of salmon, freshwater fish, moose and caribou for food. Surveys taken in the 1980's and 1990's indicate that the 7,611 residents of 25 Bristol Bay villages harvested about 2.4 million pounds of fish and wildlife for subsistence annually (Duffield, et al.2007). The average annual salmon harvest for the period 1983-2003 was 155,153 salmon of all species (Duffield, et al.2007). Over 90% of these salmon were caught by residents of the Nushagak and Kvichak River drainages.

According to the ADF&G Sport Fish Division, the "Bristol Bay management area contains some of the most productive salmon, rainbow trout, Arctic grayling, arctic char, and Dolly Varden waters in the world." (ADF&G 2007). The most popular drainages include the Nushagak/ Mulchatna Rivers, the Wood River Lakes system, the Kvichak River and Lake Iliamna, the Naknek River, and the Togiak River (ADF&G, 2007). According to ADF&G these rivers and lakes provide" unparalleled angling opportunities". The Bristol Bay sport fisheries employs approximately 846 people and generates around 61million dollars in annual revenues (Duffield, et al. 2007).

Ecosystem Value: Bristol Bay salmon also play a major role in the productivity of the Bristol Bay terrestrial and freshwater ecosystems. Pacific salmon and other anadromous salmonids are the major vehicle transporting marine nutrients across ecosystem boundaries (i.e., from marine to freshwater and terrestrial ecosystems) (Shindler, 2003). Salmon provide nutrients and energy to biota within aquatic and terrestrial ecosystems through various pathways (Cederholm et al.1999). The annual deposition of marine nutrients from salmon is vitally important in maintaining the productivity of the lakes, streams, and riparian areas of the region (Naiman, et al. 2002). Salmon derived nutrients make up a substantial fraction of the plants and animals in aquatic and terrestrial habitats associated with healthy salmon populations (Schindler, et al. 2003).

Salmon and salmon carcasses are a major food source for all of the terrestrial predators and scavengers in the region including brown and black bears, wolves, foxes, and eagles. These species help to transfer marine nutrients from lakes and streams to uplands (Shindler, et al. 2003,

and Gresh et al. 2000). Salmon eggs and carcasses are a vital food source for rearing juvenile salmon, rainbow trout, Dolly Varden and Arctic grayling. Juvenile salmon are an important food source for the large populations of resident fish species such as rainbow trout, Dolly Varden and Arctic grayling found in Bristol Bay streams. The rich food source maintains the large number of these species found in the region. Without large salmon escapements and the associated input of marine nutrients the productivity of the region and numbers freshwater and terrestrial species in Bristol Bay dependent on salmon would diminish substantially (Gresh et al. 2000).

Discussion: Harvest and escapement figures show that the Bristol Bay drainage is clearly the premier salmon producing system remaining in the world. This is due in large part to pristine habitat, clean water, and good fisheries management. The production and harvest of salmon in Bristol Bay is critical to the regional economy, culture and ecosystem.

Proponents of the Pebble Mine have used the Frazer River, which is Canada's most productive salmon system, as evidence that hard rock mining is entirely compatible with the maintenance of salmon production in the Nushagak and Kvichak River systems (McGee, 2007 and Schindler and Hilborn, 2008). However, the collapse of the Frazer River fishery may actually be an example of how development of a watershed is incompatible with the maintenance of salmon populations. Frazer River sockeye harvests have precipitously declined from a high of around 60 million pounds in the early 1990's to a few million pounds or less by 1999 (Fisheries and Oceans Canada, 2008). This decline resulted in periodic fishing closures beginning in the late 1990's. In 2007 commercial, recreational and subsistence fishing were closed completely because of poor returns and escapement (CBC News, 2007). The outlook for 2008 remains bleak. These declines have occurred despite a substantial public investment in state of the art salmon habitat enhancement in the last three decades (Schindler and Hilborn, 2008). The Frazer River watershed has been developed for mining, logging, urban development, and agriculture. According to Canada's Fisheries and Oceans, which is responsible for Canadian fisheries policy, the reasons the continuing decline are not fully known, but "high water temperatures" and "habitat destruction" are thought to be factors (Fisheries and Oceans Canada, 2008).

4.4 Fish Populations Downstream of the Road, Pipeline, and Transmission Line Corridor: Up to 120 streams crossed by the access road, slurry pipelines, or electrical transmission line would be directly impacted by road construction, gravel extraction, wetland fills and stream crossing structures (Northern Dynasty 2004). Fish using these streams and upstream and downstream spawning areas could also be impacted by slurry pipe line breaks, and any chemical or fuel spills into these streams.

The Alaska Department of Fish and Game has identified 36 rivers, streams and small tributaries on the north shore of Lake Iliamna which provide salmon and resident fish habitat and could be affected by the Pebble Project mine, access road and pipeline corridor. The salmon streams are identified in the Catalog of Waters Important for the Spawning, Rearing or Migration of Anadromous Fish (Alaska Department of Fish and Game 2003), and include important sockeye, Chinook, and coho salmon producers, such as the Newhalen River, Knutson Creek, Canyon Creek Chekok Creek, Pile Bay River, and Iliamna River. Known salmon and resident fish streams which would be affected by the proposed Pebble mine access road and pipeline corridor are depicted in Figure 6.

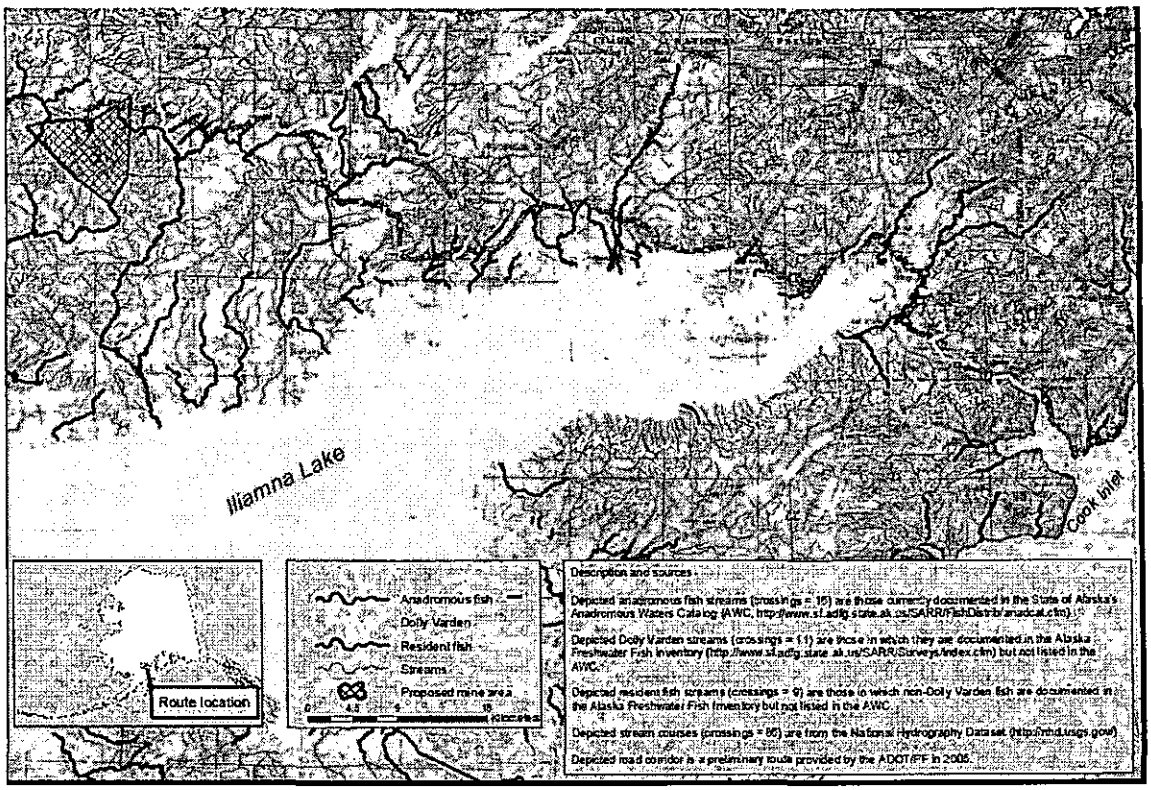

Figure 6. Known Salmon and Resident Fish Streams Which Would be Affected by the Proposed Pebble Mine, Access Road and Pipeline Corridor (Map used with permission of Michael Wiedmer, 2007.)

The north shore drainages and beaches of Iliamna Lake are also used as sockeye spawning index areas by ADF&G (Table 6). ADF&G has also identified 13 beach spawning locations along the north shore of Lake Iliamna which could be impacted by any pollutants carried downstream by road corridor drainages (Alaska Department of Fish and Game, 2003).

Table 6. High, Low and 2004 Index Numbers of Sockeye Salmon Spawners by Area, Lake Iliamna and Lake Clark Spawning Grounds Which May be Affected by Pebble Mine or Access Road (ADF&G, 2006)

Spawning Area	Escapement Index Count Low	High	2004
Upper Talarik Ck.	47	70,600	70,600
% total escapement	0.00%	0.13%	0.13%
Newhalen R. system	100	1,451,050	33,000
% total escapement	0.01%	6.40%	0.60%
N.E streams	2,200	154,000	80,700
% total escapement	0.06%	1.37%	1.40%
N.E. Ponds	30	124,711	2,200
% total escescapement	0.01%	0.89%	0.04%
Iliamna River system	3,050	414,855	138,500
% total escapement	1.22%	3.16%	2.52%
Lake Beaches N.E Shore	1820	1,017,000	43,000
% total escapement	0.19%	6.95%	0.78%
S. Shore Beaches Pile Bay	10	8,000	1,900
% total escapement	0.00%	0.05%	0.03%
Lake Clark system	100	374,551	19,730
% total escapement	0.01%	3.34	0.36%

Total index escapement	642,340
Kvichak Tower escapement	5,500,134
%of total escapement	11.60%

Note: Index counts are only an estimate of the numbers present and are only a fraction of the actual number. The percentages of total escapement is the percentage of the actual number of sockeye entering Lake Iliamna as measured at the Kvichak Tower.

Northern Dynasty Surveys: Consultants for Northern Dynasty Mines (2005) sampled 120 streams crossed by the proposed 95 mile long Pebble Mine haul road corridor, between the mine site and proposed port site at Iniskin Bay (Figure's 1 and 4). According to Northern Dynasty, the study emphasized data collection at smaller streams where culvert crossings are most likely. Larger streams with well known resources and planned bridge crossings received less effort. The intent was to adequately characterize fish use within the sample reach (Northern Dynasty Mines, 2005). Within small, wadeable streams, the entire catch was identified to species, measured and released alive near the point of capture.

Sampling was conducted between August 5 and September 8 of 2004. Forty one streams were dry at the time of the survey. Fish collection data were provided for 69 streams in a 2004 memorandum (McLarnon, 2004). This data is summarized in Appendix 1. Of the 69 streams reported on, fish were found in 55 streams and 14 had no fish at the location and time sampled.

The Northern Dynasty survey data leaves 10 streams unaccounted for. It is not known whether the missing streams are currently documented in the ADF&G Anadromous Waters Catalog (AWC) data base or were left out of the report for other reasons. Spawning adult or rearing juvenile coho, sockeye, Chinook, chum or pink salmon were found in 25 of the streams sampled. Most of the streams with spawning salmon also contained several species of anadromous and resident fish, including Dolly Varden, rainbow trout and Arctic grayling. Dolly Varden was the primary fish species in 21 streams, rainbow trout in 1 and Arctic grayling in 1. In seven streams only sculpins or sculpins and stickleback were collected.

Only one year of survey data for the Pebble Project Road Corridor has been provided, and fish distribution and numbers could be greater or smaller in other years. The sampling was not quantitative, so the numbers of fish reported do not reflect the actual number of fish which may be using upstream or downstream reaches of the streams surveyed. Some of the surveys were conducted after the peak of Chinook, pink, and chum spawning so the numbers of adults of these species observed during the surveys may be a small percentage of the number of these species which are actually using these streams.

The number of streams with fish and the number of salmon and other fish species might also have been higher if stream flows had not been unusually low during the surveys. According to the Northern Dynasty Pebble Project 2004 Surface-Water Hydrology Report, stream flows in the area were continuously declining from July through late September in 2004 when the surveys were made (Northern Dynasty, 2004). The USGS Surface Water Monthly Statistics from the Iliamna River gauge during the period 1996 to 2006 confirm that stream flows were unusually low (less than 50% of the average stream flow) during August and September of 2004 when a lot of salmon spawning normally occurs (United States Geological Survey, 2007). Low flows limit both the amount of available spawning and rearing habitat, and the numbers of fish present. Some of the streams that were reported as being dry might be used for rearing in years with higher precipitation. If additional surveys of road corridor streams were conducted in 2005 or 2006, no reports have been made available to the agencies or the public.

5. EFFECTIVENESS OF STATE AND FEDERAL REGULATORY PROCESS IN PREVENTING WATER POLLUTION AND FISH HABITAT LOSS FROM LARGE MINES

5.1 Introduction: Because of the copper sulfide ore, the size, and the location of the proposed Pebble Project mine, it presents and unprecedented threat to the two most productive salmon producing drainages remaining in the world. There isn't a mine of comparable size, ore properties and location that gives a good comparison for this analysis. However, it is instructive to look at mining regulation and mines in Alaska to see if the patterns of problems seen elsewhere in the U.S., and described earlier in this report, are evident here.

Three of the most important questions when considering the risk of the proposed Pebble Project mine having serious and long lasting impacts on fish habitat, fisheries production and fishermen are: (1) how effective are existing state and federal regulatory systems in anticipating and preventing impacts from proposed sulfide mines; (2) does the current state authorization process

give adequate weight to fish habitat protection when considering large mine projects; and (3) how effective have state and federal regulators been in monitoring mining operations and detecting and correcting problems at large mines once they begin to occur?

When faced with public calls for a prohibition on mining, or higher standards for mines in the Bristol Bay drainage, Pebble Project proponents argue that the mine should be allowed to go through the permitting process. The implication being that the present Alaska Department of Natural Resources large mine permitting process is a rigorous process with a set of detailed standards, and that state and federal participants would not issue authorizations for any mine that would harm the environment. Mine proponents also imply that current monitoring will quickly detect pollution and state and federal regulatory agencies would act swiftly to penalize any mine that does not comply with the terms of mine permits. Alaska Department of Natural Resources (ADNR) officials have also made the claim that the ADNR large mines permit coordinating process is the best in the United States.

In contrast, Pebble Mine opponents argue that the large mine permitting process is simply that – a process which, in and of itself, has no concrete standards for decision making, and is secondary to the Federal NEPA process. Opponents argue that the large mines process was established to expedite the issuance of permits for large mines, and has not been effective in preventing or correcting pollution problems. They also point out that the Murkowski Administration changed state statutes, regulations, and policies to favor large scale mining over fish habitat protection.

To judge the merit of the process for permitting large mines, it is necessary to understand what the process is, the level of protection current statutes provide for fish habitat, and how effective implementation of the statutes have been in preventing pollution at large mines in Alaska.

5.2 The Alaska Department of Natural Resources Large Mine Process: Alaska Statute 27.05.010 establishes ADNR as the state's lead agency for most matters affecting exploration, development, and mining of mineral resources in Alaska. The ADNR created the large mine permitting process to coordinate permitting activities for large mine projects. The ADNR mining website describes the process and lists the projects the large mine permitting unit has been involved in, including the Red Dog Mine, the Greens Creek Mine, the Kensington Mine, and the Pebble Mine (ADNR, 2007).

No statute or regulation creates the large mine permitting process. There are no separate regulations governing the process and no separate standards for the approval of large mine projects. It is simply a personnel action within ADNR which designates a "large mine coordinator" who works with other state and federal agency staff to implement existing statutes and regulations.

Three statutes guide the process, AS 38.04.005, 38.05.135(e), 46.15.080; and, ADNR's overall policy statute AS 38.04.005 which requires ADNR to manage "for maximum use of state land consistent with the public interest." This wording allows the ADNR wide discretion in determining what that standard means in any particular situation, such as the Bristol Bay drainages, or with respect to any particular resource, such as salmon. Similarly, AS 38.05.135(e) governs leases and disposals of public resources, such as mineral and water rights, and relies

upon a vague "state's best interest" standard for leases or disposals of public resources, such as water rights. Again, ADNR has wide discretion to determine what is in the "state's best interest".

Similarly, the Water Use Act, at AS 46.15.080, administered by ADNR, provides that DNR must find that a water appropriation is in the "public interest" and that in determining the public interest, DNR shall "consider" (1) benefit to the applicant; (2) the effect of economic activity resulting from the appropriation; (3) the effect on fish and game and on public recreation; (4) the effect on public health; (5) the effect of loss of alternate uses of water; (6) harm to other persons; (7) the intent and ability of the applicant to complete the appropriation; and (8) the effect upon access to navigable or public water. It is one thing to say that an agency shall "consider" fish and game as Alaska Statute 46.15.080 does. Three other ADNR statutes come into play if the project is in a designated anadromous fish stream or would require fish passage be provided, or is in the state's coastal zone.

Although, ADNR coordinates the large mine permitting process, permitting of large mines is actually driven by the requirements of the National Environmental Policy Act (NEPA) that applies to federal permits such as those issued under Sections 402 and 404 of the Clean Water Act (ADNR, 2007). In a January 11, 2007 presentation to a Board of Fisheries subcommittee that was gathering information on the adequacy of the ADNR process to protect fish and fish habitat, ADNR presenters focused on procedures for making decisions rather than whether there are any firm standards that actually protect fish habitat. Specifically, ADNR addressed four processes: (1) its process of large mine permitting; (2) the federal process of producing federal environmental impact statements under the National Environmental Policy Act (NEPA); (3) the ADNR process of consistency review under the Alaska Coastal Management Plan; and (4) the ADNR land use planning process (ADNR, 2007). ADNR focused on process rather than protection because it has few if any clear, concrete standards to protect fish habitat and instead relies on vague standards, as demonstrated above. The fundamental point of ADNR's presentation was that all state permits for the Pebble Mine will be integrated into, and none will be issued until, the federal NEPA process is complete for federal permits. ADNR bootstraps its processes onto the federal NEPA process. This avoids creating standards to protect fish before an applicant, such as Northern Dynasty, applies for ADNR permits. This allows an applicant to say: "let the process proceed," because the applicant does not have to meet any defined or quantifiable standards to protect fish, game populations, habitat or harvest.

Alaska Department of Natural Resources officials, proponents of the Pebble Mine and others have claimed that the ADNR's large mine permitting process is the "best" in the country. However, it is not clear what "best" means. Does this mean that it is best for the mining industry, best for the public who owns the land and minerals, or best for the environment? When asked what supporting documentation there was for the claim, Deputy ADNR Commissioner Ed Fogels (2007) said that it is his opinion that the ADNR large mine process was the best process for permitting large mines in the USA, but conceded that there is no quantitative data to support the claim. He based his opinion on talks with officials from other states who said that they did not have a similar process where all the state and federal agencies got together and permitted large mines. Mr. Fogels also said that Alaska was one of the few states that were permitting large mines at all.

The only available quantitative data on the performance of the ADNR large mine process and how changes in the fish habitat permitting and the Alaska Coastal Management Program have effected permitting of large mines in Alaska is from the Fraser Institute. The Fraser Institute is a Canadian organization whose mission is to "measure, study, and communicate the impact of competitive markets and government interventions on the welfare of individuals" (Fraser Institute, 2007). Since 1997 the Fraser Institute has conducted an annual survey of metal mining and exploration companies to assess how mineral potential and public policy factors such as taxes and environmental regulations affect minerals exploration investment. Survey results reflect the opinions of executives and managers in mining and mining exploration companies around the world, on how favorable countries, states and provinces are toward large scale mineral development. The Fraser Institute produces a report called a Policy Potential Index which is a composite index measuring the policy attractiveness of 65 jurisdictions in the survey. The Policy Potential Index is a composite index that measures the effects of government policies on exploration including the enforcement of existing regulations, environmental regulations, taxation, native land claims, protected areas, labor agreements, and geological potential.

In the 2002-2003 Fraser Report, prior to the Murkowski Administration, Alaska was ranked 12th in the world wide in the Composite Policy and Mineral Potential as a favorable place for mining investment. After the Murkowski statutory and regulatory changes were implemented, Alaska rose to number 4 in the world in the 2006-2007 report (Fraser Institute, 2007).

In the environmental regulation category of the 2006/2007 survey, Alaska was ranked behind Nevada, Utah, and Arizona which have a long history of mining. However, Alaska was ranked well ahead of other states, such as California, Wisconsin and Montana, which received very low scores, possibly because these states have enacted tough laws to prevent mining pollution (Fraser Institute, 2007).

The perception that Alaska has a very favorable regulatory climate for mining is confirmed by Alaska Miners Association Executive Director Mr. Steve Borell,, who states on the Alaska Miners Association Web site, "State-owned lands cover an area larger than the State of California, and most of these lands are open to mining under a location system which is a modern version of the federal mining law. And, although operations were for so many years held to a higher standard than in other states, today the field is nearly level and in several states the requirements are more stringent than in Alaska." (Borell, 2007) The Alaska Miners Association described the Murkowski Administration's 2003 changes to the regulatory system governing mines as "massive" (Borell, 2007). Biologists who had worked under both ADF&G and ADNR testified at a legislative hearing that the level of protection and considerations given to fish habitat under ADNR has been reduced compared to that provided under ADF&G.

From the mining industries perspective the regulatory and tax climate in Alaska appears to be favorable for large mines, but there are no equivalent surveys or other type of data that would indicate that the ADNR large mines permitting process is equally as favorable for the environment.

5.3 Funding of the Large Mines Process: The process that ADNR has established to fund state agency participation and essential baseline studies in the large mine process has also raised

several concerns. Companies proposing to develop large mines in Alaska have two choices, they can choose to submit their water rights, mining permits, and other applications through the regular ADNR permit and review process, or they can opt to use the large mine permitting process which offers a coordinator (ADNR, 2007). Because the legislature does not fund ADNR or other state agencies to maintain a large staff to review large mine projects, the regular ADNR process to permit a large mine could take decades. The Large Mine Process provides a means for a mining company to facilitate or expedite the permitting process by funding a coordinator and additional ADNR staff to facilitate the permitting process and process permits. The large mine permitting process requires that the applicant sign a Memorandum of Understanding agreeing to reimburse ADNR for costs that ADNR and other state agencies incur in attending project meetings, reviewing study plans and permit applications, and other actions required to obtain permits to develop the mine (ADNR, 2007). It does not provide funds for field inspections or monitoring of mining operations once permitted. In turn, ADNR hires additional staff in the ADNR Division's of Mining, Office of Habitat Management and Permitting (OHMP) and Office of Project Management and Permitting (OPMP) necessary to review the applicant's plans and issue approvals in a timely manner (Crafford, 2007). According to ADNR the Large Mine Process has "significantly streamlined mine permitting" (ADNR, 2007). ADNR may also negotiate Reimbursable Service Agreements (RSAs) with other state agencies such as ADEC and ADF&G for their participation and input to the process as necessary (Crafford, 2007). ADNR also reviews and approves plans for any studies necessary to evaluate the environmental, social and economic effects of the large mine process. The ADNR has signed a Memorandum of Agreement with Northern Dynasty Mines to fund the Large Mines Process for the Pebble Project (ADNR, 2007).

The concerns that critics have expressed are: (1) applicant funding creates an inherent bias in the regulating agency toward the company providing the funding, and (2) it allows the applicant and ADNR to limit the participation of other agencies such as the Alaska Department of Fish and Game (ADF&G) in fish and wildlife related studies and critical pre-permit application review of the project. The result is that ADNR and the applicant proceed in the absence of information on fish and wildlife related concerns until those concerns become apparent at the time of permitting. Another concern with the way the large mine process is funded is that ADNR staff that are funded by Northern Dynasty to work on the Pebble Mine, only have jobs as long as the project proceeds and the funding continues.

Critics of the large mine process feel that industry funding may create a subtle bias toward approval of the project. Although, it could only be coincidental, no large mine project has ever been rejected by the agencies participating in the ADNR large mine process , including the Kensington Mine whose 404 permit was subsequently revoked by the federal 9th Circuit court because it was in violation of the Clean Water Act.

The problems associated with industry funding of public research and the influence of funding on regulation of industry projects are discussed by the U.S. Food and Drug Administration in a recent report (U.S. Food and Drug Administration, 2000) Several studies have looked at the problem of potential funding bias. A recent study of the relationship between funding source and conclusions in scientific reports concluded that industry support of nutrition related scientific studies may bias conclusions in favor of the sponsor's products, with potentially significant

implications for the public health (Lessing et al. 2007). Another report summarizes studies of how industry funding of government scientific research has influenced the outcome (Sass, 2006).

According to Tom Crafford, ADNR's Large Mine Team Coordinator, ADNR received around $200,000 from NDM under the Pebble Mine Reimbursable Services Agreement in 2006 to facilitate permitting of the mine (Crafford, 2007). In contrast, the Alaska Department of Fish and Game which has a statutory mandate to protect, preserve, maintain and where possible extend the fish and wildlife resources which would be impacted by the mine, only received $20,000 to review study plans and attend project meetings during the same time period (Brookover, 2007).

5.4. Recent Changes to Alaska Statutes and Regulations Have Reduced Protection for Fish and Habitat: Between 2003 and 2006 Alaska's laws and regulations protecting fish habitat and giving local communities a substantial voice in resource development decisions were substantially weakened. In 2003 the Murkowski administration led efforts to facilitate mining and other types of non renewable resources by changing state fish habitat and water quality statutes and regulations in a manner which reduced their effectiveness. These actions included:

1. Executive Order 107 which transferring ADF&G fish habitat protection statutes to the ADNR. In 1959 the first Alaska Legislature enacted the Anadromous Fish Act (formerly AS16.05.870; now AS 41.14.870) and the Fish Ways Act (formerly AS16.05.840; now AS 41.14.840) (Appendix 5). These seminal statutes provided that the new Department of Fish and Game, through permitting, would regulate activities on state and private land that could otherwise result block or obstruct fish passage to spawning and rearing lakes and streams or the destruction of streams important for the spawning, rearing and migration of salmon. These statutes were the foundation of fish habitat protection in Alaska and the statutes remained in the Fish and Game Code (Title 16 of the Alaska Statutes) from 1959 to 2003 when they were transferred to ADNR by executive order.

The transfer of authority was a very significant change which weakened the statutory protections for Alaska's fish and wildlife resources. During the 44 years the statute was at ADF&G the analysis as to whether a project, such as Pebble, provided "efficient fish passage" (AS41.14.840), and or provided for the "proper protection of fish and game" (AS 41.14.870) was done by teams of fish, wildlife and habitat biologists at ADF&G. What constitutes ***"proper protection of fish and game" or "efficient fish passage"*** is critical in the determination of how fish and wildlife habitat in anadromous streams is protected. However, there is no statutory definition of either ***"proper protection of fish or game" or "efficient passage"***. The interpretation of these terms is left completely to the discretion of the implementing agency.

Until 2003 the decision as to whether a project achieved "proper protection" or "efficient passage" was made by the Commissioner of Fish and Game who has a statutory mandate to ***"manage, protect, maintain, improve, and extend the fish, game and aquatic plant resources of the state in the interest of the economy and general well-being of the state" (AS16.05.020 (2)***. After the transfer to ADNR, the decision as to what constitutes "proper protection" and "efficient passage" of fish is made by the Deputy Commissioner of DNR whose statutory mandate is to develop the renewable and non-renewable resources of the state in the best interest of the state of Alaska while weighing any competing uses. Fish and wildlife are not mentioned.

Prior to 2003, the ADF&G commissioner's decision on resource development that impacted anadromous waters or fish passage had equal weight with the decisions of the commissioner of ADNR to lease, sell or otherwise permit development. Where there was a disagreement the decision, or a compromise, was made by the Governor's office in a public process, usually under the processes of the Alaska Coastal Management Program. Since 2003, the tradeoffs between fish habitat conservation and other uses can be made within DNR without public scrutiny, because there is no statutory requirement for public notice or comment on fish habitat permits

The fact that the statutory underpinnings of anadromous and resident fish protection has been eroded by the changes made in 2003 is supported by statements by both the Alaska Miners Association and biologists who have worked under ADF&G and ADNR. The Alaska Miners Association supported the move from ADF&G to ADNR because the ADF&G had been a "major stumbling block for decades."(Borell, 2007) and described the Murkowski Administrations 2003 changes to the regulatory system governing mines as "massive". Biologists who had worked under both ADF&G and ADNR testified at a legislative hearing that the level of protection and considerations given to fish habitat under ADNR has been reduced compared to that provided under ADF&G;

2. Transferring the Alaska Coastal Management Program (ACMP) from the Governor's Office, where it had successfully resolved interagency differences for over 20 years, to ADNR. ADNR then gutted the enforceable ACMP standards which protected fish and wildlife habitat. The Legislature then eliminated a citizen's right of judicial enforcement, restricted local government's ability to craft local standards for fish and wildlife habitat protection and reduced the boundaries of local coastal plans;

3. Weakening, by subjecting to DNR review, ADF&G's implementation of the federal Fish and Wildlife Coordination Act, by which ADF&G coordinates with federal agencies on federal permits to assure that those permits protect fish under ADF&G standards and science;

4. Directing the Alaska Department of Environmental Conservation (ADEC) to adopt regulations to allow mixing zones for mining and other types of waste in fish spawning areas in order to "legalize" pre-existing violations. Prior to 2006 mixing zones in fish spawning areas were prohibited. In 2006 ADEC adopted the regulations allowing exceptions from the previous prohibition on mixing zones in spawning areas (ADEC 2006). Because of strong public opposition to the regulation change, the Murkowski administration was forced to exclude Pacific salmon spawning areas from the new regulations. Mixing zones are allowed in steel head, rainbow and cutthroat trout spawing areas, even though these species are also classified as Pacific salmon (ADEC, 2006). ADEC is currently working on additional regulations relating to the exemptions allowing mixing zones in resident fish spawning areas. ADEC regulations give ADEC discretion to authorize mixing zones in all other types of fish habitat, and this reduces the protection provided by the prohibition on mixing zones in anadromous fish spawning areas. Many streams are limited by the amount of rearing habitat they provide rather than spawning habitat and juvenile fish are often as susceptible to pollutants as spawning adults, and eggs. Certain pollutants also biomagnify, and bioaccumulate, and even if discharged at very low levels

may build may build up to harmful levels in long lived resident fish species such as rainbow trout, burbot, Dolly Varden and northern pike;

5. Revised the Bristol Bay Area Plan in 2005 to favor mining over protection of fish habitat.

Because the Bristol Bay Area Plan Management Policies, Management Intent, Guidelines, and Land Use Designations will direct and guide ADNR decision making in the Pebble Mine approval process, it is important to understand how the 1984 Plan was changed.

The proposed Pebble Project is located within Regions 6 and 10 of the revised 2005 Alaska Department of Natural Resources Bristol Bay Area Plan for State Lands (BBAP), and within Management Units 6 and 10 of the original plan which was adopted in 1984 (ADNR, 1984). In recognition of the importance of the Mulchatna and north Lake Iliamna drainages as fish and wildlife habitat, and the importance of commercial, sport and subsistence fishing to the regional economy, the 1984 Bristol Bay Area Plan (BBAP) stated that the primary use of all of Management Units 6 and 10, where the Pebble claims are located, was to be "wildlife habitat and harvest and recreation" (ADNR, 1984). Minerals were designated as a secondary use. The 1984 plan also closed 64 salmon streams in mineralized areas including the portions of Upper Talarik Creek and the North and South Forks of the Koktuli River known to support salmon, and it created a buffer 100 feet on either side to mineral entry (ADNR, 1984). The purpose of these closures was to protect fish habitat from incompatible mining activities. Although not mentioned in the text of the 1984 BBAP, a map of Management Unit 6 depicted a portion of the current Pebble mining claims as an area where minerals were designated as a primary use (ADNR, 1984). This was probably based on claims staked prior to 1984. Because the map is very small it is difficult to determine if the current Pebble Project ore body is within the area where minerals were designated as a primary use in 1984.

The 2005 revisions under the Murkowski Administration changed the BBAP management emphasis in Unit 6 from protection of fish and wildlife habitat to mineral development. The 2005 plan also reduced the area which was to be managed as fish and wildlife habitat from all of Unit 6, to the Muklung Hills and the streams specified in ADNR's Anadromous Waters Catalog (ADNR, 2005). The management emphasis for a very large area surrounding the Pebble claims (Units R06-23, 24 and R10-02), which was designated as fish and wildlife habitat, in the 1984 Plan, became "Area's associated with the Pebble Copper Deposit that overlap Region 10 (and 6) are designated Mineral (Mi)." "Areas associated with significant resources, either measured or inferred, that may experience mineral exploration or development during the planning period are designated minerals" (ADNR, 2005).

At the same time the Management Intent for the Pebble Mine area in the 2005 plan revisions (page 3-111) became, "The general resource management intent for the Pebble Copper Area is to accommodate mineral exploration and development and to allow DNR the discretion to make specific decisions on how development may occur, through the authorization process." "Mineral development in this unit is ***expected to be authorized*** (emphasis added) after a public process that is as extensive as this area plan and with the benefit of site specific data and design that is prepared for the development and is not now available." (ADNR, 2005). The most straightforward interpretation of this policy is that ADNR expects to approve the Pebble Mine

with conditions after receipt of a mine plan, a permit application and public hearings. The policy which directs ADNR authorizations does not mention denial as an option.

Many of the policies in the 1984 BBAP related to fish habitat protection also changed in the 2005 revisions. For example, maintenance of instream flow is an essential element in the productivity of salmon and high value resident fish streams. The instream flow management guideline in the 1984 BBAP, was "Except for public water supply and domestic use, the maintenance of fish stocks is generally the highest priority use in the study area. Therefore, the DNR will not allow an appropriation of water to fall below the amount determined necessary by ADF&G and/or USFWS to protect fish habitat and production and water fowl habitat" (BBAP, 1984). In the 2005 plan revisions the guideline was changed to, "Streams and other water bodies may be considered for instream flow reservations under AS 46.15.145.

The revised plan contains vague statements regarding protection of fish habitat such as: "Environmental Quality and Cultural Values: Protect the integrity of the environment and affected cultures when developing subsurface values", but very specific statements regarding state support of mining such as: "State Support of Mining: Aid in the development of infrastructure such as ports, roads, railroads, and continue to provide geologic and geophysical mapping and technical support to the mining industry", and "Mining in Fish Habitat: When the DNR issues a permit for mining in or adjacent to a fish stream, conditions of the permit will require any necessary measures that will allow the operation to meet water quality standards, and statutes and regulations governing the protection of fish."(ADNR, 2005). It is difficult to see how fish habitat can be "protected" when the stream bed is removed for an open pit mine such as is being proposed for the Pebble Project. The new policy permitting instream mining in the revised BBAP contrasts vividly with ADNR's finding in the 1984 mineral closures for Upper Talarik Creek and the Koktuli River that, "The development of mining claims within the active stream channel of designated anadromous streams and adjacent uplands creates an incompatible surface use conflict with salmon propagation and production and jeopardizes the economy of the Bristol Bay region and the management of the commercial, sport and subsistence fisheries in the Bristol Bay area. Mining within the active stream channel of an anadromous stream can seriously affect salmon spawning and rearing habitat and degrade water quality by the production of excessive sediment loads." (ADNR, 1984). Numerous scientific studies have documented that instream mining and the destruction of fish habitat is harmful to fish populations, and the body of scientific literature on this issue has increased since the original report was adopted in 1984 (Van Nieuwenhuyse, E. and J. Laperriere, 1986; Pierce, J. 1999; and Mol, J. and P. Outboten, 2004). What has changed is the 2005 revisions to the BBAP made protection of fish habitat and fish populations and the people that depend on fishing less important than mining.

The 2005 BBAP did leave intact the 1984 mineral closing orders for the portions of Upper Talarik Creek and the North and South Forks of the Koktuli River that were known to support salmon in 1984. These closures were put in place because the original drafters of the plan including ADNR, Bristol Bay Area residents, and State and Federal fisheries scientists who worked on the Plan recognized the threat that mining presented to the fisheries resources of the region. However, those closures were not expanded in the 2005 BBAP to include the new information on anadromous fish distribution in these streams in the proposed mine area and under the proposed tailings impoundments which become available in 2004.

Discussion: The stated purpose of the Murkowski administration's changes to state statutes, regulations and plans was to "streamline permitting" and expedite development by concentrating state authority to review and approve projects within ADNR. Although DNR and DEC claim that these actions do not adversely affect the State's responsibility to protect fish, it is not credible to conclude that in all cases the prior protections are still in place. Prior protections are certainly not in place for the Bristol Bay Area Plan or the Coastal Program. The transfer of authority to protect salmon habitat and prevent blockages of fish streams to ADNR was a fundamental change in how Alaska's fish resources are legally considered in non renewable resource decisions. The Department of Fish and Games statutory mandate is to protect, preserve, maintain, and extend the fish and wildlife resources in the interest of the economy and general well being of the State. When the two fish habitat protection statutes were transferred to ADNR, the statutory requirement to protect and preserve fish habitat was replaced by ADNR's mandate to consider fish habitat as one of many general criteria in developing non renewable resources such as large mines. During 2007 legislative hearings on HB 41, several former and present Alaska Department of Fish and Game Habitat Division and Alaska Department of Natural Resources Office of Habitat Management and Permitting biologists testified how protection for fish has been substantially weakened under ADNR. Although there has been substantial pressure to reverse these changes by the public and legislature, the Palin Administration has not acted to date.

5.5 Effectiveness of NEPA Process in Preventing Mine Pollution: The States large mine permit coordination process is dependent on NEPA, because federal permits required for large mine's are subject to the requirements of the National Environmental Policy Act (NEPA). NEPA establishes national environmental policy and goals for the protection, maintenance, and enhancement of the environment. Section 102 of NEPA requires all federal agencies to prepare detailed statements assessing the environmental impact of and alternatives to major federal actions (such as permits for large mines) significantly affecting the environment (i.e., an EIS). The federal permit for the project which is being evaluated under the NEPA process can't be issued until the final EIS and the Record of Decision (ROD) is issued. If the Environmental protection Agency doesn't agree that the EIS adequately addressed potential impacts review by the Council on Environmental Quality may be required.

Because the state large mine permitting process relies on the federal NEPA process, it is necessary to evaluate how well the NEPA process and subsequent federal and state permitting has performed in predicting and preventing pollution from large mines, in order to predict how well these same processes might do in preventing pollution from the Pebble Mine. Recently, two respected critics of the NEPA process used for large mines published a two-year study of the accuracy of predictions made in Environmental Impact Statements (EIS) for recently permitted mines in the United States (Kuipers, J.R., et al. 2006). The authors studied a representative sample of 25 recently permitted major mines where pre-mining baseline data and operational data were available. Although 100 percent of the EISs predicted that the mines would be able to comply with water quality standards, in fact:

1. 76% of the mines polluted ground water or surface water severely enough to exceed water quality standards;

2. 60% of mines polluted surface water severely enough to exceed water quality standards;
3. 52% of mines polluted ground water severely enough to exceed water quality standards;
4. 73% of mines exceeded surface water quality standards despite predicting that mitigation would result in compliance;
5. 77% of mines that exceeded ground water quality standards incorrectly predicted that mitigation to correct problems would result in compliance.

The study also found that mines, involving metallic sulfide deposits (such as the Pebble Project and the Red Dog Mine) and that are near ground water (like Pebble Copper and the Red Dog Mine), have such a high risk, that water quality exceedances are near certainty for acid drainage or contaminant leaching (Kuipers, et al. 2006). The analysis found that 85% of these mines polluted surface water, 93% of these mines polluted ground water, and of the mines that developed acid mine drainage, 89% of the environmental documents for these mines predicted that they would not. When the permitting agency tried to get the mine to fix the problem, the fixes failed 75% of the time. Of the 19 out of 25 mines that were analyzed and found to pollute ground and surface water, 63% released toxic metals such as lead, mercury, cadmium, copper, nickel, or zinc, 58% released arsenic and sulfates and 53% released cyanide.

By looking at large Alaskan mines which have been permitted under the NEPA process or both the NEPA and ADNR large mines process we can get an idea of how well the system has worked in predicting and preventing pollution:

Fort Knox Mine: The Fort Knox Mine, which was permitted under NEPA and the large mine permitting process, is often used as an example of an environmentally sound, non-polluting mine. It has generally done a good job of preventing pollution thus far. Lessons we can learn are that once a mine is permitted it may change its operating methods and it will be hard to deny a new permit. Fort Knox originally said it would not use cyanide in its process. The ADNR has recently allowed Fort Knox to build a facility for large scale use of cyanide in heap leaching of low grade ore (Fairbanks Daily News Miner, 2007).

Originally Fort Knox was determined to not have an acid mine drainage issue because of the nature of the ore body which is associated with anomalously high amounts of bismuth and is a low-sulfide deposit. Because it is a low sulfide deposit, it is less likely to pollute because it is not subject to the acid mine drainage problems that all metallic sulfide mines seem prone to. However, in 2002 Fort Knox began processing ore from its True North deposit (Fairbanks Daily News Miner, 2007). Because True North gold is associated with the sulfide minerals pyrite (iron), arsenopyrite (arsenic), and stibnite (antimony) in unoxidized zones the waste does have the potential to create acid drainage. Again, the original assumptions about the potential for pollution changed after the mine was in operation.

Mining at Fort Knox commenced in 1996. In the fall of 2006 the tailings dam at Fort Knox began leaking cyanide contaminated waste water (ADN, 2007). Although the leaks were discovered in late 2006, they were not made public until 2007. The Fort Knox tailings dams incorporate a system of perforated pipes, sumps and pumps to capture leakage and return it to the

tailings pond, but in this case the leak took a different pathway. The mine caught the problem and kept pollution from getting off site. It is more likely that problems will be detected and addressed while a mine is operating and personnel and equipment are on hand than it will be years after a mine has closed and is being watched by a caretaker.

It is too early to conclude whether the Fort Knox Mine will or will not pollute at some point in the future, especially if large quantities of sulfide mine waste from the True North Mine are stored permanently on site and cyanide is used in the gold extraction process. Most pollution problems often occur over time, as mines age, and often long after the company has left and the mine is closed (Chambers, 2006).

Red Dog Mine: The Red Dog Mine is a massive lead zinc sulfide deposit located on Red Dog Creek in the Delong Mountains of the western Brooks Range. The mine consists of an open pit, a mill a large tailings pond, water supple and housing. The ore concentrate is transported to the port on the Chukchi Sea coast by a 47 mile long haul road (EPA, 1984). The mine which opened in 1989 produces more than one million pounds of lead zinc concentrate annually, demonstrates the problems and risks associated with mining sulfide ore in an area with substantial wind and precipitation.

Although, the Red Dog Mine was permitted before the ADNR's large mine permitting process, the Red Dog Mine was permitted under the same NEPA and federal permitting process that is the centerpiece of ADNR's large mine permitting process. It is also one of the mines listed on the ADNR Mining webpage as a large mine permitting project. With the exception of the changes made by the Murkowski Administration in 2003 which weakened protection for fish and wildlife habitat, and subsistence uses formerly provided under the Alaska Coastal Management Program and the Anadromous Fish and Fishways Act, the Red Dog Mine was permitted under the same state laws and regulations that are currently used by ADNR to make decisions under the large mine permitting process.

The Environmental Impact Statement (EIS) for the Red Dog Mine was completed in 1984 and predicted that the project as presented by the applicant would have "no significant or little impact" on fish and fish habitat, vegetation, wildlife, subsistence activities, and air and water quality (EPA, 1984). Topics such as the potential for dust emissions, fuel and chemical spills, ground water pollution, storage of billons of tons of mine waste in the tailings impoundment and the potential for pollution from the flooded mine pit after closure were briefly discussed, but it was concluded that the measures proposed by the applicant would prevent any impact (EPA, 1984). There was no acknowledgement of potential future problems with the permanent storage of billons of tons of acid generating waste rock and mine wastes after the mine was closed, or the possibility that permit violations might occur.

State and federal permits were issued for the project and mining operations began in 1989. Pollution related problems and deviations from predictions in the EIS began shortly after the mine opened and have continued to date. Because of its length a chronology of the pollution related events as reported in the Anchorage Daily News from 1989-2006 is presented in Appendix 4. A brief summary of the problems at the mine include:

The ADEC Toxic Release Inventory reports for 2003-2005 show that the Red Dog Mine deposits almost 500 million pounds of toxic material behind its permitted tailings dams annually (ADEC, 2003-2005). An additional 320,000 pounds of methanol, lead, and zinc are released to the air as fugitive emissions.

When mining is completed and the site closed, it will leave behind a large tailings impoundment behind an earth fill dam which will have to be maintained forever to prevent it from breaching and spilling billions of gallons of toxic lead and zinc laden water and mine waste into local streams. The water leaking from the earthen fill dam, waste rock and remaining pit and fractured ore body will also have to be captured and treated in perpetuity (Crafford, 2007). Red Dog is an example of the state and federal processes determining that it is allowable for the mine operator/owners to leave a toxic mine site and tailings disposal site in a condition that has to be treated by someone forever. The process, and resulting permits, originally required the company to provide an 11 million dollar bond, but a new bond is being evaluated and it is estimated that it will take at least $100,000,000 to provide for needed perpetual care (Chambers, 2005).

Dust from the mine, trucks hauling lead and zinc concentrate, and the port where the concentrate is loaded onto ships, has contaminated 143,000 acres of the surrounding watershed with toxic levels of lead and cadmium (Hasselbach, et al. 2005). Lead and zinc levels measured at the port are 27 times the EPA industrial cleanup level. The NEPA/EIS and the original permits did not anticipate this problem, nor did they require adequate monitoring to detect the problem. It took the National Park Service and state and federal regulators 12 years to discover dust pollution was occurring and get the mine operators to effectively cover their trucks and operate the port in a way that keeps fugitive dust in check.

The Red Dog tailings dam, which was found to be adequate in the EIS and had been approved under the state and federal permitting process, came very close to failing in 1990. It turned out that the dam, though built as permitted, was under designed to cope with the levels of effluent and precipitation encountered. To save the dam and avoid having the entire contents of the tailings impoundment flow down the Wulik River, Teck-Cominco had to open a spillway and release polluted water into Red Dog Creek. EPA fined them for the violation.

At the same time and again unanticipated by the mine developer or the permitting agencies, new groundwater with toxic levels of zinc and other heavy metals began to well up in Red Dog Creek. More than 20 miles of Red Dog Creek were fouled and the world class char fishery in the Wulik River was threatened (ADN 1990). Neither the NEPA process nor the agencies issuing permit's for the mine predicted that once the ore body began to be developed; blasting would crack adjacent rock and give groundwater new pathways to newly exposed mineralized rock and thus liberate heavy metals that caused water pollution. The company eventually addressed the problem by moving Red Dog Creek and headwater steams a number of years before its development plan called for the creek to be moved.

Because the water pollution control systems installed at the mine didn't function as expected, heavily contaminated water was dumped from the treatment facility, leaked from the ore body, and overflowed from the tailing impoundment into the middle fork of Red Dog Creek. It took years to get the water pollution control and treatment systems operating properly. As a result the

mines operator was cited for over 618 violations of the mines water quality permits (ADN, 2006). Over $16,652,000 in fines and requirements for additional pollution control measures have been levied against the Teck-Cominco through 2006. None of these violations, or any of the problems described above, was anticipated in the EIS or adequately addressed in the original state and federal mine permitting process. Teck-Cominco, who operates the Red Dog Mine, is currently operating under a federal compliance order allowing it to exceed certain water quality standards. Several residents of the Village of Kivalina are suing Teck Cominco for water quality violations at the mine (Anchorage Daily News, 2007g and 2007f).

Because Red Dog was permitted under NEPA and the associated federal permitting processes, it is an example of why ADNR's large mine process cannot be depended upon to predict and prevent water quality violations. The Red Dog Mine is also an example of the how the state and federal regulatory processes often fail to anticipate serious environmental impacts of large mines, are slow to identify impacts that are occurring, and are sometimes not very effective in fixing problems after they occur.

Finally, Red Dog is also an example that the state and federal process can determine it is "in the public interest" to leave toxic tailings and a mine site in a condition that has to be actively treated forever, and that requiring a bond to pay for that perpetual care is "in the public interest".

Kensington Mine: The Kensington Mine operated by Coeur Alaska near Juneau, was permitted under the ADNR large mine process. The state and federal permits for the Kensington Mine issued under the ADNR Large Mines Process are pertinent to the Pebble Mine issue because the Corps 404 permit allowed the mine to dump its chemically processed mine tailings into Lower Slate Lake, a natural lake which supports fish. The Juneau Empire reported that Coeur found this method would be cheaper than storing the tailings on dry land (Juneau Empire, 2005).

Federal and state approval to dump mine waste into a fish bearing lake was not only an important cost savings measure for the mine, which would have had to develop a leak proof upland storage site, but it also set a precedent for other mines in Alaska, including the much larger Pebble Project mine which proposes to cover one or more lakes and approximately 16 miles of streams, supporting both resident and anadromous fish, with billions of tons of potentially acid generating waste rock and mill waste.

However, the Corps of Engineers Kensington disposal permit was recently overturned by the U.S. 9th Circuit Court of Appeals which ruled that "the mine tailings, the waste product of a chemical milling process, could not be treated like mere 'fill material' that the 2002 EPA and Corps of Engineer regulation changes allowed mining companies to dump into bodies of water." (Anchorage Daily News, 2007g and U.S. Ninth Circuit Court, 2007). Coeur Alaska, the Palin Administration, and the local Goldbelt Native Corporation appealed the court's ruling, but the Corps of Engineers and the Forest Service declined to join the appeal (Juneau Empire, 8/23/07).

Although the disposal of mine waste into Slate Lake has been blocked by the Federal court because doing so was a violation of the Clean Water Act, it raises the question of whether Corps of Engineers, ADNR and ADEC regulators, who are charged with protecting water quality and Alaska's fisheries resources, would similarly support the disposal of toxic mining wastes into

Bristol Bay drainages where much greater fisheries resources are at risk? (See Section 5.4 on the Bristol Bay Area Plan.)

Discussion: When ADNR relies upon the NEPA process as the cornerstone of its large mine permitting process, it is depending on a process that has a poor record of predicting and mitigating water pollution problems from large scale mining operations. ADNR has not shown how its process, which depends on NEPA, differs from that used for the 25 mines studied in the 2006 Kuipers report, which likewise depended on NEPA (see also section 5.7).

5.6 The Lack of Confidence in Federal and State Regulation of Mines Prompted Changes in Other State's Laws: The citizens of two states, Wisconsin and Montana, with a long and not always good history of mining passed initiatives setting higher standards for sulfide mines and prohibiting the use of cyanide in mining. Two other states, Michigan and New Mexico, have adopted statutes and regulations prohibiting or severely restricting mines which would leave behind mine pits, tunnels, or tailing storage facilities which would require perpetual care to prevent pollution of the environment.

The State of Wisconsin adopted the Sulfide Mining Moratorium Act in 1998. The Act prohibits the state issuance of permits for new metallic sulfide mines unless one such mine in North America is certified by the Wisconsin Department of Natural Resources to have operated for 10 years and been closed for 10 years without causing pollution (Appendix 2). The Act, which received strong support from Wisconsin citizens, was directed at stopping the Canadian Rio Algom Corporation's Crandon zinc-copper mine near the Mole Lake Chippewa Reservation, from being permitted by the Wisconsin Department of Natural Resources. The Act does not prohibit sulfide mining but adds the new criteria at the end of the permit process. This has effectively halted the development of new sulfide mines in Wisconsin, because no examples of sulfide mines which meet the criteria have been identified to date.

The State of Montana banned the use of cyanide through a citizen's initiative in 1998. Montana voters overwhelmingly rejected the mining industry's effort to repeal the ban in 2004. The bill I-137 prohibits cyanide heap and vat leach open-pit gold and silver mining, but allows mines to continue operating under its existing operating permit or any amended permit that is necessary for the continued operation of the mine (Appendix 3).

The initiative passed because of numerous cyanide spills and leaks and other pollution at the Beal Mountain Mine, Zortman-Landusky Mine, Golden Sunlight Mine, Kendall Mine and Basin Creek Mine that caused fish kills and threatened water supplies for ranches and communities. The Zortman- Landusky Mine alone experienced over a dozen cyanide spills, including one spill that released 50,000 gallons of cyanide solution and contaminated a community drinking water supply (Westerners for Responsible Mining, 2007).

One mining company sued the State of Montana claiming that the ban prevented it from mining and making a profit. A five-year legal showdown over Montana's historic ban on cyanide leach mining ended April 18, 2007 when the Montana Supreme Court unanimously ruled that the ban did not deprive a mining company of property or profit. The high court ruled 6-0 that Canyon Resources Corp., the principal player behind the hoped-for large open pit cyanide leach mine

slated for Lincoln, Montana did not have a mining permit when voters approved the cyanide ban in November 1998. Consequently, the company had no right to mine and lost nothing when the initiative passed (Missoulian, 2007).

New Mexico and Michigan have enacted statutes designed to prevent the approval of mine or reclamation plans which require perpetual care (Appendix 6). The Red Dog Mine and the proposed Pebble Project Mine are examples of mines that would require perpetual care after closure because of the large quantity of toxic waste stored on site or generated by flooded mine pits or tunnels. The New Mexico statute N.M.S.A 1978, 69-26-12 states in part, "B. The Director shall issue the permit for a new mining operation if the director finds that: (4) the mining operation is designed to meet without perpetual care all applicable environmental requirements imposed by the New Mexico Mining Act and regulations adopted pursuant to that act and other laws following closure". Michigan statute M.C.L.A. 324.63209: "Natural Resources and Environmental Protection Act requires in part, (8) Both the mining area and the affected area shall be reclaimed and remediated to achieve a self-sustaining ecosystem appropriate for the region that does not require perpetual care following closure and with the goal that the affected area shall be returned to the ecological conditions that approximate premining conditions subject to changes caused by nonmining activities or other natural events."

These statutes appear to prohibit large tailings facilities storing toxic wastes, and mine tunnels and pits which are likely to develop acid mine drainage, such as those proposed for the Red Dog Mine and Pebble Project, that would require perpetual treatment and maintenance to prevent environmental pollution after closure.

5.7 Under Federal Statutes, Mining Does Not Receive the Same Scrutiny as Other Industries: The 1972 Clean Water Act (CWA) prohibited dumping waste into streams and lakes. However, in 2002, the Environmental Protection Agency and the Corps of Engineers under the Bush Administration, revised regulation to classify chemically processed mine waste as "fill," for purposes of the CWA, to allow the waste to be discharged into bodies of water if a permit is obtained (Perks and Wetstone, 2002 and Washington Post, 2004). Since then, the new definition has been applied widely in Appalachia, making it easier for companies to blast away mountaintops, mine coal seams underneath, and push the waste material into neighboring valleys, often obliterating streams in the process (Washington Post, 2004). The Corps of Engineers interpreted the new regulations to include waste from metals mining in approving a permit to dispose of mine waste into Lower Slate Lake at the Kensington Mine in Juneau (U.S. Ninth Circuit Court, 2007).

Mining waste has also been exempted from the Resource Conservation and Recovery Act (RCRA 42 U.S.C. s/s 6901 et esq.). The RCRA (1976) gave EPA the authority to control hazardous waste from the "cradle-to-grave". This includes the generation, transportation, treatment, storage and disposal of hazardous waste. In October, 1980, RCRA was amended by adding section 3001(b) (3) (A) (ii), known as the Bevill exclusion, to exclude "solid waste from the extraction, beneficiation, and processing of ores and minerals" from regulation as hazardous waste under Subtitle C of RCRA (Environmental Protection Agency, 2007s). According to the EPA, "Mining wastes include waste generated during the extraction, beneficiation, and processing of minerals". Most extraction and beneficiation wastes from hard rock mining (the

mining of metallic ores and phosphate rock) and 20 specific mineral processing wastes are categorized by EPA as "special wastes" and have been exempted by the Mining Waste Exclusion from federal hazardous waste regulations under Subtitle C of the Resource Conservation and Recovery Act (RCRA) (Environmental Protection Agency, 2007s. These amendments to federal antipollution laws allow mining companies to store billions of tons of mine waste, containing heavy metals and toxic chemicals such as cyanide, behind tailings dams. Many of these tailings storage facilities such as the Summitville Mine, Grouse Creek Mine, Zortman-Landusky Mines and others have subsequently leaked, causing serious pollution of surface and ground waters (see sections on Acid Mine Drainage and Copper and Cyanide Toxicity).

Mining operations are also exempt from certain federal air quality standards. Mercury emissions from mining are not regulated under the National Ambient Air Quality Standards (NAAQS) or under the National Emission Standards for Hazardous Air Pollutants (NESHAPS) for gold or silver mining. Although, there are regulatory requirements under title V of the Clean Air Act (CAA) mercury is also not regulated under the New Source performance Standards (NSPS) Regulations." (National Risk Management Research Laboratory, 2003). This has resulted in substantial levels of mercury pollution from metals mines in the United States.

6. POTENTIAL IMPACTS OF THE PROPOSED PEBBLE MINE AND ASSOCIATED FACILITIES ON FISH HABITAT, FISH AND FISHERMEN

6.1 Introduction: If developed, the Pebble Project mine, mill, tailings storage facilities, access roads, pipelines, port, electrical transmission lines and associated facilities would physically destroy, dewater or otherwise affect a significant amount of salmon and high value resident fish habitat in two Bristol Bay drainages. It is also likely that during the operating life of the mine or after abandonment, the Pebble Mine and associated facilities will cause pollution resulting in substantial reductions of fish habitat and fish production in portions of the Nushagak or Kvichak River drainages.

6.2 Physical Loss of Habitat: A substantial amount of fish habitat will be (1) physically destroyed during the excavation and operation of the Pebble mine and associated facilities, (2) dewatered by water appropriations, and (3) altered or blocked by construction of the access road.

Physical destruction of fish habitat: The Pebble Mine, including the Pebble West (chalcopyrite) pit, the Pebble East (bornite) pit or block cave and the tailings ponds as currently proposed, will physically occupy or impact approximately 6.5 square miles of the North Fork Koktuli (NFK) River drainage, and 19 square miles of the Upper Talarik Creek (UTC) and South Fork Koktuli River (SFK) drainages (Figure 1). All of the resident and anadromous fish habitat in the area will be destroyed. Approximately 3.5 miles of stream 1.190, a tributary of the NFK which supports grayling, large numbers of Dolly Varden, spawning adult Coho, and rearing juvenile Coho and Chinook salmon will be buried under Tailings Pond G (NDM, 2006). In addition, all fish habitat in Frying Pan Lake and approximately 9.5 miles of SFK tributaries would be excavated for the Pebble West pit, buried under Tailings Storage Facility A, or appropriated for mine process water. The headwaters of Upper Talarik Creek and many of its tributaries are underlain by the Pebble East and West ore bodies and would be removed by mining, and the water appropriated

for mine use. A portion of the headwaters of Upper Talarik Creek which would be excavated for the Pebble West pit, or underlain by the Pebble East Pit, appears to be currently specified in the Alaska Department of Natural Resources Anadromous Waters Catalog or has been identified as important for sockeye and Coho salmon spawning, and high value rearing habitat for Coho, Chinook, Dolly Varden and rainbow trout (NDM, 2006). Although, Northern Dynasty Mines has not disclosed how the deeper Pebble East Ore body would be mined (i.e., open pit or block caving), it seems almost certain that in either case the section of the main stem of Upper Talarik Creek flowing over or adjacent to the proposed Pebble East pit, would flow into the mine and would have to be rerouted around the mine or appropriated for mine use. In either event fisheries production from a one to two mile segment of the main stem of Upper Talarik Creek would be lost. Over 12 miles of Upper Talarik Creek tributaries would be similarly affected if both ore bodies were developed.

With the information available at this time, it is difficult to provide a precise estimate of the number of adult and rearing juvenile salmon and resident fish in the portions of the North and South Forks of the Koktuli River and Upper Talarik Creek which would be physically and permanently lost to mining activities over time. The numbers of spawning adult salmon and resident fish in the streams displaced by the Pebble Mine fluctuate over time due to environmental conditions and the number of returning salmon harvested. Aerial survey estimates of salmon spawning escapements are only indexes and often underestimate the actual number of fish in the stream. Information from Northern Dynasty Mine's surveys provide only qualitative information on juvenile numbers at the time and location that samples were taken, but not total population in all of the areas which may be affected by the mine. However, the loss of this much habitat in these three drainages could reduce the production of adult resident fish and salmon from these three systems by thousands and possibly up to tens of thousands of fish annually. The number of juvenile fish lost could be in the tens of thousands to hundreds of thousands. Because the production from this habitat will be permanently lost, the cumulative loss over tens of thousands of years would be substantial.

Dewatering and Loss of Instream Flow: All of the ground and surface water within the mine area, which encompasses the headwater of the North and South Forks of the Koktuli River and Upper Talarik Creeks, would be appropriated for mine use over the 40 to 70 year life of the mine (Northern Dynasty, 2005 and Northern Dynasty, 2006). Because the number of fish produced is determined by the quality and amount of habitat available in a stream, the loss of this flow over the 40 to 70 year life of the mine would reduce the number of resident and anadromous fish produced by the North and South Forks of the Koktuli River, and Upper Talarik Creek (National Research Council, 1996 and Heggenes et al. 1998).

The surface water appropriation for the mine and the tailings facilities would eliminate all flow and fish habitat in the upper main stem of the South Fork Koktuli and its headwater's tributaries, tributary 1.190 to the North Fork Koktuli, and the tributaries to Upper Talarik Creek within the Pebble East and Pebble West mine pits, upstream of the point where the water is removed (see Mine Footprint above). The fish stocks which may be genetically unique to these streams would be extirpated. The portions of these streams that would be excavated or buried under tailings would no longer produce fish even after the mine is closed.

Below the mine, stream flow would be lost and fish habitat would be dried up or severely diminished for some miles downstream. Some flow would gradually be restored downstream as unaffected tributaries empty into the main channel of these three streams. Table 1 in the section on water appropriation shows that the net reduction in stream flow on the South Fork Koktuli, 12 miles downstream, would be 16%, 8% on the North Fork Koktuli, 18 miles downstream, and 9% on the Upper Talarik Creek, 18 miles downstream. The reduction of habitat (stream width and depth) from these appropriations would substantially reduce available spawning and rearing habitat particularly during the summer low flow period when Chinook, sockeye and chum salmon are spawning and would reduce the amount of available overwintering habitat for eggs and juvenile salmon during critical low winter flows.

Northern Dynasty's 2004 hydrogeology study also found that the middle section of the South Fork Koktuli River goes dry during low flow periods during the summer. It is thought this is an indication that the South Fork Koktuli River may be contributing cross drainage ground water flow to Kaskanak Creek. The proposed surface water appropriations from the SFK would increase the frequency and length of the periods when upstream fish migration in the middle and upper South Fork Koktuli would be blocked by a dry stream bed and spawning and rearing habitat would not be available.

Northern Dynasty has also submitted a separate ground water application for 19.4 cubic feet per second from the Upper Talarik Creek drainage, 11.78 cubic feet per second of ground water from the South Fork Koktuli watershed, and 12 cubic feet per second from the North Fork Koktuli River drainage (NDM Pebble Project 2006 ground water application). The wetlands, lakes and ponds in the mine area are a manifestation of the ground water level in the mine area which appears to be quite high. Ground water flowing down gradient from the mine area also appears to provide the majority of flow to the North and South Forks of the Koktuli River and Upper Talarik Creek during July and August when there is little precipitation and Chinook, chum, and sockeye salmon are spawning. From January through March when surface runoff slows or stops, ground water is the primary source of critical winter flows to incubating salmon eggs and juvenile salmon overwintering areas. Ground water from the mine area is also likely the source of the seeps and upwelling areas in these streams currently used by salmon for spawning. The loss of ground water would reduce the amount of salmon spawning habitat in July and August when Chinook, chum and sockeye salmon spawning occurs, and would reduce the amount of viable overwintering habitat during January-March low flows. The sections of the South Fork Koktuli which currently go dry in mid summer would likely expand. Loss of salmon and resident fish habitat because of reduced and altered stream and ground water flows is well documented in the scientific literature, and is a major cause of salmon declines in the Pacific Northwest (National Research Council, 1996 and Heggnes et al. 1998) Pebble Mine ground and surface water appropriations could eliminate some or all salmon and high value fish habitat in the upper sections of the South Fork Koktuli River. Salmon and high value resident habitat and fish production would likely be reduced in downstream reaches, but to a lesser degree because of the mitigating effects of flow from downstream tributaries. Loss of ground water upwelling areas would also reduce or eliminate salmon spawning in the areas of the North and South Forks of the Koktuli River and Upper Talarik Creek where this occurs.

Predicting the impact of instream flow reductions, from the proposed surface and ground water appropriations for the Pebble Mine, on fish production is complex and imprecise without a lot of long term data. However, there is no question that the loss of ground and surface water below the mine and tailings ponds will reduce fish spawning and rearing habitat and fish production. It is likely that the proposed ground water and surface water appropriations for the Pebble Project Mine would reduce downstream production of adult salmon and other fish species by thousands and possibly into the tens of thousands of adult fish annually. The lost of rearing juvenile fish would be at least one magnitude higher. The loss of fish production would continue over the 40 to 70 year life of the mine.

After the mine is closed, the surface and ground water that is no longer captured and used by the mine would fill and then overflow the mine pits and tailings storage areas. Because this water may be contaminated with heavy metals it would have undergo an extensive treatment process before it could be discharged into these streams.

Obstruction of fish passage: The access road, pipelines, and electrical transmission line will cross at least 120 streams, and approximately half of these streams provide spawning, rearing and migratory habitat for five species of salmon and high value resident fish such as rainbow trout, Dolly Varden, and grayling. Roads impact streams when inadequately designed, poorly installed or inadequately maintained stream crossing structures, usually culverts block fish passage to upstream fish habitat. Studies of culverts by the United States Forest Service and others found that improperly installed and maintained stream crossing structures have blocked access to thousands of miles of formerly productive salmon and high value resident fish in the Pacific Northwest and Alaska (Kemset, M., 1999). According to the Alaska Department of Fish and Game Sport Fish Division, "Poorly designed or inadequately maintained culverts can block or impede fish access to upstream spawning and rearing habitat. The connectivity of a diverse suite of fish habitats is integral to supporting the abundance of fish species and their life stages found in Alaska's fresh water habitats. Tributary streams, lakes, off-channel habitats, backwater areas, small ponds, and sloughs all provide critical fish habitat. Ensuring that these habitat components remain connected allowing for the free migration of spawning adults and rearing juvenile fish is critical for maintaining healthy fish populations. However, a variety of natural and man-made barriers (particularly culverts) limits connectivity of habitats and can measurably reduce fish production in some watersheds." (ADF&G, 2007).

Although, fish passage guidelines exist for the installation of culverts, many of the culverts installed in the Pebble Mine access road will likely eventually end up as barriers to adult and juvenile fish migration. Unanticipated flood flows can erode stream channels, perch culverts and block upstream migration. Incorrectly installed or poorly maintained culverts eventually become fish passage blockages. It is estimated that up to 50% of the culverts on public road systems may impede fish passage over time (Steve Albert, 2007). Based on this estimate it is likely that over time, culverts on the Pebble Mine access road may block access to many miles of rearing and spawning habitat and will reduce fish production by tens of thousands of rearing juvenile fish and thousands of adult fish annually.

6.3 Chronic and Acute Pollution: There has never been a copper mine as large as the proposed Pebble Mine in the western hemisphere but experience from much smaller mines indicates that

there is a substantial risk that the Pebble Mine would (1) develop an acid mine drainage problem or (2) experience a large scale pollution event during the life of the mine or after abandonment (see Toxicity, Pollution Pathways, and Effectiveness Of The Regulatory Process Sections). Even small increases in copper or mercury levels in streams draining the Pebble Mine could reduce salmon and resident fish populations or cause secondary effects such as avoidance or reduced resistance to disease outbreaks.

Acid Mine Drainage: Acid mine drainage and tailings dam failures, from small to moderate sized copper and metals mines, a fraction of the size of the proposed Pebble Project Mine, have severely impacted or eliminated aquatic life in streams for many miles downstream. The potential loss of fish habitat can be estimated by considering two examples. Copper drainage from the Washington Copper mine in British Colombia has severely reduced salmon and trout populations in the Tsolum River and several tributaries for 18 miles downstream. In the past, the Tsolum River supported large populations of steelhead and resident rainbow trout, sea-run cutthroat trout, and Coho, pink and to a lesser extent, chum salmon. The fisheries resource is believed to have declined in the basin predominantly because of the acid mine drainage from Mt. Washington. Other factors such as the reduction of summer low flows by irrigation withdrawals, over fishing, logging and gravel extraction were considered as possible contributing factors. However, the neighboring Puntledge River, which has experienced these same disturbances, has continued to support strong salmon and trout populations (Government of British Colombia, Ministry of the Environment, 1995). Acid mine drainage from the 75 acre Formosa Copper Mine in Oregon has eliminated all aquatic life from 18 miles of two streams that were formerly prime habitat for steelhead, Coho salmon and trout (The Oregonian, 2007). Because the proposed Pebble Mine would be hundreds, perhaps thousands of times larger than these mines, the potential impacts would be proportionately greater than these mines.

Considering the effect of much smaller copper mines on salmon production, acid mine drainage overflowing from the abandoned Pebble East and West water filled mine pits into Upper Talarik Creek, or pollutant laden water leaking from tailings dams holding up to 8.2 billion tons of waste rock into the North or South Forks of the Koktuli River could eliminate all aquatic life for some distance downstream. Considering the scale of the Pebble Mine and the potential amount of acid mine drainage, the dead zone could include just the North or South Fork of the Koktuli, or Talarik Creek, or extend downstream into the Mulchatna River and Lake Iliamna. Increased levels of copper and other heavy metals which are toxic to phytoplankton at very low levels would reduce food organisms that support rearing juvenile sockeye in Lake Iliamna (Roch, et al. 1985). Based on adult salmon escapement levels, the loss of one or more of these streams to acid mine drainage could reduce production of adult Bristol Bay sockeye, Chinook and coho salmon in some years by up to hundreds of thousands of fish. Large numbers of high value resident fish would also be eliminated.

Waste Water Discharges: Several mining experts and a number of state and federal regulators with mining experience, who were contacted in the preparation of this report, voiced the opinion that Northern Dynasty would not be able to achieve their goal of zero discharge if the Pebble Mine were developed. The size of the mine, its location in wetlands , the amount of precipitation, the climate at the mine site, the inability to store the amount of water proposed to be appropriated over the life of the mine and past experience were all cited as reasons. This is consistent with the United States Environmental Protection Agency's, 2004, Technical support

for the 2004 effluent guidelines program plan, which found that, "Mines located in arid areas can effectively reduce effluent discharge quantities by evaporation. Other facilities, located in areas with net positive precipitation or icy conditions have less control over their discharge volumes." (Environmental Protection Agency, 2004). Sources of mine waste water discharges cited by EPA include water drained or pumped from active mining areas, process water discharges or leakage from tailings impoundments leach ponds and waste piles, and storm water runoff from the mining area (Environmental Protection Agency, 2003)

If the Pebble Mine can't achieve zero discharge, the mine can propose to discharge waste water to a nearby water body (Environmental Protection Agency, 2003). NPDES regulations allow mining operations to discharge a volume of wastewater equal to the net precipitation falling on the tailings impoundment. Considering the surface area of the tailings impoundments and the annual precipitation this discharge could amount to many cubic feet per second.

The proposed Pebble Mine might apply for a mixing zone or for reclassification of the receiving waters if it is not economically or technically feasible to treat waste water below levels that are harmful to fish.

Discharge permits are based on many factors including the composition of the waste water and the use of the receiving waters. ADEC 18AAC 70 Regulations Article 2 Exceptions to Statewide Standards allow for discharges which do not meet state water quality standards through short term variances, zones of deposit, thermal discharges, reclassification of waters, mixing zones and site specific criteria. To date ADEC has reclassified 25 stream reaches under 18.AAC 70.230e to allow nonconforming discharges from mines, including 8 for the Red Dog Mine.

Alaska Department of Environmental Conservation Mixing Zone Regulations 18 AAC 70 which were adopted in 2006 prohibit mixing zones in spawning areas and mixing zones which would "adversely affect the present and future capability of an area to support spawning, incubation, or rearing of any of the five species of salmon." However, mixing zones may be authorized in the spawning and rearing areas area of a lake, stream. river or other flowing water for all other species of resident and anadromous fish including rainbow trout, northern pike, brook trout, cutthroat trout, Arctic char, grayling and lake trout if three criteria designed to prevent or mitigate impacts to the growth and propagation of fish from discharges are met (18AAC 70).

Considering all of these factors it seems likely that the proposed Pebble Mine would have a discharge to either the Koktuli River or Upper Talarik Creek drainages. It is possible that the discharge would be piped to a lake, stream, or stream segment where 5 of the 7 species of Pacific salmon found in Alaska spawning don't spawn. Unfortunately is also likely that this discharge would exceed state water quality standards at times because of accidents, human error, and equipment breakdowns (see section on Red Dog Mine). Storm events with heavy precipitation could cause nonpoint source pollution or overwhelm treatment facilities. Depending on the size, composition and duration of the discharge, it could have acute or chronic effects on fish and other aquatic life in the receiving waters. Depending on the composition, magnitude and frequency these discharge could reduce fish production in the receiving waters.

Large Scale Pollution Event: A failure of one of the massive tailings dams planned for the Pebble Mine would have devastating short and long term consequences for the receiving waters. A tailings dam failure due to an earthquake, flood, or structural flaw would not only release a flood of polluted water downstream, but would also bury the receiving stream with silt like mine wastes. This silt would clog stream gravels and make the water in these clear water streams opaque. The tailings dam failure at the Brewer Gold Mine killed all fish in the Lynches River for 49 miles downstream (EPA, 2005d). The failure of the Martin Coal Company's tailings dam containing 250 million gallons of liquid waste and 155,000 cubic yards of solids impacted 75 miles of the Big Sandy Fork River.

The failure of one of the proposed Pebble Mine tailings dams containing several billion tons of potentially reactive mine waste and hundreds of billions of gallons of contaminated water could kill aquatic life as far downstream as the Nushagak River or out into Lake Iliamna. Mine tailings would be washed downstream and when exposed to oxygen would release acid and heavy metals for generations. Because of the billions of tons of mine waste involved, it is not clear if it would be physically or economically feasible to clean it up. A major failure of a tailings storage facility could kill hundreds of thousands to millions of adult salmon and high value resident fish depending on when and where the spill occurred. Fish production might be permanently eliminated or impaired in the stream impacted by the spill. Planktonic food organisms that are the food source for juvenile sockeye salmon in Lake Iliamna would decline if copper levels in the Lake increase as result of a spill (Roch, et al. 1985). Returning salmon which encountered the heavy metals in the plume from the spill might incur olfactory damage or be deterred from their upstream migration depending on the concentrations of heavy metals in the water column (Goldstein, J., et al. 1999)

Slurry Pipeline Breaks and Spills: As documented in the Sections on Copper Toxicity and Pollution Pathways, slurry pipeline breaks and spills occur frequently in spite of governmental regulations and oversight. Fish and other aquatic life would be likely killed by a large spill of copper concentrate slurry into any of the 40 or more streams crossed by the slurry pipelines. For example, large numbers of Newhalen River and Lake Clark sockeye stocks could be impacted by a pipeline break which spilled copper concentrate and contaminated water into the Newhalen River during the adult spawning migration, or the smolt out migration. Rearing salmon in the Newhalen River and Lake Iliamna would be impacted by dissolved copper directly and indirectly by copper which is very toxic to the planktonic food organisms that juvenile sockeye salmon feed on (see Pebble Project Toxicity section).

Adult salmon attempting to enter the Newhalen River might be injured or killed by copper levels in the River or abort their spawning run up river. Depending on the size, time and location of a pipeline spill, a slurry pipeline break could impact thousands to hundreds of thousands of adult salmon and high value resident fish, and hundreds of thousands to millions of juvenile fish.

Industrial Development and the Public Perception of Pollution Could Impact the Marketability of Bristol Bay Salmon: Publicity surrounding a major pollution event such as the failure of one of the 750 foot high tailings dams, chronic heavy metals pollution, or just the perception that the Pebble Mine might be polluting the waters of Bristol Bay drainages is likely to harm the marketability of Bristol Bay salmon. Subsistence fishermen would likely stop fishing stocks that

might be contaminated. Sport fishermen who are now attracted to the pristine but expensive salmonid fisheries of Bristol Bay might avoid areas believed to be contaminated. The economic and social cost could be very great.

Although, a comprehensive discussion of the effect of the perception of food safety on consumer's purchases is beyond the scope of this paper, the scientific literature contains many examples of how consumer's seafood purchases are affected by contamination of fish. Public reaction to news about mercury levels in tuna, a heavy metal also present in the Pebble mine area is one example of what could happen in the aftermath of news about chronic pollution or a major spill. According to a recent report in Globefish, which provides information on international fish trade, "bad publicity surrounding mercury levels in tuna has significantly reduced tuna sales in the United States, despite strenuous efforts by the industry to counter public perceptions. "Around 21% of consumers say they are "extremely concerned" about mercury in fish, up from 17% two years ago, according to a recent poll. The effective closure of all canneries on the US mainland has already dented imports of frozen whole tuna: now only around 10 000 tons, compared to 130 000 tons eight years ago. In the first nine months of 2006, imports of frozen tuna declined further, by 8%. Studies carried out recently found 19% of people ate canned tuna at least once during the previous two weeks. In 2001, this share had been 25%. The canned tuna industry is swimming upstream, hurt by health warnings of mercury contamination" (Globefish, 2006).

Reports of a massive spill of Pebble Mine tailings into the Koktuli River or Upper Talarik Creek, a slurry pipeline break spilling copper concentrate into the Newhalen River or just chronic heavy metals pollution into the salmon streams draining the mine area could trigger a similar market reaction. For example scientists who studied the public reaction to news that farmed salmon were contaminated with PCB's and dioxins, reported that, "The identification of chemical contamination in farmed salmon had an immediate impact in the press (as judged by worldwide news coverage), on the public (reduced sales of farmed salmon were reported), and on perceptions of the state of the science." (Louma, S. and R. Ragnar, 2007).

Consumers are rightfully concerned about the purity of the food they eat and concern about the safety of seafood from an area can linger long after the source of the pollution is removed. According to the International Tanker Owners Pollution Federation Limited Technical Information Paper Number 3, (ITOPF, 2004), the most serious threat of oil spills to fisheries and aquaculture activity is the economic loss arising from business interruption. "Oil on the water and the application of temporary fishing and harvesting bans may prevent normal production, or a loss of market confidence may occur leading to price reductions or outright rejection of seafood products by commercial buyers and consumers. In extreme cases the mere hint of oil contamination can affect the marketing of high-price luxury seafood even if the produce is proven to be taint-free after testing by trained sensory panels and contaminants are at background levels after exhaustive chemical analysis" (ITOPF, 2004).

6.4 Other Pebble Mine Impacts: Although not part of the mining process per se, the construction of a road and port are an essential part of the project and would result in regional economic and social changes. The construction and operation of a new power plant for the mine could have significant fisheries impacts in its own right.

Secondary Development: Depending on your perspective, one of the biggest impacts or benefits of construction of the Pebble Mine port, electric transmissions lines and access road is the secondary development what may occur as a result. The 2005 update of the ADNR Bristol Bay Area Plan For State Land, (pg. 2-37) identifies 95 mineral deposits, prospects, and occurrences within 120 miles of the port site. Most are less than 50 miles from the proposed Pebble Mine access road corridor as depicted on page 2-74 of the Bristol Bay Area Plan for State Land (ADNR, 2006). Thousands of acres of claims have been staked around the Pebble Project claims. Many more deposits are located within 120 miles of the terminus of the Pebble Mine access road, including large gold deposits in the Shotgun Hills, copper claims near Iliamna, the Kemuk Mountain iron and titanium deposit, and the Sleitat Mountain tin-tungsten-silver deposit. The fourth Mineral Resources goal on page 2-32 of the Alaska Department of Natural Resources Bristol Bay Area Plan for State Lands entitled, State Support of Mining: is "aid in the development of infrastructure such as ports, roads, railroads, and continue to provide geologic and geophysical mapping and technological support to the mining industry." (ADNR, 2005). Once transportation facilities and electric power become available, many other large mining projects may become viable, especially if the roads and transmission lines are provided by the state or public utilities. These projects could have similar impacts on fish habitat, fish, and fishermen as the Pebble Mine.

If the road and port site are open to the public it would not only reduce the cost of living for residents of the area, but would make it attractive for new people to move into the area to work in the mines and service industries. State lands designated for settlement along the road corridor at Pile River, Chekok Lake, and the Newhalen River would likely be claimed by new residents. If ferry service were established, residents of the rail belt could use the Pebble Mine access road or the state maintained Williamsport Road to access both the Kvichak River system for hunting and fishing. Road extensions to the Mulchatna drainage would allow hunters and fishermen to access that drainage. Increased demand for key species such as salmon, trout, moose and caribou and competition with local residents will likely require changes in harvest and subsistence regulations.

The New Power Plant Needed to Meet Pebble Mine Power Needs Might Have Its Own Impacts: Because there currently isn't sufficient generating capacity in South Central Alaska to provide the 300 megawatts of electricity needed for the Pebble Mine, a new power plant would have to be constructed to provide electric power. If this power were supplied by a new coal burning power plant, fueled by coal strip mined from one of Cook Inlet's coal fields, then it would have additional significant impacts on fish habitat, salmon and high value resident fish. There has also been interest the construction of a coal gasification or coal burning power plant using coal mined from the coal fields in the Chuitna River drainage near Tyonek. This project could seriously impact water quality and fish habitat in the Chuitna River drainage.

CONCLUSION: The assessment of the potential impacts of the current Northern Dynasty Mines Pebble Project Mine Proposal presented in this report is based on the scientific literature, the historical record, and expert opinion. Over 1000 documents were reviewed in the preparation of this report and the information and conclusions are derived from the 300 references cited.

Because so much conflicting information has been disseminated by proponents and opponents of the Pebble Project the reader is encouraged to refer to the scientific literature whenever there is an unanswered question regarding the potential effects of Pebble Mine.

Based on the information and the case histories available at this time, it is clear that the development of the second largest copper mine in the world, using open pit and block caving techniques proposed by NDM would physically impact a substantial amount of fish and wildlife habitat at the headwaters of the Kvichak and Nushagak River drainages. Because of the size of the mine and the nature of the ore and waste, the mine and associated tailings storage facilities would also present a substantial long term pollution threat to fish production and commercial, subsistence and sport fishing in portions of the Nushagak and Kvichak River drainages.

Bristol Bay is the largest sockeye salmon producing system remaining in the world. The Bristol Bay salmon fishery is the largest employer and the largest source of income in the region. The Kvichak River drainage has historically been the largest sockeye salmon producing system in Bristol Bay (ADNR, 1984). The Kvichak –Naknek District which includes both the Kvichak and Naknek River drainages and the Nushagak District together provided 63% of the total 2006 Bristol Bay sockeye harvest. The Kvichak river drainage (including the Alagnak River) and the Nushagak River drainage (including the Wood River system) together provided over 65 % of the total 2006 Bristol Bay sockeye escapement. The 2006 harvest of all salmon species in Bristol Bay was approximately 31 million fish. The ex vessel value was $93,935,000 to the fishermen.

Construction of the mine using open pit and block caving techniques as proposed by NDM would physically destroy a substantial amount of salmon and high value resident fish habitat in the North and South Forks of the Koktuli River and Upper Talarik Creek drainages. The tailings storage facilities would bury additional salmon and high value resident fish habitat under billions of tons of mine waste. Water appropriations for the mine would eliminate more spawning and over wintering habitat during critical summer and winter low flow periods. Construction of the 104 mile long road would fill hundreds of acres of riparian and wetlands habitat, and a percentage of the stream crossing structures would block fish passage over time. The Iniskin Bay port would impact a productive and currently undisturbed coastal and marine area. These habitat losses would reduce salmon and high value resident fish populations in affected drainages, as well as seabirds, marine mammals, and marine fish and invertebrates at the port site.

The mine and associated facilities would permanently change the wild character of the Kvichak River drainage. The road, port, and electrical transmission lines for the Pebble mine would provide access and infrastructure could support the development of other mineral claims in the Kvichak and Nushagak drainages which might not otherwise be economically viable. If developed these mines could have similar types of impacts as the proposed Pebble Project.

The sulfide ore which would be mined when exposed to water and air generates sulfuric acid which dissolves metals present in the ore, waste rock and tailings. The current information from NDM indicates that there is very little buffering capacity in the ore and treatment of the mill waste and reactive waste rock to neutralize acids is not proposed. Copper, mercury, other metals present in the ore and chemicals such as cyanide, which may be used at the mine, are toxic to fish and other aquatic life at extremely low levels. Acid mine drainage, tailings dam leaks and

failures, slurry pipeline breaks, chemical spills, fugitive dust and ground water pollution which have occurred with some regularity at other mines in the United States, can carry toxic metals and mine chemicals from mines into fish streams. Acid mine drainage from much smaller copper mines than the proposed Pebble Mine, has completely eliminated salmon from formerly productive streams. Sulfide mines in wet areas have experienced significant pollution problems compared to other types of mines and mines in arid areas.

The size of the Pebble Project, as currently proposed by NDM, which would leave behind 8 billion tons or more of mine waste behind the largest earth fill dams ever constructed in the United States and a pit that may be more than 4 square miles and a mile deep when completed, means that all of the pollution problems experienced at much smaller mines could be magnified many times.

Because the mine tailings are currently proposed to be stored and not treated to neutralize acids, the tailings containment facilities present a long term threat to the Nushagak and Kvichak River drainages. Because all tailings dams leak and the mine pit is likely to fill with water and over flow, pollution control measures at the mine and the tailings storage areas will have to function and be actively maintained in perpetuity. The need for long term maintenance increases the likelihood that pollution and substantial damage to the Nushagak or Kvichak River habitat and fisheries will occur at some point over the thousands of years that everything needs to operate flawlessly. The most common causes of tailings dam failures have been earthquakes, floods, and structural failures. The location of the proposed Pebble Project Mine in a very remote, tectonically active area with high precipitation and severe weather adds to the risk.

Neither mine developers nor state and federal regulators can guarantee that the Pebble Project mine would not pollute. NEPA documents for recently permitted sulfide mines have not predicted pollution and environmental damage that occurred after the mines began operating. Mines are exempt from federal anti-pollution statutes, such as CERCLA. Experience with mines in Alaska and elsewhere demonstrate that because of permit amendments the size and operation of the mine can change significantly after the EIS is completed and initial permits are issued. Federal and state regulators have not been very successful in predicting and preventing acid mine drainage, tailings dam failures, slurry pipeline breaks, dust pollution, cyanide spills or ground water pollution at recently permitted large mines in the United States. Changes in Alaska's regulatory system and the Bristol Bay Area Plan between 2003 and 2006 reduced protection for fish habitat.

In a number of recent high profile cases where metals mines have polluted fish streams, the restoration bonds required by the mine permits have been a fraction of what the public has had to pay to treat pollution after the mining company declared bankruptcy. Alaskan mines are listed some of the largest polluters in the United States, in large part because of exemptions from federal statutes which allow mines to permanently store massive amounts of toxic mine waste after the mine is closed..

The Frazer River has frequently been used by Northern Dynasty Mines as an example of how hard rock mining and salmon habitat can coexist. It is useful to consider the current status of Frazer River salmon stocks in evaluating these claims. The Frazer River drainage once was the

second largest sockeye salmon producing system in the world. It has good soils, mineral deposits and forests. As a result portions of the Frazer River watershed have been developed for mining, logging and agriculture. However, this development has had a detrimental effect on salmon habitat and production. Beginning in the early 1990's, Frazer River sockeye runs precipitously declined to such low levels that the commercial, sport and subsistence fisheries were closed completely in 2007. The outlook for a recovery looks bleak. The decline which is attributed to warming water temperatures and habitat destruction occurred in spite of a substantial public investment in state of the art salmon habitat enhancement over the last 30 years. The dramatic decline of the Frazer River system in the last two decades should be a sobering reminder for Alaskan's of how fragile salmon ecosystems may be and how little is known about how these systems can be affected by development and environmental changes.

It is my hope that this report will help answer the following important questions:

(1) Is the physical loss of fish and wildlife habitat that will result from development of the mine, construction of the access road, slurry pipelines, electrical transmission lines and port and the resulting fundamental change in the character of the area consistent with conservation of salmon in the Nushagak and Kvichak River drainages?
(2) How does the likelihood that development of the Pebble Project infrastructure (road, port, and power) will stimulate other mineral development with similar impacts in these drainages factor into TNC's decisions?
(3) In addition to the direct physical loss, what is the risk that the mine pit and underground workings might generate pollution and tailings storage facilities might fail or leak causing extensive habitat loss in the Nushagak or Kvichak River drainages during mining or at some time during the thousands of years after the mine is closed?
(4) based on past experience what is the likelihood that state and federal regulatory processes will anticipate and prevent significant environmental problems that may occur at the mine over its 40 to 70 year life span or in the thousands of years after it is closed?

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Appendix 1. Collection Data from 2004 Pebble Mine Road Corridor Fish Surveys

Stream coordinates	Fish Species and Numbers															
	Coho		Sockeye		Chum	Chinook		Pink	Dolly Varden		Rainbow Trout		grayling		sculpin	stickleback
	adults	juveniles	adults	juveniles	adult	adults	juveniles	adult	adult	juvenile	adult	juvenile	adult	juvenile		
1.N59.91293																
W155.26279		20													20	
2.N59.92601																
W.155.22971																
3.N59.92886																
W155.20145										2						
4.N5992747																
W155.19458																
5.N59.92175									4							
W155.15887																
6.N59.91860																
W155.14301																
7.N59.91473																
W155.12256																
8.N59.91072																
W155.11748																
9.N59.91221		19								4						
W155.09050																
10.N59.91115																
W155.07437																
11.N59.90842										6					25	
W155.03561																
12.59.90842		6								4				4	32	
W154.94038																
13N59.90777		12													11	
W.155.27148																
14.N59.90400																
W155.24896																
15.N59.90197		32														1
W155.23792																
16.N5990531		3														15
W155.22839																
17.N59.88292		2														
W155.17679																
18.N59.87932		21					9				2	2	8			
W155.17113																
19. N59.88639															18	15
W155.02428																
20.N59.89405										100						
W155.02428																
21N59.89405															19	
W154.97673																
22.N59.89588																
W154.95325																
23. N59.90010															4	
W.15494063																
24.N59.89951															20	
W154.94038																
25N59.86399																
W154.92587																
26. N59.84462									2							
W 154.92729																
27.N59,83117										2					30	
W154.92007																
28. N59.77761				3000						1						
W153.82530																
29.N59.76044																
W153.85202																
30. N59.75839				2000												
W.153.84750																

Stream coordinates	Fish Species and Numbers															
	Coho		Sockeye		Chum	Chinook		Pink	Dolly Varden		Rainbow Trout		grayling		sculpin	stickleback
	adults	juveniles	adults	juveniles	adult	adults	juveniles	adult	adult	juvenile	adult	juvenile	adult	juvenile		
31.N59.76991										1						
W153.84750																
32.N59.76869										1						
W153.82381																
33.N59.72946										3					1	
W153.80251																
34.59.71869										1						
W153.79527																
35.59.70868										4					7	
W153.74580																
36.N59.68557										8						
W153.65350																
37.N59.64527		9	3		63	1		12	10	8						
W153.52769																
38.N59.64468																
W153.51646																
39.N59.69768										5					1	
W153.59636																
40.N59.83503				100						1					25	
W.153.76364																
41.N59.82109				100						6						
W.153.64362																
42.N59.80172																
W153.59996																
43.N59.79528										7						
W153.56619																
44.N59.77565										8		1				
W153.51138																
45.N59.7319					50				15							
W153.45644																
46.N59.73463	100												1	9		
W153.45984																
47.N59.71375										3						
W153.44768																
48.N59.82681		3	50				1					2			11	
W154.88028																
49.N59.80719															19	
W154.80444																
50.N59.80555										5					22	
W154.78462																
51.N59.80440																
W154.75993																
52.N59.80082										16						
W154.70607																
53.N59.80238															11	1
W154.67198																
54.59.80865										6						
W154.67198																
55.59.80693										10						
W. 15461536																
56.N59.84211		1	7							5					7	
w154.52963																
57. N59.84969		9	100					5	3	7					3	
W154.51971																
58.N59.85029		5														
w154.45849																
59. N59.84463			13	300					2	12		2				
W154.45876																
60.N59.84669		8														
W154.43849																
61. N59.84031															15	
W154.38333																
62.N59.83959			848													
W154.3817																
63.N59.83666			522							3					25	
W154.36778																
64.N59.81266			89							11					9	

Stream coordinates						Fish Species and Numbers											
	Coho		Sockeye		Chum	Chinook		Pink	Dolly Varden		Rainbow Trout		grayling		sculpin	stickleback
	adults	juveniles	adults	juveniles	adult	adults	juveniles	adult	adult	juvenile	adult	juvenile	adult	juvenile		
62.N59.83958			683									7			5	
W154.38171																
63.N59.83666			522							3					25	
W154.36778																
64.N59.81266			89							11					9	
W154.12366																
65.N59.28213																
W154.08099																
66.N59.080264										8						
W153.96252																
67.N59.81358										4						
W153.93198																
68.N59.80261								10								
W153.87315																
69.N59.80261			177							4					6	
W153.82471																

Appendix 2. Act 171, Wisconsin 1997 Sulfide Mining Law

293.50 Moratorium on issuance of permits for mining of sulfide ore bodies.

(1) In this section:

(a) "Pollution" means degradation that results in any violation of any environmental law as determined by an administrative proceeding, civil action, criminal action or other legal proceeding. For the purpose of this paragraph, issuance of an order or acceptance of an agreement requiring corrective action or a stipulated fine, forfeiture or other penalty is considered a determination of a violation, regardless of whether there is a finding or admission of liability.

(b) "Sulfide ore body" means a mineral deposit in which metals are mixed with sulfide minerals.

(2) Beginning on May 7, 1998, the department may not issue a permit under s. 293.49 for the mining of a sulfide ore body until all of the following conditions are satisfied:

(a) The department determines, based on information provided by an applicant for a permit under s. 293.49 and verified by the department, that a mining operation has operated in a sulfide ore body which, together with the host rock, has a net acid generating potential in the United States or Canada for at least 10 years without the pollution of ground water from acid drainage at the tailings site or at the mine site or from the release of heavy metals.

(b) The department determines, based on information provided by an applicant for a permit under s. 293.49 and verified by the department, that a mining operation that operated in a sulfide ore body which, together with the host rock, has a net acid generating potential in the United States or Canada has been closed for at least 10 years without the pollution of ground water or surface water from acid drainage at the tailings site or at the mine site or from the release of heavy metals.

(2m)

(a) The department may not base its determination under sub. (2) (a) or (b) on any mining operation that has been listed on the national priorities list under 42 USC 9605 (a) (8) (B) or any mining operation for which the operator is no longer in business and has no successor that may be liable for any contamination from the mining operation and for which there are no other persons that may be liable for any contamination from the mining operation.

(b) The department may not base its determination under sub. (2) (a) or (b) on a mining operation unless the department determines, based on relevant data from ground water or surface water monitoring, that the mining operation has not caused significant

environmental pollution, as defined in s. 293.01 (4), from acid drainage at the tailings site or at the mine site or from the release of heavy metals.

(3) This section applies without regard to the date of submission of the permit application.

History: 1997 a. 171

Source: Wisconsin Department of Natural Resources,

Appendix 3. Montana Cyanide Ban CI 137 Enacted 1998

Current law states:

82-4-390. Cyanide heap and vat leach open-pit gold and silver mining prohibited.

(1) Open-pit mining for gold or silver using heap leaching or vat leaching with cyanide ore-processing reagents is prohibited except as described in subsection (2).

(2) A mine described in this section operating on November 3, 1998, may continue operating under its existing operating permit or any amended permit that is necessary for the continued operation of the mine.

The current law is actually an amended version of the citizen's initiative CI-137 that was approved by the electorate in November 1998. The 1999 legislature, through passage of SB345 (Shea), made the following amendments to the initiative language.

Section 1. Section 82-4-390, MCA, is amended to read:
"82-4-390. Cyanide heap and vat leach open-pit gold and silver mining prohibited.

(1) Open-pit mining for gold or silver using heap leaching or vat leaching with cyanide ore-processing reagents is prohibited except as described in subsection (2).

(2) A mine described in this section operating on November 3, 1998, may continue operating under its existing operating permit, but the permit may not be amended to allow its operations to be expanded or any amended permit that is necessary for the continued operation of the mine."

Section 2. Effective date. [This act] is effective on passage and approval.
This amendment effectively allowed the Golden Sunlight mine near Whitehall and the Majesty.

Source: State of Montana: Environmental Quality Council

Appendix 4. A Chronology of Polluted Related Events At The Red Dog Mine As Reported In The Anchorage Daily News 1989-2007

1. October, 7, 1989. Water containing toxic levels of zinc and other heavy metals began flowing from a seep into Red Dog Creek. Changes in ground water flow associated with mining are suspected as the sources.

2. March 21, 1990. The mines operators struggled for over a year to get the mines treatment plant operating to neutralize waste. The Red Dog tailings dam, which had been approved under the state and federal permitting process, came very close to failing. Snow melt and rainfall flowing into the mines 500 acre waste impoundment which was already full of mine waste filled the pond to overflowing. The dam, though built as permitted, was under designed to cope with the levels of effluent and precipitation encountered. To save the dam and avoid having the entire contents of the tailings impoundment flow down into the Wulik River, Teck-Cominco had to open a spillway and release polluted water. Millions of gallons of wastewater were discharged to frozen Red Dog Creek.

3. August 18, 1990. Toxic levels of zinc and other hazardous metals from the mine leaked fouling more than 20 miles of creek with milky orange stains and threatening the Wulik River one of N.W. Alaska's richest fisheries. Regulators asked Cominco to build a diversion ditch around the mine, but company isn't sure that the problem is related to their mining activities.

4. August 30, 1990. Zinc levels flowing from a seep into Red Dog Creek reach, 1,180 ppm. Company build diversion ditch around mine and pollution subsides.

5. December 5, 1990. Three trucks carrying ore overturn spilling zinc and lead concentrate onto the tundra next to the haul road.

6. March 13, 1991. EPA fines Cominco $125,000 for violating their discharge permit 134 times between May and October 1990. Company fights allegations.

7. July 7, 1991. Red Dog Mine spends $11,000,000 to clean up pollution in Red Dog Creek. To halt pollution from the mine Cominco built a plastic lined ditch to divert Red Dog Creek water around the mine, and capture water from seeps.

8. April, 1992. Mine dumps 100,000 gallons of metal contaminated water into frozen Red Dog Creek. Zinc levels reach 220 times state water quality limit, but not expected to threaten fish or humans.

9. July 14, 1997. Cominco agrees to pay 4.7 million dollars for several thousand water quality violations which occurred 1990 and 1993. According to EPA violations included metals spills, operating unpermitted sewage treatment plants and fuel spills.

10. June 3, 1998. A pump on a slurry pipeline at the mine broke spilling 200,000 gallons of zinc and lead concentrate.

11. December 14, 1999. EPA blocks Red Dog air quality permit, because of disagreement over whether Cominco should upgrade power plant to reduce air pollution.

12. September 8, 2000. The State of Alaska joins Cominco law suit to block EPA from requiring higher air quality standards at mine.

13. October 11, 2000. Ore Truck overturns spilling 30 tons of lead concentrate onto tundra.

14. October 18, 2000. ADNR rejects Cominco's request to create an air quality exclusion zone around power plant because of restriction of public access on state tidelands.

15. April 10, 2001. State of Alaska alleges that Cominco is responsible for multiple air quality violations at Red Dog mine.

16. June 21, 2001. National Park Service releases results of study showing elevated levels of lead, zinc and cadmium on vegetation along haul road. Metal levels were higher than severely polluted areas of Eastern Europe.

17. July 7 2001. Local natives ask ADNR to close the haul road because of concern that subsistence foods are being contaminated by toxic lead and cadmium dust from ore trucks

18. July 14, 2001. State rejects road closure request. ADEC says health risk isn't enough to justify closure.

19. July 18. ADEC and EPA focus on heavy metal contamination along haul road. EPA attorney describes contamination as very significant.

20. July 21, 2001. A truck hauling concentrates overturns spilling lead concentrate on tundra.

21. December 19, 2001. Red Dog mine agrees to pay $827, 000 in fines to settle State pollution complaint.

22. January 30, 2002. Cominco buys new trucks with covers to reduce dust from trucks hauling concentrate.

23. June 3, 2002. EPA releases TRI report that in 2000 the Red Dog Mine had the second largest toxic release in the U.S. Red Dog release is huge amount of waste rock containing lead and zinc deposited in tailings impoundments and upland storage areas. According to EPA the metals can leach out and contaminate ground and surface water unless properly treated.

24. July 18, 2002. Village of Kivalina claims that mine discharges are affecting their water supply and announce plans to sue Teck-Cominco.

25. July 31, 2002. Federal Appeals Court rules against Teck-Cominco and State. EPA was justified in requiring better antipollution equipment on mine generators.

26. August 24, 2002. Murkowski promises to build roads and change state laws and policies to benefit mines.

27. September 20, 2002. Village of Kivalina files suite against Red Dog Mine discharges because of concerns about water pollution and concerns about contamination of subsistence foods.

28. October 20, 2002. ADEC official tackle acid mine drainage from Alaska's mines. Red Dog and Greens Creek Mines are identified as acid generating. The bond for Greens Creek has been set at 24 million dollars and requires 30 years of monitoring. The State is 3 years away from regulating acid mine drainage at the Red dog Mine. According to Charlotte MacCay environmental coordinator for Red Dog, "Because the deposit at Red dog is highly sulfuric, the piles of waste actually smoke. When that happens, workers cover them with inert material to keep out the air and water that triggers the acid making process."

30. January 22, 2004. The Supreme Court rejects Teck-Cominco and State claims and rules that the EPA can require tighter clean air standards at Red Dog Mine.

31, February 2, 2004. Ore truck overturn spilling lead zinc concentrate.

32. June 24, 2004. State ADEC disputes independent chemists finding that between 10 and 43 percent of berries and sourdock samples along the Red Dog Mine haul road exceed the U.S.D.A.'s food safety standards for lead and cadmium.

33. June 24, 2004. Red Dog, Greens Creek, and Illinois Creek tops EPA's 2002 toxic release list. Red Dog stored 481 millions pounds of toxic chemicals on land, and released 195, 000 pounds of air emissions.

34. July 11, 2004. The Red Dog Mine works to control waste discharge, as villagers voice concerns about affect on water quality and health.

35. July 30, 2004. State officials acknowledge high concentration of lead zinc and cadmium along haul road but say that locals don't gather food in heavily contaminated areas.

36. August 10, 2004. National Parks Service Study finds that dust from trucks has contaminated thousands of acres along haul road with toxic levels of lead, cadmium and zinc.

37. October, 5, 2004. A truck hauling fuel for the Red Dog Mine spills 4000 gallons of diesel.

38. March 20, 2005. Kivalina villagers claim that vessel traffic has caused beluga whales to change migratory routes.

39. May, 12, 2005. EPA reports that releases of toxic material from the Red Dog lead zinc mine make it the nation's tops polluter in 2003.

40. November 12, 2005. Red Dog Mine Cited for water quality breach.

41. August 2, 2006. U.S. District Court Judge John Sedwick found that Teck-Cominco violated its discharge permit 618 times by pumping too much effluent or treated waste water into Red Dog Creek which flows into the Wulick River.

42. August 24, 2007. Teck Cominco, who operates the Red Dog Mine, is currently operating under a federal compliance order allowing it to exceed certain water quality standards. Several residents of the Village of Kivalina are suing Teck Cominco for water quality violations at the mine (Anchorage Daily News, 8/24/07).

Appendix 5. Fish Habitat Protection Statutes Transferred From ADF&G to ADNR by Executive Order 107

AS 41.14.840. Fishway Required.

If the deputy commissioner considers it necessary, every dam or other obstruction built by any person across a stream frequented by salmon or other fish shall be provided by that person with a durable and efficient fishway and a device for efficient passage for downstream migrants. The fishway or device or both shall be maintained in a practical and effective manner in the place, form, and capacity the deputy commissioner approves, for which plans and specifications shall be approved by the deputy commissioner upon application. The fishway or device shall be kept open, unobstructed, and supplied with a sufficient quantity of water to admit freely the passage of fish through it.

AS 41.14.870. Protection of Fish and Game.

(a) The deputy commissioner shall, in accordance with AS 44.62 (Administrative Procedure Act), specify the various rivers, lakes, and streams or parts of them that are important for the spawning, rearing, or migration of anadromous fish.
(b) If a person or governmental agency desires to construct a hydraulic project, or use, divert, obstruct, pollute, or change the natural flow or bed of a specified river, lake, or stream, or to use wheeled, tracked, or excavating equipment or log-dragging equipment in the bed of a specified river, lake, or stream, the person or governmental agency shall notify the deputy commissioner of this intention before the beginning of the construction or use.
(c) The deputy commissioner shall acknowledge receiving the notice by return first class mail. If the deputy commissioner determines that the following information is required, the letter of acknowledgement shall require the person or governmental agency to submit to the deputy commissioner:
(1) full plans and specifications of the proposed construction or work;
(2) complete plans and specifications for the proper protection of fish and game in connection with the construction or work, or in connection with the use; and
(3) the approximate date the construction, work, or use will begin.
(d) The deputy commissioner shall approve the proposed construction, work, or use in writing unless the deputy commissioner finds the plans and specifications insufficient for the proper protection of fish and game. Upon a finding that the plans and specifications are insufficient for the proper protection of fish and game, the deputy commissioner shall notify the person or governmental agency that submitted the plans and specifications of that finding by first class mail. The person or governmental agency may, within 90 days of receiving the notice, initiate a hearing under AS 44.62.370 . The hearing is subject to AS 44.62.330 - 44.62.630.

Neither the 41.14.840 Fishway Required or AS 41.14.870 mandate maintainence of fish passage, or protection of anadromous fish habitat. AS41.14.840 states "***If the deputy commissioner considers it necessary***, every dam or other obstruction built by any person across a stream frequented by salmon or other fish shall be provided by that person with a durable and efficient fishway and a device for efficient passage for downstream migrants. AS41.14.870 states**(b)** If a person or governmental agency desires to construct a hydraulic project, or use, divert, obstruct, pollute, or change the natural flow or bed of a specified river, lake, or stream, or to use wheeled,

tracked, or excavating equipment or log-dragging equipment in the bed of a specified river, lake, or stream, the person or governmental agency shall notify the deputy commissioner of this intention before the beginning of the construction or use.
(c) The deputy commissioner shall acknowledge receiving the notice by return first class mail. ***If the deputy commissioner determines that the following information is required***, the letter of acknowledgement shall require the person or governmental agency to submit to the deputy commissioner:
(1) full plans and specifications of the proposed construction or work;
(2) complete plans and specifications for the ***proper protection of fish and game*** in connection with the construction or work, or in connection with the use; and
(3) the approximate date the construction, work, or use will begin.
(d) The deputy commissioner shall approve the proposed construction, work, or use in writing unless the deputy commissioner finds the plans and specifications ***insufficient for the proper protection of fish and game***. Upon a finding that the plans and specifications are insufficient for the proper protection of fish and game, the deputy commissioner shall notify the person or governmental agency that submitted the plans and specifications of that finding by first class mail. The person or governmental agency may, within 90 days of receiving the notice, initiate a hearing under AS 44.62.370 . The hearing is subject to AS44.62.330-44.62.630. As written the deputy commissioner has the discression to determine that plans an specifications

Appendix 6. No Perpetual Care Statutes and Regulations

A. **Michigan Statute and Regulations**: Compiled Laws Annotated Currentness
Chapter 324. Natural Resources and Environmental Protection Act
Natural Resources and Environmental Protection Act (Refs & Annos)
Article III. Natural Resources Management
Chapter 3. Management of Nonrenewable Resources
Subchapter 4. Mineral Mining
Part 632. Nonferrous Metallic Mineral Mining (Refs & Annos)

➡324.63209. Compliance with permit standards; conduct of reclamation activities generally; actions of permittee during period of suspension of mining operations; postclosure monitoring period; scope of reclamation and remediation; compliance with applicable tribal, state, federal, or local requirements

Sec. 63209. (1) A permittee shall comply with all other applicable permit standards under this act.

(2) A permittee shall conduct reclamation activities at a mining area in accordance with the approved mining, reclamation, and environmental protection plan.

(3) If mining operations are suspended for a continuous period exceeding 90 days, the permittee shall take actions to maintain, monitor, and secure the mining area and shall conduct any interim sloping or stabilizing of surfaces necessary to protect the environment, natural resources, or public health and safety in accordance with the permit.

(4) Subject to subsection (5), a permittee shall begin final reclamation of a mining area within 3 years of the date of cessation of mining operations and shall complete reclamation within the time set forth in the mining, reclamation, and environmental protection plan approved by the department.

(5) Upon written request of a permittee, the department may approve an extension of time to begin or complete final reclamation.

(6) A permittee shall conduct groundwater and surface water monitoring in accordance with the provisions of the permit during mining operations and during the postclosure monitoring period. The postclosure monitoring period shall be 20 years following cessation of mining, subject to the following conditions:

(a) The permittee shall provide to the department a written request to terminate the postclosure monitoring not less than 18 months before the proposed termination date and shall provide the department with technical data and information demonstrating the basis for the termination. The department shall extend the postclosure monitoring period in increments of up to 20 years unless the department determines, approximately 1 year before the end of a postclosure monitoring period or postclosure incremental monitoring period, that there is no significant potential for

water contamination resulting from the mining operation.

(b) The department may shorten the postclosure monitoring period at any time upon determining that there is no significant potential for water contamination resulting from the mining operation.

(7) The department may extend or shorten the postclosure monitoring period under subsection (6) only after public notice and opportunity for a public hearing under section 63219(2). [FN1]

(8) Both the mining area and the affected area shall be reclaimed and remediated to achieve a self-sustaining ecosystem appropriate for the region that does not require perpetual care following closure and with the goal that the affected area shall be returned to the ecological conditions that approximate premining conditions subject to changes caused by nonmining activities or other natural events. Any portion of the mining area owned by the applicant may be used for any legal purposes.

(9) Compliance with the provisions of this part does not relieve a person of the obligation to comply with all other applicable tribal, state, federal, or local statutes, regulations, or ordinances.

CREDIT(S)

P.A.1994, No. 451, § 63209, added by P.A.2004, No. 449, Imd. Eff. Dec. 27, 2004.

[FN1] M.C.L.A. § 324.63219.

CROSS REFERENCES

Financial assurance requirement, see § 324.63211.

LAW REVIEW AND JOURNAL COMMENTARIES

Regulation of non-ferrous metallic mineral mining in Michigan. Eugene E. Smary and Dennis J. Donohue, 24 Mich Env LJ No. 2, p. 11 (2006).

M. C. L. A. 324.63209, MI ST 324.63209

Current through P.A.2007 No. 51

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END OF DOCUMENT

MICHIGAN ADMINISTRATIVE CODE
DEPARTMENT OF ENVIRONMENTAL QUALITY (R 425.101 THROUGH R 425.602)
OFFICE OF GEOLOGICAL SURVEY
NONFERROUS METALLIC MINERAL MINING
PART 2. PERMITS

Current through 2007 Register #13 (August 1, 2007)

R 425.203 Mining Plan.

Rule 203. The mining, reclamation, and environmental protection plan required under R 201(1)(d) shall contain a plan for the proposed mining operations. The plan shall include information that demonstrates that all methods, materials, and techniques proposed to be utilized are capable of accomplishing their stated objectives in protecting the environment and public health, except that such information may not be required for methods, materials, and techniques that are widely used in mining or other industries and are generally accepted as effective. The required information may consist of results of actual testing, modeling, documentation by credible independent testing and certification organizations, or documented applications in similar uses and settings. The plan shall include, at a minimum, all of the following:

(a) A description of the type and method of mining, the expected operating life of the mine, and the anticipated rate and schedule of mining.

(b) An estimate of the number of employees required for the mining operation, and variations in the number over the life of the mine.

(c) Information depicting and describing the items listed in paragraphs (i) to (xxiv) of this subdivision that are mining activities or are part of, or associated with, mining activities. Information that is amenable to clear depiction on a map shall be shown on a map or maps of the mining area drawn to an appropriate scale on a topographic base and referenced to the nearest government-surveyed section or quarter-section lines. Other required information shall be presented, as appropriate, by cross-sections, photographs, documents, and engineering drawings.

(i) Area, thickness, and characteristics of topsoil that will be stripped, and plans for stockpiling and stabilizing topsoil until it will be used in reclamation.

(ii) Area, volumes, and characteristics of overburden and waste rock to be excavated; plans and schedules for excavating; and locations and dimensions of stockpiles and final placement areas.

(iii) Area, volumes, types, and mineralogy of ore to be excavated, and schedule of mining and stockpiling ore.

(iv) Plans for limiting access to stockpiles and storage or disposal facilities to prevent

disposal of unauthorized materials.

(v) A characterization of the geochemistry of the ore, waste rock, and overburden that will be mined, and peripheral rock that will be exposed in the process of mining, and of any tailings that will be generated. The characterization shall include the following:

(A) Chemical and physical testing and modeling to predict the potential generation of acid, dissolved metals, and other related substances by reaction and leaching of the ore, waste rock, tailings, overburden, and peripheral rock.

(B) Testing and modeling methodology.

(C) A plan for monitoring the characterization during the proposed mining operation to calibrate and adjust the model and predictions.

(D) Identification of the ore, waste rock, overburden, peripheral rock, and tailings that are reactive.

(vi) Lithology and thickness of rock surrounding and overlying the ore body.

(vii) The locations, depths, and contours of open pits.

(viii) The locations and dimensions of shafts, portals, or other openings between the land surface and underground mine workings.

(ix) The areal extent, depth, and dimensions of underground workings.

(x) Types and uses of grouting of the walls of open pits and of the walls, floor, and roof of underground workings.

(xi) A plan for preventing damage to the environment or public health or safety from subsidence, caving, or collapse of underground mine workings. The plan shall contain the following:

(A) A description of any planned or intentional caving and subsidence.

(B) Provisions to prevent adverse impacts to public or private water supplies or to an aquifer in the affected area.

(C) Provisions to assure that any underground mining shall not cause material damage to structures not owned or controlled by the operator.

(D) Provisions to assure that any underground mining shall not cause material damage to natural features on lands not owned by the operator.

(xii) A description of water that will be used in the mining operations, including the source or

sources of the water and intended rates and durations of pumping, diversion, or withdrawal.

(xiii) A description of water that will be stored, transferred, or discharged in the mining operations, including:

(A) The location, size, and capacities of any artificial ponds, impoundments, dewatering systems, diversions, other water control structures, and treatment facilities.

(B) The estimated volumes, rates, and water quality of discharges, and the discharge locations.

(xiv) Storage areas for equipment and vehicles.

(xv) Buildings and other facilities or structures.

(xvi) Areas for the storage and transfer of chemicals, fuel, and explosives.

(xvii) Truck and mining equipment wash down areas.

(xviii) Roads, railroads, docks, piers, and other transportation infrastructure, and provisions to prevent release of contaminants to the environment from ore or waste rock during transportation.

(xix) Beneficiation processes, materials, and activities, including the following:

(A) The types, extent, and sequence of beneficiation, including physical and chemical characterization of all materials, wastes, or products.

(B) A description of any mills, concentrators, dryers, separators, chemical reactors, filtering equipment, electrolytic chambers, flotation cells, kilns, or other beneficiation equipment.

(C) The type and amount of chemicals to be added.

(D) The types, amounts, locations, sequence, schedule, and means of waste rock and tailings disposal.

(E) Provisions to prevent release of contaminants to the environment from beneficiation equipment.

(F) Tailings transport systems, if not buried, should be designed to provide for emergency tailings conveyance or storage should a pipeline break, plug, freeze or require repairs and be made accessible for inspection, emergency repair, and maintenance. Location of emergency spill areas shall be designed to prevent contamination of surface water. If a power failure occurs, then tailing pipelines shall be self draining to the tailings area or to an emergency spill area or standby pumps and pipelines or standby power shall be

provided. In some cases (such as a long pipeline over rough country), several spill areas may have to be provided.

(xx) Plans and schedules for regulating or controlling drainage of water, including surface runoff, from within the diked area of a tailings disposal area to prevent breaching of the dikes, both during and after mining. The plans and schedules shall ensure that 24-hour 100-year precipitation events do not cause releases of water that are not in compliance with the conditions of the mining permit.

(xxi) Plans and schedules for monitoring, containment, and treatment of surface runoff that has contacted, or may contact, ore, waste rock, overburden, or tailings determined to be reactive under R 425.203(c)(v). The plans shall be designed to reasonably minimize actual and potential adverse impacts on groundwater and surface water by preventing leaching or runoff of acid-forming waste products and other waste products from the mining process.

(xxii) A soil erosion and sedimentation control plan that meets the standards of part 91 of the act to effectively reduce accelerated soil erosion and sedimentation that may impact the affected area. The plan shall include, but not be limited to, all of the following:

(A) The location, description, and schedule for installing and removing all proposed temporary soil erosion and sediment control measures.

(B) A description and the location of all proposed permanent soil erosion and sediment control measures, and provisions for establishing the permanent soil erosion control measures as soon as possible after an earth change has been completed or if significant earth change activity ceases.

(C) Provisions to limit the exposed area of any disturbed land to the shortest feasible period of time.

(D) Provisions to remove sediment caused by accelerated soil erosion from runoff water before it leaves the mining area.

(E) Temporary or permanent control measures for the conveyance of water around, through, or from the area affected by mining activities to limit the water flow to a nonerosive velocity.

(F) Provisions for temporary soil erosion and sedimentation control measures before or upon commencement of the earth change activity; for maintaining the measures on a daily basis; and for removing the measures after permanent soil erosion measures are in place and the area is stabilized.

(G) Provisions for stabilizing the area with permanent soil erosion control measures as soon as possible after an earth change has been completed or if significant earth change activity ceases.

(xxiii) Plans for conducting reclamation activities concurrently with mining operations to the extent feasible.

(xxiv) Plans for inspecting, monitoring, and maintaining liners, final covers, leachate collection systems, leak detection systems, berms, and embankments, including frequency of inspections. Inspecting or monitoring shall be conducted at least monthly.

(d) A map and description of ownership of all tracts of land in the mining area and within 1320 feet of the boundary of the mining area, including all of the following:

(i) Ownership of surface rights.

(ii) Ownership of mineral rights.

(iii) Conservation easements as defined in section 2140 of the act.

(iv) Historic preservation easements as defined in section 2140 of the act.

(e) A description of measures to be taken to prevent damage to property not owned or controlled by the operator within and immediately adjacent to the mining area.

(f) Measures to minimize impacts to the volumes and rates of recharge, flow, and discharge of groundwater and surface waters in the mining area and in the affected area sufficient to accommodate seasonal and long-term variations in precipitation, water quantity, and water quality.

(g) A monitoring plan for monitoring of groundwater and surface water quality, groundwater levels, and surface water stage and discharge rates, during mining operations and during the post-closure monitoring period. The monitoring plan shall conform to existing statutes and rules, but is not required to include monitoring required under other permits.

(i) The monitoring plan shall provide for monitor wells and structures to be located at points where mining activities have a reasonable potential for measurable impact on surface water or groundwater, taking into consideration the following:

(A) Proximity to the mining activity.

(B) The potential for diffusion and dispersion.

(C) Horizontal and vertical groundwater gradients.

(D) Seasonal variations in flow.

(E) Topography, access, and other practical limitations.

(ii) The monitoring plan shall comply with the requirements of R 425.406.

(iii) The monitoring plan shall include all of the following:

(A) Number and location of monitoring wells and structures.

(B) Frequency of sampling and sampling procedure, including all of the following:

(aa) The sampling method and volume of water to be removed from each well or sampling point during sampling.

(bb) Steps taken to prevent cross contamination between samples.

(cc) Sample handling and preservation methods.

(dd) Laboratory analysis method.

(ee) Laboratory method detection level.

(ff) Quality assurance and quality control as approved by the department.

(gg) Provisions for routine monitoring to be conducted at least every 3 months.

(C) Sampling parameters, which shall include the following:

(aa) Specific conductance.

(bb) Temperature.

(cc) The hydrogen ion concentration expressed as pH.

(dd) Dissolved oxygen.

(ee) Concentrations of calcium, sodium, magnesium, potassium, and iron.

(ff) Concentrations of chloride, sulfate, and bicarbonate.

(gg) Concentrations of other total and dissolved elements and compounds that may be introduced or affected by the mining activities, as identified in the environmental impact assessment.

(D) A description of the techniques used to present and evaluate water quality monitoring data.

(E) A description of the method used to collect static water levels and present groundwater flow data. Static water level precision shall be to 0.01 foot.

(F) The depth and screened interval for each monitor well.

(G) Provisions for design, construction, and abandonment of monitoring wells and structures that comply with R 425.406(2).

(h) A treatment and containment plan that describes proposed measures to prevent contamination of groundwater and surface water from leaching of acidic water or dissolved metals.

(i) The treatment and containment plan required under this subdivision shall apply to earth materials that are determined to be reactive under R 425.203(c)(v). The plan shall describe proposed measures for the following:

(A) Design, construction, and operation of stockpiles and storage or disposal facilities for ore, waste rock, overburden, and tailings.

(B) The management of peripheral rock that has been determined in the environmental impact assessment to have the potential to contaminate groundwater or surface water.

(ii) The treatment and containment plan required under this subdivision shall account for the volume, rate, and movement of leachate that may be generated, and the influence of weather on the generation of leachate, including any adverse impacts from severe or extreme weather events.

(iii) The treatment and containment plan required under this subdivision shall meet all applicable requirements of R 425.409.

(i) A general description of blasting materials and methods.

(j) If a threatened or endangered species may be impacted, a plan to protect the threatened or endangered species that conforms to the requirements of state and federal endangered species laws.

(k) Plans to monitor, prevent, minimize, and mitigate any adverse impacts of the proposed mining operation on flora, fauna, fish or wildlife habitats, and biodiversity.

(l) Where percolation leaching is proposed as a mining activity, plans demonstrating compliance with R 425.403.

(m) A plan and schedule for inspection or monitoring, or both, of all mine related facilities at least monthly.

(n) The name and qualifications of the person or persons who prepared the plan for the proposed mining operations.

(By authority conferred on the director of the department of environmental quality by section 63203(1) of 1994 PA 451, MCL 324.63203(1))

Mich. Admin. Code R. 425.203, MI ADC R. 425.203

MI ADC R. 425.203
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OFFICE OF GEOLOGICAL SURVEY
NONFERROUS METALLIC MINERAL MINING
PART 2. PERMITS

Current through 2007 Register #13 (August 1, 2007)

R 425.204 Reclamation Plan.

Rule 204. The mining, reclamation, and environmental protection plan required under R 425.201(1)(d) shall contain a plan for the proposed final reclamation operations, including the anticipated schedule, sequence, and duration of reclamation. The plan shall include information that demonstrates that all methods, materials, and techniques proposed to be used are capable of accomplishing their stated objectives in protecting the environment and public health, except that such information may not be required for methods, materials, and techniques that are widely used in mining or other industries and are generally accepted as effective. The required information may consist of results of actual testing, modeling, documentation by credible independent testing and certification organizations, or documented applications in similar uses and settings. The plan shall include, at a minimum, all of the following:

(a) Information depicting and describing the items listed in paragraphs (i) to (iv) of this subdivision. Information that is amenable to clear depiction on a map shall be shown on a map or maps of the mining area drawn to an appropriate scale on a topographic base and referenced to the nearest government-surveyed section or quarter-section lines. Other required information shall be presented, as appropriate, by cross-sections, documents, and engineering drawings.

(i) Final land contours.

(ii) Proposed final land use and relationship to surrounding land and land use.

(iii) Ponds, streams, wetlands, roads, dikes, drainage ditches, and soil erosion and sedimentation control structures that will remain after completion of reclamation.

(iv) Plans and schedules for stabilizing waste rock piles, settling ponds, tailings disposal facilities, overburden banks, open pit banks and walls, roads, and the plant site. The plans shall include sloping, grading, terracing, and revegetating that will prevent slumping, land or rock slides, or other slope failure and will effectively reduce accelerated soil erosion and sedimentation. The plans shall include the following:

(A) Provisions for sloping or terracing of the banks or bottoms of open pit surfaces that will be under water after cessation of mining, or other measures to prevent a hazard to public safety.

(B) Provisions for replacing topsoil from surface areas disturbed by the mining operation as appropriate for the approved final land use.

(C) Vegetation species and quantities, seedbed and planting area preparation, seeding and planting methods, mulching, fertilization, maintenance, and final density of plants.

(b) Evidence satisfactory to the department that the proposed reclamation will conform to the following minimum performance standards:

(i) Final disposition of all toxic and hazardous wastes, refuse, tailings and other solid waste shall be managed in a manner that protects the environment, natural resources and public health and safety, and in conformance with all other applicable federal and state laws and regulations.

(ii) All shafts, portals, or other openings between the land surface and underground mine workings shall be sealed in a manner that will protect the environment, natural resources, and public health and safety and in accordance with all other applicable laws and regulations.

(iii) All surface structures, infrastructure, rock stockpiles, and tailings disposal areas constructed as a part of the mining activities shall be removed, unless they are converted to an alternate use in accordance with the proposed final land use.

(iv) All disturbed surface areas shall be stabilized to prevent accelerated erosion by wind or water.

(v) All disturbed surface areas shall be revegetated with a variety of plants that are native to the area, except that non-native plants may be used for revegetation in areas where appropriate for an approved final land use that is different from the premining land use. In addition, plant species not native to the area may be used as approved by the department when necessary to provide temporary stabilization of slopes and prevention of erosion.

(vi) Both the mining area and the affected area shall be reclaimed to achieve a self-sustaining ecosystem appropriate for the region that does not require perpetual care following closure and with the goal that the affected area shall be returned to the ecological conditions that approximate premining conditions subject to changes caused by nonmining activities or other natural events. Any portion of the mining area owned by the applicant may be used for any legal purpose.

(c) Plans for monitoring of ground and surface water quality during the postclosure monitoring period.

(d) The name and qualifications of the person or persons who prepared the plan for the proposed final reclamation operations.

(By authority conferred on the director of the department of environmental quality by section 63203(1) of 1994 PA 451, MCL 324.63203(1))

Mich. Admin. Code R. 425.204, MI ADC R. 425.204

MI ADC R. 425.204

MICHIGAN ADMINISTRATIVE CODE
DEPARTMENT OF ENVIRONMENTAL QUALITY (R 425.101 THROUGH R 425.602)
OFFICE OF GEOLOGICAL SURVEY
NONFERROUS METALLIC MINERAL MINING
PART 4. MINING OPERATIONS

Current through 2007 Register #13 (August 1, 2007)

R 425.409 Treatment and containment of reactive materials.

Rule 409. An operator shall manage overburden, ore, waste rock, peripheral rock, and tailings determined to be reactive under R 425.203(c)(v) in accordance with this rule and in a manner that is designed to reasonably minimize actual and potential adverse impacts on groundwater and surface water by preventing leaching or runoff of acid-forming waste products and other waste products from the mining process.

(a) An operator shall design, construct, and operate stockpiles or storage facilities for reactive overburden, ore, waste rock, or tailings in compliance with paragraph (i) or (ii) of this subdivision.

(i) A stockpile or storage facility shall meet the following requirements:

(A) A stockpile or storage facility shall have a composite liner system comprised of a flexible synthetic membrane that is not less than 60 mils thick and a layer of at least 3 feet of compacted soil having a maximum hydraulic conductivity of 1.0 X 10-7 cm/sec.

(B) The department may approve an alternative liner system that uses other materials or designs, including modified soil liners, or technologically advanced systems only if the operator provides data to demonstrate the alternative is capable of providing equivalent or better protection as compared to the requirements under subparagraph (A).

(C) A stockpile or storage facility shall have a leachate collection system.

The system shall be designed, constructed, and operated to limit the hydraulic head at the lowest point in the system to not more than 1 foot, excluding the collection sump, after construction.

(D) A stockpile or storage facility shall have a leak detection system.

(E) The liner, leachate collection system, and leak detection system shall be tested before the placement of overburden, ore, waste rock, or tailings into the facility.

(F) A cover shall be employed to isolate the reactive overburden, ore, or waste rock from precipitation and air as soon as practicable.

(G) A registered professional engineer or other qualified individual shall certify the

proper design, construction, and testing of all liners, covers, and leachate collection systems required by this paragraph. The permittee shall submit the certification to the department and shall not begin placement of ore, waste rock, overburden, or tailings in the storage facility until approved by the department.

(ii) Subject to approval of the department, an operator may utilize an alternative plan for a stockpile or storage facility for reactive overburden, ore, waste rock, or tailings. The department may approve an alternative plan only if the operator provides data that demonstrates that the alternative plan is capable of providing protection of groundwater and surface water that is equivalent to or better than that provided under paragraph (i) of this subdivision. The alternative plan shall incorporate 1 or more of the following:

(A) Measures to prevent the generation of leachate by adding a material or materials that counteract or neutralize the acid-forming or toxic characteristics of the ore, waste rock, overburden, or tailings.

(B) Measures to treat or neutralize any leachate that may be generated before it migrates outside of the storage facility.

(C) Measures to isolate the ore, waste rock, overburden, or tailings from oxygen and other oxidizing substances.

(D) Measures to isolate the ore, waste rock, overburden, or tailings from groundwater or surface water.

(b) An operator may utilize a disposal facility to manage, contain, or isolate reactive waste rock, tailings, overburden, or peripheral rock subject to approval of the department. A disposal facility may consist of a mined area that will be backfilled. The department shall not approve the plans for a disposal facility unless the operator demonstrates that the design, construction, operation, and closure of the disposal facility will reasonably minimize the actual and potential adverse impacts on groundwater and surface water by preventing leaching or runoff of acid-forming waste products and other waste products from the mining process and will not require perpetual care following closure in accordance with MCL 324.63209(8) and with R 425.204(b)(vi).

(c) A stockpile or storage or disposal facility under this rule shall be monitored in compliance with R 425.406.

(d) A permittee shall conduct and maintain grading or diking at stockpiles and storage or disposal facilities subject to this rule to assure that surface water drains away from the storage or disposal area.

(By authority conferred on the director of the department of environmental quality by section 63203(1) of 1994 PA 451, MCL 324.63203(1))

Mich. Admin. Code R. 425.409, MI ADC R. 425.409

MI ADC R. 425.409
END OF DOCUMENT

B. **New Mexico Statute:**
West's New Mexico Statutes Annotated Currentness
Chapter 69. Mines
Article 36. New Mexico Mining Act (Refs & Annos)

➡§ 69-36-12. New mining operations; mining operation permit required

A. After the effective date of the New Mexico Mining Act, except as provided in Section 5 of that act, no person shall conduct a new mining operation without a permit issued by the director. Applications for permits for new mining operations operating pursuant to Section 5 of the New Mexico Mining Act shall be received by the director by December 31, 1995. The director may grant one extension for the submission of a permit application for a new mining operation for six months for good cause shown. Prior to receiving a permit for a new mining operation, an applicant shall submit an application that complies with the New Mexico Mining Act and regulation of the commission, including at a minimum, one year of baseline data as required by regulation.

B. The director shall issue the permit for a new mining operation if the director finds that:

(1) the permit application is complete;

(2) the permit application fee has been paid and the financial assurance is adequate and has been provided;

(3) reclamation in accordance with the proposed reclamation plan is economically and technically feasible;

(4) the mining operation is designed to meet without perpetual care all applicable environmental requirements imposed by the New Mexico Mining Act and regulations adopted pursuant to that act and other laws following closure; and

(5) the applicant, the operator or owner or any persons or entities directly controlled by the applicant, operator, owner or any persons or entities that directly control the applicant, operator or owner:

(a) are not currently in violation of the terms of another permit issued by the division or in violation of any substantial environmental law or substantive environmental regulation at a mining operation in the United States, which violation is unabated and is not the subject of appeal, and have not forfeited or had forfeited financial assurance required for any mining, reclamation or exploration permit in the United States; provided that a violation that occurred prior to the initiation of a legal relationship between the permit applicant and the violator

shall not be considered for purposes of this paragraph; and

(b) have not demonstrated a pattern of willful violations of the New Mexico Mining Act or other New Mexico environmental statutes; provided that a violation that occurred prior to the initiation of a legal relationship between the permit applicant and the violator shall not be considered for purposes of this paragraph.

C. The permit for a new mining operation may be revoked or suspended by order of the director for violation of its terms or conditions, a regulation of the commission or a provision of the New Mexico Mining Act.

L. 1993, Ch. 315, § 12.

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C.J.S. Mines and Minerals § 338.

NOTES OF DECISIONS

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1. In general

The decision of whether a proposed mining activity is a new mining unit or a new mining operation subject to stricter environmental safeguards under the Mining Act must be reasonable and have a rational basis. NMSA 1978, §§ 69- 36-5, 69-36-7, subds. D, G, 69-36-12. Rio Grande Chapter of Sierra Club v. New Mexico Mining Com'n, 2002, 133 N.M. 97, 61 P.3d 806, rehearing denied. Mines And Minerals ⚿ 92.8

Under the New Mexico Mining Act, a core function like the issuance of a mining permit should not be the decision of the Director of Energy, Minerals, and Natural Resources Department alone, but should involve the Mining Commission by direct administrative review. NMSA 1978, §§ 69-36-14, subd. A, 69-36-15, subd. A. Pueblo of Picuris v. New Mexico Energy, Minerals and Natural Resources Dept., 2001, 131 N.M. 166, 33 P.3d 916, certiorari denied 131 N.M. 221, 34 P.3d 610. Mines And Minerals ⚿ 92.17

2. Rules and regulations

Mining Commission regulation which could be interpreted to exceed Commission's authority under Mining Act to require permit applicant to pay for experts hired by Commission could not be struck down on facial challenge to regulation, in light of alternative interpretation of regulation under which it complied with Act. NMSA 1978, § 69-36-9, subd. G. Old Abe Co. v. New Mexico Min. Com'n, 1995, 121 N.M. 83, 908 P.2d 776, certiorari denied 120 N.M. 828, 907 P.2d 1009. Mines And Minerals ⚿ 92.8

3. Expansion of permit--In general

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MEMORANDUM

TO: Robert Heyano, Art Nelson, Bonnie Williams
Alaska Board of Fisheries, Subcommittee on Bristol Bay Drainages

THROUGH: Jim Marcotte, ADF&G, Boards Support
VIA EMAIL: jim_marcotte@fishgame.state.ak.us

FROM: William P. Horn, counsel to Trout Unlimited
Geoffrey Y. Parker, counsel to Trout Unlimited[1]
Roger Flynn, counsel to Trout Unlimited[2]

DATE: January 9, 2007

RE: Elevating Habitat Conservation Standards in the Bristol Bay Drainages

I. INTRODUCTION

Higher standards for conservation of fish and wildlife resources and related habitat in the Bristol Bay region may be recommended by the Alaska Board of Fisheries and established by the Alaska Legislature. These may be in the context of a fish and game refuge or other designation requiring that prospective large scale mining projects in the region be able to demonstrate and ensure a capability to conserve water quality, instream flows and protect fish, wildlife, habitat and public uses as a precondition for state permission to proceed.

We have reviewed applicable federal and Alaska law regarding "takings" (i.e., when government action substantially diminishes property rights triggering the payment of just compensation for the "taken" rights) to determine whether proposals to elevate conservation standards imposing new regulatory constraints would constitute a taking of mining claims in the

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region. Our conclusion is that raising conservation standards now would NOT be a taking of the very limited property interests attendant to such claims.

State and federal law are very clear on this issue. The Alaska Supreme Court has held expressly that a mining claim carries with it "no right to mine" and that mining is "always contingent on State permission to mine."[3] Therefore, the State is free to impose new standards and reasonably withhold its permission (under elevated standards) to develop such claims if the applicant cannot satisfy the standards.

It is highly unlikely that any mining claim holders in the Bristol Bay region seeking to develop a large scale open pit or similar mine would be able to satisfy the myriad legal requirements to establish a taking in the event that, in the future, a claimant applies for permits that are substantially modified or reasonably denied on the basis of elevated conservation standards.

II. SUMMARY

We understand that your subcommittee will meet with Alaska Department of Natural Resources (DNR) staff on Thursday, January 11, 2007, concerning it's large mine permitting process. We also appreciate that your committee will consider higher standards for habitat conservation, and identify options, including refuge status for the Nushagak and Kvichak drainages, where a proposed large mine, of an acid-generating sulfide deposit for copper and other metals (Pebble Mine), could harm fish, wildlife, their habitats, and the subsistence, commercial and recreational uses which depended upon them.

This memorandum gives examples of higher standards and examines two issues relevant to your meeting with DNR and your considerations:

(1) What forms of higher standards would be lawful and not constitute a "taking" of the mining claims; and

(2) What forms of strengthened public and other processes related to large-mine permitting in a refuge would not constitute a "taking."

NO TAKING OF A MINING CLAIM OCCURS when the state legislature adopts higher standards under (a) the state's police power to protect public health, safety, the environment, and other public interests, (b) its property power to manage its land, or (c) state constitutional mandates to conserve fish and wildlife.[4] This is particularly true in the context of creating a

[3] *Beluga Mining Company v. State Department of Natural Resources*, 973 P.2d 570 (Alaska 1999).

[4] *See* Art. VIII, Alaska Constitution.

refuge to accomplish these ends. In fact, other specially designated areas (e.g., the Tugidak Island Critical Habitat Area) contain prior mining claims subject to higher standards.

A mining claim is a very limited property interest. It amounts to a right of a claimant to be first in line against subsequent claimants. It does not create a right to mine or preempt the State legislature or state agencies from regulating use or development of the claim under the State's police power, property power, and mandates to conserve fish and wildlife.

As long as the State relies on such established authorities and purposes, the following examples of "higher standards" would not constitute a taking, and the State is free to enact all, or similar provisions, in legislation:

(a) a "refuge" or similar designation where the legislation provides that the land shall be managed to protect (1) fish and wildlife habitats, and (2) public uses for commercial, subsistence and sport fishing, hunting and other such uses;[5]

(b) a "compatibility test" that requires that mining be compatible with refuge purposes;

(c) closure of refuge lands to new mining claims subject to valid existing rights;

(d) a prohibition of mining methods of operations that use or generate toxics harmful to human health, safety, aquatic or terrestrial life, the environment and subsistence, commercial

[5] In several respects, refuge or similar status would also affect a federal environmental impact statement (EIS) under the National Environmental Policy Act (NEPA) on a mine, in a manner favorable to conservation of fish, wildlife, habitats and public uses. In terms of environmental consequences, the EIS would have to address any inconsistency or conflict with state law creating the refuge. 40 CFR 1502.16 (2006); 40 CFR 1506.2(d). Federal consultation with ADF&G would occur earlier in the EIS process. 40 CFR 1501.2(d). Because ADF&G is the lead state agency managing state refuges (AS 16.20), it would have a stronger role in the EIS process. ADF&G would most likely be a "joint-lead agency" responsible with a federal lead agency for the preparation of an EIS. 40 CFR 1501.5. Refuge status would mean that ADF&G would have "jurisdiction by law" and elevate its role even as a "cooperating agency" in the EIS process, which would mean that ADF&G's expertise and environmental analysis would have to be used to the "maximum extent possible." 40 CFR 1501.6(a). Finally, even though an EIS would obviously be prepared for permits authorizing Pebble Mine, refuge status would be more likely to trigger a supplemental EIS on subsequent permit actions after the mine had been initially permitted. This is because refuge status affects the determination of whether an impact is "significant," which triggers an EIS. 40 CFR 1508.27. None of these effects on the NEPA process even trigger takings law, for reasons discussed herein.

and recreational uses of water, fish, game and other natural resources, or that may cause a nuisance;

(e) a prohibition of storage or disposal of waste rock and tailings that may generate sulfuric acid, dissolved metals, chemicals, compounds or materials that may cause such harms;

(f) a prohibition of storage or disposal of overburden, waste rock, tailings, or other waste in waters or riparian areas, or within a reasonable distance (say 500 feet) of waters or riparian areas;

(g) a prohibition of withdrawal of surface or subsurface water that may adversely affect the spawning, incubation, migration, rearing, or propagation of fish, and a requirement that any water appropriated be replaced;

(h) a prohibition of discharge of water from any point source or nonpoint source that does not meet water quality standards required for fish;

(i) a requirement that dams, for tailings disposal or other similar purposes, be seated to bedrock and impermeable;

(j) a requirement that any open pit or block caving be isolated hydrologically;

(k) a requirement that roads, power, and other facilities be designed, located, constructed and maintained in perpetuity to the highest standards to conserve fish, wildlife, habitat and uses dependent on them, by the mining company at its sole expense; and

(l) a requirement that transportation of ore concentrate use all reasonable methods to eliminate any risk of harmful or toxic metallic dust.

With respect to the second question, takings are NOT EVEN AN ISSUE when the legislature amends the processes -- rather than the standards -- related to permitting mining within a refuge. For example, takings law is not triggered when the legislature –

(a) requires a refuge management plan that is adopted into regulation by the Joint Board of Fisheries and Game;

(b) strengthens the role of the public or other agencies in decision making;

(c) creates public notice requirements that do not exist today;

(d) requires that information used be of the highest scientific quality;

(e) strengthens standards for judicial review of permitting; or

(f) requires particularized analysis of, for example, socio-economic impacts on subsistence, recreational and commercial uses of fish and game.

III. TAKINGS LAW

A. Introduction

Takings law arises from the Fifth Amendment to the U.S. Constitution and Article I, § 18 of the Alaska Constitution. Each provides that private property cannot be taken or damaged for public use or purposes without just compensation. Similarly, both the U.S. and Alaska Supreme Courts have recognized that overbroad government regulation that both substantially and inappropriately diminishes property rights, not limited interests, can be a taking.

The same case law prescribes the rigorous requirements which must be demonstrated by a claimant to establish successfully a takings claim. These matters are discussed in detail below.

Recently, the Legislative Affairs Agency addressed general aspects of takings law. The following is a more thorough outline of applicable takings law. Moreover, no draft legislation or specific proposal was in front of the agency, so it did not apply takings law to any specific proposals. This memorandum does so.

B. Constitutional Provisions

The "Takings" Clause of Fifth Amendment to the U.S. Constitution provides "nor shall private property be taken for public use, without just compensation." This limitation is imposed on the states, including Alaska, by the Fourteenth Amendment. *Chicago, B. & O.R. Co. v. Chicago,* 166 U.S. 226 (1897).

The Alaska Constitution contains a similar provision which specifies that "private property shall not be taken or damaged for public use without just compensation." Art. I, § 18.

C. Federal Law

The U.S. Supreme Court recognizes four kinds of takings: (1) "physical takings" where the property is physically appropriated by government for public use, such as where government takes private property for a highway; (2) a "total regulatory taking," such as where government eliminates all economically beneficial use of the land; (3) a "regulatory taking" such as where legislative or agency action to control land use "goes too far;" and (4) "land use exactum"

takings, such as when government demands dedication of a conservation easement as a condition for approving a subdivision. *Lingle v. Chevron USA*, 544 U.S. 528 at 548 (2005).

Regulatory takings were first recognized in *Pennsylvania Coal Co. v. Mahon*, 260 U.S. 393 (1922), in a case substantially different from the situation at hand. At issue in that case was a privately owned, express right to remove subsurface coal in private land, where the right had been reserved by contract at the conveyance of the surface estate to a homeowner. No public land or mining claim was involved. Here, we have mere mining claims on public land that do not create any right to mine. Nevertheless, the Court concluded that a 1921 Pennsylvania law restricting the impact of coal mining on surface estates affected a taking of the specific, privately-owned coal rights. Justice Oliver Wendell Holmes penned the decision, including the famous line "if regulation goes too far, it will be recognized as a taking." *Id.* at 415. However, the decision also recognized that "Government hardly could go on if to some extent values incident to property could not be diminished without paying for every such change in the general law." *Id.* at 413; *see also Lingle* at 538.

Since *Mahon*, the Court has elaborated the particular and rigorous requirements that must be demonstrated to establish that a regulation has gone "too far":

(1) The claimant must hold an established property right or a bona fide property interest that has been taken, but "a mere unilateral expectation or an abstract need is not a property interest entitled to protection." and such expectations or needs are not sufficient to support a takings claim. *Webbs Fabulous Pharmacies, Inc. v. Beckwith*, 449 U.S. 153, 161 (1980). *Penn Central Transp. Co. v. City of New* York, 438 U.S. 103, 125 (1978); *see also Seven Up Pete Venture v. State*, 114 P.3d 1009, 1019 (Montana 2005) citing *Lucas v. South Carolina Coastal Council*, 505 U.S. 1003 (1982).

(2) The claim can arise only after a government has considered and acted to deny or amend a particular course of action or permit impacting property rights. *Palazzolo v. Rhode Island*, 533 U.S. 604 (2001); *United States v. Riverside Bayview Homes*, 474 U.S. 121, 127 (1985);

(3) Per se rules are frowned upon and a regulatory takings analysis is a factual, ad hoc inquiry that focuses on three criteria –

(a) The economic impact on the property owner;

(b) The extent of interference with the reasonable investment backed expectations of the owner; and

(c) The character of the government action. *Penn Central* at 124; *see also Palazzolo* at 617.

Regarding the necessary property right, landowners, including mining claim holders, generally have no property interest or entitlement to a permit or approval for particular action: "A cognizable property interest exists [in prospective permit approval] only when the discretion of the issuing agency is so narrowly circumscribed that approval of a proper application is virtually assured." *Gardner v. Baltimore Mayor and City Council*, 969 F.2d 63, 68 (4th Cir. 1992). Similarly, unpatented federal mining claims, like the state claims at issue in *Beluga* (supra at 2), are only a limited property interest subject to substantial governmental regulatory control, and denial of mining approval is not a compensable property interest. *Reeves v. United States*, 54 Fed. Cl. 652, 672, 674 (2002).

Takings claims are also not ripe for judicial review until there has been governmental action which is a "final and authoritative determination of the type and intensity of development legally permitted on the subject property." *MacDonald, Sommen & Frates v. Yolo County*, 477 U.S. 340, 348 (1986). A court cannot determine whether a regulation has gone "too far" unless it knows how far the regulation goes. *Id.*

The heart of a takings analysis remains governed by the three *Penn Central* criteria that continue to serve as the Court's "principal guidelines" for regulatory takings. *Lingle* at 539. Each criterion has been addressed by subsequent decisions.

In terms of economic impact (the first criterion), the Court has held a taking occurred when an owner was denied ALL use of his property. *Lucas v. South Carolina Coastal Council*, 505 U.S. 1003 (1982). However, if permit restrictions allow some uses but not others, a taking is not likely. *Penn Central* at 137. In that case, building restrictions for historic preservation purposes were quite strict but it remained possible to engage in some forms of construction and building renovation consistent with the preservation standards. This meant the owner retained some rights to his property and no taking occurred. In *Riverside Bayview Homes*, reviewing a takings challenge to wetlands conservation rules, the Court opined that the possible availability of permits consistent with conservation standards would not constitute a taking: "a requirement that a person obtain a permit before engaging in a certain use of his or her property does not in itself 'take' the property in any sense; after all the very existence of a permit system implies that permission may be granted." *Id.* at 127. The Court declined to strike down the Federal wetlands regulatory program and ruled that its limitations on development did not constitute a taking.

Even very substantial reductions in property values (i.e., economic impacts) have been found not to be takings. *Penn Central* cited two cases that reduced values 75% and 87½% without being a taking. *Id.* at 131; *Euclid v. Ambler Realty Co.*, 272 U.S. 365 (1926); *Hadacheck v. Sebastian*, 239 U.S. 394 (1915).

The character of the government action is another critical criterion. The Court's general proposition is that "State laws prohibiting contemplated uses of land have been held not to be takings when the prohibitions or restrictions are for promotion of health, safety, morals, and general welfare." *Penn Central* at 125. Government action found to protect against what it determines to be a significant threat to the common welfare "leans heavily against finding a taking." *Keystone Bituminous Coal Association v. DeBenedictis*, 480 U.S. 468, 485 (1987).

This is especially so when the restricted or prohibited activity might constitute a "nuisance."[6] A nuisance is the use of property by the owner that adversely impacts his neighbors or the community. Under the common law, all property is held under an implied obligation that the owner's use of it shall not be injurious to the community. *Keystone* at 491 citing *Mugler v. Kansas*, 123 U.S. 623 (1887). Accordingly, the Court has a "long line . . . of cases sustaining against Due Process and Takings Clause challenges the State's use of its 'police powers' to enjoin a property owner from activities akin to public nuisances." *Lucas* at 1022 citing Mugler; *see also Hadacheck; Miller v. Schoene*, 276 U.S. 272 (1928); *Goldblatt v. Hempstead*, 369 U.S. 590 (1902). State action in the form of restrictions or prohibitions to restrain uses that are tantamount to a nuisance create circumstances in which the Court will "hesitate" to find a taking. *Keystone* at 491.

States are also permitted to impose restrictions on individual property owners, or a category of property owners, to protect other interests. In a noteworthy decision, the Court denied a taking claim by landowners ordered to cut down certain ornamental trees. The State of Virginia took the action to protect its apple industry as the ornamental trees were a possible source of a plant disease that could adversely impact apple orchards: "the State had not exceeded its constitutional powers by deciding upon the destruction of one class of property [without compensation] in order to save another, which in the judgment of the legislature, is of greater value to the public." *Penn Central* at 136 citing *Miller v. Schoene*.[7] The same rationale would apply to State efforts to protect valuable commercial fishing, the recreation industry and subsistence from mining.

Lastly, governments retain authority and discretion to set new rules or limitations on land use without triggering takings: "even with respect to vested property rights, a legislature generally has the power to impose new regulatory constraints on the way in which those rights

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[6] Alaska law defines "nuisance" as a "substantial and unreasonable interference with the use and enjoyment of real property, including water." AS 09.45.255; *Parks Hiway Enterprises LLC v. CEM Leasing Inc.*, 995 P.2d 657 (Alaska 2000).

[7] An old Nevada case upheld restrictions against non-miners to facilitate the mining industry because of the value of the mining industry to that State. *Dayton Gold & Silver Mining Company v. Seawell*, 11 Nev. 394 (1876).

are used, or to condition their continued retention on performance of certain affirmative duties." *Reeves v. United States*, 54 Fed. Cl. 652, 672 (2004) citing *United States v. Locke*, 471 U.S. 84, 104 (1985). In *Reeves*, a mining company alleged that denial of its permit application to mine by the Bureau of Land Management under "non-impairment" rules, as well as designation of a National Monument that encompassed its valid mining claims, constituted a regulatory taking. The U.S. Court of Federal Claims rejected the claim.

D. Alaska Law

1. Introduction – Many features of Alaska law regarding takings mirror the U.S. Supreme Court precedents. However, the private property protection aspect of the State constitution is considered "broader" than that of the Fifth Amendment. *Anchorage v. Sandberg*, 861 P.2d 554, 557 (Alaska 1993).

Similar to federal case law, the Alaska Supreme Court also distinguishes between cases (a) where there has been a physical invasion of private property for public purposes or the destruction of all economic value and (b) regulatory takings where property rights are only diminished. *R & Y Inc. v. Municipality of Anchorage*, 34 P.3d 289, 296 (Alaska 2001).

Regulatory takings are subject to a four factor "*Sandberg*" analysis much like the *Penn Central* criterion:

(a) Character of the government action;

(b) Economic impact;

(c) Interference with reasonable investment backed expectations; and

(d) Legitimacy of the interest advanced by the regulation or land use decision. *Id.* at 557-558 citing *Penn Central*.

2. Mining Claims – The Alaska court has also specifically addressed the issue of State mining claims and takings. *Beluga v. State Department of Natural Resources*, 973 P.2d 570 (Alaska 1999). When the proponents of the major Beluga coal mine project failed to obtain permits to mine, they filed an unsuccessful takings claim against the Alaska Department of Natural Resources.

Factually, the Beluga mining claims were staked in 1983 and some mining permits were issued by the State in 1989. Other related permits were issued in 1990 but the final mining licenses were not timely issued, and "unable to mine its claims, Beluga abandoned them and sued the State for resulting economic losses." *Id.* at 572. The Court applied the *Sandberg*

factors and rejected the claim: "The State deprived Beluga of no property right. Beluga had property rights in its claims, but it had NO RIGHT TO MINE; IT'S MINING 'RIGHTS' WERE PROSPECTIVE AND CONTINGENT..." (Emphasis added). *Id.* at 575.

Beluga also argued that it had invested millions of dollars toward developing its claims and these constituted reasonable investment backed expectations for which it should be compensated. This argument was also rejected: "Beluga's claims were always CONTINGENT on State permission to mine and assertion of adverse mining claims. Absent any demonstration to the contrary, we conclude that reasonable investors could have recognized that DNR might be delayed in granting Beluga permission to mine." (Emphasis added). *Id.* at 576.

Lastly, the mine proponents contended that they had a "contractual" right under State law and rules to mine their claims and a right to obtain the necessary permits. *Id.* at 578. This argument failed too as the Court held that Beluga had no right, contractual or otherwise, to "land use permits" and after reviewing State mining law the Court decided "no express or implied promise by the State could have created a contractual mining right." *Id.*

Although not an Alaska case, the Montana Supreme Court recently handed down a similar ruling. *Seven Up Pete Venture* (2005). The mining interests acquired State mining leases in 1986 estimated to contain 9 million ounces of gold and 20 million ounces of silver. *Id.* at 1013. The permit process commenced for mining and cyanide ore processing, and the mining company invested significant sums in permit applications and for preparation of an environmental impact statement. *Id.* at 1014-1015. During this process, Montana established new environmental standards and prohibited "open-pit mining for gold or silver using heap leaching or vat leaching with cyanide ore processing reagents." *Id.* at 1013.

When it became evident that the project could not proceed under the new standard, the mining company filed takings claims arguing (a) it had "property rights in 'the opportunity for a favorable ruling on its mining permit application'" and (b) the new ban on cyanide "preclude[d] the only economically viable" means of mining therefore affecting a total taking per *Lucas*. *Id.* at 1016.

Each of these claims was rejected. Addressing the first, the court held the "opportunity to seek a permit, which required convincing the State that this cyanide leaching project was appropriate DID NOT CONSTITUTE A PROPERTY RIGHT." (Emphasis added). *Id.* at 1019. Regarding the second, the court cited *Reeves* and *Locke* that the State had the right to "impose new regulatory constraints" and these new rules did not affect a taking. *Id.* at 1017.

3. Rights to Permits – Other cases have also addressed the purported rights or entitlements of applicants to obtain permits for land development activities. Even in situations in which a statute prescribes that a permit "shall" be issued if an application satisfies particular

standards, a government is not stripped of its discretion and authority to determine if those standards have been satisfied. *Spinnell Homes, Inc. v. Municipality of Anchorage*, 78 P.3d 692, 697-698 (Alaska 2003). In such cases, a takings claim will be denied. Alaska law, in this regard, mirrors *Gardner* (4th Cir.) and Montana (*Seven Up Pete Venture*).

4. Character of Government Action – Like the U.S. Supreme Court, the Alaska Supreme Court has held that exercise of government authority for legitimate public purposes is unlikely to result in a taking. *Sandberg* at 558 citing *Penn Central*. It specifically noted that a "'taking' may more readily be found when the interference with property can be characterized as a physical invasion by government than when interference arises from some public program adjusting the benefits and burdens of economic life to promote the common good." *Id.* citing *Penn Central* at 124.

In the environmental arena, statutes, ordinances or regulations which limit a landowner's use of his property are not a taking unless the owner has been deprived of ALL economically beneficial uses of his property. *Zerbetz v. Municipality of Anchorage*, 856 P.2d 777, 782 (Alaska 1993) citing *Lucas v. South Carolina Coastal Council*, 505 U.S. 1003 (1992). The *Zerbetz* Court held that a "conservation wetlands" designation imposed on private property was not a taking even though the designation elevated the standards for building permits. Despite the new standards, permits could still be secured by satisfying the requirements. *Id.* at 783; *see also Riverside Bayview Homes* at 127. The Court also noted that the trend in environmental law was to reject landowners' takings claims and to uphold such rules as a lawful exercise of police power. *Zerbetz* at 782.

5. Reasonable Investment Backed Expectations – This feature of the *Sandberg* analysis was specifically addressed in the *Beluga* case. However, the *Sandberg* decision reveals that the Alaska Supreme Court determined that it is not necessarily reasonable to invest millions of dollars in a project dependent on prospective government approval. *Sandberg* was an inverse condemnation claim by a housing developer seeking to recover monies it invested in a development plan that secured some initial, partial government approvals, but ultimately was abandoned by the government. Rejecting this claim, the Court held it would "have to conclude" that the initial, partial approvals "constituted some kind of 'guarantee' or 'express promise'" that the government would follow through on the project and there was "absolutely no basis for such a conclusion." *Id.* at 559. Pithily the Court noted the claimant "gambled" that necessary approvals would be secured and "they lost this gamble." *Id.* at 560. Such "gambling" was held to not constitute a reasonable investment for which compensation was warranted under Alaska law. *Id.*

A reasonable investment backed expectation must also be more than a "unilateral expectation or an abstract need." *State DNR v. Arctic Slope Reg. Corp.*, 834 P.2d 134, 140 (Alaska 1991) citing *Ruckelshaus v. Monsanto*, 467 U.S. 986 (1984). In this case, where neither

State law or regulations provided a "guarantee" or "express promise" as claimants desired (i.e., to keep commercial information (property) secret), the claimants had no "reasonable" expectation that government would provide what they desired and could not assert a takings claim. *Id.*

6. Legitimate Government Interest – The Alaska Constitution addresses expressly fish, wildlife, land and water. Fish, wildlife and waters are reserved to the people for common use. (Art. VIII, § 3). Fish and wildlife are to be utilized, developed and maintained on the sustained yield basis. (Art. VIII, § 4) The legislature shall provide for the utilization, development and conservation of all natural resources belonging to the State, including lands and waters, for the maximum benefit of its people and is to provide for the administration of the state public domain. (Art. VIII, §§ 2, 6) The constitution authorizes limited entry fisheries for resource conservation and to prevent economic distress among fishermen. (Art. VIII, § 15) These provisions, in part, have been held to grant the State the right to direct the use of its natural resources including fish and game. *Herscher v. State, Dep't of Commerce*, 568 P.2d 996 (Alaska 1977).

Title 16 of the Alaska Statutes, the Fish and Game code, including state refuges, springs from the constitutional authority of Article VIII. For that matter, so does the Board's authority under AS 16.05.251(a)(1) to recommend that the legislature designate State refuges. Conservation of fish and wildlife and their habitat, salmon spawning and rearing habitats and opportunities for public uses for commercial, sport and subsistence fishing, hunting and other public uses "in a high quality environment" are among the purposes of these areas (e.g., 16.20.033(b)(1), (2)), and the use and disposition of other resources must be consistent or compatible with these purposes (e.g., 16.20.033(b)(3)). State action consistent with these authorities clearly would advance purposes of Article VIII. *See Arctic Slope Reg. Corp.* at 143. This case also refers to a variety of other legitimate government actions including public health, physical safety, financial safety and economic welfare. *Id.* The *Sandberg* opinion expressly cited this portion of the *Arctic Slope* ruling. *Id.* at 561.

IV. ANALYSIS AND APPLICATION OF TAKINGS LAW

The application of both Federal and Alaska takings law demonstrates that action by the Alaska Legislature to "impose new regulatory constraints" (*Reeves* at 672), such as those listed at the outset, on how mining development in the Bristol Bay drainages shall proceed would not constitute a taking of any cognizable property rights held by present mining claim holders. The Legislature is free to establish a refuge or other designation which elevates applicable fish, wildlife and habitat conservation standards in the Bristol Bay region or take other actions to establish more rigorous standards under which mine permit applications would be scrutinized. Such actions would not trigger a taking of mining claims or other interests requiring just

compensation under either the Takings Clause of the Fifth Amendment or Article I , § 18 of the Alaska Constitution.

Analysis of each required element for a takings claims reveals that potential plaintiffs could not carry their legally mandated burdens if they challenged State action to elevate conservation standards in the Bristol Bay region:

A. **No Cognizable Property Interest**

A mining claim is a very limited INTEREST that carries with it no right to mine and takings doctrine is only implicated when the State deprives a person a property RIGHT. *Beluga*; *Reeves*, *Penn Central*, *see also Seven Up Pete Venture*. The State retains substantial discretion to review any future permit applications, that may or may not be filed, and the applicant has no property right to have those applications approved. *Spinnell; Gardner*. The so-called "right to mine" or the "opportunity for a favorable ruling on a mining permit application" are at best mere expectancies not protected by either constitutional provision. Federal mining law, upon which Alaska's mining laws are based, confirms that there is no compensable property right to develop mining claims free of government regulation. Alaskan mining law is based upon, and very similar to, federal mining law. *Trustees for Alaska v. State*, 736 P.2d 324 (Alaska 1987).

Similarly the U.S. Department of Interior, which is charged with administering the federal mining laws on western public lands, has repeatedly held that any property right in a mining claim against the government, is contingent upon compliance with all applicable state and federal environmental and other regulatory requirements. *Great Basin Mine Watch*, 146 IBLA 248, 256 (1998) (*citing Southwest Resource Council*, 94 Interior Dec. 56, 67 (1987)) (emphasis added). *See also Clouser v. Espy*, 42 F.3d 1522, 1530 (9th Cir. 1994).

As detailed herein on state lands, the State of Alaska, like the federal government on federal public lands, has broad authority to impose new and substantial regulatory constraints on mining operations conducted on mining claims. Compliance with these requirements, and the calculation of any costs to comply with these requirements, is a prerequisite to establishing any property right against the State. Thus, a mining claimant that is unable or unwilling to comply with these requirements, or that cannot profitably develop the claims due to the imposition of these compliance costs, does not have any property right against the government.

There is also no compensable property right to operate free of government controls on mining. As detailed herein, the State of Alaska has broad regulatory authority over mining. The State is free to impose existing, or enact new, restrictions on the ability of claimants to develop their mining claims. Because a mining claimant holds his claims pursuant to, and contingent upon, compliance with all state and federal restrictions, the denial of a mine proposal based on

these restrictions does not implicate a compensable property interest. Again, directly analogous caselaw from the federal and state courts is instructive.

B. Character of Government Action

Even if it could be argued that a mining claimant has a compensable property right to mine (which is not the case), government regulatory authority over mining does not constitute a taking under Alaskan or federal law.

The State possesses wide latitude and discretion to take actions to protect and promote public health and safety and has more than ample authority to take additional steps to further ensure the conservation of valuable fish and wildlife resources like those found in the Bristol Bay region. First, mining can be a public nuisance by virtue of polluted effluent discharges, dewatering of streams, release of toxics, dust and particulates, and a variety of other actions that can produce "substantial and unreasonable interference" with the State's ability to enjoy the real property, including waters, it holds in trust for its citizens. As noted above, courts "lean heavily against a finding a taking" and are "hesitant" to do so when a State restricts property rights to prevent a nuisance. *Penn Central, Keystone.*

Second, the State is allowed to take action designed to protect activities and industries it deems important even if the action restricts other classes of property owners (i.e., mining claim holders in Bristol Bay). *Miller v. Schoene.* Here, multi-million dollar commercial, sport, and subsistence fisheries are sustained by the renewable salmon resources in Bristol Bay. The Alaska Legislature is within its rights to act to protect this vital industry even if it means new restrictions on the nascent mining industry in the region.

Third, the State, like the Federal government, is authorized to impose new regulatory constraints or create new land designations encompassing existing mining claims without triggering compensable takings. *See Reeves.* This has happened repeatedly in Alaska and not resulted in any successful takings claims (e.g., mining claims within Tudigak Island State Critical Habitat Area; U.S. Borax molybdenum claims included in Misty Fiords National Monument; Orange Hill patented copper claims included in Wrangells-St Elias National Park and Preserve, etc.).

C. Economic Impact

Elevating conservation standards in all or part of the Bristol Bay drainages will have not have any direct, tangible economic impact on present holders of mining claims in the region. As the claims carry no right to mine, and State permission to mine is a matter of discretion, any economic impacts are purely speculative and cannot rise to the level of a taking. Possible future permit applicants may well be able to satisfy the new standards, in some manner, and be granted

permission to mine in some fashion. This possibility means that present claimants and prospective applicants would not suffer any appreciable immediate economic impact. *Riverside Homes*.

D. Reasonable Investment Backed Expectations

As a matter of fact, it is highly speculative (i.e., a "gamble") that the State authorities, under either present standards or elevated conservation standards, would permit an enormous open pit mine, massive tailings dams and toxic sediment dumps, water diversions and withdrawals, and all of the related infrastructure (i.e., roads, bridges, powerlines, port, housing, etc.) astride two major river systems that support the world's most productive and best managed salmon fishery. It is also wholly unknown, and speculative, if any prospective mining projects in the Bristol Bay region are economically viable independent of environmental or conservation standards. The Alaska Supreme Court, in its seminal *Sandberg* ruling, stated that investing money in enterprises dependent on speculative government approvals constitutes a "gamble". This kind of gamble is not a "reasonable" investment. When a property owner takes such a risk and loses the gamble, the State is under no obligation to compensate that owner for its loss. Similarly, in the *Beluga* case, the Court indicated that "reasonable investors" could recognize that permits to mine may not be forthcoming from the State.[8] The existence of this fundamental contingency means that any such future investments in future permit applications and related enterprises would not be able to satisfy this critical requirement of takings law.

E. Legitimacy of the Interest Advanced by the Regulation or Land Use Decision

Conservation of fish, wildlife and related habitat is a completely legitimate interest to be advanced by State action. Authority for such action arises directly from the Alaska Constitution (Art. VIII), and the legislatively enacted Fish and Game Code (Title 16) conclusively establishes the legitimacy of state conservation interests as a matter of state law. The Court has found that a wide variety of actions are "legitimate," *see Arctic Slope* at 143, *Sandberg* at 558, and there is no doubt that constitutionally inspired conservation actions would totally satisfy the "legitimacy" requirement.

[8] In this vein, the Memorandum of Understanding between Northern Dynasty and the Department of Natural Resources, by which Northern Dynasty reimburses state permitting costs, provides that Northern Dynasty expressly agrees that nothing in the agreement entitles Northern Dynasty to permits or favorable treatment at the time of permit application.

F. **Proposals to Improve Processes Related to Mining Permits Do Not Trigger a Takings Issue.**

Proposals to improve the processes related to mining permits do not create higher conservation standards and never trigger a takings issue because mining claims are not directly affected.

For example, a draft Jay Hammond refuge bill would require ADF&G to prepare, in consultation with DNR, a refuge management plan that could be adopted into regulation by the Joint Board of Fisheries and Game. The regulations might affect the standards for permits, but the requiring plan does not.

The draft refuge bill also would strengthen the role of the public in decision making by creating a citizen advisory body. That strengthens the role of the public, compared to DNR decision-making, but does not directly affect any mining claims.

We understand that DNR is under no statutory requirement for public notice of permits under the Anadromous Fish Act, AS 41.14.870, or the Fishways Act, AS 41.14.840. A refuge bill could require public notice for any permits related to mining in the refuge.

Similarly, DNR has no applicable statutory requirement that information used in mine permitting be of the highest quality. A refuge bill could require as much.

Legislative enactment of a refuge bill also fits squarely within Alaska administrative law regarding subsequent agency action to grant or deny permits for a mine. Alaska courts apply four standards of review for agency decisions. *Kachemak Bay Watch, Inc., v. Dept. of Natural Resources* 935 P 2d 816 (Alaska 1997). (1) For questions of law not involving agency expertise, the courts apply the "substitution of judgment" standard because when no agency expertise is involved, the courts are more equipped than agencies to interpret law. *Handley v. State, Dep't of Revenue*, 838 P.2d 1231, 1233 (Alaska 1992); *Kjarstad v. State*, 703 P.2d 1167, 1170 (Alaska 1985). (2) For questions of law involving agency expertise, Alaska courts apply the "reasonable basis" test. *Rose v. Commercial Fisheries Entry Comm'n*, 647 P.2d 154, 161 (Alaska 1982). (3) The "reasonable and not arbitrary" standard is applied to administrative regulations. *Handley*, 838 P.2d at 1233. (4) The "substantial evidence" test is applied to questions of fact. *Id.*

Creating a Jay Hammond refuge administered, as refuges are, by ADF&G in some respects and by DNR in other respects, would strengthen the former's role in any permit process. However, the standards for judicial review would remain the same, and there would be no impact on due process afforded to a prospective permit applicant.

Refuge or other legislation could also require that the best information as evidence be the basis of any permits issued for large-scale mining. Given that the Bristol Bay drainages are so important for so many reasons, we are persuaded that the Board of Fisheries should recommend to the legislature that a refuge bill requires that evidence necessary to support factual findings for mine permits within the refuge must be of the highest evidentiary standard – i.e., the "clear and convincing evidence" standard.

Finally, the written comments of Trout Unlimited (TU) on Proposal 121 include a copy of *The Economics of Wild Salmon Watersheds, Bristol Bay, Alaska* (Duffield, et al. 2006) by the economic study by the University of Montana and the University of Alaska (ISER). It quantifies the economic production from the Bristol Bay watershed for commercial, subsistence and recreational use, but stops short of addressing how Pebble or other mines might impact socio-economically those uses. A refuge bill could require particularized analysis of such socio-economic impacts.

V. CIVIL AUTHORITY OF DNR VERSUS CRIMINAL AUTHORITY OF ADF&G

No discussion of elevated standards would be complete without recognizing that the importance of fish and game to Alaskans prompted Alaska's lawmakers to make violations of Title 16 (the Fish and Game Code) criminal, while nearly all violations of Titles 38 and 41 (DNR statutes) are civil (except for violations of the Fishways Act (AS 41.14.840) and the Anadromous Fish Act (AS 41.14.870)). The latter authorities were transferred from ADF&G to DNR by the elimination of the former ADF&G/Habitat Division, and which we appreciate the Board at Dillingham voted unanimously to transfer back to ADF&G.

If the Board's interest in elevating standards includes enforcement, as it should, then it makes sense to have criminal penalties under consideration.

In the context of large mine permitting, recent enforcement actions demonstrate this distinction between criminal and civil penalties. On December 21, 2006, EPA announced that Coeur Alaska, Inc. had agreed to pay penalties for Clean Water Act violations at the Kensington Mine – a project now under construction per permits received through the same large mine permitting process now applicable in the Bristol Bay region.[9]

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[9] A recent, first-of-its-kind study, "Comparison of Predicted and Actual Water Quality at Hardrock Mines" (Maest, Kuipers, 2006) compares water quality predictions made at the time of permitting with outcomes at 25 representative large mines permitted in the United States during the last 30 years. The study concludes that the vast majority of large mines do not perform as predicted at the time of permitting. The full study, and a summary of it, are available at http://www.mine-aid.org/

VI. CONCLUSION

Elevating conservation standards in the Bristol Bay region, as outlined in Part II, by means of the twelve examples of higher standards would not constitute a taking. First, a mining claim is a very limited property right, is not a right to mine (mining is always contingent on state permission), amounts to only a priority over subsequent claimants, and is not sufficient to support a takings claim. Second, all of the twelve examples rest upon the State's police power, property power and constitutional mandate to conserve fish and wildlife, and those powers and authorities can be exercised without creating any per se takings. Third, under the three-prong, federal-law analysis of "regulatory" takings and the similar four-prong, state-law analysis, none of the elevated standards, if incorporated into legislation, would constitute a taking of the mining claims in question. In fact, two of the examples (refuge purposes and the compatibility test) are in existing State refuge statutes and have never constituted a taking, even in areas where prior mining claims exist (e.g., Tugidak Island Critical Habitat Area). Furthermore, other examples (seating of dams to bedrock, hydrological isolation, and replacement of water) have been suggested by DNR at public meetings on the subject of higher standards, and we agree with DNR that such standards would not constitute a taking. Fourth, and last, any legislation that strengthens the processes related to large-mine permitting, as also outlined in Part II by means of six examples, would not even raise the issue of takings.

It is a complete "red herring" to suggest that strengthened fishery conservation standards for the Bristol Bay region would cause a compensable taking of mining claims in that area.

Sustainability of Bristol Bay Salmon Fisheries

Provided to Senate Resources Committee members for the purpose of providing background information on Bristol Bay fisheries by Nunamta Aulukestai[1]
Feb. 27, 2009

Commercial fisheries have harvested wild salmon from Bristol Bay for over a century and current catches are as high as during any time period in the past.

Bristol Bay commercial salmon catches have been sustainable for over a century despite substantial shifts in climate in western Alaska during this time period.

The relative contributions of salmon from each of the major rivers in the Bristol Bay region have waxed and waned in response to the changing environment. The contributions of fish from rivers that were especially productive during certain decades were replaced by other rivers when their populations became less productive.

Thus, the long-term sustainability of Bristol Bay fisheries derives from the diversity of habitats and associated salmon populations in this region.

This effect of salmon biodiversity on fishery sustainability is analogous to a 'portfolio effect' in the stock market: while single 'hot' stocks may be very productive during short time periods, diverse stock portfolios nearly always outperform simple ones over the long term. Bristol Bay is one of the few places on Earth where its salmon habitat portfolio remains intact.

Industrial development of the pristine watersheds of Bristol Bay represents a potentially serious risk to salmon in this region because it threatens to erode the diversity of habitats and salmon populations that have been critical for fishery sustainability.

Although Bristol Bay is mostly known for the fact that it is the world's largest sockeye fishery, it also supports one of the largest Chinook (king salmon) fisheries in the world, and it is also home to many important species that rely on the seasonal pulse of salmon resources for their own sustenance (e.g., brown bears, rainbow trout; both of which support an enormous tourism industry)

[1] This document was compiled with technical support from Dr. Daniel Schindler at the University of Washington Fisheries Research Institute.

Key questions to ask about salmon habitat:

1) Where will the water come from that is needed to operate the mine? Will water need to be pirated from other watersheds beyond the proposed Pebble Mine footprint? *(it remains unclear where the water that is needed to operate the mine and treat the tailings will come from. It is also unclear whether the watershed that the proposed Pebble Mine would be situated within has enough water to support the mine. It is actually unlikely)*

2) What are the spin-off environmental effects of the supporting infrastructure for the mine? Roads and their associated dust, increased access, effects on hydrology are likely to all have important effects on natural ecosystems of this region.

3) What exactly is meant by 'no net loss' of salmon habitat? The current landscape of salmon habitat was generated by thousands of years of natural erosion processes that followed after the last glaciation. It is unclear that engineers will be able to create similarly productive habitats.

4) Where will the water come from to support such newly created habitats?

5) Heavy metal mining has a horrible environmental history – especially with respect to proper treatment and storage of wastes and tailings. Why would the proposed Pebble Mine be any different?

6) How long will it take for environmental effects of the mine to be expressed? *(environmental effects of hard rock mining are often expressed decades after a mine has begun operation. By this time, the mining company has often finished their exploitation and moved on.)*

Thus, how will the Pebble Limited Partnership guarantee the environmental precautions it claims it will be taking?

PERSPECTIVE:
FISHERIES MANAGEMENT

Climate Change, Ecosystem Impacts, and Management for Pacific Salmon

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Nathan J. Mantua,
Brian Riddell,
Mary Ruckelshaus,
Jim Seeb, and
Michael Webster

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ABSTRACT: As climate change intensifies, there is increasing interest in developing models that reduce uncertainties in projections of global climate and refine these projections to finer spatial scales. Forecasts of climate impacts on ecosystems are far more challenging and their uncertainties even larger because of a limited understanding of physical controls on biological systems. Management and conservation plans that explicitly account for changing climate are rare and even those generally rely on retrospective analyses rather than future scenarios of climatic conditions and associated responses of specific ecosystems. Using past biophysical relationships as a guide to predicting the impacts of future climate change assumes that the observed relationships will remain constant. However, this assumption involves a long chain of uncertainty about future greenhouse gas emissions, climate sensitivity to changes in greenhouse gases, and the ecological consequences of climate change. These uncertainties in forecasting biological responses to changing climate highlight the need for resource management and conservation policies that are robust to unknowns and responsive to change. We suggest how policy might develop despite substantial uncertainties about the future state of salmon ecosystems.

Cambio climático, impactos a nivel ecosistema y manejo del salmón del Pacífico

RESUMEN: A medida que el cambio climático se intensifica, existe un creciente interés en desarrollar modelos que reduzcan la incertidumbre en las proyecciones del clima global, y llevar estas proyecciones a escalas más finas. El pronóstico de los impactos del clima sobre los ecosistemas es más difícil de abordar y la incertidumbre asociada es aun mayor porque se tiene un entendimiento rudimentario sobre los controles físicos en sistemas biológicos. Son pocos los sistemas de manejo y conservación que consideran explícitamente el papel del clima, e incluso éstos se basan en análisis retrospectivos más que en escenarios futuros de condiciones climáticas y las correspondientes respuestas a nivel ecosistema. Al utilizar relaciones biofísicas preestablecidas como guía para predecir los impactos de cambio climáticos, se asume que dichas relaciones permanecerán constantes. Sin embargo, esta suposición implica una larga cadena de imprecisiones con respecto a la intensidad de futuras emisiones de gases de invernadero, sensibilidad climática a los cambios en estos gases, y las consecuencias ecológicas del cambio climático. La incertidumbre del pronóstico de las respuestas biológicas a un clima cambiante, resaltan la necesidad de políticas de manejo y conservación que sean suficientemente robustas a esas incógnitas y sensibles al cambio. Se sugiere cómo pueden desarrollarse tales políticas a pesar de la importante incertidumbre que existe en torno al estado futuro de los ecosistemas que albergan al salmón.

OVERVIEW OF SALMON RESPONSES TO CHANGING CLIMATE

Pacific salmon are icons of the natural and cultural heritage of coastal nations throughout the subarctic North Pacific Ocean (SNPO). Since the 1960s, scientists across all nations of the SNPO have greatly advanced understanding of Pacific salmon and their habitats. During this time period, environmental conditions of the SNPO also have shifted substantially in response to inter-decadal climate variability and longer-term warming trends (e.g., Schindler et al. 2005). Initial syntheses of these data have begun to shed light on how salmon and their ecosystems respond to changing climate.

Pacific salmon are affected by climate change across a hierarchy of coarse and fine spatial and temporal scales; each of these scales has distinct implications for development of policy that will be robust

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to future climate change. At the scale of the entire SNPO (Figure 1), biomass of Pacific salmon has increased substantially over the last century (Figure 2; Eggers 2009 in press), coincident with increases in global temperatures (IPCC 2007). This increased salmon production has been especially pronounced since the mid-1970s (Mantua et al. 1997; Beamish et al. 2008). However, trends in both climatic conditions and salmon production have not been uniform across the SNPO. In western North America, inter-decadal patterns of salmon production in northeastern stocks (i.e., Alaska) are out of phase with production regimes for stocks in the conterminous United States and Canada (Figure 3). This variation in production coincides with warming trends in salmon watersheds and nearshore marine waters in western North America, but cooling trends in the open waters of the interior North Pacific Ocean where most salmon feed and mature (Mantua et al. 1997; Hare et al. 1999).

At still finer spatial scales, stocks entering the ocean within 500-800 km of one another have weakly coherent responses to changes in local oceanographic conditions (Mueter et al. 2002; Pyper et al. 2005). This regional coherence in productivity is most correlated with regional variation in sea surface temperatures (Mueter et al. 2002). However, at the scale of individual populations, responses to regional shifts in climatic conditions are diverse (Figure 4; Peterman et al. 1998; Hilborn et al. 2003; Crozier and Zabel 2006; Rogers and Schindler 2008). Further, salmon species vary considerably in their responses to regional climate changes (Hare et al. 1999). Identifying features of the environment and of salmon populations that produce the diversity of salmon responses to regional climate forcing is critical because these are the scales at which most management and conservation activities operate.

Policies for managing salmon in the face of climate change must change if we hope to meet our conservation and management goals. Our ability to accurately predict climate impacts on salmon ecosystems is incomplete and unlikely to improve to the point of accounting for the regional response diversity noted above. Policies must be robust to these uncertainties rather than reliant upon prescriptive forecasts of climate and associated ecological conditions. Some such management strategies have been suggested as ways to account for climatically-driven changes in salmon production, without the need to understand the intricacies of climate impacts on salmon ecosystems (e.g., Walters and Parma 1996; Peterman et al. 2000). For example, Walters and Parma (1996) showed that a constant harvest strategy (i.e., one that exploits a constant proportion of stock each year) performs remarkably well at tracking long-term fluctuations in stock productivity, as would be caused by climate change. The information needed to develop such a strategy relies heavily on our ability to forecast year-to-year variation in abundance but does not necessar-

Figure 1. Map of the distribution of salmon in the Subarctic North Pacific Ocean (SNPO). Letters and corresponding arrows depict the location and rough spatial scales over which data from Figures 3 and 4 were summarized.

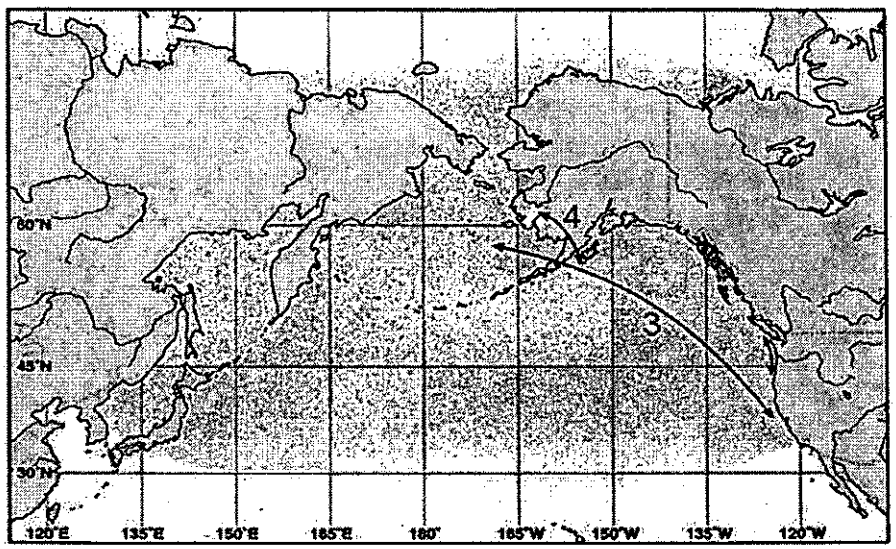
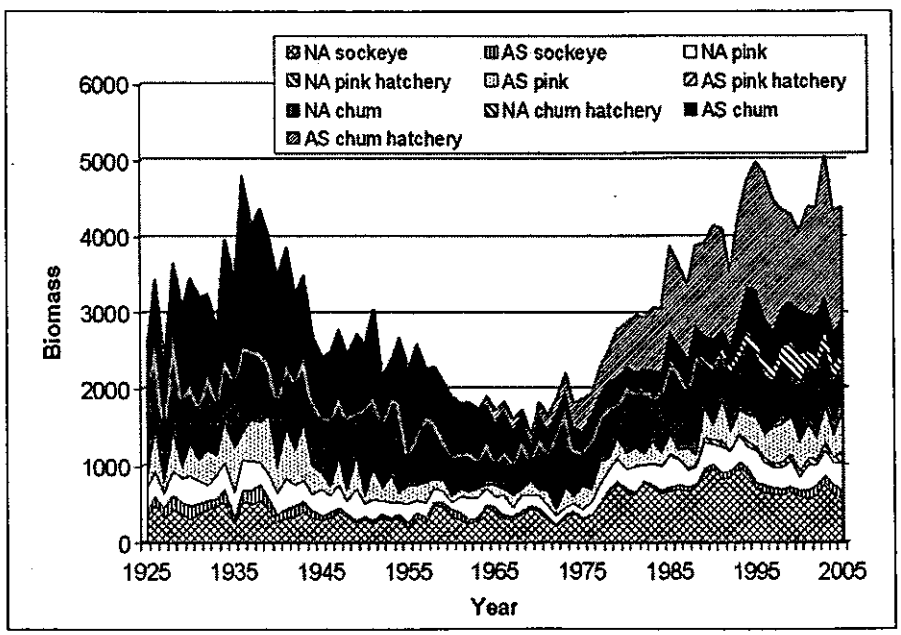


Figure 2. Total biomass (thousands of metric tons) of chum (*Oncorhynchus keta*), sockeye (*O. nerka*), and pink salmon (*O. gorbuscha*) inhabiting the SNPO (stippled area in Figure 1) from 1925–2005. Data are separated by species, continent of origin (North America [NA] versus Asia (AS), and hatchery versus wild stocks). Not all hatchery contributions are known with high certainty (e.g., Russian pink salmon) so these are combined with the wild components. Data are from Eggers (2009 in press).



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ily rely on an intricate understanding of the processes causing climatically-driven variation. Given our limited predictive capacity, what information about the links between salmon and climate is useful to current policy? In particular, how might policy to address climate impacts on salmon embrace the hierarchy of spatial and temporal scales that characterize salmon responses to a changing environment?

Figure 3. Standardized anomalies of salmon harvests along the North American west coast from 1925–2005. Data were smoothed with a 5-year running mean. Abbreviations are: ch = Chinook salmon (*O. tshawytscha*), co = coho salmon, so = sockeye salmon, pi = pink salmon, BC = catch from British Columbia, US = catch from US lower 48 states, AK = catch from Alaska).

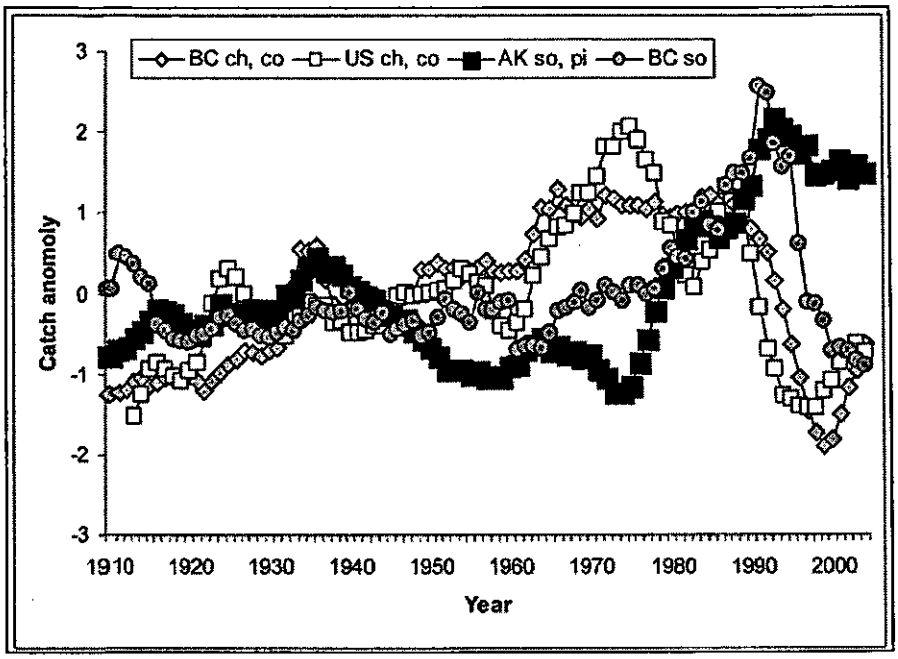
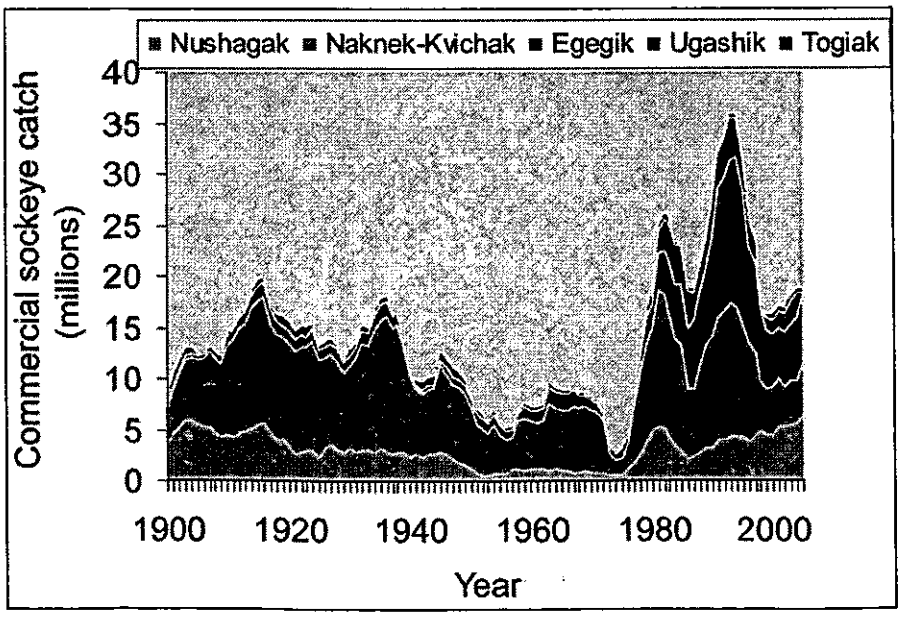


Figure 4. Sockeye salmon (*O. nerka*) commercial catch (millions of fish) from Bristol Bay, Alaska, from 1893–2006, apportioned to five fishing districts associated with the major rivers of this region (updated from Hilborn et al. 2003). Data are smoothed with a 5-year running mean.



The need for SNPO-wide salmon-climate policy

Improved salmon-climate policy is needed at all of the spatial scales described above. First, we believe that proactive policy development at the scale of the entire SNPO is needed to help minimize future climate-induced political conflicts over the use of limited prey resources by salmon from different nations of the SNPO. At the scale of the entire SNPO, increases in salmon biomass largely reflect increasing numbers of hatchery-released salmon from Eurasia (Figure 2, Eggers 2009 in press) that compete with salmon from North American rivers when they overlap in international waters (Kaeriyama and Edpalina 2004; Ruggerone et al. 2005). This surge in salmon production was concurrent with a general cooling of North Pacific offshore habitat where salmon achieve most of their growth (Mantua et al. 1997; Hare et al. 1999). If the increasing trend in biomass is dependent upon the cooling trends in this offshore ecosystem, it is not likely to persist with ongoing climate warming. Thus, the institutional expectation of the SNPO's capacity to produce salmon that has developed during the last few decades may prove overly optimistic as global atmospheric and upper-ocean temperatures continue to increase. In fact, capacity may decline if thermal characteristics of offshore habitat eventually switch trajectories and, consistent with global climate model projections, the upper ocean begins warming. More extensive use of the Arctic Ocean by Pacific salmon may partially offset any diminished capacity of the SNPO. Nevertheless, international coordination of management of the open-ocean commons used by Pacific salmon needs refinement to address potential climate-driven changes in productivity. There is currently no coordinated vision for use of the SNPO (Holt et al. 2008).

Climate policy at regional scales

At intermediate (regional) spatial scales, policies that govern maintenance of habitat quality and harvest strategies could be modified to more appropriately account for complex stock structure and variation in climate impacts on different habitats used by salmon. Multi-decadal regimes of high salmon production (Beamish et al. 1999) due to favorable

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ocean conditions may mask the erosion of freshwater and estuarine habitat quality, and within-stock biodiversity, that only become evident once productivity in the ocean decreases. For example, fisheries for Oregon coho salmon (*Oncorhynchus kisutch*) appeared to be robust and sustainable from the 1950s into the mid-1970s. During this period, hatchery programs grew rapidly and replaced wild stocks as the principal producers of juvenile coho salmon (Pearcy 1992). Intense harvest rates that seemed appropriate for hatchery stocks during periods of exceptionally high marine survival proved too high for the long-term sustainability of wild stocks. In 1977, a shift in the state of the Pacific Decadal Oscillation generated a 20-year period of unfavorable ocean conditions for Oregon coho salmon. The abundance of both hatchery and wild coho salmon adults plummeted, sending coho salmon populations and their fisheries into a decline from which they may be only beginning to recover. Accordingly, despite their knowledge that hatcheries were eroding the complex stock structure of wild coho salmon that had evolved for millennia, a 20-year period of high marine survival rates led fishery managers to mistakenly believe that large-scale hatchery production could sustain intense fisheries (Lichatowich 1999).

Further, Oregon coho salmon provide a compelling example of situations where favorable climatic conditions and high survival in one habitat (e.g., ocean) can obscure the degradation of other habitats (e.g., freshwater systems). For example, degradation of freshwater habitats can occur during periods of favorable ocean conditions that produce high marine survival rates. The degradation of freshwater habitats is only detectable once marine conditions switch back to a low productivity regime and salmon populations are more dependent on high quality freshwater habitat. Consequently, a ratchet effect can develop on population size and stock diversity as climatically-driven conditions in the ocean oscillate between periods of high and low quality (Lawson 1993).

Although within-stock diversity hinders the development of accurate and generalizable long-term forecasts of climate impacts on salmon at watershed scales, policies that protect diverse landscapes and their potential for diverse ecological responses are likely an effective means to hedge bets against future climate changes. Ecosystem and population sensitivity to changes in temperature and precipitation varies substantially across the entire latitudinal gradient that salmon occupy. The ecological and climatic factors that produce intra-regional variation in population responses to changing climate (e.g., Hilborn et al. 2003; Crozier and Zabel 2006; Rogers and Schindler 2008) are poorly understood. It is useful to think of salmon landscapes as heterogeneous "filters" of climate. The environmental conditions experienced by any individual population are produced from how the overriding climate signal is expressed in their habitat, as influenced by its geomorphic, hydrologic, and ecological characteristics. We currently have a poor understanding of how landscapes filter climate signals, and how these in turn affect salmon populations. This lack of knowledge is an impediment to developing accurate predictions about the future status of specific salmon populations. However, to some extent, the regional diversity of population responses to climate change appears to derive from local adaptations of salmon populations to heterogeneity in landform and hydrologic conditions (Hilborn et al. 2003; Beechie et al. 2006; Crozier and Zabel 2006; Rogers and Schindler 2008). This response diversity imparts resilience to human social systems, such as fisheries, because they integrate across this ecological heterogeneity (Hilborn et al. 2003). Focusing regional policy on "salmon landscapes" will also be necessary to account for the range of habitats used by salmon over the course of their lives, including migratory corridors (Martin 2006). In the Pacific Northwest, where salmon landscapes are being developed most quickly, such protection of habitat may have to be especially aggressive to counteract ongoing effects of climate change (Ashley 2006).

What science can do to improve salmon-climate policy

Science can play an important role in reducing key uncertainties about climate impacts to which future policy can adapt. Areas that are particularly ripe for study and application to policy include:

- Developing quantitative models that allow projections for temperature, precipitation, and hydrologic conditions to be reliably downscaled to the watershed level. These models will facilitate exploration of the probability that regional conditions will support salmon in specific locations as climate continues to warm (Battin et al. 2007).
- Developing models that allow for integration of multiple factors influencing salmon ecosystems, including the cumulative impacts of climate change, land use, and water use on habitat, fishery harvest, and hatchery effects.
- Exploring the extent to which salmon and co-occurring organisms might adapt to ongoing climate change, thus affecting the direction and magnitude of overall ecosystem response. The role of evolution in ecological responses to anthropogenic change of Earth systems has been essentially ignored in conservation planning (Smith and Bernatchez 2007). This knowledge would inform policy decisions to invest or divest in salmon fisheries, salmon recovery, and hatchery production around the North Pacific.
- Exploring scenarios of future ocean productivity, linkages among ocean and freshwater or terrestrial conditions, and effects of changes in ocean, freshwater, or terrestrial conditions on salmon production at local, regional, and SNPO scales. This knowledge will be important for creating a management regime for cooperative use of the ecosystem services of the SNPO.
- Improving our understanding of how climate change affects the metapopulation processes important to salmon evolutionary and ecological dynamics.
- Refining genetic techniques to identify stocks, and ways to efficiently implement the data generated by those techniques, in harvest management to protect stock diversity in fisheries.

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CONCLUSIONS

Predictions of the scope and exact nature of biological responses to future climatic and habitat conditions will always be subject to considerable uncertainty. However, we can be certain that climate will continue to change and biological responses will be heterogeneous across a variety of spatial and temporal scales. We face the challenge of developing management and conservation approaches that are robust to substantial uncertainties about future conditions and capable of responding to change. Simultaneously, we must hone our ability to identify a realistic range of alternative futures. While we have focused on Pacific salmon, the issues we raise are not unique to these species. Many of these same issues will challenge policy to achieve sustained production and conservation of any wide-ranging species as global and regional climate continue to change. ⚓

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Biocomplexity and fisheries sustainability

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A classic example of a sustainable fishery is that targeting sockeye salmon in Bristol Bay, Alaska, where record catches have occurred during the last 20 years. The *stock complex* is an amalgamation of several hundred discrete spawning populations. Structured within lake systems, individual populations display diverse life history characteristics and local adaptations to the variation in spawning and rearing habitats. This biocomplexity has enabled the aggregate of populations to sustain its productivity despite major changes in climatic conditions affecting the freshwater and marine environments during the last century. Different geographic and life history components that were minor producers during one climatic regime have dominated during others, emphasizing that the biocomplexity of fish stocks is critical for maintaining their resilience to environmental change.

climate change | resilience | Pacific salmon | endangered species | biodiversity

At a time of growing concern about the sustainability of many of the world's fisheries, several stand out as providing long-term sustainable yield. Among the most prominent successes are the fisheries for sockeye salmon in Bristol Bay, Alaska (Fig. 1), that have seen record returns and catches in the last two decades. This success is due in part to several factors including (*i*) favorable ocean conditions in recent decades, (*ii*) a single, accountable management agency, and (*iii*) a well established program of limited entry to the fishery. However, the biocomplexity of the stock structure has also played an critical role in providing stability and sustainability. Here we provide evidence for the effects of biocomplexity on sustainability and emphasize that conserving biocomplexity within fish stocks is important for maintaining their resilience to future environmental change.

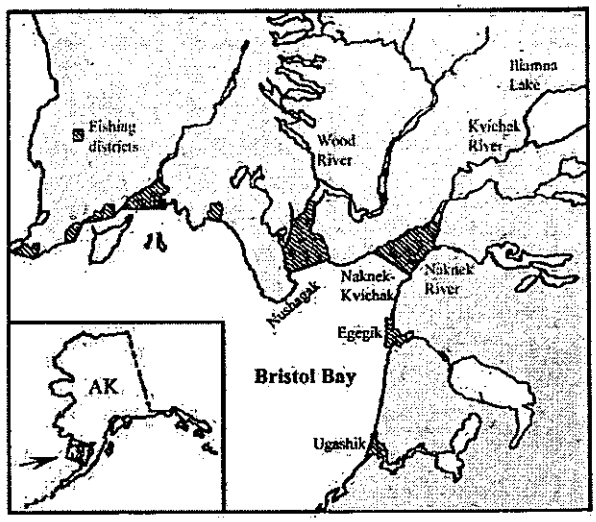

Fig. 1. Map of Bristol Bay, Alaska, showing the major lake systems producing sockeye salmon and the associated fishing districts. Figure is adapted from Minard and Meacham (37), which also gives an overview of Bristol Bay sockeye management practices.

The Biodiversity Of Bristol Bay Sockeye

Homing of Pacific salmon (*Oncorhynchus* spp.) to their natal sites results in reproductive isolation of populations, allowing natural selection to operate on heritable phenotypic traits, and the result is a wealth of distinct, locally adapted populations (1, 2). Sockeye salmon (*Oncorhynchus nerka*), for example, display a wide variety of life history types, each associated predictably with certain breeding and rearing habitats (3). The diversity of phenotypes thus reflects the adaptation of populations to the diversity of suitable habitats. Spawning by salmonid fishes generally takes place in lotic habitats, and Bristol Bay sockeye salmon spawn in streams and rivers ranging from 10 cm to several meters deep, and in substrate ranging from small gravel to cobble (4, 5). Some creeks have spring-fed ponds with much finer substrate and deeper, slowly flowing water, and these too are used for spawning. Sockeye also spawn in groundwater-fed beaches at the outwash areas of rivers and along hillsides with substantial groundwater inputs. In these habitats, sockeye may spawn from the shoreline to depths of several meters. Finally, sockeye may also spawn on the rocky beaches of low-lying islands that are too flat to develop groundwater but where wind-driven surface currents are sufficient to deliver highly oxygenated water to developing embryos buried in the coarse gravel (6).

Adult sockeye display a suite of adaptations to the diversity of spawning and incubation environments, seen repeatedly from one site to another (Table 1). First, the date of spawning reflects the long-term average thermal regime experienced by incubating eggs and the timing of food production for juvenile salmon in the spring. Simply put, the adults spawn at a date that, given the average thermal regime, will allow the embryos to complete embryonic development and emerge in time to feed on aquatic insects and zooplankton the following spring (7). Salmon spawn early (late July to mid-August) in small streams that experience cold temperatures during incubation but spawn later (late August to October) in large rivers and lakes that have substantial heat storage capacity (8).

Not only the timing of spawning but also the average size of the eggs reflects the habitat-specific features of the incubation environment. In general, salmon have very large eggs compared with other teleost fishes (9). The development of such large embryos is possible because the cold, highly oxygenated water counters the surface-to-volume constraint against large eggs and because size-selective predation (10) and competition favor large juveniles (11). Larger adult salmon have both larger and more numerous eggs than smaller salmon, but the energetic constraints on the female result in tradeoffs between egg size and egg number that are population-specific. Sockeye spawning in rocky island beaches have unusually large eggs (12). This takes advantage of the well oxygenated water and large interstitial spaces among the rocks to provide the offspring with abundant yolk to help survive the prolonged posthatching period that results from early spawning. In addition, large eggs may be less vulnerable to size-selective predation by sculpins (*Cottus* spp.) (13). In contrast to the island spawners, the eggs of females spawning in streams and rivers are of intermediate size (match-

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Abbreviations: ENSO, El Niño Southern Oscillation; PDO, Pacific Decadal Oscillation.

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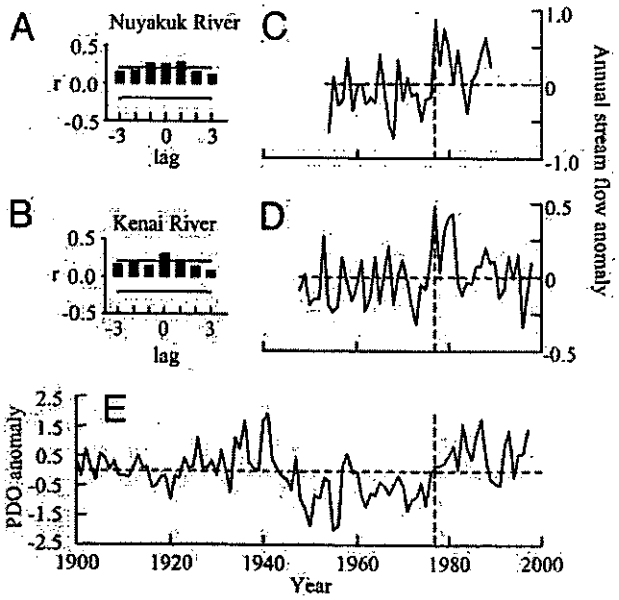

Fig. 2. Comparisons of the average annual PDO index for 1900–1998 (*E*) (ref. 26 and http://tao.atmos.washington.edu/pdo) and annual streamflow for two coastal rivers in southwestern Alaska. All time series have been normalized to the long-term mean. (*A* and *B*) The cross correlation plots (CCF) between normalized annual flow for each of the two rivers and the annual average PDO index. Lags are shown for 1-year increments. Horizontal lines on *A* and *B* mark the significance bounds ($P \leq 0.05$). Historical streamflow (annual $ft^3 \cdot s^{-1}$) is shown for the Nuyakuk River (59°56′08″ N, 158°11′16″ W, *C*) in the Upper Nushagak drainage near Dillingham, Alaska (1954–1989) and for the Kenai River at Cooper Landing, Alaska (60°29′34″ N, 149°48′28″ W, *D*) for 1948–1998.

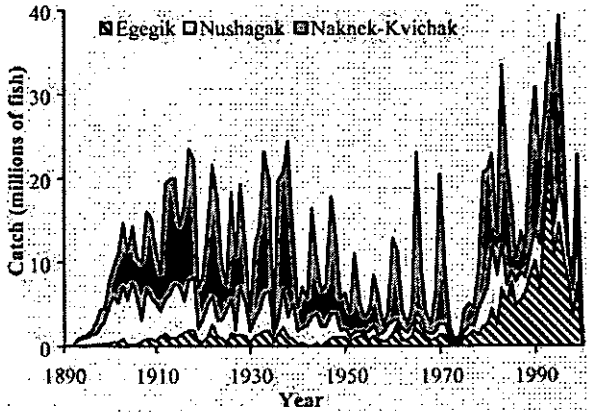

Fig. 3. Catch history of the three major fishing areas within Bristol Bay, Alaska. Contributions of the minor districts, Ugashik and Togiak, have averaged 4.6% since 1955.

the hydrologic conditions in sockeye spawning and nursery habitats (Fig. 2). When we use the Kenai River and the Nuyakuk River as examples, we see that climate regimes associated with positive phases of the PDO are characterized by relatively high stream flows, whereas negative phases of the PDO are associated with below-average flows (23, 25).

Temporal and spatial variation in the hydrology of spawning and nursery habitats have important implications for both the spawning success of adult sockeye and for growth and survival of juveniles during their freshwater residency. For example, access to small spawning streams by adults is impeded during years with low flows (19) whereas access to spawning habitat on lake beaches may be much less dependent on hydrologic patterns. Survival of smolts during their seaward migration may also be enhanced during periods with high flow because of reduced vulnerability to freshwater predators. In general, years with high stream flows coincide with years of favorable near-shore marine conditions such that sockeye productivity may be enhanced at several stages of their life history (25).

There is apparent coordination among several critical physical and biological conditions important to sockeye salmon biology. Nevertheless, an outstanding characteristic of the responses of Bristol Bay sockeye to climate variation is that not all populations appear to respond coherently to documented shifts in the environment. We argue that this population-specific variability in response to climate fluctuations is ultimately responsible for the resilience of the entire Bristol Bay sockeye stock.

Historical Patterns of Stock Productivity

To illustrate the importance of biocomplexity of the Bristol Bay stock complex, we have broken down the historical sockeye catch into the contributions from the three major fishing districts (Naknek/Kvichak, Egegik, and Nushagak) (Fig. 3). Before the 1950s, we do not have estimates of the number of fish spawning in each river system and must use fishery catch as a surrogate for total run, but all major fisheries were already well developed by the early 20th century and catch is an excellent metric of total run size. We see that initially the Naknek/Kvichak was responsible for most of the sockeye production, with the Nushagak a close second and Egegik a small contributor. In the middle part of the 20th century, the importance of the Nushagak diminished, whereas Egegik remained roughly steady, and the Naknek/Kvichak dominated, driven almost exclusively by the Iliamna Lake populations. During that period, the Bristol Bay fishery was essentially a Naknek/Kvichak fishery. With the PDO regime shift of 1977 the Egegik run expanded greatly, so it was often at least as big than the Naknek/Kvichak, and the Nushagak system remained a small but steady contributor to the total fishery. In the 1990s the Naknek/Kvichak contribution declined dramatically, Egegik diminished, whereas Nushagak increased slightly to become, in some recent years, the most important fishery in Bristol Bay. Even within the Naknek/Kvichak district, the contribution of Iliamna Lake is now so small that it requires special protective fishery management to allow fishing on the Naknek populations.

Since the 1950s, visual counting towers on the major rivers leading into the lake systems have provided reliable counts of the number of fish passing through the fishery *en route* to their spawning sites. The number of recruits per spawner is the total number of adult returns from a spawning year divided by the number of fish that spawned in that brood year, and is a measure of per capita reproductive success. We calculated this for individual systems within fishing districts associated with each of the major rivers in Bristol Bay to demonstrate the temporal changes in their productivity (Fig. 4). In Fig. 4 we see the Naknek/Kvichak broken into its two dominant components; the Kvichak River–Lake Iliamna system and the Naknek River system. The Nushagak fishing district consists of three distinct lake/river systems; the Igushik, the Wood, and the Nushagak (not shown in Fig. 4). Finally the Ugashik system is the most remote of Bristol Bay's systems, located on the Alaska Peninsula.

Two features are important in Fig. 4, the absolute number of recruits per spawner and the temporal trends. The Kvichak and Wood systems have produced the fewest recruits per spawner, generally 2–4, whereas the Naknek averages ≈4, and the Egegik, Ugashik and Igushik show considerable variability but average more than Kvichak and Wood. Egegik showed the largest increase after the 1977 regime shift. This rise in survival was largely responsible for the upsurge in abundance of Egegik sockeye after the shift. The Ugashik system also showed a

We have emphasized the importance of biocomplexity on the larger geographic scale, but similar patterns exist on ever-smaller scales within each lake system over the range of habitats and life history strategies described earlier. Within lakes, tributaries show asynchronous shifts in density and productivity, and even within tributaries we have seen habitat units affected by selective predation by bears, blockage by beaver dams, and other local processes. Our ability to measure changes in contribution at this level of biocomplexity is limited by our ability to assign the fishery catch to fine scale locations. Advances in genetic stock identification may pave the way for a high resolution analysis of the role of biocomplexity in maintenance of sustainability.

This work has lessons beyond the conservation of Pacific salmon. There is growing recognition that many marine fish stocks consist of amalgamations of several geographic components (35, 36). It would seem prudent to try to prevent loss of such stock components, including those that appear, at present, to be unproductive. This might necessitate a much finer scale of management than that which is the current norm. We believe that long-term sustainability is derived in large part from complementary patterns of productivity in different stock components. Defining the entire stock as healthy simply because a large component is doing well might lead to decline and extinction if the conditions that fostered the success of the healthy component disappear and the alternate strategy, which would have done well in the new environmental conditions, has been lost.

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Pebble Mine: Fish, Minerals, and Testing the Limits of Alaska's "Large Mine Permitting Process"

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ABSTRACT

Two foreign mining companies plan to develop one of the world's largest copper and gold mines on mining claims staked on state land in the Bristol Bay drainages. Currently, this area of southwestern Alaska produces the world's largest commercial salmon fishery, offers world-class sport fishing, and provides an important food source for local communities. The promoters of the Pebble Mine promise they will create jobs and protect the environment in their quest to recover copper, gold, and molybdenum from a large metallic sulfide deposit containing iron and other metallic sulfides. However, such sulfide ore, by its nature, generates sulfuric acid when exposed to air and water. Sulfuric acid, in turn, dissolves metals present in the host rock. The dissolved metals, such as copper, can be toxic to salmon and other fish. This Article examines the adequacy of the State's large mine permitting process and finds it insufficient to deal with large metallic sulfide mines such as Pebble. The Article then analyzes current legislative responses to the Pebble Mine and discusses their relative strengths and weaknesses. Finally, the Article argues that these legislative solutions would not rise to the level of an unconstitutional taking of the mining claims.

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I. INTRODUCTION

A proposal by two foreign companies to mine a massive, low-grade, copper and gold deposit on state land in southwestern Alaska has sparked an intense conflict between fishing and mining interests. The "Pebble Mine" would be located at the headwaters of the Kvichak (pronounced KWEE-jak) and Nushagak (pronounced NUSH-a-gak) river drainages, in the Bristol Bay drainages, which are essential habitats for Alaska's most productive salmon fisheries. Northern Dynasty Minerals Ltd. ("NDM"), a subsidiary of Hunter Dickinson,[1] and Anglo American Plc, the world's second largest mining concern,[2] plan to develop the Pebble Mine over several decades.

This Article examines: (1) current statutory standards at the heart of the State's "large mine permitting process;" (2) legislative proposals designed

1. NORTHERN DYNASTY MINERALS LTD., PEBBLE COPPER–GOLD–MOLYBDENUM PROJECT ALASKA, USA 13 (2007) [hereinafter NDM, PEBBLE COPPER], *available at* http://www.northerndynastyminerals.com/i/ndm/NDM_RobertDickinson_Nov2007.pdf. NDM and Hunter Dickinson are based in Vancouver, British Columbia. Northern Dynasty Mines, Inc., a United States subsidiary of NDM, owns the Pebble mining claims. Rio Tinto, a global mining concern based in London, England and Melbourne, Australia, has a 19.8 percent stake in NDM. RIO TINTO, STAYING STRONG IN COPPER (2006), http://www.riotinto.com/annualreview2006/5740_staying_strong_in_copper.asp. Mitsubishi bought a 6.1 percent stake in NDM in December 2007. *See* NORTHERN DYNASTY MINERALS LTD., ADVANCING AMERICA'S MOST IMPORTANT NEW MINERAL DEPOSIT 2 (2008) [hereinafter NDM, IMPORTANT NEW MINERAL DEPOSIT], *available at* http://www.northerndynastyminerals.com/i/pdf/NDM_FactSheet_Jan2008.pdf.

2. ANGLO AMERICAN PLC, ANNUAL REPORT 2006 51 (2006), *available at* www.angloamerican.co.uk/static/uploads/2006%20Annual%20Report%20Lo-Res2.pdf. Anglo American has operations in forty-five countries on seven continents. *Id.* Anglo American entered into a staged-investment agreement with NDM that gives Anglo American rights to up to fifty percent of the Pebble Mine project. Press Release, Northern Dynasty Materials Ltd., Northern Dynasty & Anglo American Establish 50:50 Partnership to Advance Pebble Project to Production (July 31, 2007) [hereinafter Advance Pebble Project to Production], *available at* http://www.pebblepartnership.com/files/July312007.pdf.

to protect the fish, game, habitat, and public uses of them in the Bristol Bay drainages; and (3) claims that current legislative proposals will result in regulatory takings that require compensation. This Article concludes that: (1) current statutory standards are vague and open to wide discretion; (2) stricter statutory standards are needed to protect fish, game, wildlife, habitat, and public uses of fish and wildlife in the Bristol Bay drainages; and (3) no such stricter standard would constitute a regulatory taking requiring the state to compensate those who hold mining claims for minerals at the proposed Pebble Mine.

II. BACKGROUND

Fishing and mining ventures have played major roles in Alaska's history. In the late nineteenth and early twentieth centuries, absentee business interests controlled Alaska's commercial fishing and mining industries.[3] One of the major players was the "Alaska Syndicate," which was a partnership formed by the Guggenheim family, whose American Smelting and Refining Company was a dominant force in the nation's hardrock mining industry,[4] and J. P. Morgan, an East Coast investment banker.[5] The Syndicate developed the Kennecott copper mine in the Wrangell Mountains north of Prince William Sound and held major interests in gold mines, the dredging, shipping, and transportation industries, as well as in Alaska's salmon canneries.[6] In Washington, D.C., the Syndicate successfully lobbied the United States Congress to oppose further extension of Alaskan home rule.[7]

Other merchants and bankers, based in San Francisco and Seattle, supplied capital and dominated Alaska's commercial salmon fishing industry and canneries.[8] Interests outside Alaska frustrated federal efforts to manage salmon harvests,[9] held tight control of the territorial Senate,[10]

3. *See, e.g.*, DANIEL NELSON, NORTHERN LANDSCAPES: THE STRUGGLE FOR WILDERNESS ALASKA 12–14 (2004).

4. IRWIN UNGER & DEBBI UNGER, THE GUGGENHEIMS, A FAMILY HISTORY 71–82 (2005).

5. Melody Webb Grauman, *Kennecott: Alaska Origins of a Copper Empire, 1900–1938*, 9 W. HIST. Q. 201 (1978).

6. *Id.* at 202. At the time, the Kennecott copper vein was the richest copper deposit in the country. *Id.*

7. CLAUS M. NASKE, A HISTORY OF ALASKA STATEHOOD 34–35 (1985).

8. *See* NELSON, *supra* note 3, at 12–13.

9. *See* JOHN H. CLARK ET AL., ALASKA DEP'T OF FISH & GAME, 12 ALASKA FISHERY RES. BULL. 1–2, THE COMMERCIAL FISHERY IN ALASKA (2006), *available at* http://www.adfg.state.ak.us/pubs/afrb/vol12_n1/clarv12n1.pdf. Between 1906

fought statehood because they feared the new state would impose taxes and limit access to fishing grounds,[11] and persuaded Congress that Alaska would remain an economic burden, demanding greater federal subsidies if it became a state.[12]

By the late 1930s, many of the high-grade mineral deposits were depleted, and the mining industry in Alaska appeared to have little future potential.[13] By the time Congress conferred statehood on Alaska in 1959, the state's commercial salmon harvests had declined from an annual average of ninety million fish in the 1930s to an annual average of forty million fish in the 1950s.[14]

The Alaska Statehood Act granted the new state authority to manage fish and game.[15] In January 1960, the new state's first governor, William A. Egan, addressed the state legislature about the need to restore the salmon fisheries:

> On January 1 of this year, Alaska's Department of Fish and Game was handed the depleted remnants of what was once a rich and prolific fishery. From a peak of three-quarters of a billion pounds in 1936, production dropped in 1959 to the lowest in [sixty] years. On these ruins of a once great resource, the department

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and 1924, forty-two bills introduced in Congress proposed a variety of means to regulate Alaskan commercial salmon fishing. *Id.* at 2. All were defeated or seriously weakened by the salmon canning industry. *Id.*

10. Richard Mauer, *Oil, a Foundation of Alaska, Works to Rebuild Its Image*, N.Y. TIMES, Nov. 29, 1989, at A1, *available at* http://query.nytimes.com/gst/fullpage.html?res=950DE0DB103CF93AA15752C1A96F948260.

11. *Id.* The canning industry also dominated the territorial legislature to prevent tax increases on canned salmon. NELSON, *supra* note 3, at 13.

12. Mauer, *supra* note 10, at A1.

13. *See* NELSON, *supra* note 3, at 22, 28.

14. CLARK ET AL., *supra* note 9, at 2–3. In 1924, the White Act, 43 Stat. 464, as amended, 48 U.S.C. §§ 221–28 (repealed), allowed the federal government to establish fishing seasons and hours, set catch limits, and regulate fishing practices, all of which improved salmon harvests. *Id.* at 2; *see* Kake Vill. v. Egan, 369 U.S. 60, 62 (1962). By 1939, harvests again declined due to, *inter alia*, industry resistance to regulation, lack of funding for federal enforcement and research, and overharvesting to meet food production goals during World War II. CLARK ET AL., *supra* note 9, at 3. When average annual harvests declined to forty million salmon, President Eisenhower declared parts of Alaska disaster areas, thereby authorizing emergency food supplies. *Id.*

15. Section 6(e) of the Alaska Statehood Act allowed the state to assume fish and wildlife management after the Secretary of the Interior certified to Congress that the Alaska State Legislature had made adequate provision for the administration, management, and conservation of fish and game "in the broad national interest." 48 U.S.C.S. prec § 21 (LexisNexis 2008).

> must rebuild. Our gain is that we can profit by studying the destructive practices, mistakes and omissions of the past. The revival of the commercial fisheries is an absolute imperative. The livelihood of thousands of fishermen and the very existence of many communities scattered along thousands of miles of continental and island coastline depends upon improvement of the fisheries. To this end we will give our best efforts.[16]

A. The Fishing Economy of the Bristol Bay Drainages

Alaska salmon populations rebounded as a result of improved state and federal management. In 1973, the Alaska Legislature enacted the Limited Entry Act to control the issuance of commercial fishing permits and thereby limit salmon harvests.[17] In 1976, Congress enacted the Magnuson-Stevens Fisheries Management and Conservation Act, which established an exclusive economic zone that extended United States jurisdiction over fisheries for 200 nautical miles beyond state waters.[18] This allowed the federal government to regulate foreign fishing vessels and reduce their harvests of Alaska-bound salmon.[19]

Most of Alaska's salmon populations are thriving today,[20] which is a stark contrast to the steep declines in other Pacific salmon stocks that resulted from habitat loss.[21] Alaska fisheries currently support lucrative commercial and sport industries, subsistence,[22] and tourism. By 2001, about 54,000 people earned all or part of their annual incomes from fishing,

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16. CLARK ET AL., *supra* note 9, at 3.

17. 1973 Alaska Sess. Laws ch. 79 § 1 (codified as amended at ALASKA STAT. § 16.43.010 (2006)).

18. Pub. L. No. 94-265, 90 Stat. 331 (codified as amended at 16 U.S.C. §§ 1801, 1811 (2000)).

19. *Id.*; *see also* CLARK ET AL., *supra* note 9, at 7.

20. CLARK ET AL., *supra* note 9, at 6.

21. T.L. Slaney et al., *Status of Anadromous Salmon and Trout in British Columbia and Yukon*, FISHERIES, Oct. 1996, at 20; Willa Nehlsen et al., *Pacific Salmon at the Crossroads: Stocks at Risk from California, Oregon, Idaho, and Washington*, FISHERIES, Mar.–Apr. 1991.

22. Federal and state statutes define "subsistence" as the "customary and traditional" uses of wild renewable resources by rural Alaska residents. 16 U.S.C. § 3113 (2000); ALASKA STAT. § 16.05.940 (2006). Unlike the federal program, the state does not give preference to rural residents in administering subsistence programs on state lands. *See* McDowell v. State, 785 P.2d 1 (Alaska 1989) (holding that state statute limiting subsistence to rural residents violates Alaska Constitution).

which provided more jobs than oil, gas, mining, timber, agriculture and forestry, combined.[23]

In southwestern Alaska, the Bristol Bay drainages produce the world's largest commercial sockeye salmon fishery,[24] which is commercially the most valuable salmon species.[25] The Bristol Bay commercial sockeye salmon harvest is five-to-ten times larger than all other Alaska sockeye fisheries, combined.[26] Between 1986 and 2005, annual commercial catches of all five species of Pacific salmon in Bristol Bay averaged nearly 24 million sockeye (red), 70,000 Chinook (king), 922,000 chum, 103,000 coho (silver) and, in even years, 261,000 pink salmon.[27]

Bristol Bay accounts for one third of all earnings from commercial salmon fishing in Alaska.[28] In 2005, all salmon harvested commercially in Bristol Bay accounted for $226 million in wholesale value in the regional economy.[29] Between 1986 and 2005, commercial fishers received, in total, an average of $128 million in income from salmon caught in Bristol Bay, with sockeye salmon accounting for $125 million of that total.[30]

Between 1983 and 2003, subsistence harvests of salmon from the Bristol Bay drainages averaged about 159,000 fish, of which 125,000 were sockeye

23. CLARK ET AL., *supra* note 9, at 21.

24. PAUL SALOMONE ET AL., ALASKA DEP'T OF FISH & GAME, 2006 BRISTOL BAY AREA ANNUAL MANAGEMENT REPORT 1, FISHERY MANAGEMENT REPORT NO. 07-22 (2007), *available at* http://www.sf.adfg.state.ak.us/FedAidPDFs/Fmr07-22.pdf.

25. Alaska Dep't of Fish and Game, Sockeye Salmon [hereinafter Sockeye Salmon], http://www.adfg.state.ak.us/pubs/notebook/fish/sockeye.php (last visited March 30, 2008).

26. *Id.*

27. SALOMONE ET AL., *supra* note 24, at 2. The Bristol Bay commercial salmon fishery provided a harvest of about twenty-six million salmon in 2005 at a value of more than $93 million. U.S. BUREAU OF LAND MGMT., BAY PROPOSED RESOURCE MANAGEMENT PLAN/FINAL ENVIRONMENTAL IMPACT STATEMENT § 3-24 (2007), *available at* http://www.blm.gov/ak/st/en/prog/planning/bay_rmp_eis_home_page.html (follow "Bay Proposed RMP and Final EIS" hyperlink; then follow "Chapter 3–Affected Environment" hyperlink). The 1985–2004 average sockeye salmon harvest for the Naknek-Kvichak district was 7.8 million fish, about thirty-three percent of the total Bristol Bay sockeye harvest. *Id.* The average sockeye salmon harvest for the Nushagak district for the same time period was four million fish, seventeen percent of the total Bristol Bay sockeye harvest. *Id.* The 2005 Naknek-Kvichak district harvest was slightly less than average at 6.7 million sockeye, while the Nushagak district harvest was higher at 7.1 million sockeye. *Id.*

28. JOHN DUFFIELD ET AL., ECONOMICS OF WILD SALMON WATERSHEDS: BRISTOL BAY, ALASKA 14 (2007), *available at* http://www.housemajority.org/coms/hfsh/trout_unlimited_report.pdf.

29. *Id.* at 16.

30. SALOMONE ET AL., *supra* note 24, at 2.

salmon.[31] Southwestern Alaska's world-class trout fisheries and plentiful king salmon attract sport anglers who annually contribute about $61 million to the state's economy.[32]

In 2005, the wild salmon watersheds in the Bristol Bay drainages generated $324 million in regional expenditures related to fish and wildlife.[33] This created an estimated 5540 full-time-equivalent jobs in Alaska. Alaska residents held more than 3400 of these jobs, with almost 1600 held by residents of the Bristol Bay area.[34]

The Bristol Bay drainages produce an average of 39 million sockeye salmon annually.[35] This is more than twice as many salmon, of all species, as the entire Columbia River drainage produced before those salmon

31. TIM SANDS, ALASKA DEP'T OF FISH & GAME, 2001–2003 OVERVIEW OF THE BRISTOL BAY SALMON FISHERY 2 (2003), *available at* http://www.cf.adfg.state.ak.us/region2/pubs/bof/rr2a0327.pdf.

32. DUFFIELD ET AL., *supra* note 28, at 15, 45.

33. *Id.* at 16.

34. *Id.* at 17. The following table reflects the distribution of jobs.

Total Full Time Equivalent (FTE) Employment in Alaska Dependent on Bristol Bay Wild Salmon Ecosystems, 2005

Sector	*Alaska Residents*			*Nonresidents*	*Total FTE jobs*
	Local residents	Non-local residents	Total Alaska		
Commercial fishing	689	667	1357	1172	2529
Commercial processing	465	449	914	796	1710
Sport fishing	288	435	723	123	846
Sport hunting	60	105	165	2	167
Wildlife viewing/ tourism	82	139	222	17	239
Subsistence	14	34	49	0	49
Total FTE jobs	1598	1829	3430	2110	5540

Id. Hunting is included because wild salmon returning from the sea perform an "ecosystem service" of nutrient recycling to support habitat functions. *See id.* at 24–26. For example, in Alaska, marine nitrogen accounts for as much as ninety percent of the nitrogen in brown bears. *See* ROBERT J. NAIMAN ET AL., RIPARIA: ECOLOGY, CONSERVATION, AND MANAGEMENT OF STREAMSIDE COMMUNITIES 184–85 (2005).

35. *See* LOWELL F. FAIR, ALASKA DEP'T OF FISH & GAME, 10 ALASKA FISHERY RES. BULL. 95, CRITICAL ELEMENTS OF KVICHAK RIVER SOCKEYE SALMON MANAGEMENT (2003), *available at* http://www.adfg.state.ak.us/pubs/afrb/vol10_n2/fairv10n2.pdf.

populations declined.[36] Historically, the Kvichak River drainage is the world's single most productive sockeye salmon watershed.[37] The Nushagak River watershed is the largest producer of the other four (Chinook, chum, coho and pink) Pacific salmon species in the Bristol Bay drainages.[38]

Furthermore, the area is home to the Mulchatna caribou herd, one of Alaska's largest herds. The Mulchatna herd numbered as many as 193,000 caribou in 1996, though the population has declined in recent years due to natural population cycles.[39] The Bristol Bay drainages also are a premier area for grizzly bear, which depend on salmon for food.[40]

B. The Proposed Pebble Mine and Its Facilities

The Pebble deposit is located at the divide between the Koktuli (pronounced KOKE-too-lee) River and the Upper Talarik (pronounced Ta-LAR-ick) Creek.[41] The Koktuli River is part of the Nushagak drainage, and Upper Talarik Creek is part of the Kvichak drainage.

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36. Before 1850, about sixteen million salmon and steelhead returned to the Columbia River basin annually to spawn. U.S. GEN. ACCOUNTING OFFICE, COLUMBIA RIVER BASIN SALMON AND STEELHEAD: FEDERAL AGENCIES' RECOVERY RESPONSIBILITIES, EXPENDITURES AND ACTIONS 1 (2002), *available at* http://www.gao.gov/new.items/d02612.pdf. Over the past twenty-five years, however, the number of salmon and steelhead returning to the Columbia River Basin has averaged around 660,000 per year. *Id.* The decline has been attributed to over-harvesting, construction and operation of hydroelectric dams, degradation of spawning habitat, increased human population, and unfavorable weather and ocean conditions. *Id.*

37. Sockeye Salmon, *supra* note 25.

38. R. ERIC MINARD, EFFORT AND CATCH STATISTICS FOR THE CHINOOK SALMON (ONCORHYNCHUS TSHAWYTSCHA) SPORT FISHERY IN THE LOWER NUSHAGAK RIVER, 1986, 1 FISHERY DATA SERIES NO. 15 (1987), *available at* http://www.sf.adfg.state.ak.us/FedAidPDFs/fds-015.pdf.

39. DIV. OF WILDLIFE CONSERVATION, ALASKA DEP'T OF FISH AND GAME, CARIBOU MANAGEMENT REPORT 24 (2001), *available at* http://www.wc.adfg.state.ak.us/pubs/techpubs/mgt_rpts/mca01-2mt_south.pdf; Interview with Jim Woolington, Wildlife Biologist, Div. of Wildlife Conservation, Alaska Dep't of Fish and Game (Mar. 14, 2008).

40. *See* ALASKA DEP'T OF FISH & GAME, BROWN BEAR MANAGEMENT REPORT 100–03 (2001), *available at* http://www.wc.adfg.state.ak.us/pubs/techpubs/mgt_rpts/mbr01_sc.pdf.

41. The proposed site of the Pebble Mine is about eighteen miles north of Iliamna Lake, nineteen miles southwest of the southern shore of Lake Clark, and about eighteen miles from the predominantly Native villages of Nondalton, Newhalen, and Iliamna. The Pebble Partnership, General Land Status Collings Proposed Route, http://www.pebblepartnership.com/images/LandStatus_D01-map.jpg (last visited Mar. 30, 2008).

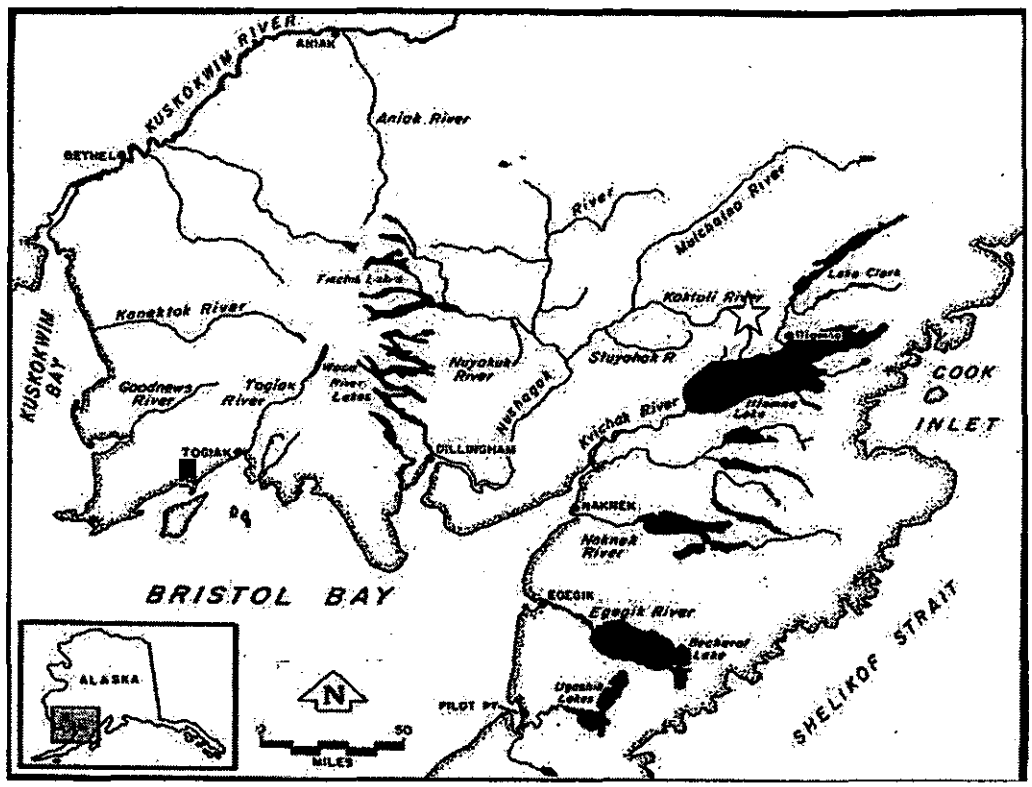

Figure 1. Schematic map of Bristol Bay watersheds. The star indicates the approximate location of the copper, gold, and molybdenum deposit comprising the proposed Pebble Mine. Map from the Alaska Department of Fish and Game.

NDM and Anglo American have asserted that the Pebble deposit "rank[s] among the world's most important accumulations of copper, gold and molybdenum."[42] NDM has asserted that Pebble is the second largest copper mineral deposit in the world and that it contains about sixty-seven billion pounds of copper, four billion pounds of molybdenum, and eighty-two million ounces of gold.[43] NDM has indicated that, on the surface, the Pebble deposit is approximately 2.65 miles by 1.7 miles.[44]

NDM divided the ore body into the "Pebble East" and "Pebble West" deposits.[45] NDM has asserted that the Pebble West deposit extends from the surface to a depth of about 2000 feet.[46] NDM also has asserted that

42. *See* Advance Pebble Project to Production, *supra* note 2.
43. NDM, PEBBLE COPPER, *supra* note 1, at 4, 11.
44. NDM, IMPORTANT NEW MINERAL DEPOSIT, *supra* note 1, at 2.
45. *Id.*
46. *Id.*

Pebble West contains 4.1 billion metric tonnes of ore and that it may develop an open pit mine.[47]

NDM has analyzed the copper, gold, and molybdenum content in three quarters (3.026 billion tonnes) of the Pebble West deposit. [48] Converting NDM's data to United States tons indicates that each *ton* contains between 6.2 *pounds* and 10.1 *pounds* of copper, 0.010 *ounces* and 0.016 *ounces* of gold, and 0.33 *pounds* and 0.46 *pounds* of molybdenum.[49] At most, about 10.6 pounds of metals would be recovered from every 2000 pounds of ore.[50] The waste-to-metals ratio would be at least 189 to one.[51] Thus, at least 99.5 percent of the deposit will be waste.[52] NDM estimated a similar yield for the remaining 1.1 billion tonnes in the Pebble West deposit.[53]

According to NDM, the Pebble East deposit is buried beneath overburden that ranges from several feet to more than 1000 feet deep at its eastern boundary.[54] NDM has estimated that the Pebble East deposit extends more than 5000 feet below the surface.[55] NDM has asserted that Pebble East contains 3.9 billion metric tonnes of ore.[56]

NDM has also predicted that concentrations of copper, gold, and molybdenum in the Pebble East deposit will be higher than at Pebble West.[57] Converting NDM's data to United States tons indicates that, in February 2008, NDM "inferred" that each *ton* of ore at Pebble East *may* contain as much as between 12.8 *pounds* and 19.2 *pounds* of copper, 0.012 *ounces* and 0.017 *ounces* of gold, and 0.73 *pounds* and 0.77 *pounds* of

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47. *Id.* at 1–2. Ore is defined as "rock that contains minerals in sufficient concentration, quantity, and value to be mined at a profit." *See, e.g.*, Climax Molybdenum, Glossary, http://www.climaxmolybdenum.com/Glossary/Glossary.htm (last visited Mar. 30, 2008).

48. NDM, IMPORTANT NEW MINERAL DEPOSIT, *supra* note 1, at 2.

49. *Id.*

50. *See id.*

51. *See id.*

52. *See id.*

53. *Id.*

54. *Id.* Overburden is defined as "rock material of little or no value that overlies an ore deposit." *See, e.g.*, Climax Molybdenum, Glossary, *supra* note 47.

55. NDM, IMPORTANT NEW MINERAL DEPOSIT, *supra* note 1, at 2.

56. Press Release, Northern Dynasty Minerals Ltd., Updated Resource Estimate Confirms Pebble East as One of the World's Most Important Copper-Gold-Molybdenum Deposits (Feb. 25, 2008) [hereinafter Updated Resource Estimate], *available at* http://www.northerndynastyminerals.com (follow "Investor Centre" hyperlink; then follow "News Releases" hyperlink; then follow "February 25, 2008").

57. *Id.*; *see also* NDM, IMPORTANT NEW MINERAL DEPOSIT, *supra* note 1, at 2.

molybdenum.[58] At most, based on NDM's estimations, less than twenty pounds of metals would be recovered from every 2000 pounds of ore mined at Pebble East.[59] The waste-to-metals ratio at Pebble East would be more than 100 to one.[60] Accordingly, more than 99 percent of all ore mined at Pebble East would be waste.[61]

Thus, if the eight billion tonnes of ore that comprise the Pebble East and Pebble West deposits are fully mined and processed, the Pebble Mine would produce more than seven billion tons of waste[62] plus waste rock that would not be processed as ore. Presumably, almost all of these wastes would be stored on state-owned public lands near the mine in perpetuity.

In 2006, NDM submitted eleven permit applications to the Alaska Department of Natural Resources (DNR).[63] Six of these applications sought to appropriate surface or groundwater from the North and South Forks of the Koktuli River and from Upper Talarik Creek.[64] The other five applications sought permits to build five massive, earthen-fill dams or embankments to contain waste from the mine. [65]

Although NDM later requested that DNR delay adjudicating the applications,[66] they provide insight into NDM's development plans. The Pebble Mine likely would include most of the following facilities:

1. An open pit mine at Pebble West that may be about 2000 feet deep and cover about two square miles and an underground mine at Pebble East that may be of comparable size and 5000 feet deep.[67]

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58. *See* Updated Resource Estimate, *supra* note 56. NDM stated that an "inferred" mineral resource is "estimated on the basis of geological evidence and limited sampling." *Id.* NDM has "reasonably assumed, but not verified" how much of the Pebble East deposit actually contains copper, gold, or molybdenum at these concentrations. *Id.*

59. *See id.*

60. *See id.*

61. *Id.*

62. *See* NDM, IMPORTANT NEW MINERAL DEPOSIT, *supra* note 1, at 2. NDM asserts that the size of Pebble East is "wide open to further expansion and delineation drilling is ongoing." *Id.* Thus, the amount of ore and corresponding waste from Pebble East could increase.

63. DIVISION OF MINING, LAND, AND WATER, ALASKA DEP'T. OF NATURAL RES., PEBBLE PROJECT [hereinafter PERMIT APPLICATIONS], http://www.dnr.state.ak.us/mlw/mining/largemine/pebble/waterapp.htm (providing hyperlinks to all available NDM permit applications) (last visited Mar. 30, 2008).

64. *Id.*

65. *Id.*

66. Letter from Michael C. T. Smith, NEPA and Permitting Manager, Northern Dynasty Mines Inc., to Thomas Crafford, Large Mine Coordinator, Alaska Dep't of Natural Res. (Oct. 12, 2006), *available at* http://www.dnr.state.ak.us/mlw/mining/largemine/pebble/2006/acmp.pdf.

2. Various stream diversion channels, wells and devices to: (a) prevent water from filling the open pit, (b) extract water that would be used for processing the ore, (c) transport ore concentrate in a slurry via pipelines, and (d) transport wastes in a slurry via pipelines.[68]
3. A mill to crush, process, and concentrate the ore extracted from the open pit and underground mines.[69]
4. Five dams or embankments composed of waste rock and earthen-fill material that together would span about nine linear miles. The three largest dams would be 740 feet high and 3 miles long, 700 feet high and 2.9 miles long, and 710 feet high and 1.3 miles long.[70] These dams and embankments would create and contain ponds that would cover at least 10 square miles and store chemically reactive, ore-processing wastes known as "tailings."[71]
5. A deep-water port in marine waters on the west side of Cook Inlet (about 200 miles southwest of Anchorage) to load the ore concentrate on ocean freighters.[72]
6. A 104-mile road to provide a transportation corridor from the mine facilities to the port.[73]

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67. *See* The Pebble Partnership, Project Status and Timeline [hereinafter Project Status and Timeline], http://www.pebblepartnership.com/pages/project-information/project-status.php (last visited March 30, 2008); NDM, IMPORTANT NEW MINERAL DEPOSIT, *supra* note 1, at 1–2.

68. *See generally*, NORTHERN DYNASTY MINES INC., PEBBLE PROJECT: APPLICATION FOR WATER RIGHT: SOUTH FORK KOKTULI RIVER at Project Description 2, 4 (2006), *available at* http://www.dnr.state.ak.us/mlw/mining/largemine/pebble/2006/swsfkorig.

69. Project Status and Timeline, *supra* note 67.

70. *See* KNIGHT PIESBOLD CONSULTING, NORTHERN DYNASTY MINES, INC., TAILINGS IMPOUNDMENT A INITIAL APPLICATION REPORT 2 (2006) (describing the dimensions of the dams or embankments) [hereinafter TAILINGS IMPOUNDMENT A REPORT], *available at* http://www.dnr.state.ak.us/mlw/mining/largemine/pebble/2006/damaap.pdf; KNIGHT PIESBOLD CONSULTING, NORTHERN DYNASTY MINES, INC., TAILINGS IMPOUNDMENT G INITIAL APPLICATION REPORT 1 (2006) [hereinafter TAILINGS IMPOUNDMENT G REPORT], *available at* http://www.dnr.state.ak.us/mlw/mining/largemine/pebble/2006/damgap.pdf.

71. The estimate that total area of the water surface in these two impoundments exceeds ten square miles is derived by summing the surface water area stated in the applications for permits to build dams or embankments described in the appendices to two reports. *See* TAILINGS IMPOUNDMENT A REPORT, supra note 70; TAILINGS IMPOUNDMENT G REPORT, supra note 70.

72. *See* NDM, PEBBLE COPPER, *supra* note 1, at 19; *see also* The Pebble Partnership, Road, Port, & Power [hereinafter Road, Port, & Power], http://www.pebblepartnership.com/pages/project-information/road-port-power.php (last visited Mar. 30, 2008).

73. *Id.*

7. Two 100-mile-long, fifteen inch-diameter pipelines that would run parallel to the road. One pipeline would be used to transport a slurry of copper ore concentrate from the mill to the port, where the slurry would be de-watered. The other pipeline would return the slurry water to the mine area.[74]
8. Four 54-inch-diameter pipelines. Three of the pipelines, totaling 70,000 feet (13.25 miles), would transport mine wastes from the mill to the waste storage facilities. The fourth pipeline, totaling 17,000 feet (3.2 miles), would reclaim water from the waste facilities and transport it to the mill.[75]
9. A 300-megawatt power plant that would be located on the Kenai Peninsula, across Cook Inlet.[76]
10. More than 100 miles of transmission lines and undersea cables to transmit electricity from the power plant on the Kenai Peninsula to the mine site.[77]

The Pebble Partnership asserts that development of the Pebble Project will generate 1000 skilled, high-wage jobs for fifty to eighty years and 2000 jobs during the project's two- to three-year construction phase.[78] The partnership claims the mine will generate tens of millions of dollars in

74. *See id.*; NORTHERN DYNASTY MINES INC., PEBBLE PROJECT: RESPONSE TO JULY 26, 2006 ADNR ANALYSIS OF APPLICATION COMPLETENESS OF JULY 7, 2006 APPLICATION FOR SURFACE WATER RIGHT: SOUTH FORK KOKTULI RIVER (2006) [hereinafter NDM, RESPONSE TO JULY 26, 2006, ADNR ANALYSIS], *available at* http://www.dnr.state.ak.us/mlw/mining/largemine/pebble/2006/swsfkfinal.pdf.

75. NDM, RESPONSE TO JULY 26, 2006, ADNR ANALYSIS, *supra* note 74, at Table 3. During operation, water would circulate between the tailings impoundments and the tailings slurry pipelines. *Id.*

76. Shane Lasley, *Mining News: Mining and Fish Can Coexist*, NORTH OF 60 MINING NEWS, Dec. 30, 2007, *available at* http://www.petroleumnews.com/pntruncate/91525336.shtml.

77. Road, Port, & Power, *supra* note 72.

78. The Pebble Partnership, Pebble Facts [hereinafter Pebble Facts], http://www.pebblepartnership.com/pages/project-information/pebble-facts1.php (last visited Mar. 30, 2008). The Pebble Mine would be in the Lake and Peninsula Borough, which extends hundreds of miles from Lake Clark National Park and Preserve to the southern tip of the Alaska Peninsula. In 2006, the Borough population was 1557 people, of whom eighty percent were Alaska Native or part Native. *See* STATE OF ALASKA, ALASKA COMMUNITY DATABASE COMMUNITY INFORMATION SUMMARIES, http://www.commerce.state.ak.us/dca/commdb/CF_CIS.htm (follow "Lake and Peninsula Borough" hyperlink in box under "Select a Community") (last visited Mar. 30, 2008). Residents of the communities nearest the Pebble Mine are all predominantly Alaska Native. *Id.* In 2006, the populations of these villages were: Nondalton (pop. 196), Newhalen (pop. 167) and Iliamna (pop. 82). *Id.*

annual tax payments to state and local governments, as well as numerous local business opportunities.[79]

C. The Pebble Mine is Likely to Generate Acid Mine Drainage

As previously noted, NDM may construct a block-cave underground mine at Pebble East and an open-pit mine at Pebble West.[80] Block cave mines often cause surface subsidence or settling.[81] Subsidence occurs as the material above the ore body, including surface and rain water, gradually moves downward to replace the ore that has been mined.[82]

Open pit and underground mines often must be dewatered to allow extraction of the ore.[83] Two methods used to dewater the mines are pumping from ground-water interceptor wells to lower the water table and pumping directly from the mine workings.[84] Dewatering can create a hydrologic cone of depression around the mine area and can prevent contamination from reaching the surrounding aquifer.[85] If pumping ceases after the mine is abandoned, the mine workings will fill partially or completely with water and may lead to uncontrolled releases of water.[86]

The host rock associated with most types of metal mining activities contains metal sulfide minerals.[87] Most of the ore at the Pebble deposit contains iron and other metallic sulfides.[88] When such sulfides are exposed

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79. Pebble Facts, *supra* note 78.

80. *Id.* Block caving is an underground mining method. Generally, the first step is to blast the ore body so it becomes fractured, creating a cavern of broken rock. *See, e.g.*, RESOLUTION COPPER MINING, BLOCK CAVING AND SUBSIDENCE, http://www.resolutioncopper.com/res/ourapproach/BlockCaveMining.pdf (last visited Mar. 30, 2008). The second step is to drill a tunnel under the broken rock cavern. *Id.* Finally, narrow-necked chutes are constructed under the cavern to funnel the ore to collection points in the tunnels. *Id.*

81. *Id.*

82. *Id.*

83. OFFICE OF SOLID WASTE, U.S ENVIRONMENTAL PROTECTION AGENCY, MINING INDUSTRY PROFILE: COPPER 1–63 (1994), *available at* http://www.epa.gov/epaoswer/other/mining/techdocs/copper/copper1b.pdf.

84. *Id.*

85. *Id.*

86. *Id.*

87. OFFICE OF SOLID WASTE, U.S. ENVIRONMENTAL PROTECTION AGENCY, TECHNICAL DOCUMENT: ACID MINE DRAINAGE PREDICTION 4 (1994) [hereinafter EPA, ACID MINE DRAINAGE PREDICTION], *available at* http://www.epa.gov/epaoswer/other/mining/techdocs/amd.pdf.

88. The predominant copper sulfide minerals in the Pebble deposit are chalcopyrite ($CuFeS_2$) and bornite (Cu_5FeS_4). *See* Press Release, Northern Dynasty Minerals Ltd., Major New Porphyry System Discovered at Pebble (Sept. 21, 2005),

to air and water, they generate sulfuric acid, which dissolves most metals, mobilizing them into solution.[89]

Prior to mining, oxidation of these sulfides and the formation of sulfuric acid is a function of natural weathering processes.[90] The oxidation of undisturbed ore bodies, which is followed by release of acid and mobilization of metals, is slow.[91] Discharge from such deposits poses little threat to receiving aquatic ecosystems.[92]

Extractions and beneficiation operations associated with mining activity increase the rate of these same chemical reactions by exposing large volumes of sulfide rock material with increased surface area to air and water.[93] This process is commonly referred to as acid mine drainage.[94] In addition to the acid contribution to surface waters, acid mine drainage may cause metals such as arsenic, cadmium, copper, silver, zinc, iron, lead, and manganese to leach from mine wastes.[95]

These leached metals cause environmental damage and are of greater concern than the acidity.[96] When dissolved metals enter surface waters, either directly or through groundwater, they become available to fish and the food chains upon which they depend.[97]

The formation of acid mine drainage, and the contaminants associated with it, have been described as the largest environmental problem facing the U.S. mining industry.[98] Mine waste rock, tailings, overburden, and mine structures such as open pits and underground workings are sources of acid mine drainage.[99] Because the factors affecting the potential for acid mine drainage are highly variable from site to site, predicting the potential for acid mine drainage is difficult, costly, and of questionable reliability.[100]

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available at http://www.northerndynastyminerals.com/ndm/NewsReleases.asp?ReportID=117769; NDM, PEBBLE COPPER, *supra* note 1, at 15.

89. EPA, ACID MINE DRAINAGE PREDICTION, *supra* note 87, at 4–6.
90. *Id.* at 4.
91. *Id.*
92. *Id.*
93. *Id.* at 4.
94. *Id.* at 1.
95. *Id.* at 1, 7, 41.
96. *Id.* at 1.
97. *See generally* CAROL ANN WOODY, COPPER: EFFECTS ON FRESHWATER FOOD CHAINS AND SALMON: A REVIEW (2007), *available at* http://fish4thefuture.com/pdfs/Woody_Copper_Effects_to_Fish%20-%20FINAL2007.pdf.
98. EPA, ACID MINE DRAINAGE PREDICTION, *supra* note 87, at 1.
99. *Id.* at 1–2.
100. *Id.* at 1.

III. DISSOLVED METALS SUCH AS COPPER ARE TOXIC TO FISH

The late Jay Hammond, the popular Republican governor of Alaska from 1976 to 1982, made his home on the shore of Lake Clark, in the Bristol Bay drainages, thirty miles from the proposed Pebble Mine.[101] On July 11, 2005, two weeks before his death, he expressed his views of the Pebble Mine:

> When I was first asked about the Pebble Mine . . . I expressed this concern: that if I were asked where in Alaska would I least rather see the largest open-pit mine in the world, I can think of no more less appropriate spot than the headwaters of the Talarik Creek and Kokutli River, the drainages of two of the finest trout streams and salmon spawning areas in Alaska. But I have since modified that to where if asked that question again, I'd say there is one place I'd even less rather see it, and that's in my living room here at Lake Clark.[102]

The Pebble Partnership asserts that about ninety-five percent of the metal that Pebble Mine would produce is copper.[103] This Part focuses on the toxic effects of copper on salmon and aquatic food chains.

Copper is essential to living organisms and no fatal copper deficiencies have ever been documented for any aquatic species.[104] Yet, concentrations just above the amount required for growth and reproduction can be highly toxic to aquatic species and cause irreversible harm.[105] The exact amount of dissolved copper that is toxic to fish and aquatic food chains can be

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101. JAY S. HAMMOND, TALES OF ALASKA'S BUSH RAT GOVERNOR: THE EXTRAORDINARY AUTOBIOGRAPHY OF JAY. S. HAMMOND 294 (1994).

102. Interview by Lance Holter with Jay S. Hammond, former Governor of Alaska, in Port Alsworth, Alaska (July 11, 2005) (available upon request from authors).

103. Elizabeth Bluemink, *Jewelers Announce Opposition to Pebble Prospect's 'Dirty Gold': Companies Call for Protection of River Drainages*, ANCHORAGE DAILY NEWS, Feb. 13, 2008, at A1, *available at* http://www.adn.com/money/industries/mining/story/313462.html.

104. 1 RONALD EISLER, HANDBOOK OF CHEMICAL RISK ASSESSMENT: HAZARDS TO HUMANS, PLANTS, AND ANIMALS: METALS 138 (2000).

105. Peter V. Hodson et al., *Toxicity of Copper to Aquatic Biota, in* COPPER IN THE ENVIRONMENT: HEALTH EFFECTS PT. II, 307, 307–08 (Jerome O. Nriagu ed., 1979); W. Scott Hall et al., *Monitoring Dissolved Copper Concentrations in Chesapeake Bay, U.S.A.*, 11 ENVTL. MONITORING AND ASSESSMENT 33 (1988); ELSA M. SORENSEN, METAL POISONING IN FISH 235–84 (1991); EISLER, *supra* note 104, at 144–73; David H. Baldwin et al., *Sublethal Effects of Copper on Coho Salmon: Impacts on Nonoverlapping Receptor Pathways in the Peripheral Olfactory Nervous System*, 22 ENVTL. TOXICOLOGY AND CHEMISTRY 2266, 2273 (2003).

difficult to predict[106] because many factors influence toxicity including: (1) species of copper, in elemental or compound forms, and the concentration;[107] (2) water quality, including pH, temperature, hardness, salinity, suspended solids, and organics; (3) synergistic interactions of copper with other local elements; and (4) species of fish or organism, age, size, reproductive condition, and prior exposure to copper.

Salmon and organisms comprising freshwater food chains are very sensitive to heavy metals, trace elements, and other contaminants found in mine wastes.[108] Because copper is highly toxic to freshwater aquatic organisms, understanding potential lethal and sublethal effects of copper on salmon and their freshwater food chains is important to address the adequacy of the state's large mine permitting process. Both lethal and sublethal effects of copper (Cu) on salmon and their food chains have been demonstrated[109] at concentrations below the Alaska state water quality criterion for protection of freshwater species (9 micrograms Cu per liter (µg Cu/L) calculated on 100 mg/L hardness (CaCO3)) and well below the human drinking water criterion of 1300 µg Cu/L.[110]

Copper has sublethal effects on salmon that can reduce the viability of populations.[111] Concentrations below the accepted criterion for aquatic life in Alaska (< 9 µg Cu/L) have produced the following documented effects on fish: (1) impairment of sense of smell (olfaction);[112] (2) interference with

106. OFFICE OF RESEARCH AND DEVELOPMENT, U.S. ENVIRONMENTAL PROTECTION AGENCY, AMBIENT AQUATIC LIFE WATER QUALITY CRITERIA FOR COPPER 1–18 (1980), *available at* http://www.epa.gov/waterscience/criteria/library/ambientwqc/copper80.pdf; EISLER, *supra* note 104, at 133; Hodson et al., *supra* note 105, at 339–481.

107. Aquatic Life Ambient Freshwater Quality Criteria–Copper 2007 Revision. 72 Fed. Reg. 7983 (Feb. 22, 2007).

108. SORENSEN, *supra* note 105, at 233; A. Dennis Lemly, *Mining in Northern Canada: Expanding the Industry While Protecting Arctic Fishes—A Review*, 29 ECOTOXICOLOGY AND ENVTL. SAFETY 229, 230–34 (1994); EISLER, *supra* note 104, at 94–95.

109. EISLER, *supra* note 104, at 144–73.

110. ALASKA ADMIN. CODE tit. 18 § 70.020(b) (2007) (incorporating by reference the DEP'T OF ENVTL. CONSERVATION, ALASKA WATER QUALITY CRITERIA MANUAL FOR TOXIC AND OTHER DELETERIOUS SUBSTANCES (2003) (stating the copper criteria for freshwater aquatic life and for human health)), *available at* http://dec.alaska.gov/water/wqsar/wqs/pdfs/70wqsmanual.pdf.

111. Baldwin et al., *supra* note 105, at 2273; EISLER, *supra* note 104, at 163–66; SORENSEN, *supra* note 105, at 269–76.

112. J. Raloff, *Aquatic Non-Scents: repercussions of water pollutants that mute smell*, SCIENCE NEWS, Jan. 27, 2007, at 59.

normal migration;[113] (3) impairment of their ability to fight disease (immune response);[114] (4) difficulties in breathing;[115] (5) disruption of osmoregulation (ability to control internal salinity of body fluids);[116] (6) impairment of ability to sense vibrations via their lateral line canals (a sensory system that helps fish avoid predators);[117] (7) impairment of brain function;[118] (8) changes in enzyme activity, blood chemistry, and metabolism;[119] and (9) delay or acceleration of natural hatch rates.[120]

Many metals toxic to aquatic life are commonly released at hard rock mining sites, and interactive effects on salmon and aquatic systems are not well studied.[121] Few studies exist on the "cocktail" effects that multiple metals have on fish and aquatic food chains. However, combined effects can be more toxic than any single element.[122] For example, copper (Cu) and zinc (Zn) often co-occur; a 6:1 ratio of soluble Zn:Cu caused additive toxicity to fish in hard water, meaning that together the elements were more toxic to fish then either alone.[123] Rainbow trout exposed to sublethal concentrations of Cu, Cu+ low concentrations of Zn, or Cu + high concentrations of Zn consistently exhibited depressed levels of lymphocytes and elevated levels of neutrophils, two white blood cell types key to immune function.[124]

Moreover, interactions among metals, such as copper and zinc, can produce more than additive effects. Mixtures of the metals cause higher rates of mortality in fish than would be expected by simply adding the

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113. J.N. Goldstein et al., *Movements of Adult Chinook Salmon During Spawning Migration in a Metals-Contaminated System, Coeur d'Alene River, Idaho*, TRANSACTIONS OF THE AMERICAN FISHERIES SOCIETY 121–29 (1999); D.F. Woodward et al., *Brown Trout Avoidance of Metals in Water Characteristic of the Clark Fork River, Montana*, 52 CANADIAN JOURNAL OF FISHERIES AND AQUATIC SCIENCES 2031–37 (1995); SORENSEN, *supra* note 105, at 254, 265.

114. R.J. Baker et al., *Susceptibility of Chinook Salmon*, Oncorhynchus tshawytscha *(Walbaum), and Rainbow Trout*, Salmo gairdneri, *Richardson, to Infection with* Vibrio anguillarum *Following Sublethal Copper Exposure*, 3 JOURNAL OF FISH DISEASES 267–75 (1983).

115. SORENSEN, *supra* note 105, at 266–69.

116. *Id.* at 256–62; EISLER, *supra* note 104, at 180.

117. SORENSEN, *supra* note 105, at 253.

118. EISLER, *supra* note 104, at 163.

119. SORENSEN, *supra* note 105, at 256–62; EISLER, *supra* note 104, at 180.

120. SORENSEN, *supra* note 105, at 271.

121. EISLER, *supra* note 104, at 102–05.

122. WOODY, *supra* note 97, at 14.

123. SORENSEN, *supra* note 105, at 335–39.

124. Gail M. Dethloff et al., *Alterations in Physiological Parameters of Rainbow Trout* (Oncorhynchus mykiss) *with Exposure to Copper and Copper/Zinc Mixtures*, 42 ECOTOXICOLOGY AND ENVTL. SAFETY 253, 260 (1999).

effects of each element alone.[125] Once inside an organism, metallic elements exist in a specific form and ratio to other elements and will interact directly or indirectly based on a multitude of parameters.[126] For example, survival from egg to hatch of catfish (*Ictalurus* spp.) treated with a 1:1 ratio of Cu:Zn declined predictably under an additive model up to a concentration of ~1 ppm. With increasing concentrations, mortality rates increased synergistically at higher than predicted rates.[127] However, relatively few studies of synergistic effects exist, and the scientific understanding of such effects is still developing.

Bristol Bay salmon populations are comprised of several hundred genetically and phenotypically discrete stocks displaying different life history characteristics and local adaptations.[128] This biodiversity allows the aggregate populations to sustain their productivity, despite major changes in climatic conditions affecting the freshwater and marine environments during the last century.[129] The stability and sustainability of Bristol Bay sockeye salmon have been greatly influenced by different populations performing well at different times.[130] If managers in earlier times had decided to focus management on the most productive runs at the time, the biocomplexity that later proved important could have been lost.[131] This biocomplexity is important on small scales as well, as lakes and tributaries show asynchronous shifts in density and productivity.[132]

Long-term sustainability is derived in large part from complementary patterns of productivity in different stock components.[133] Defining the entire stock as healthy, simply because a large component is doing well, might lead to decline and extinction if the conditions that fostered success of the healthy component disappear, and the alternate strategy, which

125. J.B. Sprague & B.A. Ramsay, *Lethal Levels of Mixed Copper-Zinc Solutions for Juvenile Salmon*, 22 J. OF THE FISHERIES RES. BD. OF CAN. 425 (1965); SORENSEN, *supra* note 105, 335–39; EISLER, *supra* note 104, at 104.

126. H.H. SANDSTEAD, EFFECTS AND DOSE-RESPONSE RELATIONSHIPS OF TOXIC METALS 511 (1976); SORENSEN, *supra* note 105, at 335.

127. Wesley J. Birge & Jeffrey A. Black, *Effects of Copper on Embryonic and Juvenile Stages of Aquatic Animals*, *in* COPPER IN THE ENVIRONMENT: HEALTH EFFECTS PART II 373, 386–88 (Jerome O. Nriagu ed., 1979).

128. Ray Hilborn et al., *Biocomplexity and Fisheries Sustainability*, 100 PROC. OF THE NAT'L ACAD. OF SCI. 6564 (2003), *available at* http://www.pnas.org/cgi/reprint/100/11/6564?ck=nck.

129. *Id.*

130. *Id.* at 6567.

131. *Id.*

132. *Id.* at 6568.

133. *Id.*

would have done well in the new environmental conditions, has been lost.[134] Conservation of a diverse "salmon stock portfolio," much like a diverse retirement portfolio, increases the likelihood of long-term sustained salmon returns into the future.

Thus, the following factors should be considered in devising state statutory standards: (1) scientific findings demonstrate toxic affects on fish below established limits for copper, (2) multiple parameters affect toxicity of copper alone and in synergistic combination with other metals, and (3) the understanding of synergistic effects is developing.

IV. STATE STATUTORY STANDARDS ARE INADEQUATE TO PROTECT FISH FROM THE PEBBLE MINE

The Alaska Department of Natural Resources (DNR) asserts that its "large mine permitting process," which depends substantially on the preparation of federal environmental impact statements ("EIS") under the National Environmental Policy Act ("NEPA"),[135] will adequately protect fish, wildlife, and public uses of fish and game from potential adverse effects of the Pebble Mine.[136]

134. *Id.*

135. 42 U.S.C. § 4321 (2000).

136. *See* OFFICE OF PROJECT MANAGEMENT AND PERMITTING, ALASKA DEP'T. OF NAT. RES., PERMITTING LARGE MINE PROJECTS IN ALASKA 5 (2006), *available at* http://www.dnr.state.ak.us/mlw/mining/largemine/lmpt_process.pdf; Press Release, Alaska Dep't of Nat. Res., Commissioner Irwin Voices Supports For Resource Development in Alaska (July 3, 2007), *available at* http://www.dnr.state.ak.us/standard/dsp_media_release.cfm?id=885&title=Commissioner%20Irwin%20Voices%20Supports%20for%20Resource%20Development%20in%20Alaska.

In 2006, a groundbreaking study[137] systematically compared predicted and actual water quality at hardrock mines operating in the United States, including in Alaska.[138] The study compared pre-mining water quality data presented in federal EISs[139] to operational and post-operational water quality data in order to assess the reliability of predictions relied upon by agency personnel making permitting decisions.[140] Four of the study's conclusions are particularly useful for assessing the adequacy of current state statutory standards. They are:

1. Actual water quality impacts are closer to potential (pre-mitigation) impacts rather than the predicted (post-mitigation) impacts stated in the EISs. The threshold inquiry for determining the environmental significance (or effect) of agency permitting decisions, e.g., for purposes of determining whether permitting the mine would "significantly affect the quality of the human environment,"[141] should be a mine's *potential* rather than *predicted* impacts.[142]

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137. JAMES R. KUIPERS ET AL., COMPARISON OF PREDICTED AND ACTUAL WATER QUALITY AT HARDROCK MINES: THE RELIABILITY OF PREDICTIONS IN ENVIRONMENTAL IMPACT STATEMENTS (2006), *available at* http://www.earthworksaction.org/pubs/ComparisonsReportFinal.pdf. For mines with potential for acid drainage or metals leaching, the study found that eighty-five percent polluted surface water and ninety-three percent polluted groundwater. *Id.* at ES-11,12. At the time of permitting, eighty-nine percent of the environmental review documents for those mines underestimated the potential of the mines to pollute. *See id.* at ES-09. Nearly all of the environmental impact statements examined by the report predicted that the mines would be able to comply with water quality standards. *Id.* at ES-8. In actuality: seventy-six percent of the mines polluted ground or surface water in excess of water quality standards, *id.* at Table ES-7b; sixty percent of mines polluted surface water severely enough to exceed water quality standards, *id.* at Table ES-5; fifty-two percent of mines polluted ground water severely enough to exceed water quality standards, *id.* at Table ES-6; seventy-three percent of mines exceeded surface water quality standards despite predicting that mitigation would result in compliance, *id.* at Table ES-5; seventy-seven percent of mines that exceeded groundwater quality incorrectly predicted that mitigation to correct problems would result in compliance, *id.* at Table ES-6. Mitigation measures failed sixty-four percent of the time. *Id.* at 192. Of the mines analyzed that polluted ground and surface water, sixty-three percent released toxic metals such as lead, mercury, cadmium, copper, nickel, or zinc. More than half of the mines released arsenic, sulfates, and cyanide. *Id.* at ES-9.

138. *Id.* at i, ES-3.

139. The National Environmental Policy Act requires a detailed EIS on "major Federal actions significantly affect[ing] the quality of the human environment." 42 U.S.C. § 4332(C) (2000).

140. KUIPERS ET AL., *supra* note 137, at ES-1.

141. 42 U.S.C. § 4332(C).

142. KUIPERS ET AL, *supra* note 137, at ES-15.

2. State and federal agencies should require a minimum and relatively consistent set of geochemical tests, for example to determine sulfide and metals content at the Pebble deposit.[143]
3. Mines with close proximity to water sources—as Pebble Mine would be—or with moderate to high acid drainage potential—as the Pebble deposit is—should undergo more scrutiny by agencies in the permitting process than mines with low inherent potential for impacting water quality.[144]
4. Failure to accurately characterize hydrological conditions can be addressed by requiring adequate characterization and conservative assumptions about water quality and quantity.[145]

Most Alaska statutes that apply to the permitting, operation, and closure of mines, and the use of lands and waters for mining-related activities, are administered by DNR. The remainder of this section summarizes the State's statutory framework and addresses whether the statutory standards[146] are adequate to protect fish, wildlife, their habitats, and the uses of fish and game from the potential impacts associated with the Pebble Mine.

Pursuant to section 27.05.010 of the Alaska Statutes, DNR is "the lead agency for all matters relating to the exploration, development, and management of mining, and, in its capacity as lead agency, shall coordinate all regulatory matters concerning mineral resource exploration, development, mining, and associated activities."[147] The statute requires all other state agencies to consult with DNR before "tak[ing] action that may directly or indirectly affect the exploration, development, or management of mineral resources."[148] Thus, section 27.05.010 provides only a standard

143. *Id.*; *see*, JAMES R. KUIPERS ET AL., PREDICTING WATER QUALITY AT HARDROCK MINES: METHODS AND MODELS, UNCERTAINTIES, AND STATE-OF-THE-ART (2006) [hereinafter KUIPERS ET AL., METHODS AND MODELS], *available at* http://www.earthworksaction.org/pubs/PredictionsReportFinal.pdf.

144. KUIPERS ET AL, *supra* note 137, at ES-15.

145. *Id.*

146. Although most state statutes relevant to mining are administered by DNR, the United States Environmental Protection Agency administers the issuance of permits under the National Pollutant Discharge Elimination System ("NPDES") because Alaska is not authorized to implement the NPDES program under section 402(b) of the Clean Water Act. 33 U.S.C. § 1342(b) (2000). *See* U.S. Environmental Protection Agency, National Pollutant Discharge Elimination System, State Program Status, http://cfpub.epa.gov/npdes/statestats.cfm (last visited Mar. 30, 2008).

147. ALASKA STAT. § 27.05.010(b) (2006).

148. *Id.*

that other agencies must consult with DNR before taking actions that "directly or indirectly affect" mining, and the statute contains no standard for DNR's role as the "lead agency" that "coordinate[s] all regulatory matters" concerning mining.

The general standard that governs DNR's management of state lands is found in section 38.04.005 of the Alaska Statutes. The statute requires DNR to "provide for maximum use of state land consistent with the public interest."[149] Without identifying any of the values to be considered in determining the public interest, the statute allows DNR wide discretion and does not specifically address fish, wildlife, or uses of them. The statute stands in stark contrast to section 16.05.020 of the Alaska Statutes, which imposes on the Alaska Department of Fish and Game (ADF&G) a duty to "manage, protect, maintain, improve, and extend the fish, game and aquatic plant resources of the state in the interest of the economy and general well-being of the state."[150]

Section 38.05.035 of the Alaska Statutes spells out powers and duties of DNR with respect to managing state lands, including its power to "approve contracts for the sale, lease, or other disposal" of state land, resources, property, or interests in them.[151] In approving these contracts, DNR must issue "a written finding that the interests of the state will be best served."[152] The statute provides eight exceptions to the requirement for a best interest finding.[153] These exceptions include: revocable permits or authorizations; mining claims;[154] mining leases;[155] leases for surface use of land or water necessary for mining operations, such as for mill sites, tailings disposal, and other mine-related facilities;[156] and permits, rights-of-way, or easements for roads, ditches, pipelines, electric transmission lines,

149. ALASKA STAT. § 38.04.005(a) (2006).
150. ALASKA STAT. § 16.05.020 (2006).
151. ALASKA STAT. § 38.05.035(e) (2006).
152. *Id.*
153. *See* ALASKA STAT. § 38.05.035(e)(6)(A)–(H).
154. *See* ALASKA STAT. § 38.05.035(e)(6)(D) (exempting approval of mineral claims under section 38.05.195 of the Alaska Statutes from the requirement in section 38.05.035(e) of the Alaska Statutes of "a written finding that the interests of the state will be best served").
155. *See* ALASKA STAT. § 38.05.035(e)(6)(E) (exempting approval of mineral leases under section 38.05.205 of the Alaska Statutes from the requirement in section 38.05.035(e) of the Alaska statutes of "a written finding that the interests of the state will be best served").
156. *See* ALASKA STAT. § 38.05.035(e)(6)(G) (exempting approval of surface uses under section 38.05.255 of the Alaska Statutes from the requirement in section 38.05.035(e) of the Alaska Statutes of "a written finding that the interests of the state will be best served").

and similar uses or improvements.[157] Thus, this "best interest" standard contains many exceptions for mining; it is also vague, does not address fish, game, habitat, or uses of them, and is open to wide discretion.

Section 38.05.255 of the Alaska Statutes, in turn, governs surface use of state lands and water by mining operations. It states that "surface uses of land or water included within a mining property by the owners, lessees, or operators shall be limited to those *necessary* for the prospecting for, extraction of, or basic processing of minerals and shall be *subject to reasonable concurrent uses.*"[158] Without defining what constitutes a "necessary" use of land and water, this provision appears to give DNR wide latitude to approve use of as much land and water as it deems necessary, subject to "reasonable concurrent uses."[159]

By failing to provide an adequate definition of what would be deemed "necessary" for prospecting, extraction, and processing, the statute gives wide latitude to the agency to defer to the mining company. DNR would have difficulty deciding whether, for example, housing and sewage treatment for two thousand workers are a "necessary" use of state land when alternatives may exist on private land that would not infringe on concurrent uses. The introduction of two thousand workers into an area sparsely populated by residents in small villages could have substantial impacts on local subsistence activities far beyond the land addressed by section 38.05.255(a) of the Alaska Statutes. Also, this statute fails to provide guidance to DNR as to whether it should take cost into account in deciding whether use of state land is necessary. DNR would have no basis to decide whether it could require the mine to house its workers or provide sewerage facilities on private land, which may be significantly more expensive. This type of permitting decision could have serious regional impacts on fish, game, and uses dependent on these resources. Even the requirement that the land remain subject to "reasonable concurrent use" does not address off-site impacts that are potentially more significant.

Section 38.05.850 of the Alaska Statutes authorizes DNR to issue permits, rights-of-way, or easements on state land for uses or improvements such as roads, trails, ditches, pipelines, telephone or electric

157. *See* ALASKA STAT. § 38.05.035(e)(6)(H) (exempting approval of permits, rights-of-way, or easements for roads, ditches, pipelines, electric transmission and distribution lines, and similar uses or improvements under section 38.05.850 of the Alaska Statutes from the requirement in section 38.05.035(e) of the Alaska Statutes of "a written finding that the interests of the state will be best served").

158. ALASKA STAT. § 38.05.255(a) (emphasis added).

159. *Id.*

transmission and distribution lines, and production facilities for recovering minerals.[160] The statute requires DNR to "give preference to that use of the land that will be of greatest economic benefit to the state and the development of its resources."[161] The statute, however, does not spell out the factors that DNR should consider in making such a determination. The statute also fails to identify the intended beneficiary of the economic benefit, or in other words, whether the term "the state" refers to the state treasury, the general economy, or the citizens of Alaska.

Section 46.15.080 of the Alaska Statutes governs applications to appropriate state owned waters. Approval of an application to appropriate water must be "in the public interest."[162] In determining the public interest, section 46.15.080 requires DNR to "consider" eight criteria: (1) benefit to the applicant resulting from the proposed appropriation, (2) effect of the economic activity resulting from the proposed appropriation, (3) effect on fish and game resources and on public recreational opportunities, (4) effect on public health, (5) effect of loss of alternate uses of water that might be made within a reasonable time if not precluded or hindered by the proposed appropriation, (6) harm to other persons resulting from the proposed appropriation, (7) intent and ability of the applicant to complete the appropriation, and (8) effect upon access to navigable or public water.[163]

The requirement that DNR "consider" these eight factors is far short of a substantive standard requiring DNR to protect fish and game, and avoid, minimize, or mitigate harms and risks to fish, wildlife, and public uses of them. Also, "considering" the effects on fish is far short of a statutory standard that articulates a standard for deciding whether a certain level of harm to fish is acceptable.

Section 46.17.010 *et seq.* of the Alaska Statutes applies to permits authorizing construction of dams, such as for tailings impoundments. Dams must be designed, constructed, operated, and maintained "consistent with the protection of life and property."[164] This standard ignores fish, game, habitat, and uses of these resources. It leaves such

160. ALASKA STAT. § 38.05.850(a) (2006).
161. *Id.*
162. ALASKA STAT. § 46.15.080 (a)(4) (2006).
163. ALASKA STAT. § 46.15.080(b)(1)–(8) (2006).
164. ALASKA STAT. § 46.17.010 (2006).

matters to other statutes such as the Fishway Act[165] and the Anadromous Fish Act,[166] both discussed below.

The Alaska Coastal Management Program ("ACMP")[167] applies to state agency decisions on a proposed project located in the coastal zone, as identified by state or district coastal management plans. Section 46.40.096 of the Alaska Statutes provides that agency decisions must be reviewed for "consistency" with statewide coastal zone standards adopted under section 46.40.040 of the Alaska Statutes and the enforceable policies in an applicable district coastal management plan. In 2003, then Governor Frank Murkowski issued Executive Order 106, which transferred the ACMP from the Office of the Governor to DNR.[168] Under DNR's administration of the ACMP, the districts amended their district coastal management plans to eliminate many prior district policies that sought to balance conservation and development.[169]

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165. Currently codified as ALASKA STAT. §§ 41.14.840–.860 (2006). On February 13, 2008, Alaska Governor Sara Palin issued Executive Order 114, which effectively reversed an earlier Executive Order, changing the statutory language and restoring the administration of the Fishway Act and the Anadromous Fish Act to ADF&G. Alaska Exec. Order No. 114 (Feb. 13, 2008); *see infra* note 168 and accompanying text. The legislature, pursuant to the Alaska constitution, has sixty days to disapprove the executive order. *See* ALASKA CONST. art. 3, § 23. If the legislature does not disapprove Executive Order 114, then, effective July 1, 2008, the statute will be codified pursuant to the Executive Order as ALASKA STAT. §§ 16.05.841–.861.

166. Currently codified as ALASKA STAT. §§ 41.14.870–.900 (2006). *See supra* note 165 for description of pending change in codification and statutory language. Effective July 1, 2008, the Anadromous Fish Act may be codified as ALASKA STAT. §§ 16.05.871–.901.

167. ALASKA STAT. §§ 46.40.010–.100 (2006).

168. ALASKA STAT. §§ 46.39.010–.040 (2006); *see also* Exec. Order No. 106 (Feb. 13, 2003), *available at* http://www.legis.state.ak.us/PDF/23/EO/exor0106.pdf.

169. For example, the polices of Lake and Peninsula Borough Coastal Management Plan ("LPB-CMP") in 1996 provided:

> C-12 Mining and Mineral Processing Waste Disposal
> Mining and mineral processing activities which dispose of potentially toxic tailings or discharge processing effluents which may contain toxic materials shall ensure that:
> 1) effluents are treated to remove materials toxic to human health, fish, or wildlife prior to discharge;
> 2) tailings are treated, stored and disposed in a manner which avoids any possibility of toxic runoff to surface waters or infiltration of toxic waters into the groundwater aquifer; and
> 3) if conditions 1) and 2) cannot be achieved and satisfactorily demonstrated, all potentially toxic tailings and process waters shall be contained in a zero-discharge disposal facility or impoundment.

Section 27.19.020 of the Alaska Statutes governs reclamation of mining sites. It states that "[a] mining operation shall be conducted in a manner that prevents *unnecessary and undue degradation* of land and water resources, and the mining operation shall be reclaimed *as contemporaneously as practicable* with the mining operation to leave the site in a *stable condition.*"[170] "Unnecessary and undue degradation" is defined in section 27.19.100(9) of the Alaska Statutes as "surface disturbance greater than would normally result when an activity is being accomplished by a prudent operator in usual, customary, and proficient operations of similar character and considering site specific conditions" and "includes the failure to initiate and complete reasonable reclamation."[171] This standard does not address fish and wildlife or public use of public land and is almost impossible to enforce because the terms "prudent operator," "usual, customary, and proficient," "similar," "considering site specific conditions," "failure to initiate," and "reasonable" are all open to wide interpretation and dispute.

Section 27.19.100(7) of the Alaska Statutes defines "stable condition" as "the rehabilitation, where feasible, of the physical environment of the site to a condition that allows for the reestablishment of renewable resources on the site within a reasonable period of time by natural processes."[172] Thus, reclamation to a "stable condition" is unenforceable in that it is qualified by "where feasible," which is an amorphous standard. It also does not address rehabilitation of the area to a condition approximating that which existed before the mining activity because the statute does not specifically define what constitutes "reestablishment of renewable resources." Thus, the statute allows the establishment of any renewable resources, as opposed to resources that were present before the mining activity. Similarly, reclamation "as contemporaneously as practicable" is

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LAKE AND PENINSULA BOROUGH COASTAL MANAGEMENT PLAN, ENFORCEABLE AND ADMINISTRATIVE POLICIES 16 (1996), *available at* http://www.alaskacoast.state.ak.us/Explore/EPSpdf/LakePen.pdf.

Then, under DNR's administration of the ACMP, the current Lake and Peninsula Borough Coastal Management Plan *deleted* the above policy that bears upon Pebble Mine. *See* LPB-CMP, Enforceable Policies (approved by DNR Oct. 29, 2007; federal approval pending as of Feb. 16, 2008). *See* ALASKA DEP'T OF NATURAL RES., FINAL COASTAL DISTRICT PLAN APPROVALS (2008), *available at* http://www.alaskacoast.state.ak.us/District/html/ProgressApproval.htm (last visited Mar. 30, 2008), http://alaskacoast.state.ak.us/District/FinalFinalPlans/LakePen/LPB%20policies.pdf (last visited Mar. 30, 2008).

170. ALASKA STAT. § 27.19.020 (2006) (emphases added).

171. ALASKA STAT. § 27.19.100(9) (2006).

172. ALASKA STAT. § 27.19.100(7).

open to differing interpretation and addresses the timing of restoration rather than fish or wildlife.

In addition to statutes implemented by DNR, ADF&G has some permitting authority over activities related to the proposed Pebble Mine.[173] This is because the mine and its associated facilities may trigger the Fishway Act[174] and the Anadromous Fish Act.[175]

The Fishway Act requires permits for activities that could obstruct fish passage, such as dams and culverts, in order to assure fish passage "if the commissioner considers it necessary."[176] ADF&G has discretion in determining what is "necessary," but the issue quickly gets complicated by technical matters, such as the proper design and placement of culverts to allow fish passage.[177]

The Anadromous Fish Act requires permits to assure "proper protection" for activities that use or pollute waters "specified" by the commissioner as "important" for anadromous fish such as salmon.[178] The "proper protection" standard and the discretion to determine which streams are "important" are vague, subjective, open to discretion, and lack statutory definition. Many anadromous waters remain to be identified. The state currently lists approximately 16,000 streams, rivers, and lakes in Alaska which have been specified as important for the spawning, rearing, and migration of anadromous fish.[179] Based upon thorough surveys of a few drainages, it is believed that this number represents less than fifty percent of the streams, rivers, and lakes actually used by anadromous

173. On February 13, 2008, Alaska Governor Sara Palin issued Executive Order 114, which effectively reversed former Governor Murkowski's Executive Order 107, and restored the administration of the Fishway Act and the Anadromous Fish Act to ADF&G. *See supra* notes 165, 166 and accompanying text.

174. Currently codified as ALASKA STAT. §§ 41.14.840–.860 (2006). *See supra* note 165 for description of pending change in codification and statutory language.

175. Currently codified as ALASKA STAT. §§ 41.14.870–.900 (2006). *See supra* notes 165, 166 for description of pending change in codification and staturory language.

176. ALASKA STAT. § 16.05.841 (2006) (codified as amended by Executive Order 114); *see* Alaska Exec. Order No. 114 (Feb. 13, 2008). *See supra* note 165 for description of pending change in codificiation and statutory language.

177. *See, e.g.*, Alaska Dep't of Fish & Game, Fish Passage Improvement Program, Fish Passage Inventory Projects, abstracts, http://www.sf.adfg.state.ak.us/SARR/Fishpassage/FP_inventory.cfm (last visited Mar. 30, 2008).

178. ALASKA STAT. § 16.05.871 (2006) (codified as amended by Executive Order 114); *see* Alaska Exec. Order No. 114 (Feb. 13, 2008). *See supra* note 166 for description of pending change in codificiation and statutory language.

179. Alaska Dep't of Fish & Game, Fish Distribution Database, http://www.sf.adfg.state.ak.us/SARR/FishDistrib/FDD_intro.cfm (last visited Mar. 30, 2008).

fish.[180] At least another 20,000 anadromous water bodies have not been identified or specified under the Act.[181]

Several conclusions seem inescapable. First, none of the statutes that are administered by DNR and that apply to permitting facilities related to Pebble Mine articulate clear standards for protecting fish and game, habitats, and public uses of them. Only the Water Use Act at section 46.15.080 of the Alaska Statutes mentions fish, game, and recreation (but not commercial or subsistence use).[182] The Act only requires DNR to "consider" fish, game, and recreation, rather than to protect them.[183] Furthermore, all of the applicable statutes, even the Fishway and Anadromous Fish Acts, administered by ADF&G, are subject to broad discretion.

Second, no statute requires DNR to approve the mine's plan of operation. Instead, the state process consists of a series of unrelated permits, most of which derive from statutes not tailored specifically to mining.

Third, none of the statutes specifically address modern, large scale mining, such as the Pebble Mine, that exploits massive, low-grade, ore deposits. Some of the statutes were enacted before the risks of contemporary mining of massive, low-grade, metallic sulfide ores posed to ecosystems were widely recognized.[184]

Fourth, although section 27.05.010 of the Alaska Statutes requires DNR to "coordinate" matters related to mining, no statute actually *creates* DNR's so-called "large mine permitting process." Instead, DNR's "large mine permitting process" is a *personnel action*, i.e., the selection of a staff person as a "project manager" who coordinates permit applications, agency reviews, and authorizations for large mines under pre-existing discretionary authority and vague statutes.[185]

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180. *Id.*
181. *Id.*
182. ALASKA STAT. § 46.15.080 (2006).
183. *See id.*
184. The statute that gave DNR authority over all mining activities was enacted in 1949, before Alaska was a state. *See* ALASKA STAT. § 27.05.010 (2006).
185. *See* OFFICE OF PROJECT MANAGEMENT AND PERMITTING, ALASKA DEP'T OF NATURAL RESOURCES, PERMITTING LARGE MINE PROJECTS IN ALASKA (2006), *available at* http://www.dnr.state.ak.us/mlw/mining/largemine/lmpt_process.pdf. A mining company proposing a large mine can opt to engage the process by entering into a "memorandum of agreement" with DNR, whereby the company reimburses DNR for personnel time and costs related to the permits. *Id.* at 6. This creates a potential conflict between DNR's duties to perform objective analysis and DNR's reliance on the industry to pay DNR staff to perform that analysis.

Other states have addressed the problems that arise from mining massive, low-grade deposits. Michigan and New Mexico, for example, require mines to show at the time they receive permits to operate that they will not require "perpetual care" after they close.[186] Wisconsin has imposed a moratorium on permits to mine metallic sulfides until the industry can show that a single mine in North America has operated for ten years without creating acid mine drainage and that a single mine has been closed for ten years without creating acid mine drainage.[187] To date, the industry does not appear to have been able to meet these statutory standards.[188]

V. PROPOSED LEGISLATION AIMS TO IMPROVE STATUTORY STANDARDS, BUT FURTHER TIGHTENING IS NEEDED

In response to the controversy surrounding Pebble Mine, two state legislators introduced legislation to create more stringent standards for permitting mines such as the Pebble Mine.

A. Proposed Legislation Would Establish a State Fish and Game Refuge in the Kvichak and Nushagak Drainages.

1. Proposed Legislation. Senator Gary Stevens (R-Kodiak), whose district includes the Kvichak drainage, introduced Senate Bill 67, which aims to permanently protect fish, wildlife, habitat, and public uses of these resources on state lands in the Kvichak and Nushagak drainages. Senate Bill 67 would designate about seven million acres of state lands and waters in these drainages as a fish and game refuge named after former governor Jay Hammond.[189]

186. *See* MICH. COMP. LAWS § 324.63209 (2006); N.M. STAT. § 69-36-12 (2007). These standards are an effort to avoid perpetual care because once a mine requires perpetual care, the taxpayers usually end up having to cover the costs.

187. WIS. STAT. § 293.50 (2006).

188. Telephone Interview with Philip Fauble, State Mining Coordinator, Wis. Dep't of Natural Res., in Madison, Wis. (Mar. 18, 2008).

189. S.B. 67, 2007 Leg., 25th Sess. (Alaska 2007), *available at* http://www.legis.state.ak.us/PDF/25/Bills/SB0067A.pdf. As introduced, Senate Bill 67 would be codified at section 16.20.045 of the Alaska Statutes by adding a new section to the Alaska Code. The refuge still may be revised to exclude land within the Nushagak drainage, which is concomitantly south of Wood-Tikchik Park and west of the Lake and Peninsula Borough, so as to allow potential land selections of a possible future borough in the Dillingham/Nushagak area from the excluded area. Section 29.65.030 of the Alaska Statutes entitles municipal governments to select ten percent of "vacant, unappropriated, unreserved land"

The central provisions of Senate Bill 67, as in any refuge legislation, are the purposes for which the refuge is established and the "compatibility test," which is a standard that allows uses of resources not within refuge purposes to proceed if compatible with refuge purposes.[190] Accordingly, Senate Bill 67 provides:

> (b) The Jay Hammond State Game Refuge is established to protect the
>
> 1. fish and wildlife habitat and populations, including the salmon and trout spawning and rearing habitat, and critical caribou, moose, and brown bear habitat;
> 2. public use of fish and wildlife and their habitat, particularly subsistence, commercial, and recreational fishing, hunting, trapping, viewing, and general public recreation in a high quality environment; and
> 3. use and disposition of other resources when the activities are not incompatible with (1) and (2) of this subsection.[191]

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within its boundary. Senate Bill 67 excludes Wood-Tikchik State Park and should be revised to exclude any state and federal lands in the Nushagak and Kvichak drainages that already are designated as parks or refuges.

190. Other refuge statutes contain compatibility tests. *See* ALASKA STAT. § 16.20.033(b)(3) (2006) (applying to the Yakataga State Game Refuge); ALASKA STAT. § 16.20.036(c) (2006) (applying to the Susitna Flats State Game Refuge); ALASKA STAT. § 16.20.037(b)(3) (2006) (applying to the Minto Flats State Game Refuge); ALASKA STAT. § 16.20.038(c) (2006) (applying to the Trading Bay State Game Refuge): ALASKA STAT. § 16.20.041(b)(3) (2006) (applying to the McNeil River State Game Refuge). *See also* 16 U.S.C. § 668dd(d) (2000) (applying to all national wildlife refuges). The compatibility test seeks to simultaneously protect fish, game, habitat, and uses of them, while protecting other uses, such as valid existing mining claims, so long as they are compatible with protecting fish, wildlife, habitats, and public uses of them. *Id.*

191. S.B. 67, 2007 Leg., 25th Sess. (Alaska 2007). Because of commercially harvested salmon, the proposed Jay Hammond refuge would probably produce more economic benefits from fish and wildlife than any national wildlife refuge in the United States. As explained in text, direct expenditures/sales in the Alaskan regional economy resulting from commercial, recreational, subsistence, and nonconsumptive use of fish and wildlife in the Bristol Bay drainages were estimated at approximately $324 million in 2005. *See* DUFFIELD ET AL., *supra* note 28, at 15. Although not all of this value is attributable to the Kvichak and Nushagak drainages, the Kvichak drainage is historically the most productive of sockeye salmon and therefore the most economically productive and the Nushagak is historically the most productive for other salmon. *See id.* at 15–16. In contrast, the total direct expenditures/sales in the regional economies from consumptive and nonconsumptive use of fish and wildlife in all 548 national wildlife refuges in the United States was estimated at almost $1.7 billion in 2006. *See* ERIN CARVER & JAMES CAUDILL, DIV. OF ECONOMICS, U.S. FISH & WILDLIFE SERVICE, BANKING ON NATURE 2006: THE ECONOMIC BENEFITS TO LOCAL COMMUNITIES OF NATIONAL WILDLIFE REFUGE

In late 2007, the Pebble Partnership issued a series of statements about its ability to develop the Pebble Mine in a manner that protects fish and wildlife and the public uses of these resources:

> "If a mine cannot be designed that protects the water, fisheries, and wildlife resources of Bristol Bay, it will not be built."[192]
>
> "Pebble will be . . . engineered to protect all things Alaskans value. Or it won't be built at all."[193]
>
> "Fish come first. We simply won't develop Pebble if it harms commercial, subsistence or sport fishing in this remarkable region."[194]
>
> "We simply will not develop a mine that damages Alaska's fish and wildlife."[195]
>
> "We will not be associated with the development of a mine that damages Alaska's Bristol Bay fishery and wildlife, or those in the communities whose livelihoods depend on those resources. If the mine cannot be developed in a way that provides proper protections, we will not build it."[196]
>
> "If the mine cannot be planned in a way that provides proper protections, it should not be built."[197]

VISITATION, ES-ii (2007), *available at* http://www.fws.gov/refuges/policyMakers/BankingOnNature.html.

192. The Pebble Partnership, Setting Each Piece in Place (quoting Cynthia Carroll, CEO, Anglo American). http://www.pebblepartnership.com/files/5%20Principles%20Mosaic.pdf.

193. The Pebble Partnership, Not Your Grandfather's Copper Mine, http://www.pebblepartnership.com/files/Pebble%204%20Science.pdf (last visited Mar. 30, 2008).

194. The Pebble Partnership, Fish Come First, http://www.pebblepartnership.com/files/Pebble%203%20Fish.pdf (last visited Mar. 30, 2008).

195. *Id.* (quoting Cynthia Carroll, CEO, Anglo American).

196. Cynthia Carroll, Editorial, *Pebble Partnership Promises Responsible Development*, ANCHORAGE DAILY NEWS, Dec. 1, 2007, *available at* http://dwb.adn.com/opinion/compass/story/9490777p-9401615c.html.

197. Speech by Cynthia Carroll, CEO, Anglo American plc, to Resource Development Council, in Anchorage, Alaska (Oct. 23, 2007), http://www.pebblepartnership.com/related_media/speech.pdf.

Although none of these statements addressed specific legislation, one could conclude from these statements that the Pebble Partnership may not oppose the refuge purposes and compatibility test of Senate Bill 67.

Senate Bill 67 would also close the refuge to new mining claims[198] and prohibit storage or disposal of industrial waste in the refuge.[199] Subject to the refuge purposes, closure to new mining claims, and prohibition of disposal of industrial waste, ADF&G and DNR would exercise their respective authorities over the refuge consistent with a management plan prepared by ADF&G in consultation with DNR.[200] A citizens' advisory committee, composed of representatives of subsistence users, state, municipal and tribal entities, tourism and recreation, mining and industry, and sport and commercial fishing, would assist ADF&G and DNR regarding management of the refuge.[201] Furthermore, refuge management plans are usually adopted into regulation.[202] Doing so provides an opportunity for pubic notice and comment under the Alaska Administrative Procedure Act.[203] Finally, ADF&G's overall policy statute, which requires ADF&G to "manage, protect, maintain, improve, and extend the fish, game and aquatic plant resources of the state in the interest of the economy and general well-being of the state," would apply.[204]

2. *The Legislature May Wish to Consider Several Revisions to the Refuge Bill.* First, because the Bristol Bay drainages are so valuable for fish and

198. Senate Bill 67 could be clarified to provide that the closure to new mining claims (mineral entry) is subject to valid existing rights, so as to accommodate concerns that the legislation would not otherwise protect valid existing rights. *See* S.B. 67, 2007 Leg., 25th Sess. (Alaska 2007).

199. Industrial waste is defined as:

> [A] liquid, gaseous, solid, or other waste substance or a combination of them resulting from process of industry, manufacturing trade or business, or from the development of natural resources; however, gravel, sand, mud, or earth taken from its original situs and put through sluice boxes, dredges, or other devices for the washing and recovery of the precious metal contained in them and redeposited in the same watershed from which it came is not industrial waste.

ALASKA STAT. § 46.03.900 (2006).

200. *See* S.B. 67, 2007 Leg., 25th Sess. (Alaska 2007). For example, DNR would continue to exercise authority to lease for oil and gas and permit dams for Pebble Mine and rights of way as long as such activities were compatible with refuge purposes.

201. *Id.*

202. ALASKA ADMIN. CODE tit. 5, §§ 95.500–.545 (2007).

203. ALASKA STAT. §§ 44.62.190-.290 (2006).

204. ALASKA STAT. § 16.05.020 (2006).

game production, the legislature should consider a "no perpetual care" standard to be used at the time of permitting a metallic sulfide mine. This could be similar to "no perpetual care" standards in Michigan and New Mexico mining statutes.[205] Such an amendment might read:

> *A mine for sulfide minerals or ores in the refuge shall be permitted only if the mining area and affected area, including all facilities, shall be reclaimed and remediated to achieve a naturally self-sustaining ecosystem appropriate for the area that does not require long-term or perpetual care, including treatment, and the areas shall be returned as expeditiously as possible to the ecological conditions that approximate pre-mining conditions.*

Imposing such a standard at the time of permitting would not foreclose requiring perpetual care after closure of the mine. The legislature also could require that any waste rock piles and tailings facilities be isolated hydrologically from surface and groundwater. As noted above, such hydrological isolation may be difficult due to the fracturing of rock that occurs in block caving.[206]

Second, with respect to mining metallic sulfides in the refuge, the legislature should consider adopting the "precautionary approach" of the Alaska Board of Fisheries. Such an approach is already used in its Policy for the Management of Sustainable Salmon Fisheries.[207] The precautionary

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205. *See* MICH. COMP. LAWS § 324.63209 (2006); N.M STAT. § 69-36-12 (2007).

206. *See supra* note 80.

207. ALASKA ADMIN. CODE tit. 5, § 39.222 (2007). The Policy for the Management of Sustainable Salmon Fisheries adopts the precautionary approach, at ALASKA ADMIN. CODE tit. 5, § 39.222(c)(5) (2007), which provides:

> (5) in the face of uncertainty, salmon stocks, fisheries, artificial propagation, and essential habitats shall be managed conservatively as follows:
>
> (A) a precautionary approach, involving the application of prudent foresight that takes into account the uncertainties in salmon fisheries and habitat management, the biological, social, cultural, and economic risks, and the need to take action with incomplete knowledge, should be applied to the regulation and control of harvest and other human-induced sources of salmon mortality; a precautionary approach requires
>
> (i) consideration of the needs of future generations and avoidance of potentially irreversible changes;
>
> (ii) prior identification of undesirable outcomes and of measures that will avoid undesirable outcomes or correct them promptly;
>
> (iii) initiation of any necessary corrective measure without delay and prompt achievement of the measure's purpose, on a time scale

approach requires an agency to be cautious—in effect to err on the side of conservation—when information is inadequate or still developing, as in the case of synergistic effects of copper, and the absence of adequate information is not a reason to fail to take conservation measures.

Third, the legislature could clarify that the compatibility test refers to the refuge purposes and is not a part of the purposes themselves.[208] Doing so would avoid confusion between the purposes of the refuge—protecting fish, wildlife, habitat and public uses of these resources—and other potential uses, such as development of pre-existing mining claims, which would be permitted only if compatible with the purposes of the refuge. Thus, the proposed subsection 16.20.045(b) of the Alaska Statutes should be amended to be two subsections, (b) and (c), as follows:

> *(b) The Jay Hammond State Game and Wild Salmon Protection Area is established to protect the*
> *1. fish and wildlife habitat and populations, including the salmon and trout spawning and rearing habitat, and critical caribou, moose, and brown bear habitat; and*
> *2. public use of fish and wildlife and their habitat, particularly subsistence, commercial, and recreational fishing, hunting, trapping, viewing, and general public recreation in a high quality environment.*
> *(c) The use and disposition of other resources may be permitted when the activities are not incompatible with subsections (b)(1) and (b)(2).*

Fourth, the legislature could amend the proposed section 16.20.045(d) of the Alaska Statutes in order to focus statutory prohibitions or restrictions on the environmental issues posed by development of pre-existing mining

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not exceeding five years, which is approximately the generation time of most salmon species;
(iv) that where the impact of resource use is uncertain, but likely presents a measurable risk to sustained yield, priority should be given to conserving the productive capacity of the resource;
(v) appropriate placement of the burden of proof, of adherence to the requirements of this subparagraph, on those plans or ongoing activities that pose a risk or hazard to salmon habitat or production;
(B) a precautionary approach should be applied to the regulation of activities that affect essential salmon habitat.

208. In most refuge statutes, the compatibility test is a separate subsection that refers to the refuge purposes. *See* ALASKA STAT. § 16.20.036(c) (2006) (applying to the Susitna Flats State Game Refuge); ALASKA STAT. § 16.20.038(c) (2006) (applying to the Trading Bay State Game Refuge); *see also* 16 U.S.C. § 668dd(d) (2000) (applying to all national wildlife refuges).

claims for metallic sulfide ore. By focusing in this manner, the refuge bill could address (1) sulfuric acid, acid mine drainage, toxic agents such as cyanide used in ore processing, and ammonia residues from explosives used in mining; (2) storage or disposal of industrial waste, waste rock, overburden, and tailings; and (3) withdrawal, appropriation, and diversion of surface or subsurface water. The following is suggested language that would prohibit acid mine drainage in the refuge:

> *No state agency shall issue a permit or authorization for activities that would have potential to create acid mine or acid rock drainage into surface or groundwater.*

Fifth, the legislature could implement the Kuipers-Maest procedural recommendations by requiring that permitting agencies (1) use *potential* impacts to water quality rather than *predicted* impacts to water quality when making permitting decisions,[209] (2) establish a minimum and relatively consistent set of geochemical tests to determine geochemistry and sulfide content of ore,[210] (3) impose stricter scrutiny of any potential metallic sulfide mine that is near water and has potential for acid drainage,[211] and (4) ensure hydrological conditions are adequately characterized based on conservative assumptions about water quality and quantity.[212]

Sixth, the legislature should provide longer opportunities for public comment on permits for metallic sulfide mining in the refuge. Except for the consistency findings under the Alaska Coastal Management Program and land disposals or leases under section 38.05.035(e) of the Alaska Statutes, the remainder of the state statutes implemented by DNR or ADF&G, and applicable to Pebble Mine, do not afford public notice and comment. Hence, DNR and ADF&G will depend on a federal EIS under NEPA[213] to provide notice and comment on state permits. This will occur by virtue of NEPA regulations, which require the EIS to be coordinated with state and local permits.[214] The result is that state and local permits will be adjudicated contemporaneously with federal permits. However, under NEPA regulations, the minimum comment period on a draft EIS is ninety days and on a final EIS only thirty days.[215] In the case of the Pebble Mine,

209. KUIPERS ET AL., *supra* note 137, at ES-15.
210. *Id.*; *see also* KUIPERS ET AL., METHODS AND MODELS, *supra* note 143.
211. KUIPERS ET AL., *supra* note 137, at ES-15.
212. *Id.*
213. 42 U.S.C. § 4321 (2000).
214. 40 C.F.R. § 1506.2 (2007).
215. 40 C.F.R. § 1506.10 (2007).

the EIS is likely to be so voluminous and complicated by issues of science, engineering, and law that it could defeat the ability of the public to comment effectively. The legislature would be wise to amend state law to give the public time to become educated about what is likely to be a very complex matter and to afford judicial review.[216] For example, the legislature could amend Senate Bill 67 to include the following:

> *Any permit, lease, compatibility determination, or authorization for facilities related to mining sulfide minerals or ores in the refuge shall be subject to a public notice and comment period of at least 180 days, after which the agency shall respond to comments in writing and with scientific or technical justification for the agency's position. Any person who participated in the public comment process may seek judicial review of the agency decision.*

Finally, the legislature should amend Senate Bill 67 to condition annual exploration permits, which generally are issued prior to applications that trigger the NEPA process, upon a duty to release and summarize environmental data as they are gathered by the Pebble Partnership. The partnership claims to have spent $55 million on environmental and socio-economic studies to assist it in developing a project plan to be submitted for governmental and public review.[217] However, no statute or regulation requires the Pebble Partnership to disclose these studies, the underlying data, protocols used to gather data, or assumptions made in designing the studies.[218] NEPA regulations provide that environmental information must

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216. The Alaska Administrative Procedure Act, *see* ALASKA STAT. § 44.62.330(a)(6) (2006), affords judicial appeal to review DNR's decisions under the Alaska Land Act, ALASKA STAT. § 38.05 *et seq.*, "where applicable." The Alaska Land Act, at § 38.05.035(l), provides for appeal to a superior court from a written finding by DNR that it is in the best interest of the state to sell, lease, or dispose of land under § 38.05.035(e)(6). However, § 38.05.035(e)(6)(A)–(H) lists eight exceptions to the requirement of a written best interest finding. These exceptions include approvals of: (1) revocable permits or authorizations; (2) mineral claims located under § 38.05.195; (3) mineral leases under § 38.05.205; (4) surface use leases (e.g., for mill sites, tailings disposal and other mine-related facilities) under § 38.05.255; and (5) permits, rights-of-way, or easements (e.g., for roads, ditches, pipelines, electric transmission lines) under § 38.05.850. Thus, a result of the exemptions in section 38.05.035(e)(6) is that many of DNR's decisions related to mining may not be subject to appeal to the courts under the Administrative Procedure Act because the decision will not depend on an approval based on a best interest finding.

217. The Pebble Partnership, Environment Overview, http://www.pebblepartnership.com/pages/environment/environment-overview.php (last visited Mar. 30, 2008).

218. For example, whenever NDM discloses the content of valuable metals in its ore (which presumably bolsters marketing the prospective mine to investors) but

be "high quality" and that "[a]ccurate scientific analysis, expert agency comments, and public scrutiny are essential."[219] Requiring disclosure to agencies and the public would help assure high quality information, improve public understanding of the issues, and facilitate more informed public scrutiny. The legislature also should require analysis of socio-economic impacts on public uses of natural resources—such as subsistence and recreational uses of fish and game—that occur substantially outside of conventionally quantifiable market transactions, such as commercial fishing.[220]

B. Proposed Legislation Would Regulate Use of State Waters in the Bristol Bay Drainages

1. Proposed Legislation. State Representative Bryce Edgmon (D-Dillingham), whose district includes the Nushagak drainage, introduced House Bill 134, which aims to provide additional protections for water used by salmon or for human consumption.[221] As introduced, House Bill 134 provided that, subject to exceptions for most current uses of water, a person may not "withdraw, obstruct, divert, inject, pollute, or pump" surface or ground water or "alter, destroy, displace, relocate, channel, dam, [or] convert to dry land" any water body in the Nushagak, Kvichak, Naknek, Egegik, and Ugashik river drainages—all of which flow to Bristol Bay.[222]

The House Special Committee on Fisheries revised the bill to focus on mining metallic sulfides. The committee substitute bill, CS House Bill 134, provided in part:

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does not disclose the sulfide content, then the public is put at a disadvantage for purposes of protecting public interests in fish. NDM, PEBBLE COPPER, *supra* note 1, at 4.

219. 40 C.F.R. § 1500.1 (2007).

220. *See* DUFFIELD ET AL., *supra* note 28, at 14 (providing an example of a natural resource economic study that quantifies socio-economic values for activities such as subsistence and recreation that occur substantially outside of market-transactions and the ordinary market economy).

221. H.B. 134, 2007 Leg., 25th Sess. (Alaska 2007), *available at* http://www.legis.state.ak.us/PDF/25/Bills/HB0134A.pdf. While Senate Bill 67 primarily seeks to protect fish, game, habitat, and public uses of these resources, and would be implemented by ADF&G and DNR, House Bill 134 would add a new section to the Alaska Code, section 16.10.015 of the Alaska Statutes, and would be implemented by the Alaska Department of Environmental Conservation (DEC).

222. *See* H.B. 134, 2007 Leg., 25th Sess. § 2 (Alaska 2007).

> Sec. 16.10.015. Protection of salmon streams within certain drainages affecting Bristol Bay. (a) Notwithstanding any other provision of law, a person may not withdraw, obstruct, divert, inject, pollute, or pump, either temporarily or permanently, any subsurface or surface water within the anadromous fish waters of the Bristol Bay watershed in connection with a sulfide mining operation.
> (b) Notwithstanding any other provision of law, a person may not alter, destroy, displace, relocate, channel, dam, convert to dry land, or otherwise adversely affect any portion of the anadromous fish waters of the Bristol Bay watershed in connection with a sulfide mining operation.
> (c) In addition to any other penalties, a person who violates (a) or (b) of this section, upon conviction, is punishable by a fine of not less than $100,000 a day or more than $1,000,000 a day. Each day on which a violation described in (a) or (b) of this section occurs constitutes a separate violation of (a) or (b) of this section.
> (d) In this section,
>
> (1) "anadromous fish waters of the Bristol Bay watershed" means the waters in the Bristol Bay watershed that are specified under [the Anadromous Fish Act] as being important for the spawning, rearing, or migration of anadromous fish;
>
> (2) "sulfide mining operation" means a mining operation for
>
> (A) antimony, arsenic, copper, iron, lead, mercury, molybdenum, nickel, palladium, platinum, silver, or zinc; or
>
> (B) gold associated with any of the minerals listed in (A) of this paragraph.[223]

This revision of House Bill 134 clarified that it applied solely to metallic sulfide mining operations and did not ensnare individuals engaged in relatively harmless activities. Nonetheless, to achieve its goal of protecting the Bristol Bay watershed, the legislature could further revise the legislation.

2. *Legislature Could Further Revise the Legislation.* First, the legislature should define "pollution" in a bill such as CS House Bill 134. It does not do so. Thus, to adjudicate any challenge brought in the absence of a definition,

223. Comm. Substitute for H.B. 134, 2007 Leg., 25th Sess. § 2 (Feb. 2008), *available at* http://www.legis.state.ak.us/PDF/25/Bills/HB0134B.pdf.

a court would be forced to rely on the definition of "pollution" found in section 46.03.900(20) of the Alaska Statutes. It reads as follows:

> "[P]ollution" means the contamination or altering of waters, land, or subsurface land of the state in a manner which creates a nuisance or makes waters, land, or subsurface land unclean, or noxious, or impure, or unfit so that they are actually or potentially harmful or detrimental or injurious to public health, safety, or welfare, to domestic, commercial, industrial, or recreational use, or to livestock, wild animals, bird, fish, or other aquatic life[.][224]

In defining "pollution," the bill should address issues such as acid mine drainage, toxic effects of copper at levels below state standards, synergistic effects, use of toxic agents such as cyanide, and ammonia residues, all of which may be toxic to salmon and other organisms. The bill should also address the storage or disposal of industrial waste, waste rock, overburden, and tailings, all of which can impair water quality.

Second, the legislature could rely on a *combination* of standards and restrictions or prohibitions in House Bill 134, as Senate Bill 67 does. House Bill 134 relies on prohibitions, instead of standards by which to measure a proposed activity. Relying solely on prohibitions to protect the Bristol Bay watershed from mine pollution requires the legislature to foresee *every* potential activity associated with the Pebble Mine that could harm fish populations. In contrast, Senate Bill 67 focuses first on standards—i.e., the purposes of the refuge and a compatibility test by which to evaluate *any* proposed action, foreseeable or not, that is not within refuge purposes—and then addresses prohibitions. Relying on a combination of standards and prohibitions or restrictions helps the legislature draft legislation capable of addressing unforeseeable issues.

Third, in the proposed section 16.10.015(a) of the Alaska Statutes, the legislature should clarify what it means by "any subsurface or surface water within the anadromous fish waters." The language is unclear whether it intends to protect any subsurface water from pollution and other activities related to metallic sulfide mining or only subsurface water that feeds anadromous surface water.

Fourth, instead of defining anadromous waters by reference to the Anadromous Fish Act, which dates to 1959, the legislature may wish to

224. ALASKA STAT. § 46.03.900(2) (2006).

model its definition on a more modern statute. For example, the Alaska Forest Practices Act provides:

> (1) "anadromous water body" means the portion of a fresh water body or estuarine area that
>
> (A) is cataloged under [the Anadromous Fish Act] as important for anadromous fish; or
>
> (B) is not cataloged under [the Anadromous Fish Act] as important for anadromous fish but has been determined [by ADF&G] to contain or exhibit evidence of anadromous fish in which event the anadromous portion of the stream or waterway extends up to the first point of physical blockage.[225]

The legislature could also amend House Bill 134 by incorporating the suggestions made above with respect to Senate Bill 67. The legislature could add to House Bill 134 the "no perpetual care" and "precautionary approach" standards to be used at permitting, add a more protective post-closure reclamation and restoration standard, improve public notice and opportunities for comment and public involvement, require the permitting agencies to respond to public comments, allow for judicial review, place conditions on exploration permits that require the mining company to release all scientific data when gathered, and otherwise improve regulation and permitting of metallic sulfide mines as suggested above.

Finally, the best approach to producing final legislation that protects the Bristol Bay drainages may be for the legislature to combine Senate Bill 67 and House Bill 134 and then select the most appropriate combination of standards, procedures, prohibitions and restrictions pertaining to metallic sulfide mining. Doing so would allow the legislature, the public, and the agencies to speak to both approaches and all matters at once.[226]

VI. THE PROPOSED LEGISLATION WOULD NOT CONSTITUTE A TAKING

The Takings Clause of the Fifth Amendment to the United States Constitution, made applicable to the states through the Fourteenth

225. ALASKA STAT. § 41.17.950(1) (2006).

226. No discussion of elevated standards is complete without recognizing that the importance of fish and game to Alaskans prompted Alaska's lawmakers to criminalize most violations of Title 16 of the Alaska Statutes. *See, e.g.*, ALASKA STAT. § 16.05.925(a) (2006). Nearly all violations of Title 38 (DNR statutes) are civil violations. ALASKA STAT. §§ 38.05.005–.95.300 (2006).

Amendment,[227] provides that private property shall not "be taken for public use, without just compensation."[228] The Takings Clause "does not prohibit the taking of private property, but instead places a condition on the exercise of that power."[229] In other words, it "is designed not to limit the governmental interference with property rights *per se*, but rather to secure *compensation* in the event of otherwise proper interference amounting to a taking."[230] Similarly, Article I, section 18 of the Alaska Constitution provides: "[p]rivate property shall not be taken or damaged for public use without just compensation."[231]

Proponents of Pebble Mine have asserted that, if House Bill 134 becomes law and stops the Pebble Mine project, it will constitute a taking of NDM's mining claims and require the State to compensate NDM.[232] The Legal Services Division of the Alaska Legislature advised Representative Edgmon that if, after a holder of a mining claim has acquired rights, the law is changed in such a way that "no longer allows [the holder of a mining claim] to use its land for the intended profit-making purpose, then it seems likely a taking has occurred."[233]

In analyzing whether a governmental action constitutes a taking, "the logically antecedent inquiry [is] into the nature of the owner's estate" and to ascertain whether the proscribed use interests were part of his title.[234] Thus, the threshold inquiry in this case must be into the nature of the property rights that a mining claimant holds on state-owned public land.

Mining claims are a "unique form of property." [235] Unlike ordinary private property, the government is the owner of the underlying fee title to

227. *See* Chicago, B. & Q. R. Co. v. City of Chicago, 166 U.S. 226, 233–34 (1897).

228. *See* U.S. CONST. amend. V.

229. Lingle v. Chevron U.S.A., Inc., 544 U.S. 528, 536 (2005) (citing First English Evangelical Lutheran Church of Glendale v. County of Los Angeles, 482 U.S. 304 (1987)).

230. *First English Evangelical Lutheran Church*, 482 U.S. at 315.

231. ALASKA CONST. art. I, § 18.

232. *See, e.g., Hearing on H.B. 134 Before Alaska H. Fisheries Comm.*, 2007 Leg., 25th Sess. (Alaska 2007) (statement of Gail Phillips, Truth About Pebble), *available at* http://www.legis.state.ak.us/basis/get_minutes_comm.asp?hse=H&session=25&comm=FSH&date=20070305&time=0842. Phillips previously served as speaker of the Alaska House of Representatives. *Id.*

233. Memorandum from Brian J. Kane, Legislative Counsel, Legal Services Division of Legal and Legislative Research, Legislative Affairs Agency, State of Alaska, to Rep. Bryce Edgmon (Feb. 12, 2008) (on file with author).

234. Lucas v. S.C. Coastal Council, 505 U.S. 1003, 1027 (1992).

235. Best v. Humboldt Placer Mining Co., 371 U.S. 334, 335–36 (1963) (stating that a mining claim is a "possessory interest" that is "mineral in character" within the limits of the claim). Unless otherwise provided, the uses and interpretations of

the public domain.[236] As the owner, the government maintains broad powers over the terms and conditions upon which the public lands can be used, leased, and acquired.[237] Alaska law contains no provision for patenting a mining claim, which would convey fee-simple title.[238]

In Alaska, a "prior right" to mineral deposits on state land open to claim staking may be acquired by discovery, location, and recording.[239] The claimant has an "exclusive" right to possess and extract minerals within the boundaries of the claim.[240]

The holder of a state mining claim, however, has "no right to mine" because that right is always contingent on state permission.[241] In other words, a mining claim does not constitute an absolute right to mine; it vests in the claimant a right to exclude others who wish to mine the same minerals within the boundaries of the mining claims.[242]

For a mining claim to be valid, the discovery must ultimately pass the "marketability test."[243] This test requires the claimant to show that the minerals can be extracted at a profit.[244]

A. Legal Standards Governing Takings Analysis

In examining whether a government intrusion on private property rights constitutes a taking, several factors have particular significance. The

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federal mining law as supplemented by state law apply to sections 38.05.185–.275 of the Alaska Statutes. ALASKA STAT. § 38.05.185(c) (2006).

236. United States v. Locke, 471 U.S. 84, 104 (1985) (citing, e.g., Kleppe v. New Mexico, 426 U.S. 529, 539 (1976)).

237. *Locke*, 471 U.S. at 104.

238. *See* ALASKA STAT. §§ 38.05.185 *et seq.* (2006).

239. "Prior discovery, location, and filing, as prescribed by law, shall establish a prior right to these minerals and also a prior right to permits, leases, and transferable licenses for their extraction." ALASKA CONST. art. VIII, § 11.

240. ALASKA STAT. § 38.05.195(a). In order to maintain the claim, a claimant must comply with requirements for annual labor, pursuant to section 38.05.210 of the Alaska Statutes; annual rental, pursuant to section 38.05.211 of the Alaska Statutes; and production royalties, pursuant to section 38.05.212 of the Alaska Statutes. ALASKA STAT. § 38.05.185(a).

241. Beluga Mining Co. v. Dep't of Natural Res., 973 P.2d 570, 575–76 (Alaska 1999).

242. The right to exclude other subsequent mining claimants, however, is not a right to exclude the public at large. *See* ALASKA STAT. § 38.05.255 (2006) (providing that a holder of a mining claim has limited use of surface land and waters within the boundaries of the claim, subject to reasonable concurrent uses by the ordinary public).

243. United States v. Coleman, 390 U.S. 599, 602–03 (1968).

244. *Id.*

economic impact of the regulation on the claimant and, particularly, on the extent to which the regulation has interfered with distinct investment-backed expectations are two primary factors.[245] Also relevant is the character of the governmental action, i.e., whether it amounts to a physical invasion or merely affects property interests "through some public program adjusting the benefits and burdens of economic life to promote the common good."[246] These three factors all aim to identify regulatory actions that are functionally equivalent to a direct appropriation or ouster from private property in that each focuses on the severity of the burden that the government imposes on property rights.[247]

B. House Bill 134 and Senate Bill 67 Would Not Constitute Takings

In assessing the character of the government action, a court may more readily find a "taking" when the interference with property can be characterized as a physical invasion by government than when interference arises from some public program adjusting the benefits and burdens of economic life to promote the common good.[248] Under Alaska law, this inquiry also examines the legitimacy of the interest advanced by the regulation or land-use decision.[249]

The legislature may enact legislation that is designed to protect activities and industries it deems important, even if it thereby restricts other types of industries, without having to compensate the industry that suffers a loss as a result of the legislature's action.[250] In a wide variety of

245. Penn Cent. Transp. Co. v. City of New York, 438 U.S. 104, 124 (1978).

246. *Id.* Prior to *Pennsylvania Coal Co. v. Mahon*, 260 U.S. 393 (1922), it was generally thought that the Takings Clause reached only a "direct appropriation" of property or the functional equivalent of a "practical ouster of [the owner's] possession." Lucas v. S.C. Coastal Council, 505 U.S. 1003, 1014 (1992) (citations omitted). *Mahon* established the oft-cited maxim that, "while property may be regulated to a certain extent, if regulation goes too far it will be recognized as a taking." *Id.* (citing *Mahon*, 260 U.S. at 415).

247. Lingle v. Chevron U.S.A., Inc., 544 U.S. 528, 539 (2005).

248. *Penn Cent.*, 438 U.S. at 124.

249. Beluga Mining Co. v. Dep't of Natural Res., 973 P.2d 570, 575 (Alaska 1999). The Supreme Court of the United States rejected this prong of the analysis, stating that it "prescribes an inquiry in the nature of a due process, not a takings test, and that it has no proper place in . . . takings jurisprudence." *Lingle*, 544 U.S. at 540.

250. Miller v. Schoene, 276 U.S. 272, 279 (1928) (finding no taking where state required destruction of one owner's rust-infected cedar trees with the intent to prevent destruction of apple orchards because "the state does not exceed its constitutional powers by deciding upon the destruction of one class of property in order to save another, which, in the judgment of the legislature, is of greater value to the public").

contexts, the government may execute laws or programs that adversely affect recognized economic values.[251] "Even with respect to vested property rights, a legislature generally has the power to impose new regulatory constraints on the way in which those rights are used, or to condition their continued retention on performance of certain affirmative duties."[252] This power includes the enactment of new land designations encompassing existing mining claims.[253]

In enacting more stringent environmental regulations or establishing a refuge in the Bristol Bay drainages, the legislature would simply be adjusting the benefits and burdens of economic life to promote the common good.[254] In Alaska, the common good includes protecting the public interest in the conservation of fish, wildlife, and habitat; the protection of commercial, sport and subsistence fishing, and hunting; and other public uses "in a high quality environment."[255]

The Bristol Bay drainages support multi-million dollar commercial, sport, and subsistence fisheries. Thus, if the legislature restricts mining in the Bristol Bay drainages in an effort to protect the fisheries, it would not have to compensate the affected mining claimants if, in the judgment of the legislature, the fisheries are of greater value to the public.[256]

The legitimacy of the state interests advanced by House Bill 134 and Senate Bill 67 is supported by Article VIII of the Alaska Constitution. Article VIII: (1) requires the legislature to provide for the conservation of natural resources for the maximum benefit of the people;[257] (2) reserves fish, wildlife, and waters to the people for common use;[258] (3) provides that fish, forests, wildlife, grasslands, and all other replenishable resources are to be maintained on a sustained yield basis;[259] and (4) requires the

251. *Penn Cent.*, 438 U.S. at 124.

252. Reeves v. United States, 54 Fed. Cl. 652, 672 (2002) (quoting United States v. Locke, 471 U.S. 84, 104 (1985)).

253. *See id.* at 672.

254. *See Penn Cent.*, 438 U.S. at 124.

255. *See, e.g.*, ALASKA STAT. §§ 16.20.033(b)(1)–(2) (2006) (stating that purposes of the Yakataga State Game Refuge include protecting fish and wildlife habitat, populations, and public use).

256. *See, e.g.*, Miller v. Schoene, 276 U.S. 272, 279 (1928).

257. ALASKA CONST. art. VIII, § 2 ("The legislature shall provide for the utilization, development and conservation of all natural resources belonging to the State, including land and waters, for the maximum benefit of its people.").

258. ALASKA CONST. art. VIII, § 3 ("Whenever occurring in their natural state, fish, wildlife, and waters are reserved to the people for common use.").

259. ALASKA CONST. art. VIII, § 4 ("Fish, forests, wildlife, grasslands, and all other replenishable resources are to be utilized, developed and maintained on the sustained yield principle, subject to preferences among beneficial uses.").

legislature to provide for the administration of public lands.[260] The progeny of these constitutional authorities includes: statutes that regulate mining, such as Title 27 and sections 38.05.185–.275 of the Alaska Statutes; set aside land as refuges under sections 16.20.010–.080 of the Alaska Statutes; and the other statutes discussed herein.

The second prong of the takings analysis is the economic impact of the regulation or legislation. This test is essentially an ad hoc, factual inquiry into the circumstances of a particular case.[261]

Here, the economic losses may include the expenditures by NDM and its partners to maintain their claims so as to pass the marketability test. These losses may range from the annual rental, pursuant to section 38.05.211 of the Alaska Statutes, to the total investments by NDM and its partners in maintaining their claims prior to the passage of the legislation.[262] Any compensable economic losses would not include a right to mine, the value of the mined metals, or lost profits because a state mining claim does not bestow on its possessor a right to mine.[263] In any event, "mere diminution in the value of property, however serious, is insufficient to demonstrate a taking."[264]

The last prong of a takings analysis requires an examination of whether further regulation, such as the regulations specified in House Bill 134, or the refuge compatibility test inherent in Senate Bill 67, were part of the

260. ALASKA CONST. art. VIII, § 6 ("Lands and interests therein, including submerged and tidal lands, possessed or acquired by the State, and not used or intended exclusively for governmental purposes, constitute the state public domain. The legislature shall provide for the selection of lands granted to the State by the United States, and for the administration of the state public domain.").

261. *See, e.g.*, Kaiser Aetna v. United States, 444 U.S. 164, 175 (1979).

262. NDM claims to have invested $180 million since 2002 in exploring the mineral potential of the Pebble project. NDM, IMPORTANT NEW MINERAL DEPOSIT, *supra* note 1.

263. *See* Beluga Mining Co. v. Dep't of Natural Res., 973 P.2d 570, 575 (Alaska 1999) (stating that mining claim provides no right to mine). As a legal matter, the Supreme Court of the United States has emphasized that "[t]he loss of future profits . . . provides a slender reed upon which to rest a takings claim." Andrus v. Allard, 444 U.S. 51, 66 (1979). "Prediction of profitability is essentially a matter of reasoned speculation that courts are not especially competent to perform." *Id.* "Further, perhaps because of its very uncertainty, the interest in anticipated gains has traditionally been viewed as less compelling than other property-related interests." *Id.* This is especially true regarding the speculative profits of modern mining concerns that routinely vary their production levels, or even cease operations temporarily, in response to changes in market conditions and technology.

264. Concrete Pipe & Prods. of Cal., Inc. v. Constr. Laborers Pension Trust for S. Cal., 508 U.S. 602, 645 (1993).

investment-backed expectations of the property owner. The investment-backed expectations of a mining enterprise include the possibility of government regulation, and revisions to those regulations, because mining is always contingent on state permission.[265] Many takings challenges have failed on the ground that, while the government action caused economic harm, it did not interfere with interests that were sufficiently bound up with the reasonable expectations of the claimant to constitute "property" for Fifth Amendment purposes.[266]

Where an entity that is already subject to government regulation claims that further regulation constitutes a taking, a court is likely to reject the claim on the grounds that further regulation was part of the company's investment-backed expectations.[267] After all, "[g]overnment hardly could go on if to some extent values incident to property could not be diminished without paying for every such change in the general law."[268]

NDM and its partners invested in the Pebble Mine with the expectation that their mining activities would be regulated by, *inter alia*, DNR permitting statutes, the Anadromous Fish Act, the Fishway Act, and the

265. *See Beluga Mining Co.*, 973 P.2d at 575–76. On federal public lands, for example, any right in a mining claim is contingent upon compliance with applicable environmental and other regulatory requirements. 30 U.S.C. § 22 (2006) (stating that staking and patent of mineral claims on federal land must comply with all federal regulations). *See, e.g.*, Reeves v. United States, 54 Fed. Cl. 652, 672–73 (2002) (finding no taking where miners holding unpatented mining claims on federal land designated as wilderness study area were forced to comply with non-impairment standard); Clouser v. Espy, 42 F.3d 1522, 1529–30 (9th Cir. 1994) (mining operations must comply with Forest Service regulations to protect forest resources).

266. Penn Cent. Transp. Co. v. City of New York, 438 U.S. 104, 125–26 (1978) (citations omitted).

267. *Concrete Pipe & Prods.*, 508 U.S. at 645 (citation omitted). *See also* Usery v. Turner Elkhorn Mining Co., 428 U.S. 1, 16 (1976) (stating that legislation readjusting rights and burdens is not unlawful solely because it upsets otherwise settled expectations).

268. Pennsylvania Coal Co. v. Mahon, 260 U.S. 393, 413 (1922). Zoning laws are the classic example. *See* Gorieb v. Fox, 274 U.S. 603, 608 (1927) (providing requirement that portions of parcels be left un-built); Euclid v. Ambler Realty Co., 272 U.S. 365 (1926) (providing a prohibition of industrial use); Welch v. Swasey, 214 U.S. 91 (1909) (providing height restrictions). The Court has viewed these and other regulations as permissible governmental action even when they prohibited the most beneficial use of the property. *See Penn Cent.*, 438 U.S. at 125. Takings challenges have also been held to be without merit in a wide variety of situations where the challenged governmental actions "prohibited a beneficial use to which individual parcels had previously been devoted and thus caused substantial individualized harm." *Id.* at 125–26 (citing Miller v. Schoene, 276 U.S. 272 (1928)).

federal Clean Water Act.[269] The Kvichak and Nushagak drainages are historically important to commercial, subsistence, and recreational fishing. Hence, a developer of a massive, sulfide mineral deposit in these drainages should reasonably expect the possibility that the legislature would implement stricter statutory standards to protect these fisheries. A mine developer also would expect procedural reforms, such as adoption of a "precautionary approach" in legislation, or other suggestions discussed herein, that would refine the mine permitting process to further protect the Bristol Bay drainages and the valuable fisheries they support.[270]

In a mining venture, a reasonable investment-backed expectation would be that permission to mine might not be granted.[271] Where government approval is required but not assured for a project, any investment in that project is akin to a business gamble.[272] "A mere unilateral expectation or an abstract need" is not a property interest entitled to protection.[273]

By the time Anglo American entered into its partnership with Northern Dynasty, legislators had already introduced Senate Bill 67 and House Bill 134.[274] That the state might establish a refuge, or further protect water, must have been within the investment-backed expectations of the Pebble Partnership. Those who do business in a regulated field cannot object if the legislative scheme is buttressed by subsequent legislation or regulation.[275]

---

269. *See* Clean Water Act, § 402(b), 33 U.S.C. § 1342(b) (2000) (providing for the National Pollutant Discharge Elimination System); *see also* Clean Water Act § 404, 33 U.S.C. 1344 (2000) (providing for wetland dredge and fill program).

270. *See* United States v. Locke, 471 U.S. 84, 107–08 (1985) (stating that newly enacted requirements mandating that the claimants timely register prior mining claims and forfeit their claims upon failure to comply do not "take" the claims of those who fail to comply).

271. Beluga Mining Co. v. Dep't of Natural Res., 973 P.2d 570, 575–76 (Alaska 1999).

272. Anchorage v. Sandberg, 861 P.2d 554, 560 (Alaska 1993) (finding that developer who purchased land and planned housing development did not have reasonable expectations that the city government would fund access road, water, and sewer).

273. Webb's Fabulous Pharmacies, Inc. v. Beckwith, 449 U.S. 155, 161 (1980) (citing, e.g., *Penn Cent.*, 438 U.S. at 122); Dep't of Natural Res. v. Arctic Slope Regional Corp., 834 P.2d 134, 140 (Alaska 1991) (quoting Ruckelshaus v. Monsanto Co., 467 U.S. 986, 1005 (1984)).

274. *See* Advance Pebble Project to Production, *supra* note 2; S.B. 67, 2007 Leg., 25th Sess. (Alaska 2007); H.B. 134, 2007 Leg., 25th Sess. (Alaska 2007). Mitsubishi also bought into NDM after Senate Bill 67 and House Bill 134 were introduced. *See supra* note 1.

275. Concrete Pipe & Prods. of Cal., Inc. v. Const. Laborers Pension Trust for S. Calif., 508 U.S. 602, 645 (1993).

NDM and its partners claim they have invested large sums in the Pebble mine.[276] If these investors invested in the Pebble Mine with the expectation that the state would approve their plans to develop the mine, their economic losses would have been based on a "mere unilateral expectation" and would not be property interests entitled to constitutional protection.[277] In other words, these investments would have been a business gamble.[278]

Because the reasonable, investment-backed expectations of NDM and its partners were that the Pebble Mine might be subject to further regulation, NDM and its partners have no constitutionally protected interest for which they must be compensated should House Bill 134 or Senate Bill 67 be enacted into law.

VII. CONCLUSION

Heightened regulation is necessary to protect the Bristol Bay drainages and the valuable commercial, subsistence, and recreational fisheries from the risks posed by the Pebble Mine. House Bill 134 and Senate Bill 67 attempt to provide that protection, but such legislation must survive takings challenges by the mine proponents. Nonetheless, government regulation was part of the investment-backed expectations of Northern Dynasty Minerals and its partners. From the start, they had no right to mine these claims, which are on state land, because that "right" was always contingent on the state granting them permission to mine. Thus, if the Alaska Legislature enacts legislation to impose new regulatory constraints on metallic sulfide mining in the Bristol Bay drainages, its actions would not constitute a taking of property for which the state would be required to compensate the owners of the Pebble Mine claims.

276. NDM claims to have invested $180 million since 2002 in exploring the mineral potential of the Pebble project. NDM, IMPORTANT NEW MINERAL DEPOSIT, *supra* note 1.

277. *See Webb's Fabulous Pharmacies, Inc,*, 449 U.S. at 161; *see also* NDM, IMPORTANT NEW MINERAL DEPOSIT, *supra* note 1.

278. *See* Anchorage v. Sandberg, 861 P.2d 554, 560 (Alaska 1993).

3/11/09 OVERVIEW: ALASKA'S OIL & GAS FISCAL DESIGN

ALASKA STATE LEGISLATURE

Senate Resources Committee

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AGENDA

Monday, March 11, 2009

Overview: Alaska's Oil and Gas Fiscal Design

Pat Galvin, Commissioner of Revenue

Rich Ruggiero, Gaffney, Cline & Associates, Inc., Administration consultants

Gas Production Tax Overview

March 11, 2009

Alaska Department of Revenue

Purpose of Overview

- Demonstrate Legitimacy of Existing Gas Fiscal System
  - Is Well Crafted to Protect State Revenues, Incentivize North Slope Gas Commercialization, and Provide Stability for the State and all Gas Producers
- Establish a Framework for Continuing Discussion of Gas Fiscal System
  - Moving toward Open Season(s), Administration and Legislature must continue discussions on appropriateness of gas fiscal system

- Rich Ruggiero Presentation

Gas Production Tax Summary

- As Evidenced by Analysis for both ACES and AGIA, Existing Gas Fiscal System is Reasonable and Appropriate
  - Protects State Revenues before and after North Slope Gas Commercialization
  - Provides Strong Incentives to North Slope Gas Producers to Commercialize North Slope Gas
  - Results in Strong Economic Returns for Gas Pipeline Participants
- Before the State Considers Changes to the Fiscal System, it is Incumbent on Producers to Demonstrate Why Changes are Needed to the Existing Fiscal System

ACES, Progressivity and Natural Gas Development

Senate Resources Committee

11 March 2009

Goals for Fiscal Design from the ACES Special Session Nov 2007

- **Based on comments during the ACES special session GCA saw the State trying to achieve the following:**
  1. Fields with larger **profitability** should be paying **more** taxes
  2. Encourage investment in existing units
     - Reinvestment in producing assets
     - Investment in new developments
       - ❖ Conventional
       - ❖ Unconventional (i.e. heavy oil)
       - ❖ **Gas**

  3. Encourage new investment outside legacy units
     - Level playing field for incumbents and new entrants
  4. Durability
     - Don't want to be back 'fixing' things
  5. Build on prior tax dialogue

ACES Tutorial - Oil

- **ACES is a production tax on producer cash flow**
  - Market Price (e.g. ANS WC)
    - Less Transportation (TAPS & Shipping)
  - Unit value
    - Less Royalty
    - Less Operating Expense
    - Less Capital Expense
  - Producer Cash Flow
    - Less production tax (ACES)
    - Less income tax (State and Federal)
  - Producer Profit

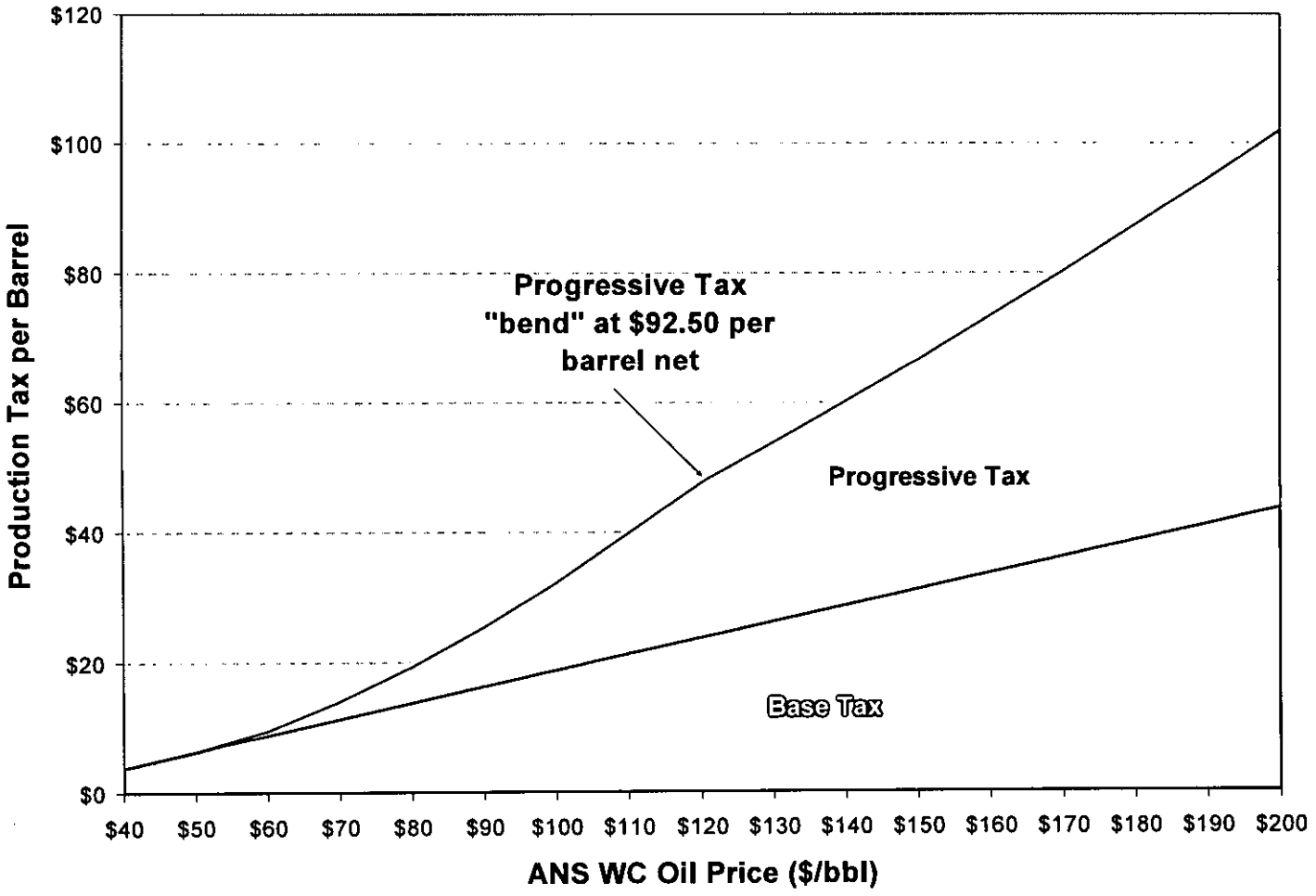
ACES Tutorial - Gas

- **ACES is a production tax on producer cash flow**
  - Market Price ***(e.g. AECO Hub or US City Gate)***
    - Less Transportation ***(Processing & Pipelines)***
  - Unit value
    - Less Royalty
    - Less Operating Expense
    - Less Capital Expense
  - Producer Cash Flow
    - Less production tax (ACES)
    - Less income tax (State and Federal)
  - Producer Profit

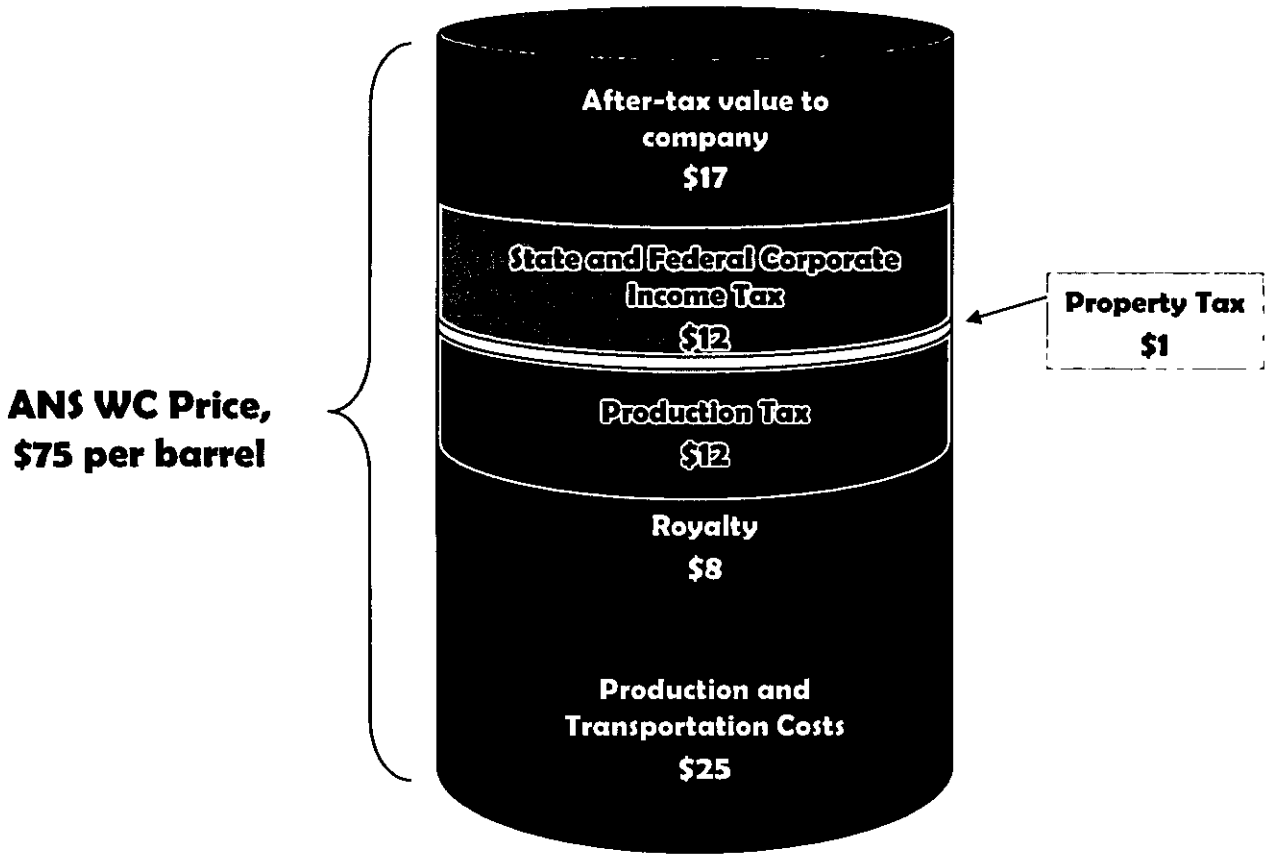
ACES Tutorial – Tax Rate

- **Producer Cash Flow**
  - Base Rate
    - For Cash Flow > $0/bbl, base rate is 25%
  - 1st Progressivity
    - For Cash Flow > $30/bbl but < $92.5/bbl the progressivity tax is 0.4% for every $1/bbl above $30/bbl
    - At $92.5/bbl total production tax is 50%
  - 2nd Progressivity
    - For Cash Flow > $92.5/bbl the progressivity tax is 0.1% for every $1/bbl above $92.5/bbl

ACES Production Tax

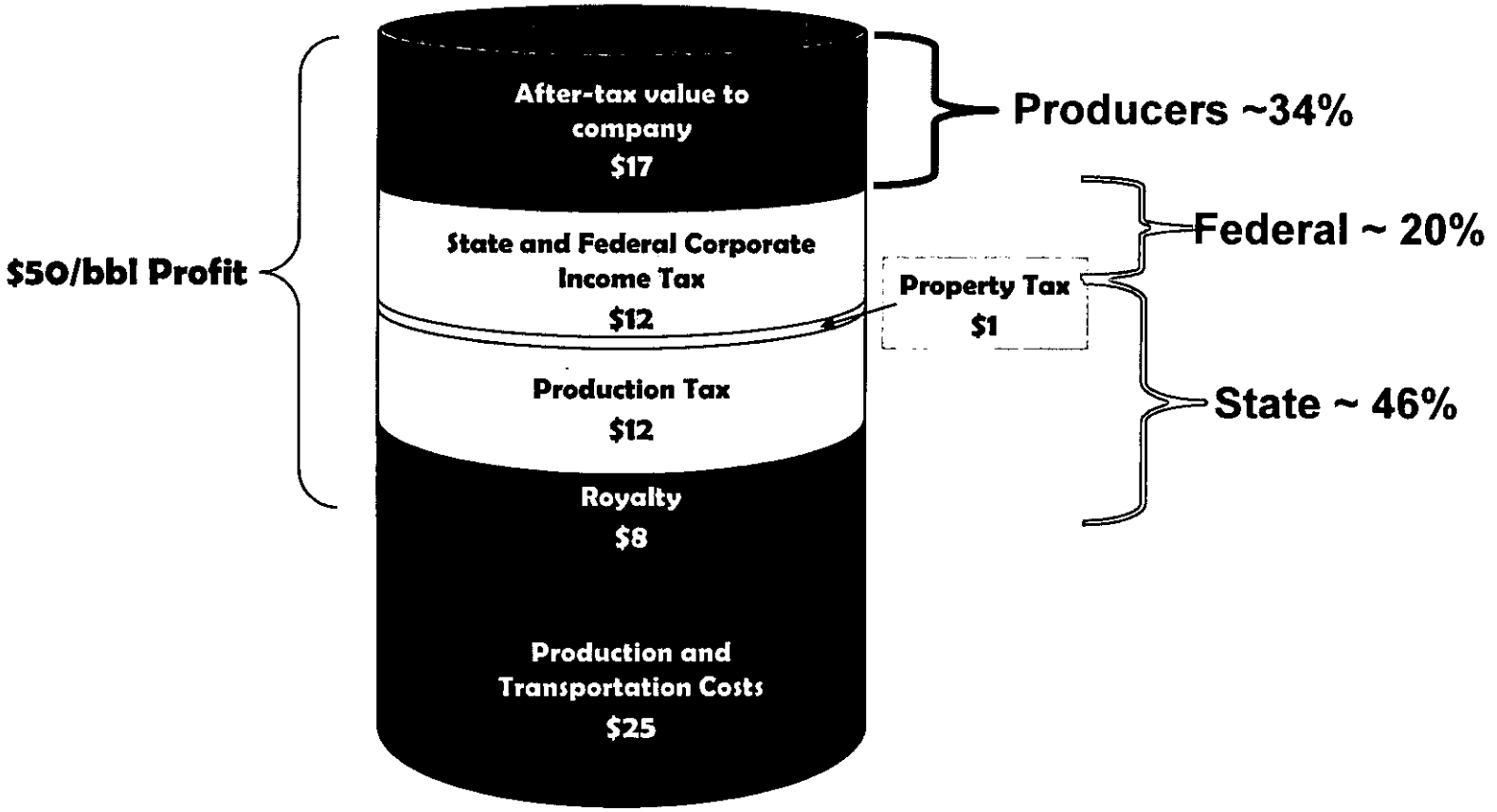


How a $75 Barrel of Alaska North Slope Oil is Allocated*



*This graphic assumes average transportation and production costs and royalty and tax rates, and is not intended to represent the allocation of every barrel produced on the North Slope.

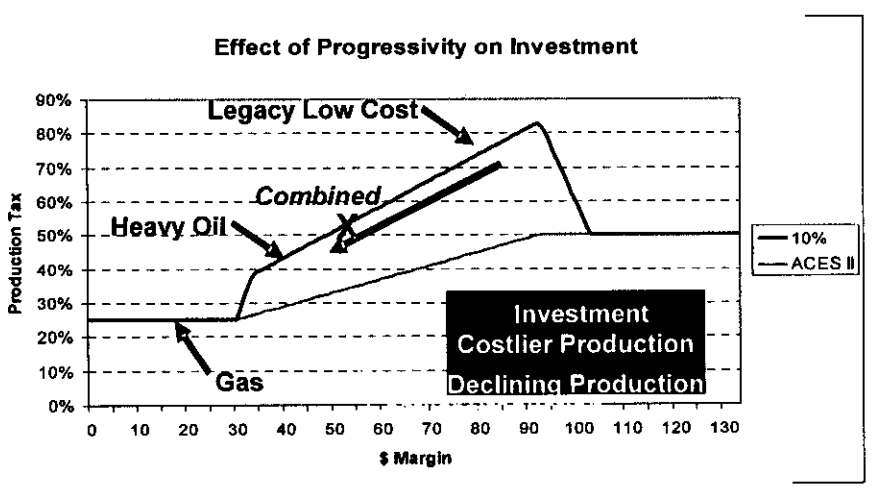
How a $75 Barrel of Alaska North Slope Oil is Allocated*

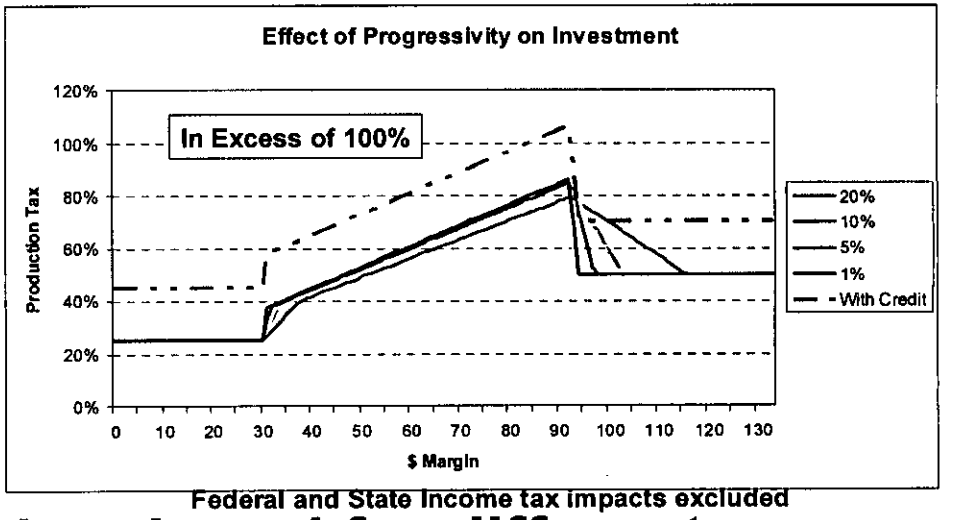


*This graphic assumes average transportation and production costs and royalty and tax rates, and is not intended to represent the allocation of every barrel produced on the North Slope.

Encourage Investment in Existing Units

- **The effective "marginal" rate being greater than the "absolute" rate was evaluated and presented to several committees**



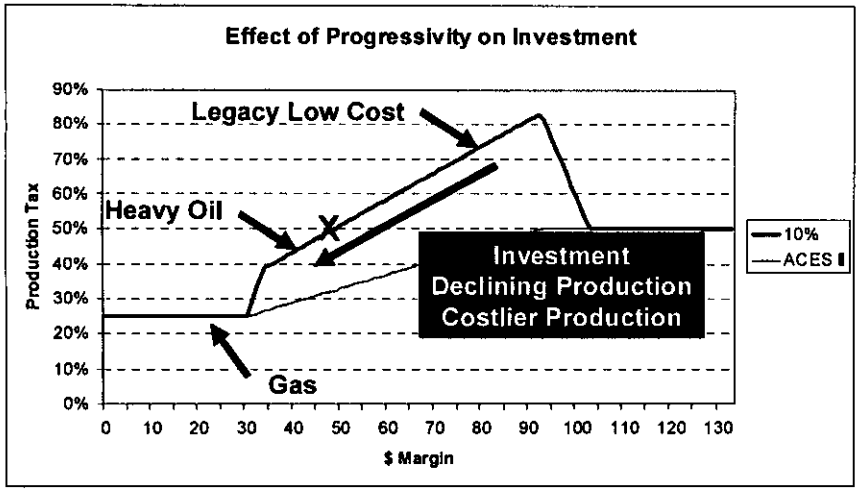


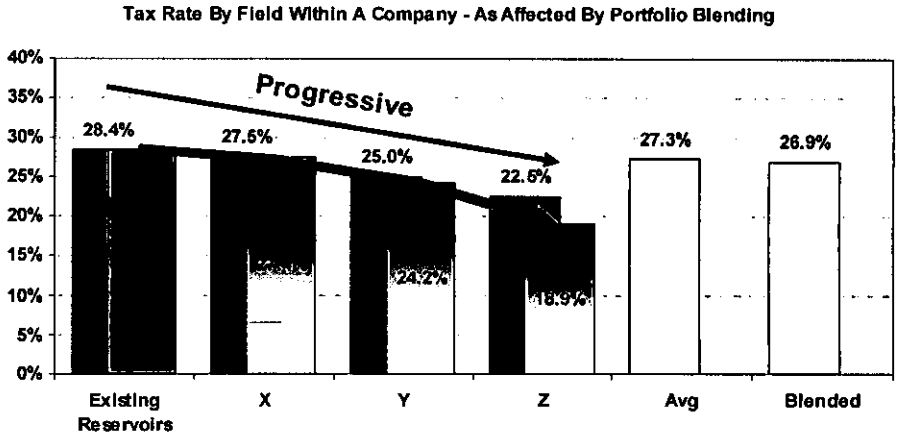
Federal and State Income tax impacts excluded

- **It was also evaluated and reviewed for different levels of investment tax credits and different levels of cash flow reinvestment**

Cross Subsidies and "Less Tax"

- **The cross subsidy issue caused by progressivity was also discussed at great length and it was shown how under certain circumstances the "effective" rate of tax on a higher cost / lower profitability development (such as gas or heavy oil) could be lower than the base rate**





- **It was also noted that any evaluation involved many commercial and economic parameters that would need to be evaluated across a range of expected values**

How big is the "Subsidy"?

- **The degree of "subsidy" is impacted by a number of variables, such as:**
  - Relative volumes of high/low value production
  - Oil/gas price parity
  - Quality adjustments
  - Any "loss" of production by lowering reservoir pressure to produce and sell gas
  - Any "gain" in production by extending the life of facilities and pipelines by bringing on new production and pushing forward in time operating economic limits
- **Single day or single year 'snapshots' can be misleading**

Oil/Gas Parity

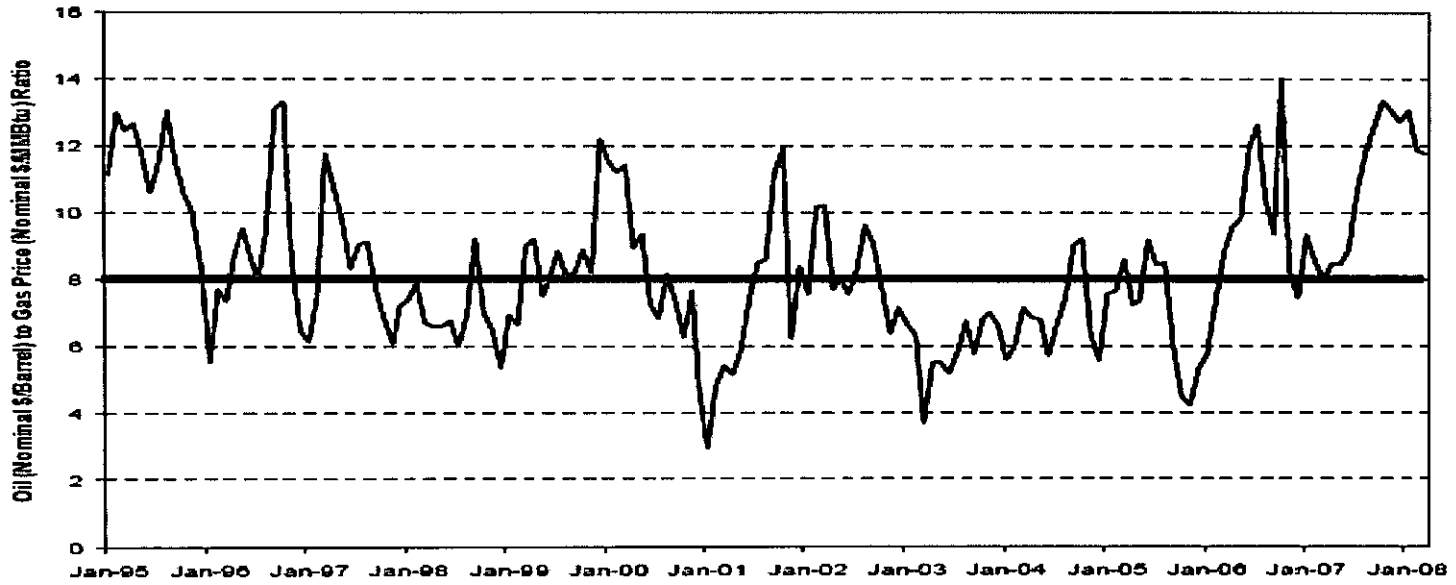
- **What is meant by oil/gas parity?**
  - On average a barrel of oil contains as much energy or heating value as 6,000 cubic feet of gas.
  - Since each cubic foot of gas has about 1000 Btu/cf then a barrel of oil is equivalent to 6 million Btu or 6 MMBtu

- **If priced at parity the oil price in $/bbl divided by 6 would equal the gas price in $/MMBtu**
  - For example, at $60/bbl the natural gas would be at parity if it were priced at $10/MMBtu
  - As opposed to most of the rest of the world where gas is priced against oil, in the US gas prices fluctuate and average higher than 6:1

Pricing Parity is Key

- One way to predict the future is to look at the past
- Plot of US oil / gas price parity trading on average about 8:1

Figure 4-5. Historical Oil to Gas Price Ratio

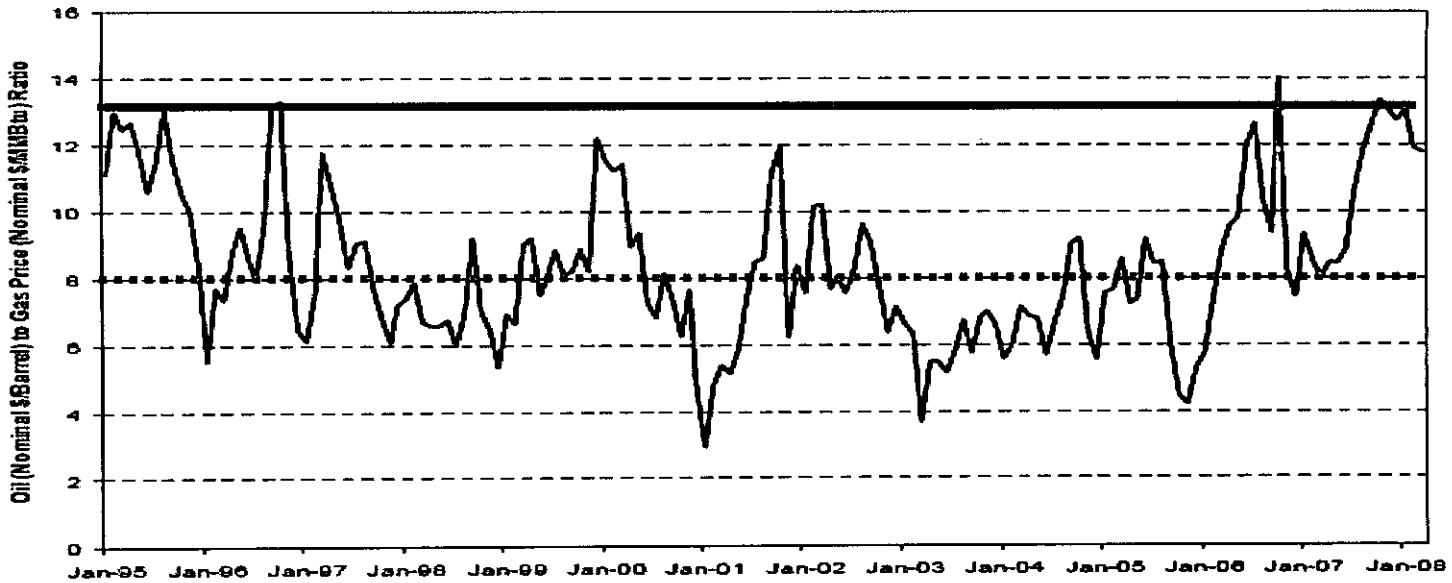


Source: Black and Veatch 2008, Appendix G1, Section 7.15.4.3

Pricing Parity is Key

- **Mr. Dickinson chose 13:1 price parity for his model**
- **This occurred <4% of the time in the last 14 years**

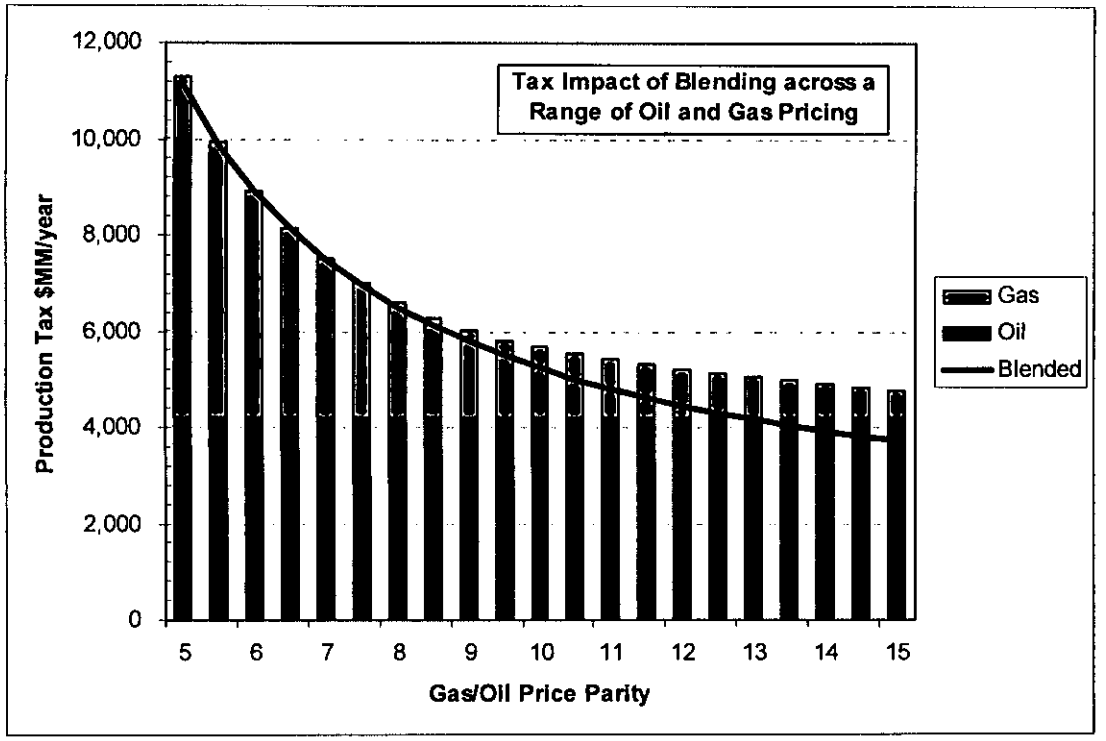
Figure 4-5. Historical Oil to Gas Price Ratio



Source: Black and Veatch 2008, Appendix G1, Section 7.15.4.3

"Subsidy" across range of values

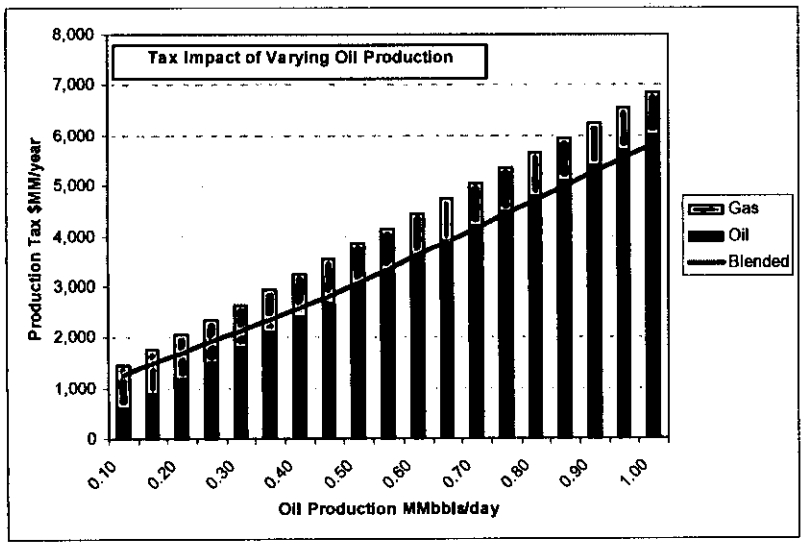
- **E.G. modifying the oil/gas price parity is revealing**

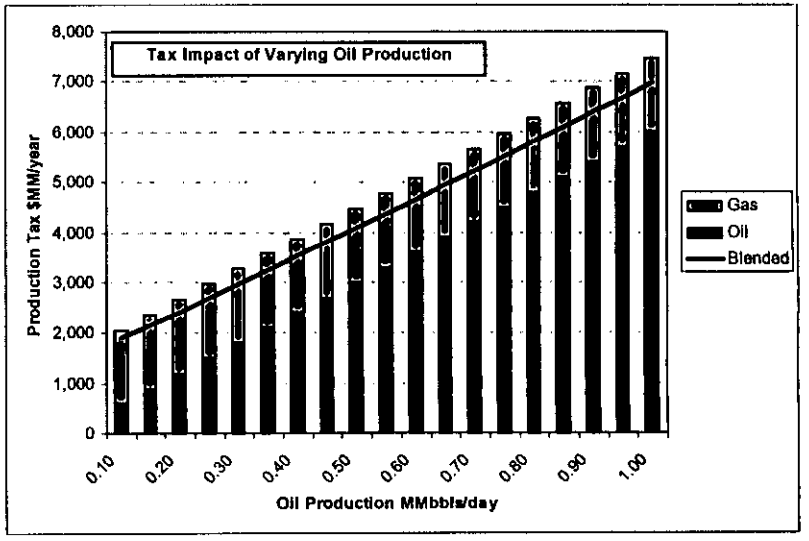


- **Green**
  Tax paid by existing oil
- **Red**
  Tax paid by standalone gas
- **Blue**
  The total tax paid under ACES with the progressivity impact

Impact of Varying Production and Price Parity Ratios

- Gas at 4.2 bcf/d and Oil at $80/bbl
- Left prices 13:1 and on the right prices 10:1





- At 10:1, the issue of pay less overall taxes goes away. At the long-range expectation of prices at 8:1, paying "less" taxes is a non-issue

Goals for Fiscal Design from the ACES Special Session Nov 2007

- **Based on comments during the ACES special session GCA saw the State trying to achieve the following:**

1. ✓ Fields with larger **profitability** should be paying **more** taxes
2. ✓ Encourage investment in existing units
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   - Investment in new developments
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     - ❖ Unconventional (i.e. heavy oil)
     - ✓ **Gas**
3. Encourage new investment outside legacy units
   - Level playing field for incumbents and new entrants
4. ✓ Durability
   - Don't want to be back 'fixing' things
5. Build on prior tax dialogue

Summary

- A range of possible outcomes "caused" by ACES' structure was identified, reviewed and built into the final design of ACES to provide incentives to both existing SOA producers as well as new entrants

- During the AGIA special session economics showed that at the modeling parameters reasonable results could be obtained by all parties.

- Nobody has brought forth expected, likely or sustainable scenarios to show that ACES needs to be modified for gas development

2211

ACES, Progressivity and Natural Gas Development

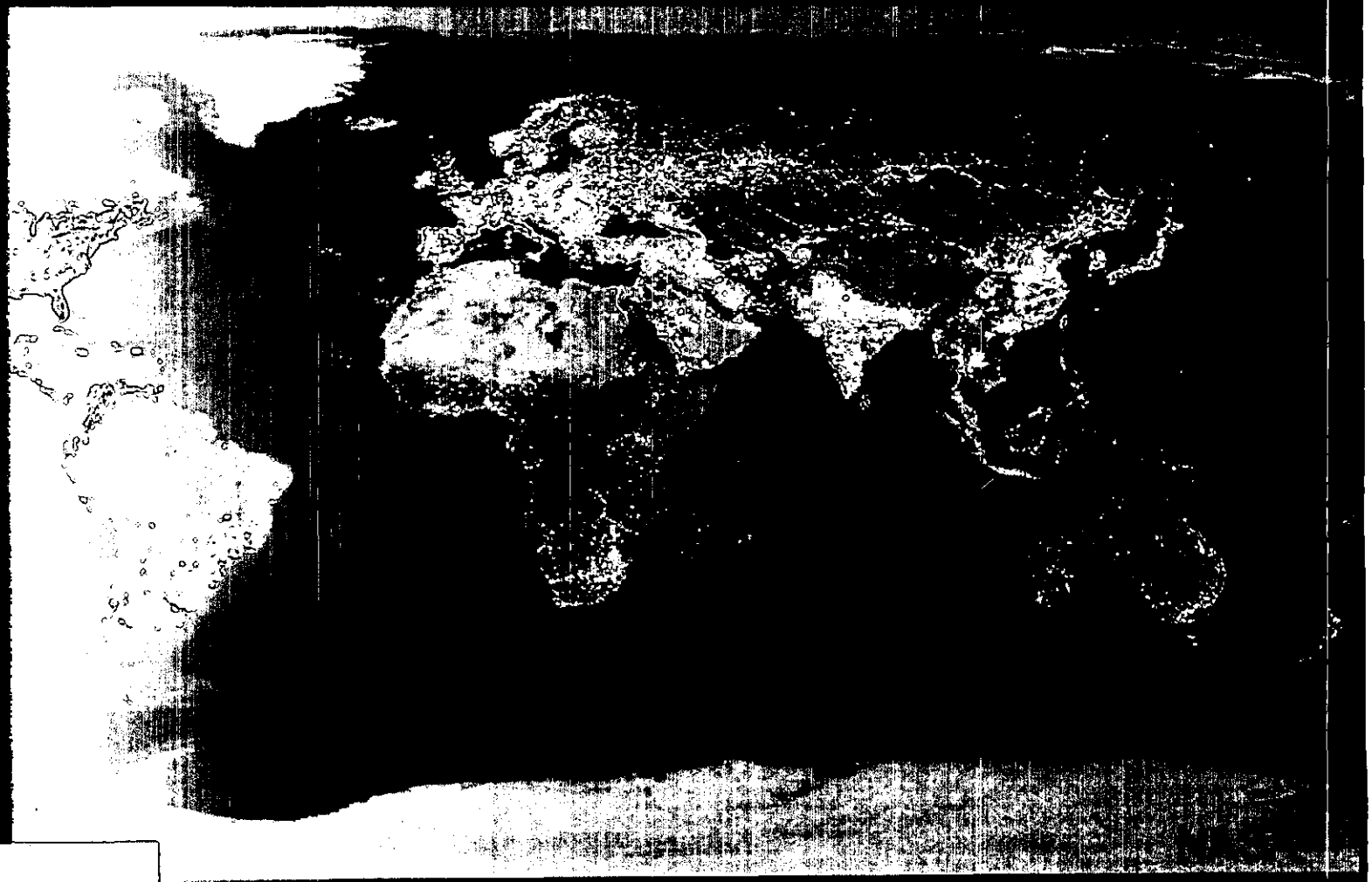
Senate Resources Committee

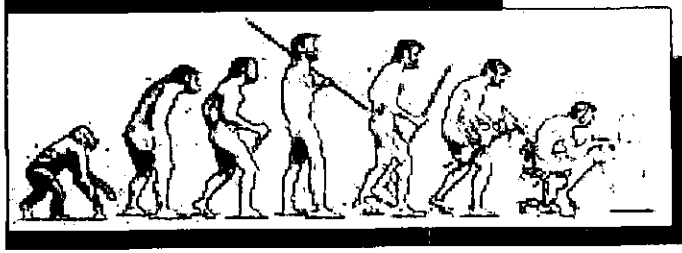
11 March 2009

3/25/09
AGIA
UPDATE

Alaska's Natural Gas – Needed or Not?
What About Shale Gas and Carbon Regulation?

AGIA
The Alaska Gasline Inducement Act





Dr. Mark Myers
March 25, 2009

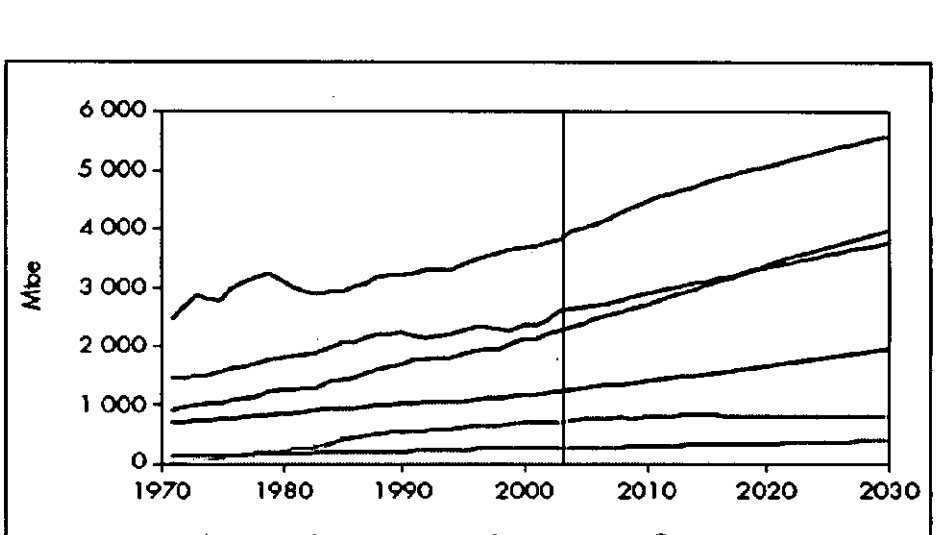
2214

Alaska's Natural Gas is America's Resource For Enhancing Economic, Environmental and National Security

AGIA
The Alaska Gasline Inducement Act

- Global competition for imported energy
- Growing population, long term economic growth heighten worldwide demand
- Environmental consequences of development, extraction, and use of other resources

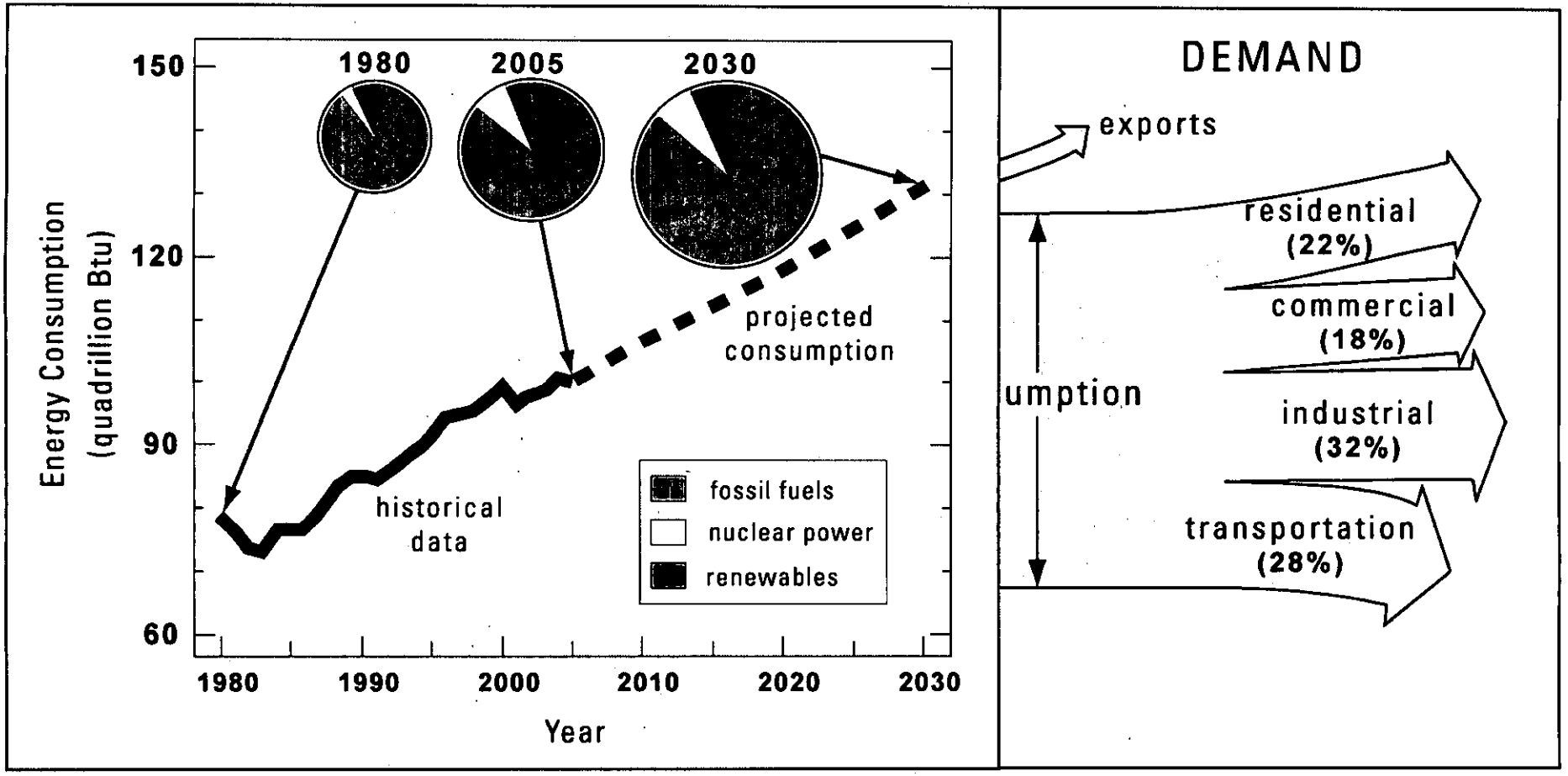
World Energy Consumption by Source



IEA

The Energy Mix for the United States

AGIA
The Alaska Gasline Inducement Act

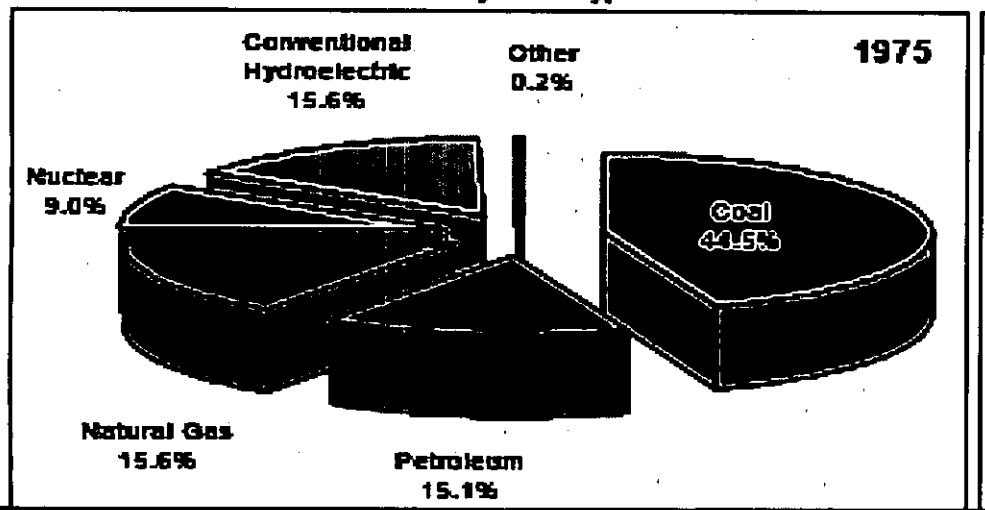


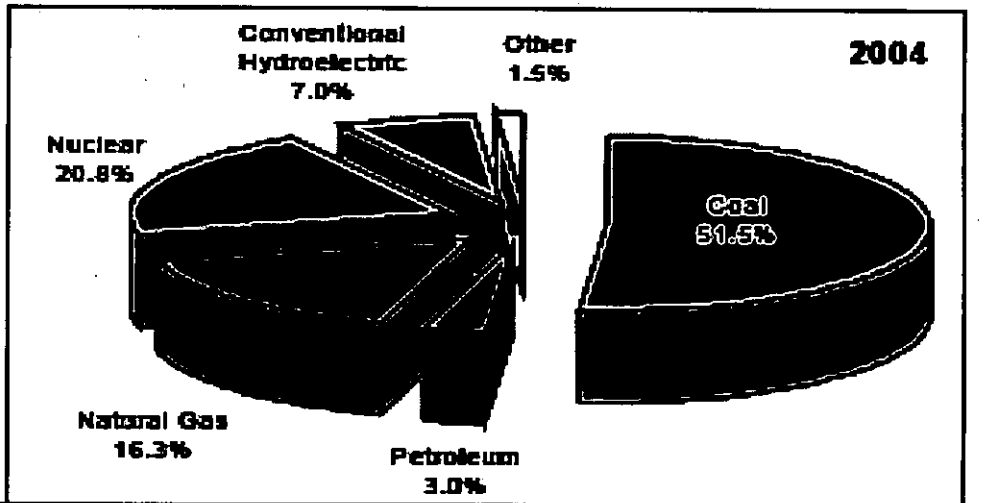
EIA

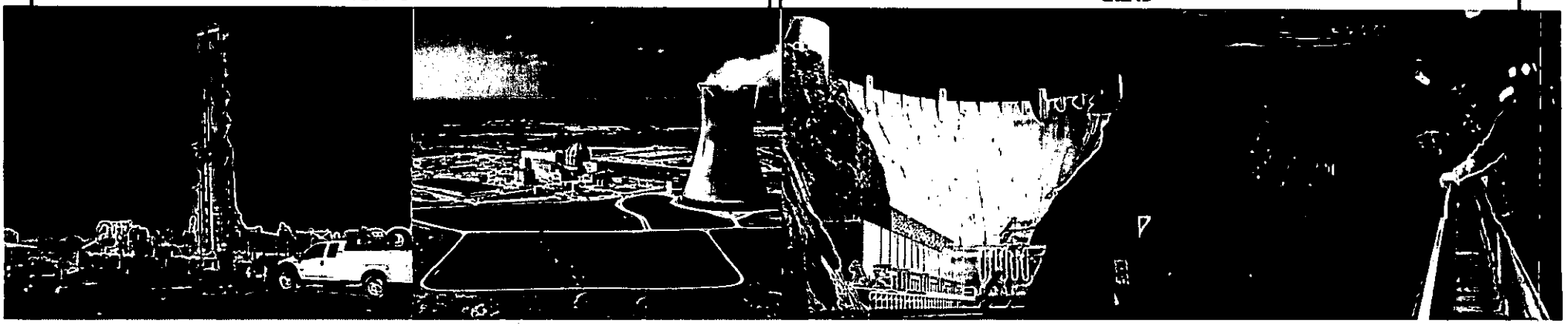
Large Changes Have Occurred In Fuel Sources

AGIA
The Alaska Gasline Inducement Act

U.S. Electric Power Generation by Fuel Type - Years 1975 and 2004







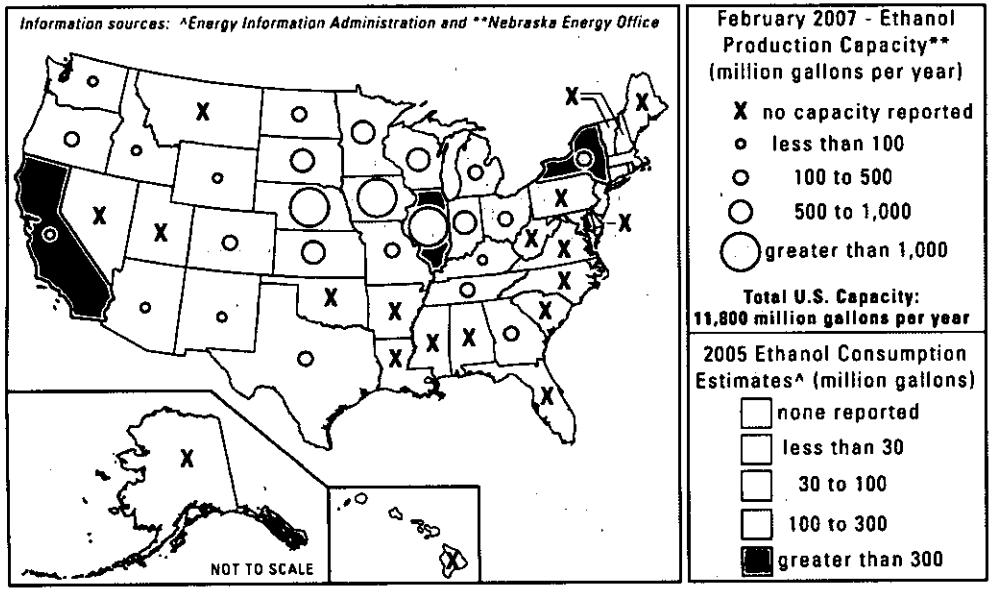
USGS/EIA

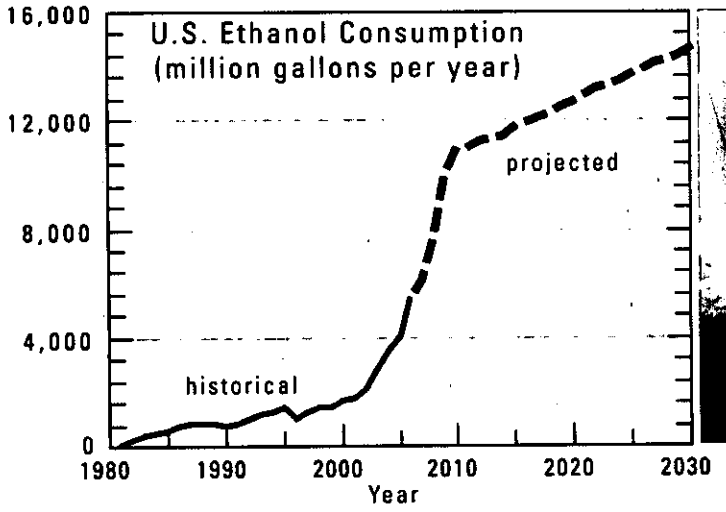
Change in Fuel Type for Electrical Generation Over Three Decades

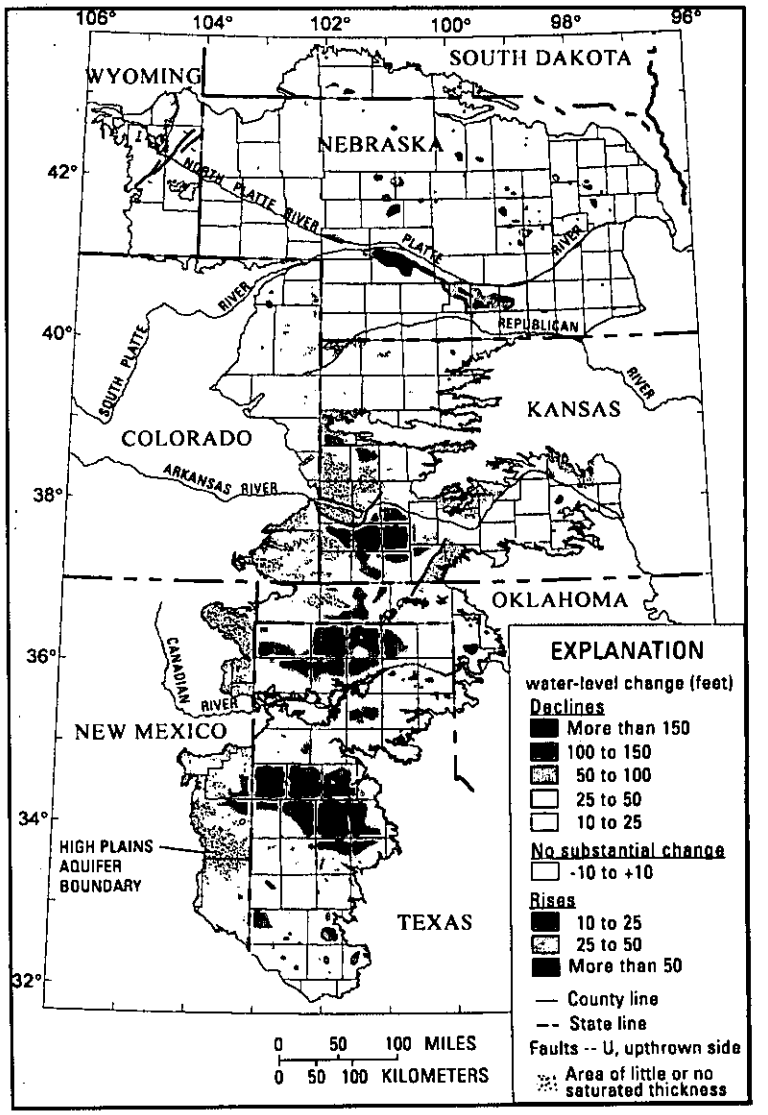
No Free Lunch: All New Sources of Energy Have There Own Unique Environmental Challenges: Biomass/Water

AGIA
The Alaska Gasline Inducement Act

USGS/EIA







The USA Today

AGIA
The Alaska Gasline Inducement Act

- How have things changed since the legislature approved the AGIA license?
  - Global economic downturn with associated rapid decline in oil and gas prices
  - Rapid expansion of unconventional (shale) gas supplies in USA
  - Policy shift limiting access to lower 48 federal lands for non-renewable energy production?
  - First authoritative Arctic oil and gas assessment
  - Increased likelihood of carbon regulation

Economic 'Recession'

Jim Mulva, Chairman and CEO ConocoPhillips,
March 13, 2009 - *Petroleumworld.com*

"Costs are coming down pretty dramatically," (Mulva) said. "When we say defer, we're not talking years, we're talking months, quarters, maybe up to a year."

Speaking about the Denali Alaska gas pipeline project, proposed last June by ConocoPhillips and BP, Mulva said President Barack Obama has identified the 4 Bcf/d project as a means of reducing US dependence on foreign oil.

The pipeline would bring North Slope gas down to a pipeline in Alberta for transport to the Lower 48 states. "We know it's going to get far more federal attention," he said. "Obviously, Alaska would like to see it go."

Mulva repeated the partners plan a 2010 open season for gas deliveries; first gas deliveries are eyed for 2019.

While current gas prices have led ConocoPhillips to cut back on its Canadian operations, Mulva discounted the low prices as a roadblock to the pipeline project's development.

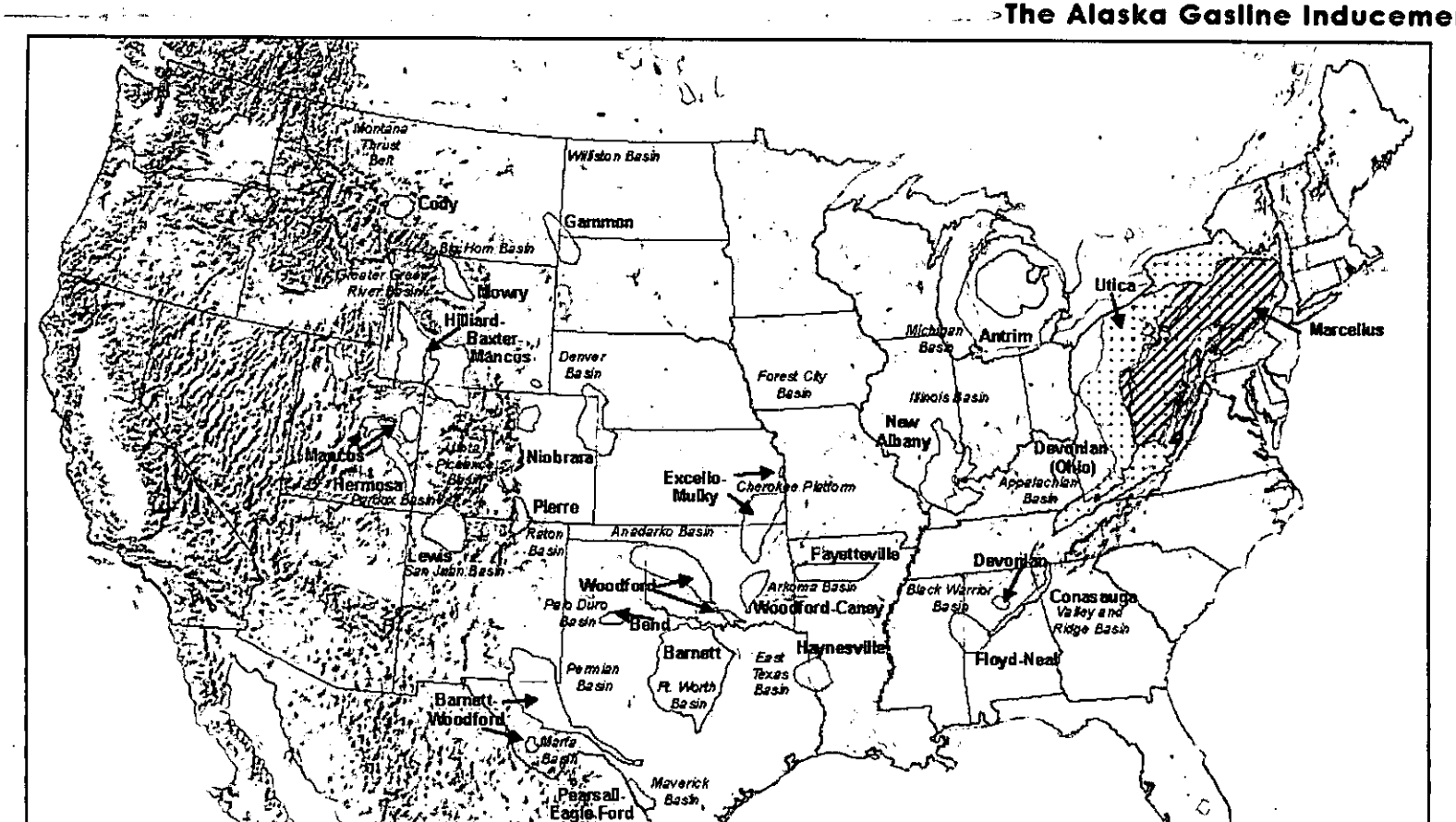
"You can't look at gas prices today," he said. "You have to look at prices 10 years from now."

2220

Lower 48 Shale Gas Plays

AGIA

The Alaska Gasline Inducement Act



United States Shale Gas Plays

www.eia.doe.gov
Energy Information Administration
Office of Oil and Gas

Shale Gas Plays
Basins

Stacked Appalachian Plays
Marcellus
Utica
Devonian (OH shale)

November 2008
Miles
0 150 300 600

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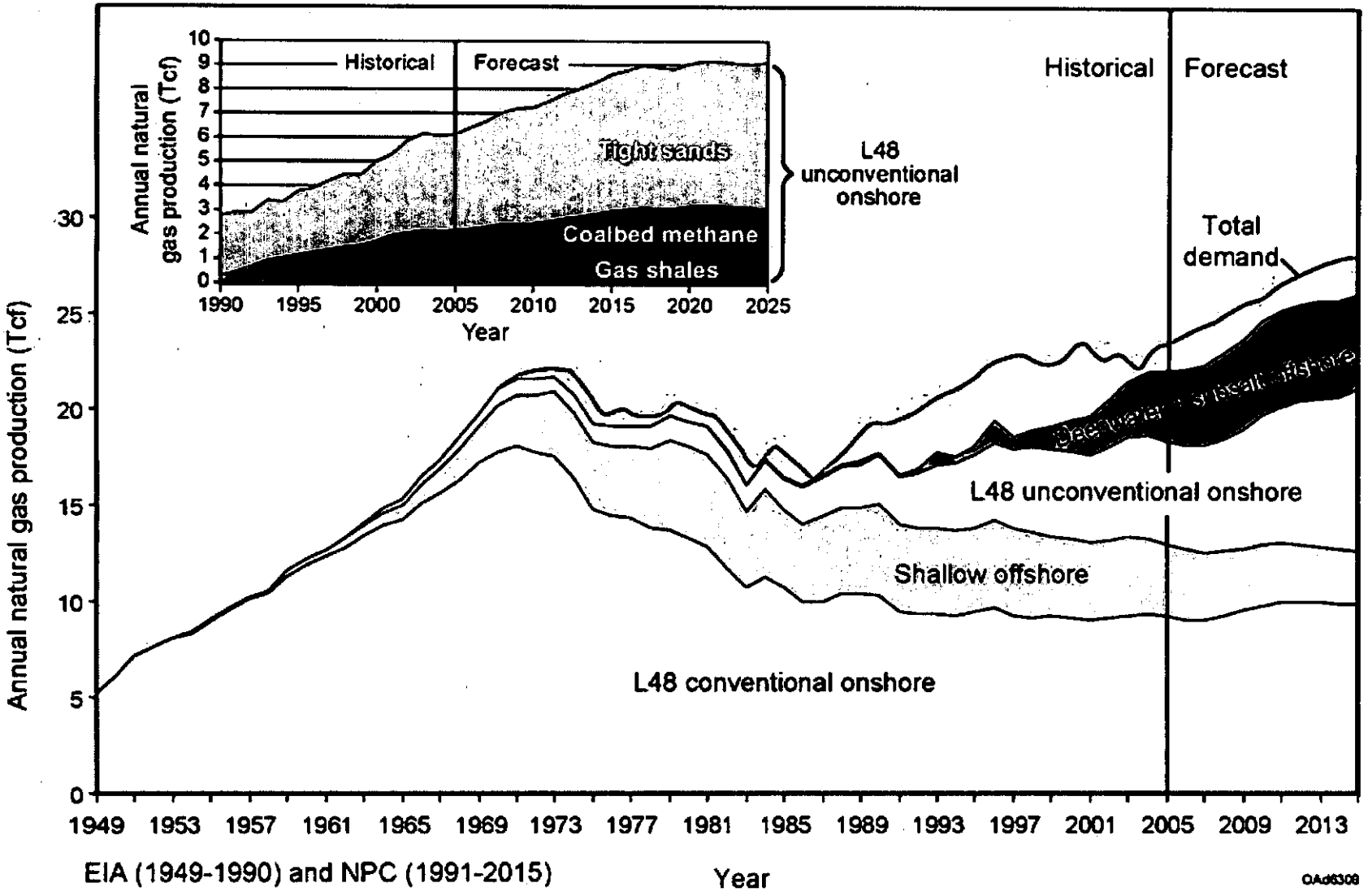
Shale Gas Provides About 5% of Domestic Production

AGIA
The Alaska Gasline Inducement Act



2222

Development of New Unconventional Gas Resources

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"Declines [in North America] are expected to accelerate after 2030 coinciding with the increase in LNG import volumes. Black & Veatch expects near-term production growth in the Rockies and shale plays to offset declines in the Gulf Coast and other Lower 48 production basins."

- AGIA Findings and Determination; Appendix G1 – *AGIA NPV Report*

Wyoming Gas Reserves & Production History

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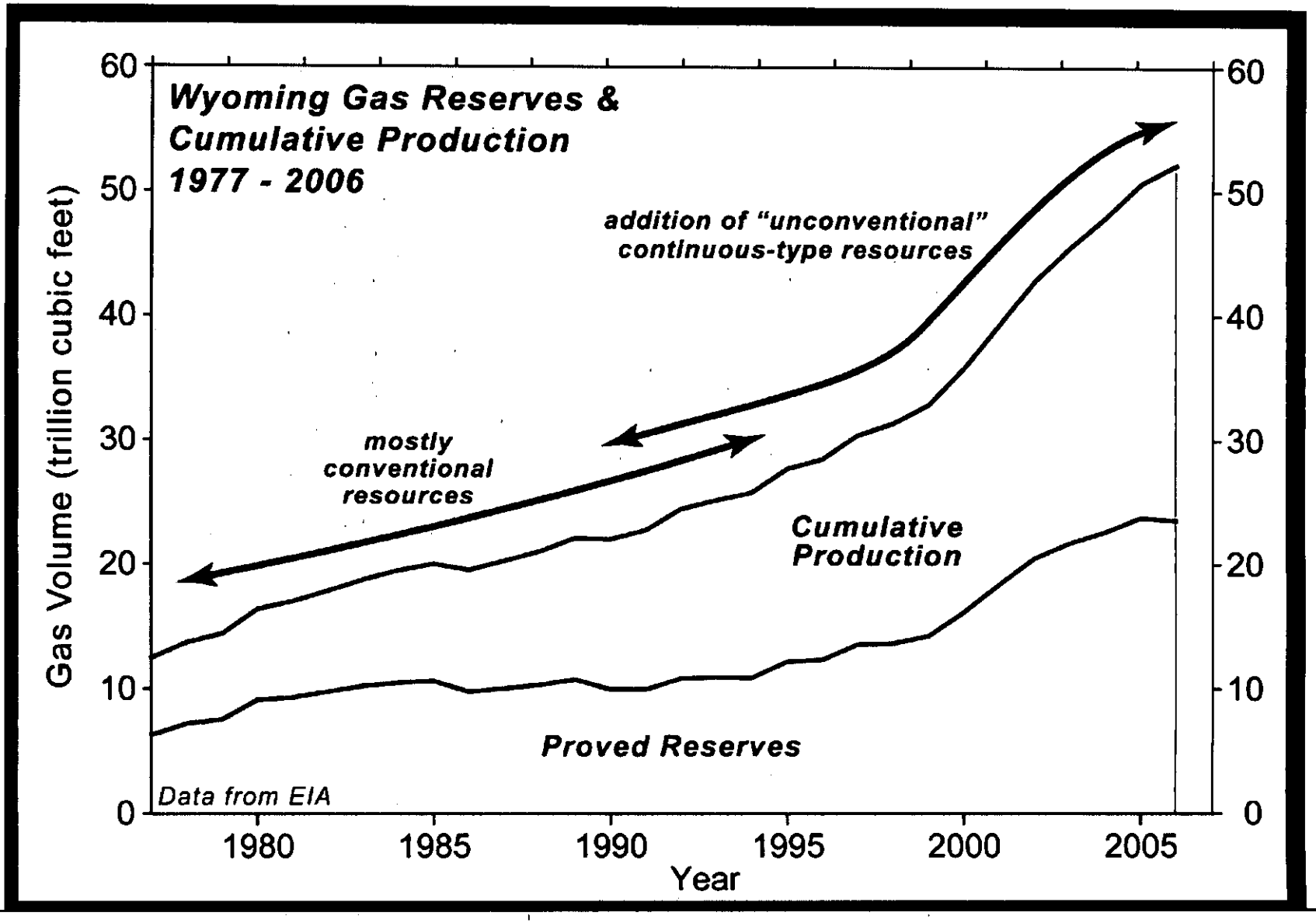
Courtesy of USGS



2224

Arctic Alaska and Russia at the Top

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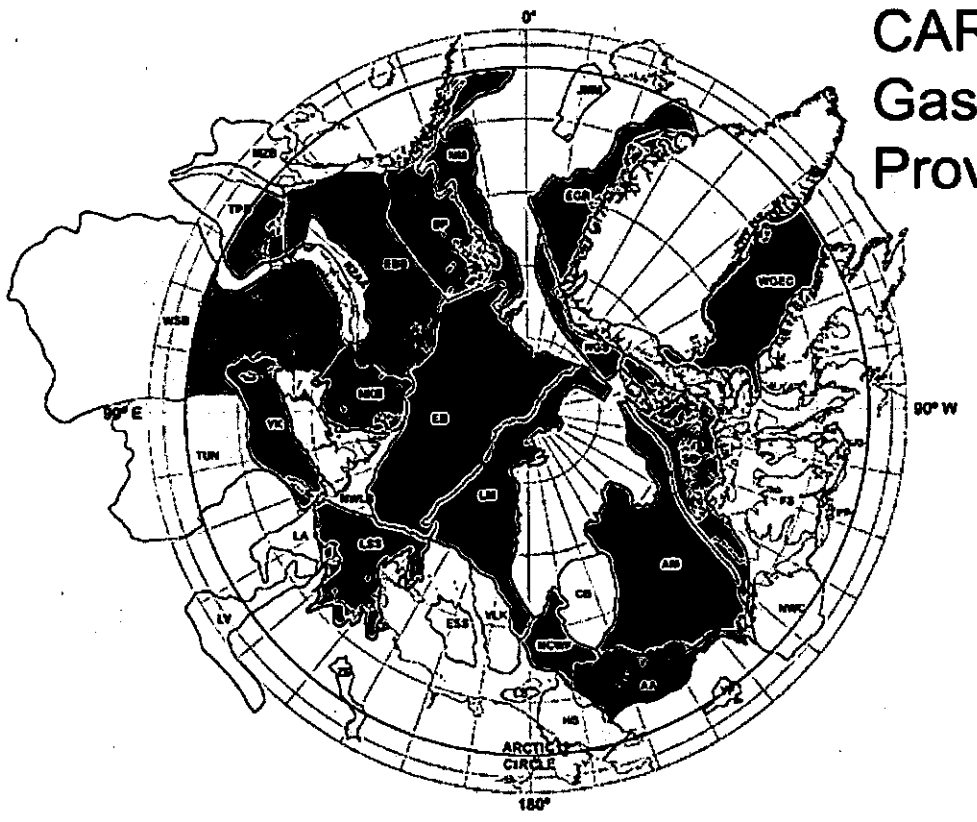
UNDISCOVERED GAS
(trillion cubic feet)

- >100
- 6–100
- <6
- Area not quantitatively assessed
- Area of low petroleum potential



CARA Gas Provinces

Province Code	Province	Oil (MMBO)	Total Gas (BCFG)	NGL (MMBNGL)	BOE (MMBOE)
WSB	West Siberian Basin	[illegible]	[illegible]	[illegible]	132,571.66
AA	Arctic Alaska	29,960.94	221,397.60	5,904.97	72,765.52
EBB	East Barents Basin	7,406.49	317,557.97	1,499.69	61,755.10
EGR	East Greenland Rift Basins	8,902.13	86,180.06	8,121.57	31,387.04
YK	Yenisey-Khatanga Basin	5,583.74	99,964.26	2,675.15	24,919.61
AM	Amerasia Basin	9,723.58	56,891.21	541.69	19,747.14
WGEC	West Greenland-East Canada	7,274.40	51,818.16	1,152.59	17,063.35
[illegible]	[illegible] a Shelf	3,115.57	32,562.84	867.16	9,409.87
[illegible]	[illegible] n Margin	1,437.29	32,281.01	504.73	7,322.19
[illegible]	[illegible] latform	2,055.51	26,218.67	278.71	6,704.00
[illegible]	[illegible] asin	1,342.15	19,475.43	520.26	5,108.31
[illegible]	[illegible] Basins and Platforms	1,807.26	14,973.58	390.22	4,693.07
[illegible]	[illegible] chora Basin	1,667.21	9,062.59	202.80	3,380.44
[illegible]	[illegible] enland Sheared Margin	1,349.80	10,207.24	273.09	3,324.09
[illegible]	[illegible] v-Makarov	1,106.78	7,156.25	191.55	2,491.04
[illegible]	[illegible] Basin	851.11	8,596.36	191.20	2,475.04
[illegible]	[illegible] bar Basin	1,912.89	2,106.75	56.41	2,320.43
[illegible]	[illegible] ıkchi-Wrangel Foreland	85.99	6,065.76	106.57	1,203.52
[illegible]	[illegible] asin	98.03	5,741.87	101.63	1,156.63
[illegible]	[illegible] t Laptev Sea Shelf	172.24	4,488.12	119.63	1,039.90
[illegible]	[illegible] ı Basin	376.86	1,335.20	35.66	635.06
[illegible]	[illegible] Basin	47.82	1,505.99	40.14	338.95
[illegible]	[illegible] ian Sea Basin	19.73	618.83	10.91	133.78
[illegible]	[illegible] in	2.47	648.17	11.37	121.87
[illegible]	[illegible] t Canada Interior Basins	23.34	305.34	15.24	89.47
[illegible]	[illegible] asin	NQA	NQA	NQA	NQA
[illegible]	[illegible] mlya Basins and Admiralty	NQA	NQA	NQA	NQA
[illegible]	[illegible] Basin	NQA	NQA	NQA	NQA
[illegible]	[illegible] orderland	NQA	NQA	NQA	NQA
[illegible]	[illegible] ts (part of Central Alaska [illegible] ce)	NQA	NQA	NQA	NQA
[illegible]	[illegible] it	NQA	NQA	NQA	NQA
[illegible]	[illegible] n Microcontinent	NQA	NQA	NQA	NQA
[illegible]	[illegible] n Shelf	NQA	NQA	NQA	NQA
		89,983.21	1,668,657.84	44,064.24	412,157.09

Source: USGS Fact Sheet 2008-3049

Undiscovered, Conventional Gas Resources of the U.S.

Alaska resources = 36% of national total

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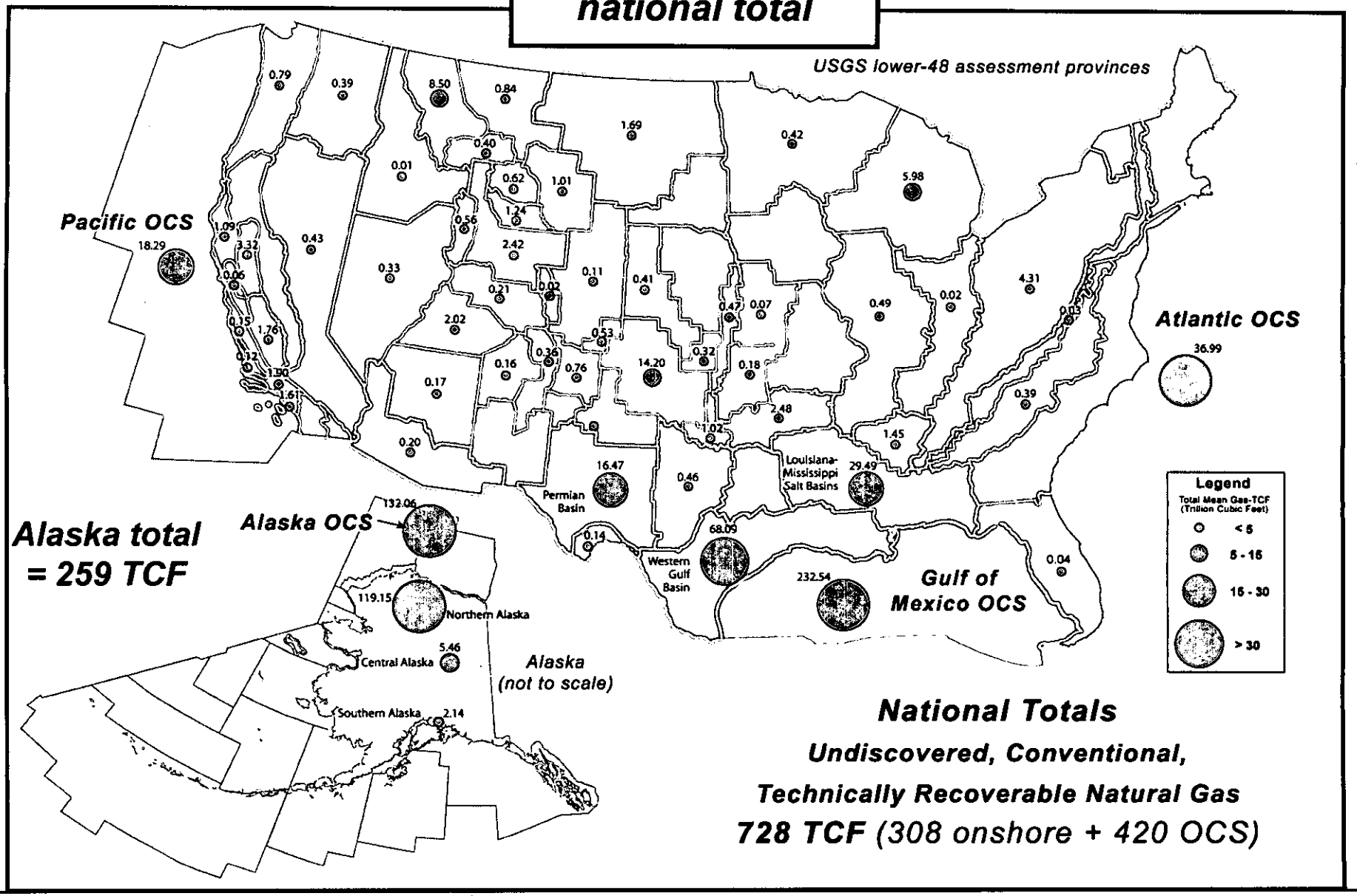
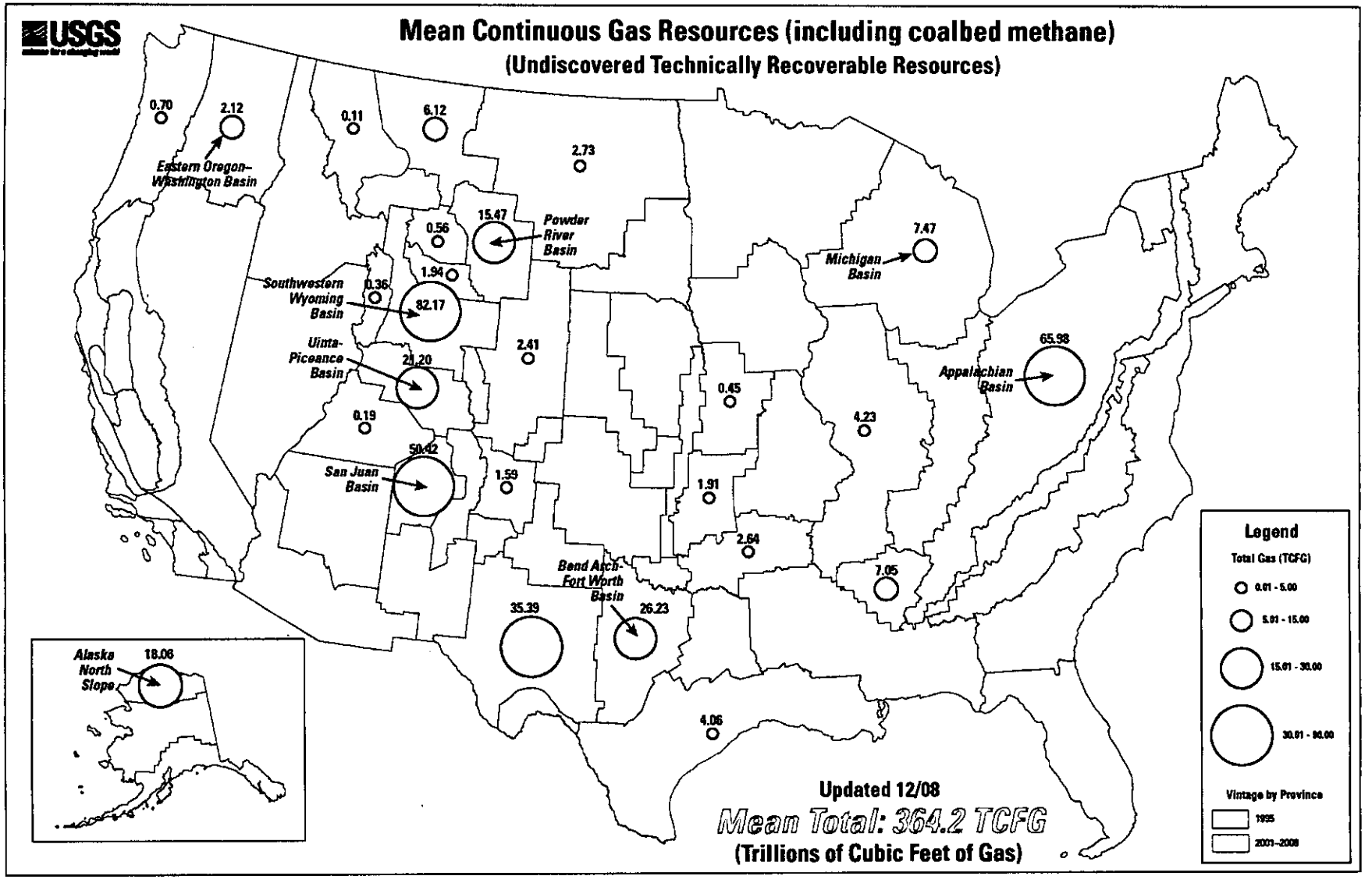
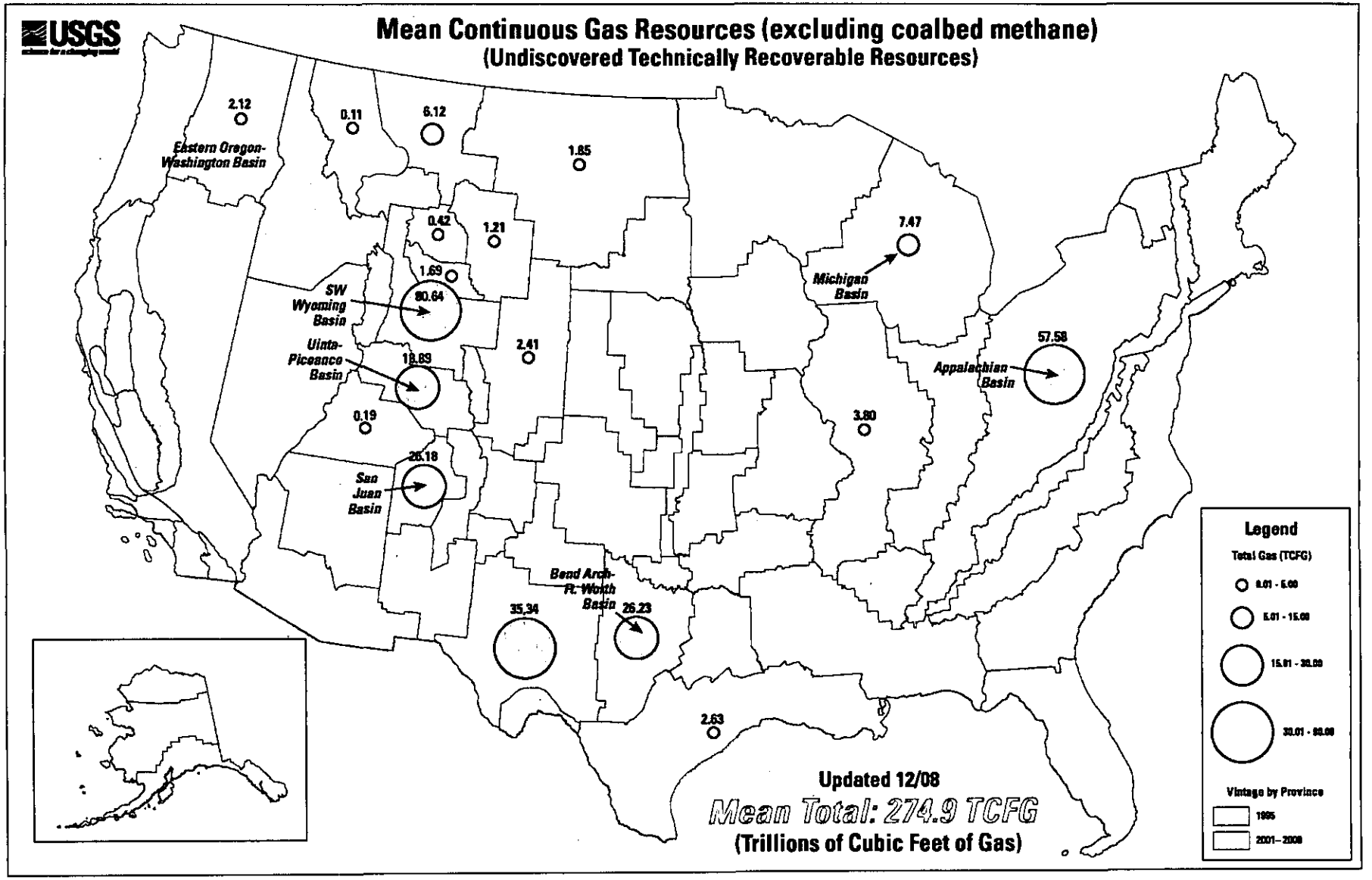


National Totals

Undiscovered, Conventional, Technically Recoverable Natural Gas

728 TCF *(308 onshore + 420 OCS)*


USGS
Mean Continuous Gas Resources (including coalbed methane)
(Undiscovered Technically Recoverable Resources)
0.70
2.12
Eastern Oregon–Washington Basin
0.11
6.12
2.73
15.47
Powder River Basin
0.56
7.47
Michigan Basin
Southwestern Wyoming Basin
0.36
1.94
82.17
2.41
Uinta-Piceance Basin
25.20
65.98
Appalachian Basin
0.45
4.23
0.19
50.42
San Juan Basin
1.59
1.91
2.64
Bend Arch-Fort Worth Basin
7.05
35.39
26.23
Alaska North Slope
18.06
4.06
Updated 12/08
Mean Total: 364.2 TCFG
(Trillions of Cubic Feet of Gas)
Legend
Total Gas (TCFG)
0.01 - 5.00
5.01 - 15.00
15.01 - 30.00
30.01 - 90.00
Vintage by Province
1995
2001–2008


USGS
Mean Continuous Gas Resources (excluding coalbed methane)
(Undiscovered Technically Recoverable Resources)
2.12
Eastern Oregon-Washington Basin
0.11
6.12
1.85
0.42
1.21
7.47
Michigan Basin
1.69
SW Wyoming Basin
80.64
Uinta-Piceance Basin
18.89
2.41
57.58
Appalachian Basin
0.19
3.80
26.18
San Juan Basin
Bend Arch-Ft. Worth Basin
35.34
26.23
2.63
Legend
Total Gas (TCFG)
0.01 - 5.00
5.01 - 15.00
15.01 - 30.00
30.01 - 80.00
Vintage by Province
1995
2001 - 2008
Updated 12/08
Mean Total: 274.9 TCFG
(Trillions of Cubic Feet of Gas)

Undiscovered Conventional Gas Potential

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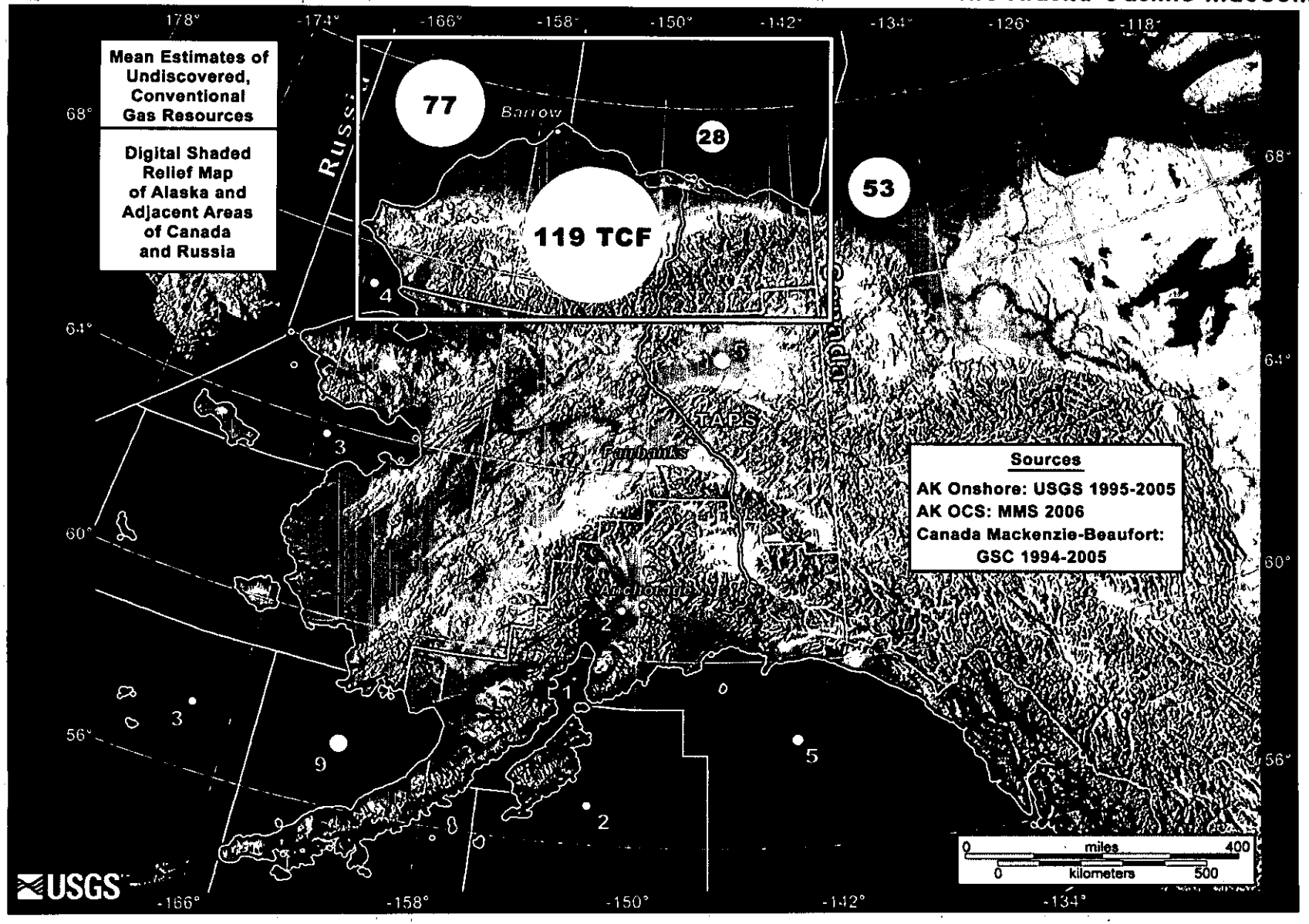

Potential for Undiscovered Petroleum in Arctic Alaska

USGS /MMS

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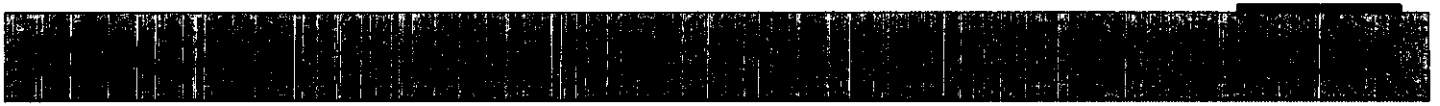
Mean Estimates of Undiscovered, *Conventional* Natural Gas in Arctic Alaska (trillion cubic feet)

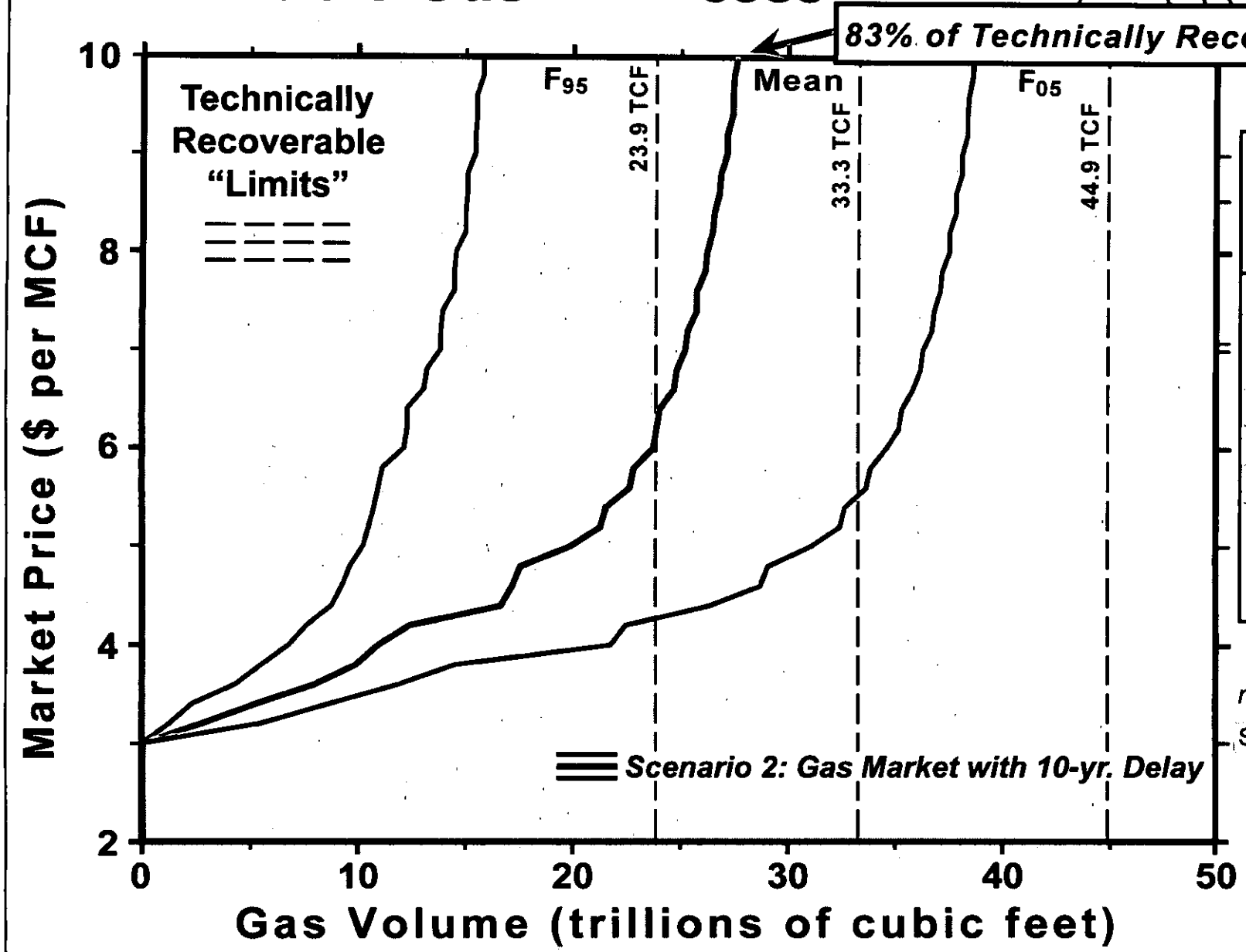
	Non-Associated Gas	Associated Gas	Total Gas
Onshore & State Offshore Areas (USGS estimates)			
NPRA	61.35	11.68	73.03
Central North Slope	33.32	4.20	37.52
ANWR, 1002 Area	3.84	4.76	8.60
Subtotal	*98.51*	*20.64*	*119.15*
Federal Offshore Areas (MMS estimates)			
Chukchi Shelf	na	na	76.77
Beaufort Shelf	na	na	27.65
Hope Basin	na	na	3.77
Subtotal	na	na	*108.19*



Central North Slope Economically Recoverable Gas

USGS

AGIA



Market Price ($/MCF)	Economically Recoverable Gas (trillion cubic feet) Sc. 2
2	0
3	0
4	10.9
5	19.9
6	23.7
7	25.2
8	26.2
9	27.1
10	27.6

Based on mean estimates of technically recoverable oil resources

Scenario 1 - No Gas Market

North Slope Gas Potential

DOE

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Location	Estimate of undiscovered technically recoverable conventional natural gas (Trillion Cubic Feet) Mean	Estimate of economically recoverable* natural gas reserves (Trillion Cubic Feet) Mean
National Petroleum Reserve, Alaska	73.0	31.0
Central North Slope, State Lands	37.5	33.3
ANWR 1002 area	8.6	1.0
TOTAL Onshore Potential	119 TCF	66.3 TCF
Chukchi Sea	76.8	50.0
Beaufort Sea	27.7	21.0
Hope Basin	3.8	
?		
TOTAL Offshore Potential	108 TCF	71.0 TCF
TOTAL TCF	227 TCF	137.3

Data Sources: Regional Resource Assessments from the U.S. Geological Survey, http://energy.usgs.gov/alaska/ and Minerals Management Service http://www.mms.gov/alaska/re/reports/2006Asmt/

*NETL This study did not include Hope Basin.

Alaska's North Slope is Very Under-Explored

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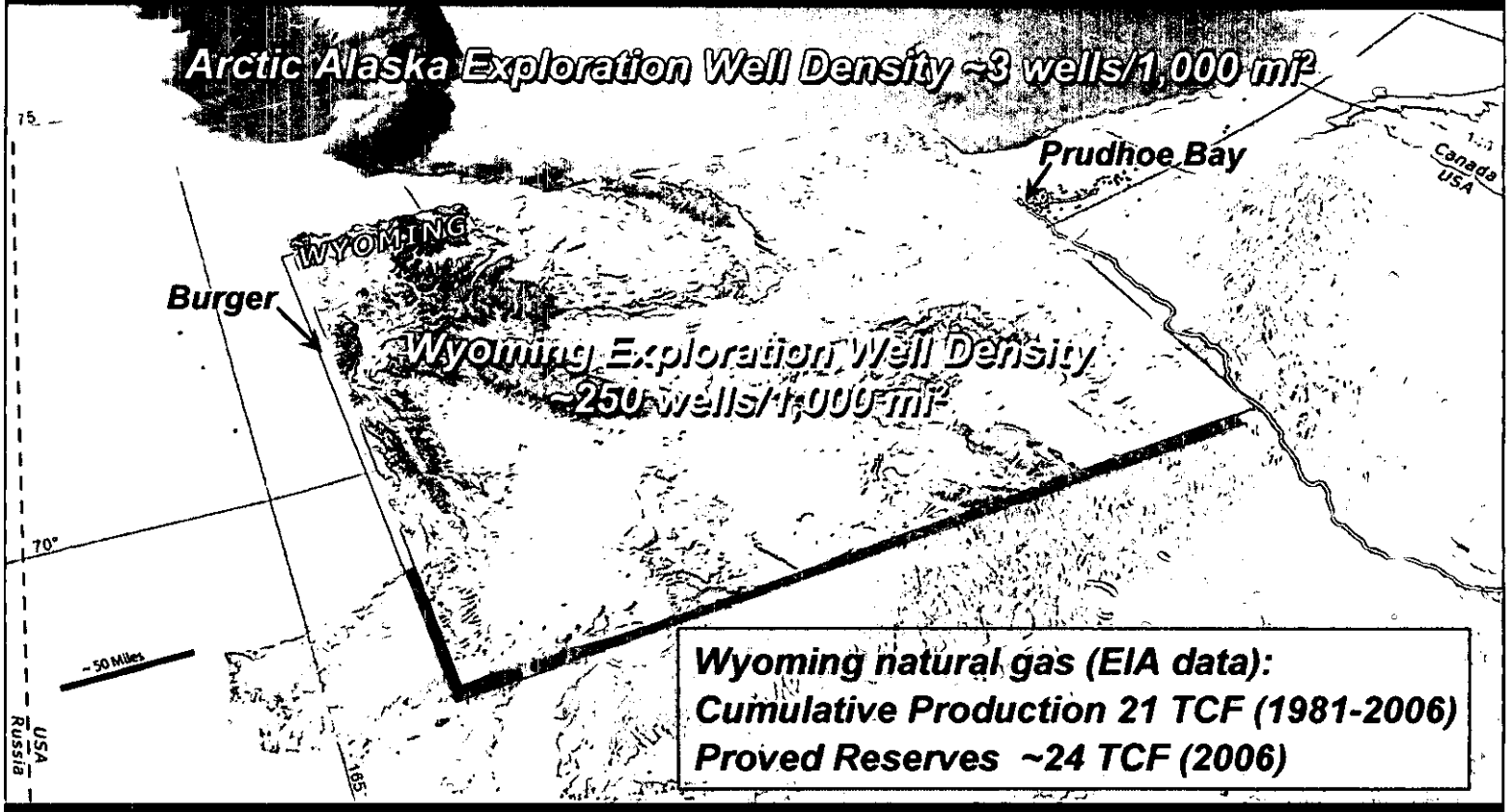
Arctic Alaska Exploration Maturity

- *Prospective area onshore & offshore shelves ~ 150,000 mi² (~400,000 km²)*
- *Fewer than 500 exploration wells (red dots)*



- *Entire state of Wyoming ~100,000 mi² (~250,000 km²)*
- *Petroleum-prospective area ~75,000 mi² (~250,000 km²)*
- *~19,371 exploration wells*

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Courtesy of USGS

Unconventional Gas Resources (continuous resources)

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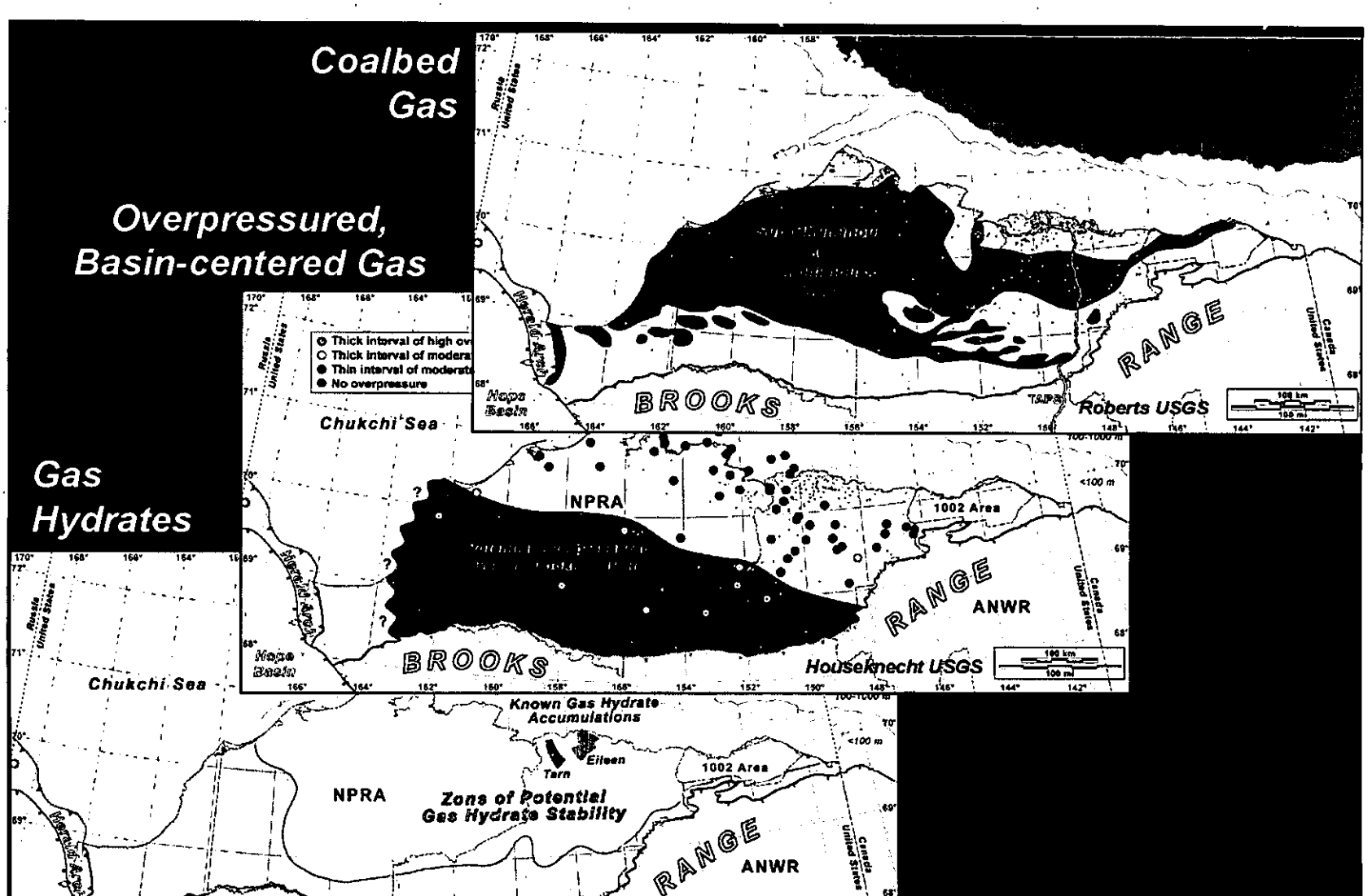

Alaska North Slope Natural Gas Hydrate Assessment Results

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[BCFG, billion cubic feet of gas. MMBNGL, million barrels of natural gas liquids. Results shown are fully risked estimates. F95 represents a 95-percent chance of at least the amount tabulated; other fractiles are defined similarly. Fractiles are additive, assuming perfect positive correlations. NGL, natural gas liquids; TPS, total petroleum system; AU, assessment unit.]

Total Petroleum System and Assessment Unit	Field Type	*Total Undiscovered Resources*							
		Gas (BCFG)				*NGL (MMBNGL)*			
		F95	F50	F5	Mean	F95	F50	F5	Mean
Northern Alaska Gas Hydrate TPS									
Sagavanirktok Formation Gas Hydrate AU	*Gas*	6,285	19,490	37,791	20,567	0	0	0	0
Tuluvak-Schrader Bluff-Prince Creek Formations Gas Hydrate AU	*Gas*	8,173	26,532	51,814	28,003	0	0	0	0
Nanushuk Formation Gas Hydrate AU	*Gas*	10,775	35,008	68,226	36,857	0	0	0	0
Total Undiscovered Resources		**25,233**	**81,030**	**157,831**	**85,427**	**0**	**0**	**0**	**0**

Source: USGS Fact Sheet 2008-3073

Alaska's Arctic Natural Gas: Critical Bridge to a Sustainable Future

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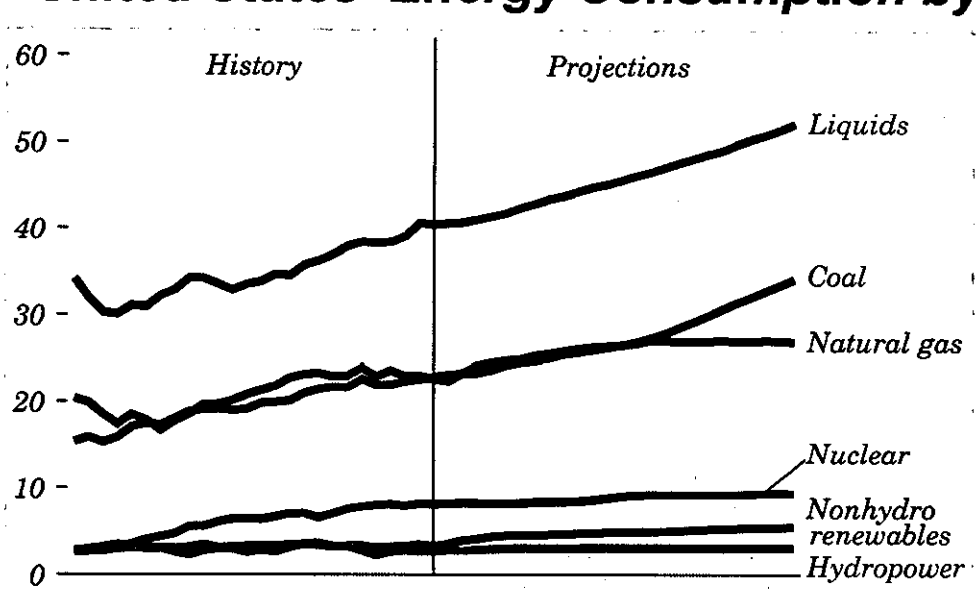
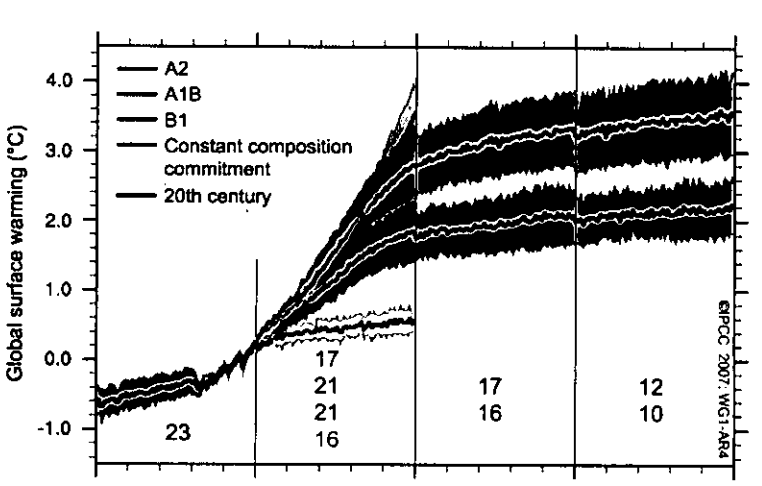
United States Energy Consumption by Fuel



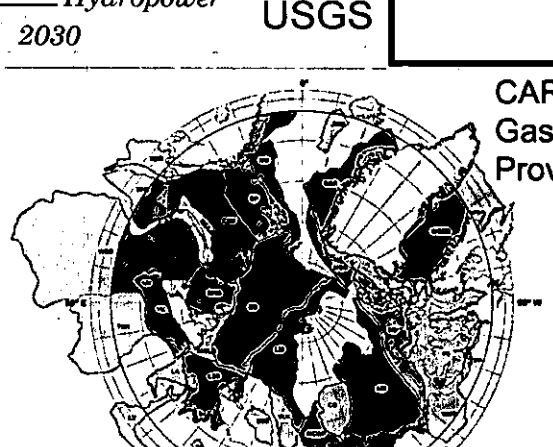
USGS

EIA

Carbon Emissions



IPCC 2007: WG1-AR4



CARA Gas Provinces

Impact of Carbon Regulation on Natural Gas Demand

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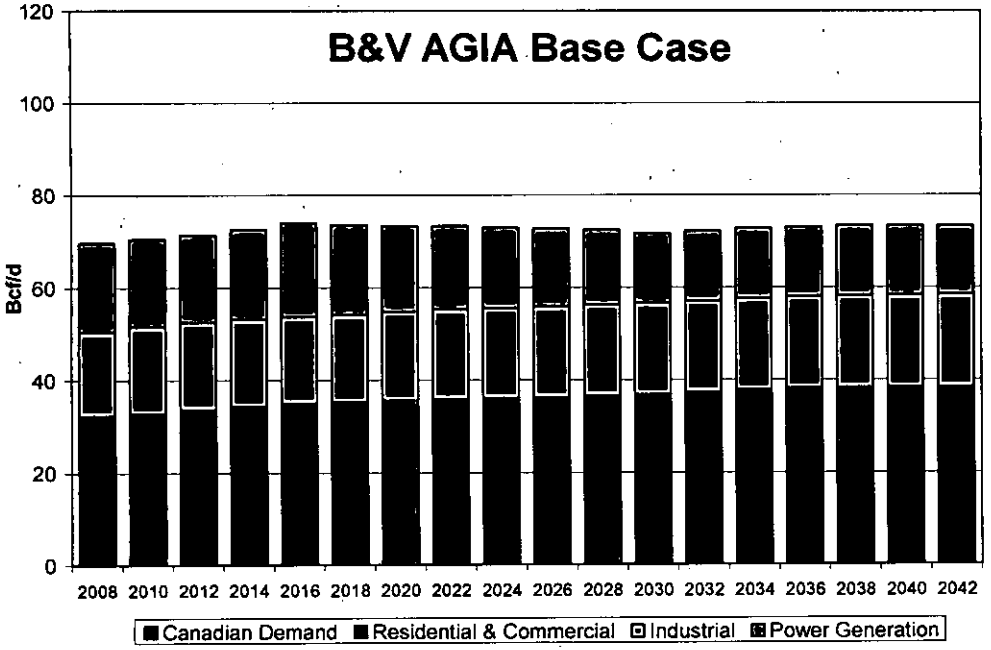
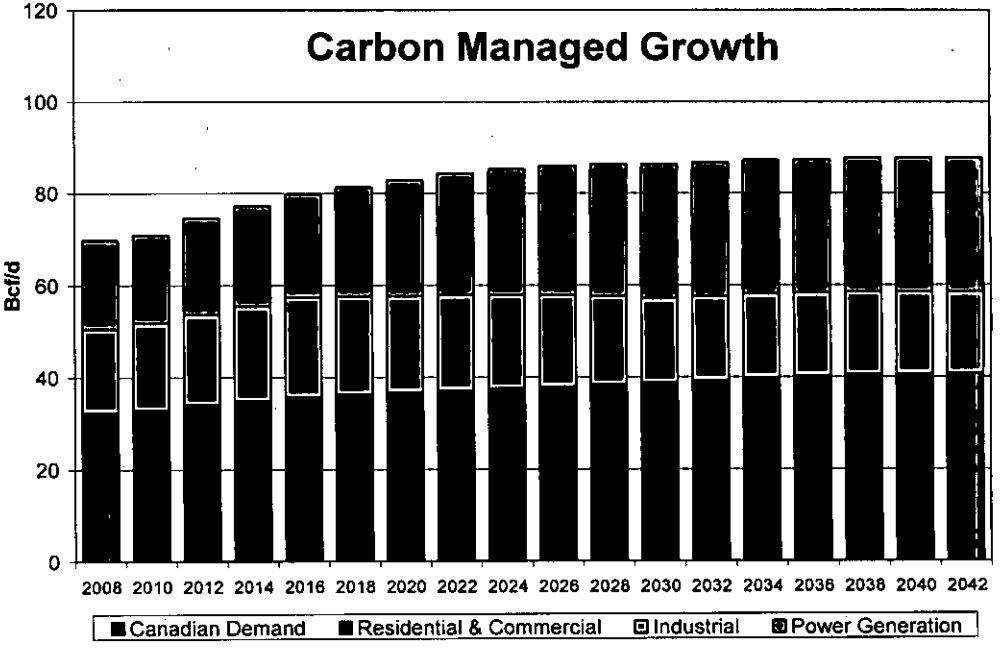
In a Carbon Managed Growth case, demand is 14 Bcf/d more than the B&V AGIA Base Case

- Policies and legislations designed to curb Green House Gas could reduce dispatch and construction of coal-fired generation facilities in favor of natural gas fired facilities, resulting in demand increase from the power sector in the US
- All resources, including renewables, nuclear and IGCC with CCS and gas fired combined cycles are all needed to meet electric demand growth. Gas demand from the power sector will grow from 19 Bcf/d in 2008 to 29 Bcf/d by 2030, with a CAGR of 2%
- Total demand in US lower 48 states is 12.1 Bcf/d higher than BV's AGIA Base Case by 2042. Canada demand is 2.3 Bcf/d higher in the Carbon Managed Growth case





Source: Black & Veatch Analysis

Multiple Different Sources of Natural Gas will be Needed to Meet Lower 48 Demand Growth

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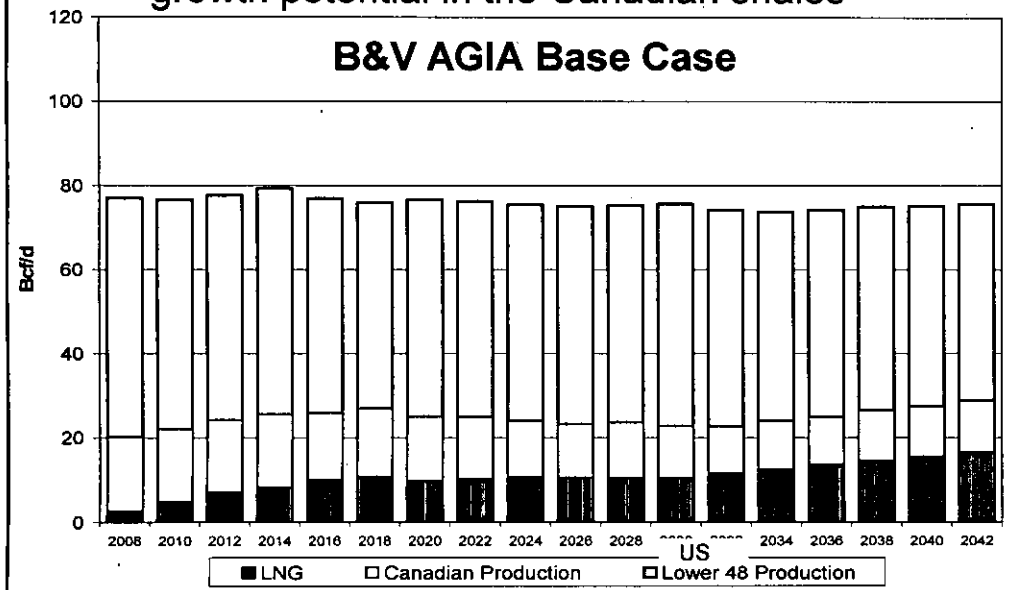
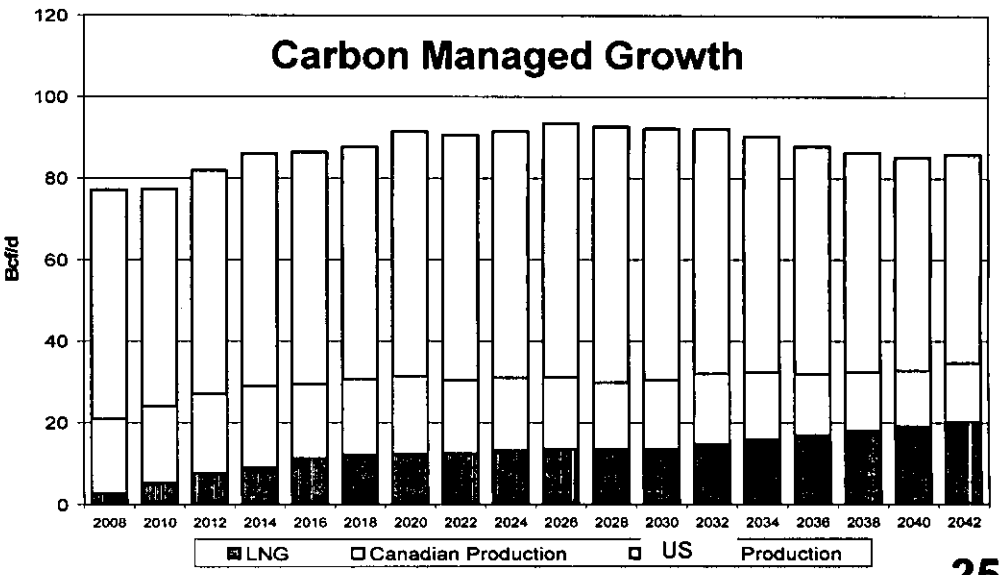
Additional LNG imports and more unconventional productions from the US is necessary in order to meet the lower 48 demand growth

- Additional LNG imports will be needed to meet the demand growth; 6.4 Bcf/d by 2042 in the Carbon Managed Growth scenario
- US Production will average 58.3 Bcf/d from 2022-2042 in the Carbon Managed Growth case, which will be 7.8 Bcf/d higher than the B&V AGIA Base Case. Recent developments in shale discoveries in Haynesville and Marcellus indicate greater production potentials from these unconventional resources. The production growth can be considered as a proxy.
- Canadian production continues to decline in both cases. In the Carbon Managed Growth case, Canadian production is 3.7 Bcf/d higher than in the B&V AGIA Base Case, which may approximately reflect the growth potential in the Canadian shales





Source: Black & Veatch Analysis

Impact of Carbon Regulation on AECO Price Forecasts

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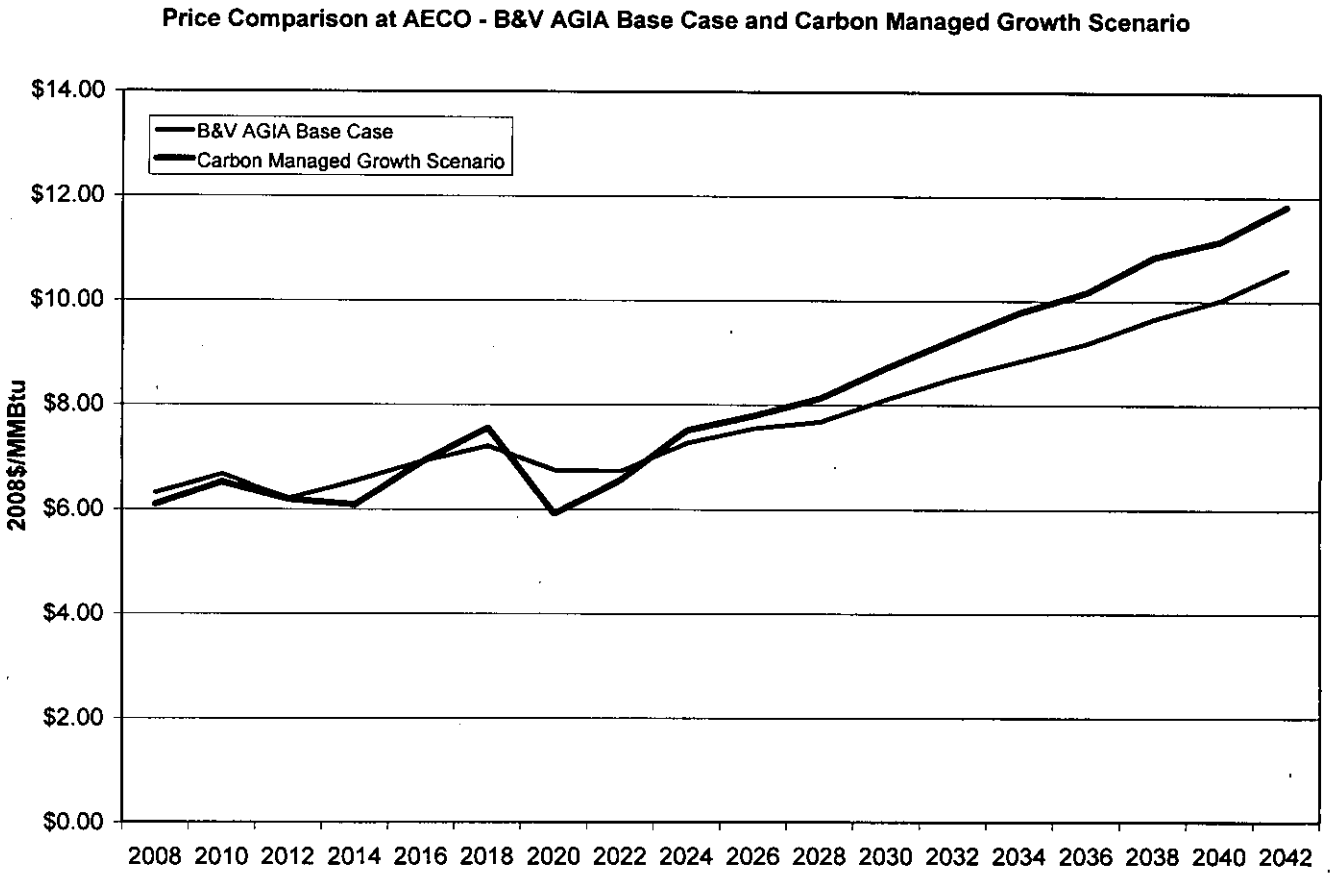
- The Carbon Managed Growth case has sufficient supplies from North America to meet the high demand from both unconventional production and slightly higher additional LNG volumes
- North American gas price is projected to have a higher price path than in the AGIA base case



Source: Black & Veatch Analysis

Liquid Natural Gas (LNG) Imports

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LNG import volumes have experienced little net change since the legislature approved the AGIA license

Total US LNG Import Volumes

July 2008:	31,019 mmcf
December 2008:	30,708 mmcf

3/25/09 OVERVIEW & UPDATE FROM AGENCIES WITH PIPELINE...

Alaska's Natural Gas – Needed or Not? What About Shale Gas and Carbon Regulation?

AGIA

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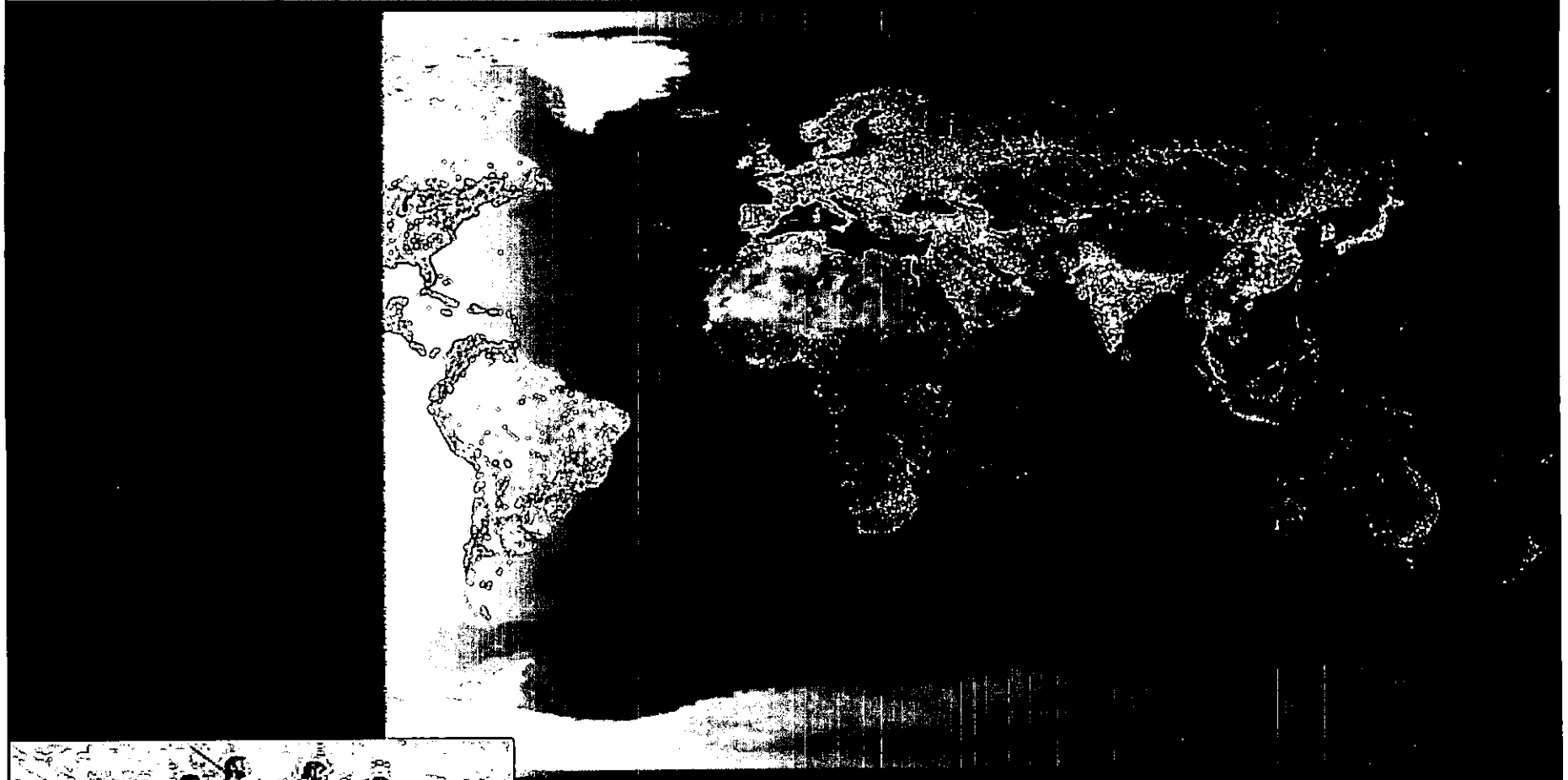

Dr. Mark Myers

March 25, 2009

Alaska's Natural Gas is America's Resource For Enhancing Economic, Environmental and National Security

AGIA
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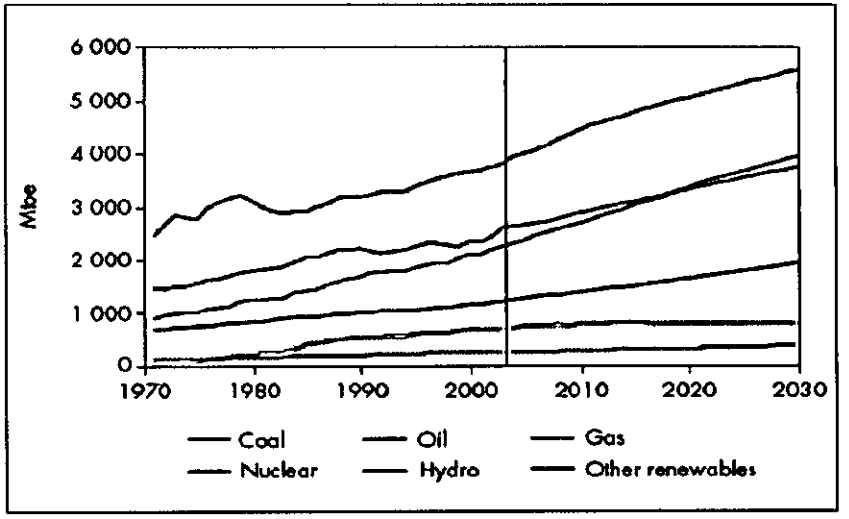
- Global competition for imported energy
- Growing population, long term economic growth heighten worldwide demand
- Environmental consequences of development, extraction, and use of other resources

World Energy Consumption by Source



IEA

The Energy Mix for the United States

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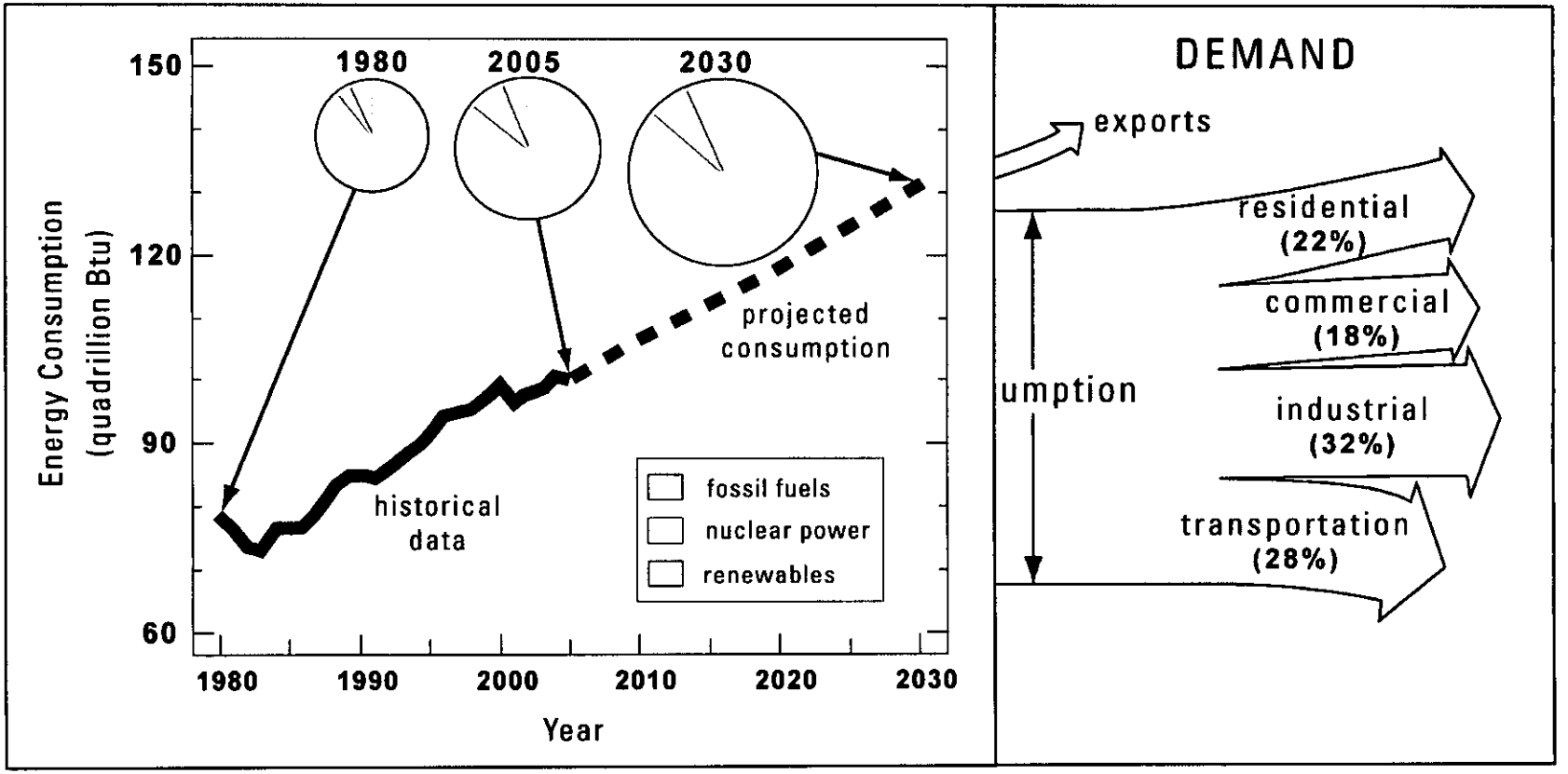

EIA

Large Changes Have Occurred In Fuel Sources

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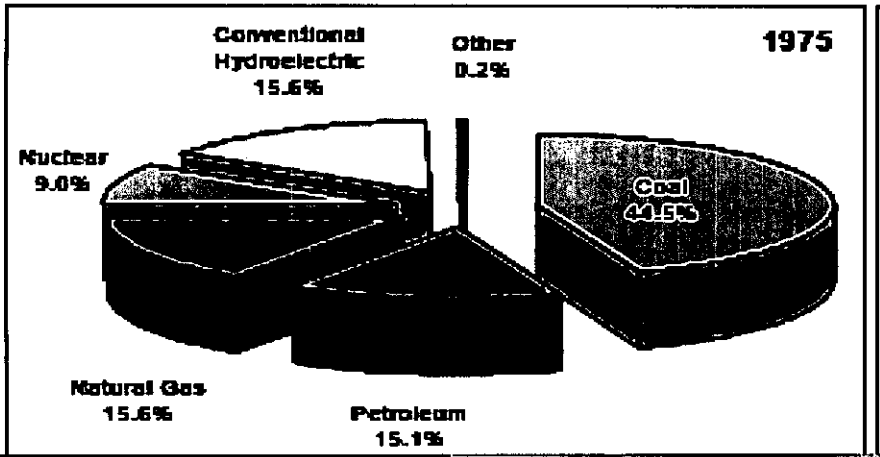
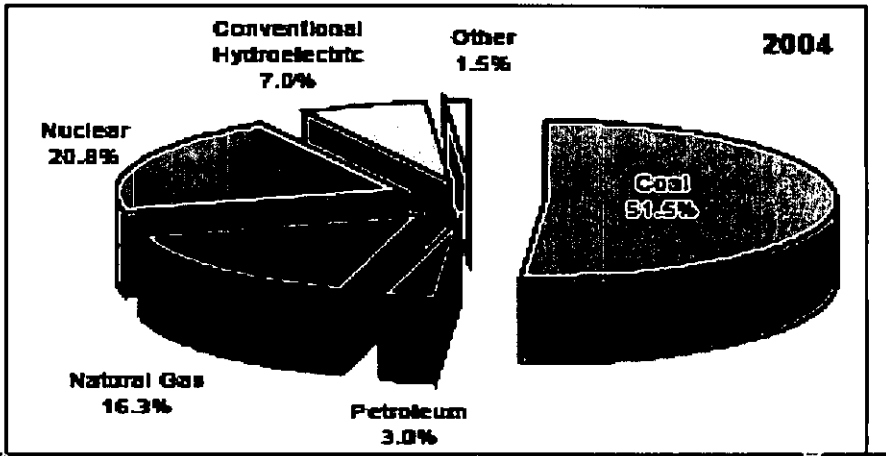
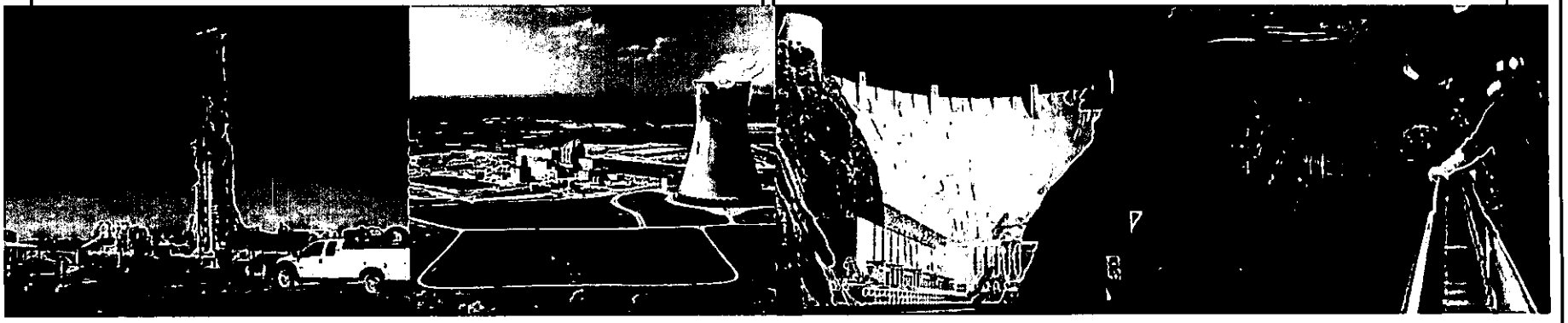
U.S. Electric Power Generation by Fuel Type - Years 1975 and 2004







USGS/EIA

Change in Fuel Type for Electrical Generation Over Three Decades

No Free Lunch: All New Sources of Energy Have There Own Unique Environmental Challenges: Biomass/Water

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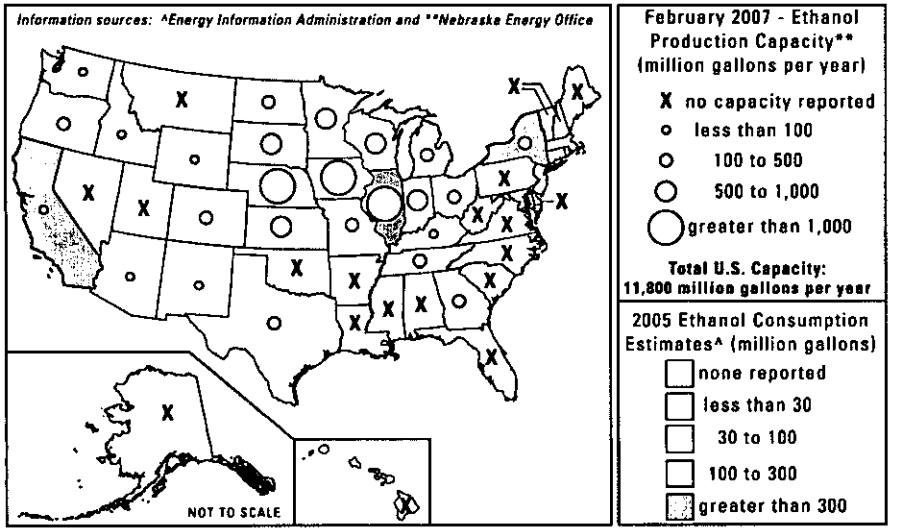
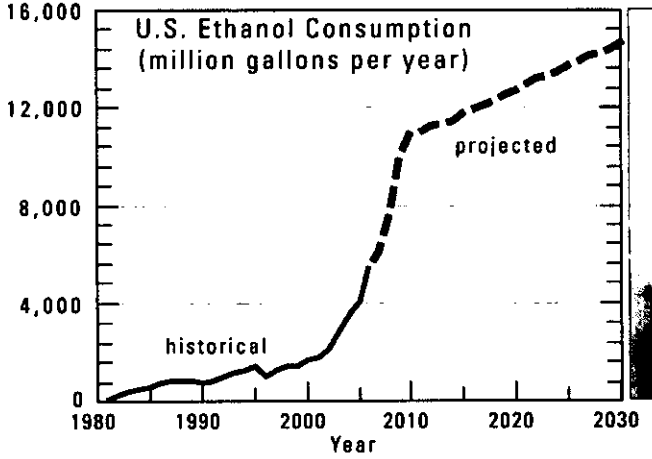
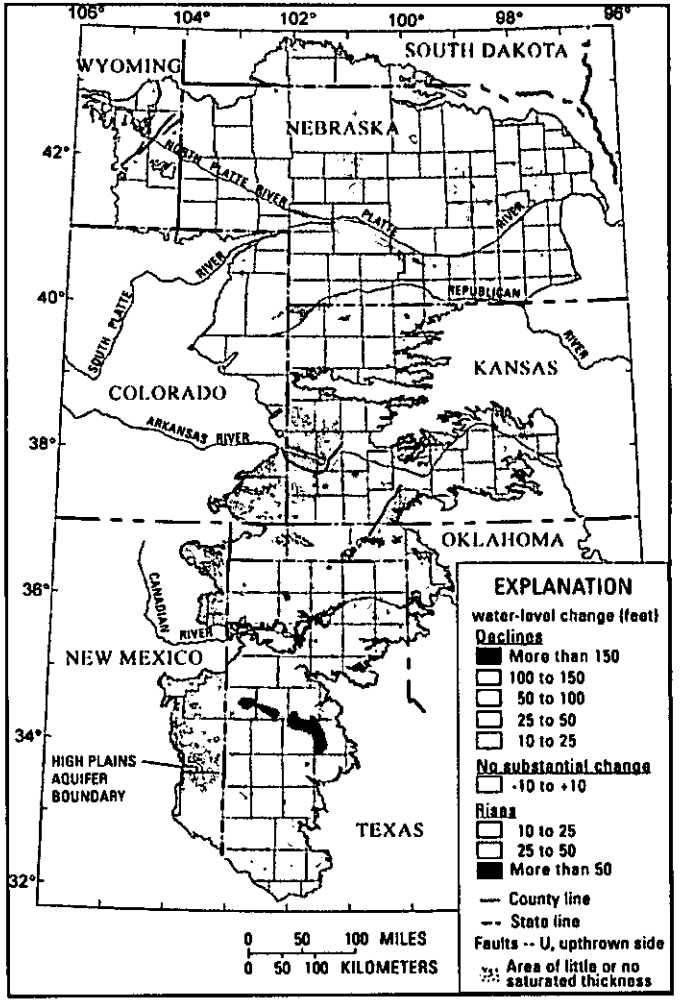
USGS/EIA







The USA Today

AGIA
The Alaska Gasline Inducement Act

- How have things changed since the legislature approved the AGIA license?
  - Global economic downturn with associated rapid decline in oil and gas prices
  - Rapid expansion of unconventional (shale) gas supplies in USA
  - Policy shift limiting access to lower 48 federal lands for non-renewable energy production?
  - First authoritative Arctic oil and gas assessment
  - Increased likelihood of carbon regulation

Economic 'Recession' AGIA

The Alaska Gasline Inducement Act

Jim Mulva, Chairman and CEO ConocoPhillips,
March 13, 2009 - *Petroleumworld.com*

"Costs are coming down pretty dramatically," (Mulva) said. "When we say defer, we're not talking years, we're talking months, quarters, maybe up to a year."

Speaking about the Denali Alaska gas pipeline project, proposed last June by ConocoPhillips and BP, Mulva said President Barack Obama has identified the 4 Bcf/d project as a means of reducing US dependence on foreign oil.

The pipeline would bring North Slope gas down to a pipeline in Alberta for transport to the Lower 48 states. "We know it's going to get far more federal attention," he said. "Obviously, Alaska would like to see it go."

Mulva repeated the partners plan a 2010 open season for gas deliveries; first gas deliveries are eyed for 2019.

While current gas prices have led ConocoPhillips to cut back on its Canadian operations, Mulva discounted the low prices as a roadblock to the pipeline project's development.

"You can't look at gas prices today," he said. "You have to look at prices 10 years from now."

Lower 48 Shale Gas Plays

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United States Shale Gas Plays

www.eia.doe.gov
Energy Information Administration
Office of Oil and Gas

Shale Gas Plays
Basins

Stacked Appalachian Plays
Marcellus
Utica
Devonian (OH shale)

November 2008
Miles
0 150 300 600

N

Shale Gas Provides About 5% of Domestic Production

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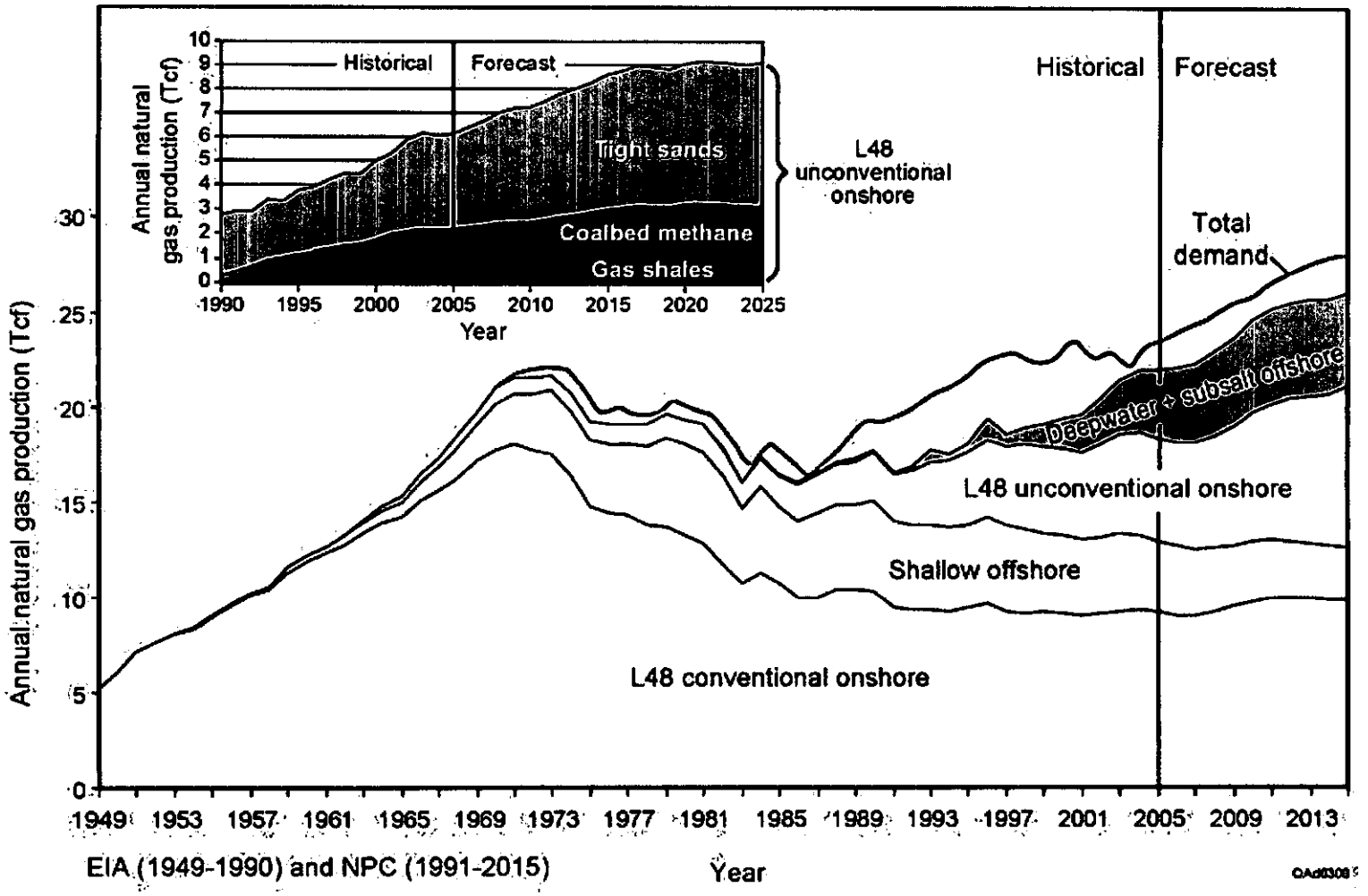

Development of New Unconventional Gas Resources

AGIA
The Alaska Gasline Inducement Act

"Declines [in North America] are expected to accelerate after 2030 coinciding with the increase in LNG import volumes. Black & Veatch expects near-term production growth in the Rockies and shale plays to offset declines in the Gulf Coast and other Lower 48 production basins."

- AGIA Findings and Determination; Appendix G1 – *AGIA NPV Report*

Wyoming Gas Reserves & Production History

AGIA
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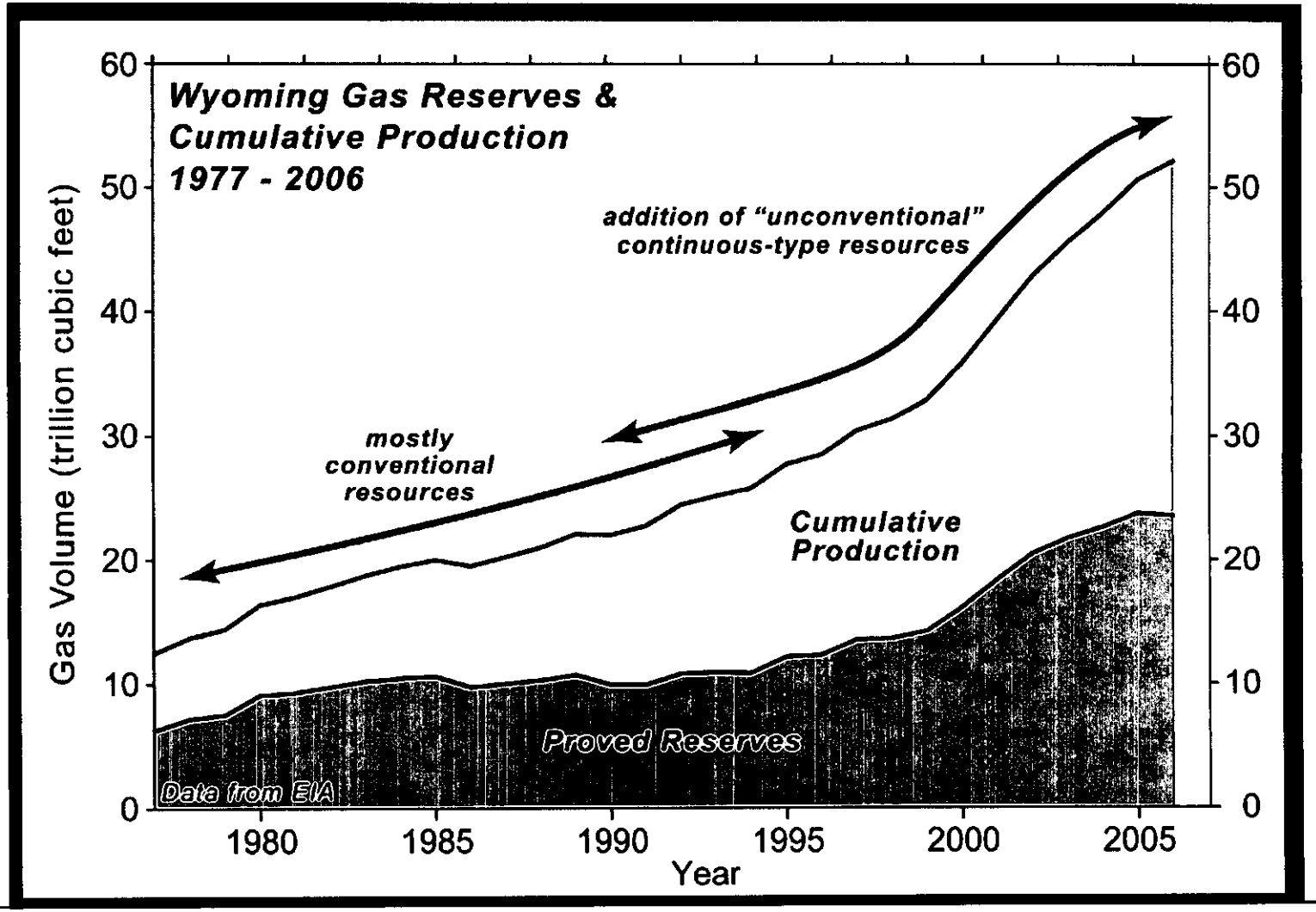
Courtesy of USGS



Arctic Alaska and Russia at the Top

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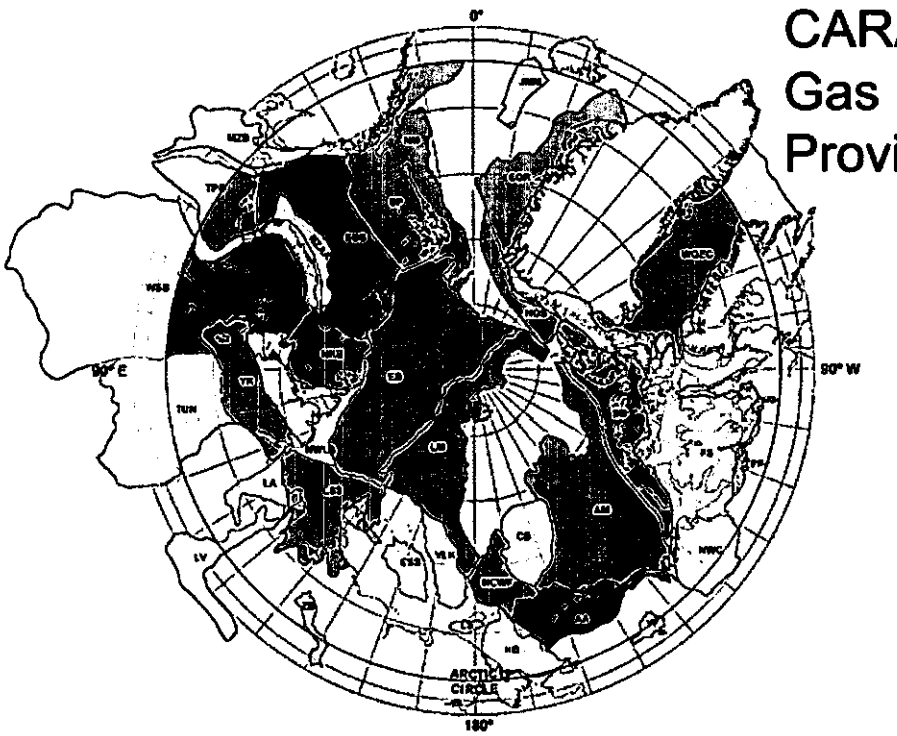
UNDISCOVERED GAS
(trillion cubic feet)

- >100
- 6–100
- <6
- Area not quantitatively assessed
- Area of low petroleum potential



CARA Gas Provinces

Province Code	Province	Oil (MMBO)	Total Gas (BCFG)	NGL (MMBNGL)	BOE (MMBOE)
WSB	West Siberian Basin	[illegible]	[illegible]	[illegible]	132,571.66
AA	Arctic Alaska	29,960.94	221,397.60	5,904.97	72,765.52
EBB	East Barents Basin	7,406.49	217,657.07	[illegible]	61,755.10
EGR	East Greenland Rift Basins	8,902.13	86,180.06	8,121.57	31,387.04
YK	Yenisey-Khatanga Basin	5,583.74	99,964.26	2,675.15	24,919.61
AM	Amerasia Basin	9,723.58	56,891.21	541.69	19,747.14
WGEC	West Greenland-East Canada	7,274.40	51,818.16	1,152.59	17,063.35
	a Shelf	3,115.57	32,562.84	867.16	9,409.87
	n Margin	1,437.29	32,281.01	504.73	7,322.19
	latform	2,055.51	26,218.67	278.71	6,704.00
	asin	1,342.15	19,475.43	520.26	5,108.31
	Basins and Platforms	1,807.26	14,973.58	390.22	4,693.07
	chora Basin	1,667.21	9,062.59	202.80	3,380.44
	enland Sheared Margin	1,349.80	10,207.24	273.09	3,324.09
	w-Makarov	1,106.78	7,156.25	191.55	2,491.04
	Basin	851.11	8,596.36	191.20	2,475.04
	bar Basin	1,912.89	2,106.75	56.41	2,320.43
	ikchi-Wrangel Foreland	85.99	6,065.76	106.57	1,203.52
	lasin	98.03	5,741.87	101.63	1,158.63
	t Laptev Sea Shelf	172.24	4,488.12	119.63	1,039.90
	i Basin	376.86	1,335.20	35.66	635.06
	Basin	47.82	1,505.99	40.14	338.95
	ian Sea Basin	19.73	618.83	10.91	133.78
	in	2.47	648.17	11.37	121.87
	t Canada Interior Basins	23.34	305.34	15.24	89.47
	asin	NQA	NQA	NQA	NQA
	mlya Basins and Admiralty	NQA	NQA	NQA	NQA
	Basin	NQA	NQA	NQA	NQA
	lorderland	NQA	NQA	NQA	NQA
	ts (part of Central Alaska ce)	NQA	NQA	NQA	NQA
	it	NQA	NQA	NQA	NQA
	n Microcontinent	NQA	NQA	NQA	NQA
	n Shelf	NQA	NQA	NQA	NQA
		89,983.21	1,668,657.84	44,064.24	412,157.09

Source: USGS Fact Sheet 2008-3049

Undiscovered, Conventional Gas Resources of the U.S.

Alaska resources = 36% of national total

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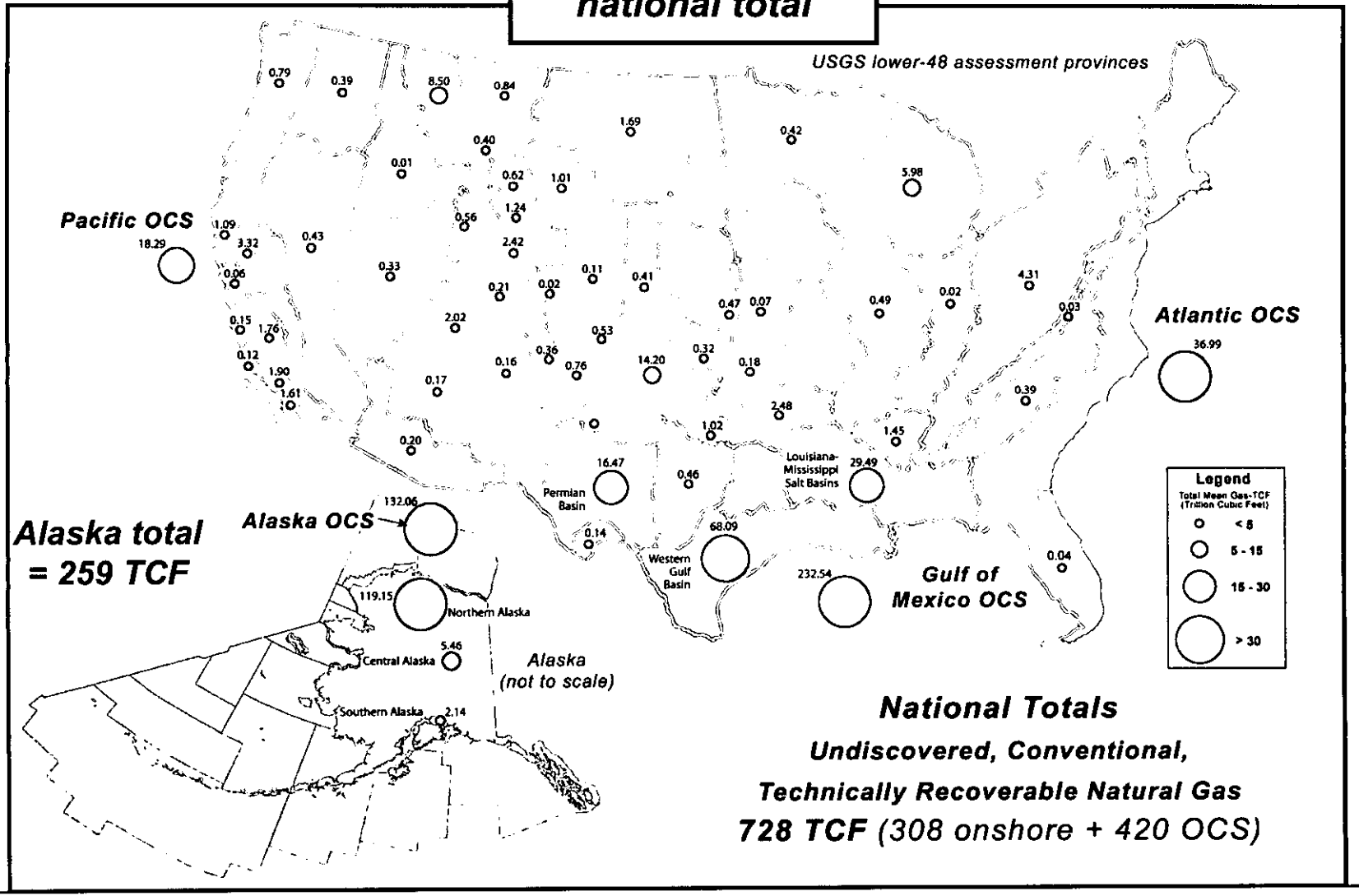
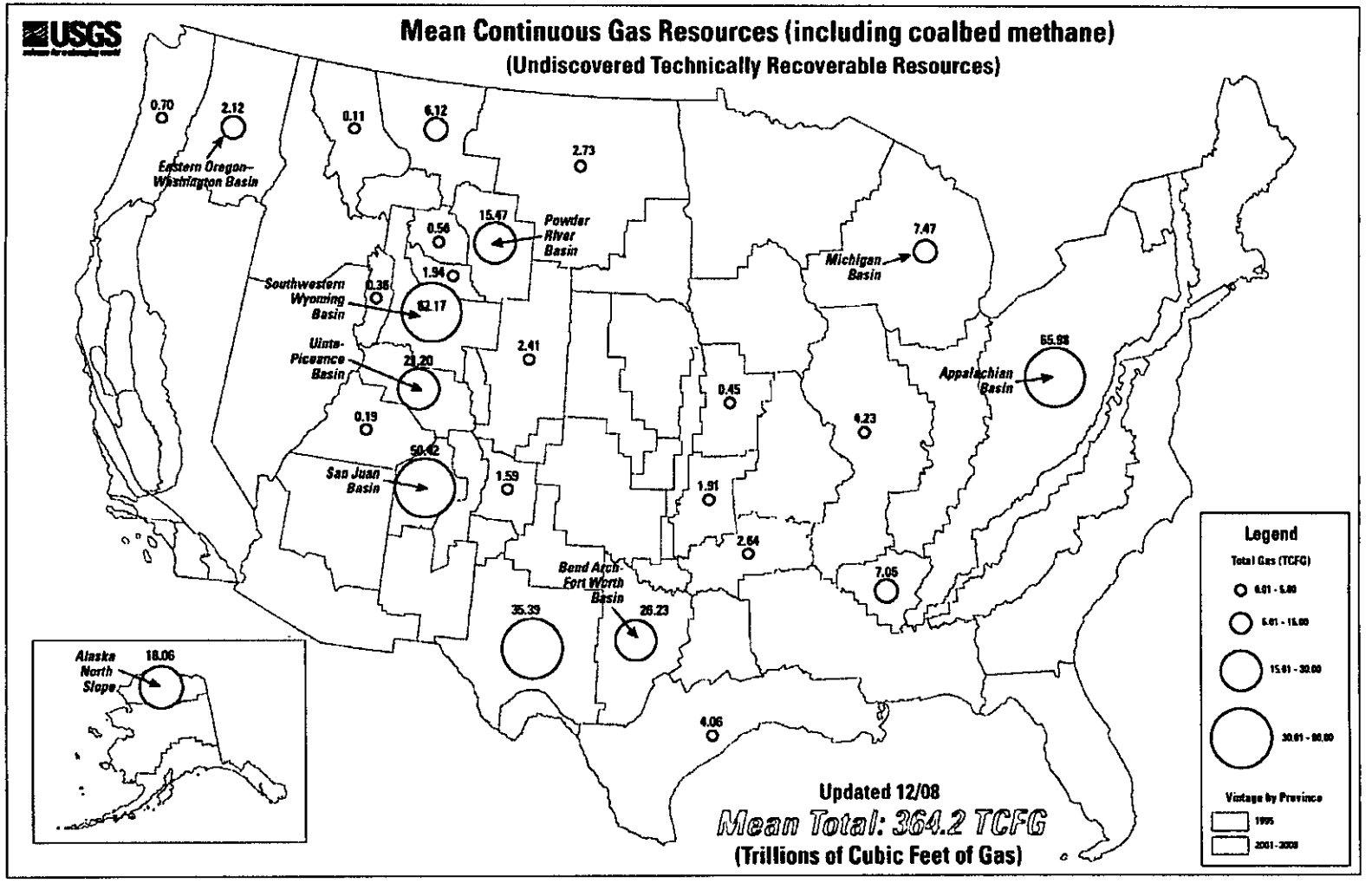
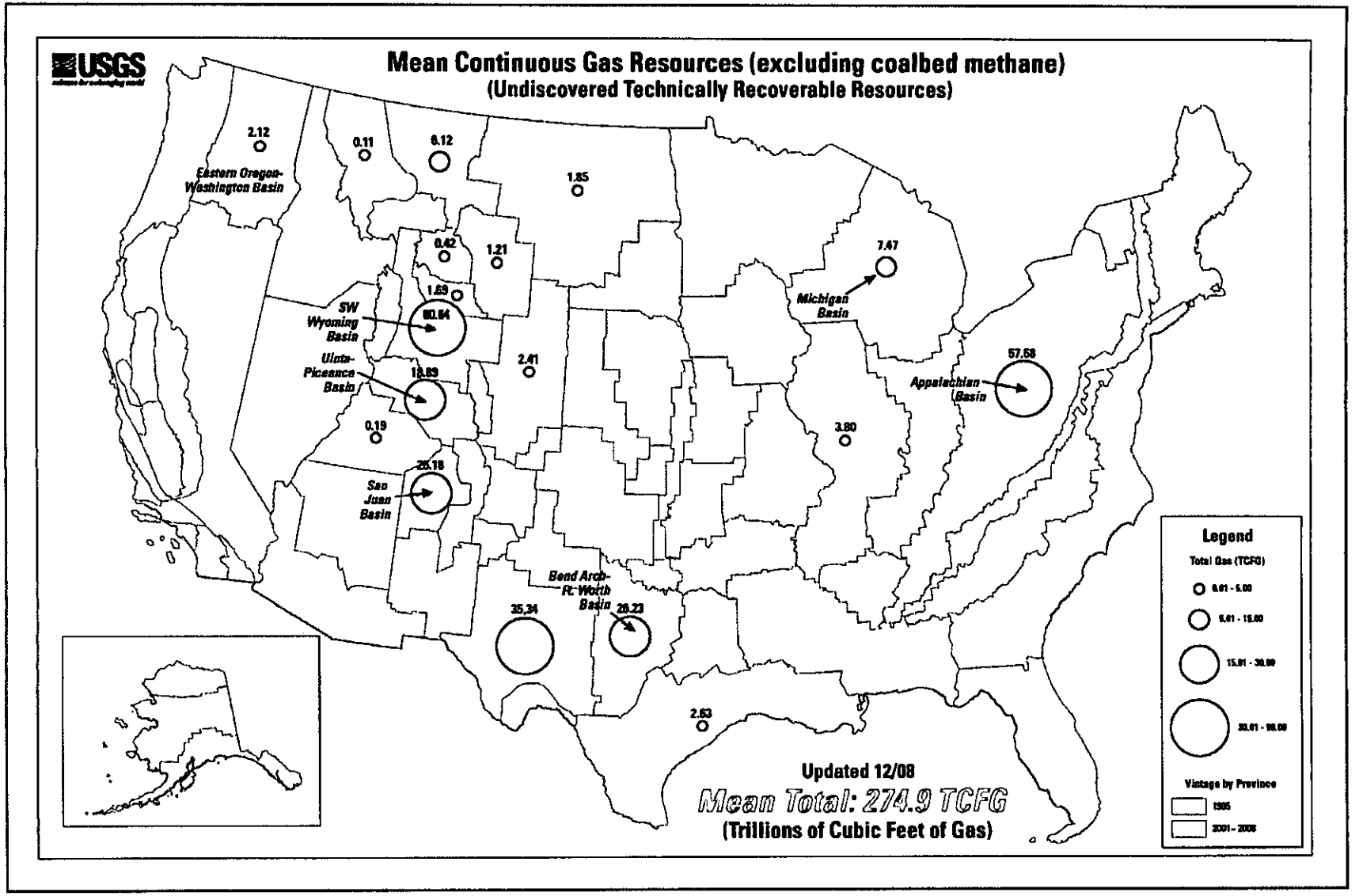


National Totals

Undiscovered, Conventional, Technically Recoverable Natural Gas

728 TCF *(308 onshore + 420 OCS)*


USGS
Mean Continuous Gas Resources (including coalbed methane)
(Undiscovered Technically Recoverable Resources)
0.70
2.12
Eastern Oregon–Washington Basin
0.11
6.12
2.73
15.47
Powder River Basin
0.56
7.47
Michigan Basin
1.94
Southwestern Wyoming Basin
0.38
52.17
Uinta-Piceance Basin
23.20
2.41
65.88
Appalachian Basin
0.45
4.23
0.19
50.42
San Juan Basin
1.59
1.91
2.64
7.05
Bend Arch-Fort Worth Basin
35.39
26.23
4.06
Alaska North Slope
18.06
Updated 12/08
Mean Total: 364.2 TCFG
(Trillions of Cubic Feet of Gas)
Legend
Total Gas (TCFG)
0.01 - 5.00
5.01 - 15.00
15.01 - 30.00
30.01 - 90.00
Vintage by Province
1995
2001 - 2008


USGS
Mean Continuous Gas Resources (excluding coalbed methane)
(Undiscovered Technically Recoverable Resources)
2.12
Eastern Oregon-Washington Basin
0.11
6.12
1.85
0.42
1.21
1.69
80.64
SW Wyoming Basin
Uinta-Piceance Basin
18.89
2.41
7.47
Michigan Basin
57.68
Appalachian Basin
3.80
0.19
25.18
San Juan Basin
Bend Arch-Ft. Worth Basin
35.34
26.23
2.63
Updated 12/08
Mean Total: 274.9 TCFG
(Trillions of Cubic Feet of Gas)
Legend
Total Gas (TCFG)
0.01 - 5.00
5.01 - 15.00
15.01 - 30.00
30.01 - 98.00
Vintage by Province
1995
2001 - 2008

Undiscovered Conventional Gas Potential

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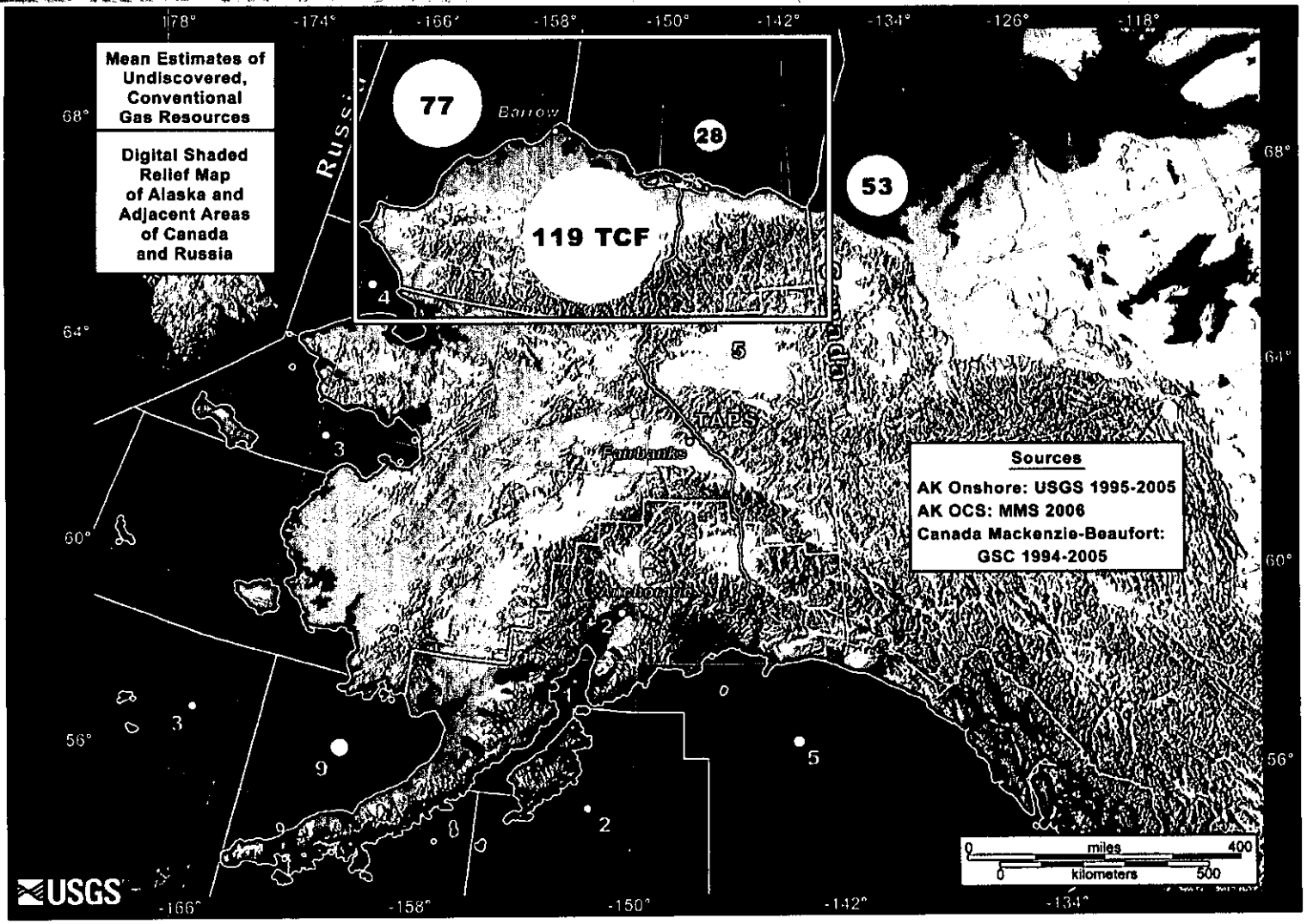

Potential for Undiscovered Petroleum in Arctic Alaska

USGS /MMS

AGIA
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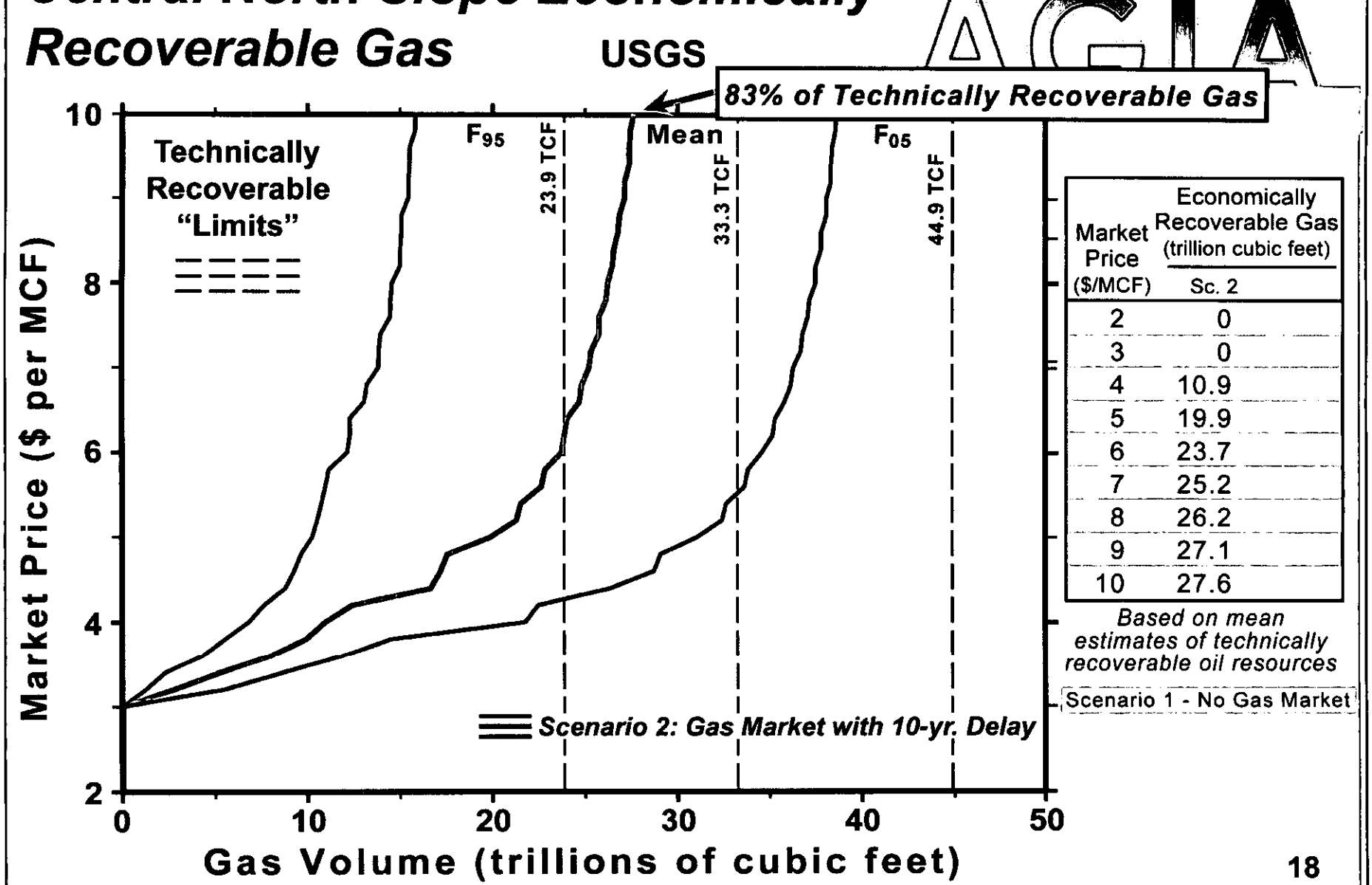
Mean Estimates of Undiscovered, *Conventional* Natural Gas in Arctic Alaska (trillion cubic feet)

	Non-Associated Gas	Associated Gas	Total Gas
Onshore & State Offshore Areas (USGS estimates)			
NPRA	61.35	11.68	73.03
Central North Slope	33.32	4.20	37.52
ANWR, 1002 Area	3.84	4.76	8.60
Subtotal	*98.51*	*20.64*	*119.15*
Federal Offshore Areas (MMS estimates)			
Chukchi Shelf	na	na	76.77
Beaufort Shelf	na	na	27.65
Hope Basin	na	na	3.77
Subtotal	na	na	*108.19*
TOTAL			*227.34*

Central North Slope Economically Recoverable Gas

USGS



Market Price ($/MCF)	Economically Recoverable Gas (trillion cubic feet) Sc. 2
2	0
3	0
4	10.9
5	19.9
6	23.7
7	25.2
8	26.2
9	27.1
10	27.6

Based on mean estimates of technically recoverable oil resources

Scenario 1 - No Gas Market

North Slope Gas Potential

DOE

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Location	Estimate of undiscovered technically recoverable conventional natural gas (Trillion Cubic Feet) Mean	Estimate of economically recoverable* natural gas reserves (Trillion Cubic Feet) Mean
National Petroleum Reserve, Alaska	73.0	31.0
Central North Slope, State Lands	37.5	33.3
ANWR 1002 area	8.6	1.0
TOTAL Onshore Potential	119 TCF	66.3 TCF
Chukchi Sea	76.8	50.0
Beaufort Sea	27.7	21.0
Hope Basin	3.8	
?		
TOTAL Offshore Potential	108 TCF	71.0 TCF
TOTAL	227 TCF	137.3
TCF		

Data Sources: Regional Resource Assessments from the U.S. Geological Survey, http://energy.usgs.gov/alaska/ and Minerals Management Service http://www.mms.gov/alaska/re/reports/2006Asmt/

*NETL This study did not include Hope Basin.

pd08

Alaska's North Slope is Very Under-Explored

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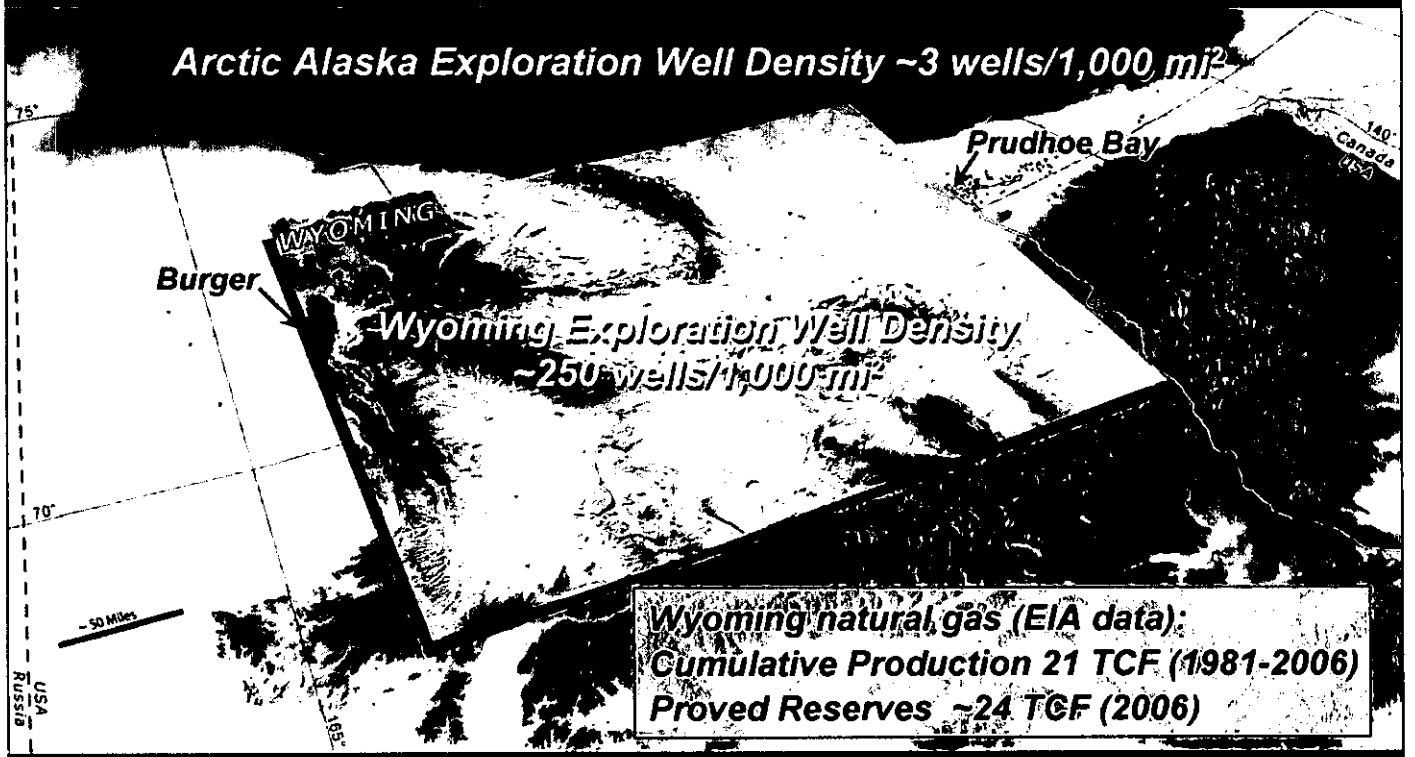
Arctic Alaska Exploration Maturity

- Prospective area onshore & offshore shelves ~ 150,000 mi² (~400,000 km²)
- Fewer than 500 exploration wells (red dots)



- Entire state of Wyoming ~100,000 mi² (~250,000 km²)
- Petroleum-prospective area ~75,000 mi² (~250,000 km²)
- ~19,371 exploration wells

14

Courtesy of USGS

Unconventional Gas Resources (continuous resources)

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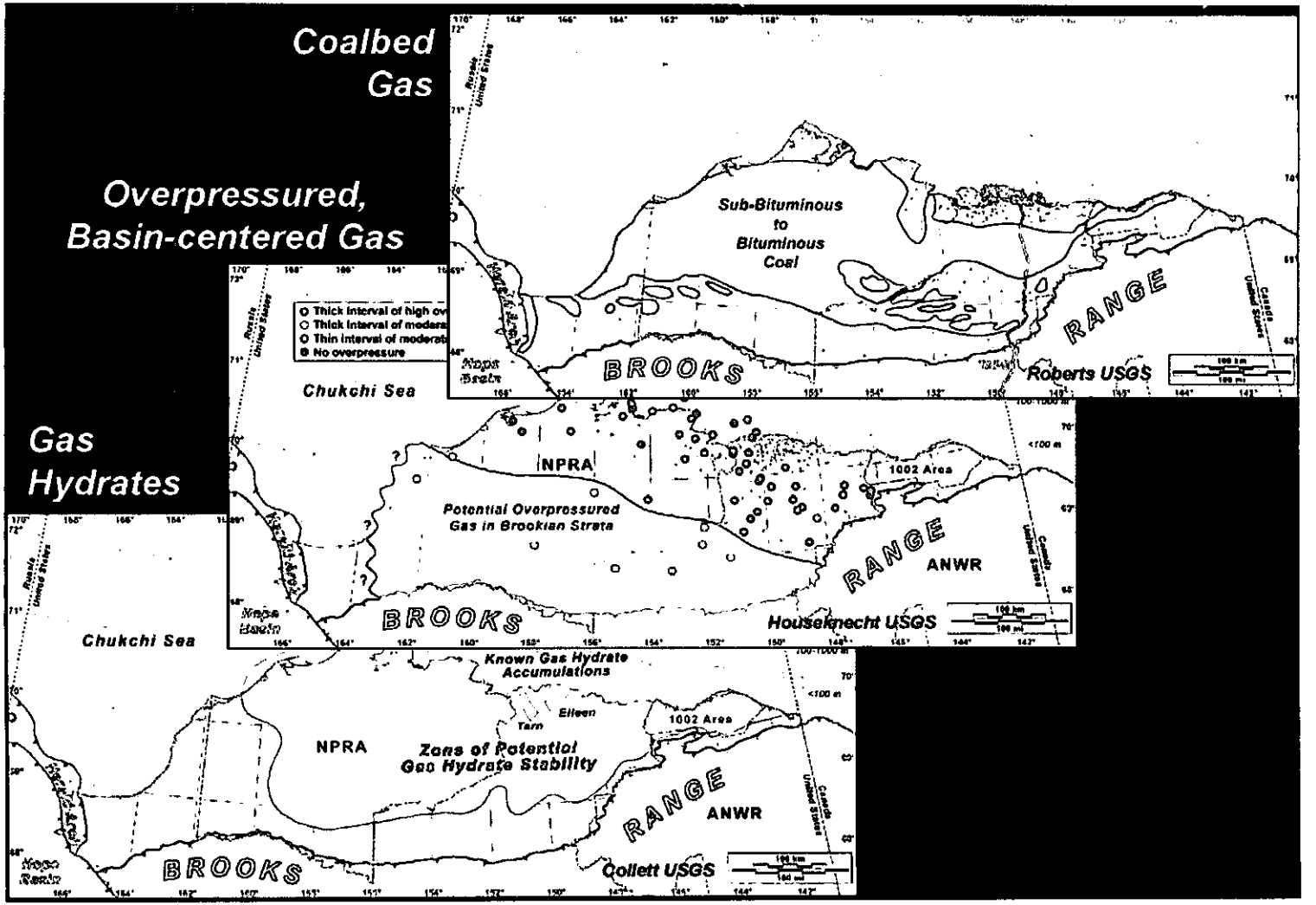

Alaska North Slope Natural Gas Hydrate Assessment Results

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[BCFG, billion cubic feet of gas. MMBNGL, million barrels of natural gas liquids. Results shown are fully risked estimates. F95 represents a 95-percent chance of at least the amount tabulated; other fractiles are defined similarly. Fractiles are additive, assuming perfect positive correlations. NGL, natural gas liquids; TPS, total petroleum system; AU, assessment unit.]

Total Petroleum System and Assessment Unit	Field Type	*Total Undiscovered Resources*							
		Gas (BCFG)				*NGL (MMBNGL)*			
		F95	F50	F5	Mean	F95	F50	F5	Mean
Northern Alaska Gas Hydrate TPS									
Sagavanirktok Formation Gas Hydrate AU	*Gas*	6,285	19,490	37,791	20,567	0	0	0	0
Tuluvak-Schrader Bluff-Prince Creek Formations Gas Hydrate AU	*Gas*	8,173	26,532	51,814	28,003	0	0	0	0
Nanushuk Formation Gas Hydrate AU	*Gas*	10,775	35,008	68,226	36,857	0	0	0	0
Total Undiscovered Resources		**25,233**	**81,030**	**157,831**	**85,427**	**0**	**0**	**0**	**0**

Source: USGS Fact Sheet 2008-3073

Alaska's Arctic Natural Gas: Critical Bridge to a Sustainable Future

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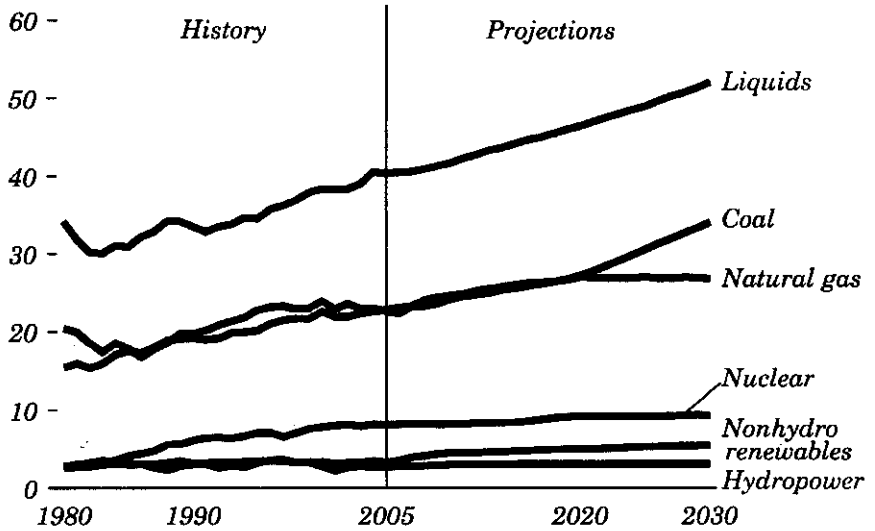
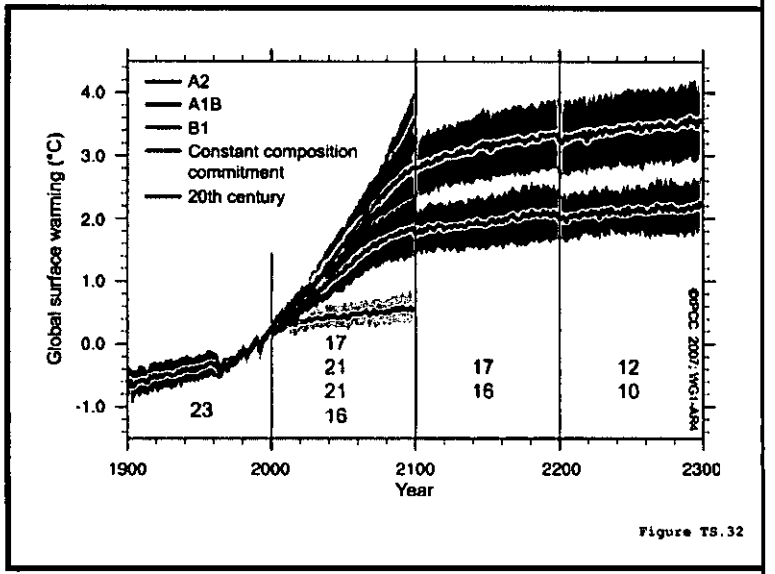
United States Energy Consumption by Fuel



EIA

USGS

Carbon Emissions



IPCC 2007: WG1-AR4

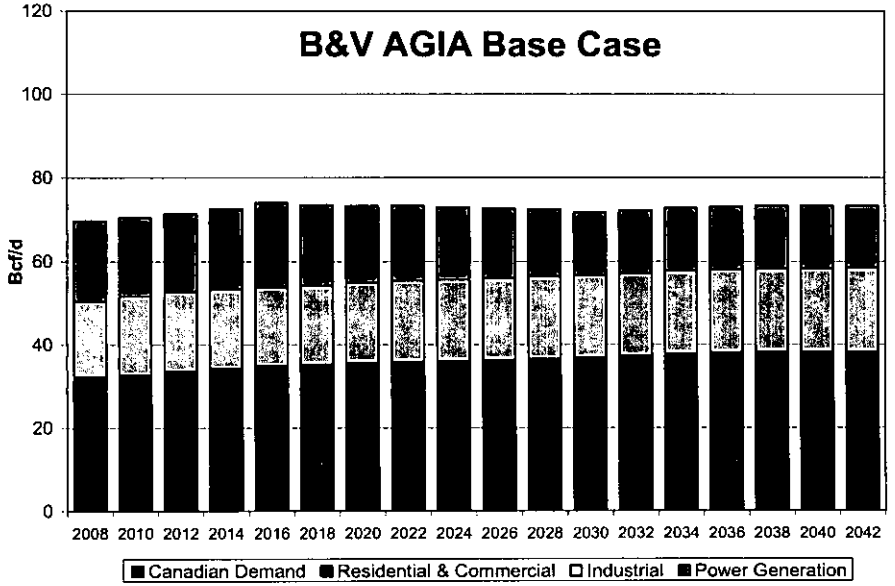
CARA Gas Provinces

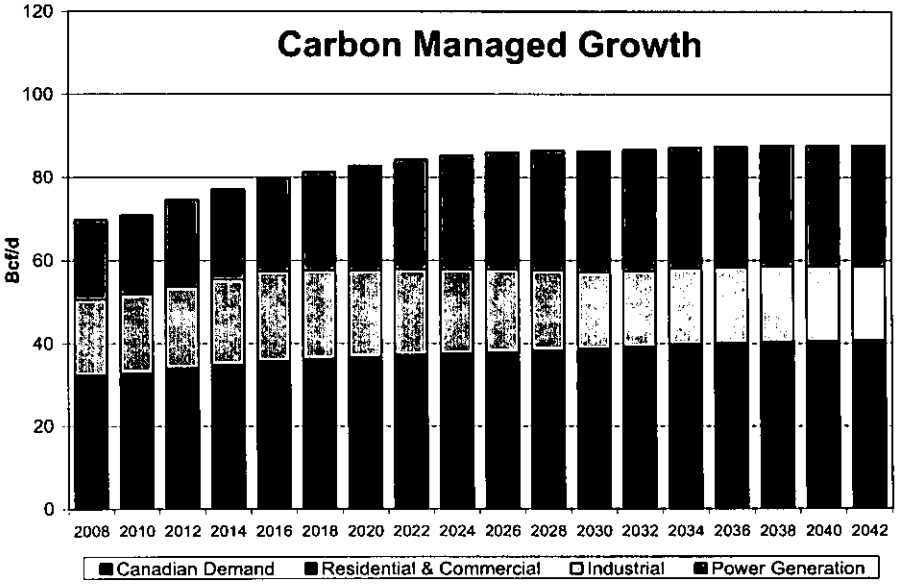
Impact of Carbon Regulation on Natural Gas Demand

AGIA
The Alaska Gasline Inducement Act

In a Carbon Managed Growth case, demand is 14 Bcf/d more than the B&V AGIA Base Case

- Policies and legislations designed to curb Green House Gas could reduce dispatch and construction of coal-fired generation facilities in favor of natural gas fired facilities, resulting in demand increase from the power sector in the US
- All resources, including renewables, nuclear and IGCC with CCS and gas fired combined cycles are all needed to meet electric demand growth. Gas demand from the power sector will grow from 19 Bcf/d in 2008 to 29 Bcf/d by 2030, with a CAGR of 2%
- Total demand in US lower 48 states is 12.1 Bcf/d higher than BV's AGIA Base Case by 2042. Canada demand is 2.3 Bcf/d higher in the Carbon Managed Growth case





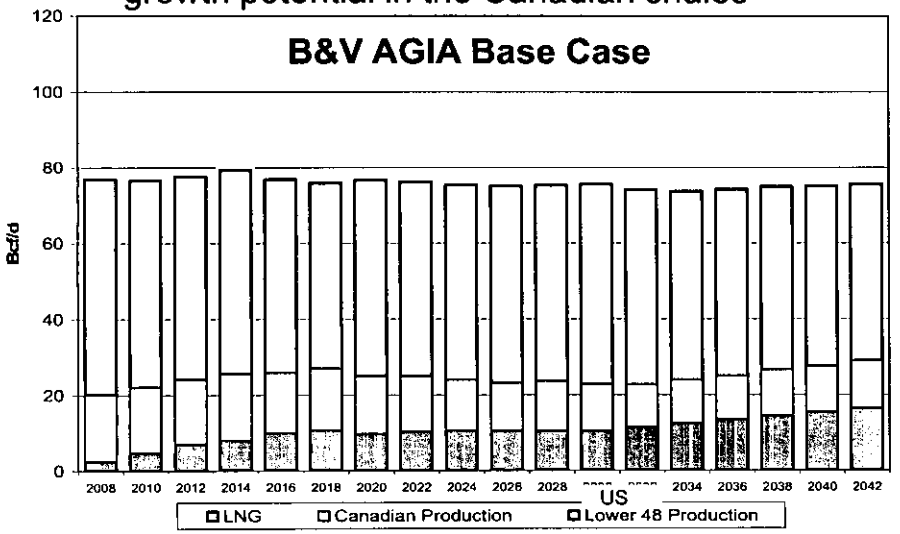
Source: Black & Veatch Analysis

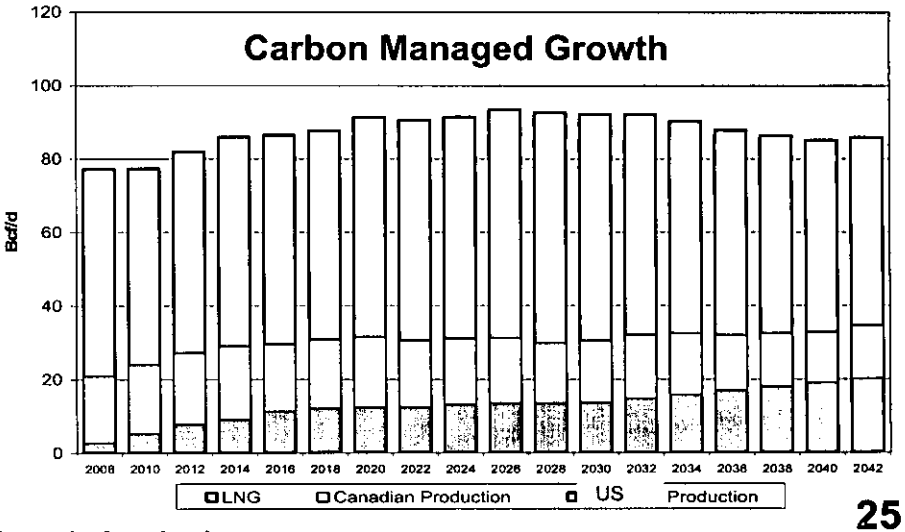
Multiple Different Sources of Natural Gas will be Needed to Meet Lower 48 Demand Growth

AGIA
The Alaska Gasline Inducement Act

Additional LNG imports and more unconventional productions from the US is necessary in order to meet the lower 48 demand growth

- Additional LNG imports will be needed to meet the demand growth; 6.4 Bcf/d by 2042 in the Carbon Managed Growth scenario
- US Production will average 58.3 Bcf/d from 2022-2042 in the Carbon Managed Growth case, which will be 7.8 Bcf/d higher than the B&V AGIA Base Case. Recent developments in shale discoveries in Haynesville and Marcellus indicate greater production potentials from these unconventional resources. The production growth can be considered as a proxy.
- Canadian production continues to decline in both cases. In the Carbon Managed Growth case, Canadian production is 3.7 Bcf/d higher than in the B&V AGIA Base Case, which may approximately reflect the growth potential in the Canadian shales



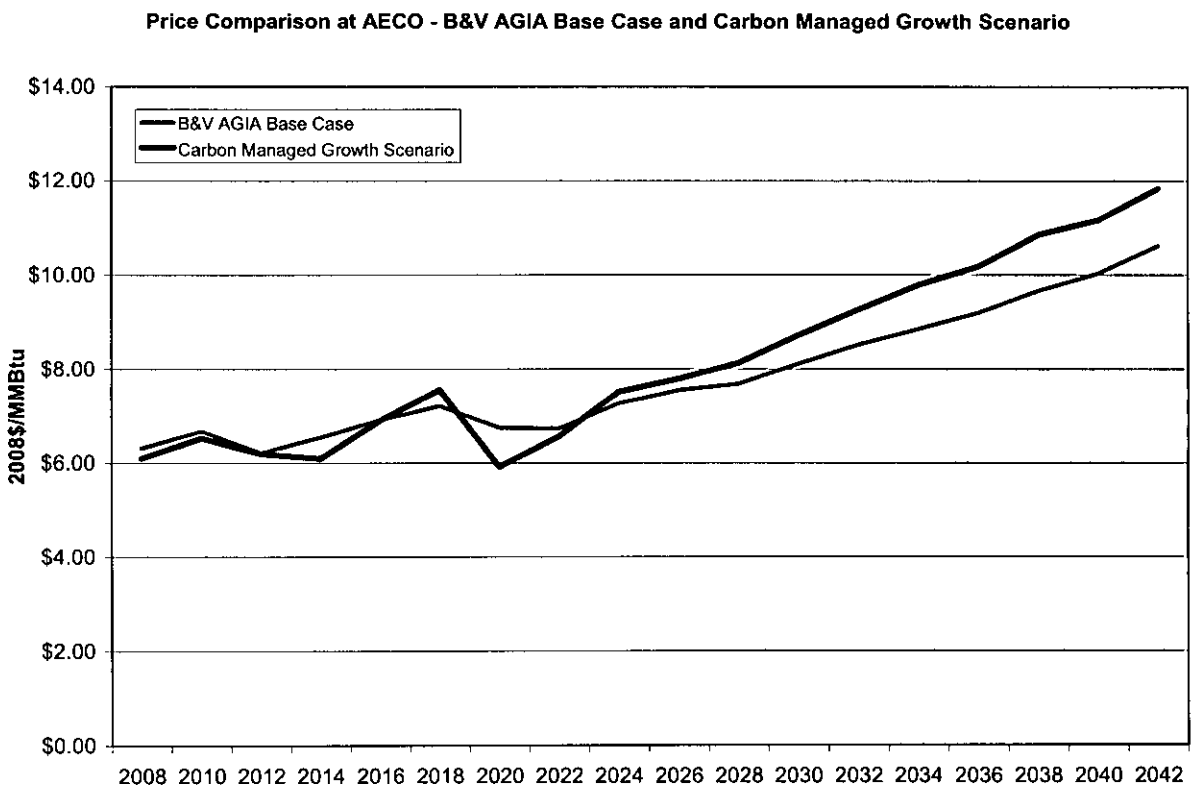


Source: Black & Veatch Analysis

Impact of Carbon Regulation on AECO Price Forecasts

AGIA
The Alaska Gasline Inducement Act

- The Carbon Managed Growth case has sufficient supplies from North America to meet the high demand from both unconventional production and slightly higher additional LNG volumes
- North American gas price is projected to have a higher price path than in the AGIA base case



Source: Black & Veatch Analysis

Liquid Natural Gas (LNG) Imports

AGIA
The Alaska Gasline Inducement Act

LNG import volumes have experienced little net change since the legislature approved the AGIA license

Total US LNG Import Volumes

July 2008:	31,019 mmcf
December 2008:	30,708 mmcf

UNITED STATES DEPARTMENT OF TRANSPORTATION
Pipeline and Hazardous Materials Safety Administration

Hearing on

The Overview and Update of Federal and State Agencies with Pipeline Oversight Responsibilities

Before the
Senate Resources Committee of the
Alaska State Legislature

Written Statement of the
U.S. Department of Transportation

2268

WRITTEN STATEMENT
OF
DENNIS HINNAH, DEPUTY DIRECTOR, WESTERN REGION,
PIPELINE AND HAZARDOUS MATERIALS SAFETY ADMINISTRATION
U.S. DEPARTMENT OF TRANSPORTATION
BEFORE THE
SENATE RESOURCES COMMITTEE
ALASKA STATE LEGISLATURE

March 25, 2009

INTRODUCTION

Co-Chairs McGuire and Wielechowski and members of the Committee, thank you for the invitation to appear today. I am pleased to discuss the actions of the Department of Transportation's Pipeline and Hazardous Materials Safety Administration (PHMSA) in overseeing the safe operation of pipelines in the State of Alaska.

PHMSA is the Federal agency that is responsible for the development and enforcement of pipeline safety regulations for natural gas and hazardous liquid transmission and distribution pipelines, as well as liquefied natural gas (LNG) facilities throughout the country. PHMSA does not currently regulate production facilities on the North Slope because we do not have authority. However, in Alaska, PHMSA does regulate and inspect interstate and intrastate gas transmission pipelines, hazardous liquid pipelines, gas distribution systems and LNG facilities. The hazardous liquids subject to our regulations include crude oil and refined petroleum products.

Ensuring the safety of 2.3 million miles of pipeline in the country is an enormous task. Our State partners in the lower 48 oversee 90 percent of the pipeline mileage that require operator compliance with pipeline safety regulations, because the vast majority of pipelines are gas distribution pipelines. Alaska is an exception; it does not participate in our Federal/State pipeline safety program. The only other State that does not participate is Hawaii. PHMSA takes pipeline safety in Alaska very seriously. Since 2006, PHMSA increased its staff in Alaska in order to enhance our current capabilities and prepare for oversight of numerous proposed natural gas pipelines. In 2008, I accepted the position of Deputy Director for the office in Anchorage. The Alaska Office currently has four full-time engineer/inspectors, an administrative assistant and me.

PHMSA REGULATED PIPELINES IN ALASKA

PHMSA in Alaska is part of the Western Region, headquartered in Denver, Colorado. We work closely with pipeline owners and operators, the Joint Pipeline Office, the Petroleum Systems Integrity Office, the Office of the Federal Coordinator and other Federal and State regulators.

PHMSA regulates over 40 hazardous liquid and gas pipelines and LNG facilities in Alaska (see attached list and map). We use a risk-based approach to determine which pipelines to inspect each year. Some pipelines such as TAPS are inspected annually, and all pipelines are inspected at least every three years. We also investigate accidents and safety issues. For example, we have been the lead Federal agency investigating the 2006 BP Exploration (Alaska), Inc. (BPXA) spills from two North Slope Oil Transit Lines (OTLs).

After these incidents, we issued a Corrective Action Order (CAO) that eventually contributed to BPXA's decision to replace its Eastern and Western Operating Area OTLs. We conduct inspections that cover pipeline design, construction standards, integrity management, operator qualifications and drug and alcohol requirements. The inspections include document reviews, field inspections and interviews. In addition, we have a role in ensuring operator preparedness and response to any oil spills that may occur.

INCIDENT NOTIFICATIONS AND INVESTIGATIONS

Normally, PHMSA is notified of an incident by the pipeline owner or operator or by the National Response Center. PHMSA regulations require owners and operators to report certain types of incidents. For pipelines we do not regulate, sometimes our first notification is through the news media. For pipelines that we do regulate, however, we contact the pipeline operator and then inform other Federal and State agencies advising them of our findings. For pipelines such as the Trans-Alaska Pipeline System (TAPS), much of the coordination is handled through the Joint Pipeline Office (JPO). The JPO is a consortium of 11 Federal and State agencies to provide oversight of the TAPS and shares information on other pipelines in Alaska. For pipelines that we do not regulate, we usually stay informed by the State or Federal agency conducting the investigation. Based on what we learn, we may investigate independently or with others. In certain cases, we follow up our investigation with an enforcement action.

Examples of the more recent investigations that PHMSA has conducted include: the TAPS PS-9 fire in 2007; the January 15, 2009 incident where

natural gas was pushed into TAPS PS-1; the sinking of M/V Monarch near the Granite Point Platform on the same date; and the residential natural gas explosion on March 12, 2009 in Anchorage.

ENFORCEMENT

In the past three years, PHMSA has initiated several enforcement cases against pipeline operators in Alaska. These cases include CAOs issued to BPXA, Notices of Probable Violation issued to Alyeska and Enstar Natural Gas and additional cases against other operators. These cases are currently in various stages of our normal enforcement process.

In the course of conducting our duty of oversight for the BPXA CAO issued in the aftermath of the March 2006 North Slope oil spill, we have closely monitored the corrective actions the company is required to take, including the replacement of the failed OTLs.

RISK ASSESSMENTS ON THE NORTH SLOPE

PHMSA's Integrity Management (IM) regulations require operators to assess the risks their pipelines pose to High Consequence Areas and to develop programs to mitigate those risks. Pipelines such as TAPS, Alpine and Endicott have already completed this process, and we periodically review the continual updates they are required to make to their IM programs. Under our 2008 Low Stress rule, additional pipeline operators must develop IM programs. We are aware of the risk assessment programs the State of Alaska is performing, and we are committed to sharing certain integrity and risk

information with the State on the pipelines which we have pipeline safety jurisdiction. For example, we are in the process of providing certain PHMSA data and information to the Alaska Department of Environmental Conservation (ADEC) in support of their Alaska Risk Assessment (ARA) project efforts.

RISK-BASED APPROACH

The responsibility for safety rests first with the owners and operators of pipeline facilities. Our mission is to achieve and maintain the safe, environmentally sound and reliable operation of the nation's pipeline transportation system. This requires understanding the condition of the pipelines and assuring that operators take action to address any unsafe condition. We manage oversight based on risk and take a "systems approach" to setting priorities. We make full use of our statutory authority, including new tools provided by the Pipeline Safety Improvement Act of 2002, and the Pipeline Inspection, Protection, Enforcement and Safety (PIPES) Act of 2006. Our progress with the IM programs positioned us to take effective action when BPXA's low stress OTLs failed in Prudhoe Bay in March and August 2006.

Over the past eight years, PHMSA has designed and executed a risk-based systems approach to oversight of the national pipeline infrastructure. We undertook rulemaking projects on a risk prioritized basis, acting first on those parts of the infrastructure that posed the greatest risk to people and then the environment. To begin the program, we defined High Consequence Areas and mapped the locations, including areas unusually sensitive to

environmental damage, in the National Pipeline Mapping System. We have completed, and are implementing, regulations that provide integrity management-based protection for people and the environment that could be affected by a failure from high and low pressure hazardous liquid pipelines, as well as high pressure gas transmission pipelines.

Given the impact of the 2006 BPXA incidents, we were concerned about other immediate risks that could lead to a shutdown of the other feeder lines to TAPS. Acting upon this concern, we deployed a team to update our knowledge of the risks to the other pipelines, including those at the Kuparuk, Alpine, Badami, North Star, Oliktok and Milne Point fields.

DOT'S PIPELINE REGULATIONS

Recently, PHMSA amended our Pipeline Safety Regulations to bring previously unregulated hazardous liquid gathering, and low stress pipelines in rural areas, into our regulatory oversight program. The Low Stress rule will add to our oversight not only of the pipelines in Prudhoe Bay but also those in the Cook Inlet and the Kenai Peninsula. By adding these lines, we are taking a risk-based approach to protect more lines that, in the event of a failure, could spill into an Unusually Sensitive Area (USA). Our assessment of which lines to regulate is based on how they can impact a USA in relation to the pressure of the line and the volume of product that could be spilled.

Through a phased-in approach, the pipeline safety regulations will provide additional and robust integrity protection to areas where oil pipelines in rural areas could affect drinking water resources and endangered species, as well as

other ecological resource concerns. These regulations will enhance corrosion protection by including requirements for continuous monitoring, integrity assessment and leak detection. They will require operators of these lines to follow, among other requirements, safety rules for design, construction, testing and maximum operating pressure. In addition, the regulations will require operators to protect their lines from corrosion and excavation damage, install and maintain line markers, establish operator qualification and damage prevention programs, provide public education and report accidents and safety-related conditions.

CONCLUSION

I assure the members of this Committee that the Administration, Transportation Secretary LaHood and the dedicated men and women of PHMSA share your strong commitment to improving safety, reliability and public confidence in our nation's pipeline infrastructure.

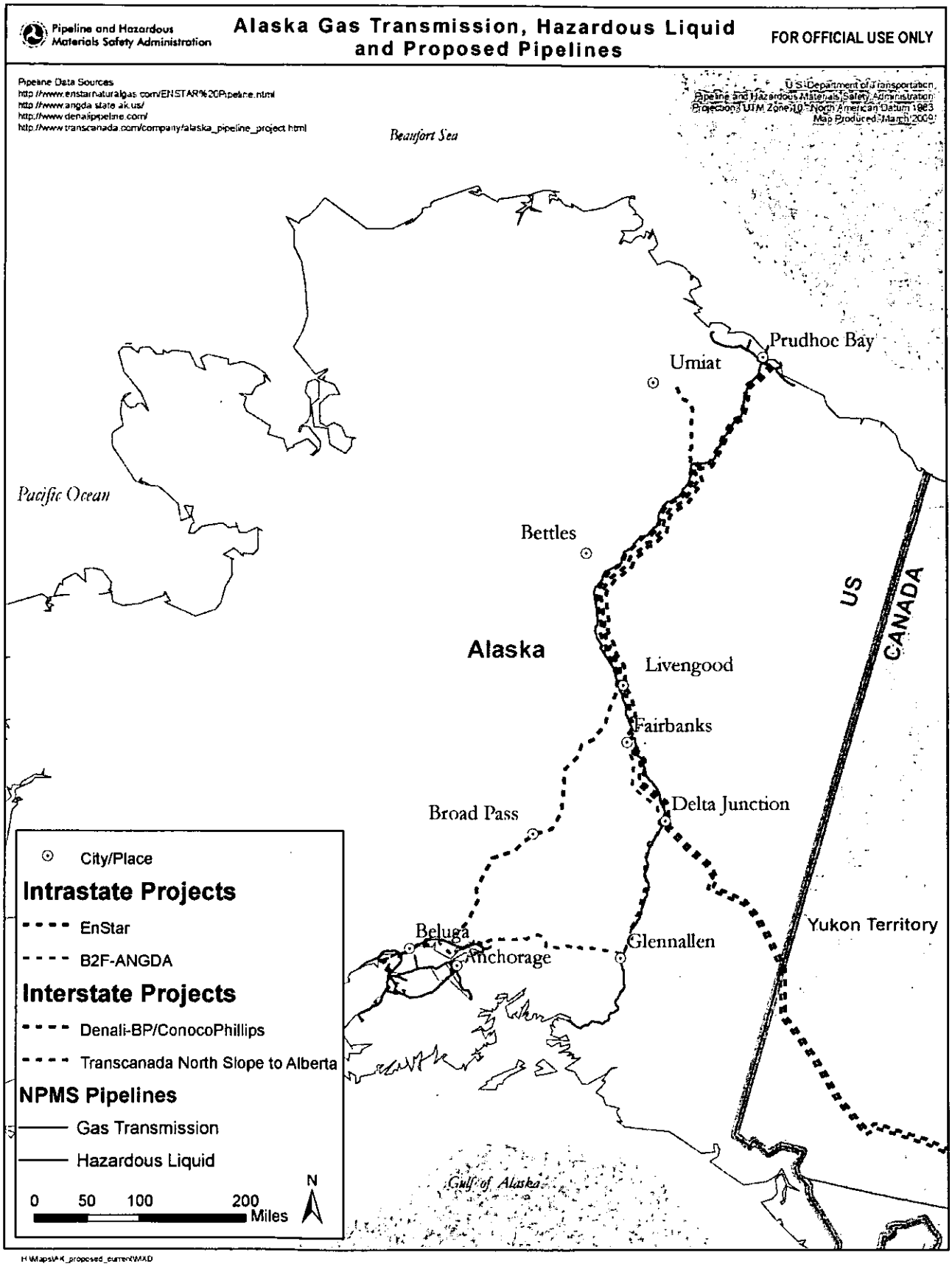
Like you, we understand the importance of our mission relative to the safety of our citizens and to both the energy security and continued economic growth of our great nation.

Thank you.

####

PHMSA REGULATED PIPELINES IN ALASKA

ALPINE CRUDE PIPELINE	KENAI TRANSMISSION PIPELINE
ALPINE DIESEL LINE	KENAI UTILITY SERVICE
ALYESKA FUEL GAS LINE	KENAI-KACHEMAK PIPELINE (KKPL)
ANCHORAGE DIST. SYSTEM	KUPARUK OIL PIPELINE
BADAMI NATURAL GAS TRANSMISSION LINE	MAT SU VALLEY DISTRIBUTION SYSTEM
BADAMI PIPELINE	MILNE POINT PIPELINE
BARROW GAS FIELD TRANSMISSION LINE	NARL
BARROW UTIL & ELECTRIC COOP	NIKISKI AREA GAS LINE
BELUGA TRANSMISSION LINE	NORTHSTAR GAS PIPELINE
BARROW SOUTH GAS HANDLING FACILITY	NORTHSTAR LIQUID PIPELINE
CIGGS SYSTEM	NUIQSUT GAS DISTRIBUTION SYSTEM
COOK INLET PIPE LINE CO	NUIQSUT TRANSMISSION PIPELINE
DEADHORSE DISTRIBUTION	OFFSHORE COOK INLET
DILLON PLATFORM	OFFSHORE/ONSHORE COOK INLET
EAST FORELAND PLATFORMS (GAS)	OLIKTOK NGL LINE
EAST FORELAND PLATFORMS (OIL)	OIL TRANSIT LINES –NORTH SLOPE
ENDICOTT PIPELINE CO	POINT MCKENZIE LNG PRODUCTION FACILITY
FAIRBANKS DISTRIBUTION SYSTEM	TRANS-ALASKA PIPELINE
FAIRBANKS LNG TANKS AND VAPORIZER	PT MCKENZIE GAS TRANSMISSION LINE
FORT RICHARDSON	SIGNATURE FLIGHT SUPPORT PIPELINE
GRANITE POINT PLATFORMS (GAS)	SPARK/SPUR GAS
GRANITE POINT PLATFORMS (OIL)	TERMINAL (VALDEZ)
GRANITE POINT TO BELUGA	TESORO ALASKA PETROLEUM CO
GREATER PRUDHOE BAY (NGL)	TRADING BAY PLATFORMS (GAS)
GVEA PIPELINES	TRADING BAY PLATFORMS (OIL)
HAPPY VALLEY EXTENSION	WEST SIDE COOK INLET
KENAI GAS FIELD TO NIKISKI	WHITTIER/GIRDWOOD DISTRIBUTION PIPELINE
KENAI LNG PLANT	


Pipeline and Hazardous Materials Safety Administration
Alaska Gas Transmission, Hazardous Liquid and Proposed Pipelines
FOR OFFICIAL USE ONLY
Pipeline Data Sources
http://www.enstarnaturalgas.com/ENSTAR%20Pipeline.html
http://www.angda.state.ak.us/
http://www.denalipipeline.com/
http://www.transcanada.com/company/alaska_pipeline_project.html
U.S. Department of Transportation
Pipeline and Hazardous Materials Safety Administration
Projection: UTM Zone 10 North American Datum 1983
Map Produced: March 2009
Beaufort Sea
Prudhoe Bay
Umiat
Pacific Ocean
Bettles
US
CANADA
Alaska
Livengood
Fairbanks
Delta Junction
Broad Pass
Yukon Territory
Beluga
Anchorage
Glennallen
Gulf of Alaska
City/Place
Intrastate Projects
EnStar
B2F-ANGDA
Interstate Projects
Denali-BP/ConocoPhillips
Transcanada North Slope to Alberta
NPMS Pipelines
Gas Transmission
Hazardous Liquid
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N
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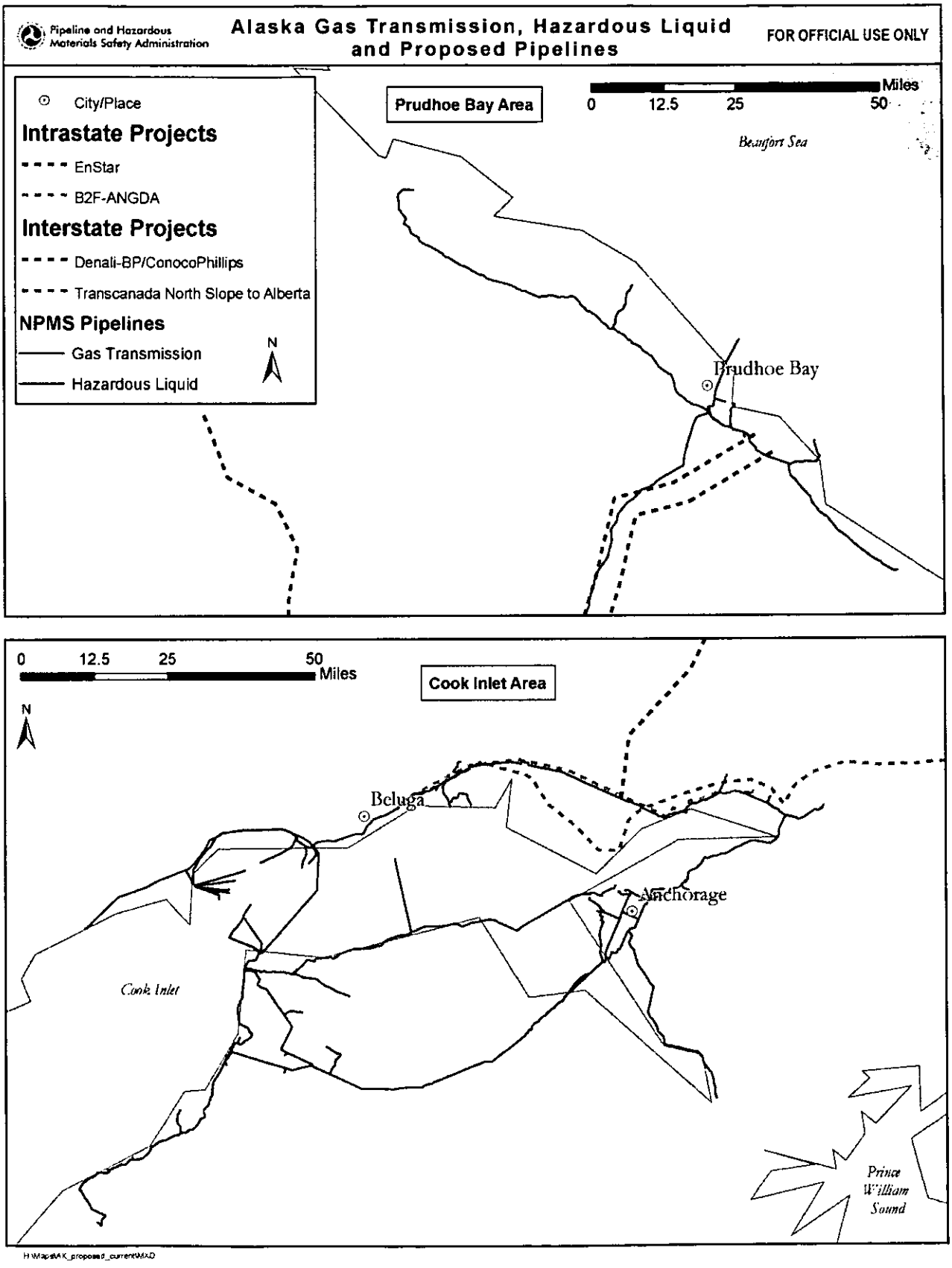
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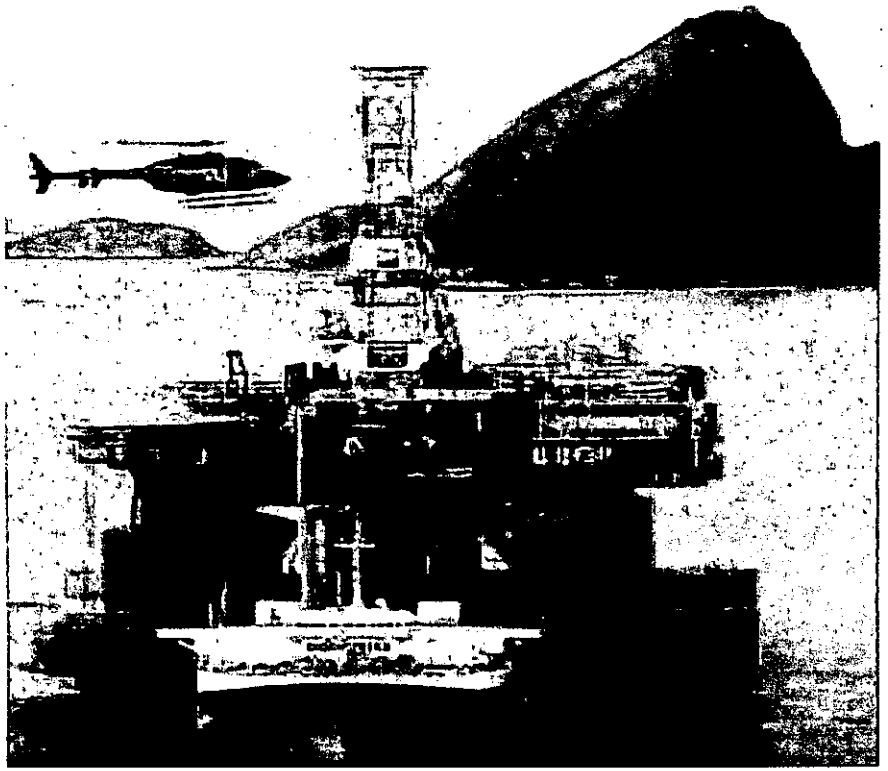
Transcanada North Slope to Alberta
NPMS Pipelines
Gas Transmission
Hazardous Liquid
N
Prudhoe Bay Area
0 12.5 25 50 Miles
Beaufort Sea
Prudhoe Bay
0 12.5 25 50 Miles
N
Cook Inlet Area
Beluga
Anchorage
Cook Inlet
Prince William Sound

Petroleum Systems Integrity Office

May, 2000 Petrobras 36

World's largest floating oil platform off the coast of Brazil



(www.rootcauselive.com/files)

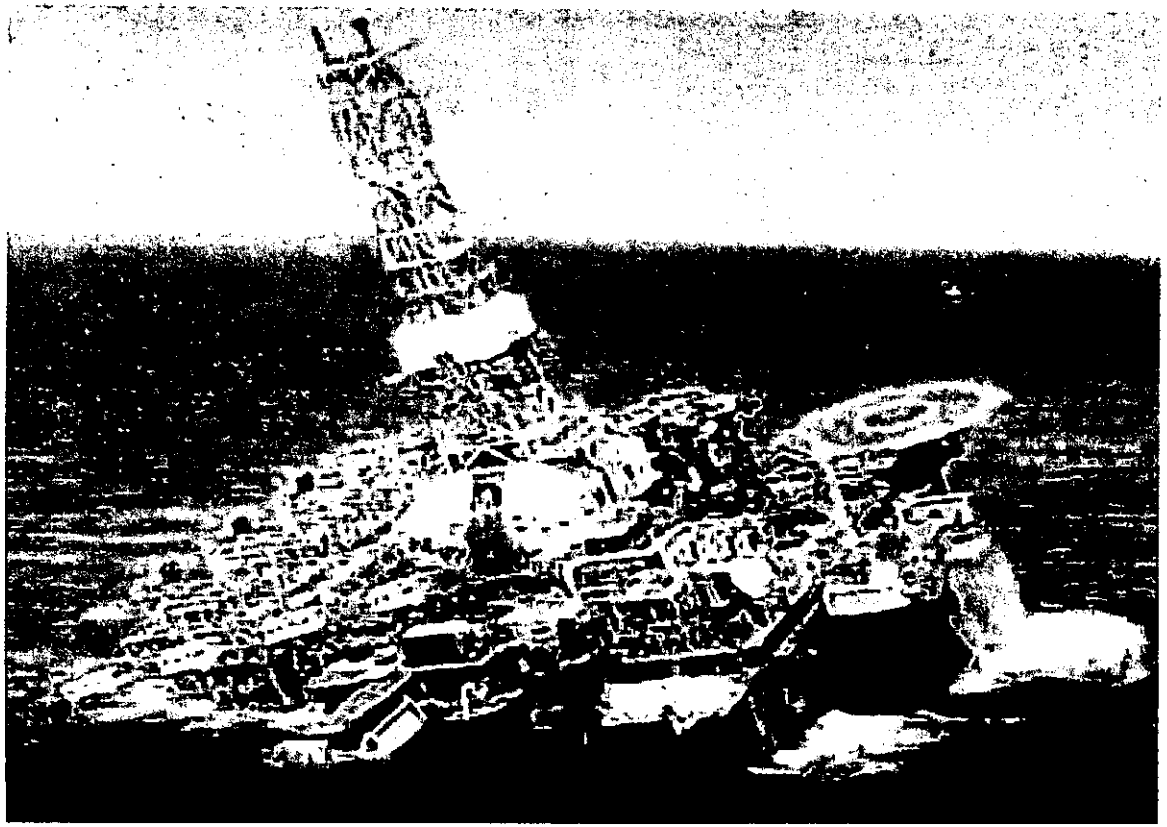
Speech on the new platform design
by a Petrobras executive

"Petrobras has established new global benchmarks for the generation of exceptional shareholder wealth through an aggressive and innovative programme of cost cutting on its P36 production facility. Conventional constraints have been successfully challenged and replaced with new paradigms appropriate to the globalised corporate market place.

Through an integrated network of facilitated workshops, the project successfully rejected the established constricting and negative influences of prescriptive engineering, onerous quality requirements, and outdated concepts of inspection and client control.

Elimination of these unnecessary straitjackets has empowered the project's suppliers and contractors to propose highly economical solutions, with the win-win bonus of enhanced profitability margins for themselves. The P36 platform shows the shape of things to come in the unregulated global market economy of the 21st Century."

March 15, 2001 Petrobras 36



(www.rootcauselive.com/files)

On March 15, 2001, the Petrobras 36 platform in the Roncador Field, Campos Basin, experienced an explosion during drainage operations. The operations were immediately suspended, and emergency trained crew attempted to put out the fire. Shortly later, a second explosion occurred, killing 11 of the 175 people onboard.

In May 2007, a federal judge ruled that Petrobras had to pay a fine of BRL100 million ($50.8 million) for environmental damages caused when the P-36 sank.

Inadequate safety inspections and virtually no quality assurance were blamed for the incident.

PSIO

- Established in April 2007 by Administrative Order 234
- Primary tasks:
  - Coordinate state, federal and local agencies
  - Incident investigation
  - Gap/Overlap Analysis
  - Quality Management

Designated Liaison Agencies

- Department of Environmental Conservation
- Department of Fish and Game
- Department of Public Safety
- Department of Revenue
- Department of Transportation and Public Facilities
- Department of Labor and Workforce Development
- Department of Law
- Department of Natural Resources
- Alaska Oil and Gas Conservation Commission
- Governor's Washington, D.C. Office

Coordinated Efforts Among Agencies

- Event notification and coordination of investigations
- Circulation of employee/public concerns
- Regular liaison interaction
- Regular contact with local, state and federal entities
- Combat the “silo effect”

Recent Coordinated Incident Investigations/Activities

- September 2008 Y-Pad artificial lift gasline rupture
- January 2009 Pump Station 1 pigging incident

Gap Analysis

The Goal of the Gap Analysis is to provide a **comprehensive and cost-effective approach to state oversight** of oil and natural gas facilities, equipment, infrastructure, and activities on state oil and natural gas units and leases.

Process

In coordination with Liaison Officers:

- Identify statutory and regulatory authorities;
- Identify how these authorities are implemented;
- Identify any gaps and overlaps;
- Assess risks associated with any gaps and overlaps;
- Coordinate the review of gaps, overlaps and risks;
- Provide recommendations to DNR Commissioner and Resources Subcabinet

Schedule

- Arcadis hired to do detailed analysis of statutory and regulatory gaps and overlaps
- Data compilation in progress – will begin meeting with PSIO liaisons soon
- Results expected August 2009

PSIO's Gap Analysis & DEC's Alaska Risk Assessment

- The Risk Assessment and Gap Analysis documents will serve as tools in determining how best to coordinate agency efforts to provide a comprehensive and cost-effective approach to oil and gas oversight activities
- Where high risks exist in areas of little or no oversight, those gaps will likely need to be filled.
- Where low risks exist in areas of duplicative oversight, those overlaps will likely need to be removed.

Quality Program

Designated agencies, to the extent authorized through existing legal authorities, shall require the industry businesses to provide a comprehensive description of current practices that includes the quality control, quality assurance, monitoring, inspection, and other practices the business uses to ensure the integrity and reliability of oil and natural gas facilities, equipment, infrastructure, and activities.

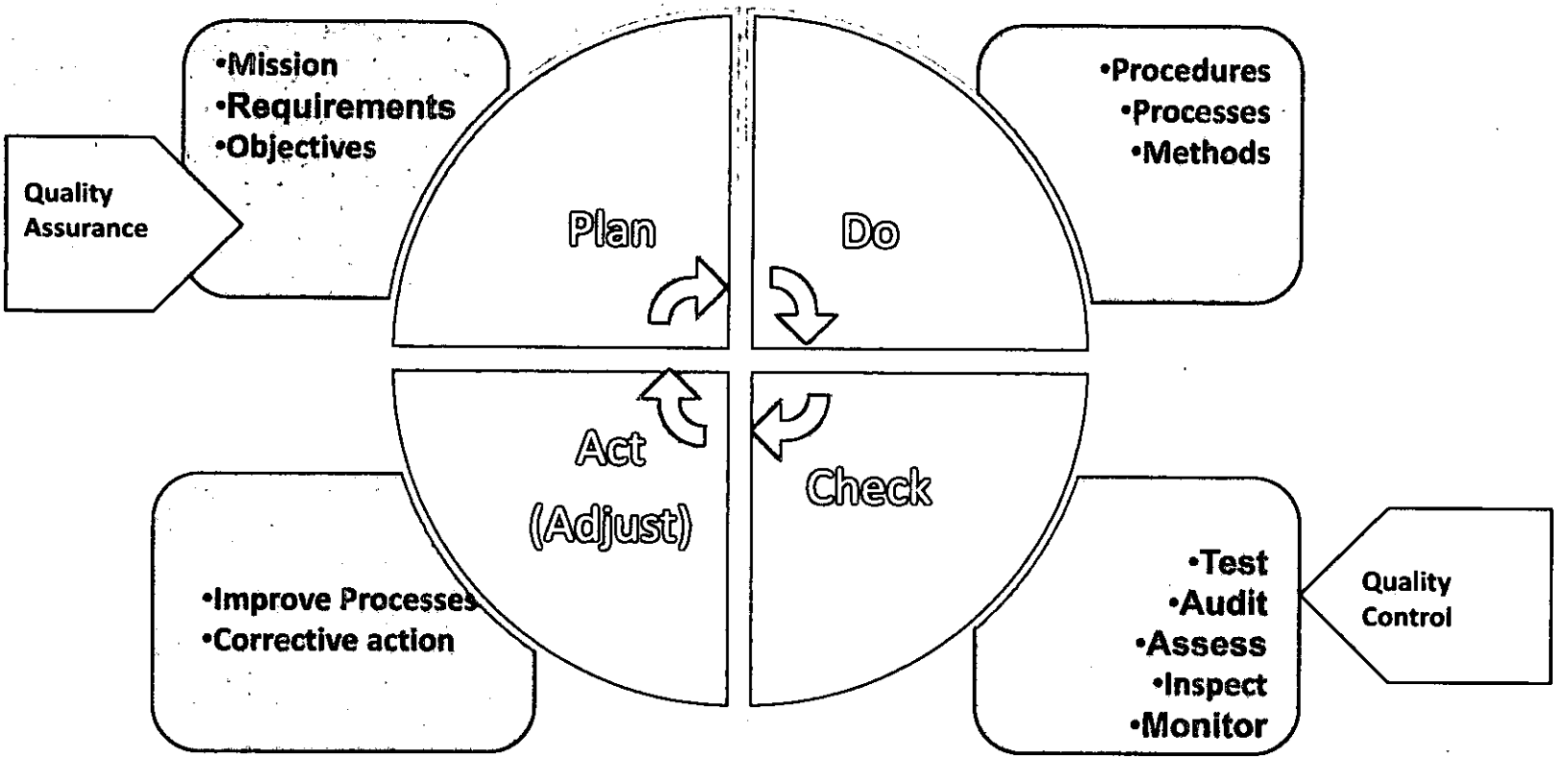
What is Quality Assurance?

- Quality assurance is any systematic process of determining if a product or service meets the mutually agreed upon characteristics and expectations for performance
- Establishes rules and methods (the process) to achieve expected results and conformance to requirements
- The "Plan" component of a quality management system
- Often confused with quality control

What is Quality Control?

- The process steps, procedures and activities employed to measure or test physical characteristics and performance requirements against predetermined criteria
- Is concerned with the product or service
- The "Check" element of a quality management system
- Should not, but is often confused with quality assurance

PDCA Cycle


•Mission
•Requirements
•Objectives
Quality Assurance
Plan
Do
•Procedures
•Processes
•Methods
Act
(Adjust)
Check
•Improve Processes
•Corrective action
•Test
•Audit
•Assess
•Inspect
•Monitor
Quality Control

Quality Management Systems

Fundamentals:

- Quality control;
- Quality assurance;
- Monitoring;
- Inspection; and
- Other practices used to ensure the integrity and reliability of facilities, equipment and infrastructure

Agency Expectations of PSIO

- Help agency personnel become knowledgeable of the elements of quality management systems in order to maintain the integrity and reliability of:
  - Oil and natural gas facilities
  - Equipment
  - Infrastructure
- Understand the benefits of:
  - Plan, Do, Check (Study), Act
  - Performance measurement
  - Continuous Improvement

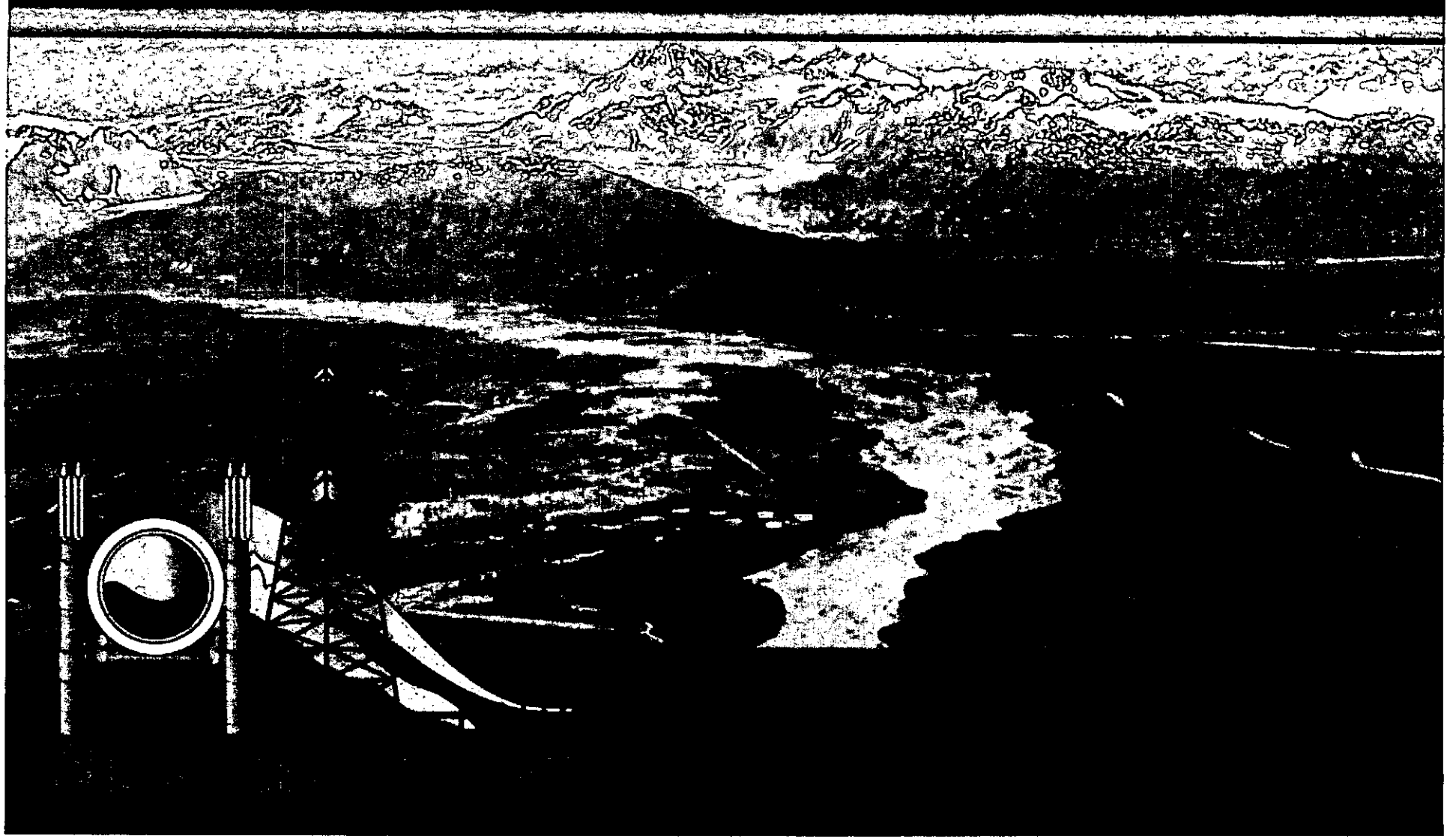
PSIO Expectations of Agencies

- Document evaluations of oil and gas facilities, equipment, infrastructure, work activities and where applicable in the context of quality management
- Effectively communicate results to industry
- Work with the PSIO Coordinator to coordinate review of evaluations, identify gaps, and seek remedial action.

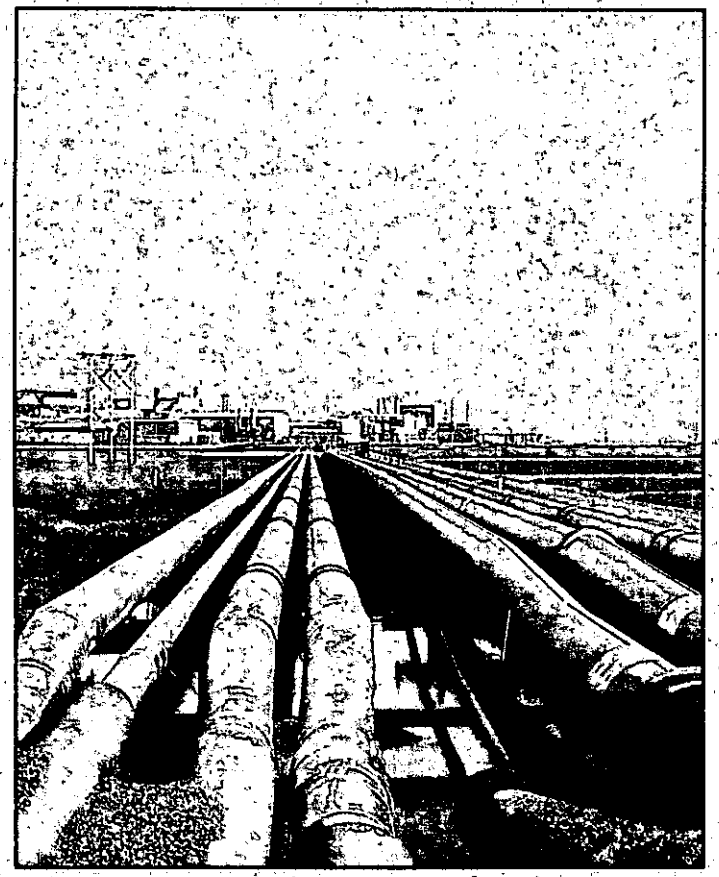
PSIO Expectations of Petroleum Industry

Provide evidence that management systems or processes for quality control, quality assurance, monitoring, inspection and other programs are implemented, effective, and periodically evaluated by upper management.

Alaska Risk Assessment of Oil & Gas Infrastructure



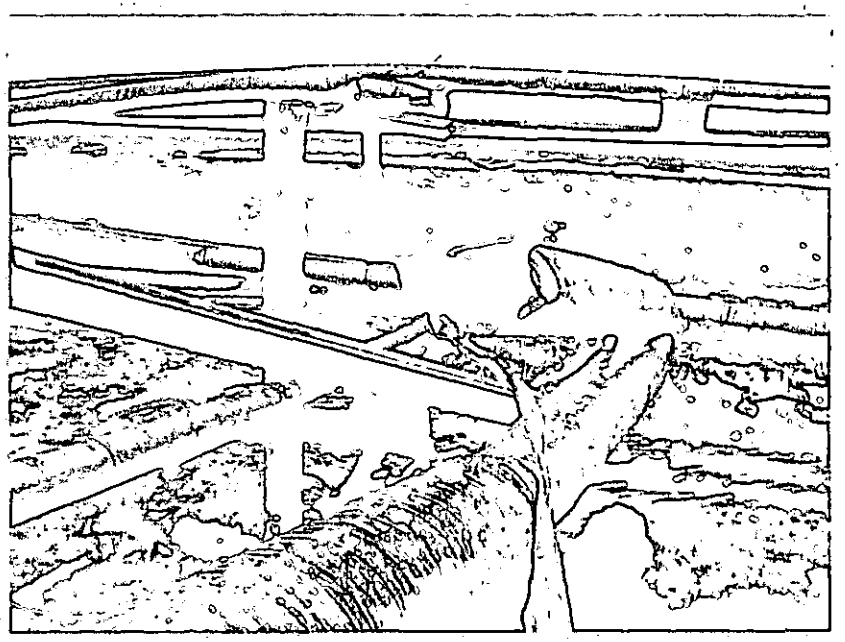
Project Objectives



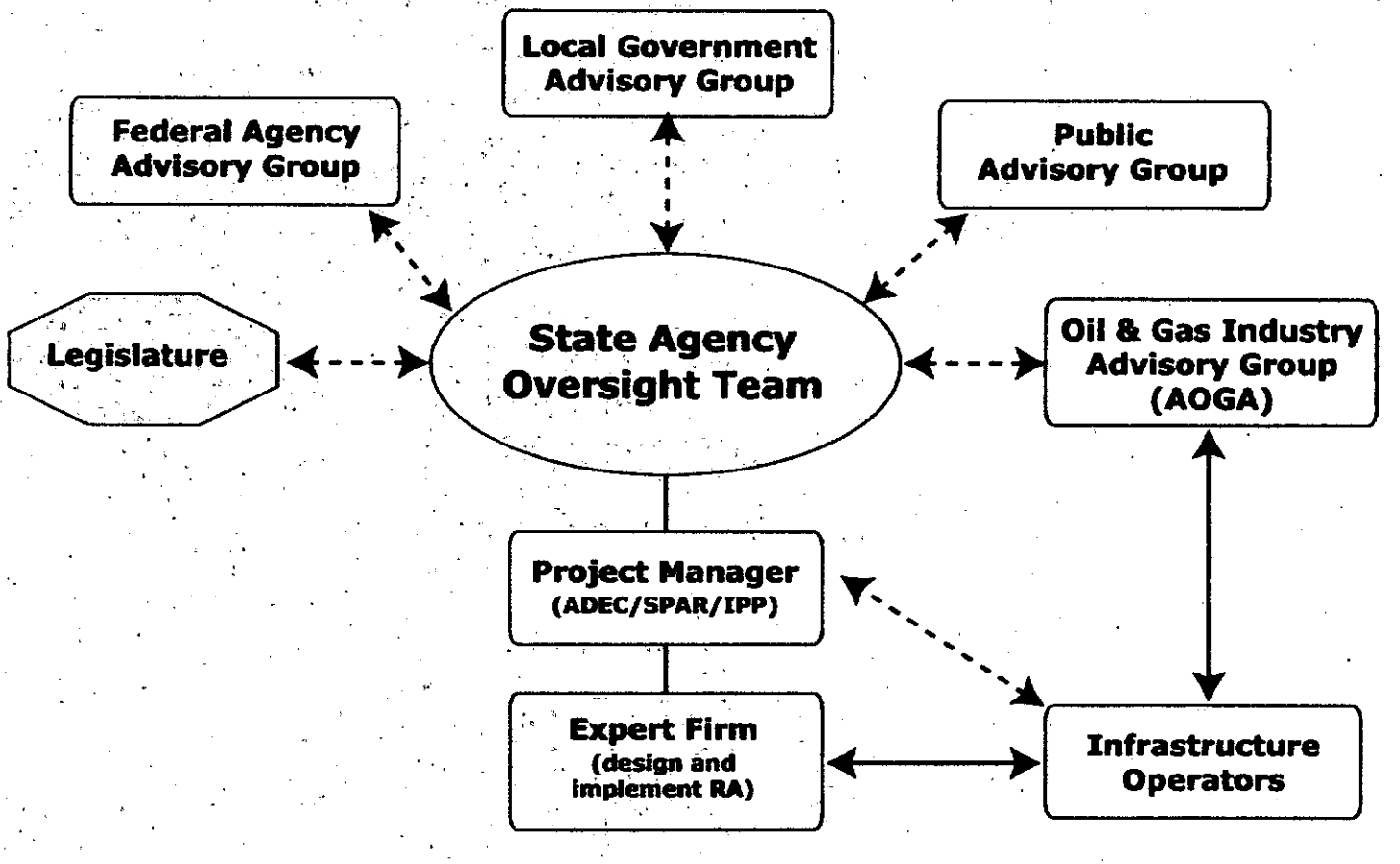
- Assess the current state of infrastructure & systems in place to operate it.
- Identify and rank areas of greatest risk.
- Present findings.

Project Background

- Parts of Alaska's complex oil and gas infrastructure have been in place since the early 1960s, and in some cases have already exceeded their original engineered lifespan.
- In 2006, North Slope oil production was interrupted with a failure in one component of the system.



Project Organizational Structure

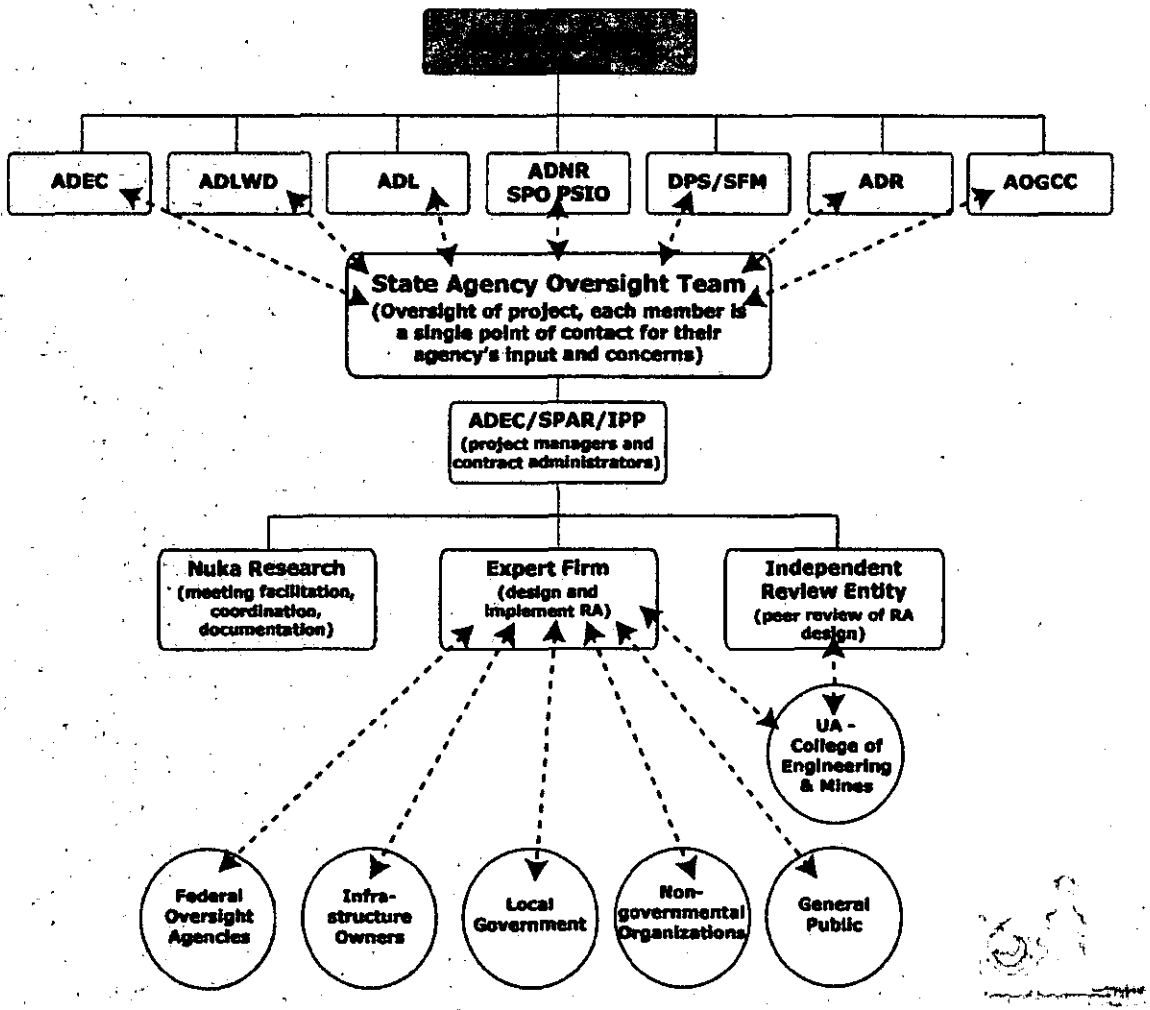


Project Organizational Structure

State Agency Oversight Team:

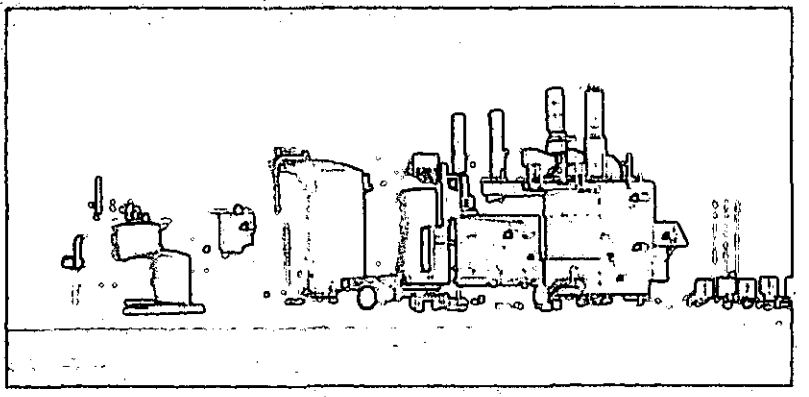
- Alaska Department of Environmental Conservation (ADEC)
- Alaska Department of Labor and Workforce Development (ADLWD)
- Alaska Department of Law (ADL)
- Alaska Department of Natural Resources (ADNR)
  - State Pipeline Office (SPO)
  - Petroleum Systems Integrity Office (PSIO)
- Alaska Department of Public Safety, State Fire Marshall (DPS/SFM)
- Alaska Department of Revenue (ADR)
- Alaska Oil & Gas Conservation Commission (AOGCC)

Alaska Oil & Gas Infrastructure Risk Assessment
Organizational Chart



Project Purpose

- Outcome of the Risk Assessment
  - "Picture" of the system as it stands today, highlighting the infrastructure components with the highest relative risk of a potential significant event.
  - Provide information to State agencies that is necessary for them to perform their mandated duties to oversee the steady flow of oil and gas without unplanned interruptions, while protecting the public's safety and the environment.



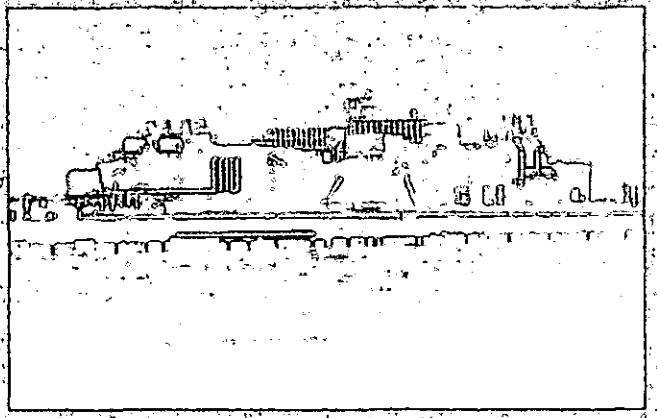
What is a Risk Assessment?

- Organized and systematic effort to identify and analyze hazardous scenarios;
- Starts with answering the question "What can go wrong?"
- Evaluate "how likely" it is that a significant event will occur;
- Evaluate "how damaging" the event would be to people, the environment, or production and state revenue if the event were to occur; and
- Combine the factors to determine an objective risk level.

Three Step Process

Step 1

- Define the significant events
- Design the risk assessment



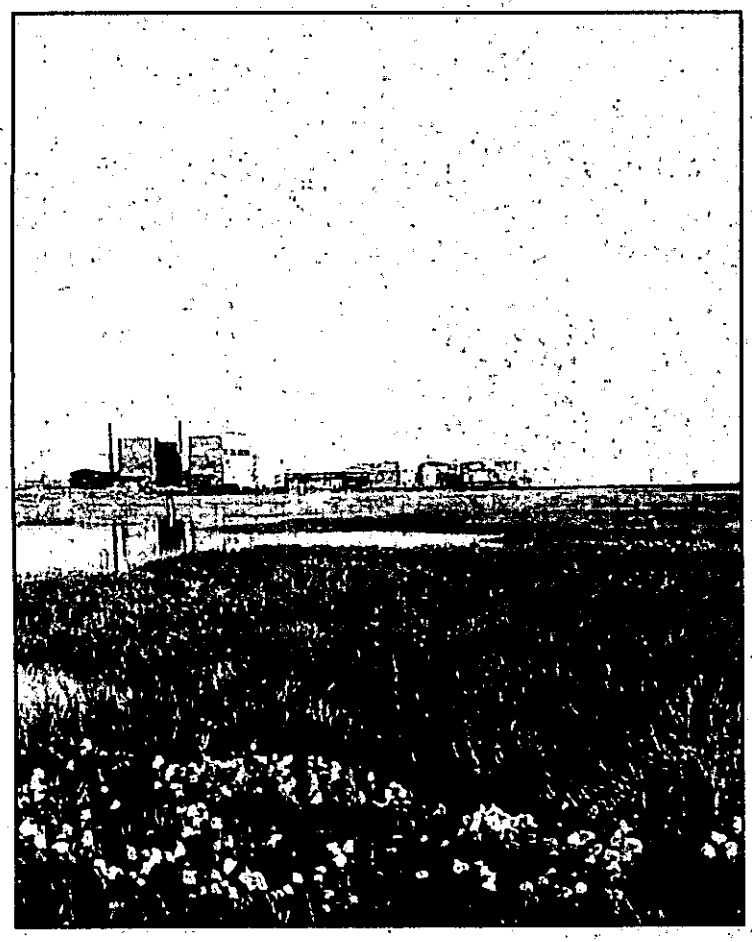
Step 2

- Conduct the risk assessment

Step 3

- Analyze the results
- Develop risk mitigation recommendations

Potential Recommendations



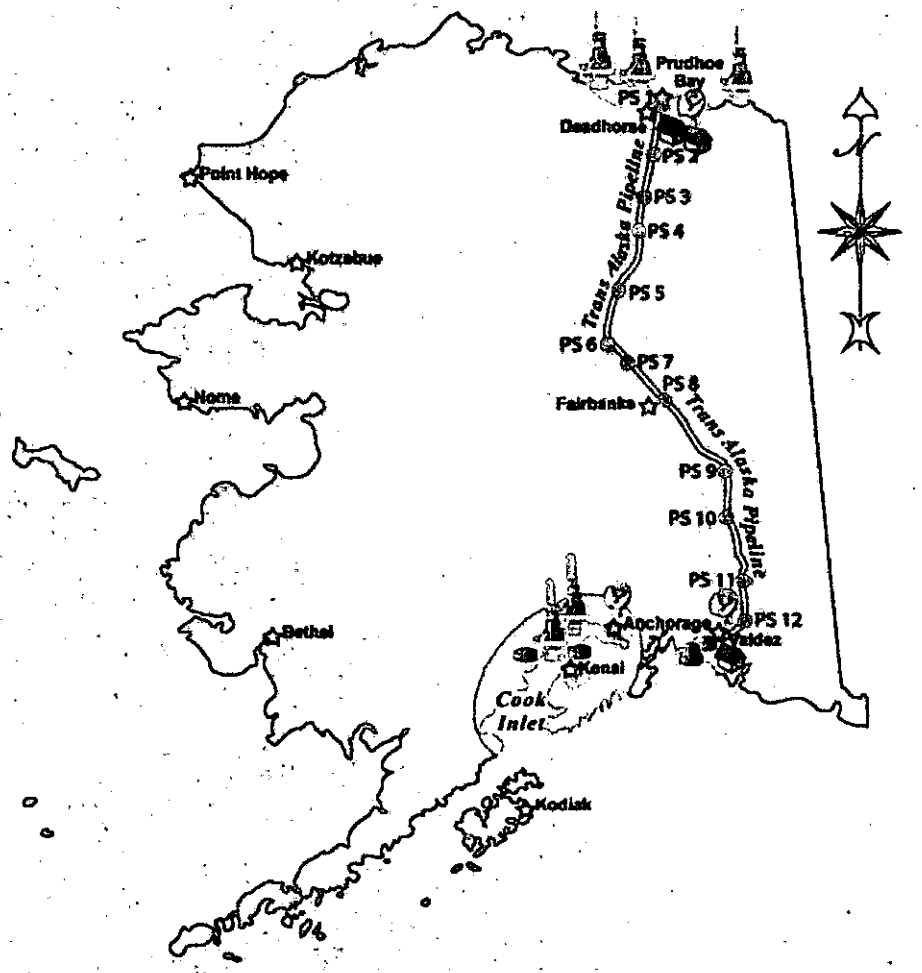
- Physical changes to infrastructure
- Changes to policies, procedures, standards, or regulations
- Changes to infrastructure audits, management, or oversight

General Project Scope

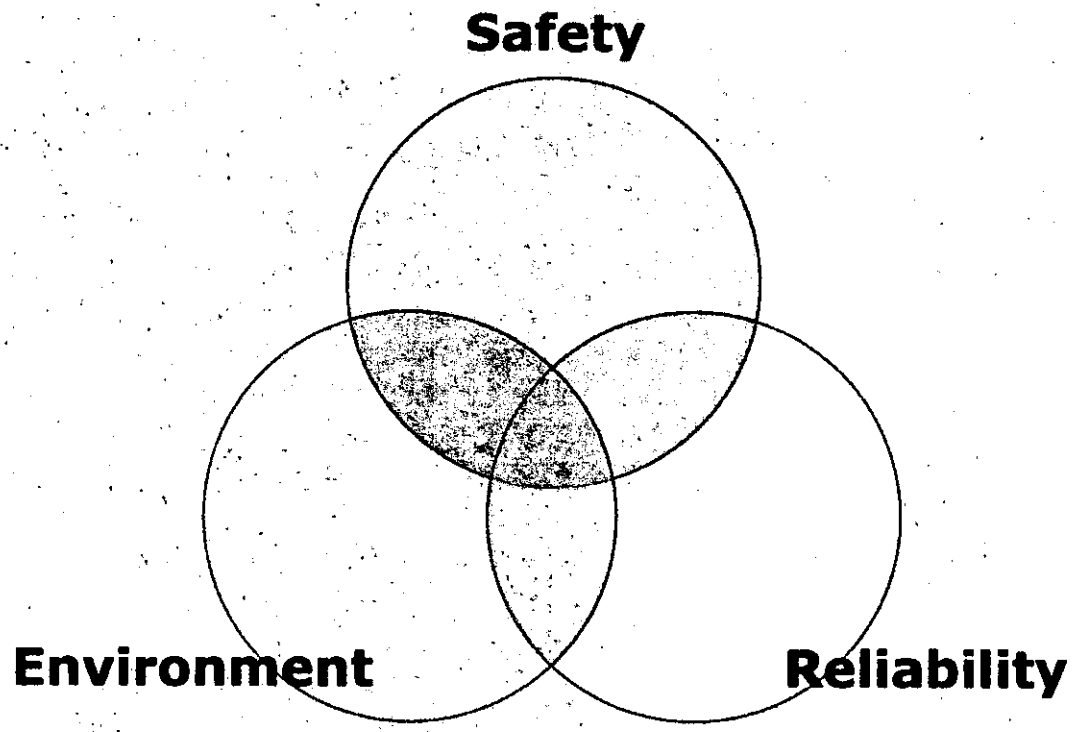
North Slope

TAPS

Cook Inlet



Areas of Interest

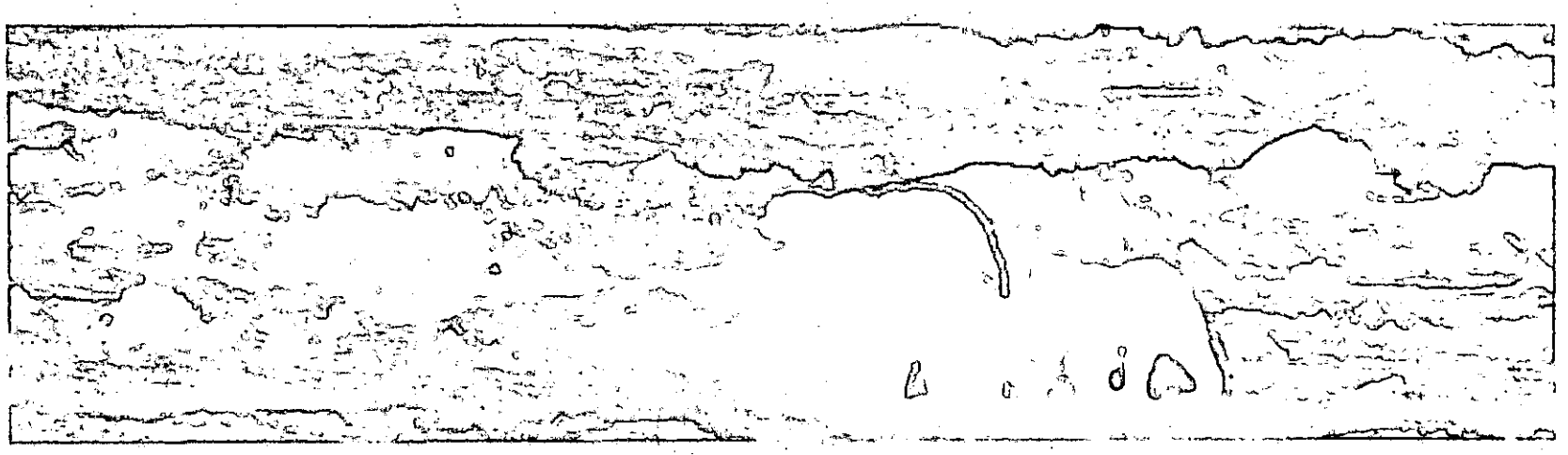


Schedule

Phase 1:
Risk Assessment
Methodology Design
June 2008 – Aug 2009

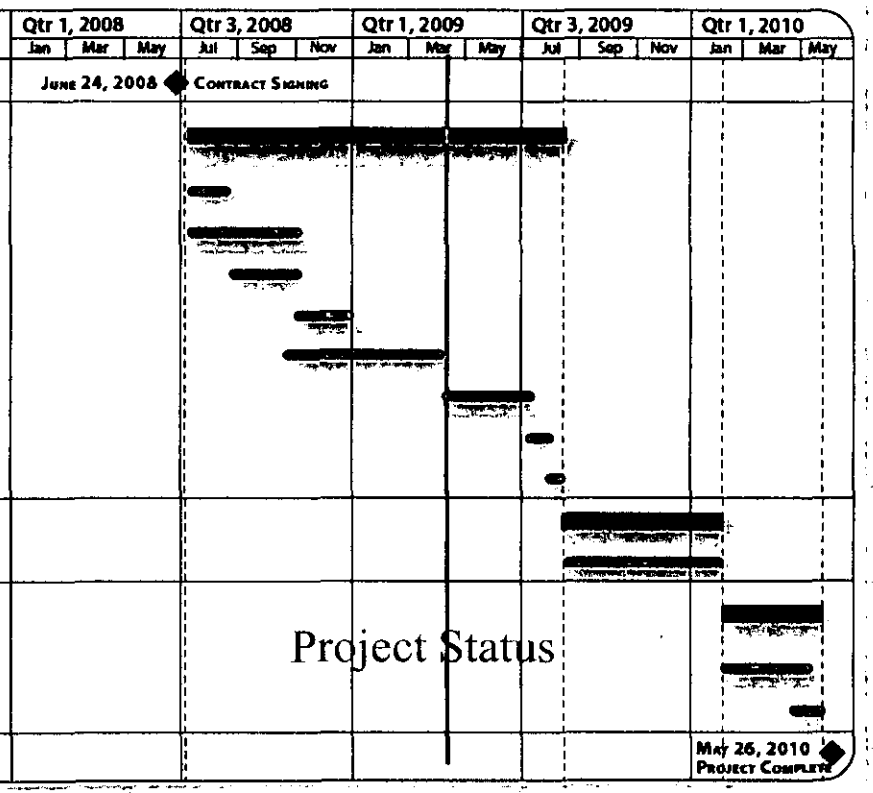
Phase 2:
Risk Assessment
Implementation
Aug 2009 – Feb 2010

Phase 3:
Analysis & Final Report
Feb 2010 – May 2010



Status

STATE OF ALASKA OIL & GAS INFRASTRUCTURE RISK ASSESSMENT	DURATION (in months) 22.14	START Tue 6/24/08	FINISH Wed 5/26/10
CONTRACT SIGNING	0 days	Tue 6/24/08	Tue 6/24/08
PHASE I: DESIGN RISK ASSESSMENT (RA) METHODOLOGY	13.5	Wed 6/25/08	Tue 8/25/09
Task 1a - Project Plan	1.14	Wed 6/25/08	Tue 7/29/08
Task 1b - Stakeholder Consulation	4.55	Wed 6/25/08	Tue 11/11/08
Task 1c - Existing Data/Information Review	3.41	Wed 7/30/08	Tue 11/11/08
Task 1d - Interim Report	1.25	Wed 11/12/08	Fri 12/19/08
Task 2 - Proposed RA Design	4.55	Wed 10/8/08	Fri 3/6/09
Task 3 - Evaluate RA Design	4.09	Mon 3/9/09	Fri 7/10/09
Task 4 - Proposed Final RA Design	1.14	Tue 7/6/09	Fri 8/7/09
Task 5 - Final RA Design	.55	Mon 8/10/09	Tue 8/25/09
PHASE 2: IMPLEMENT RA METHODOLOGY	5.23	Wed 8/26/09	Thu 2/11/10
Task 6 - Implement RA	5.23	Wed 8/26/09	Thu 2/11/10
PHASE 3: ANALYSIS, RECOMMENDATIONS, AND REPORT	3.23	Fri 2/12/10	Fri 5/21/10
Task 7 - Produce Draft Report	2.73	Fri 2/12/10	Thu 5/6/10
Task 8 - Produce Final Report & Presentation	0.73	Fri 4/30/10	Fri 5/21/10
PROJECT COMPLETE	0 days	Wed 5/26/10	Wed 5/26/10



Draft Methodology Report

STATE OF ALASKA
DEPARTMENT OF ENVIRONMENTAL CONSERVATION
Press Release
COMMISSIONER'S OFFICE

FOR IMMEDIATE RELEASE

New step in study of Alaska's oil and gas infrastructure

State invites public comment on risk assessment methodology; National Academy of Sciences also to review approach

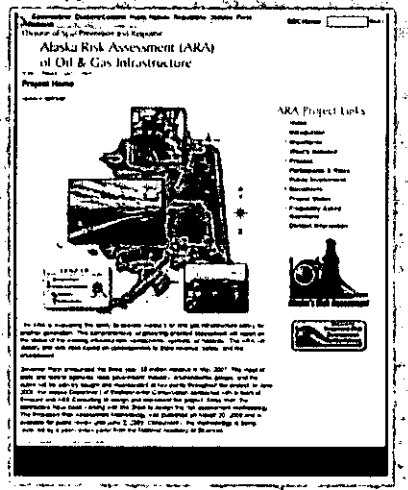
Contact: Ira Rosen, DEC project manager, (907) 465-5219

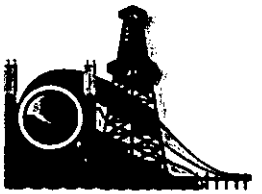
Juneau – March 21, 2009) Members of the public now can comment on the approach developed to assess the health of the state's oil and gas infrastructure. Public meetings are planned for Anchorage, Fairbanks, Kenai, Barrow and Valdez to present the approach and answer questions. The comment period will end June 2.

Development of the methodology – a mathematical model to quantify risks – is the focus of the first phase of the Alaska Risk Assessment, a three year, $5 million initiative to evaluate Alaska's oil and gas infrastructure. The study is an outcome of the spills, leaks and corrosion discovered on the North Slope in recent years. When complete, the assessment will report on the status of the existing infrastructure, components, systems and hazards. It will identify and rank risks based on consequences to state revenue, safety and the environment and will assist the state in making mitigation recommendations. The Alaska Department of Environmental Conservation (ADEC), working in cooperation with the Petroleum Systems Integrity Office (PSIO), is leading the risk assessment project.

"Finalizing the method we use to evaluate the condition of Alaska's oil and gas infrastructure is a key step in the overall assessment of this complex system," said Larry Dietrick, ADEC director of Spill Prevention and Response.

As part of the project, the State gathered input from government agencies, industry and the public in 2008. Those ideas helped shape the design of the risk assessment model. "Stakeholders now have a chance to confirm issues and concerns they identified have been included in our approach," said Ira Rosen, DEC project manager.





Comprehensive Evaluation and Risk Assessment of Alaska's Oil and Gas Infrastructure

Proposed Risk Assessment Methodology

–Revision 1–

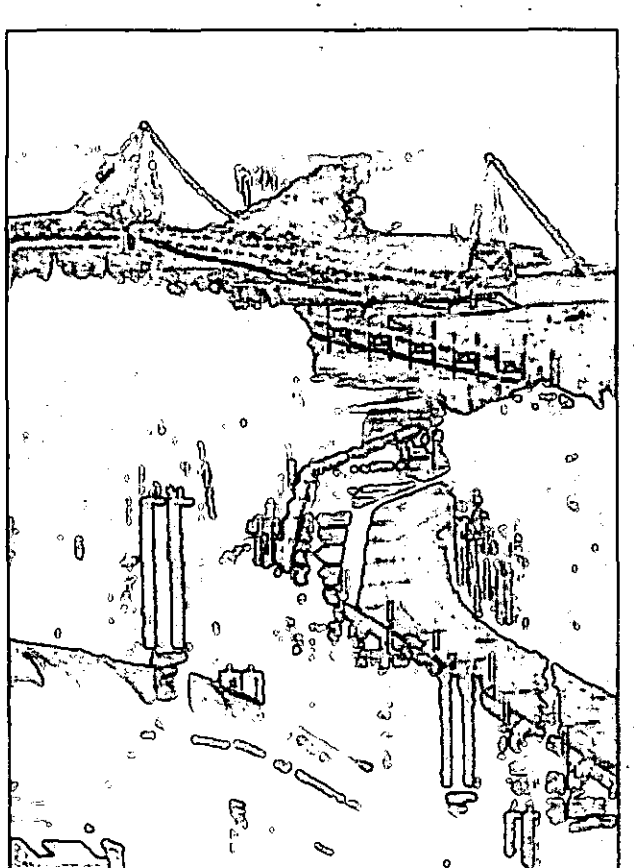
March 20, 2009

Prepared By

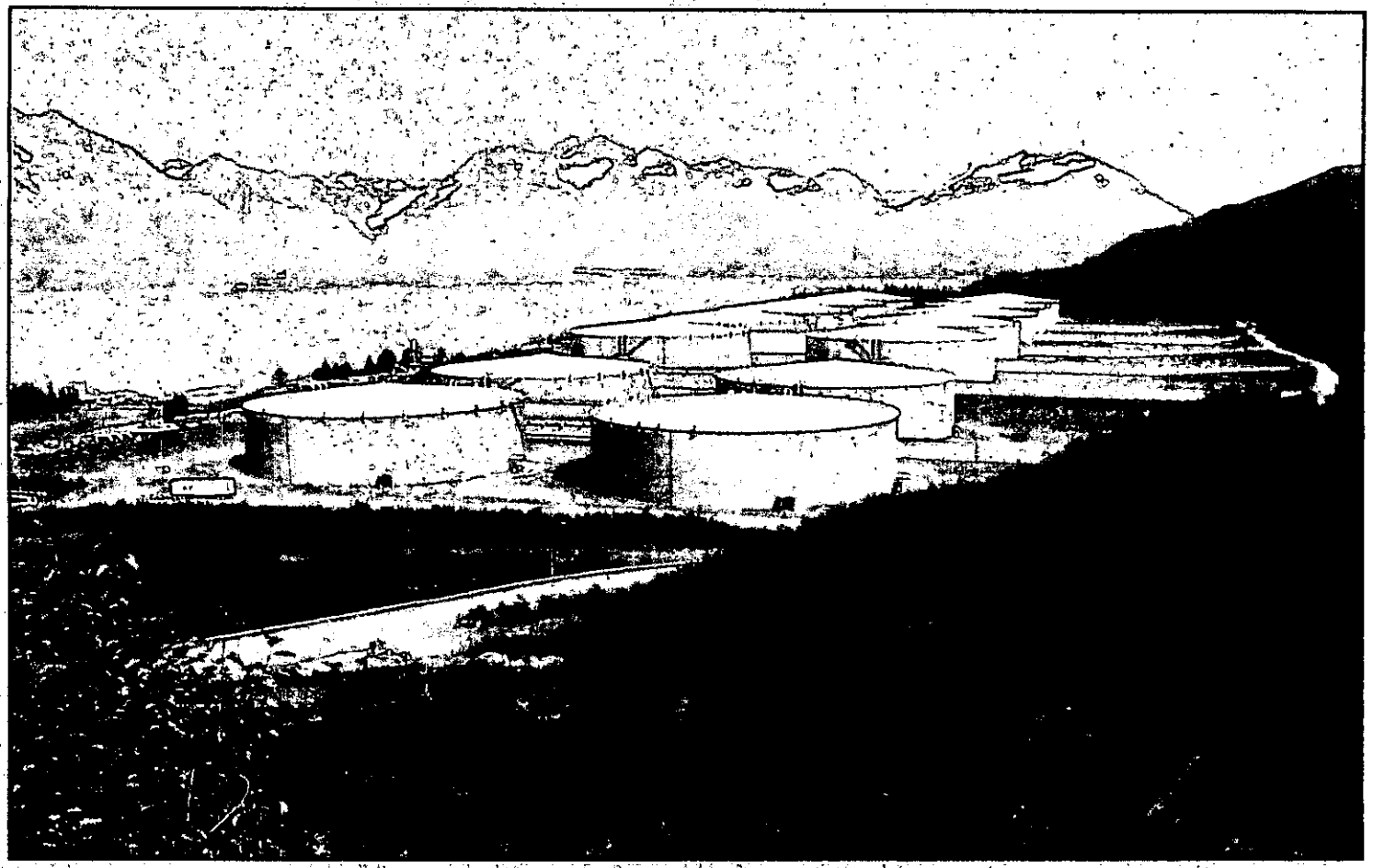
DOD/ONE/MERALD
ABS Consulting

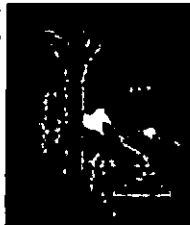
Press Release announces availability of the Draft Methodology Report

Project Results



- Provide risk profile of infrastructure.
- Provide input for risk management decisions by Industry and the State.





Methods

Risk Analysis

Screening

Reliability

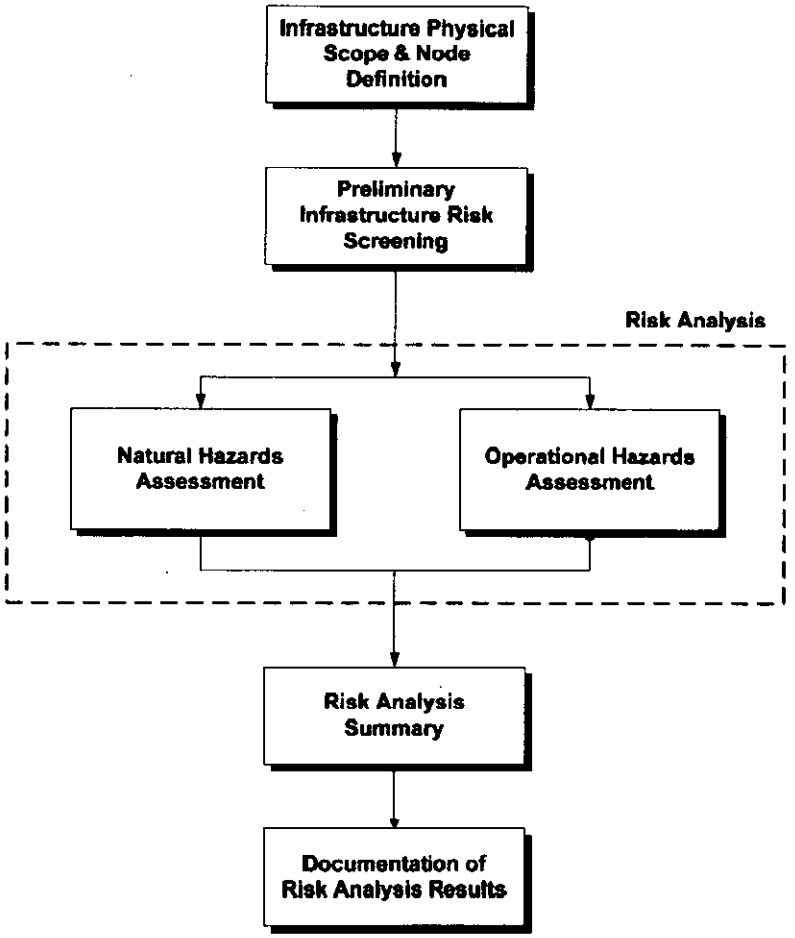
Environmental Spill Calculations

Environmental Consequences

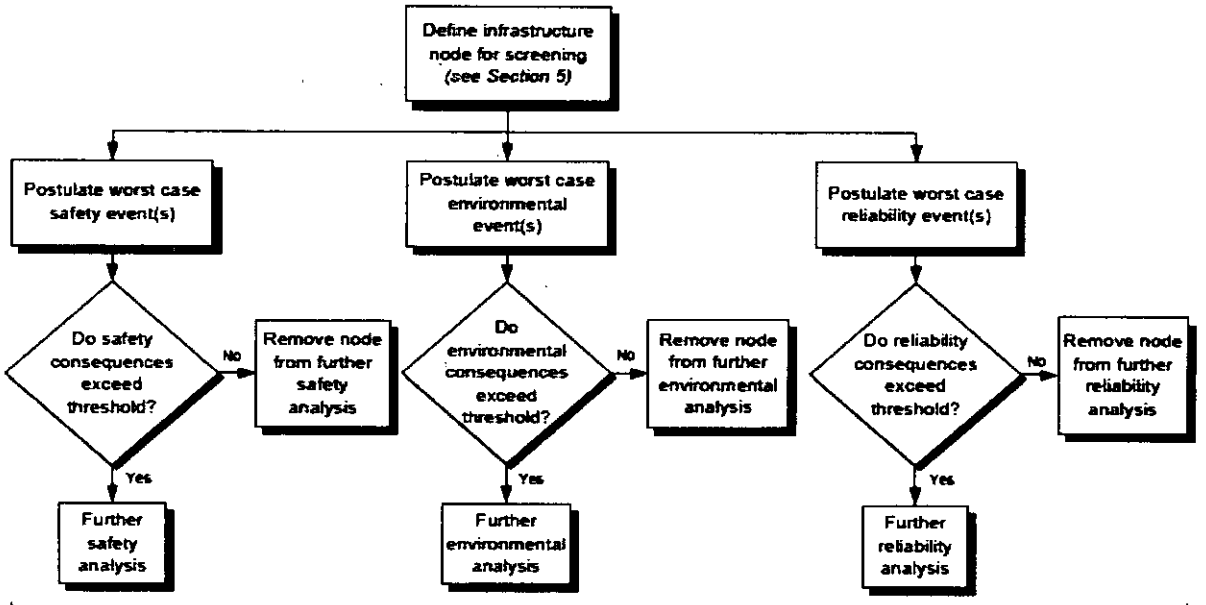
Operational Hazards

Safety

Risk Analysis



Screening



Document Screening Results

1. Nodes that are potential contributors to significant events in all three consequence categories (SER)
2. Nodes that are potential contributors to significant events in one or two consequence categories (SE, SR, ER, S, E, or R)
3. Nodes that are NOT potential contributors to significant events in any consequence categories

Reliability

Table 6-3 Reliability Consequence Levels for Preliminary Risk Screening

Category	Category Production Loss Boundaries	Explanation (see Note)
3	>42,000,000 bbls	Corresponds to about a two month full outage for TAPS
2	4,200,000 to 42,000,000 bbls	Corresponds to an outage range which includes an approximate 30 day outage for TAPS or a two week outage for a production source that is half of the TAPS throughput
1	<4,200,000 bbls	Corresponds to less than a week outage for TAPS or a 60 day outage for a production source that is 10% of the TAPS throughput.

Note: Outages assume 700,000 barrels per day TAPS throughput

Environmental Spill Calculations

Table 7-3 Release Quantity Categories

Release Quantity	Category Index Number	Explanation
Large release (>10,000 barrels)	6	Release quantities will be assessed based on normal process flow, the nature of the worst-case release considered, and the expected detection and isolation time.
Medium Release (1,001 to 10,000 barrels)	5	
Small Release (10 to 1,000 barrels)	4	

Note: The release quantity categories are assigned numbers from 4 to 6 in order to reflect the overall importance of the spill size compared to the other contributing categories (i.e., release quantity is more heavily weighted than the other factor categories, which have an index range from 1 to 3). This also allows the environmental impact to reflect an approach that adjusts spill size by expected recoverability (i.e., subtracting the recoverability category from the release quantity category) to represent the impact of the material which may actually remain in the environment long term.

Table 7-4 Release Recovery/Remediation Factor Category

Recovery/Remediation Capabilities	Category Index Number	Explanation
Little to no ability to recover/remediate this type of release	1	This category includes: • Direct spills to moving bodies of water other than contained entirely on ice (such as ocean/sea, river systems, and tributaries) • Spills to subsurface areas • Other situations assessed as difficult to recover (including requiring input from State and remediation experts
Limited to moderate capability to recover/remediate this type of release	2	This category includes: • Spills to land and tundra in other than frozen conditions • Spills to unprepared surfaces (i.e., prepared surfaces include gravel pads which have been land for remediation ease) • Other situations assessed as limited to moderate to recover (including requiring input from State and remediation experts)
Very effective capability to recover/remediate this type of release	3	This category includes: • Spills in winter conditions contained on ice or recovered from frozen land or tundra (i.e., limited migration) • Spills to gravel pads or other prepared surfaces where recovery can be accomplished by direct removal of contaminated materials

Table 7-5 Local Environment Sensitivity Categories

Type of Environment	Category Index Number	Type of Environment
Waterways	3	This category includes: • Waterways or direct pollution routes to waterways that support commercial fishing, aquaculture, or subsistence activities
Sensitive Lands (including surface and subsurface areas)	2	This category includes: • A land area that supports unique flora and fauna or wildlife breeding and migratory areas, which may support subsistence hunting activities (e.g. tundra or wetlands) • An area that encompasses a cultural or historical site • A Recreational Area (defined as an area that supports hunting, fishing, hiking or other outdoor recreational activities) • Areas that have been branded based on pristine conditions and which support tourism activities
Other Lands	1	This category includes: • A land area (surface or subsurface) not defined as "sensitive" in Category 2 above.

Environmental Consequences

Calculating Environmental Consequence Categories

An environmental consequence score will be calculated for each of the release events that are considered, based on the index values that are assigned in each of the above contributing factor categories. The overall environmental consequence score will be calculated using Equation 7-2:

$$\mathcal{N}_i = M_i * (Q_i - R_i) * S_i$$

Equation 7-2 Environmental Consequence Scoring Calculation

Where:

$\mathcal{N}_i$ = Event i Calculated Environmental Consequence Score (1 to 45)

M_i = Event i Material Composition Index (1 to 3)

Q_i = Event i Release Quantity Index (4 to 6)

R_i = Event i Recoverability/Remediation Index (1 to 3)

S_i = Event i Environmental Sensitivity Category Index Number (1 to 3)

Example calculation:

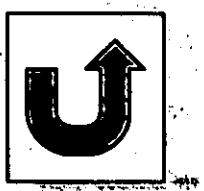
A significant release of crude oil (M = 3) that is 2,000 barrels in size (Q = 5) in an area of very high sensitivity (S = 3), but where recovery and remediation efforts can be highly effective (R= 3), would be scored as:

$\mathcal{N}_i = 3 \times (5-3) \times 3 = 18$

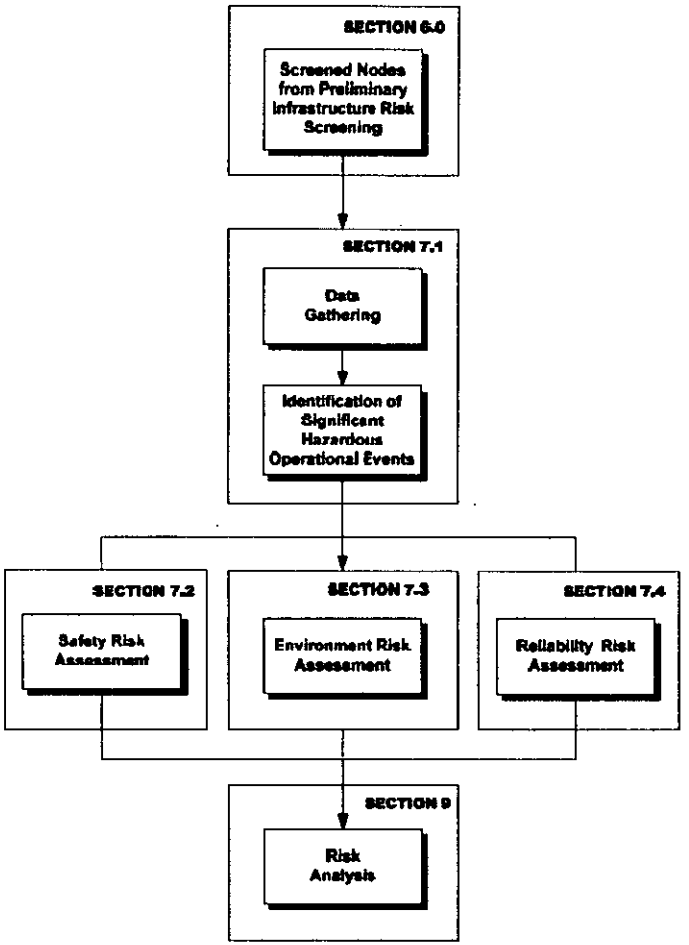
This approach represents a relative ranking of releases; it cannot be correlated to any physical meaning based on the absolute value of the numbers or index that is assigned to each factor. The value of the overall environmental consequence score can range from 1 to 45, depending on the assigned values of the contributing factor categories. Ranges of the environmental consequence score will then be used to categorize the relative environmental impacts of the potential release scenarios. See Appendix G for example scenarios that have been processed through this model.

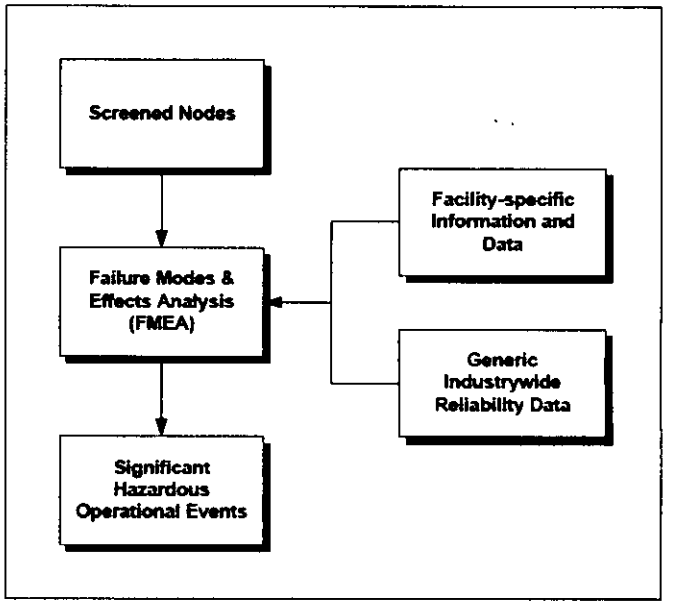
Table 7-6 presents preliminary values that will be used for assigning the environmental consequences to each of the potential release events. The definitions and descriptions for the qualitative range of significant environmental consequences for this project in Table 7-6 were derived from input from the stakeholder consultation process that was executed at the commencement of the project.

Category Number	Environmental Impacts	Consequences Score
3	**Catastrophic** – A significant release to an area of extremely high environmental consequence that causes large-scale, widespread, non-recoverable, irreversible, and long-term damage that is severe. The damage would be considered to be extensive enough that the area would be considered unusable for the foreseeable future. The loss would prevent a return to normal life support and access for the conduct of normal activities that were once supported by the area's resources.	Greater than or equal to 30
2	**Challenging** – A significant release to an area of high environmental consequence that causes widespread and persistent damage to the area, which would cause a disruption in life support and would limit normal use and activities in the area for some time. Remediation would be required and some damage to the area may be irreversible.	Greater than 15, but less than 30
1	**Manageable** – A release to an area of some environmental consequence that results in localized and reversible effects on the environment. Results in some initial disruption of activities in the area, but normal usage can resume in a very short time frame once remediation/recovery activities have been completed.	Less than or equal to 15



Operational Hazards





Safety

After the incident scenarios for each node have been identified, the safety risk calculation will entail three major tasks:

1. Consequence Analysis – Evaluation of physical effects of incidents on people
2. Likelihood Analysis – Estimation of incident frequencies
3. Risk Calculation – Calculation of risks, which are a combination of likelihood and consequences/impacts, and presentation of results

Risk is then calculated using the "risk triplet" model, shown in Equation 7-1:

$$\mathcal{R} \equiv \langle \mathcal{E}_i, C_i, \mathcal{L}_i \rangle_n$$

Equation 7-1 Risk Triplet Model

Where:

$\mathcal{R}$ = Calculated risk

$\mathcal{E}_i$ = Significant Incident Scenario i (from the FMEA Hazard Events Identification process)

C_i = Event i consequence (from the Consequence Analysis)

$\mathcal{L}_i$ = Event i Likelihood (from the Likelihood Analysis)

n = Number of significant incident scenarios

3/26/09 PRESENTATION: NATURAL GAS FISCAL DESIGNS

Combined Oil and Gas Progressivity in Alaska's Production Tax II

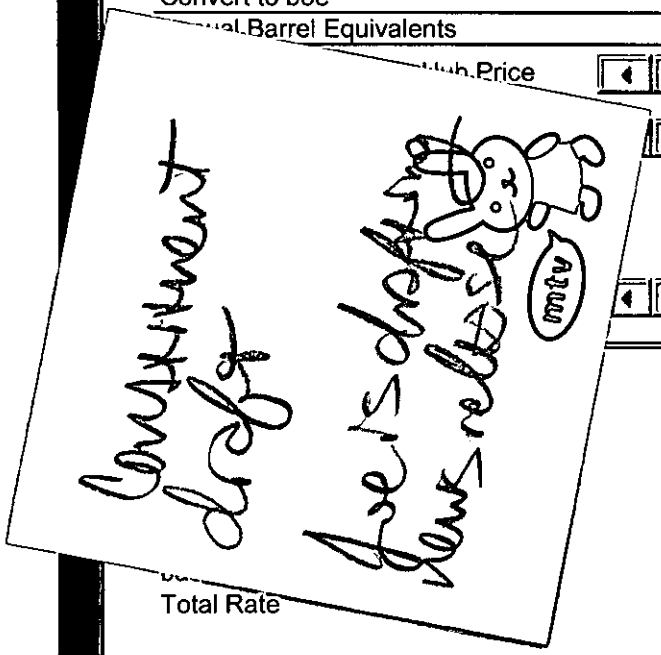
Dan E. Dickinson, CPA

Joint Hearing
Senate Resources Committee
Senate Finance Committee
Alaska State Legislature

March 26, 2009

Feb 2 Model Screen Shot - $135 oil and $6 gas - Tax Falls

	Oil Only		Incremental Gas		Combined	
Daily Vol	0.350	mmbbls/day	4.2	bcf/day		
days per year	365		365			
Annual Volume	127.8	mmbbls/yr	1533	bcf/yr		
Convert to boe	1		6			
Barrel Equivalents	127.8	boe/yr	255.5	boe/yr	383.3	boe/yr
Price	$ 135.00		$ 6.00			
			(0.75)			
	(6.00)		(2.75)			
	129.00		2.50			
	$ 16,480		$ 3,833			
	87.5%		87.5%			
	$ 14,420		$ 3,353			
	3,300		-			
	$ 11,120		3,353		$ 14,473	
	87.5%		87.5%		87.5%	
	111.8		223.6		335.3	
	$ 99.48		$ 15.00		$ 43.16	
	30.00		30.00		30.00	
	$ 69.48		$ -		$ 13.16	
	25.70%		0.00%		5.26%	
	25.00%		25.00%		25.00%	
Total Rate	50.70%		25.00%		30.26%	
	Stand Alone Oil		Stand Alone Gas		Combined	
Total Tax (Tax Rate * PTV)	$ 5,637		838.4		$ 4,380	



Sum of stand alone oil & gas: 6,475.84

Gain (loss) in production tax from using current law vs stand alone: (2,095.7)

Gain (loss) in production tax from adding gas stream under current law: (1,257.3)

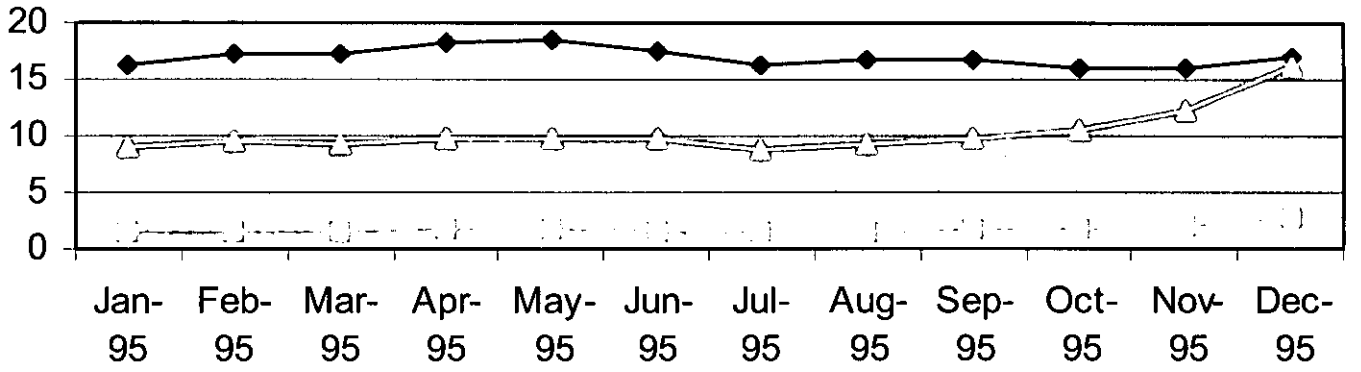
3.26.2009

Ruggerio and Dickinson Agree I

- Dan Dickinson's testimony before LB&A on January 12, 2009 and Senate Finance February 2, 2009
- Rich Ruggerio's testimony before Senate Finance on February 2, 2009, March 11, 2009
- Rich and I agree
  - Could happen that production tax revenues fall, not rise if 4.3 bcf a day of gas added to a 700,000 bbl a day stream of oil at certain set up prices
  - I illustrated the volume effect – Rich focused on the effect of smaller oil volumes generally require great price disparity
  - I focused on price spike such as the 2008 spike; Rich confirmed that that kind of relationship between oil and gas prices only occurred in roughly 7 months out of prior 14 years: rare but not impossible
    - Price above 92.5+25=117.5 in only 3 months – but special rules

3.26.2009

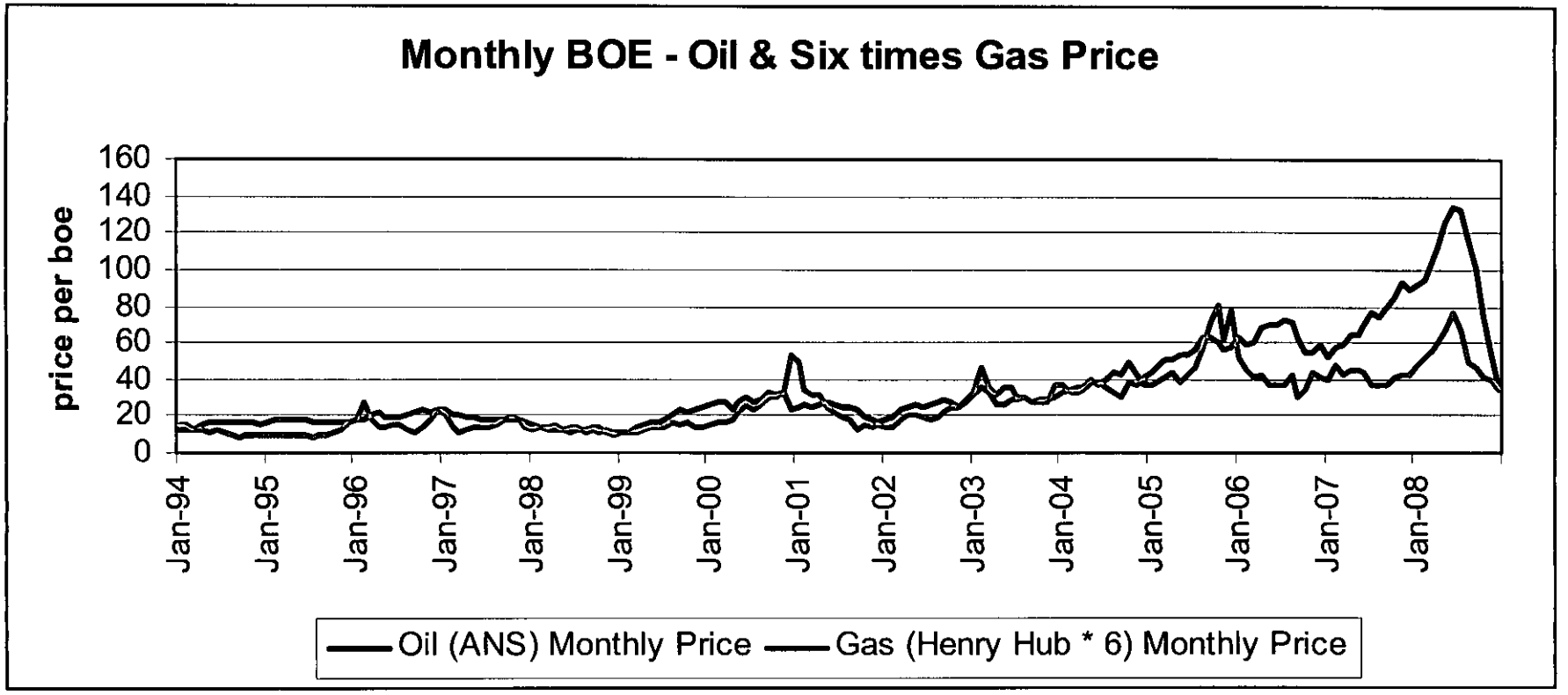
Oil Valued way above 6:1 gas btu parity: 1995



	Jan-95	Feb-95	Mar-95	Apr-95	May-95	Jun-95	Jul-95	Aug-95	Sep-95	Oct-95	Nov-95	Dec-95
Oil (ANS)	16.16	17.14	17.31	18.36	18.43	17.43	16.23	16.72	16.65	15.96	15.88	16.94
Gas (Henry Hub)	1.52	1.59	1.54	1.63	1.64	1.62	1.44	1.56	1.64	1.77	2.04	2.71
Gas ((Henry Hub * 6)	9.12	9.54	9.24	9.78	9.84	9.72	8.64	9.36	9.84	10.62	12.24	16.26

Source: Oil prices from DOR website, Gas prices from St Louis Federal Reserve website

Oil versus Gas 6:1 thermal parity



Source: Oil prices from DOR website, Gas prices from St Louis Federal Reserve website

Ruggerio and Dickinson Agree II

- Rich and I agree
- Single month or year snapshots only tell part of the story. Full cycle economics also important
  - Progressivity example better illustrated with monthly snapshot

Monthly Progressivity Example

	Oil Only		Incremental Gas		Combined	
Daily Vol	0.350	mmbbls/day	4.2	bcf/day		
days per year	30		30			
Annual Volume	10.5	mmbbls/mo	126	bcf/mcf		
Convert to boe	1		6			
Annual Barrel Equivalents	10.5	boe/mo	21.0	boe/mo	31.5	boe/mo
ANS WC Price/ Henry Hub Price	$ 135.00		$ 6.00			
Adj to Alberta			(0.75)			
Transportation to Market	(6.00)		(2.75)			
Gross Value at Point of Production	129.00		2.50			
Value times Volume	$ 1,355		$ 315.0			
Non Royalty %	87.5%		87.5%			
Taxable Wellhead	$ 1,185		$ 276			
US Costs (millions $)	275		-			
Taxable Value or PTV (millions $)	$ 910		276		$ 1,186	
Non Royalty Fraction	87.5%		87.5%		87.5%	
Taxable volumes boe	9.2		18.4		27.6	
Prog Base (taxable value/volume)	$ 99.07		$ 15.00		$ 43.02	
Less $30	30.00		30.00		30.00	
Starting Point	$ 69.07		$ -		$ 13.02	
Prog rate (.4% or .1% per dollar)	25.66%		0.00%		5.21%	
base rate	25.00%		25.00%		25.00%	
Total Rate	50.66%		25.00%		30.21%	
	Stand Alone Oil		Stand Alone Gas		Combined	
Total Tax (Tax Rate * PTV)	**$ 461**		**68.9**		**$ 358**	

Sum of stand alone oil & gas **529.98**

Gain (loss) in production tax from using current law vs stand alone **(171.8)**

Gain (loss) in production tax from adding gas stream under current law: **(102.8)**

3.26.2009

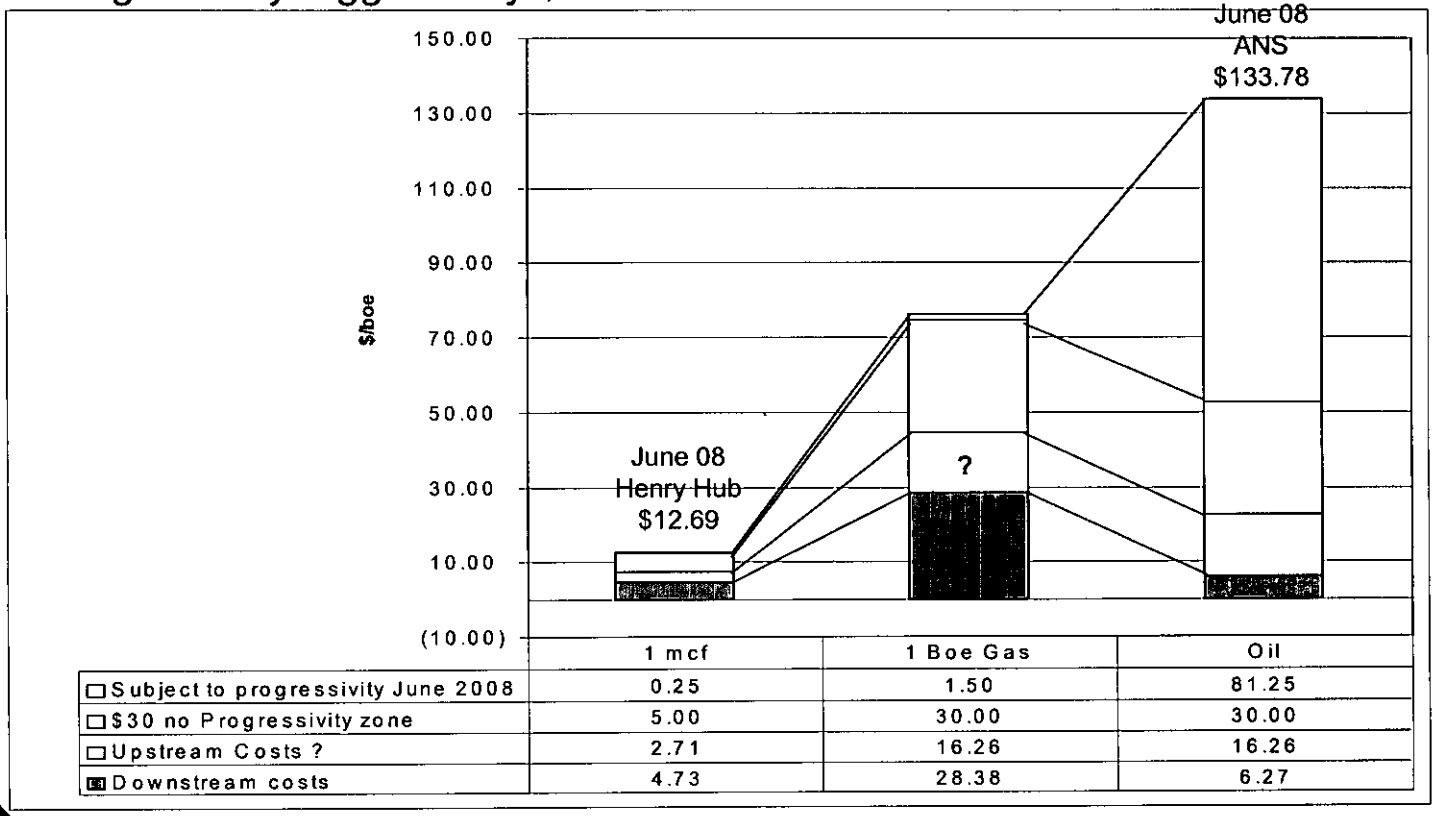
Ruggerio and Dickinson Agree III

- Rich and I agree
  - In material presented by Administration and Gaffney & Cline in 2007-2008 when focus was primarily on current oil production.
  - Under current law taxpayer can lower taxes on production from mature high "cash flow" projects by investing in beginning of other "low cash" projects
  - Works same way for ownership of
    - heavy oil deposits and 40 degree API Prudhoe Bay crude
    - High value oil and generally lower value gas
- Where Rich and I disagree – Further investigation of distinct gas tax warranted?

Looking Forward: Combined Progressivity Tax (CPT)

Gas exported from state and oil taxed at same rate – both part of combined progressivity calculation.

- Prices swings in one can effect tax on the other
- Gas converted to oil on Btu basis (roughly 6:1)
- Progressivity triggered by $30 boe PTV



	1 mcf	1 Boe Gas	Oil
Subject to progressivity June 2008	0.25	1.50	81.25
$30 no Progressivity zone	5.00	30.00	30.00
Upstream Costs ?	2.71	16.26	16.26
Downstream costs	4.73	28.38	6.27

Sources: Oil data from Spring 2008 RSB, Upstream Gas Cost is oil data on boe basis, Gas Downstream cost is Black & Veatch Estimate from Appendix G Alaska Gasline Determination, Oil price from DOR website, Gas Price from St Louis Fed Reserve website

3.26.2009

Potential Dimensions of a Distinct Gas Tax

- If main issue is cross subsidy between oil and gas - may only need look at distinct oil and gas progressivity rather than (CPT) combined progressivity
  - Distinct mechanisms for oil and gas taxes would require allocation of costs between oil and gas. Like the 6:1 ratio embedded in current law, a simplifying compromise with side complications, though not impossible
- If main issue is difference in cost structure, may need to look at break points, "progressivity trigger" and rates in GPT (gas progressivity).
- If main issue is competitiveness in government-take as that fits into cost structure, may need to look at other aspects of gas tax.

3.26.2009

Looking Forward: TransCanada's AGIA application suggestion:

- "TransCanada would rely on the State of Alaska to take all feasible actions exclusively within its authority as a sovereign power to ensure a favorable economic environment for potential Shippers on the Project. Those actions include:
  - engaging with the ANS producers to reach agreement on a commercially reasonable and predictable upstream fiscal regime that balances the needs of the state and the ANS producers;
  - and encouraging robust exploration for and development of new natural gas resources and the commitment of such resources to the Project."

Source: TransCanada, Application for License, Alaska Gasline Inducement Act (November 30, 2007) page 2.5-52

Looking Forward: ConocoPhillips' Proposal

- ConocoPhillips' Proposal (ConocoPhillips current owner with BP of Denali Project)

  "The predominant lessee risk that should be the focus of discussion with the State is the risk of unclear, unpredictable State taxes and royalties. In order to enable shippers to make long term shipping commitments, prospective shippers need clearly defined natural gas fiscal terms and an understanding of the period during which these terms will apply. Addressing these issues remains a critical component necessary to develop ANS natural gas resources and make this Project a reality."

3.26.2009

Source: ConocoPhillips, ANS Natural Gas Pipeline Proposal to the State of Alaska, (November 30, 2007) section IV page 5

Thank You

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Senate Finance Committee and Senate Resources Committee Joint Hearing

David Wood
26th March 2009

Preliminary Report on a Fiscal Design for the Development of Alaska's Natural Gas

Presentation Structure

This presentation focuses on the key findings of the report: *"Preliminary Report on a Fiscal Design for the Development of Alaska's Natural Gas"*.

- Report & presentation objectives
- What are the issues for Alaska's fiscal regime when applied to gas?
- What are the fiscal designs applied by other countries?
- Fiscal elements commonly combined to optimize government take
- Alaska's Prevailing Fiscal design
- Complications of combined oil and gas progressivity tax (CPT)
- Multi-year and multi-scenario fiscal performance cash flow models
- Fiscal designs go beyond upstream issues and influences
- Conclusions and recommendations of preliminary study

Report and Presentation Objectives

Report & Presentation Objectives

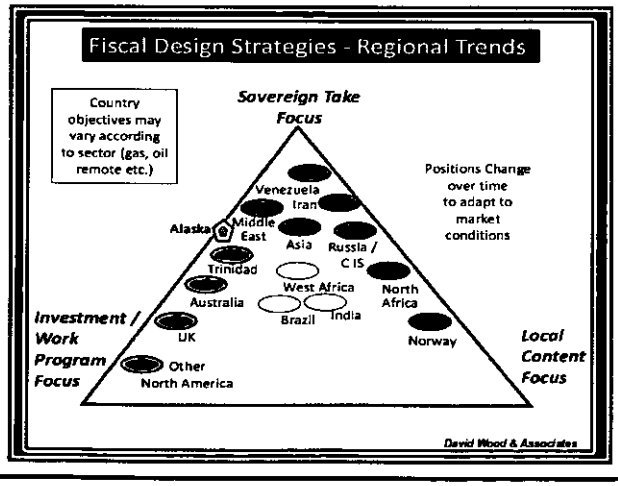
Review findings of this 8 months of study into Alaska's fiscal design for natural gas in the context of the international natural gas industry.

- Issues for Alaska's upstream fiscal design for natural gas
- Structure and interplay of regressive and progressive fiscal elements
- Fiscal designs of major natural gas producing nations
- Multi-year cash flow models to evaluate performance of fiscal designs
- Fiscal instability, credibility and certainty
- Complications associated with combined oil & gas progressivity tax
- Further models that would help make future fiscal design decisions

What are the issues for Alaska's fiscal regime when applied to gas?

Fiscal Designs are Best Driven by Clear Fiscal Objectives & Strategies

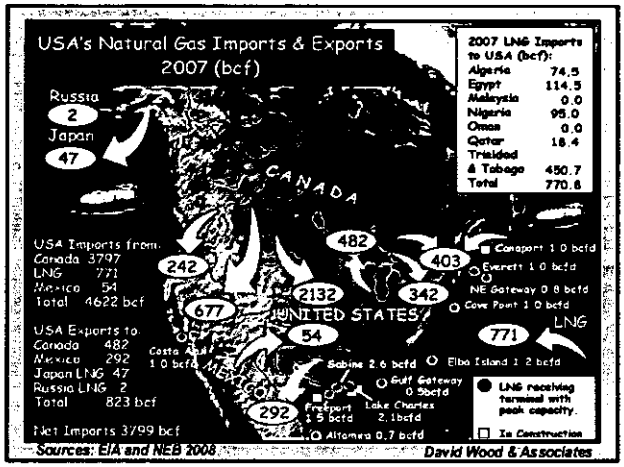
Upstream fiscal designs should reflect the broader strategies and objectives that governments are striving to achieve.



A clear statement of fiscal design strategy by a government can help to enhance its fiscal credibility. Perceptions of the fiscal strategy are important in the persuasion of large investors to sanction projects

Providing a Fiscal Regime that Accelerates Monetization of Gas

Alaska has substantial natural gas reserves that have remained stranded for decades. Lower 48 states have a thirsty and growing market for gas.

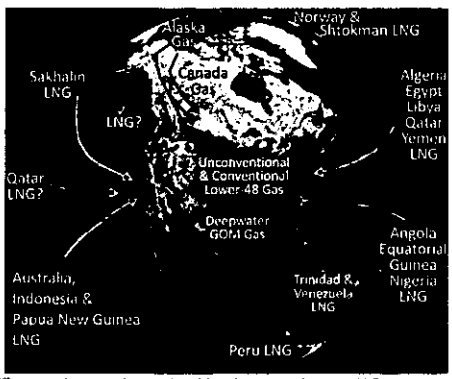


Alaska's aspirations for "the Gas Line" span more than three decades.

However, market drivers and competition have significantly in recent years.

Alaska is One of Several Potential Long-term Suppliers of Natural Gas to Lower-48

The Long-term Competition to Deliver Natural Gas to the Lower-48 US Markets is Intense



Differences between international fiscal terms and among U.S. state terms, will play a key role in that competition by influencing producers' costs of supply.

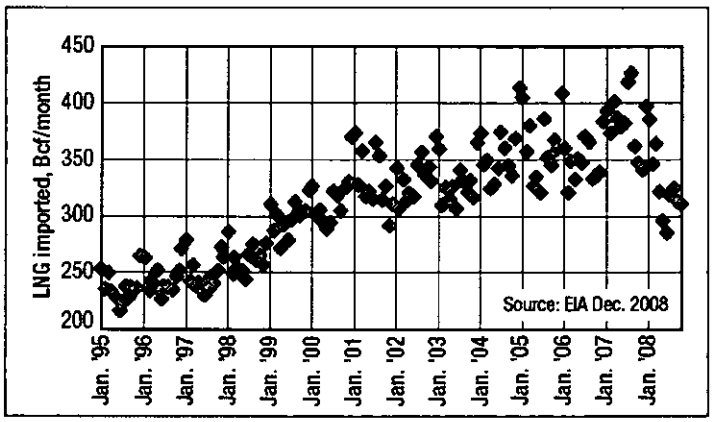
David Wood & Associates

Fiscal terms are one of several factors that influence the delivered price of gas into a market and it is important to understand differences among competing sources.

The differences usually go far beyond a simple percentage sovereign take comparison.

Gas Imports to US Decline in 2008 For First Time in More than a Decade

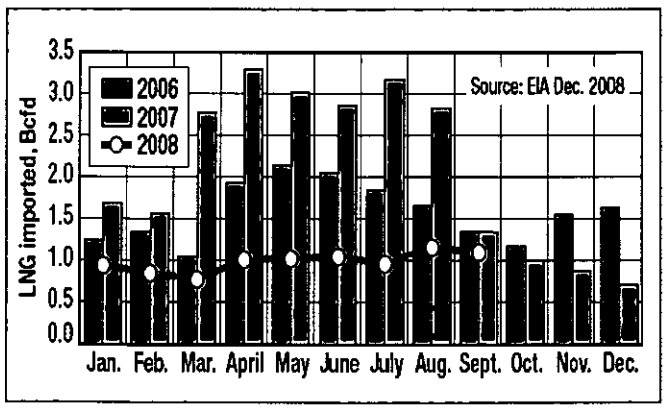
A consequence of greater Lower-48 gas production in 2008 was a reduction in US gas imports.



From David Wood *"Uncertain supply and demand outlook for LNG."* **World Oil** (February 2009)

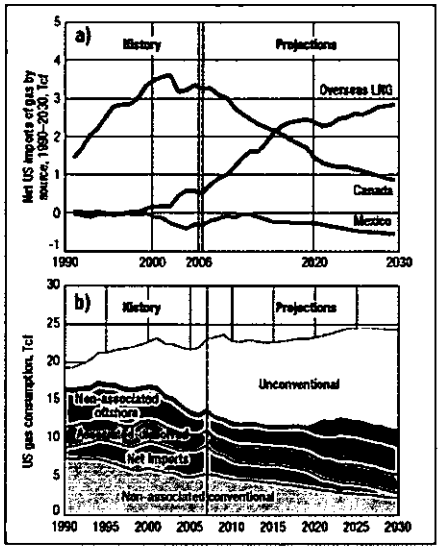
Lower LNG Imports to U.S. in 2008

Monthly LNG imports to the US, 2006–2008 show significant decline for 2008.



From David Wood *"Uncertain supply and demand outlook for LNG."* **World Oil** (February 2009).

U.S. Long-term Views on Gas Supply Changed Dramatically During 2008

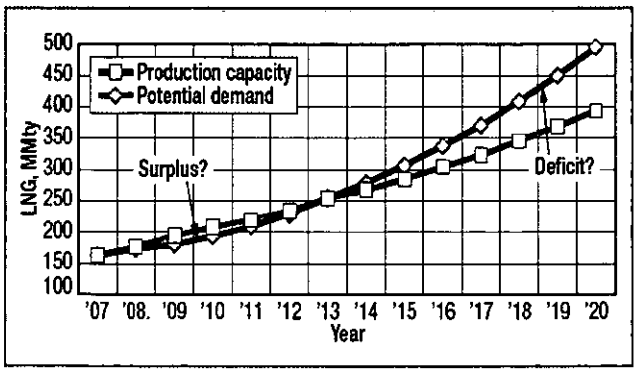


EIA Annual Energy Outlook June 2008 (top) and December 2008 (bottom) show quite different views with unconvenental lower-48 gas and Alaska gas replacing imported LNG.

From David Wood *"Uncertain supply and demand outlook for LNG."* **World Oil** (February 2009).

Global LNG supply demand forecast to 2020

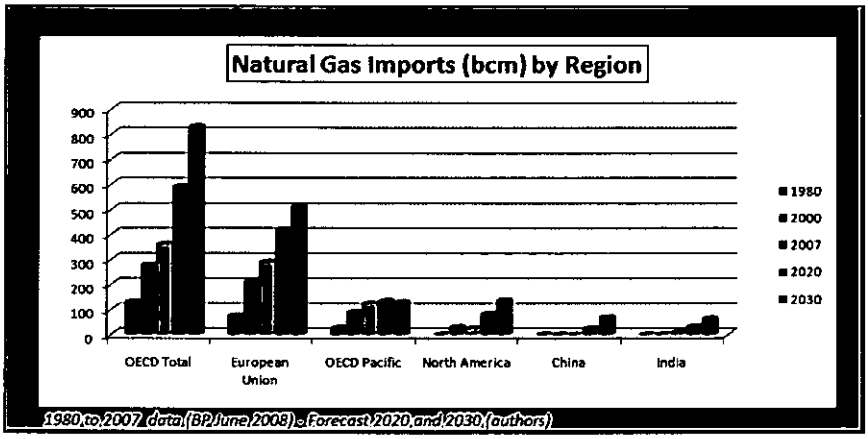
Natural gas surplus due to economic downturn and development of competing supplies is leading to over-supply and lower prices forecast to last perhaps to 2012 for internationally traded LNG. This surplus may itself fuel supply shortfalls globally beyond 2013 and higher prices 2015 to 2020.



From David Wood *"Uncertain supply and demand outlook for LNG."* **World Oil** (February 2009).

International Gas Markets are Growing - Competition for Gas is Increasing

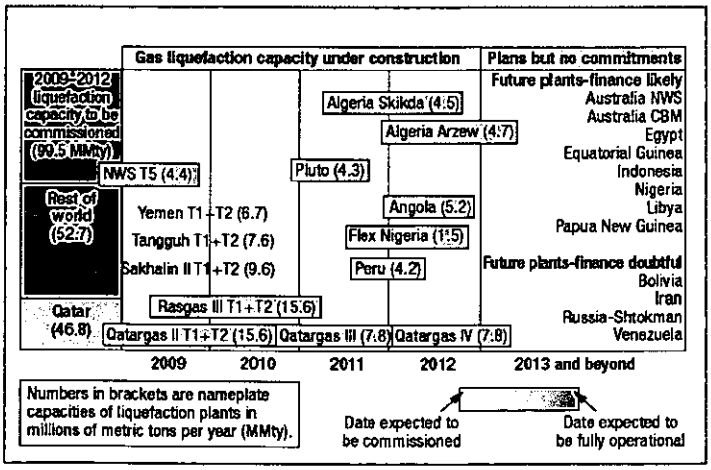
How key gas import markets compare and are forecast to grow in absolute terms (bcm = billions cubic metres; 35.3 bcf = 1 bcm).



In Press 2009, Journal of Natural Gas Science & Engineering

Worldwide New Gas Liquefaction Developments to 2013 and Beyond

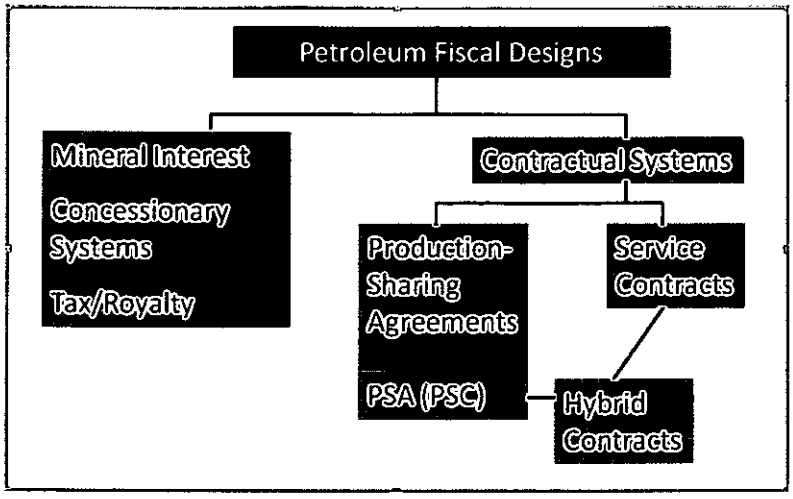
Large new capacity of LNG coming into the market with new plants under construction.



From David Wood *"Uncertain supply and demand outlook for LNG."* **World Oil** (February 2009)

What are the fiscal designs applied by other countries?

Summary of Upstream Oil & Gas Fiscal Designs



Fiscal Terms of 23 Countries and Regions Reviewed

Those countries that could compete for large gas developments (e.g. $20 billion plus) over the next decade are marked with a star.

Alaska ☆	Algeria ☆
Angola ☆	Australia ☆
Azerbaijan	Bolivia ☆
Brazil ☆	Canada - Alberta ☆
Canada – Other Provinces ☆	Egypt ☆
Indonesia ☆	Libya ☆
Malaysia ☆	Nigeria ☆
Norway ☆	Papua New Guinea ☆
Peru ☆	Philippines
Qatar ☆	Russia – Sakhalin II ☆
Trinidad & Tobago ☆	Tunisia
United Kingdom	Other USA ☆

Algeria: Gas Fiscal Terms Summary

Algeria operates both mineral interest and production sharing systems. Since the new hydrocarbon law of 2005 mineral interest favored.

- Tax on revenues (TRP) with transport and NGL processing deductible
- Tax on income (ICR) 30% (or 15% if earnings reinvested)
- State participation 51% fixed (huge reduction to IOC revenues)
- Tax on extraordinary income (TPE) Sliding scale windfall tax on oil (5% to 50%) – starts at $30 / barrel (Brent) and is not deductible.
- Alnaft (gas agency) monitors long-term gas contracts
- Minimum 85% take or pay required
- Property taxes, water use and carbon credit transfer costs may apply
- Farmout assignments charged at 1% of transaction value
- Government take some 75% of revenues (depending on project and

Angola: Gas Fiscal Terms Summary

Production sharing agreements now dominate fields under development. Many of the new fields are large deepwater oil fields with associated gas.

- Large signature bonuses
- Up to 50% revenue allocation available each year for cost recovery
- Capital costs uplifted by some 20% to 50% (negotiable)
- Profit sharing on sliding scale driven by post-tax IRR rising to 80% to government at high IRRs. Scale is negotiable.
- Petroleum Income tax 50% of producers' profits
- Gas negotiations linked to no flaring rules
- Producers offered low prices to supply LNG plant under construction.
- High-cost deepwater gas gathering infrastructure as well as LNG plant to finance and build.

Norway: Gas Fiscal Terms Summary

Norway operates a mineral interest system. There are no bonuses or royalty and the fiscal take comes from progressive instruments.

- Royalty 0% and no bonuses but marginal tax burden is some 78%
- Corporate Tax (CT) 28% of taxable income
- No ring fences with CT base established at the company Level.
- Special tax rate 50% with investment uplift of 7.5% for 4 years deducted from CT base. Uplift shelters marginal fields.
- Tax of CO_2 emissions at 0.79 NOK (~10 US cents)/ m^3 CO_2
- Gas taxed on bases of actual realised prices.
- Rules concerning prices of gas transfer between affiliates
- Stated fiscal strategy is *that the tax system should act as a sleeping partner providing producers with technical control and ensuring that any investment decision that is commercially viable before tax should remain viable after tax.*

Papua New Guinea (PNG): Gas Fiscal Terms Summary

Papua New Guinea (PNG) operates a mineral interest system. It has relaxed fiscal terms since 1990's as fields under development have declined. Upsurge in interest in large LNG projects led to legislative changes offering progressivity and stability.

- Royalty 2%
- Income tax (IT) 30% (50% for oil)
- Additional Profits Tax (APT) 7.5% after 17.5% post-IT IRR reached for project and 10% after 20% post-IT IRR reached for project.
- State equity participation 22.5% (2% of which goes to landowners)
- Partial carry for the state
- Past exploration costs recoverable through 20-year carry-forwards
- Marginal field incentives: e.g. accelerated depreciation
- ExxonMobil (41.6%) and partners FEED study of PNG LNG ongoing

Qatar: Gas Fiscal Terms Summary

Qatar operates a development and production sharing agreement (DPSA) system providing access for IOCs to some of world's largest gas reserves.

- Qatar Petroleum (QP) NOC usually holds 65% to 70% equity
- Integrated upstream and downstream projects (gas and NGL production linked with LNG, GTL and petrochemicals) are typical.
- Up to 50% revenue allocation available each year for cost recovery
- Upstream gas price fixed at low value (feedstock to downstream)
- Profit gas shared on volume (e.g. <130 mmscf/d 65% goes to QP; >520 mmscf/d 90% goes to QP). Scales are negotiable.
- Value mainly in LNG etc. where producer share is typically 30% subject to 35% corporate income tax. Upstream income exempt CIT.
- NGL and condensate profit split is on a negotiable sliding scale driven by an R-factor (e.g. R <1 QP share is 65%, R>2.5 QP share 90%).

Trinidad & Tobago (T&T): Gas Fiscal Terms Summary

T&T operates mineral interest and PSA systems, but prefers the latter.

- Mineral Interest :
  - Royalty 10% (increased in 2005)
  - Petroleum profits Tax (PPT) 50% (+5% unemployment levy)
  - Supplemental Petroleum Tax (SPT) on oil sliding scale on prices
  - Green fund levy 0.1% of gross revenue
  - Petroleum production levy 3% of total income
- Midstream /downstream projects 35% special corporate tax
- Withholding tax 15% (US no tax treaty so paid by US companies)
- PSC:
  - Cost gas allocation negotiable – typically 40% to 50%
  - Profit share driven by production rate and gas price scales (e.g. at low rates prices producer gets ~45% at high rates/prices producer gets ~15%).
  - Ring fence around PSC area
  - Fiscal stability clause and exemption from other taxes

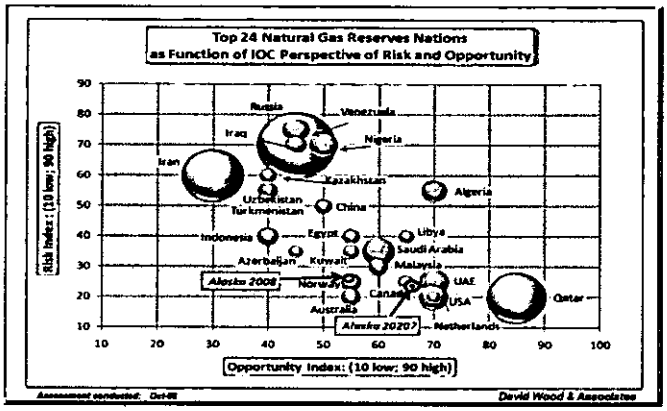
Factors Used to Assess Gas Producer Regional Risk and Opportunity

In addition to identifying projects with positive discounted cash flow potential and offering competitive producer post-tax takes superficial risk and opportunity analysis evaluates the following:

- The five attributes used to evaluate for scoping ***risk*** analysis are focused mainly on political, business and fiscal risks:
  - Expropriation / overall political instability (RL & NI components)
  - Corruption
  - High administrative burden (cost & time)
  - Community/ labor disputes
  - Regressive and inflexible fiscal terms
- The five attributes used to evaluate for scoping ***opportunity*** analysis are focused mainly on technical, operational and financial risks:
  - Access to large reserves
  - Low finding and development costs
  - Ease of operation
  - Access to equity /debt funding
  - Access to infrastructure / markets

Alaska Gas Compared on International Scale of Risk versus Opportunity

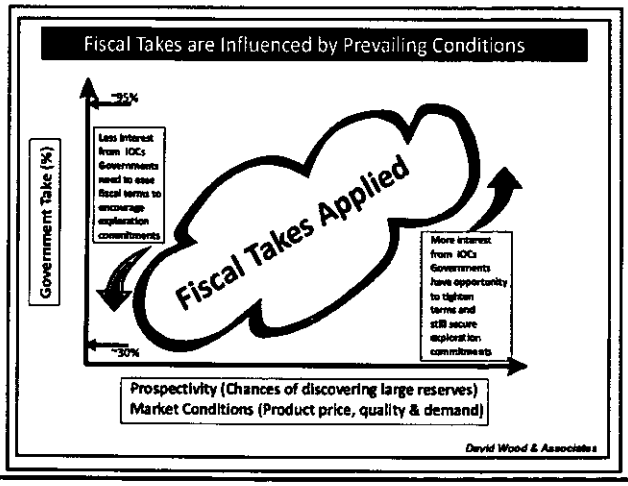
The diameters of the bubbles are proportional to proved natural gas reserve holdings as reported by BP Statistical Review (June 2008).



Alaska marked on the framework from David Wood *"Global perspectives required for risk, opportunity analyses."* **Oil & Gas Journal** (9Feb, 2009).

Overall Government Takes from Gas Production Varies Substantially

Governments need to retain the ability to adjust fiscal designs to meet changing conditions.



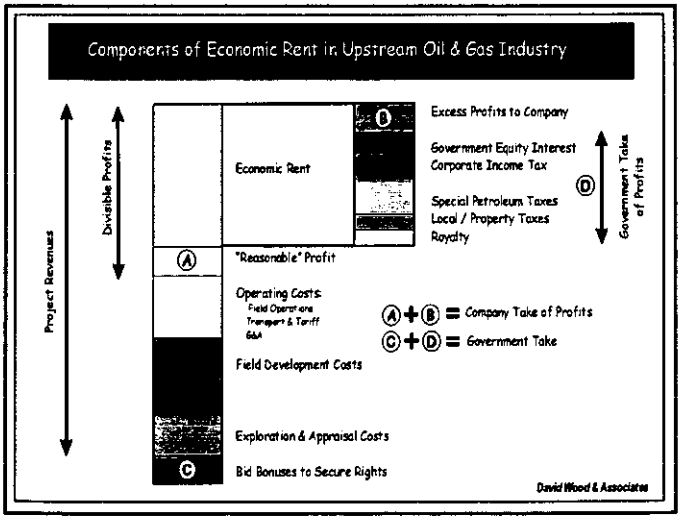
Most governments open new areas for licensing, re-licensing, or for contract by IOCs in stages over time.

Often such activity is linked to bidding rounds. It is useful for the governments to retain rights to adjust fiscal terms associated with new licensing.

Fiscal elements commonly combined to

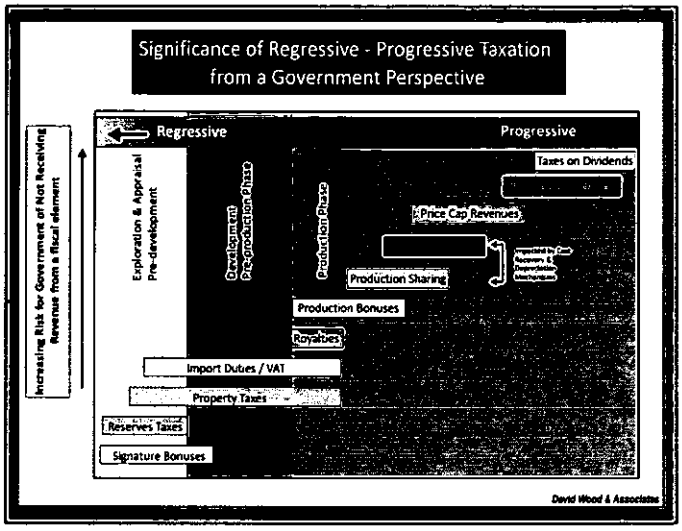
optimize government take

Fiscal Designs Focus on the Division of Economic Rent



Government take comes mainly from the revenue stream but bonuses and pre-production taxes also contribute.

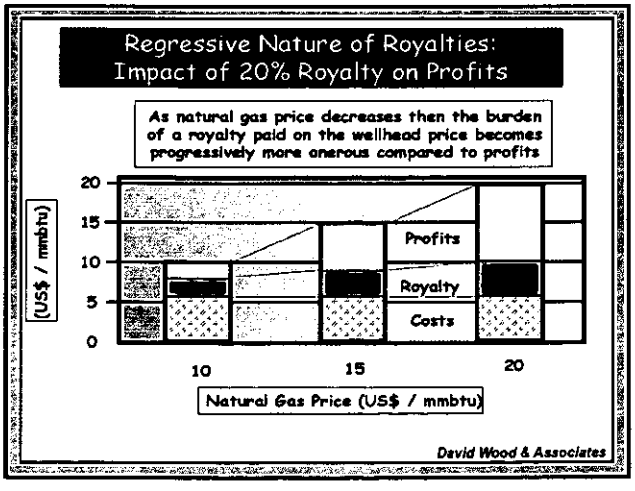
Progressive & Flexible Fiscal Designs Help to Promote Investment



The stronger the commitment made by governments to promote a commercially attractive environment, the more likely investors are to commit investments without guarantees of fiscal stability.

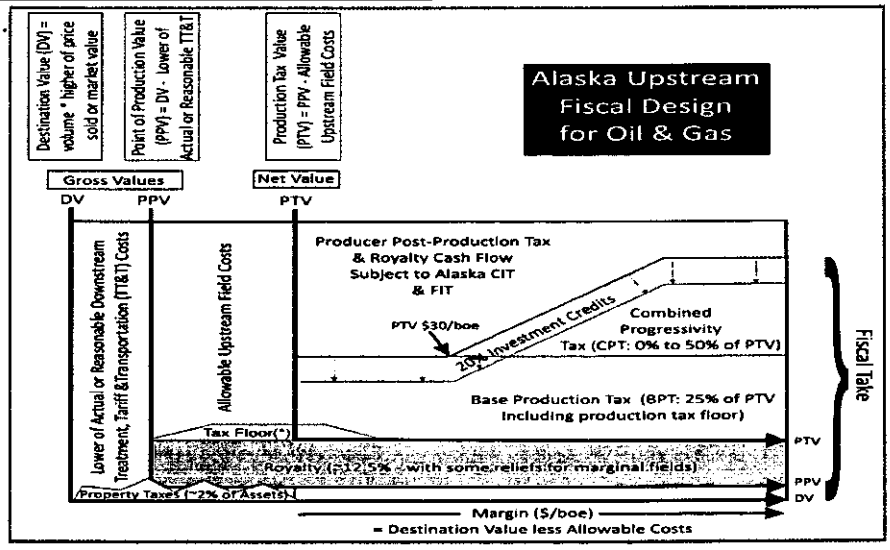
Regressive Impact of Royalty

Royalty takes a higher percentage share of profits at lower prices.



Alaska's Prevailing Fiscal design

Schematic of Alaska's Prevailing Oil & Gas Fiscal Design



Key Regressive Elements in Alaska's Prevailing Fiscal Design

There are three elements that make Alaska's prevailing fiscal design regressive.

- Royalty
- Property Taxes
- Production Tax Floor

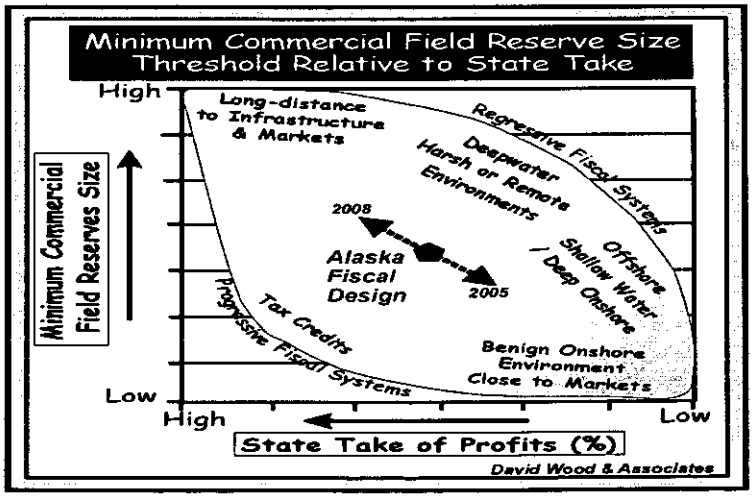
These regressive elements are partially offset by:

- Investment credits (exploration and development)
- Production taxes (levied after deduction of all allowable costs)
- Progressivity tax (only levied on high value streams)

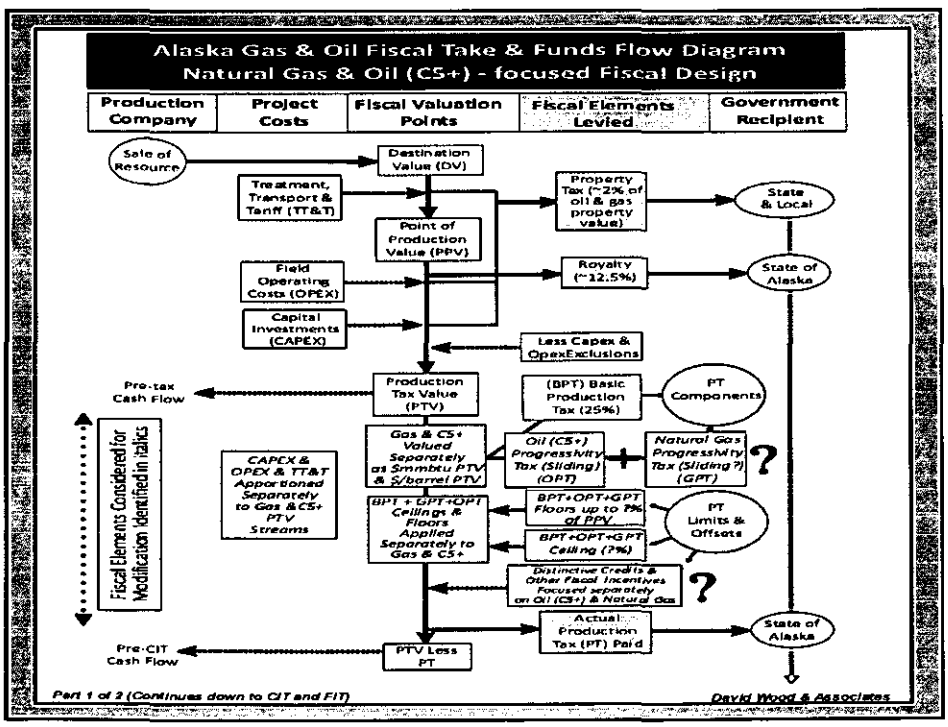
Other allowances / credits for producers should be considered to offset impacts of regressive elements coupled with tougher progressivity terms.

Regressive Fiscal Designs Increase Minimum Commercial Field Sizes

Tax credits can help offset some regressive fiscal elements.



Complications of combined oil and gas progressivity tax (CPT)



Problems with Alaska's Current Progressivity Tax from the Natural Gas Perspective

The models of a wide range of gas field sizes suggest three issues associated with calculating production tax values using a combined oil and gas (boe) revenue stream.

- Large gas production volumes contributing low value to high value oil production can dilute the PTV/boe and progressivity of the combined stream.
- The PTV / boe threshold (i.e., trigger point) at which progressivity tax becomes initially payable are set too high for natural gas.
- Tying the production tax floor to PPV can lead to regressive consequences for gas producers in high cost / low value conditions.

Impact of Natural Gas on Combined Oil & Gas Production Tax

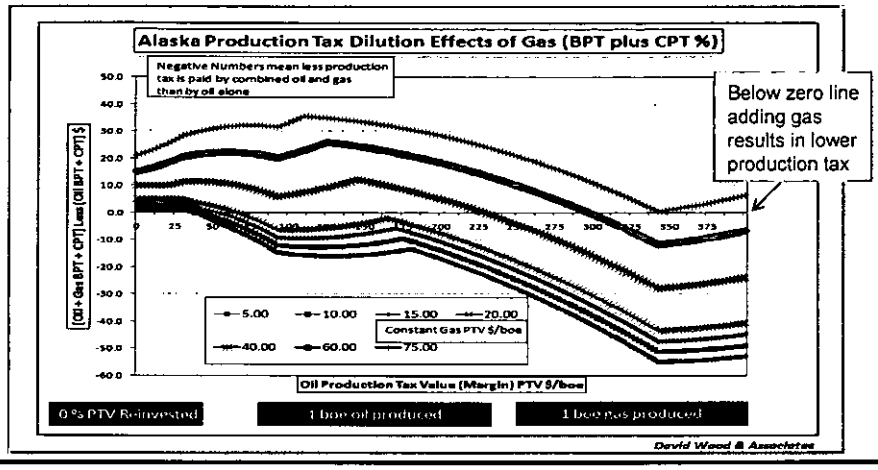
Analysis has identified that three factors are relevant to the dilution effects under prevailing production tax paid by an existing oil- only case with the addition of gas production (and vice versa – i.e. oil added to a gas-only case). These factors are:

1. Magnitude of value differential between oil and gas streams (high oil value minus low gas value, or high gas value minus low oil value);
2. Relative volumes of oil and gas produced contributing to combined production tax boe stream.
3. Amount of PTV reinvested, which depending on the PTVs of each stream can have a significant impact

An Excel computer model has been developed to test these three factors.

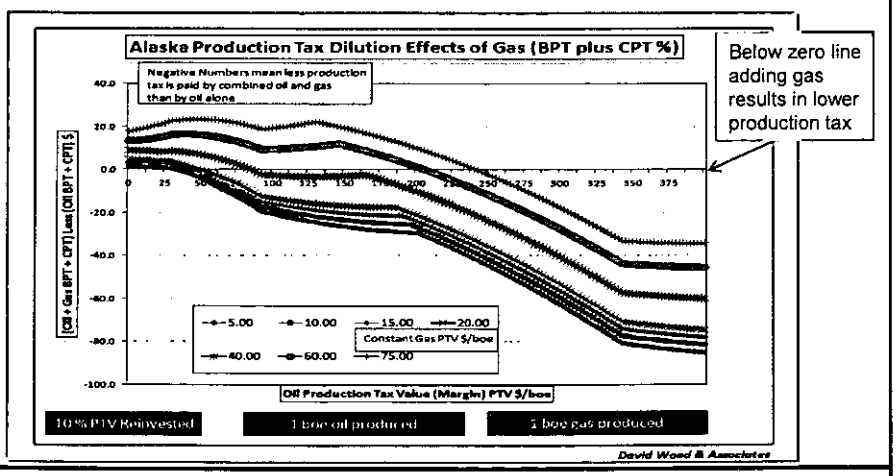
Natural Gas Dilution Effects on Combined Oil & Gas Production Tax

The trends are non-linear with slope changes because of the changing gradients of the production tax progressivity mechanism (i.e. 0.4/boe to 0.1/boe) and the threshold values at which those changes occur.



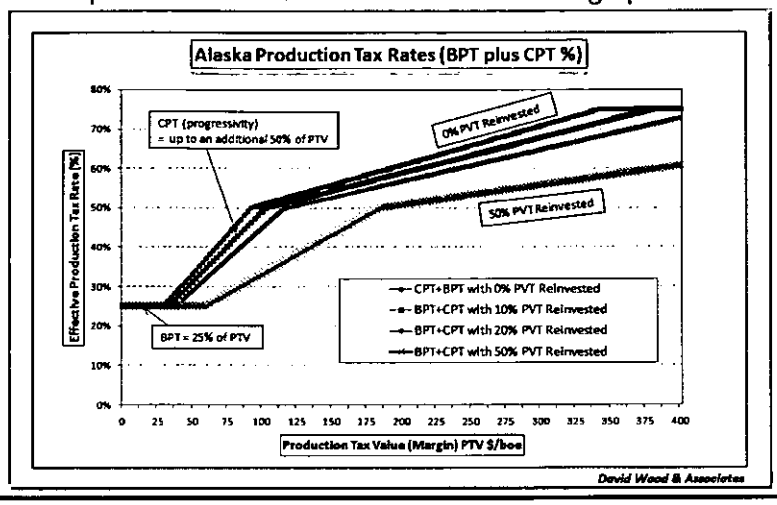
Natural Gas Production Tax Dilution Effects Impacted by Reinvestment

If some of the PTV is reinvested the reduction in production tax paid is significantly greater. This graph shows the impact of 10% reinvestment.



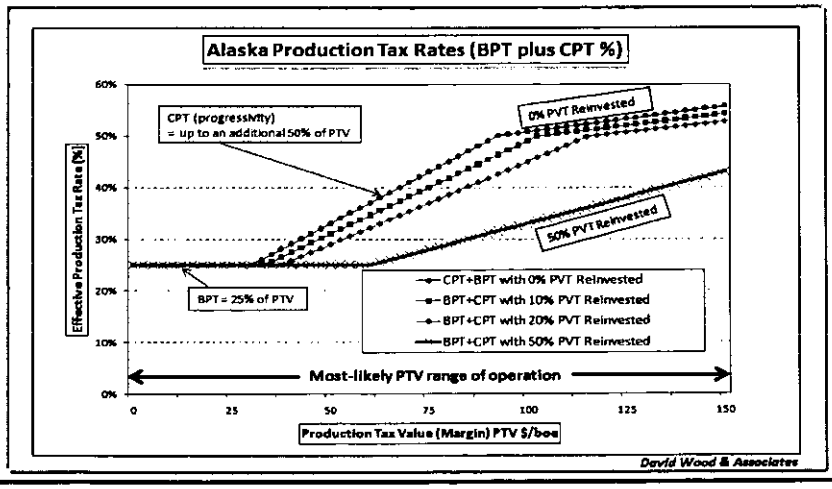
Natural Gas Production Tax Dilution Different Reinvestment Scenarios

The impact of several reinvestment scenarios – 0% , 10%, 20% and 50% of PTV - on production tax rates are illustrated in this graphic.



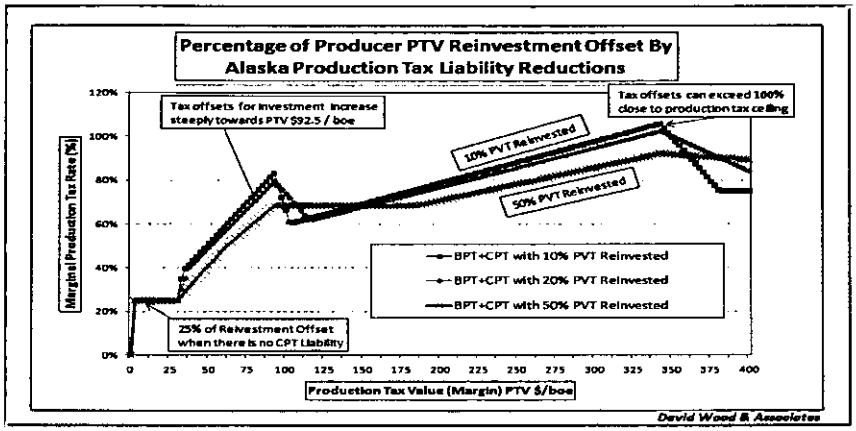
Reinvestment Scenarios For PTV Range $30/boe to $150/boe

For example production tax rate can be reduced from 49% to 42% at PTV $90/boe by reinvesting 20% of the PTV.



Marginal Production Tax Rates Seen by a Producer for Reinvestment Dollars

The vertical axis shows the percentage tax reduction associated with the incremental re-investment (or the marginal tax rate offset by the producer by its reinvestment). Note the peak around PTV$90/boe and values above 100% at PTV $350/boe plus multiple crossover points.



Implications of Analysis

The analysis suggests that the prevailing production tax system has the following complications:

1. It is difficult to predict (from tax authority and producer perspectives) and relationships between oil and gas tax liabilities are non-linear;

2. The magnitude of combined production tax impact caused by adding a gas production stream varies with relative oil and gas PTVs, oil and gas volumes and percentage of PTV re-invested;

3. Without detailed analysis (and speculative forecasting of oil and gas prices) production tax outcomes can be counterintuitive.

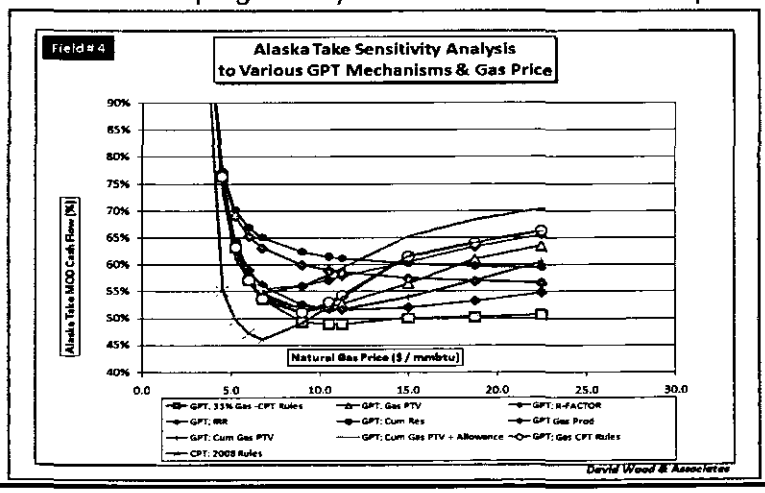
Alternative Drivers of Gas Progressivity Tax Evaluated by Fiscal Model

Ten different mechanisms are evaluated. No.1 represents the status quo evaluating gas progressivity as a combined revenue stream with oil (boe).

1. CPT: 2008 Rules (combined PTV/boe)
2. GPT / OPT: separates gas and oil on PTV/boe scale
3. GPT /OPT: progressivity applied to only 33% of gas PTV
4. GPT: Gas PTV (based on Gas PTV / mmbtu)
5. GPT: R-Factor (cumulative PPV less royalty/cumulative gas costs)
6. GPT: IRR (Investor's Rate of Return of cumulative PTV)
7. GPT: Cumulative gas reserves produced
8. GPT: Annual gas production volumes
9. GPT: Cumulative gas PTV
10. GPT: Mechanism #9 plus allowances to counter regressive elements

Ten Progressivity Mechanisms: Sensitivity Analysis

A large gas field (5 tcf reserves) illustrates the impact on Alaska's state take of cash flow of the ten progressivity mechanisms at different oil prices.



Multi-year and multi-scenario fiscal

performance cash flow models

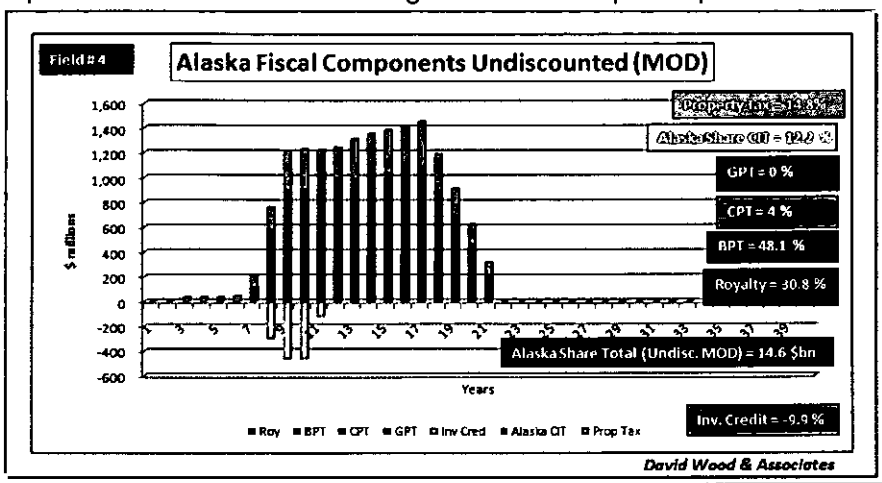
Hypothetical Field Cases Evaluated

Five non-associated natural gas fields and five oil fields with associated gas were constructed to use with a multi-year fiscal model built in Excel.

- The natural gas fields (#1 to #5) range in reserve size from 500 bcf to 10tcf.
- The oil fields (#6 to #10) vary in reserve size from 28 mmb (with 20 bcf of associated gas) to 500 mmb (with 690 bcf of associated gas).
- The fields display a wide range of production and cost profiles.
- Base cases for each model field tested with wide ranging sensitivity cases.
- Base case assumptions applied: Year 0 gas price: $7.5 / mmbtu; Year 0 oil price: $80 / barrel; nominal inflation 2% / year. The model allows these and the sensitivities to be changed easily and quickly.

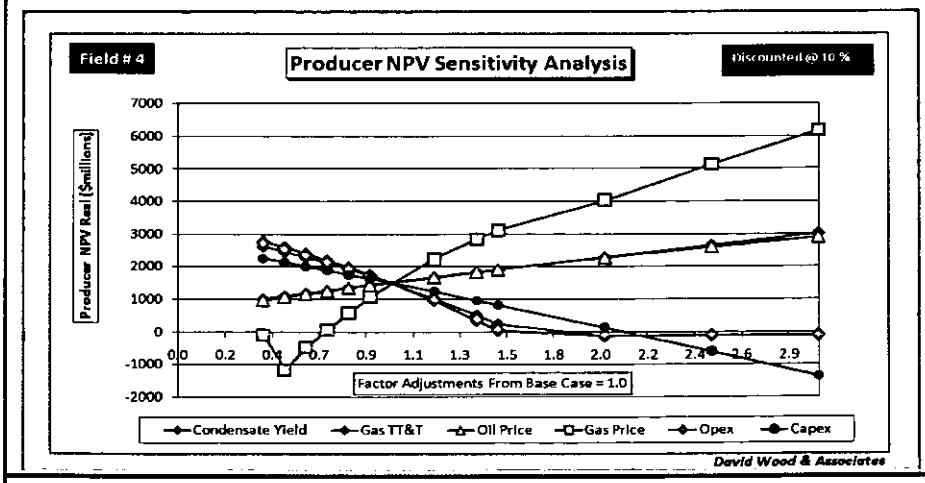
Alaska Fiscal Take Varies Over Field Life

Components of Alaska fiscal take for a large gas field (5 tcf) showing the impact of investment credits during the field development phase.



Sensitivity of Alaska Gas Field to Project & Market Variables

Economic performance of a gas field development from a producer's perspective for a large gas field under the prevailing Alaska fiscal system.



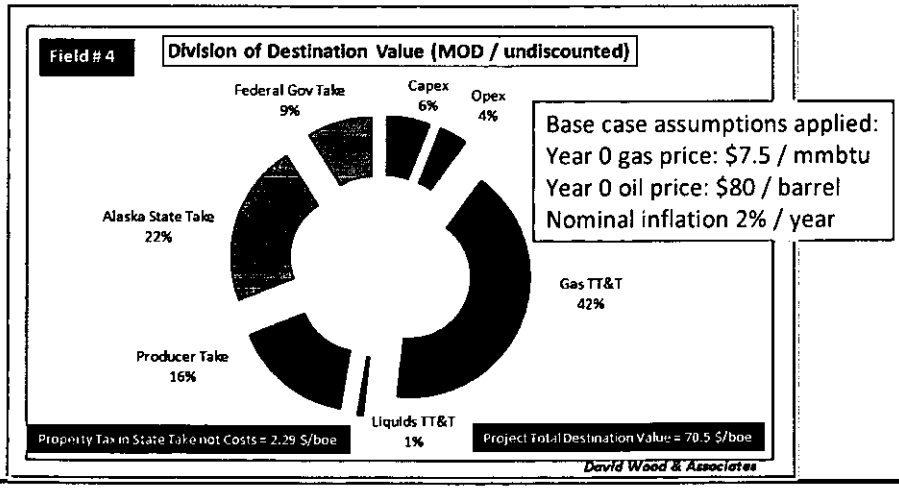
Base Case Hypothetical Field Models Reveal High-level Implications for Government Take

Government take includes Alaska state take and federal government take. The models apply the prevailing Alaska fiscal design and some base case assumptions.

- For oil fields (with associated gas):
  - Government take of destination value (gross) is about 60%
  - Government take of destination value less costs (gross) is about 75%
- For natural gas fields (non-associated gas with NGLs):
  - Government take of destination value (gross) is about 30%
  - Government take of destination value less costs (gross) is about 67%
- Exact percentages vary with field sizes, prices and costs.

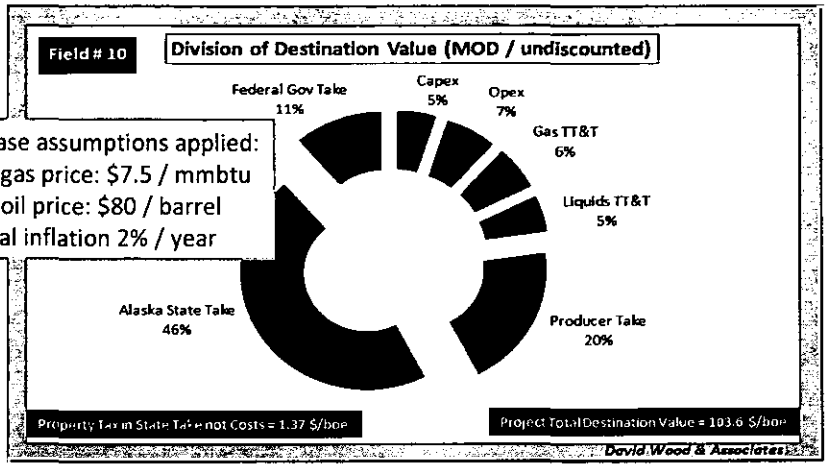
Large Gas Field: Division of Destination Value

For gas fields of various size (5 tcf shown here) gas TT&T takes the largest share of destination value. Alaska takes some 22% of destination value.



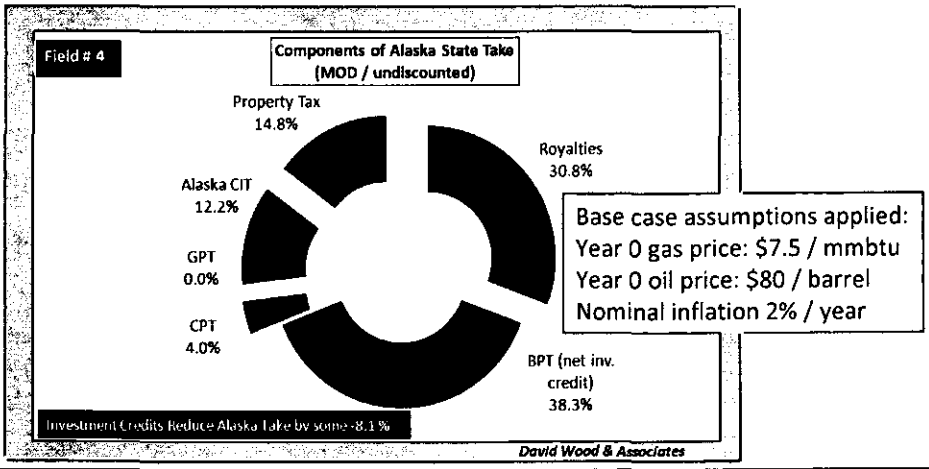
Large Oil Field: Division of Destination Value

For oil fields of various size (500 mmb shown here) costs are less significant than for gas. Alaska takes some 46% of destination value.



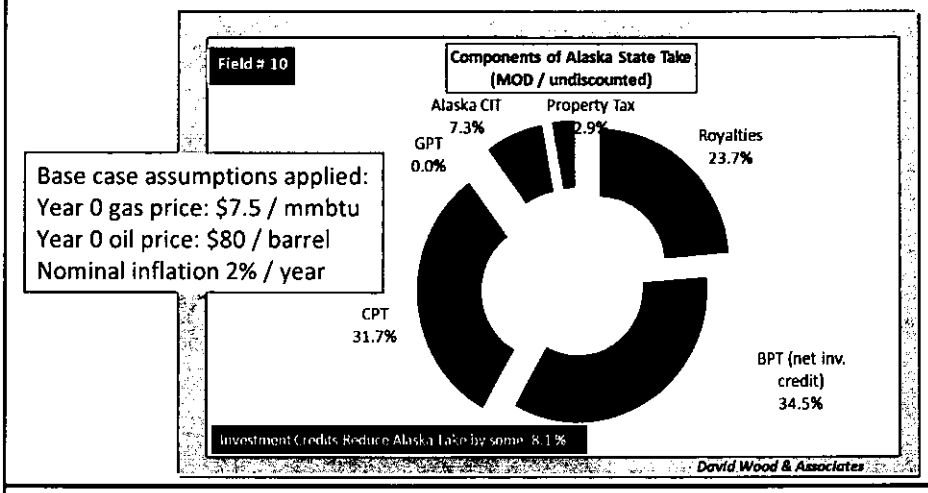
Components of Alaska State Take for Large Gas Field

Royalties and basic production tax account for two-thirds of Alaska state take for this 5 tcf field. Base case price and cost assumptions applied.



Components of Alaska State Take for Large Oil Field

Basic production tax and combined progressivity tax account for two-thirds of Alaska state take for this 500 mmb oil field.



Fiscal designs go beyond upstream

issues and influences

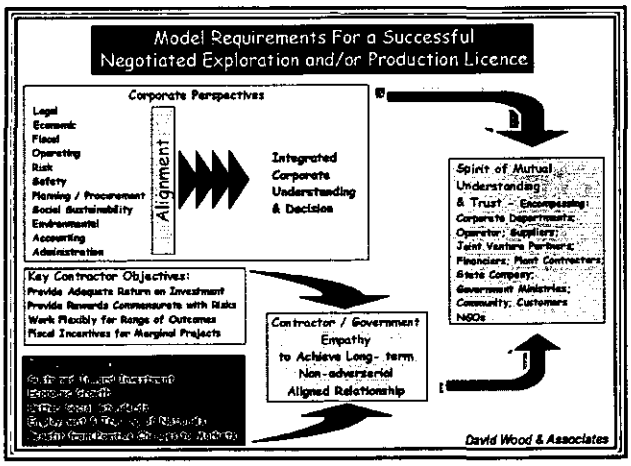
Integrated Upstream & Downstream Fiscal Designs

IOCs have demonstrated more enthusiasm around the world for downstream infrastructure project investments that are integrated with development of upstream resources (e.g. Algeria, Nigeria, Russia, Qatar etc.).

- IOCs have signed up around the world to progressive systems with high marginal government takes (with significant government equity shares) when gas values are high and with limited access to reserves.
- They have been more likely to do so when:
  - there are incentives and/or allowances available to compensate for regressive elements when gas values are low or during field development phases.
  - integrated upstream and downstream projects granting them exclusive access rights to those resources (limited TPA).
  - terms are controlled by contracts.

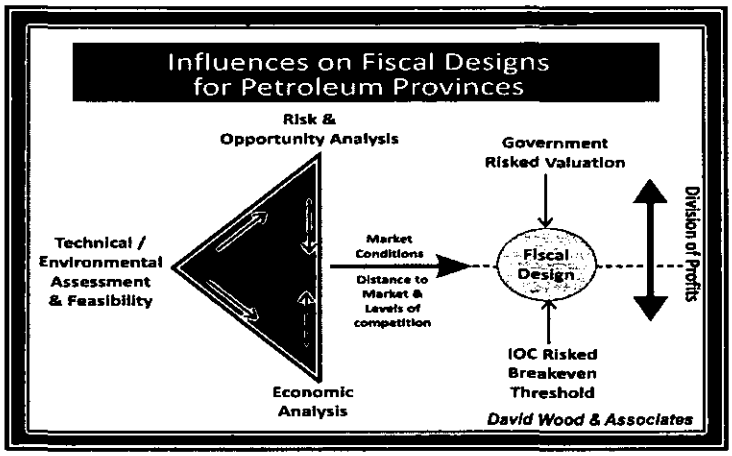
Alignment between Government and Producer Objectives

Alignment of purpose should be taken into consideration when formulating fiscal designs. Win-win outcomes take a long-term view to achieve.



Influences on Fiscal Design

Technical, economic and risk analysis will determine whether fiscal designs on offer provide acceptable levels of return to justify IOC investment.



Fiscal Instability and Fiscal Credibility

The IOCs have experienced unprecedented fiscal instability around the world in recent years, coupled with greater political uncertainty.

- There are different degrees of fiscal instability culminating in the extreme in expropriation of assets.
- Milder forms of instability involve changing fiscal terms with various degrees of retrospective impacts on existing leases and contracts.
- IOCs are facing more competition from NOCs to access large oil and gas reserves and political manipulation by governments.
- Such factors make the U.S. (and other OECD countries) more attractive regions for risk investment where large reserves exist.
- Although issues of fiscal stability and credibility remain important and take time to establish they are only one of several factors that will influence IOC investment decisions in upstream developments.

Guarantees of Fiscal Certainty

IOCs often seek fiscal certainty in exchange for committing to very large investments in strategic infrastructure and reserves development.

- Issuing such guarantees is risky for governments.
- Implement flexible and progressive fiscal designs is a better approach
- Clear, pro-commercial fiscal strategy statements improve confidence
- If guarantees are offered they should involve:
  - limited time periods
  - reciprocal commitments from IOCs to place ceilings on costs
  - more regressive fiscal elements than if no guarantees given
- Retaining the right to adjust fiscal terms enables governments to periodically change the fiscal design to respond to market conditions.

Conclusions & recommendations of

preliminary study

Conclusions Regarding Progressivity Tax Structure

Complications in CPT lead to the following general conclusions:

1. Under the current production tax rules (CPT) the impact of natural gas revenue on the magnitude of combined production taxes is difficult to predict making tax planning difficult (for both state and producers).

2. This is likely to render the production tax structure unstable in the long term and to require future adjustments by the legislature to progressivity rates and thresholds according to prevailing conditions.

3. Such adjustments would have significant impacts on investors and risk undermining fiscal stability and credibility over the long term.

4. By separating CPT into GPT and OPT these problems are removed and incentives can be structured in a transparent way. Under separate oil and gas taxation streams the combined production taxes become more predictable, stable and flexible.

Useful Analysis to Aid Natural Gas Fiscal Design Yet to be Conducted

The dilution effect of production tax is one of several issues that suggest that the natural gas fiscal design requires some adjustment. A first step is to establish a strategy for what a revised fiscal design should achieve. In order to help this process the following analysis could be conducted.

1. Establish and compare multi-year cash flow models for Prudhoe Bay and Point Thomson fields to evaluate from a natural gas perspective the taxation outcomes a range of scenarios: 1) Gas pipeline alternatives; 2) LNG plant at Valdez; GTL plant on the slope; and others.

2. Use the information from 1. together with the ten hypothetical yet-to-find fields (presented in December Report) to test alternative gas fiscal designs.

3. Evaluate the fiscal designs and specific fiscal instruments applied in the main oil and gas producing states of the Lower 48. Alaska may be competing for investment with large-scale unconventional gas projects (e.g. shale gas). It is important to understand the incentives being offered by such projects.

Approaches to Fiscal Design that Can Improve Performance & Credibility

The following are selected recommendations for Alaska from the report:

- Develop a clear statement of fiscal strategy and objectives
- Focus on a simple, flexible and progressive fiscal design
- Some level of fiscal stability important to secure investment
- Such designs could be more effective than contractual guarantees
- Drive progressivity fiscal elements for gas with gas PTV (not boe)
- Consider return on investment drivers for progressivity taxes
- Combine progressivity tax with allowances to offset regressive elements
- Aim to clarify and optimize fiscal revenue streams from NGLs
- Consider state equity involvement in infrastructure projects
- Involve cost control components to some fiscal incentives
- Apply time constraints to new leases to develop resources

Preliminary Report on Fiscal Designs for the Development of Alaska Natural Gas

Report delivered and presented in Anchorage December 2008

http://lba.legis.state.ak.us/

Click on

Oil and Gas Fiscal Design

Click on

Document Log

Digital copies of all sections of the report are available in .pdf format

4/1/09 CONFIRMA-TIONS: BOARD OF GAME

July 11, 2005
Brief Resume of:
Paul Johnson
22891 Glacier Highway
Juneau, Alaska, 99801
(907) 789-0944
Summer Address:
PO Box 22
Elfin Cove, Alaska 99825
(907) 697-2720

Born May 28, 1952 to Ed and Mary Johnson in Juneau, Alaska

Raised in Alaska's Fishing and Guiding Industries

1970 Graduate Juneau Douglas High School

Private Pilot License 1970

University of Alaska 1970-1972 Wildlife Management Studies

Registered Guide License 1976

Coast Guard Captains License 1976

1972-1995, Owner; J&M Fish Buying and General Store, sold to Alec Brindle 1995

1975-Present, Owner Operator; Chichagof Charters Hunting Fishing and Sightseeing

1980-Present, Board of Directors; Middle Fork Mining Company

1980-1992, Board of Directors; Elfin Cove Community Corporation

1979-1990, Member; Elfin Cove ADF&G Fish and Game Advisory Committee

1981-1995, Board of Directors and Chairman; Elfin Cove Electric Corp.

1989-1990, Member; Task force on Guiding and Game

1989-1993, Board of Directors and Chair (three years); Big Game Commercial Services Board

1995-1997, Board of Directors; Alaska State Camber of Commerce

1996-1998, Board of Directors; Alaska Professional Hunters Association

2001-Present, Board of Directors; Northern South East Alaska Agriculture Association

2002-2004, Member; GMU4 Brown Bear Management Plan

References

Rick Urion
(907) 465-2538

Matt Robus
(907) 465-4190

Bill Corbus
(907) 465-2301

I have made payroll and worked as an employer all of my working life. Along with all of the members of The Alaska Professional Hunters Association I have worked very hard to create this board and I believe in the professional guiding industry. My wife and family support my desire to serve on this board. As a member and Chairman of the previous Big Game Commercial Services Board I am aware of the exceptional audit ratings we had as a board prior to being allowed to sunset by Senator Rick Halford.

Please note that without hesitation I promote and support the nominations to this new board made by the Alaska Professional Hunters Association. Both Richard Rohrer and Brad Dennison are men of the highest level of integrity. I have given Governor Murkowski my full support and if asked to serve on this board will do my best to uphold and support his policies.

Respectfully,
Paul Johnson

STATE OF ALASKA
OFFICE OF THE GOVERNOR
P.O. Box 110001, Juneau, AK 99811-0001
Phone: (907) 465-3500 Fax: (907) 465-3532

BOARDS AND COMMISSIONS APPLICATION FORM

INSTRUCTIONS

A separate application is required for each position for which you apply. Complete and specific answers will aid in rapid and accurate processing of your resume. Please type or print legibly in ink. Forward to the above address. Be sure your answers are true. A willfully false answer may result in your disqualification or removal from office if you are appointed.

Board or Commission and seat for which I am applying: Big Game Commercial Svs
(For example, Board of Agriculture, public seat)

Please list any other State Boards or Commissions on which you currently or previously have served:

Name: Dirk Nickisch

Mailing Address: 2199 Nottingham Dr

Residence Address: Same

City, State and Zip Code: Fairbanks, AK 99709

Home or Message Telephone: _____ Business Telephone: 479-5995

Fax Number: 479-5042 Cell Phone: _____

Email address: flights@flycoyote.com

AS 39-05-100 requires that a person appointed to a state board or commission be a registered voter prior to the last general election:

Are you a registered voter: YES X NO _____ Voter Registration Number (Optional): _____

Social Security Number (Optional, required if appointed for travel, reimbursement etc.): _____

Have you ever been convicted of a misdemeanor within the past five years or a felony within the past ten years?

YES _____ NO X if "YES", explain the circumstances on a separate sheet of paper and attach it to this application. A conviction is not necessarily grounds for disqualification. The number of convictions, nature, recentness, and relationship to the board position applied for, will be evaluated and a determination will be made after a review of all relevant facts.

CONFLICTS OF INTEREST: Certain boards and commissions require full disclosure of personal financial data under AS 39.50.010. If required for the board or commission for which you are applying, are you willing to do so?
YES X NO _____

Could you or any member of your family be affected financially by decisions to be made by the board or commission for which you have applied? YES X NO _____

If "YES", explain:
I own and operate a 135 air taxi that transports hunters

Fax Received
OCT 15 2008
Office of the Governor

TRAINING AND EXPERIENCE: (If resume attached, it is not necessary to complete items A-D)

A. List any professional licenses, certifications, or registrations and dates obtained that may be used as qualifying criteria: Commercial Single Engine Land, ATP Multi Engine Land, Commercial Single Engine Sea Pilot Licence

B. List both formal and informal education and training experiences: (Use additional paper if necessary).
Bachelor of Science in Economics minor in Animal + Range Science NDSU
Dakota Aero Tech A+P License

C. List any community service, municipal government, and state positions held, and any awards received. Include both compensated and uncompensated positions (such as president of a service organization or a mayor). Include length of time serviced.
North Dakota Heritage Award for public service

D. Employment work history – paid, unpaid or voluntary: (Use additional paper of necessary).
See Resume

The Office of the Governor and the State of Alaska have an Affirmative Action Equal Employment Opportunity Program. To assist in the program, you are asked to voluntarily answer the following questions to provide the information necessary for reporting purposes. Under State and Federal law, the information you provide will not be used to illegally discriminate against you.

DATE OF BIRTH: _____ SEX: FEMALE _____ MALE X

ETHNICITY:
Alaska Native ___ American Indian ___ Asian or Pacific Islander ___ Black ___ Hispanic ___ White X

MILITARY SERVICE (if applicable, give dates): _____

CERTIFICATION: I swear the information I have entered on this form is true to the best of my knowledge. I understand that if I deliberately conceal or enter false information on the form my application may be rejected, I may be removed from the list of eligible candidates, or I may be removed from the position. I agree that the Office of the Governor may contact present or former employees or other persons who know me to obtain an additional information about my skills and abilities. I understand that the information on this application is public information and may be released through a legal request for such information.

Signature (in ink): Dal Nitz Date: 10-14-05

Please attach a current resume with your application.

STATE OF ALASKA
OFFICE OF THE GOVERNOR

BOARDS AND COMMISSIONS

Name: Dirk Nicklock Date: 10-14-08

(Indicate top three boards/commissions of interest by number with #1 as your preference)

	Accounting Board
	Aerospace Development Corporation
	Aging Commission
	Agriculture & Conservation
	Alaska Juvenile Justice Advisory Committee
	Alaska Retirement Management Board
	Alaska Statehood Celebration Commission
	Alaska-Alberta Bilateral Council
	Alcohol/Drug Abuse
	Alcoholic Beverage Control
	Architects/Engineers/Land Surveyors
	Arts Council
	Assessment Review Board
	Aviation Advisory Board
	Bald Eagle Preserve
	Bar Association
	Barbers & Hairdressers
	Bering Sea Fishery Advisory Board
/	Big Game Commercial Services
	Boating Safety Council
	Broadcasting Commission
	Children's Trust Board
	Chiropractic Examiners
	Clemency Advisory Committee
	Commemorative Coin Commission
	Commercial Fisheries Entry
	Commercial Fishing/Agriculture Bank
	Community Service Commission
	Denali Access System Advisory Committee
	Dental Examiners
	Disabilities/Special Education
	Domestic Violence/Sexual Assault
	Education & Early Development
	Education Commission/States
	Emergency Medical Services
	Emergency Response Commission
	Employment of People with Disabilities
	Exxon Valdez Oil Spill Trustee
	Faith-Based & Community Initiatives Council
	Fire Standards Council
	Fisheries

	Fisherman's Fund Advisory & Appeals
	Forestry
	Game
	Health Council
	Historical Commission
	Historical Records Advisory
	Homeless Council
	Housing Finance Corporation
	Human Rights
	Humanities Forum
	Independent Living Council
	Industrial Development/Export Authority
	Interstate Oil & Gas Compact
	Judicial Conduct
	Judicial Council
	Knik Arm Bridge
	Labor Relations Agency
	Libraries Advisory
	Local Boundary Commission
	Marine Pilots
	Marine Transportation Advisory Board
	Marital & Family Therapy
	Medical Board
	Mental Health Board
	Mental Health Trust Authority
	Midwives
	Minerals Commission
	Municipal Bond Bank
	Natural Gas Authority
	Natural Gas Pipeline Corporation
	Natural Resources Conservation Dev
	North Pacific Anadromous Fish
	North Pacific Fisheries Management Council
	North Pacific Research Board
	Nursing
	Occupational Safety
	Oil & Gas Conservation Commission
	Optometry
	Pacific Marine Fisheries Commission
	Pacific Salmon Commission-Commissioners
	Pacific Salmon Commission- Northern Panel

	Pacific Salmon Commission-Transboundary Panel
	Parole Board
	Permanent Fund
	Pharmacy Board
	Physical/Occupational Therapy
	Pioneer's Home Advisory
	Police Standards Council
	Postsecondary Education
	Professional Counselors
	Professional Teaching Practices
	Psychologist/ Psychological assoc.
	Public Offices Commission
	PWS Oil Spill Recovery Institute
	Railroad Corporation
	Real Estate Appraisers
	Real Estate Commission
	Regents
	Regulatory Commission (RCA)
	Royalty Oil & Gas Development
	Safety Advisory Council
	Seafood Marketing Institute
	Seismic Hazards Safety Commission
	Social Work Examiners
	Student Loan Corporation
	Subsistence Resource Commissions
	Suicide Prevention Council
	Telecommunications
	Uniform State Laws
	Veterans Advisory Council
	Veterinary Examiners
	Violent Crimes Compensation
	Water and Wastewater Works
	Western Interstate Comm/Higher Educ
	Wood-Tikchik State Park
	Worker's compensation
	Worker's Compensation Appeals Commission
	Workforce Investment Board
	Yukon River Panel

If appointed, a press release will be issued announcing your appointment pending the completion of the appointment process with the Governor's office. Please supply our office with the following information that will be included in the press release.

(Name): Dick Nicklas (Age): 39 of (Hometown): Fairbanks
is (Job title/Place of employment): Owner/operator Coyote Air.
(Name) holds (Listing of earned degrees like bachelor's, master's, ect.): Bachelors degree in Economics from North Dakota State University
(Or list relevant experience to the position you are being appointed to)

Examples:

John A. Doe, 38 of Soldotna, is Director of T-Shirts & Co. Doe holds a bachelor's degree in business administration from X University and a master's degree in communications from X University.

John A. Doe, 38 of Palmer, is the owner and operator of Doe and Associates, Inc. Doe previously served as division manager at X, Inc. Doe is a certified personnel consultant.

Dirk Nickisch
PO Box 9053 2199
Coldfoot, AK 99701
(907) 678-5995 Summer
(907) 479-5995 Winter

Education

Bachelor of Science Economics	North Dakota State University	1993
Airframe and Powerplant License	Dakota Aero Tech	1994
Caravan Maintenance School	Martin Air Dallas Texas	1995
PT6 Heavy Maintenance	Standard Aero	1995

License

FAA ATP Multi, SEL commercial, SES Commercial,
Airframe and Power Plant Mechanic, Inspector Authorization

Flight Time

Total Time 10,840 Bush 9,000 Turbine 289 PIC 10,790

Work Experience

Coyote Air 1995-Present
Owned and operated a remote bush flight service in northern Alaska

Talkeetna Aero Service 1994-Present
Worked as a mechanic and line pilot in PA31-350

TransNorthern Aviation Winter 1996-1997
Pilot and equipment operator C208 while on contract with LCT Inc of Houston, TX doing airborne gravity and mag surveys in Argentina and Peru

West Central Aerial Sprayer 1993-1994
Pilot PA36-285 and AT301 aerial application of herbicides, insecticide and fungicides in Minnesota and North Dakota

Personal

Excellent Health with a current US Passport. English and Basic Spanish. Have operated a remote business as well as travel overseas in undeveloped regions.

References

Available on Request

STATE OF ALASKA
OFFICE OF THE GOVERNOR
P.O. Box 110001, Juneau, AK 99811-0001
Phone: (907) 465-3500 Fax: (907) 465-3532

BOARDS AND COMMISSIONS APPLICATION FORM

INSTRUCTIONS

A separate application is required for each position for which you apply. Complete and specific answers will aid in rapid and accurate processing of your resume. Please type or print legibly in ink. Forward to the above address. Be sure your answers are true. A willfully false answer may result in your disqualification or removal from office if you are appointed.

Board or Commission and seat for which I am applying: Big Game Commercial Services Board
(For example, Board of Agriculture, public seat)

Please list any other State Boards or Commissions on which you currently or previously have served:

Name: Betty Jo (BJ) Schmitz

Mailing Address: Po Box 57268 North Pole, AK, 99705

Residence Address: 4575 Ten St " " "

City, State and Zip Code: North Pole, AK, 99705

Home or Message Telephone: 488-4984 Business Telephone: _____

Fax Number: _____ Cell Phone: _____

Email address: schmitzb@northpole-ak.com

AS 39-05-100 requires that a person appointed to a state board or commission be a registered voter prior to the last general election:

Are you a registered voter: YES X NO _____ Voter Registration Number (Optional): _____

Social Security Number (Optional, required if appointed for travel, reimbursement etc.): _____

Have you ever been convicted of a misdemeanor within the past five years or a felony within the past ten years?

YES _____ NO X if "YES", explain the circumstances on a separate sheet of paper and attach it to this application. A conviction is not necessarily grounds for disqualification. The number of convictions, nature, recentness, and relationship to the board position applied for, will be evaluated and a determination will be made after a review of all relevant facts.

CONFLICTS OF INTEREST: Certain boards and commissions require full disclosure of personal financial data under AS 39.50.010. If required for the board or commission for which you are applying, are you willing to do so?
YES X NO _____

Could you or any member of your family be affected financially by decisions to be made by the board or commission for which you have applied? YES _____ NO X

If "YES", explain:

TRAINING AND EXPERIENCE: (If resume attached, it is not necessary to complete items A-D)

A. List any professional licenses, certifications, or registrations and dates obtained that may be used as qualifying criteria:

(International Bowhunter's Education Program certified - ~1997 to present)

B. List both formal and informal education and training experiences: (Use additional paper if necessary).

B.S. Biological Sciences Biola College 1977
MA Intercultural Studies Biola University 1985

C. List any community service, municipal government, and state positions held, and any awards received. Include both compensated and uncompensated positions (such as president of a service organization or a mayor). Include length of time serviced.

Becoming an Outdoorswoman 1998 to present
Instructor, Planning Team Member
Boardmember - Alaska Trappers Association 1998-99 (?)
Board of Trustees - Bethel church, FAI, AK 2003-2004

D. Employment work history - paid, unpaid or voluntary: (Use additional paper of necessary).

North Pole Branch, Fairbanks Public Library - Page - Oct 04 - present
Family Farm Manager - May 02 - present
US Fish & Wildlife Service - Kanuti NWR - Biological Technician July 85 - Jan 93

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DATE OF BIRTH: _____ SEX: FEMALE X MALE _____

ETHNICITY:
Alaska Native ___ American Indian ___ Asian or Pacific Islander ___ Black ___ Hispanic ___ White X

MILITARY SERVICE (if applicable, give dates): _____

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Signature (in ink): [signature] Date: 8-17-05

Please attach a current resume with your application.

BIOGRAPHICAL INFORMATION

John K. Norman, Commissioner
State of Alaska
Oil & Gas Conservation Commission
333 W. 7th Avenue, Suite 100
www.aogcc.alaska.gov
Anchorage, AK 99501
Alaska Bar Association Member #6911041

Telephone: (907) 793-1221
Facsimile: (907) 276-7542
Email: John.Norman@alaska.gov

Current Position: Commissioner, Alaska Oil & Gas Conservation Commission (Chair, 2004-2008)

Other Positions Held: Founding Partner and Managing Shareholder, Hartig Rhodes Hoge & Lekisch, P.C.; Assistant Attorney General, State of Alaska, Department of Law, Natural Resources Section; Exploration Representative, Skelly Oil Company, Texas and Alaska; 1st Lt., United States Army, 3rd Armored Division, Friedberg, Germany.

Education: University of Missouri (J.D.; A.B. (Geology)).

Admitted to Bar: Alaska; Missouri; U.S. District Court, District of Alaska; U.S. Court of Appeals, Ninth Circuit; U.S. Supreme Court.

Professional Recognition: Listed in Chambers USA, America's Leading Business Lawyers (2004); Outstanding Lawyers of America (2003); The Best Lawyers in America (2004);

Memberships: American Bar Association, Member, Environment, Energy and Resources Section; State Chairman, Committee on Environmental Quality, Young Lawyers Section, (1971-1973); Greater Anchorage Area Board of Health (1973-1975); State Division of Lands Advisory Committee (1976-1977); Trustee, Iditarod Trail Race Foundation (1976-present); Alaska Bar Association, Chair, Environmental and Natural Resource Law Committee (1977-79), Fee Arbitration Panel (1977-1981), Environmental/Natural Resource Law Section (1980-present), Discipline Hearing Committee (1983-1987); President, Common Sense for Alaska, Inc. (1981-1982); Chair, Commonwealth North, Hartig Research Fellowship Trust (1981-2006); Federal Bureau of Land Management Advisory Council (1982-1985); Vice President, Anchorage Chamber of Commerce (1983-1985); Board of Directors, Resource Development Council (1988-2004); U.S. Department of Commerce, Alaska District Export Council (1992-present); adopted member Tlingit Deisheetaan Klan, Angoon (1998); American Institute of Professional Geologists (2003-present); Official Alaska Representative and National Vice Chairman, Interstate Oil and Gas Compact Commission (2004-2007); Co-Chair IOGCC-NARUC Special Task Force on Long-Term Gas Contracting (2006-2007); Chairman, IOGCC Legal & Regulatory Affairs Committee, (2006-2008); Board of Directors, Groundwater Protection Council (2008-Present).

Publications: Section Line Dedications for Construction of Highways," Alaska Law Journal (Feb. 1970); "Production, Conservation and Utilization of Natural Gas in Alaska," Natural Resources Lawyer (Nov. 1970); "Alaska's D-2 Lands," Alaska Mineral Development Institute Paper No. 5, Rocky Mountain Mineral Law Foundation (Aug. 1978); "Legal Considerations When Entering the Alaska Energy Market," IBC Global Conferences (Sept. 2002); Alaska Oil & Gas Law Reporter, Rocky Mountain Mineral Law Newsletter (1984-2004). Alaska's Oil & Gas Legal Framework, Alaska Oil and Gas Symposium, American Conference Institute (Sept. 2008).

Resume Of

Peter B. Froehlich
1785 Evergreen Avenue
Juneau, Alaska 99801
Phone: (907) 586-2806

Residence: Alaska residence since February 1970

Experience: *August 2005 - Present*: Commissioner, Commercial Fisheries Entry Commission, Juneau, Alaska

August 1989 - January 2005: District Court Judge for Juneau, Alaska

December 1981 - July 1989: Assistant Attorney General, Juneau, Alaska. Split position in both Legislation and Regulations Section and Commercial Section

July 1979 - November 1981: Salmon hand trolling (seasonal); part-time, private law practice including work for Alaska Legislature

January 1976 - June 1979: Assistant Attorney General, Juneau, Alaska, Natural Resources Section

September 1975 - December 1975: Legal intern, U.S. Attorney's Office, Portland, Oregon

May 1975 - September 1975: Legal Assistant, District Attorney's Office, Ketchikan, Alaska

December 1973 - January 1974: Legal Assistant, Attorney General's Office, Juneau, Alaska

August 1970 - November 1972: Crewman on fishing vessel involved in King and Tanner Crabbing, and Salmon Tendering

Education: *November 2002*: National Judicial College, ABA/UNR (Civil Mediation Certificate): (Also five other courses 1990 - 1998)

June - July 1995: University of Oxford, England, Legal Heritage Program

August 1973 - December 1975: Willamette University College of Law, Salem, Oregon (Juris Doctorate)

June 1974 - September 1974: University of Washington, School of Law, Seattle, Washington (summer session)

January 1972 - May 1972: University of Alaska, Anchorage, Alaska (graduate courses)

September 1965 - May 1969: Marquette University, Milwaukee, Wisconsin (B.S. in Economics, minor in accounting)

Professional Organizations:

Alaska and Juneau Bar Associations, 1976-Present. National Judicial College, Faculty Moderator, 1997. Jury Subcommittee of Supreme Court Fairness and Access Committee, 1996-1997. Conference of Alaska Judges, 1990-1994. President, Board Member, Alaska Bar Association Ethics Committee, 1991-1994. Code Revision Commission, 1986-1990. Alaska Bar Association Discipline Committee, 1983-1988.

Current Service Organizations:

Mayor's Task Force on Youth. Boys & Girls Club Board. Big Brothers/Big Sisters mentor. Alaska Native Sisterhood, Camp 2.

Former Service Organizations:

Youth Court Board. Kids Voting Board. Healthy Nations Central Circle. Mayors Task Force on Sobriety. ALSC Pro Bono Program. United Way of Southeast Board. Big Brothers & Big Sisters, President.

Awards: Youth program volunteer of the year (2002). Making a Difference Award, NCAAD (1997).

Special Interests:
Family, sports (especially basketball), coaching, fishing, hiking, biking, and travel.

4/7/09 UPDATE: ALL-ALASKA GASLINE

2383

Alaska Gasline
PORT AUTHORITY

All-Alaska Gasline Update

Senate Resources

April 7, 2009

http://www.allalaskagasline.com

Continued Support from the State

- Legislative intent language in AGIA (July 23,2008)
  - calls for the continued advancement of the All-Alaska/LNG project within the AGIA framework
  - adopted overwhelmingly: 58-1
  - "It is the intent of the legislature that an AGIA license will enable and encourage an All Alaska gas line/liquefied natural gas (LNG) project within the TransCanada project."

- Governor Palin's Administrative Order No. 242 (August 20,2008)
  - directs State agencies to assist the development of the LNG project
  - "I…direct [DNR and DOR] to assist entities…in pursuing development of an economically and technically viable liquefied natural gas (LNG) project in this state, such as the project envisioned by the Alaska Gasline Port Authority."

Interest from Hawaii / West Coast

- We continue to work with the Office of Hawaiian Affairs to bring Alaskan LNG to Hawaii

- Alaska Federation of Natives: Resolution No. 08-42 (October 2008) adopted in support of LNG project within AGIA to benefit rural Alaska and Hawaii

- Oregon LNG Projects
  - Bradwood LNG
  - Oregon LNG
  - Jordan Cove LNG

- Sempra LNG

Port Authority Project Advancement

- The Port Authority, Mitsubishi Corporation and Sempra LNG, continue to advance the development of the All-Alaska Gasline/LNG project
  - Mitsubishi
    - Japan's largest trading company with a wide range of business activities
    - Strong experience in LNG projects (handles approximately half of Japan's LNG imports)
  - Sempra LNG
    - Owns the only LNG receiving terminal on the West Coast
    - Subsidiary of Sempra Energy, one of the largest traders of natural gas in North America

Focus on AGIA Open Season

- Our focus is to position our project for TransCanada's open season targeted for July 2010
- As part of the AGIA process, TransCanada committed to build a pipeline to Valdez – if sufficient gas volumes are committed – either on a standalone basis or in conjunction with a pipeline into Canada
- The Port Authority along with Mitsubishi and Sempra LNG have met with TransCanada to discuss the open season
- We continue to work with TransCanada as we seek to coordinate our efforts

Focus on AGIA Open Season (continued)

- We intend to participate, either directly or through prospective gas shippers, in TransCanada's Open Season

- We are planning significant technical, environmental and other development work for the LNG terminal

- Our objective: to develop a project that provides a highly attractive economic proposition for the North Slope producers and the State of Alaska

Committed to Meeting Alaska's Gas Needs

- We believe our project will maximize ANS gas wellhead value by exporting LNG out of Alaska to reach global markets, including the U.S. and Asia

- However, we have always been committed to prioritizing the needs of Alaska's domestic gas consumers. Indeed, we believe that our project provides the best opportunity to maximize in-State access to our North Slope gas resources

- We will continue to work in cooperation with ANGDA on meeting this important goal

Market Developments Favor an LNG Project

- Recent market developments have underscored the importance of the All-Alaska/LNG project as the most attractive option to monetize Alaska's gas.

- Lower 48 and Canada have experienced significant increases in production
  - shale gas has been at the forefront of increases in "non-conventional" gas production.
  - Navigant Consulting and ICF Consulting have recently estimated America's potential gas resources at about 2,000 tcf.
    - That's 100 years worth of U.S. natural gas demand.
    - "That's 50 percent more gas than the current proven reserves of Russia and twice as much as the proven reserves in Iran. Put into oil terms, that 2,200 Tcf of gas is the equivalent of one-and-a-half Saudi Arabia's."[1]

- In Canada BC shale gas is a "game changer," with projected production of 5.3 bcf/d within 10 years. [2]

- The gas market in the Lower 48 has dramatically changed. The viability and need for the LNG option has never been greater from Alaska's perspective.

[1] Energy Tribune (1/12/2009) <energytribune.com/articles.cfm?aid=1055>
[2] Calgary Herald (1/11/2009) <calgaryherald.com/business/Lure/116250/story.html>

Market Developments Favor an LNG Project Cont'd. . .

Alaska Gasline Port Authority

Porter Bennett, president and CEO of Bentek Energy, a consultancy firm specializing in energy market research says: (3/29/09)

"You've got to recognize that there is at least the possibility that the Lower 48 supply situation will make the absorption of Alaska gas difficult. That might argue for maintaining the opportunity to export Alaska gas as LNG, to leave open the option of exporting the gas to foreign markets such as Asia".

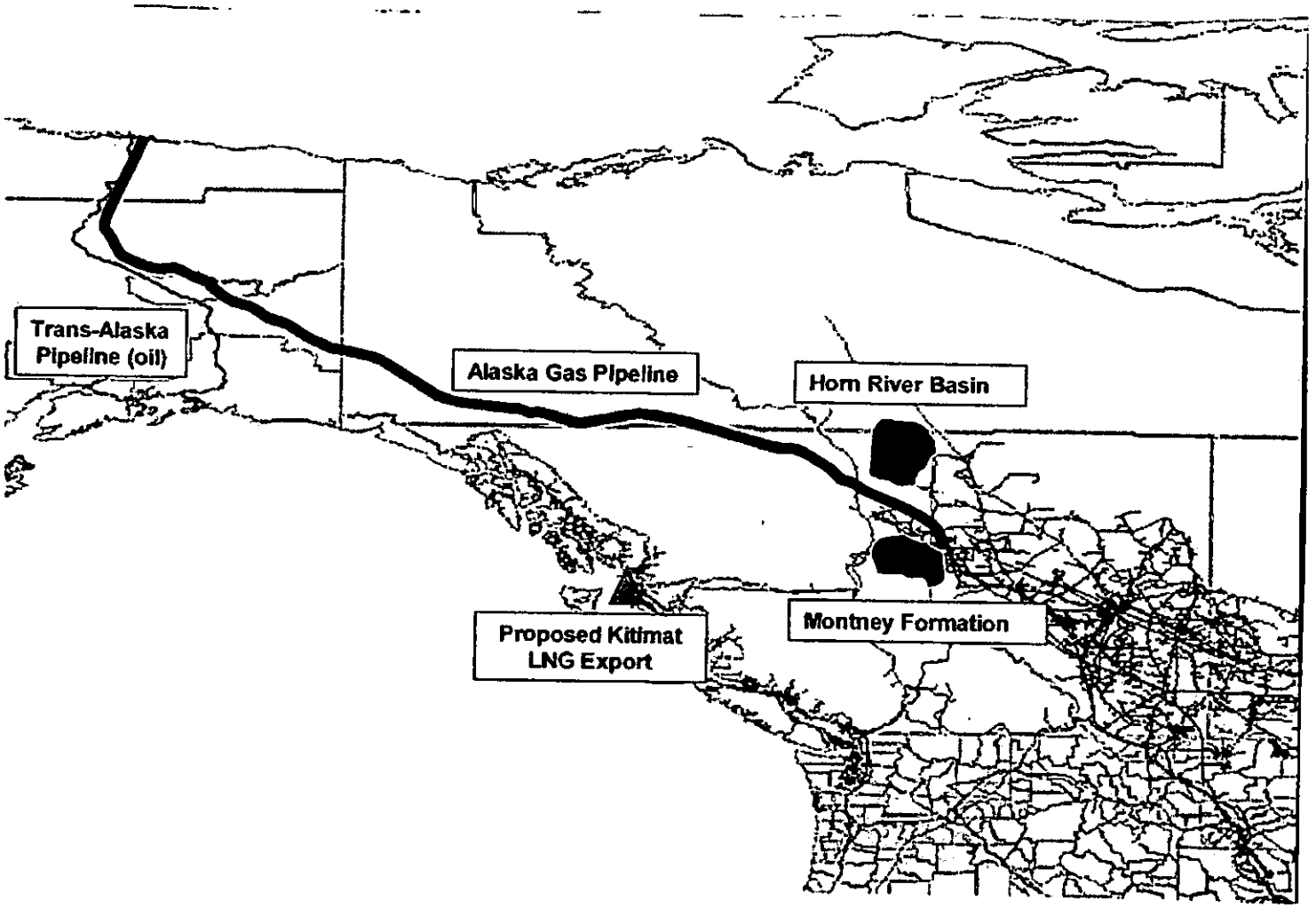
"You've got to explore both options . . . recognizing all the while that the market may work against you".

Petroleum News (3/29/2009) <www.petroleumnews.com/pntruncate/961088981.shtml>

Recent Open Seasons

Recent Successful Binding Open Seasons for Shale Gas Plays:

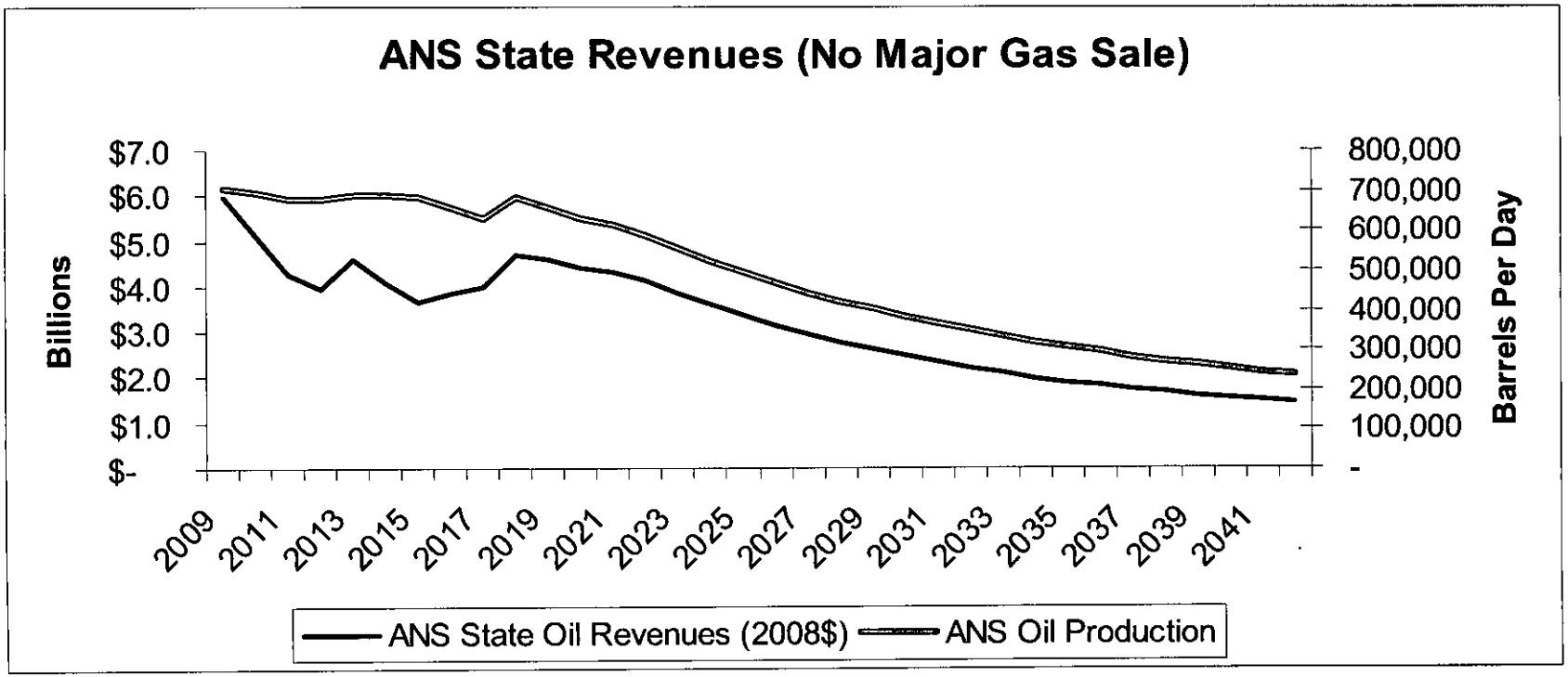
- 1. Haynesville Shale (Texas) 1/28/09
  - Length: 178 miles
  - Volume: 2 bcf/d
  - Cost: $1 billion
  - Operation date: 2011
- 2. Horn River Shale (B.C.) 2/26/09
  - Length: 96.31 miles (36")
  - Volume: 378 mcf
  - Cost: $340 million
  - Operation date: 2011
- 3. Montney (B.C.) 2/26/09
  - Length: 48.47 miles
  - Volume: 1.1 bcf/d
  - Cost: $250 million
  - Operation date: 2014


Trans-Alaska Pipeline (oil)
Alaska Gas Pipeline
Horn River Basin
Montney Formation
Proposed Kitimat LNG Export

Alaska's Competition is Not Waiting

- The market changes are being acted upon by our competition
- Kitimat LNG, previously conceived as an LNG import terminal, has recently reversed their project from an LNG receiving terminal and now intends to develop an LNG export project
- Kitimat LNG will target the growing, premium LNG markets in Asia, and has partnered with Mitsubishi to try to satisfy Asian demand for North American gas
- The window of opportunity is here for Alaska to maximize the value of its gas. Our competition is not waiting!

Consequence of No Major Gas Sale



Includes ANS Royalty, Production Taxes, Property Taxes, Income Taxes, Etc.

Major Assumptions

DOR Fall 2007 Production Forecast (2008 Projections Past 2018 Not Available)

DOR Fall 2008 Price Forecast and Tax Assumptions

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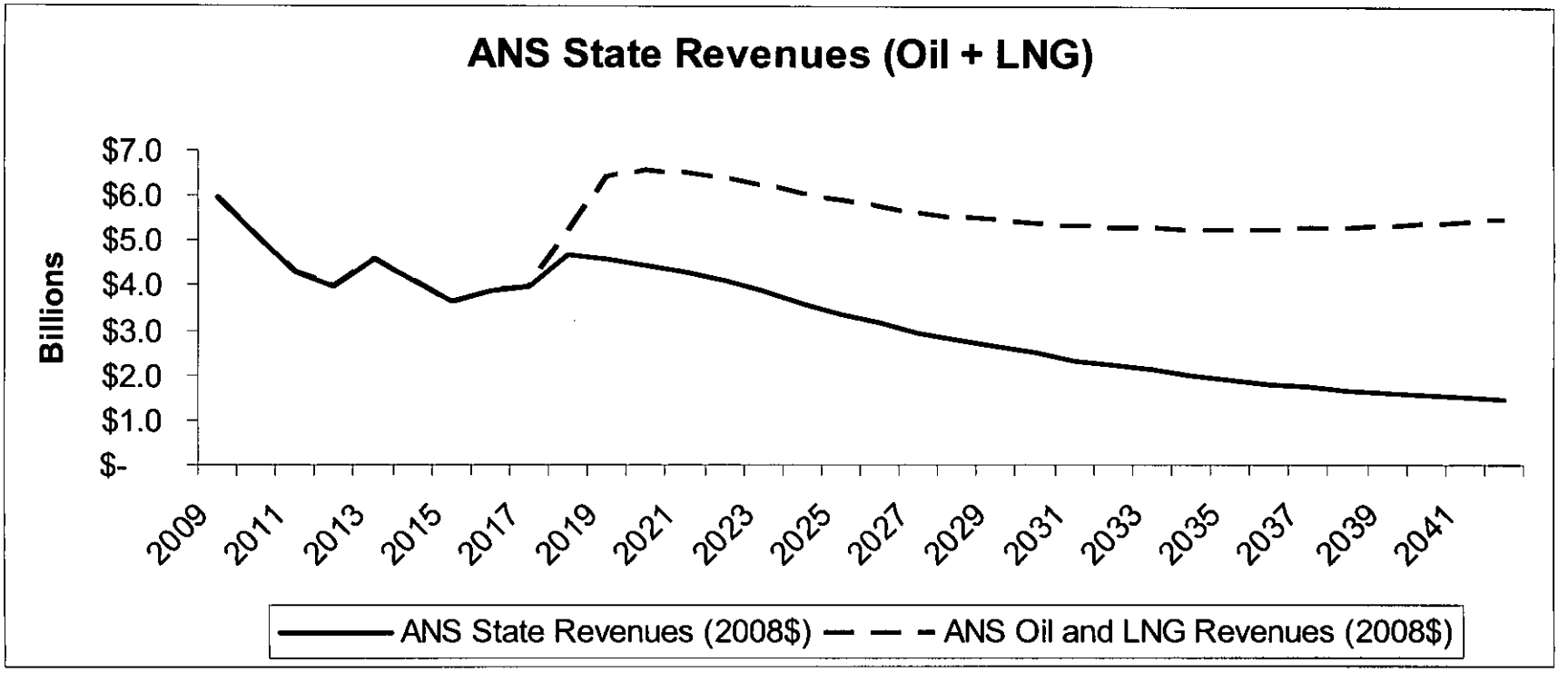


- A 3 train LNG project offsets declining ANS oil production
- Although different oil price assumptions change the magnitude of state collections, they do not reverse the downward trend in production and thus falling State revenues from oil
- The State must have a major gas sale (LNG or Canadian project) to offset declines in North Slope oil production in the coming decades or the next generation will not enjoy the same level of prosperity

Best In-State Option for Alaska

Alaska Gasline PORT AUTHORITY

Reasons The Port Authority All-Alaska LNG Project Remains The Best In-State Option For All Alaska

- 1. **KNOWN GAS SUPPLY.** It begins at the North Slope where currently 8.4 billion cubic feet of gas is reinjected into the field each day. There is sufficient gas for the Project today without additional exploration and development.
- 2. **KNOWN ROUTE.** The gas line route is parallel to the existing Trans Alaska Pipeline System (TAPS) route from the North Slope to Valdez. This route has already received 3 Federal Environmental Impact Studies (two by TAPS owners, one by Yukon Pacific Corporation).
- 3. **NO LIMIT ON VOLUME.** Since the Port Authority Project is within AGIA, it is not limited by volume restriction for projects outside AGIA that can not transport more than 500 million cubic feet of gas/day.

Best In-State Option for Alaska continued . . .

- 4. **PIPELINE COMPANY IN PLACE**. Since the Port Authority Project is within AGIA, TransCanada Alaska has committed to hold an open season for customers to Valdez, independent of a Canadian line, targeted for July, 2010. TransCanada is already working on the cost estimates for the pipeline to Valdez.
- 5. **CHEAPER GAS TO ALASKANS**. With the world markets' interest in LNG from Alaska, there will be a larger volume in the pipe, and therefore, the cost to Alaska's consumers would be cheaper.
- 6. **SPUR LINE TO SOUTHCENTRAL**. Through the Alaska Natural Gas Development Authority's work on a spur line from Glennallen to the south central gas grid in Palmer, gas from this Project would be able to flow to the Mat Su Valley, Anchorage and the Kenai Peninsula through the existing gas grid.

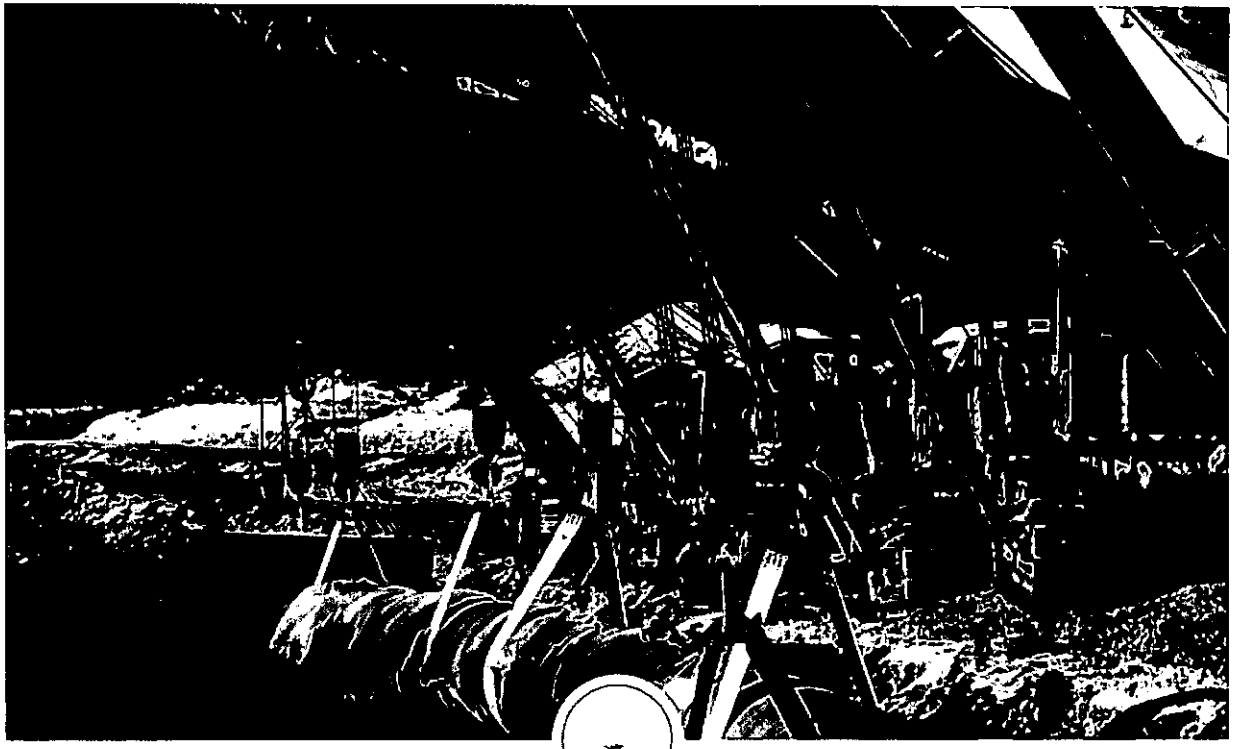
Best In-State Option for Alaska continued . . .

- 7. **REVENUES TO ALASKA'S TREASURY**. With the high volume of gas in this project it is projected to bring hundreds of million of dollars each year into the state coffers through royalties, severance and corporate income taxes resulting from this Project to help offset the declining revenues from the annual reduced flow of oil through TAPS.
- 8. **MARKET PARTICIPATION**. The Port Authority is working on the Project in conjunction with two industry giants, Mitsubishi Corporation and Sempra LNG, indicating the strong market interest in LNG from Alaska.
- 9. **PROJECT CONTROL AND BENEFITS REMAIN IN ALASKA**. Alaska would have complete control over all aspects of this Project. Alaskans would benefit from lower energy prices and the long term post-construction jobs for generations to come.

Best In-State Option for Alaska continued . . .

- 10. **MARKET OPTIONALITY**. Over the last several years significant developments of shale gas in both Canada and the L 48 has many energy consultants now referring to the L 48 as being "awash in natural gas". In fact some companies are now turning their LNG receiving terminals into LNG export terminals citing the surplus gas from shale gas development in the L 48 as the reason. They are seeking the export of their LNG to the premium Asian markets. Alaska has a 40 year successful relationship with selling LNG to the Asian market which that market is anxious to continue. Additionally, Alaska's LNG could also supply the energy needs of the state of Hawaii.

Thank you



Alaska Gasline
PORT AUTHORITY

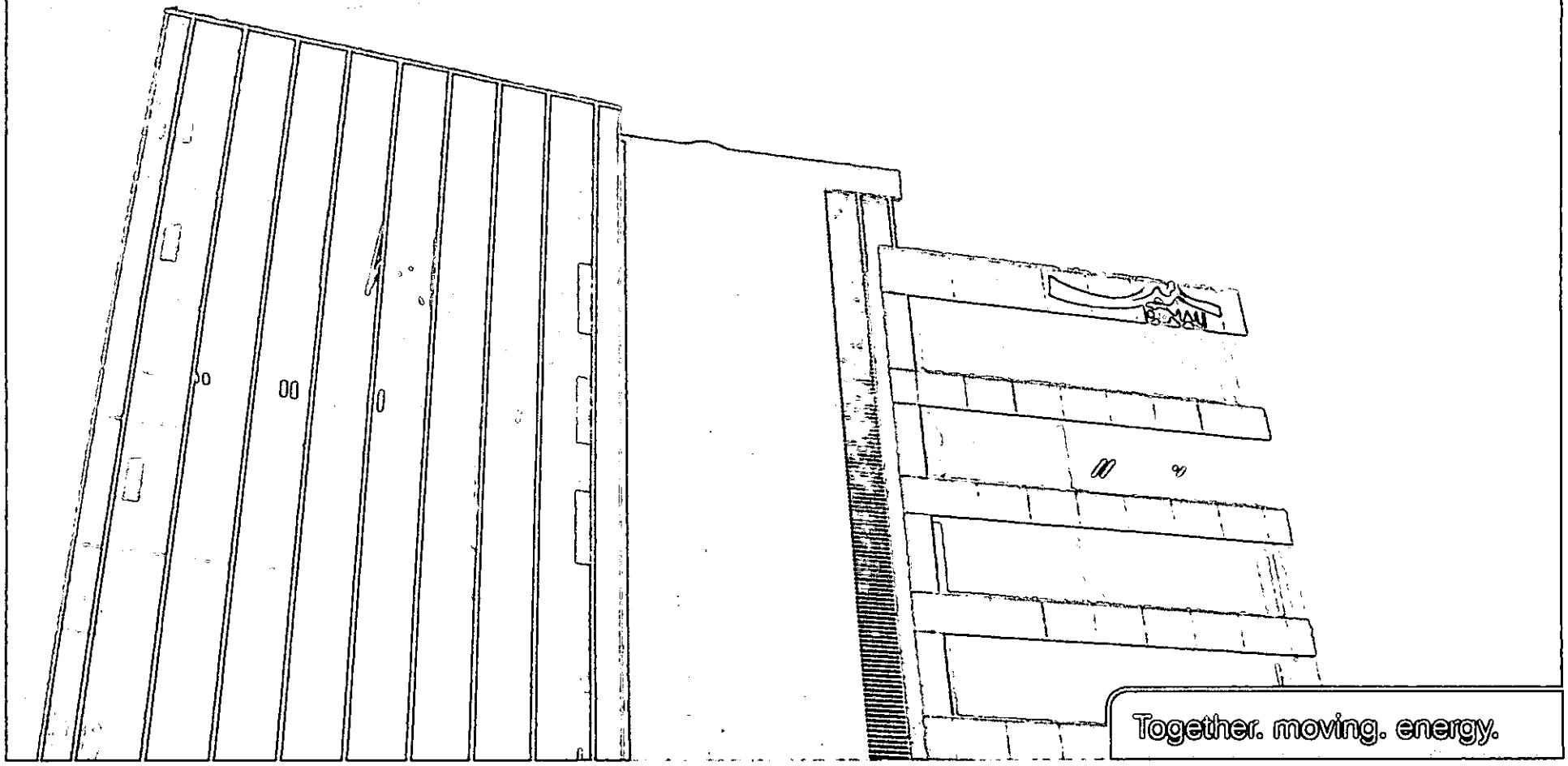
2402

DENALI
the alaska gas pipeline

Alaska State Legislature

Senate Resources Committee

April 7th, 2009



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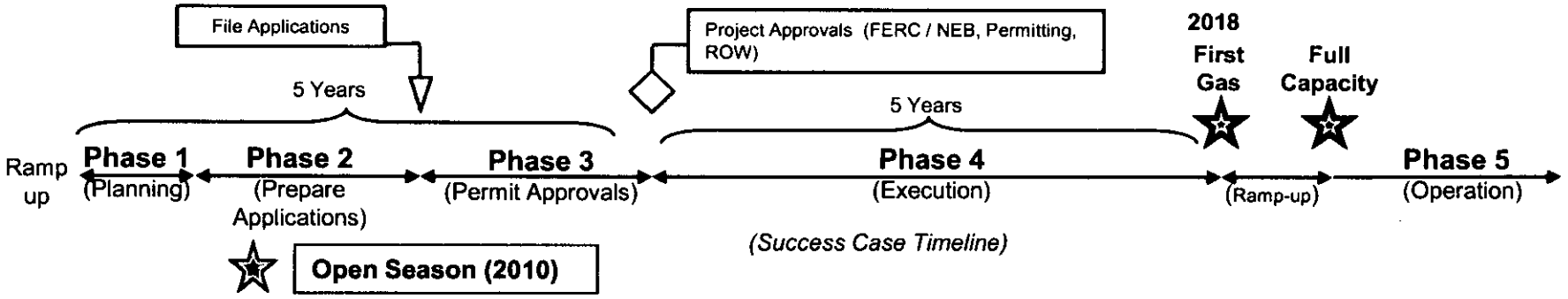
DENALI
the alaska gas pipeline

Denali – On track for success



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Denali Project Description

- Gas Treatment Plant (GTP) at Prudhoe Bay
  - Remove CO2, dehydrate, compress and chill the gas
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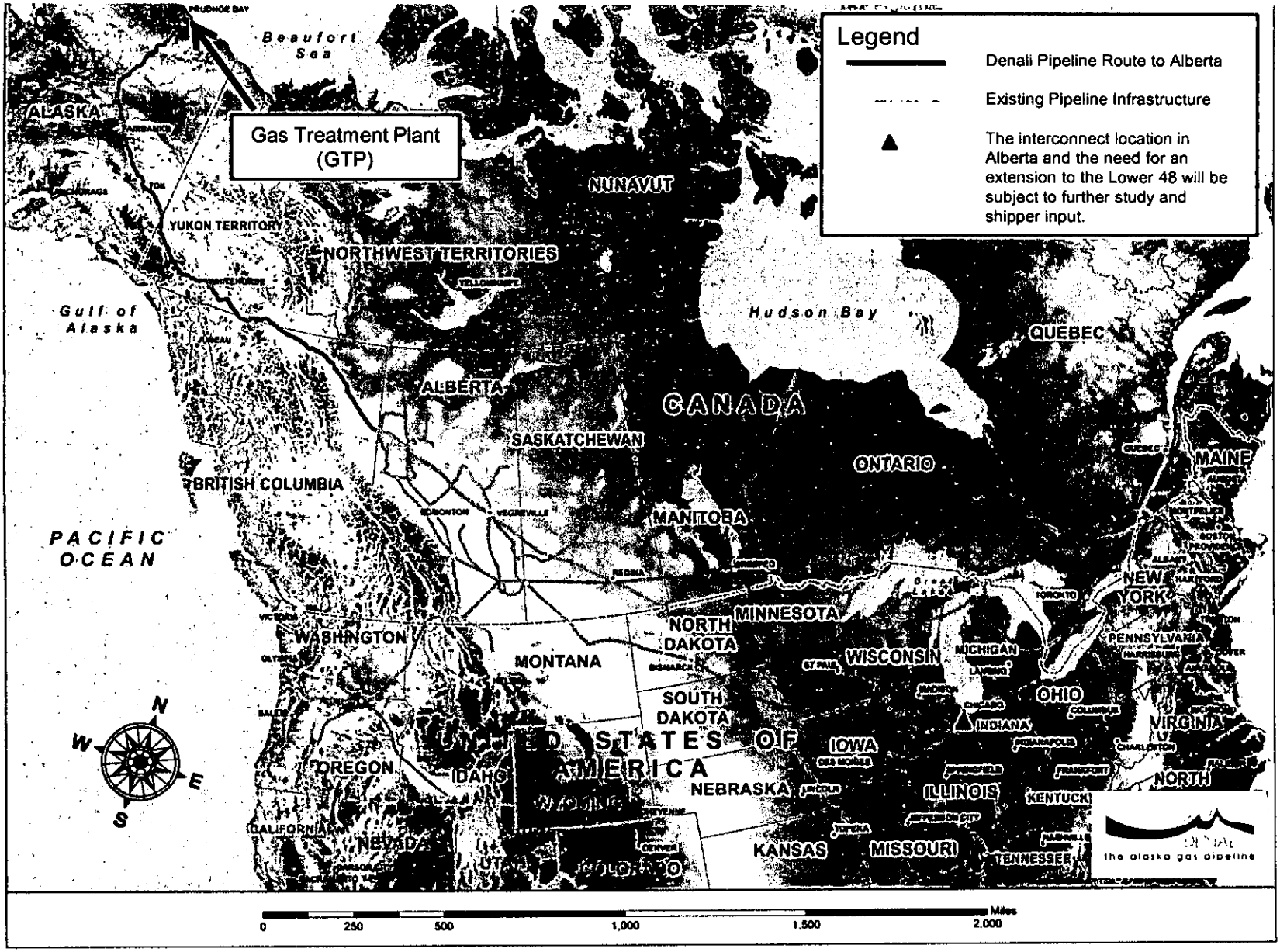
The Denali Project – 4 BCFD to North American consumers



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DENALI
the alaska gas pipeline

Regulatory Frameworks – Canada and U.S.

Canada

- Two regulatory frameworks are available in Canada:
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DENALI
the alaska gas pipeline

Denali Progress – Key Accomplishments

Spent ~$55 million in 2008

- Project Team mobilized
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DENALI
the alaska gas pipeline

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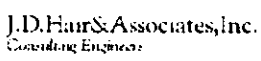

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DENALI
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Alaska State Legislature

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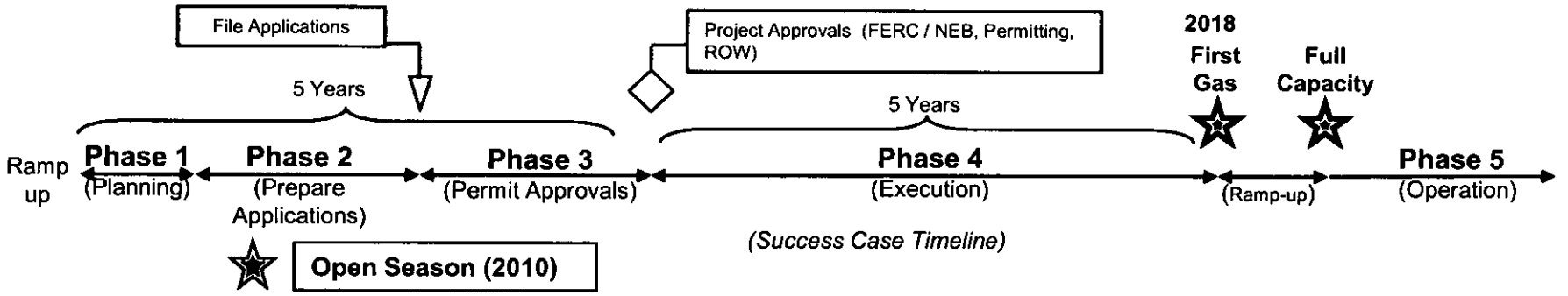

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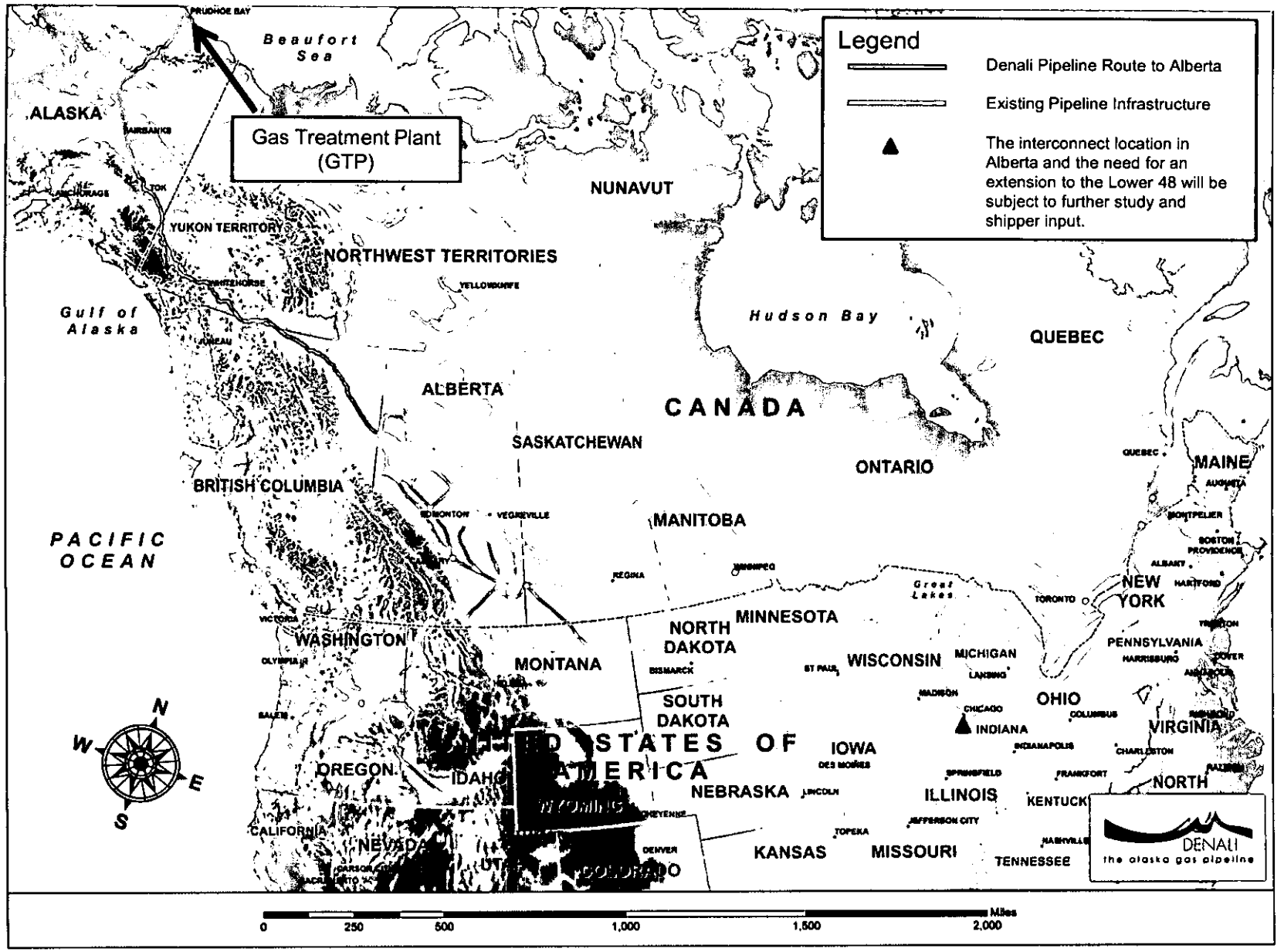

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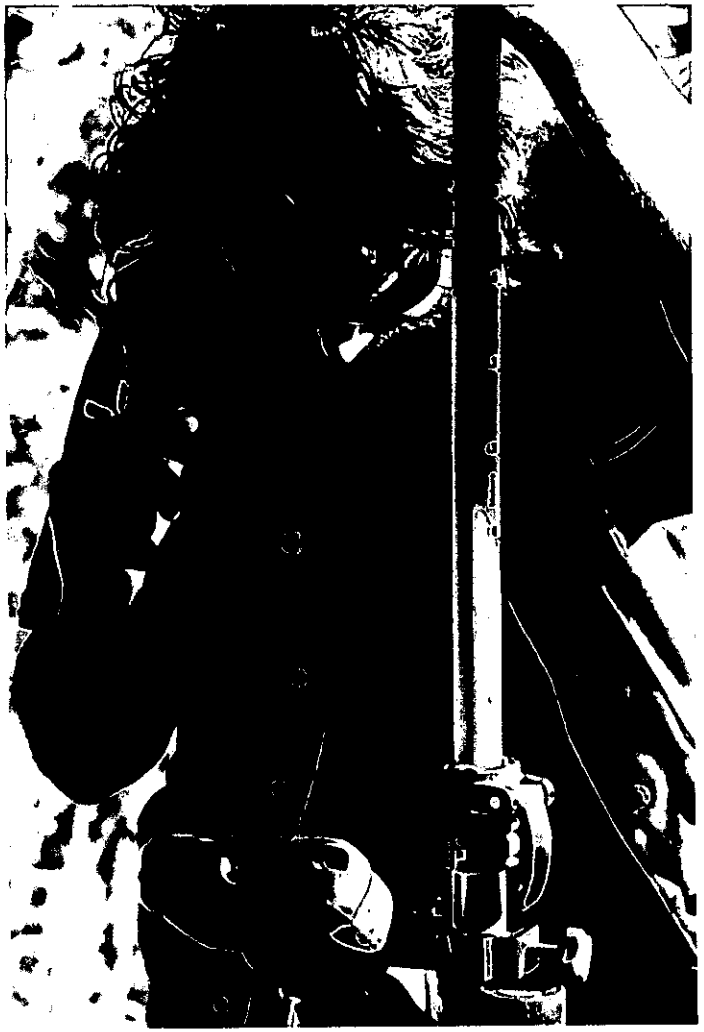

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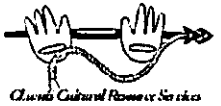

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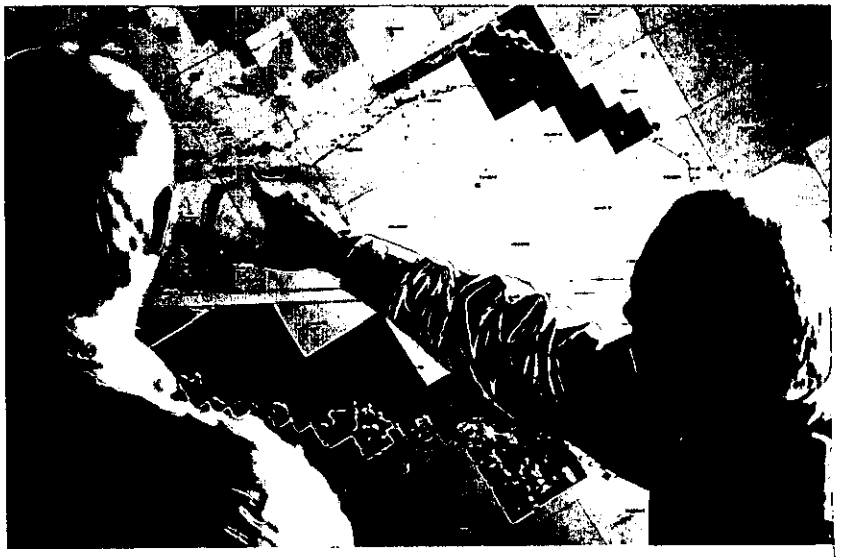

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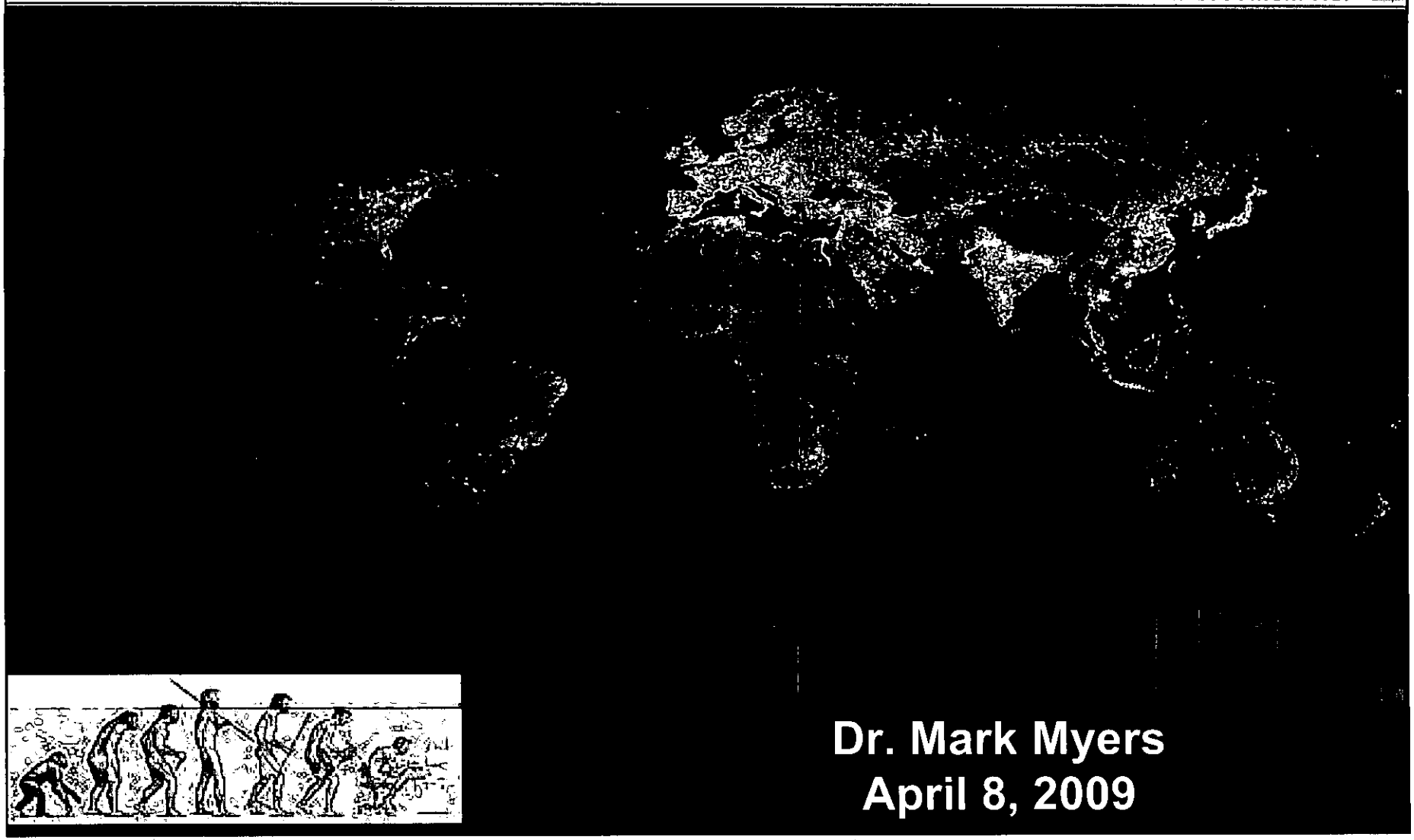
4/8/09 PRESENTATION: SHALE GAS DEVELOPMENT IN THE U.S.

2429

Alaska's Natural Gas – Needed or Not? What About Shale Gas and Carbon Regulation?

AGIA

The Alaska Gasline Inducement Act



Dr. Mark Myers

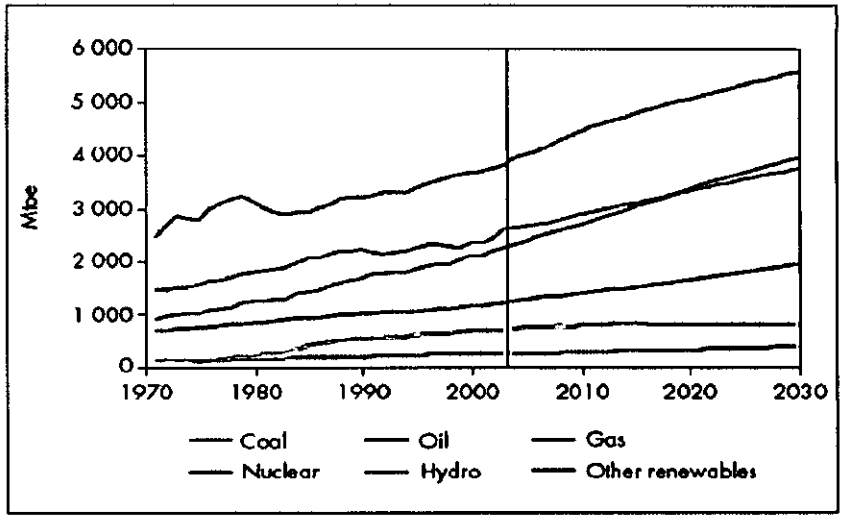
April 8, 2009

Alaska's Natural Gas is America's Resource For Enhancing Economic, Environmental and National Security

AGIA
The Alaska Gasline Inducement Act

- Global competition for imported energy
- Growing population, long term economic growth heighten worldwide demand
- Environmental consequences of development, extraction, and use of other resources

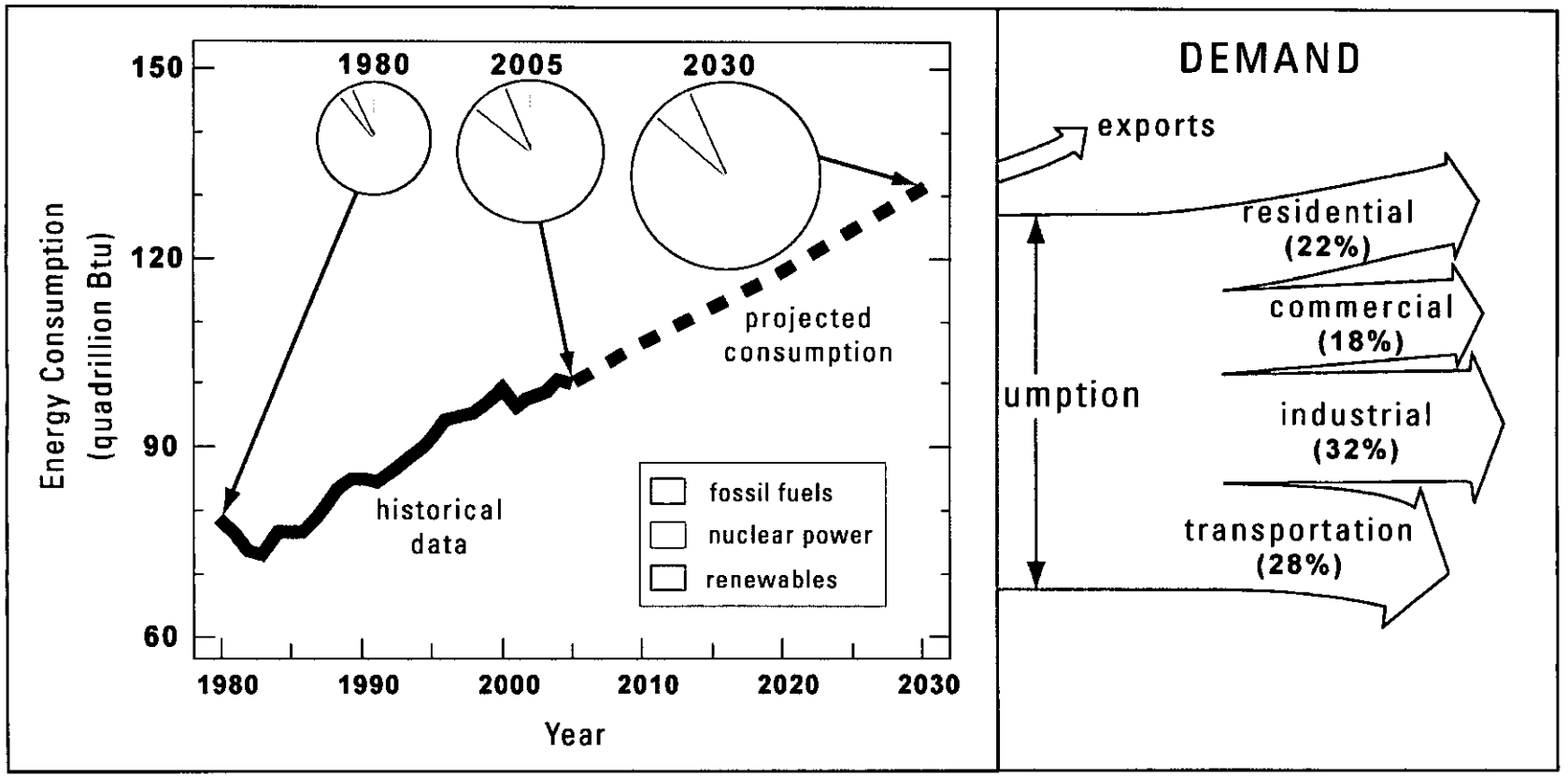
World Energy Consumption by Source



IEA

The Energy Mix for the United States

AGIA
The Alaska Gasline Inducement Act

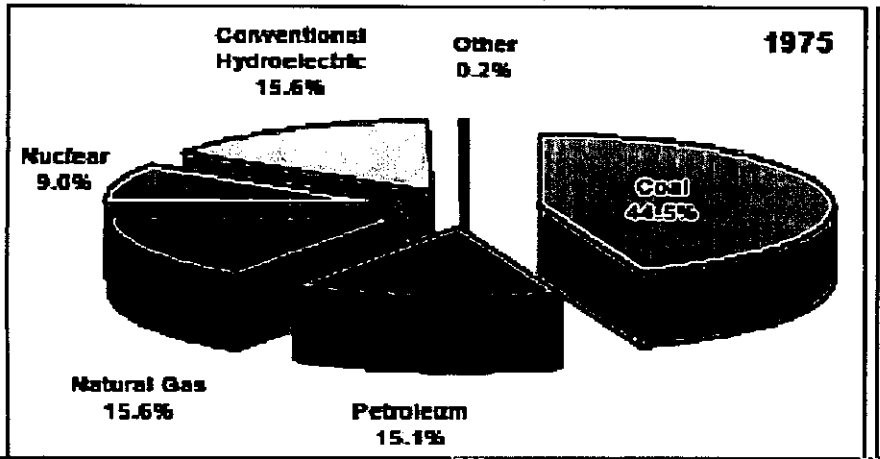


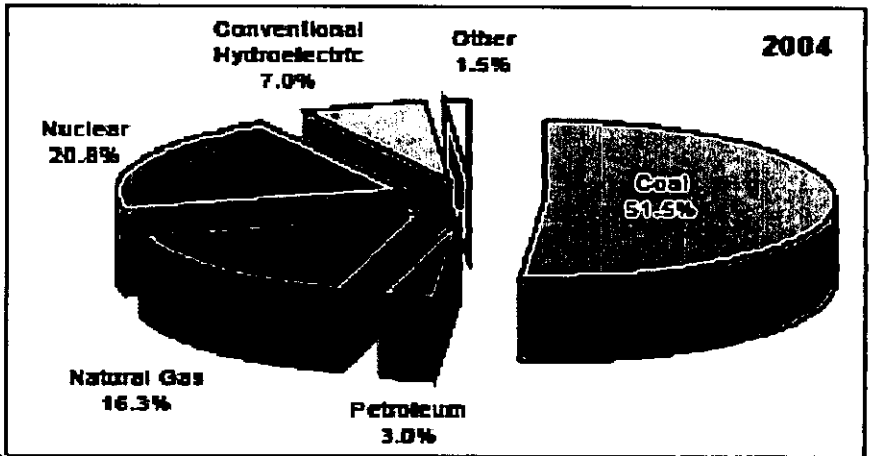
EIA

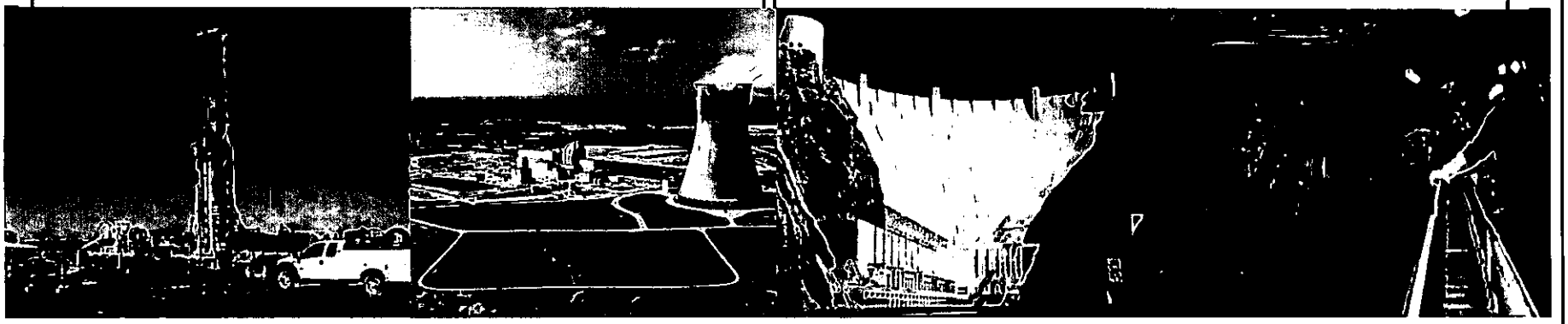
Large Changes Have Occurred In Fuel Sources

AGIA
The Alaska Gasline Inducement Act

U.S. Electric Power Generation by Fuel Type - Years 1975 and 2004







USGS/EIA

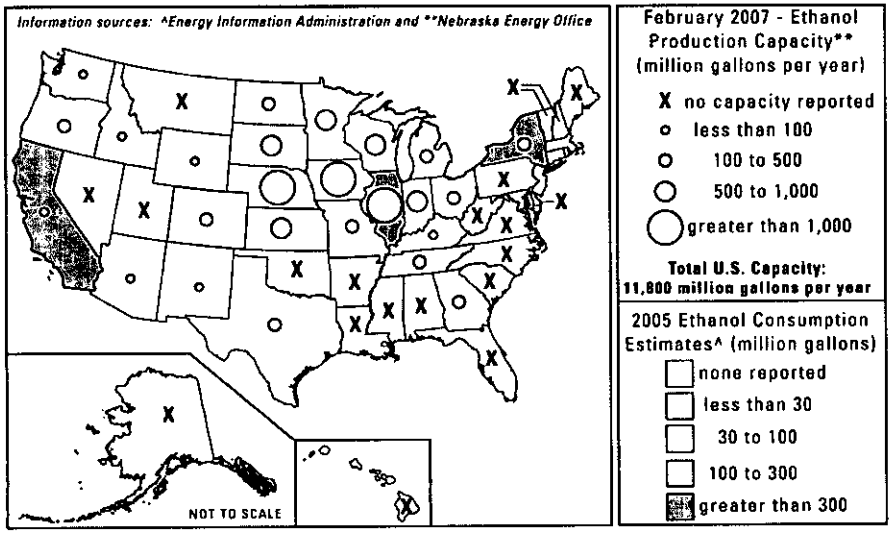
Change in Fuel Type for Electrical Generation Over Three Decades

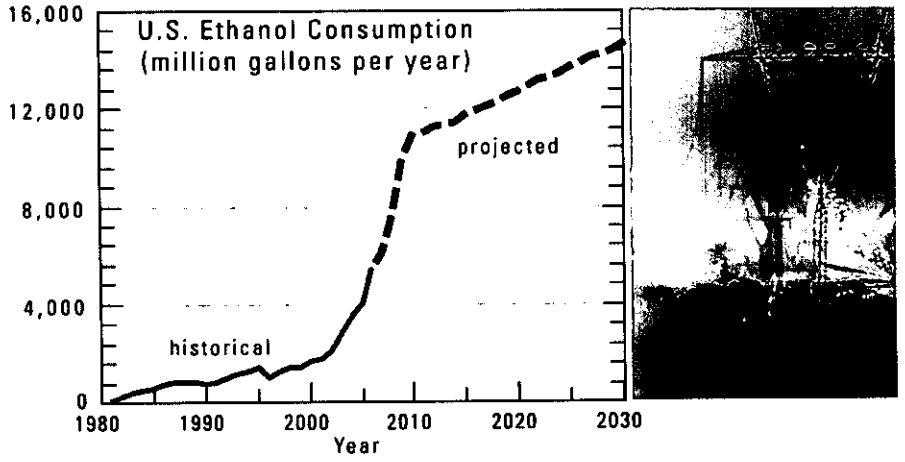
No Free Lunch: All New Sources of Energy Have Their Own Unique Environmental Challenges: Biomass/Water

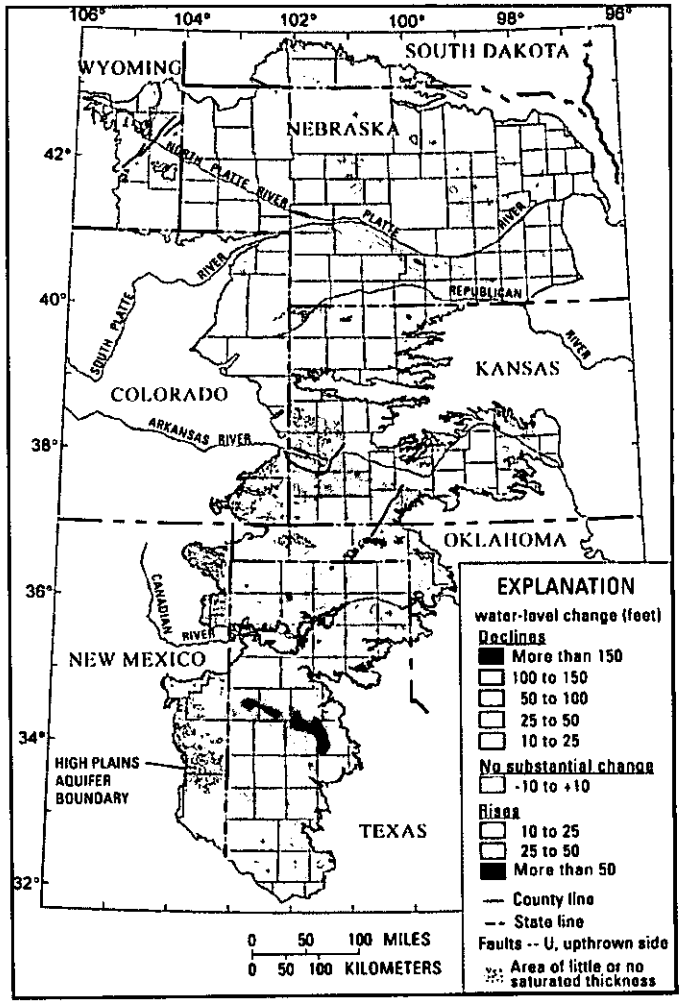
AGIA

The Alaska Gasline Inducement Act

USGS/EIA







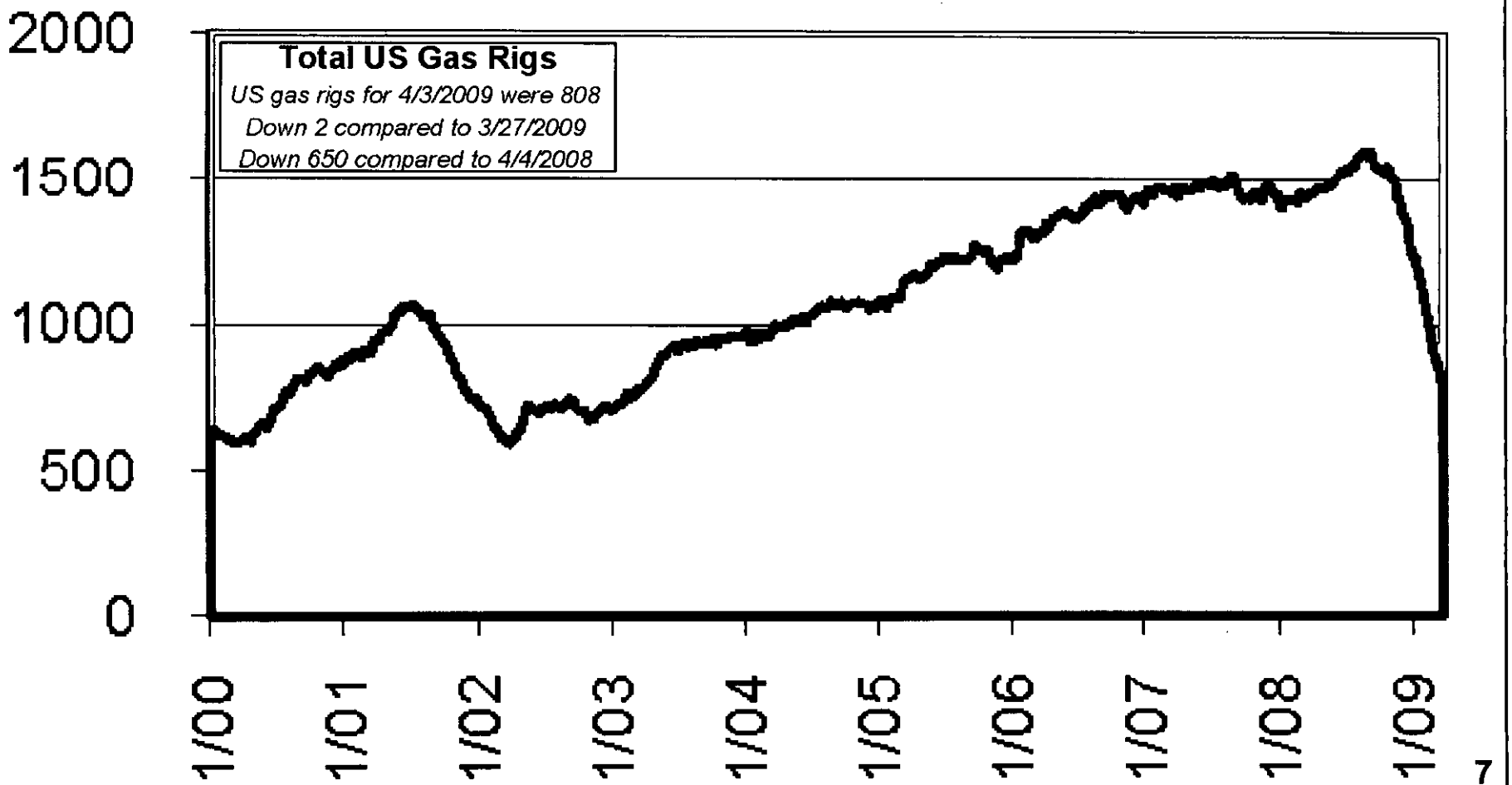
The USA Today

AGIA
The Alaska Gasline Inducement Act

- How have things changed since the legislature approved the AGIA license?
  - Global economic downturn with associated rapid decline in oil and gas prices
  - Rapid expansion of unconventional (shale) gas supplies in USA
  - Policy shift limiting access to lower 48 federal lands for non-renewable energy production?
  - First authoritative Arctic oil and gas assessment
  - Increased likelihood of carbon regulation

U.S. Gas Well Drilling down 45% in Last Year

AGIA
The Alaska Gasline Inducement Act



Source: Baker Hughes

Economic 'Recession' AGIA

The Alaska Gasline Inducement Act

Jim Mulva, Chairman and CEO ConocoPhillips,
March 13, 2009 - *Petroleumworld.com*

"Costs are coming down pretty dramatically," (Mulva) said. "When we say defer, we're not talking years, we're talking months, quarters, maybe up to a year."

Speaking about the Denali Alaska gas pipeline project, proposed last June by ConocoPhillips and BP, Mulva said President Barack Obama has identified the 4 Bcf/d project as a means of reducing US dependence on foreign oil.

The pipeline would bring North Slope gas down to a pipeline in Alberta for transport to the Lower 48 states. "We know it's going to get far more federal attention," he said. "Obviously, Alaska would like to see it go."

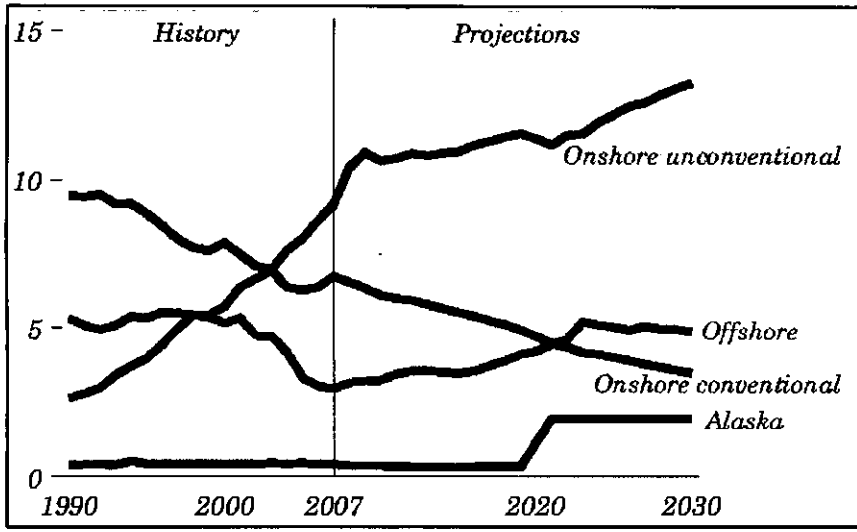
Mulva repeated the partners plan a 2010 open season for gas deliveries; first gas deliveries are eyed for 2019.

While current gas prices have led ConocoPhillips to cut back on its Canadian operations, Mulva discounted the low prices as a roadblock to the pipeline project's development.

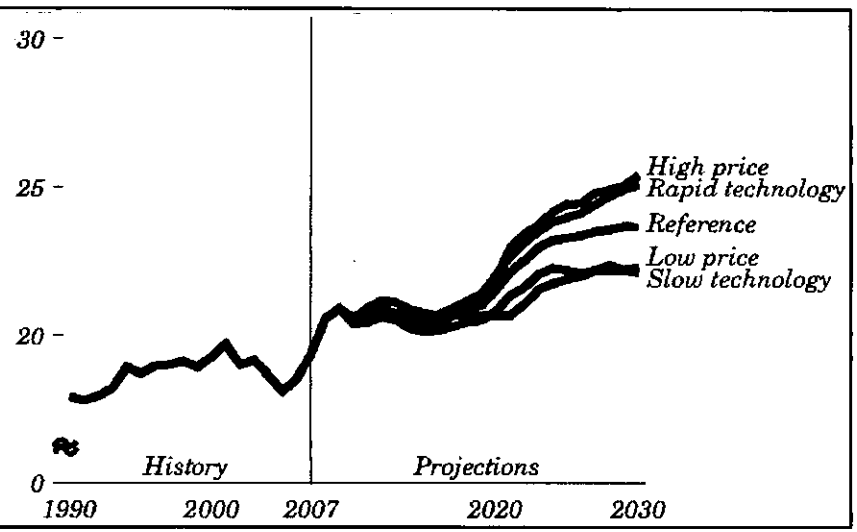
"You can't look at gas prices today," he said. "You have to look at prices 10 years from now."

Both Lower 48 Unconventional and Alaska North Slope Gas are Needed for America's Future

AGIA
The Alaska Gasline Inducement Act



Natural gas production by source, (1990-2030 9trillion cubic feet)

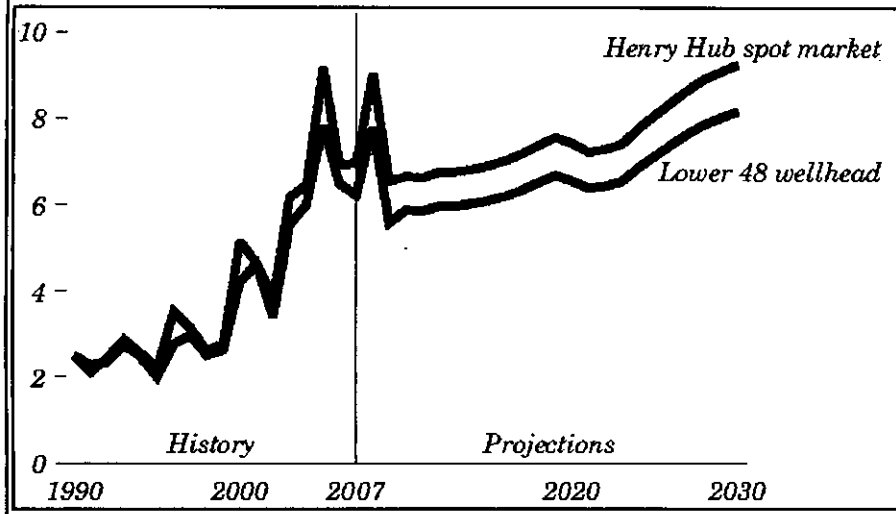


Total U.S. natural gas production in five cases, 1990-2030 (trillion cubic feet)

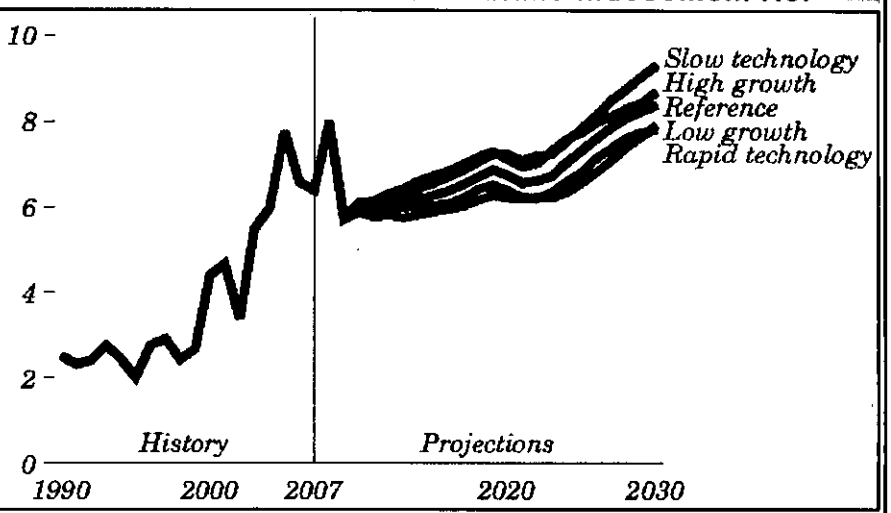
Source: EIA Annual Energy Outlook 2009

2009 EIA Forecasts for Natural Gas Prices Accounts for Growth of Unconventional Gas Resources

AGIA
The Alaska Gasline Inducement Act



Lower 48 wellhead and Henry Hub Spot market prices for natural gas, 1990-2030 (2007 dollars per million Btu)



Lower 48 wellhead natural gas prices in five cases, 1990-2030 (2007 dollars per thousand cubic feet)

Source: EIA Annual Energy Outlook 2009

Development of New Unconventional Gas Resources

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"Declines [in North America] are expected to accelerate after 2030 coinciding with the increase in LNG import volumes. Black & Veatch expects near-term production growth in the Rockies and shale plays to offset declines in the Gulf Coast and other Lower 48 production basins."

- AGIA Findings and Determination; Appendix G1 – *AGIA NPV Report*

Shale Gas Provides About 5% of Domestic Production

AGIA
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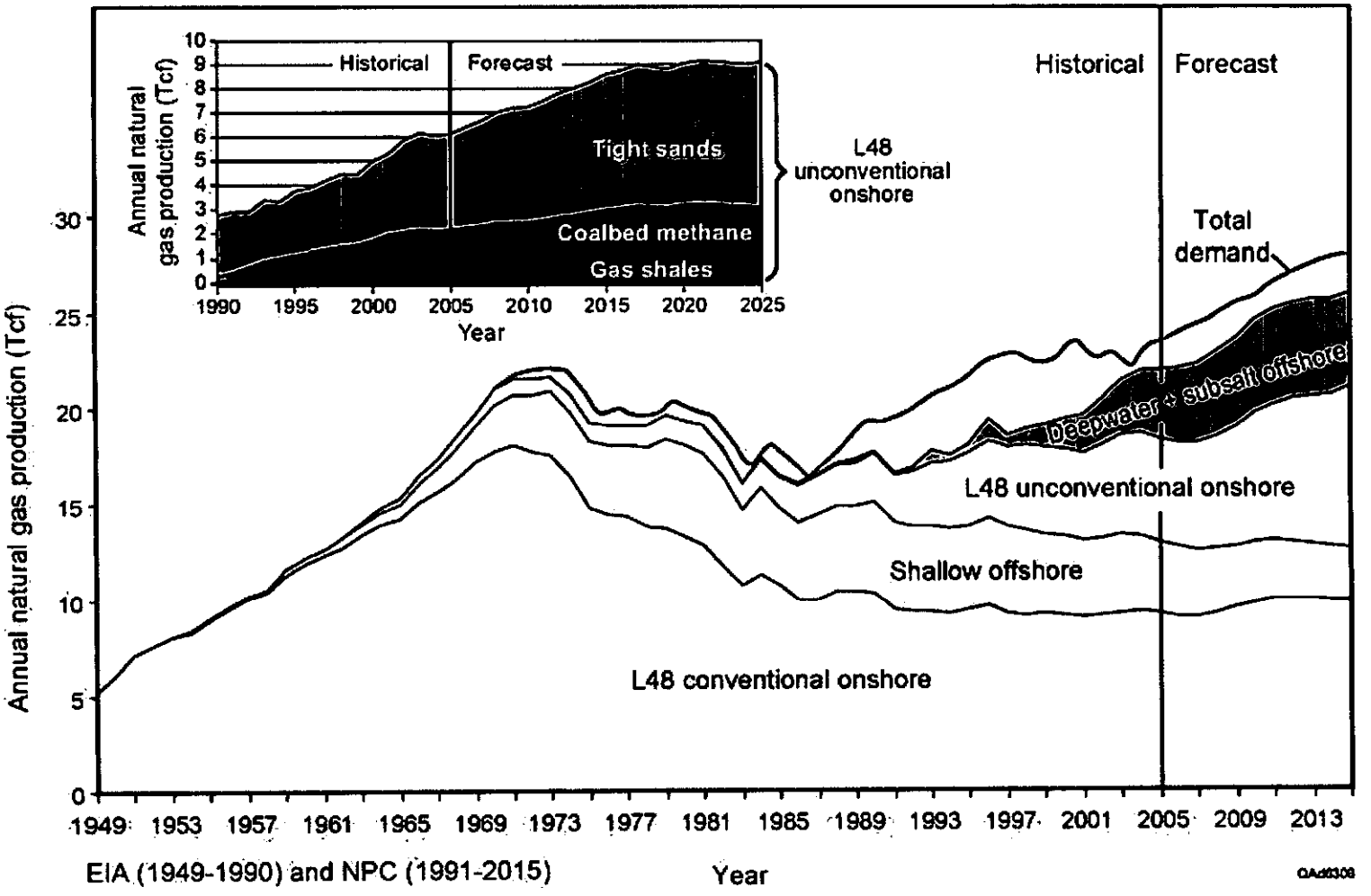
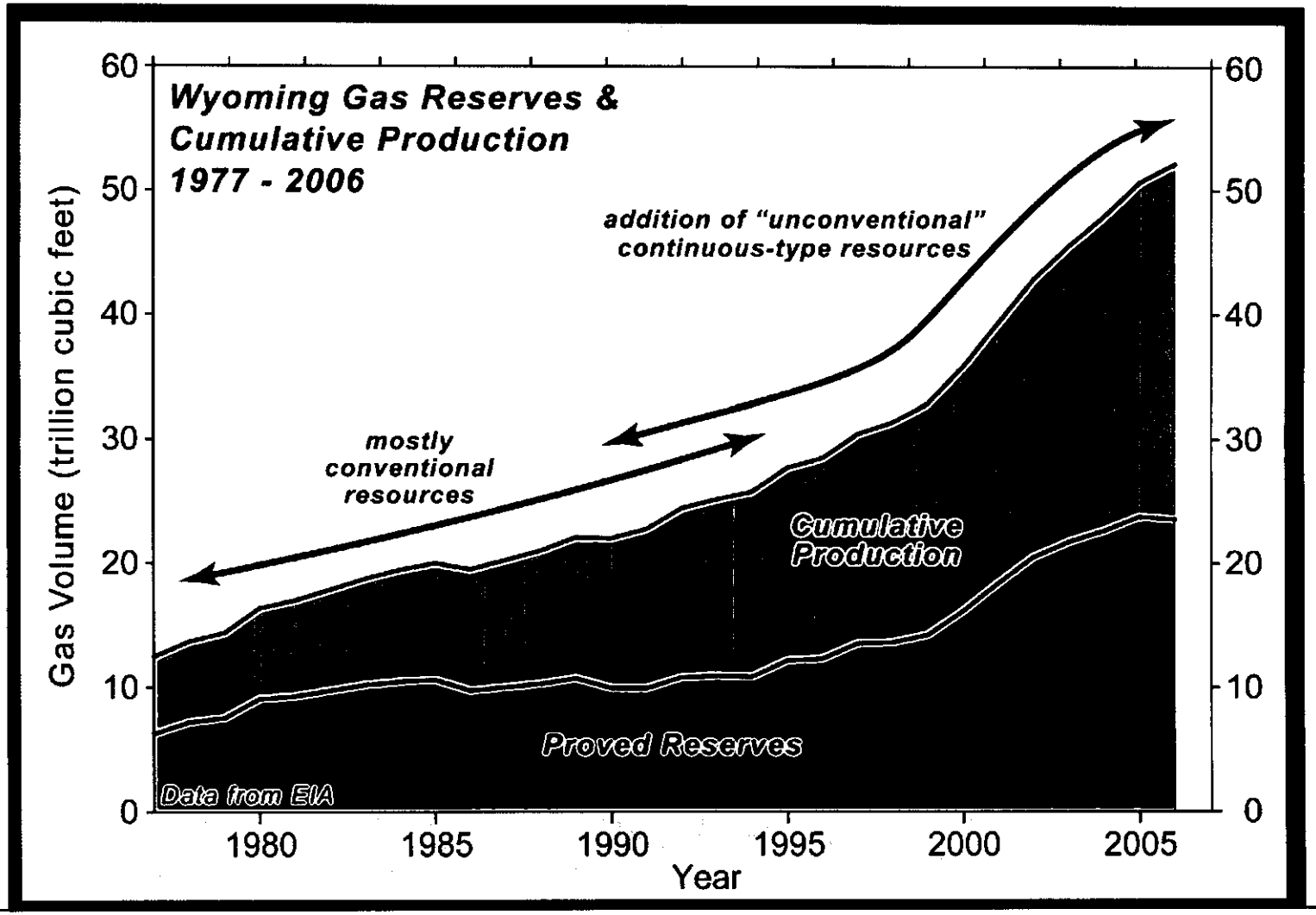


Wyoming Gas Reserves & Production History

AGIA
The Alaska Gasline Inducement Act

Courtesy of USGS



Lower 48 Shale Gas Plays

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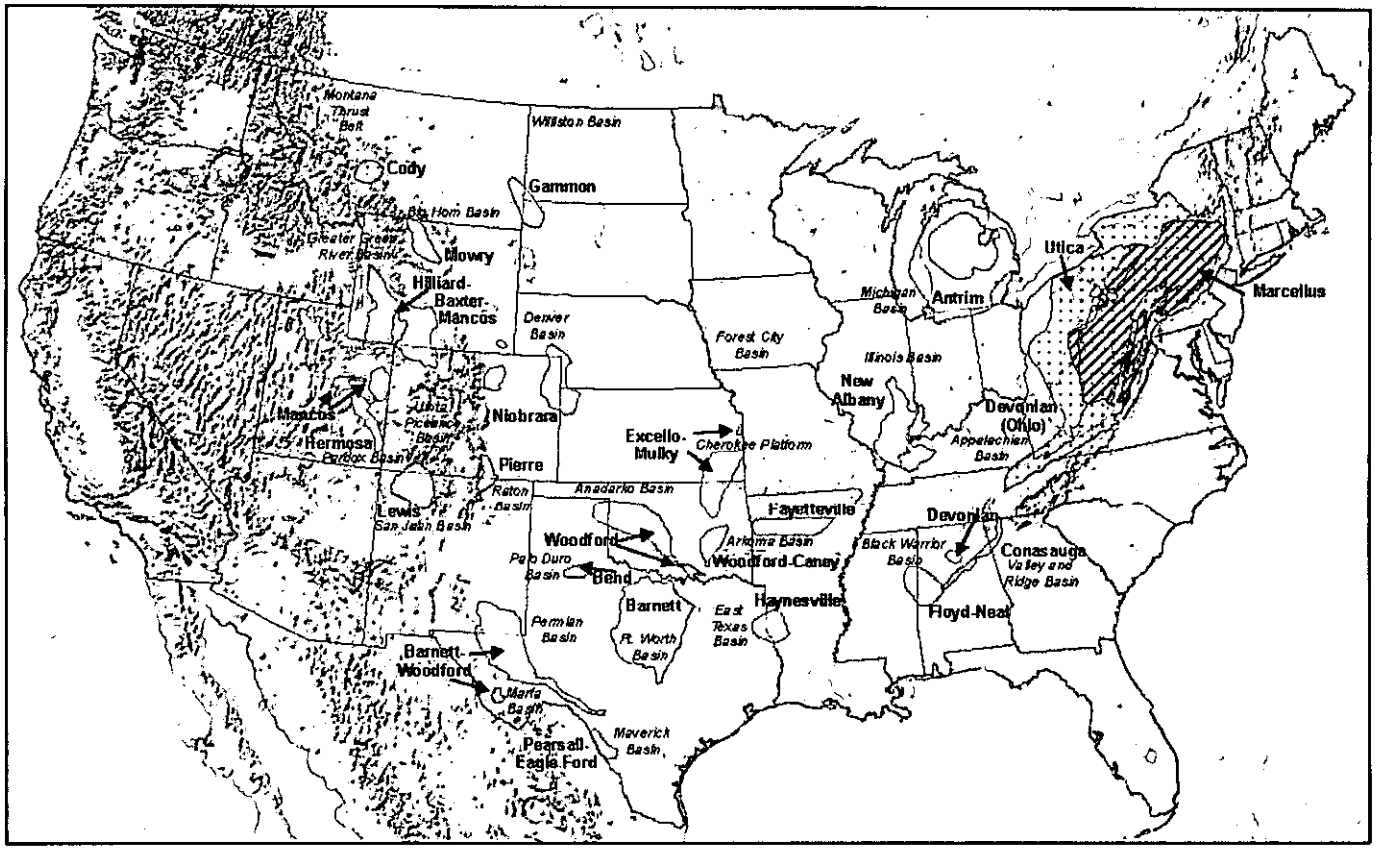

United States Shale Gas Plays

www.eia.doe.gov
Energy Information Administration
Office of Oil and Gas

Shale Gas Plays
Basins

Stacked Appalachian Plays
Marcellus
Utica
Devonian (OH shale)

November 2008
Miles
0 150 300 600

N

Estimated Break-Even Costs for Lower 48 Shale Gas and Alaska North Slope Onshore Gas

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- Onshore North Slope Gas (at AECO Hub)
  - $3.00 - $4.25
  - (USGS, AGIA Finding)
- Lower 48 Shale Gas (NYMEX)
  - Lowest - $4.20
  - Medium - $6.64
  - Highest - $11.50
  - (Bank of America)
- Today's lower drilling and steel costs and future technological development enhance economics of BOTH

Source: Bank of America, USGS and AGIA Finding

Arctic Alaska and Russia at the Top

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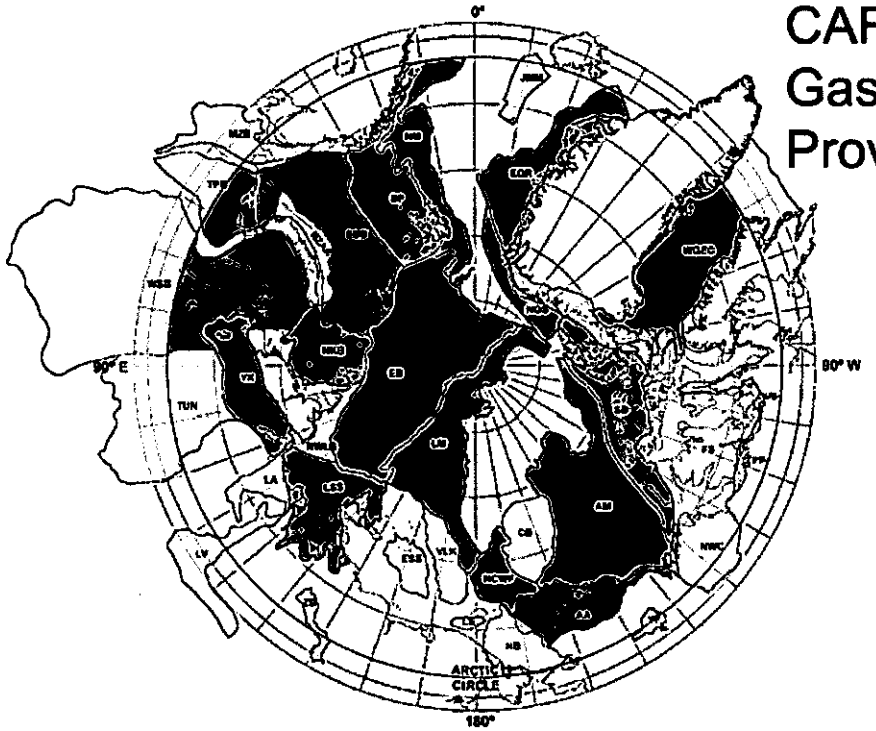
UNDISCOVERED GAS
(trillion cubic feet)

- >100
- 6–100
- <6
- Area not quantitatively assessed
- Area of low petroleum potential



CARA Gas Provinces

Province Code	Province	Oil (MMBO)	Total Gas (BCFG)	NGL (MMBNGL)	BOE (MMBOE)
WSB	West Siberian Basin	[illegible]	[illegible]	[illegible]	132,571.66
AA	Arctic Alaska	29,960.94	221,397.60	5,904.97	72,765.52
EBB	East Barents Basin	7,406.49	317,557.97	1,488.58	61,755.10
EGR	East Greenland Rift Basins	8,902.13	86,180.06	8,121.57	31,387.04
YK	Yenisey-Khatanga Basin	5,583.74	99,964.26	2,675.15	24,919.61
AM	Amerasia Basin	9,723.58	56,891.21	541.69	19,747.14
WGEC	West Greenland-East Canada	7,274.40	51,818.16	1,152.59	17,063.35
	a Shelf	3,115.57	32,562.84	867.16	9,409.87
	n Margin	1,437.29	32,281.01	504.73	7,322.19
	latform	2,055.51	26,218.67	278.71	6,704.00
	asin	1,342.15	19,475.43	520.26	5,108.31
	Basins and Platforms	1,807.26	14,973.58	390.22	4,693.07
	chora Basin	1,667.21	9,062.59	202.80	3,380.44
	enland Sheared Margin	1,349.80	10,207.24	273.09	3,324.09
	v-Makarov	1,106.78	7,156.25	191.55	2,491.04
	Basin	851.11	8,596.36	191.20	2,475.04
	bar Basin	1,912.89	2,106.75	56.41	2,320.43
	ikchi-Wrangel Foreland	85.99	6,065.76	106.57	1,203.52
	lasin	98.03	5,741.87	101.63	1,156.63
	t Laptev Sea Shelf	172.24	4,488.12	119.63	1,039.90
	i Basin	376.86	1,335.20	35.66	635.06
	Basin	47.82	1,505.99	40.14	338.95
	ian Sea Basin	19.73	618.83	10.91	133.78
	in	2.47	648.17	11.37	121.87
	t Canada Interior Basins	23.34	305.34	15.24	89.47
	asin	NQA	NQA	NQA	NQA
	mlya Basins and Admiralty	NQA	NQA	NQA	NQA
	Basin	NQA	NQA	NQA	NQA
	orderland	NQA	NQA	NQA	NQA
	ts (part of Central Alaska ce)	NQA	NQA	NQA	NQA
	it	NQA	NQA	NQA	NQA
	n Microcontinent	NQA	NQA	NQA	NQA
	n Shelf	NQA	NQA	NQA	NQA
		89,983.21	1,668,657.84	44,064.24	412,157.09

Source: USGS Fact Sheet 2008-3049

Undiscovered, Conventional Gas Resources of the U.S.

Alaska resources = 36% of national total

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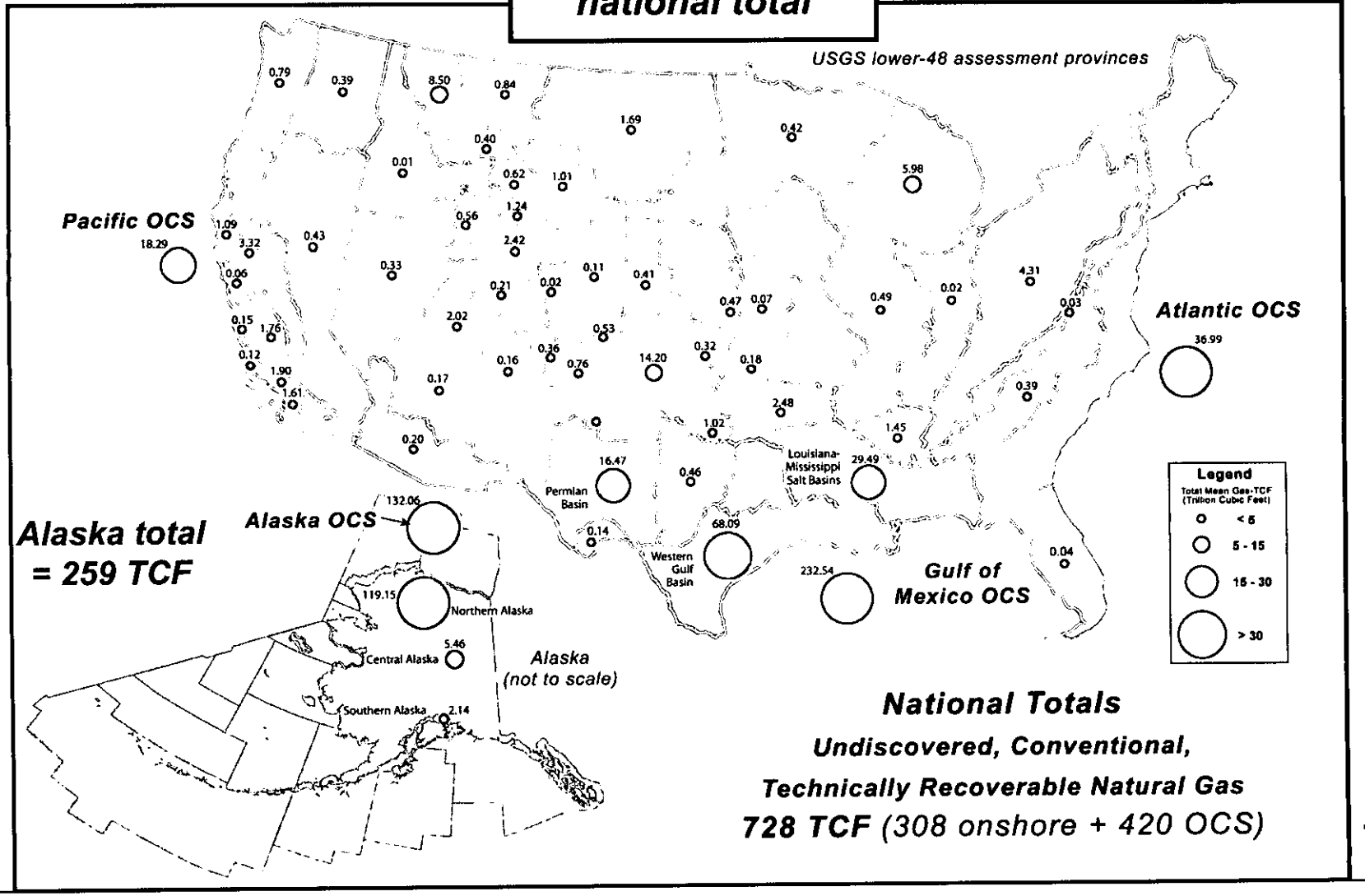
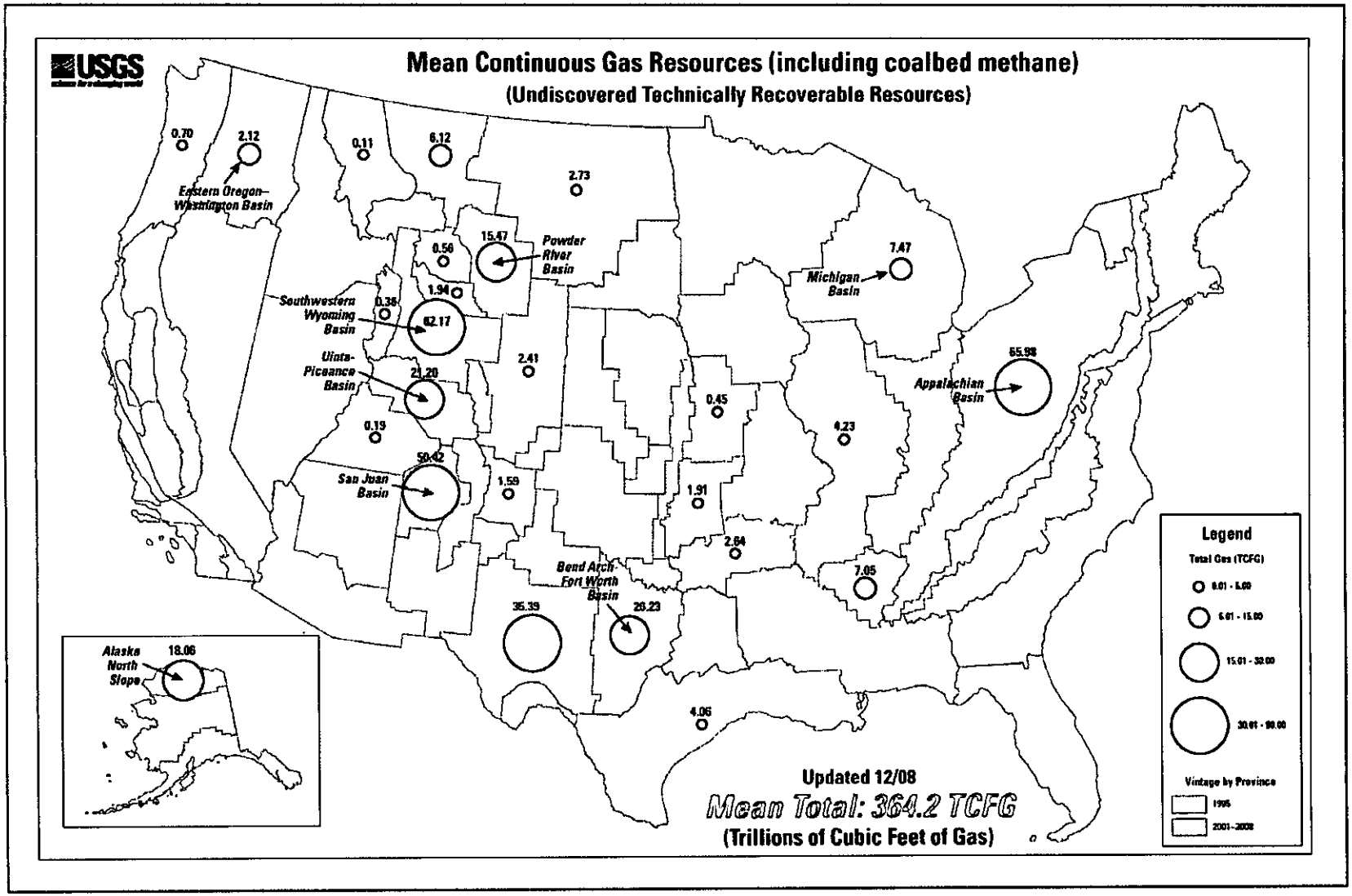
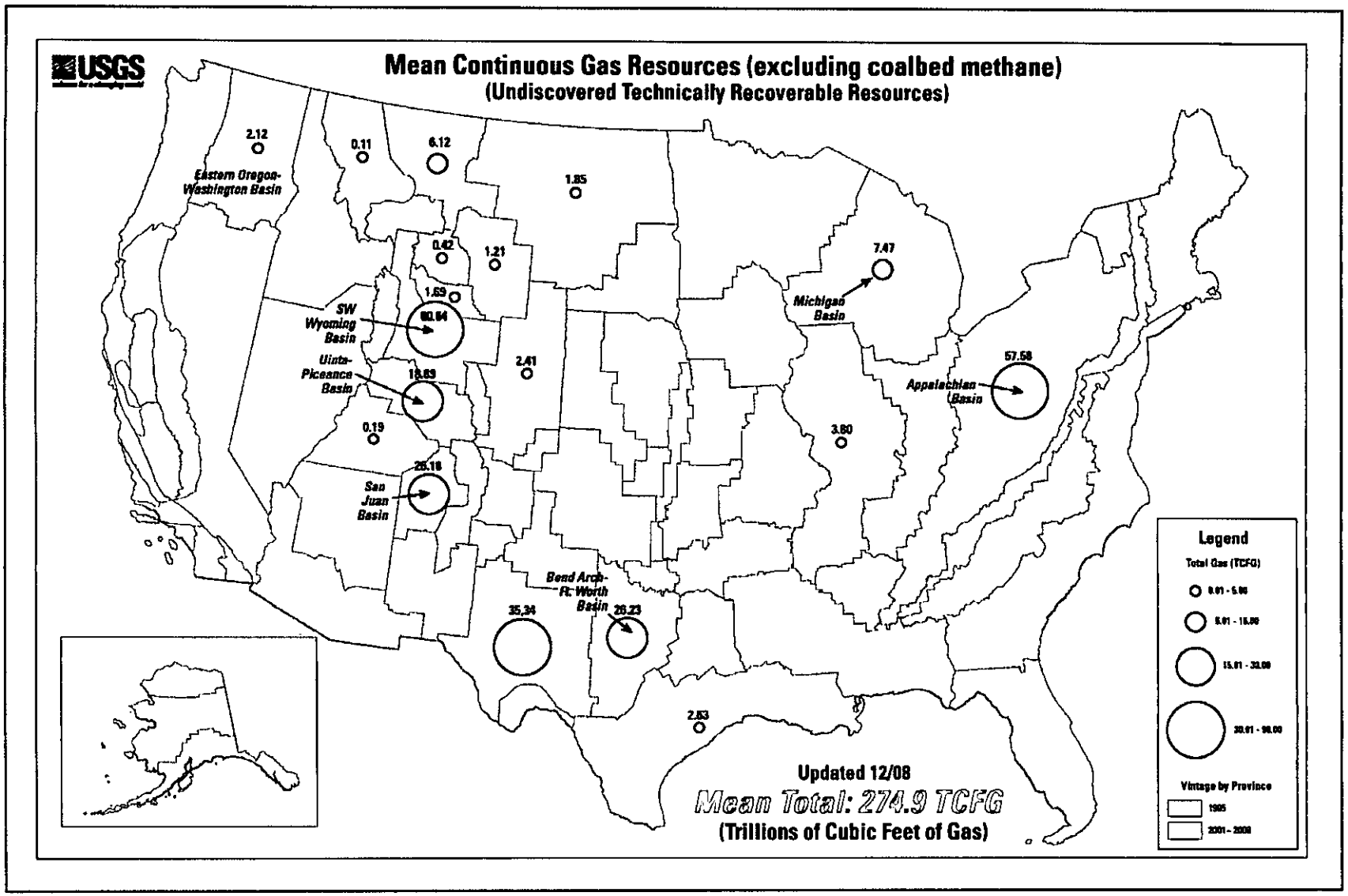


National Totals

Undiscovered, Conventional, Technically Recoverable Natural Gas

728 TCF *(308 onshore + 420 OCS)*


USGS
Mean Continuous Gas Resources (including coalbed methane)
(Undiscovered Technically Recoverable Resources)
0.70
2.12
Eastern Oregon–Washington Basin
0.11
6.12
2.73
15.47
Powder River Basin
0.58
7.47
Michigan Basin
1.94
0.36
Southwestern Wyoming Basin
62.17
Uinta-Piceance Basin
21.20
2.41
65.98
Appalachian Basin
0.45
4.23
0.19
50.42
San Juan Basin
1.59
1.91
2.64
7.05
Bend Arch-Fort Worth Basin
35.39
26.23
4.06
Alaska North Slope
18.06
Updated 12/08
Mean Total: 364.2 TCFG
(Trillions of Cubic Feet of Gas)
Legend
Total Gas (TCFG)
0.01 - 5.00
5.01 - 15.00
15.01 - 30.00
30.01 - 99.00
Vintage by Province
1995
2001–2002


USGS
Mean Continuous Gas Resources (excluding coalbed methane)
(Undiscovered Technically Recoverable Resources)
2.12
Eastern Oregon-Washington Basin
0.11
6.12
1.85
0.42
1.21
1.69
SW Wyoming Basin
50.64
Uinta-Piceance Basin
19.89
2.41
0.19
26.18
San Juan Basin
Bend Arch-Ft. Worth Basin
35.34
26.23
2.53
7.47
Michigan Basin
57.58
Appalachian Basin
3.80
Legend
Total Gas (TCFG)
0.01 - 5.00
5.01 - 15.00
15.01 - 30.00
30.01 - 58.00
Vintage by Province
1995
2001 - 2008
Updated 12/08
Mean Total: 274.9 TCFG
(Trillions of Cubic Feet of Gas)

Undiscovered Conventional Gas Potential

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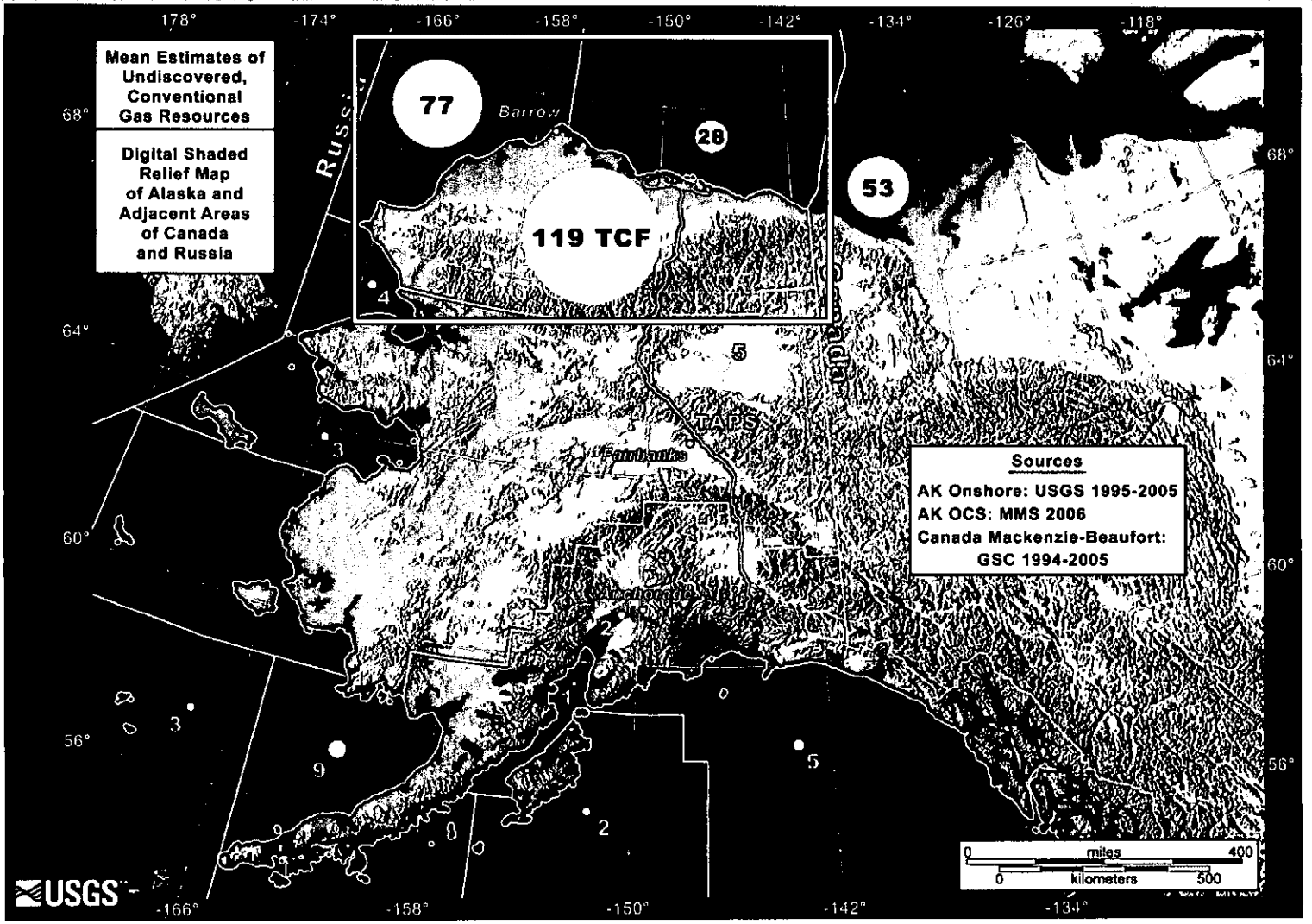

Potential for Undiscovered Petroleum in Arctic Alaska

USGS /MMS

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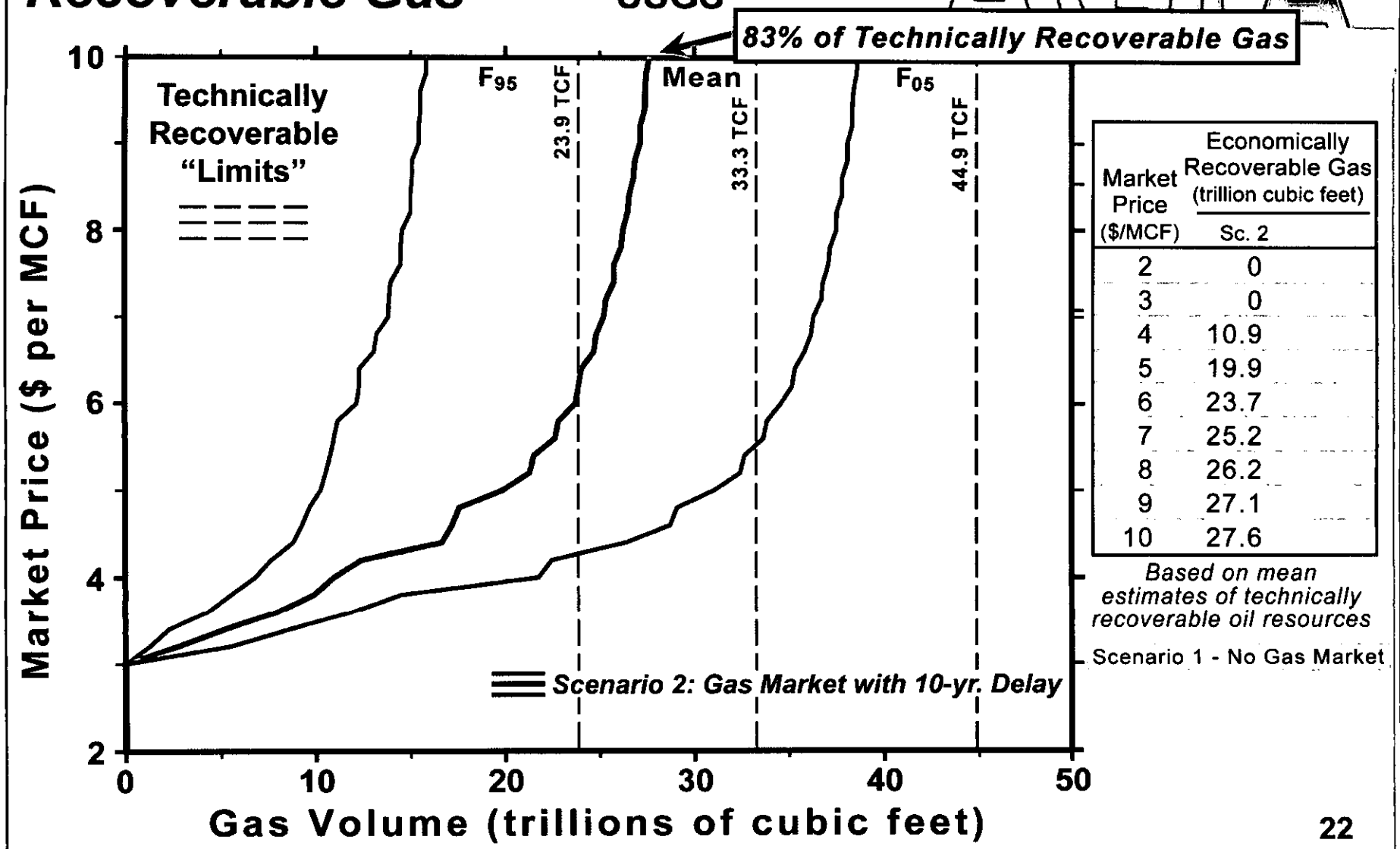
Mean Estimates of Undiscovered, *Conventional* Natural Gas in Arctic Alaska (trillion cubic feet)

	Non-Associated Gas	Associated Gas	Total Gas
Onshore & State Offshore Areas (USGS estimates)			
NPRA	61.35	11.68	73.03
Central North Slope	33.32	4.20	37.52
ANWR, 1002 Area	3.84	4.76	8.60
Subtotal	*98.51*	*20.64*	*119.15*
Federal Offshore Areas (MMS estimates)			
Chukchi Shelf	na	na	76.77
Beaufort Shelf	na	na	27.65
Hope Basin	na	na	3.77
Subtotal	na	na	*108.19*
TOTAL			*227.34*

Central North Slope Economically Recoverable Gas

USGS



Market Price ($/MCF)	Economically Recoverable Gas (trillion cubic feet) Sc. 2
2	0
3	0
4	10.9
5	19.9
6	23.7
7	25.2
8	26.2
9	27.1
10	27.6

Based on mean estimates of technically recoverable oil resources

Scenario 1 - No Gas Market

North Slope Gas Potential

DOE

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Location	Estimate of undiscovered technically recoverable conventional natural gas (Trillion Cubic Feet) Mean	Estimate of economically recoverable* natural gas reserves (Trillion Cubic Feet) Mean
National Petroleum Reserve, Alaska	73.0	31.0
Central North Slope, State Lands	37.5	33.3
ANWR 1002 area	8.6	1.0
TOTAL Onshore Potential	119 TCF	66.3 TCF
Chukchi Sea	76.8	50.0
Beaufort Sea	27.7	21.0
Hope Basin	3.8	
?		
TOTAL Offshore Potential	108 TCF	71.0 TCF
TOTAL	227 TCF	137.3
TCF		

Data Sources: Regional Resource Assessments from the U.S. Geological Survey, http://energy.usgs.gov/alaska/ and Minerals Management Service http://www.mms.gov/alaska/re/reports/2006Asmt/

*NETL This study did not include Hope Basin.

Alaska's North Slope is Very Under-Explored

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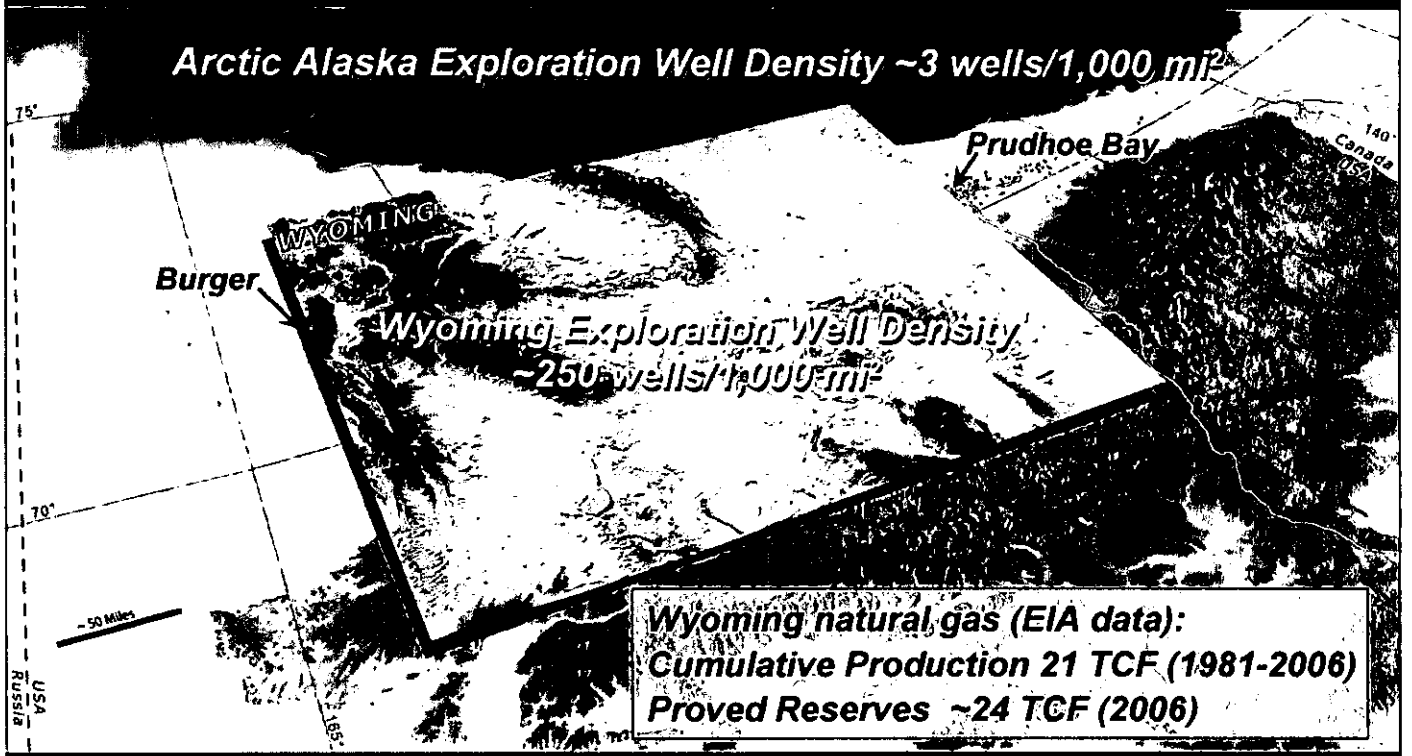
Arctic Alaska Exploration Maturity

- Prospective area onshore & offshore shelves ~ 150,000 mi² (~400,000 km²)
- Fewer than 500 exploration wells (red dots)



- Entire state of Wyoming ~100,000 mi² (~250,000 km²)
- Petroleum-prospective area ~75,000 mi² (~250,000 km²)
- ~19,371 exploration wells

14

Courtesy of USGS

Unconventional Gas Resources (continuous resources)

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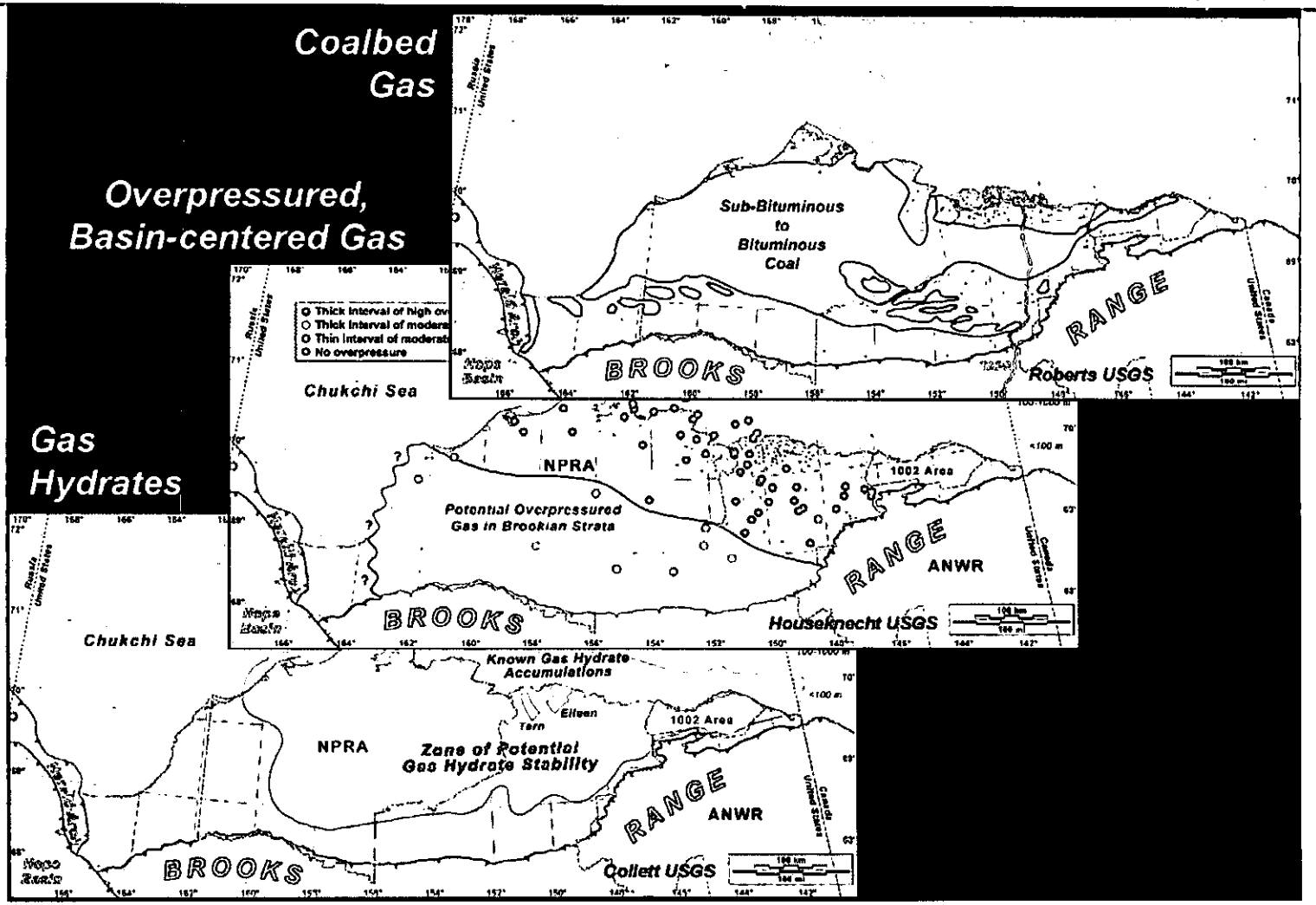

Alaska North Slope Natural Gas Hydrate Assessment Results

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[BCFG, billion cubic feet of gas. MMBNGL, million barrels of natural gas liquids. Results shown are fully risked estimates. F95 represents a 95-percent chance of at least the amount tabulated; other fractiles are defined similarly. Fractiles are additive, assuming perfect positive correlations. NGL, natural gas liquids; TPS, total petroleum system; AU, assessment unit.]

Total Petroleum System and Assessment Unit	Field Type	*Total Undiscovered Resources*							
		Gas (BCFG)				*NGL (MMBNGL)*			
		F95	F50	F5	Mean	F95	F50	F5	Mean
Northern Alaska Gas Hydrate TPS									
Sagavanirktok Formation Gas Hydrate AU	*Gas*	6,285	19,490	37,791	20,567	0	0	0	0
Tuluvak-Schrader Bluff-Prince Creek Formations Gas Hydrate AU	*Gas*	8,173	26,532	51,814	28,003	0	0	0	0
Nanushuk Formation Gas Hydrate AU	*Gas*	10,775	35,008	68,226	36,857	0	0	0	0
Total Undiscovered Resources		**25,233**	**81,030**	**157,831**	**85,427**	**0**	**0**	**0**	**0**

Source: USGS Fact Sheet 2008-3073

Alaska's Arctic Natural Gas: Critical Bridge to a Sustainable Future

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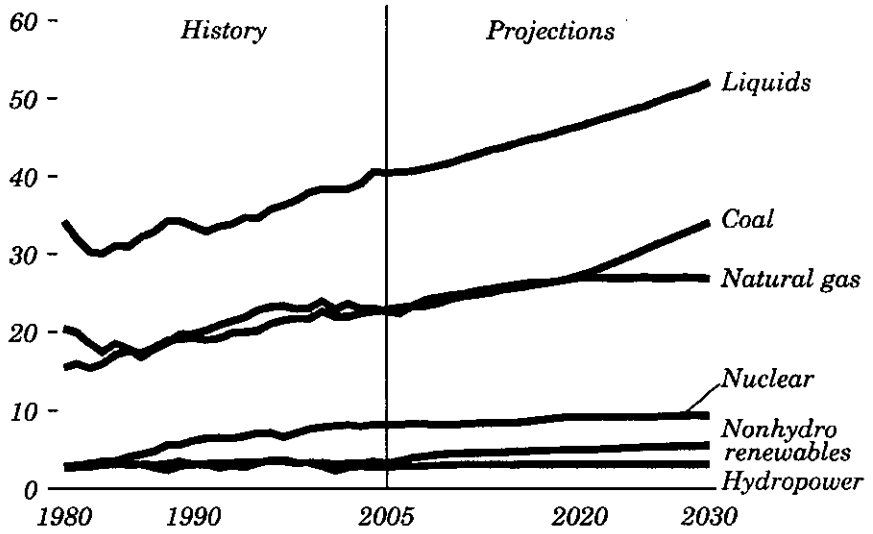
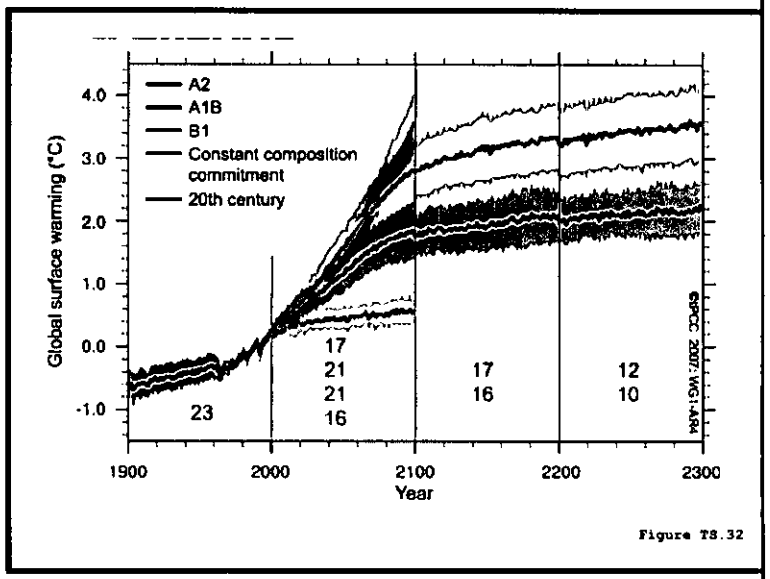
United States Energy Consumption by Fuel



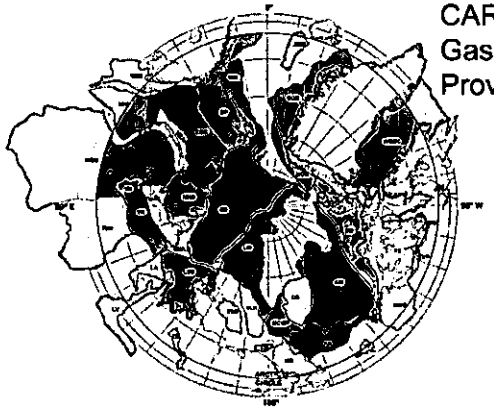
EIA

Carbon Emissions



USGS

IPCC 2007: WG1-AR4



CARA Gas Provinces

Impact of Carbon Regulation on Natural Gas Demand

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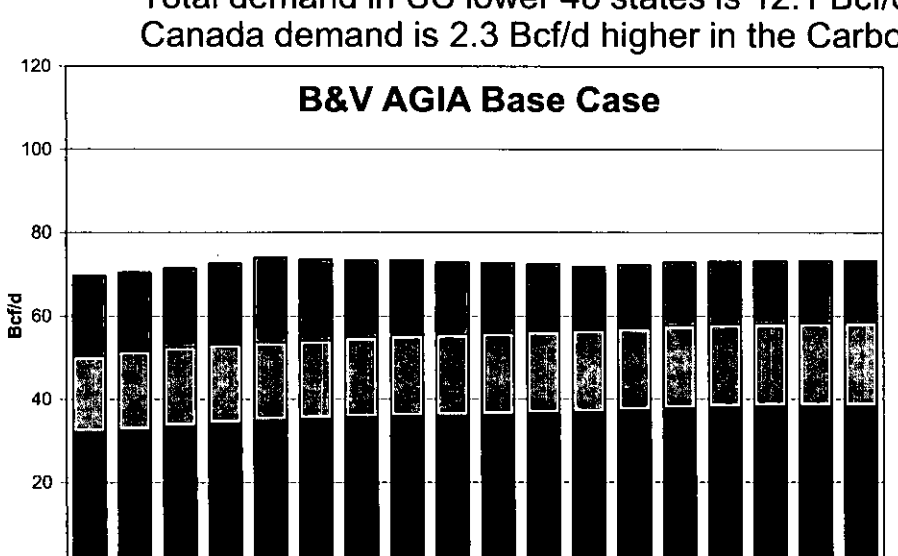
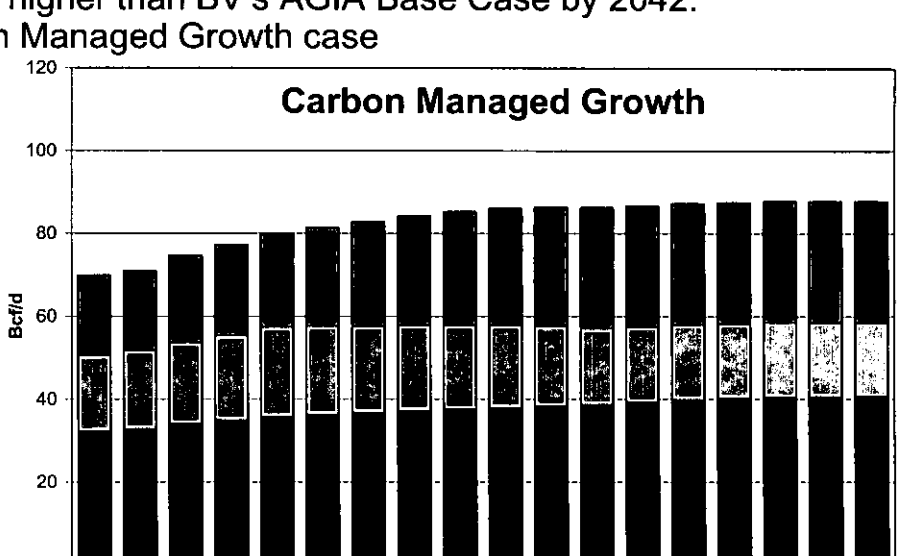
In a Carbon Managed Growth case, demand is 14 Bcf/d more than the B&V AGIA Base Case

- Policies and legislations designed to curb Green House Gas could reduce dispatch and construction of coal-fired generation facilities in favor of natural gas fired facilities, resulting in demand increase from the power sector in the US
- All resources, including renewables, nuclear and IGCC with CCS and gas fired combined cycles are all needed to meet electric demand growth. Gas demand from the power sector will grow from 19 Bcf/d in 2008 to 29 Bcf/d by 2030, with a CAGR of 2%
- Total demand in US lower 48 states is 12.1 Bcf/d higher than BV's AGIA Base Case by 2042. Canada demand is 2.3 Bcf/d higher in the Carbon Managed Growth case





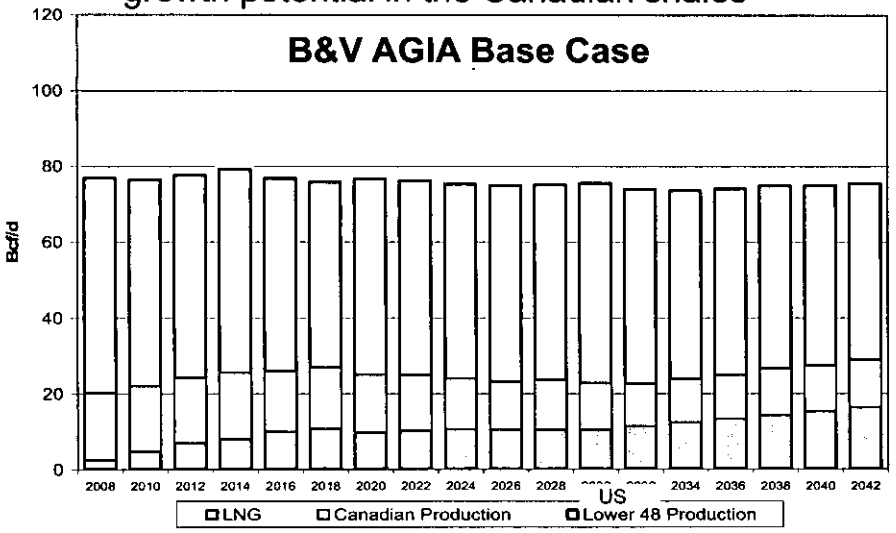
Source: Black & Veatch Analysis

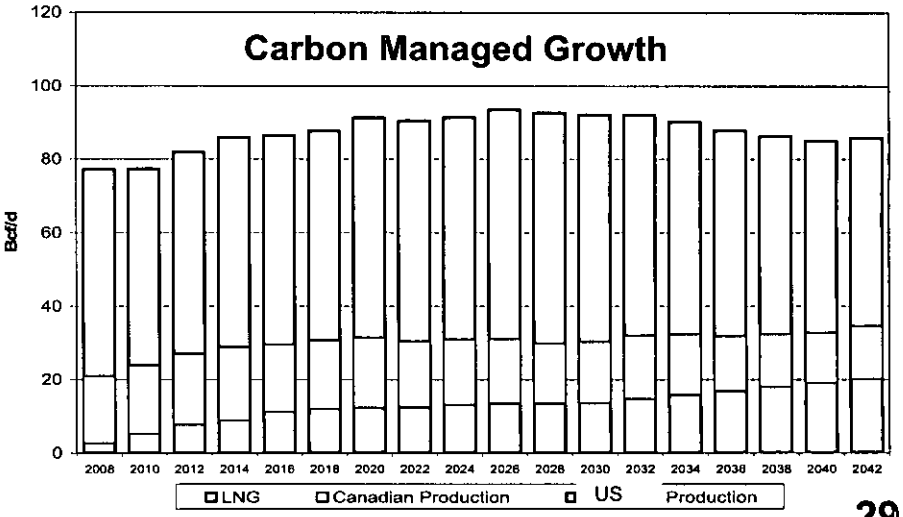
Multiple Different Sources of Natural Gas will be Needed to Meet Lower 48 Demand Growth

AGIA
The Alaska Gasline Inducement Act

Additional LNG imports and more unconventional productions from the US is necessary in order to meet the lower 48 demand growth

- Additional LNG imports will be needed to meet the demand growth; 6.4 Bcf/d by 2042 in the Carbon Managed Growth scenario
- US Production will average 58.3 Bcf/d from 2022-2042 in the Carbon Managed Growth case, which will be 7.8 Bcf/d higher than the B&V AGIA Base Case. Recent developments in shale discoveries in Haynesville and Marcellus indicate greater production potentials from these unconventional resources. The production growth can be considered as a proxy.
- Canadian production continues to decline in both cases. In the Carbon Managed Growth case, Canadian production is 3.7 Bcf/d higher than in the B&V AGIA Base Case, which may approximately reflect the growth potential in the Canadian shales



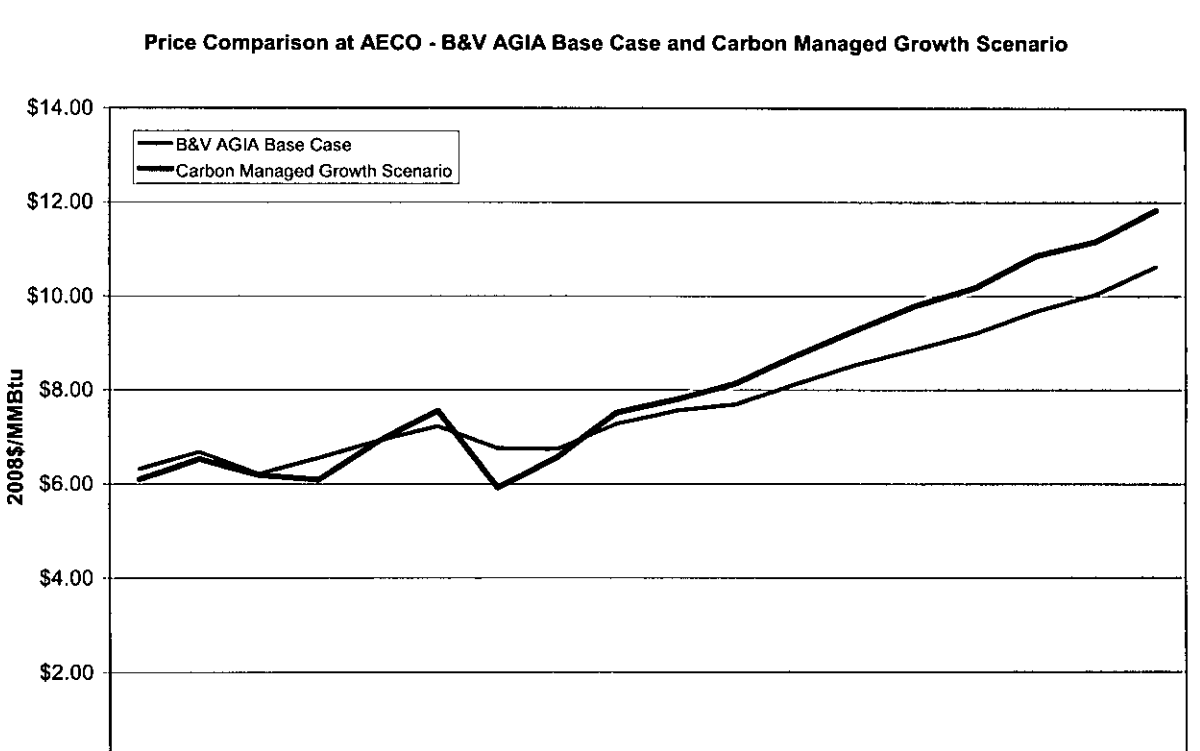


Source: Black & Veatch Analysis

Impact of Carbon Regulation on AECO Price Forecasts

AGIA
The Alaska Gasline Inducement Act

- The Carbon Managed Growth case has sufficient supplies from North America to meet the high demand from both unconventional production and slightly higher additional LNG volumes
- North American gas price is projected to have a higher price path than in the AGIA base case



Source: Black & Veatch Analysis

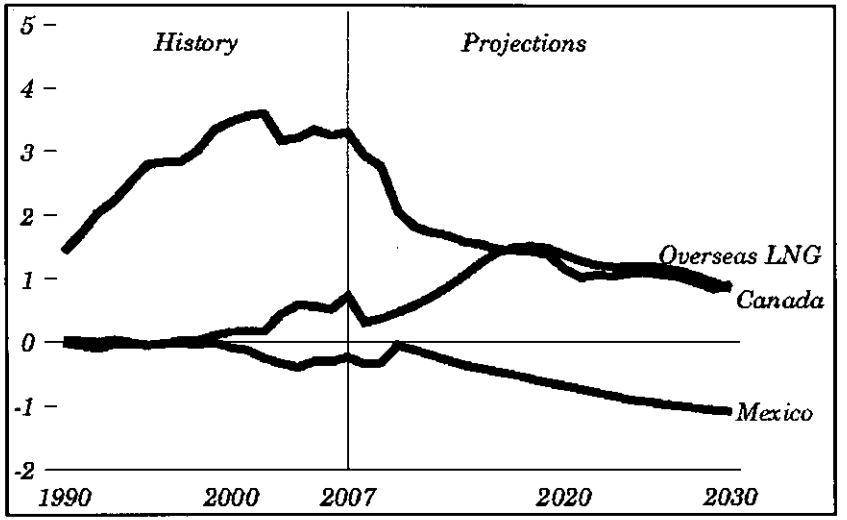
Liquid Natural Gas (LNG) Imports Current and Forecast Volumes

AGIA
The Alaska Gasline Inducement Act

LNG import volumes have experienced little net change since the legislature approved the AGIA license

Total US LNG Import Volumes

July 2008:	31,019 mmcf
December 2008:	30,708 mmcf



Net U.S. imports of natural gas by source, 1990-2030 (trillion cubic feet)

Source: EIA Annual Energy Outlook 2009

*More Recent EIA Price Forecasts for Gas Predict **Higher** Long-term Prices for Natural Gas in the U.S.*

AGIA
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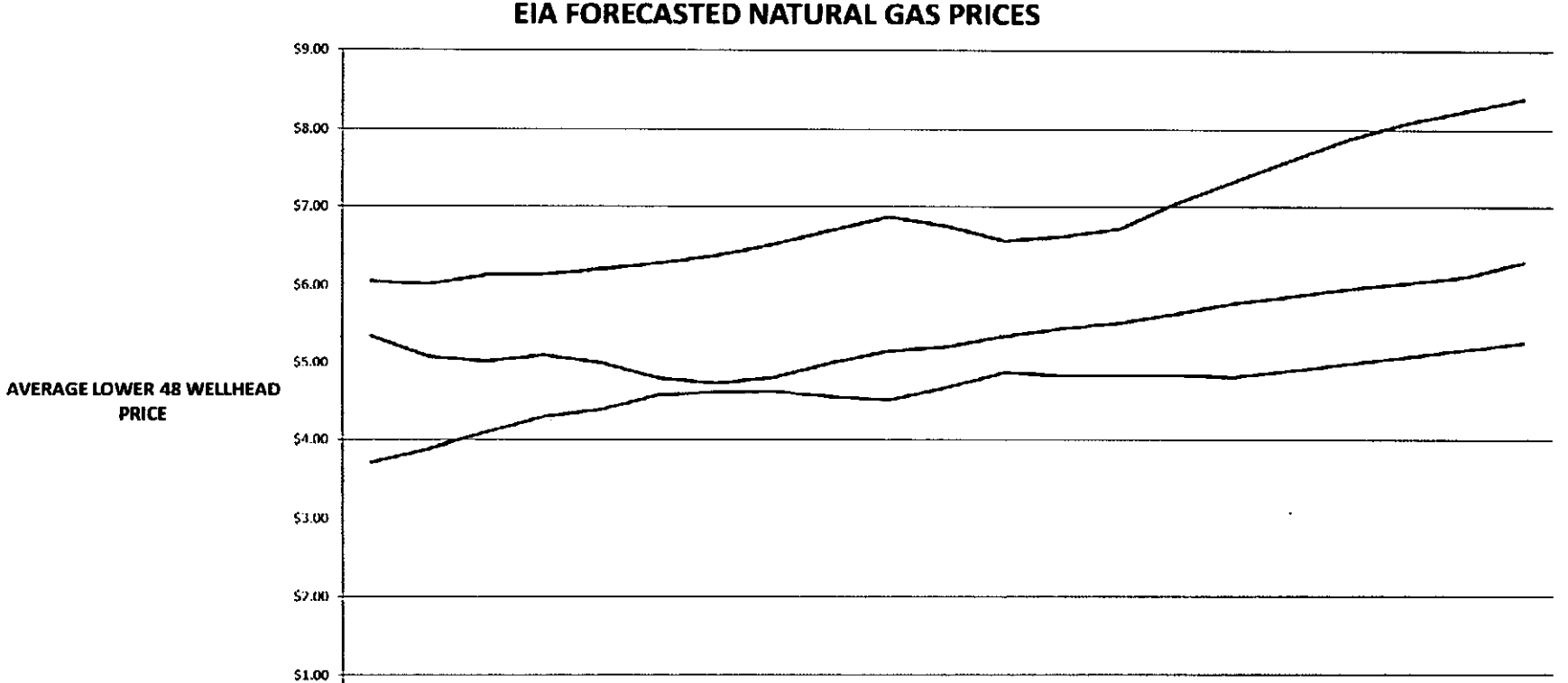
EIA FORECASTED NATURAL GAS PRICES



	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
2004 EIA FORECAST (IN 2007 DOLLARS)	$3.72	$3.89	$4.10	$4.30	$4.39	$4.58	$4.62	$4.63	$4.56	$4.52	$4.68	$4.87	$4.84	$4.84	$4.84	$4.81	$4.90	$4.99	$5.08	$5.17	$5.26
2006 EIA FORECAST (IN 2007 DOLLARS)	$5.34	$5.08	$5.01	$5.10	$5.00	$4.80	$4.74	$4.81	$5.00	$5.15	$5.21	$5.34	$5.44	$5.51	$5.63	$5.77	$5.85	$5.96	$6.02	$6.11	$6.29
2009 EIA FORECAST (IN 2007 DOLLARS)	$6.05	$6.01	$6.13	$6.14	$6.20	$6.27	$6.37	$6.52	$6.70	$6.87	$6.75	$6.56	$6.62	$6.72	$7.05	$7.33	$7.61	$7.88	$8.09	$8.25	$8.40

YEAR

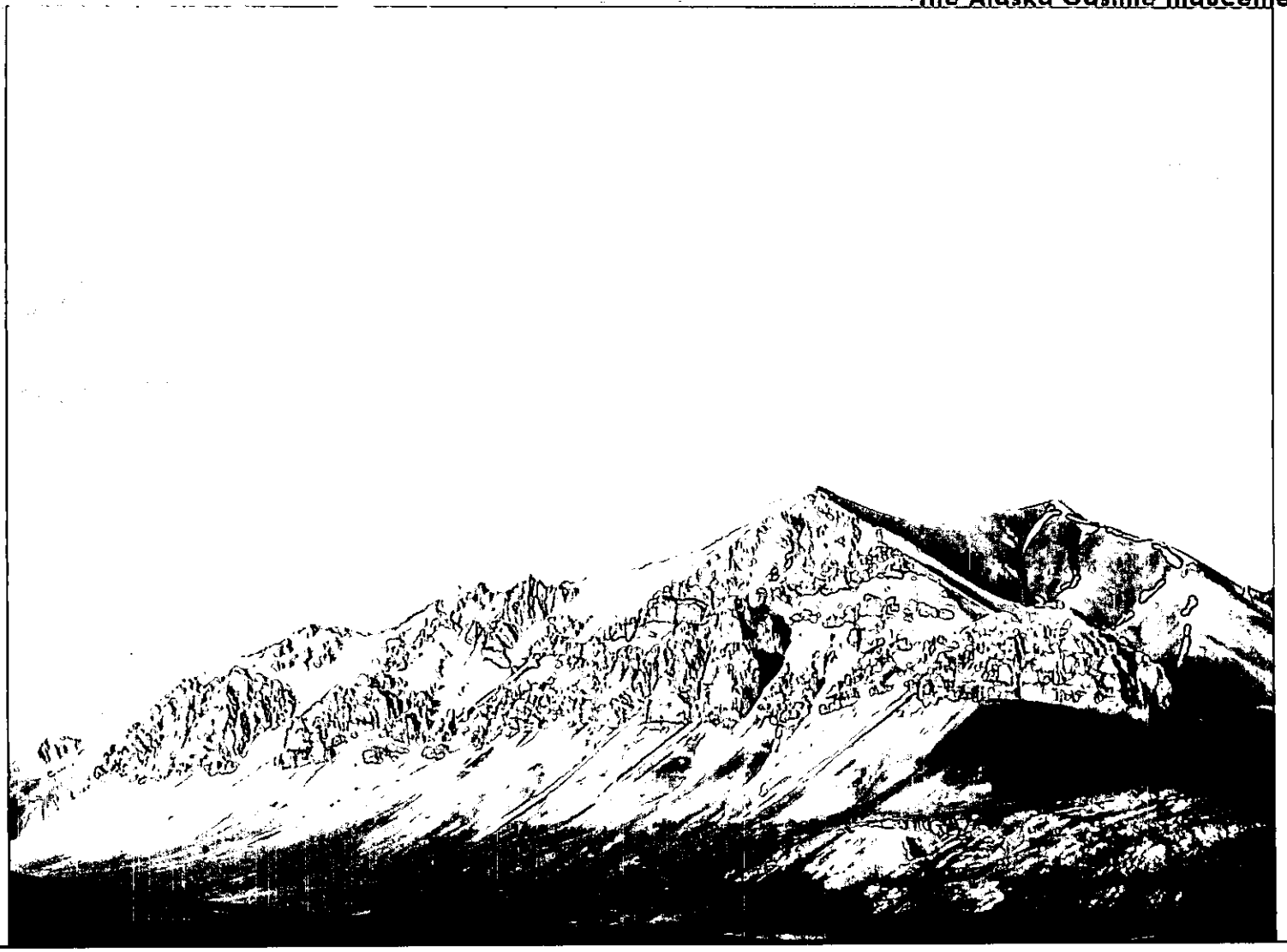
—2004 EIA FORECAST (IN 2007 DOLLARS) —2006 EIA FORECAST (IN 2007 DOLLARS) —2009 EIA FORECAST (IN 2007 DOLLARS)

Atigun Gorge North Slope Alaska – Along the Gasline Route

Photo taken by David Houseknecht USGS

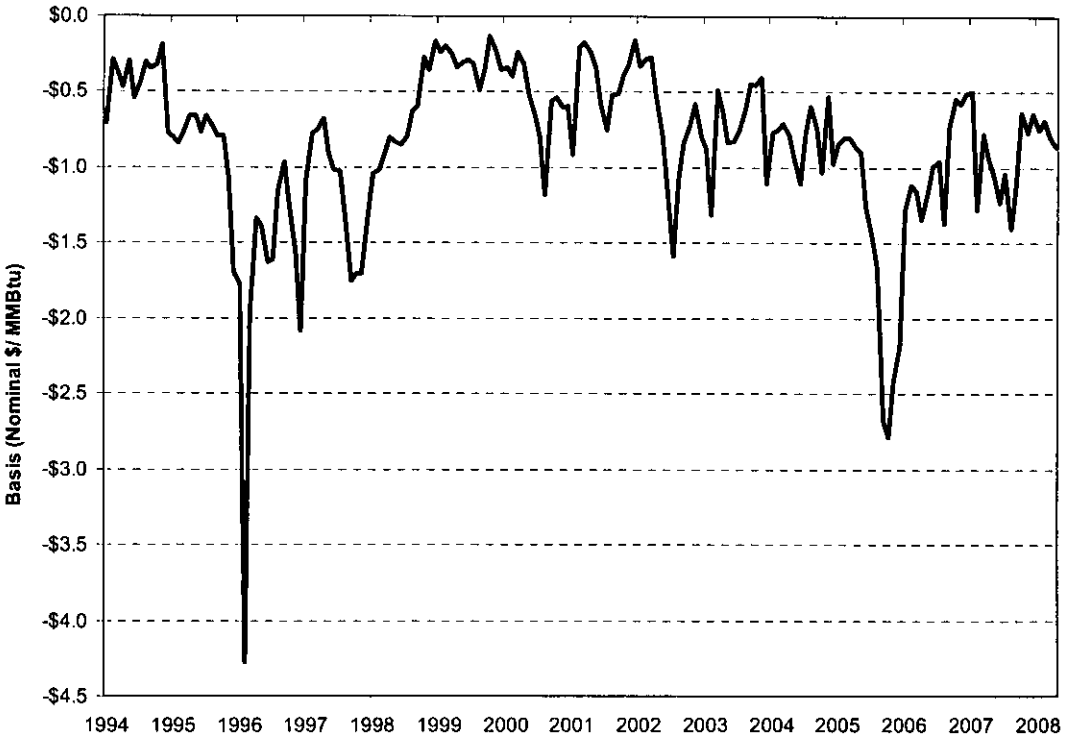
AGIA

The Alaska Gasline Inducement Act



Historic AECO Basis to Henry Hub (Monthly Averages)

AGIA
The Alaska Gasline Inducement Act



Source: AGIA Finding

4/10/09 CONFIRMA-TION: KARL JOHNSTONE BOARD OF FISHERIES

SENATE
CONFIRMATION COMMITTEE REPORT

Date: 04/10/09

In accordance with AS 39.05.080, the Senate Resources Committee reviewed the following and recommends the appointments be forwarded to a joint session for consideration:

Board of Fisheries
Karl S. Johnston - Anchorage

This does not reflect an intent by any of the members to vote for or against the confirmation of the individuals during any further sessions.

Signature:	Printed Last Name
	Huggins
	Stevens
	French
	WAGONER
Co-Chair:	Wielechowski
Co-Chair:	McGuire

Please return to the Senate Secretary's Office (Room 213).

Resume

Name:	Karl S. Johnstone
Address:	18618 Snowy Plover Cir Anchorage, Alaska 99516
Time in Alaska:	1967 to present
Date of Birth:	07/25/1941
Health:	Perfect
Education:	Bachelor's degree in Business, 1964 U. of Arizona Juris Doctor in Law, 1967 U. of Arizona
Work Experience:	Private Practice of Law 1968 through 1978 Superior Court Judge 1979 through July 1996 Part time mediator/arbitrator and limited practice 1997 through present
Position applying for:	Member of North Pacific Fishery Management Council or Alaska Fish Board
Related Experience:	Owned and fished Limited entry permits for set net and drift net salmon fishing in Bristol Bay from 1984 through 1988. Owned and fished Limited entry permits for gillnet herring in S.E. Alaska and Prince William Sound from 1984 through 1988. Have been an active sport fisherman through out Alaska since 1967 to present.
Other activities:	Golf, flying, building aircraft, fishing, reading.

Contact information: email: Johnstone@alaska.net Phone 928-541-1378

Employment Applicant Profile

Personal Information

First Name: karl Middle Initial: (Optional) Last Name: johnstone

Mailing Address: 18618 snowy plover cir

City: anch State: ak Zip Code: 99516 Country: U.S.

Email: (Optional) johnstone@alaska.net

Are you currently an Alaska Resident? yes Yes No

Since 03/67 (mm/yy)

Do you have a legal right to accept employment in the United States? yes Yes No

Are you related to any person currently working for the State of Alaska? Yes no No

If Yes, please list their name(s), their Departments(s), and your relationship(s):

Have you ever been convicted of a felony? Yes no No
Have you been convicted of a misdemeanor within the past five years? Yes no No

If you answered Yes to either of the above questions, please explain below:

Note: If you have been convicted of a felony, you will be required to provide a copy of your judgment if chosen for an interview.

Education & Training
Education: Check highest level attained

High School
- Some High School
- HS Graduate or GED

Post Secondary
- Some College
- Associate's Degree
- Bachelor's Degree
- Master's Degree

J.D. Doctorate

School Name U. of Arizona
School Location Tucson, Ariz.
Areas of Study Law
Degrees obtained J.D.

School Name
School Location
Areas of Study
Degrees obtained

School Name
School Location
Areas of Study
Degrees obtained

School Name
School Location
Areas of Study
Degrees obtained

Certifications, licenses and date obtained.
Inactive member of Ariz. and Ak. Bar Associations

Career-specific, job-related training and skills.
Legal

Experience:
Work History: List up to four employers.
Name of employer and location: Self mployed as a lawyer
Start Date:
(Month/Day/Year) march, 1968
Ending Date:
(Month/Day/Year) Nov, 1979
Job Title:
Supervisor's Name:
Supervisor's Phone
Number:
Employment Type: Full-Time Part-Time
Hours/Week worked:
Salary: (Monthly)
Description. Please describe your duties.
practice of law in business and labor fields

Name of employer and location: Stat of Alaska
Start Date:
(Month/Day/Year) Nov 1978
Ending Date:
(Month/Day/Year) July 25, 1996
Job Title: superior court judge
Supervisor's Name:
Supervisor's Phone
Number:

Employment Type: Full-Time Part-Time
Hours/Week worked:
Salary: (Monthly)
Description. Please describe your duties.

Name of employer and location:
Start Date:
(Month/Day/Year)
Ending Date:
(Month/Day/Year)
Job Title:
Supervisor's Name:
Supervisor's Phone
Number:
Employment Type: Full-Time Part-Time
Hours/Week worked:
Salary: (Monthly)
Description. Please describe your duties.

Name of employer and location:
Start Date:
(Month/Day/Year)
Ending Date:
(Month/Day/Year)

Job Title:
Supervisor's Name:
Supervisor's Phone
Number:
Employment Type: Full-Time Part-Time
Hours/Week worked:
Salary: (Monthly)
Description. Please describe your duties.

Veterans'/National Guard Preference
Are you a veteran or a member of the Alaska National Guard? If no, you may proceed to the Optional State of Alaska Equal Employment Opportunity Questionnaire below.

Are you a veteran who served on active duty (not active duty for training) in the United States Armed Forces and did you receive an honorable or general discharge? Yes No

If Yes:

Did you serve during a war* **OR** during the period beginning April 28, 1952, and ending July 1, 1955? **OR**

Did you serve for more than 180 consecutive days, any part of which occurred during the following periods:

- After November 11, 1918, and before December 2, 1919;
- After September 15, 1940, and before December 7, a941;
- After December 31, 1946, and before January 1, 1948;
- After June 26, 1950, and before April 18, 1952;
- After January 31, 1955, and before October 15, 1976; or
- In the Alaska Territorial Guard?

Did you serve during the Gulf War period beginning August 2, 1990, and ending January 2, 1992? AND If you originally enlisted after September 7, 1980, or entered on active duty on or after October 14, 1982, without having previously completed 24 months of continuos active duty, did you serve continuously for 24 months or the full period called or ordered to active duty? **OR**

Were you awarded a campaign or expedition medal or an award or decoration for heroism or gallantry in action? AND if you originally enlisted after September 7, 1980, or entered on active duty on or after October 14, 1982, without having previously completed 24 months of continuous active duty, did you serve continuously for more than 180 days or the full period called or ordered to active duty?

Yes No

OR

Are you currently a member of the Alaska National Guard and have you served for eight (8) years or longer? Yes No

*Under Title 5 Section 2108 of the United States Code the following time periods are considered periods of war.

- World War I Between April 6, 1917, and November 11, 1918, inclusive Unless service was with the United States military forces in Russia, then the ending date is April 1, 1920. Service after November 11, 1918, and before July 2, 1921, is considered World War I service if time was served in the active military, naval, or air service after April 5, 1917, and before November 12, 1918.
- World War II: Between December 7, 1941, and December 31, 1946. If in service on December 31, 1946, continuous service before July 26, 1947, is also considered World War II service.

Are you entitled to disability compensation, disability retirement benefits, or disability pension under laws administered by the United States Department of Veterans Affairs or a military department? **OR**

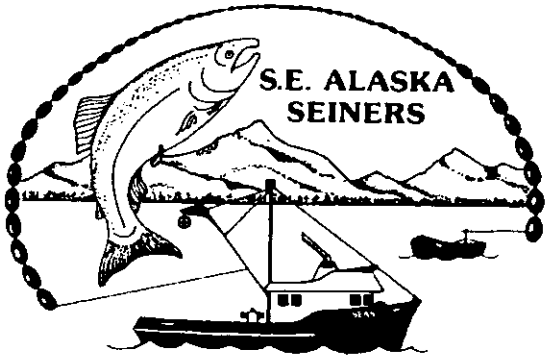
Were you honorably discharged and awarded the Purple Heart? Yes No

The State of Alaska complies with Title I of the Americans with Disabilities Act (ADA). Individuals with disabilities who require special accommodation, auxiliary aides or services, or alternative communication formats call 465-3897 in Juneau or (907) 465-3514 TTY.

We are an equal opportunity employer and support workplace diversity.

Please read carefully before submitting this profile: I certify the information I have entered on this form is true to the best of my knowledge. I understand if I conceal or enter false information this form, my name may be removed from consideration for a job, or I may be removed from my job, if hired. I understand the information in this profile may be released in an authorized legal investigation; and before I am hired I will be required to sign an official State Form certifying these statements are true. I agree that the State of Alaska, or its agents, may contact current or former employers or other persons who know me in order to obtain additional information.

Applicant's Signature: Karl Johnstone



Senator Lesil McGuire
Alaska State Legislature
Juneau, AK 99801

April 8, 2009

Dear Senator McGuire

Southeast Alaska Seiners Association (SEAS) is a non-profit fishing association representing well over 1000 direct and several thousand indirect jobs in the Southeast Alaska region. **We support both the confirmations of Karl Johnstone as well as Brent Johnson.**

While we have conducted our business in Southeast since 1968, we are very concerned about the regional and geographic balance on regulatory bodies that we deal with, such as the Alaska State Board of Fisheries. We understand that the Governor's appointments would now leave us with 3 seats in the Cook Inlet basin out of a total of 7 seats, these being Big Lake, Anchorage and Clam Gulch. With the remaining seats from Juneau, Petersburg, Kodiak and Naknek, there is quite a bit of diversity and geographic representation on the Board of Fisheries.

There will be statements and concerns coming from several quarters as to the geographic representation as well as the "balance" of this board. We are convinced that the Governors appointees are the right people for the job and will enhance and provide this balance. While most of our members are avid sportsmen as well as personal, subsistence and recreational users of the resource, our organization, SEAS, represents the commercial side of the Board of Fish arena.

Approximately 75% of all Board of Fish proposals are regulation changes, improvements, and management implementations that concern only commercial fishing. Thus, while you will hear that 4 of the 7 seats will now be considered "commercial", this is the way things should be. And the definition of "commercial" varies from region to region. Not one of these 7 Board of Fish members fish on a vessel large enough to qualify as a Southeast seiner. One of the "commercial" seats is a former processor who hasn't fished commercially for 40 years and the other 3 "commercial" seats have small enough vessels to fit on the deck of one of our boats.

☼ PO Box 23081, Juneau, AK 99802 ☼ 907-463-5030 ☼ Fax: 907-463-5083 ☼

Furthermore, one of the "sport" seats has fished commercially, in the past, for about ten years. Another "sport" seat used to be a fisheries biologist, Mr. Howard Delo, and he is one of our favorite board members. We never thought that we would be so inclined to be supportive of a fellow from Big Lake, but we are. (And please keep that in mind next year when this time of year rolls around again). We want Howard back on that board regardless of the fact that his home is not in Fairbanks. Some of the best folks may not come from the best geographic locations (not that Big Lake isn't a great place, it just isn't Fairbanks), but we want to see the best seven members on the board, regardless of affiliation or region.

Often we find more common interests with the so called "sport" representation than we do "commercial". And it helps that the "sport" seat can actually deliberate and vote on everything. **Interestingly enough, Brent Johnson will be not only conflicted out of voting on any Cook Inlet sport vs. commercial allocation issue but he will not be allowed to even deliberate. He must join the audience and is not allowed to speak on any conflicting issues.** We are bringing this to your attention so that you will know that some of the forces amassing against Mr. Johnson, while their points and concerns may be valid to their constituents, need to be reminded of this fact.

Brent Johnson will be unable to vote or deliberate on any contentious Cook Inlet issue because he is a Kenai setnetter.

I trust you will agree that these labels that are often used for the Board of Fisheries members often do not work out to paint an accurate picture. What is most important is that potential board members have an open mind, a commitment to the fish resource, and an unbiased determination to do what is right to enable the state of Alaska to continue to have a sustainable resource so that all users may benefit. And when the member must choose in an allocation disagreement, that they use the highest ethical and moral means to guide them in these decisions.

Again, SEAS requests your 'yes' vote for the confirmation of both of Governor Palin's Board of Fisheries appointees, Brent Johnson and Karl Johnstone.

Sincerely

Robert M. Thorstenson, Jr.
Executive Director, SEAS
410 Calhoun Ave
Juneau, AK 99801
(907) 463-5030

[redacted]

From: Linda Branham [branham@royalwolf.com]
Sent: Tuesday, March 31, 2009 10:30 AM
To: Sen. Lesil McGuire
Subject: Karl Johnstone
Follow Up Flag: Follow up
Flag Status: Yellow

Dear Sen. Lesil McGuire:

In my opinion we very definitely need Karl Johnstone on the Board of Fisheries. He is familiar, both with commercial fishing and sport fishing. He would be an excellent choice to represent those of us that need a stronger voice. Please support his choice.

Thank you.

Linda and Chris Branham
Royal Wolf Lodge
Branham@royalwolf.com
www.royalwolf.com

[redacted]

From: Phil Cutler [pcutler@institutenorth.org]
Sent: Thursday, April 09, 2009 1:43 PM
To: Sen. Lesil McGuire
Subject: Board of Fisheries Confirmations
Follow Up Flag: Follow up
Flag Status: Yellow

Dear Senator McGuire,

Please vote NO on Mr. Johnson and YES on Judge Johnstone.

We sport anglers cannot afford to have Johnson on the Board. I have debated Cook Inlet fishing issues with him for many years. He has been so focused on improving commercial fishing to the detriment of the 200,000 or so sport fishermen and 10,000 or so dipnetters that his membership on the Board of Fisheries would be a giant step backwards for all of our work over the past 12-15 years towards equilibrium of interests on the Board. He is bright, well versed, and biased. Another issue with the appointment is that with him on the Board, there would be no one on the Board who lives north of Palmer. There would be no one who is familiar with issues particular to the Interior. That's a gross injustice to our neighbors up north.

Last month, I testified before the Board of Fisheries and was impressed by the knowledge of Judge Johnstone. His ability to ascertain the intent of statues and regulations was refreshing. His questions to me and others were salient to the topic, well expressed, and helped other Board members in the subsequent deliberations. He rose up and beyond the other members and is an asset to the Board.

Regards,

Phil Cutler
President, Alaska Sportfishing Association
6622 Lakeway Dr.

4/10/09 PRESENTATION: ALASKA FISCHER-TROPSCH SYNTH...

Defense Logistics Agency

DEFENSE ENERGY SUPPORT CENTER

Defense Energy Support Center

Defense Energy Support Center

Mission: To Provide the Department of Defense and Other Government Agencies with Comprehensive Energy Solutions in the Most Efficient and Economical Manner Possible!

Vision: Our Customers First Choice for Energy Solutions

Values:

- People
- Service
- Excellence
- Innovation
- Trust

Enterprise

Military Fuel FY08

- Inventory 59.5M barrels
- Storage locations 632
- Transactions 23.6M
- Barrels sold 132.5M
- Fuel Cards $230M
- Aerospace Energy Sales $54M

Petroleum Sales

- FY05 Net Sales 132.5M barrels - $ 8.5B
- FY06 Net Sales 133.9M barrels - $12.7B
- FY07 Net Sales 132.4M barrels - $12.6B
- FY08 Net Sales 132.5M barrels - $17.5B
- FY09 Projection 130.0M barrels - $15.0B

Foreign Military Sales

- FY08 Net Sales 4M barrels - $512.1M

Expanding Energy Solutions

- $489.6M Natural Gas Business
- $477.5M Electricity Business
- $73.7M Coal Business
- $2.9M Renewables
- $706M Estimated Utility Privatization Awards (multi year awards)

Forward Presence FY08

- HQC – Co-located w/ 3 Service Control Points
  - Approx 750 personnel
- 4 Geographic Regions
  - Approx 225 personnel

Personnel On Board FY08

- Civilians 921
- Military 61

Defense Logistics Agency

Defense Energy Support Center

Alaska Fischer-Tropsch Synthetic Fuels Pilot Program

Mr. Mark K. Iden
Deputy Director Operations

Agenda Items

First Day:

- Alaska Pilot Program Overview
- DESC Fuel Support in Alaska: Current & Future
- Contracting Issues
- Proposal, Procurement and Negotiation Processes
- Pricing / Financial Issues
- Quality / Environmental Considerations

Second Day:

- Break Out and One-on-One Sessions

Alaska F-T Synthetic Fuels Pilot Program

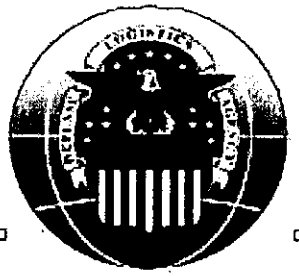
- Location/Fuel Type
  - State of Alaska (JP8, and possibly other jet/diesel requirements?)
- Multi-Year Contract
  - Minimum of 5 years
- Synthetic Fuel (Fischer-Tropsch Process)
  - Feedstock neutral
- 50:50 Blend
  - Require blended fuel as contract deliverable
- Competitively Priced
- Complies with Environmental Standards
  - Section 526 Life-cycle Green House Gas Requirements

Background

- DoD level program focusing on alternative/renewable fuels
- DESC/military service coordinated approach on Alaska F-T synthetic fuels pilot program
  - USAF previously identified goals
    - Certify all platforms by 2011
    - 50% of the domestic aviation fuel requirement using 50:50 blend by 2016
- DESC has conducted two Requests for Information (RFI) with Industry
  - May 2006 (28 responses received)
  - Sep 2007 (9 responses received)

Background (Cont'd)

- DESC short term acquisition (certification/testing)
  - Shell Malaysia contract (GTL Syn Fuel)
    - Jun 2006 – 315k USG
  - Two SASOL contracts (CTL Syn Fuel)
    - Jun 2008 60k USG
    - Jul 2008 335k USG
- DESC long term acquisition strategy (sustainment)
  - First step is Alaska pilot program
  - Domestic production capability
  - Expansion to CONUS requirements



Defense Logistics Agency

Defense Energy Support Center

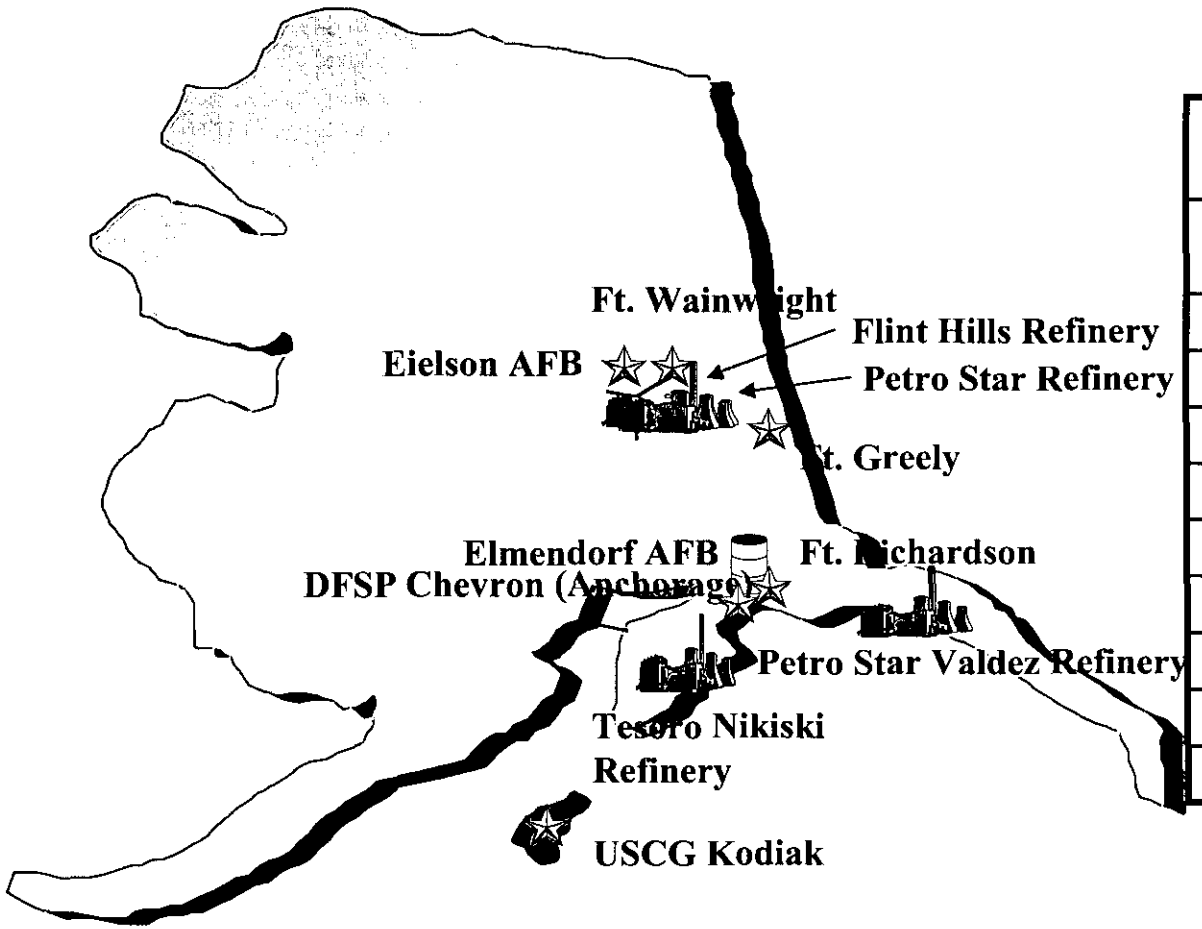
Why Do This?

- Driven by energy security concerns
- Utilization of domestic resources
- Environmental considerations
- Get ahead of customer requirements

Who Could Do This?

- Existing suppliers
- New synthetic fuel production suppliers
- Partnerships

Requirements



Bulk Fuel Annual Requirements

Location	Product	Volume (gallons)
ANG Kulis Fld (Anchorage)	JP8	2,500,000
Eielson AFB	JP4	50,000
(*)	JP8	22,000,000
Elmendorf AFB	JP8	42,000,000
Fort Greeley	JP4	500,000
Fort Richardson	JP4	200,000
	JP8	200,000
Fort Wainwright	JP4	1,000,000
	JP8	300,000
USCG Kodiak	JP5	3,800,000

(*) Requirements currently under separate Eielson AFB Coal-To-Liquid Initiative

Next Steps

- Alaska F-T Synthetic Fuels Industry Summit
  - Explain pilot program approach
  - Solicit input / comments
- Refine acquisition strategy
  - Finalize acquisition approach
  - Finalize acquisition timelines
- Issue solicitation (RFP)
- Evaluate offers
- Award contract
- Timeline for product delivery

Notional Timeline

Issue Solicitation	June 1, 2009
Close Solicitation	July 30, 2009
Initial Evaluation	August 1, 2009 – August 30, 2009
Negotiations Close	September 15, 2009 – October 30, 2009
Final Evaluations Complete	November 30, 2009
Contract Award	December 30, 2009
First Delivery	December 2014

Industry Summit Summation

Purpose of Conference Achieved!

- Gather DoD, Industry, and State/Local Political Officials to Discuss DESC Alaska Synthetic Fuel Initiative
  - 90+ Attendees the first day
  - 45+ Attendees the second day
- Solicit Feedback on DESC Planned Approach
  - 10 Take Away Issues in 3 Broad Categories
- Follow-On Session with Alaska State Legislators
- Follow-On Coordination Between DESC and USAF
- Refine Acquisition Strategy and Plot Course Ahead

Take-Away Issues

- Defining the Requirement
  - Quantity/Location
  - Commercial Sector Requirements
  - Feedstock Source/Plant Location Restrictions
  - Eielson AFB Requirements
- Structuring the RFP for Success
  - Section 526 Model
  - Quality/Technical Criteria
  - Contract Length
  - Contract Pricing Structure
- How to Proceed
  - Establish Timeline for Acquisition
  - Pre-Feasibility/Down Select Process

Areas for State Assistance

- Financial Incentives to Industry to Participate
  - Tax Credits/Incentives
  - Loan Guarantees

- Encouragement to Commercial Aviation Industry
  - Incentives for Participation
  - Price Considerations

- Streamlining Regulatory Requirements
  - Permitting/Easements
  - Environmental Standards

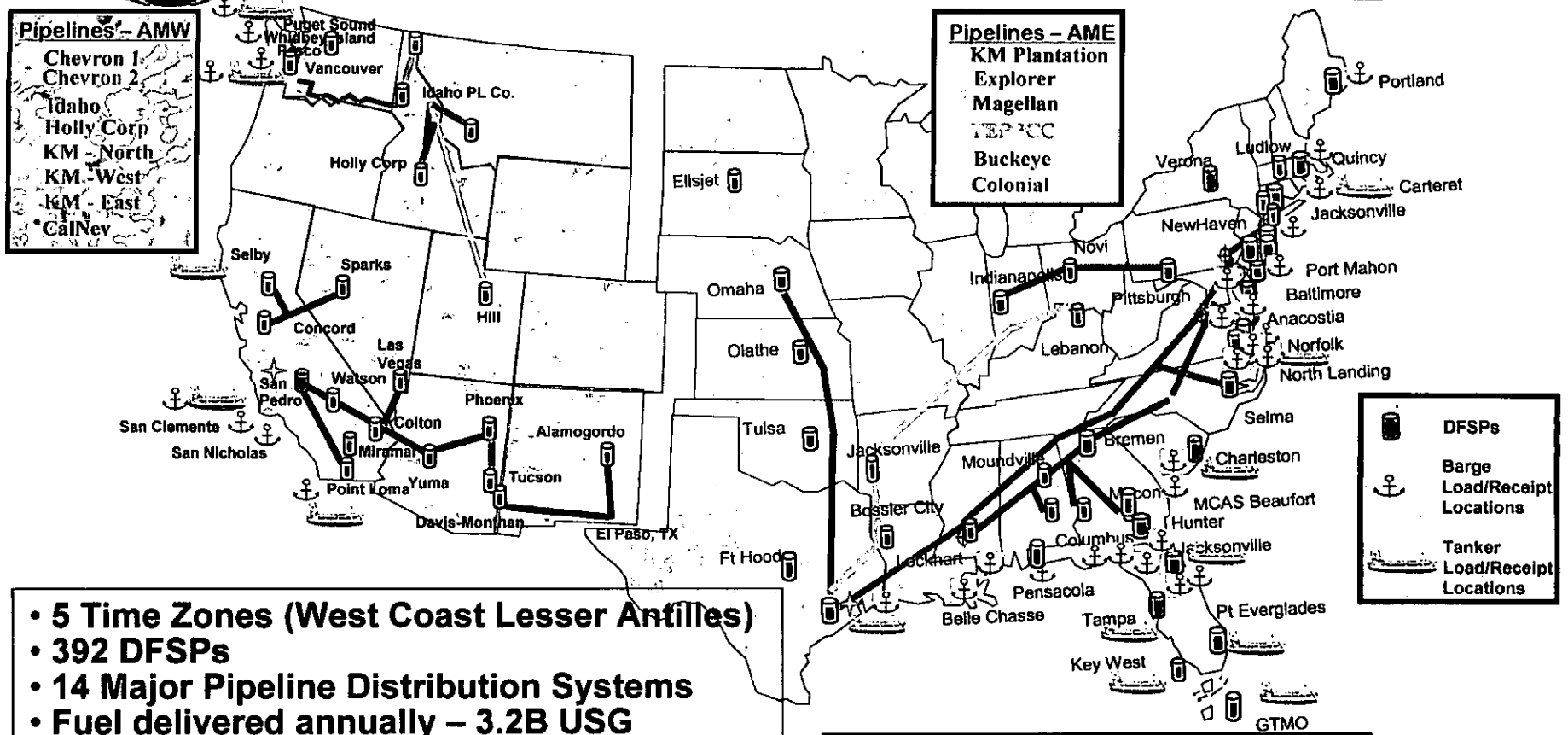
Back-Up Charts

Bulk Fuel Overview

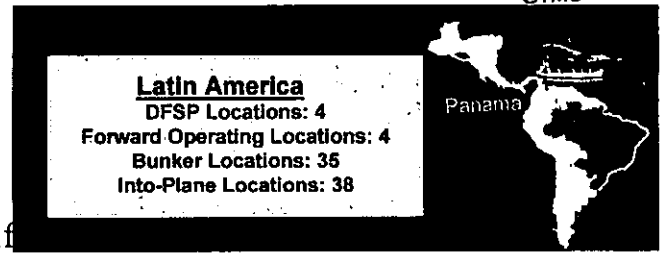
Major Programs

- Inland/East/Gulf Coast (IEG)
  - One-year contract cycles: Apr-Mar
  - Approx. 1.7B USG
  - Approximately $3.6B
- Western Pacific (WESTPAC)
  - One-year contract cycles: Jan-Dec
  - Approx. 1B USG
  - Approx. $4.3B
- Rocky Mountain/West (RM/W)
  - One-year contract cycles: Oct-Sep
  - Approx. 1B USG
  - Approximately $2.7B
- Atlantic/European/Mediterranean (AEM)
  - One-year contract cycles: Jul-Jun
  - Approx. 491M USG
  - Approx. $1.3B

DESC Americas



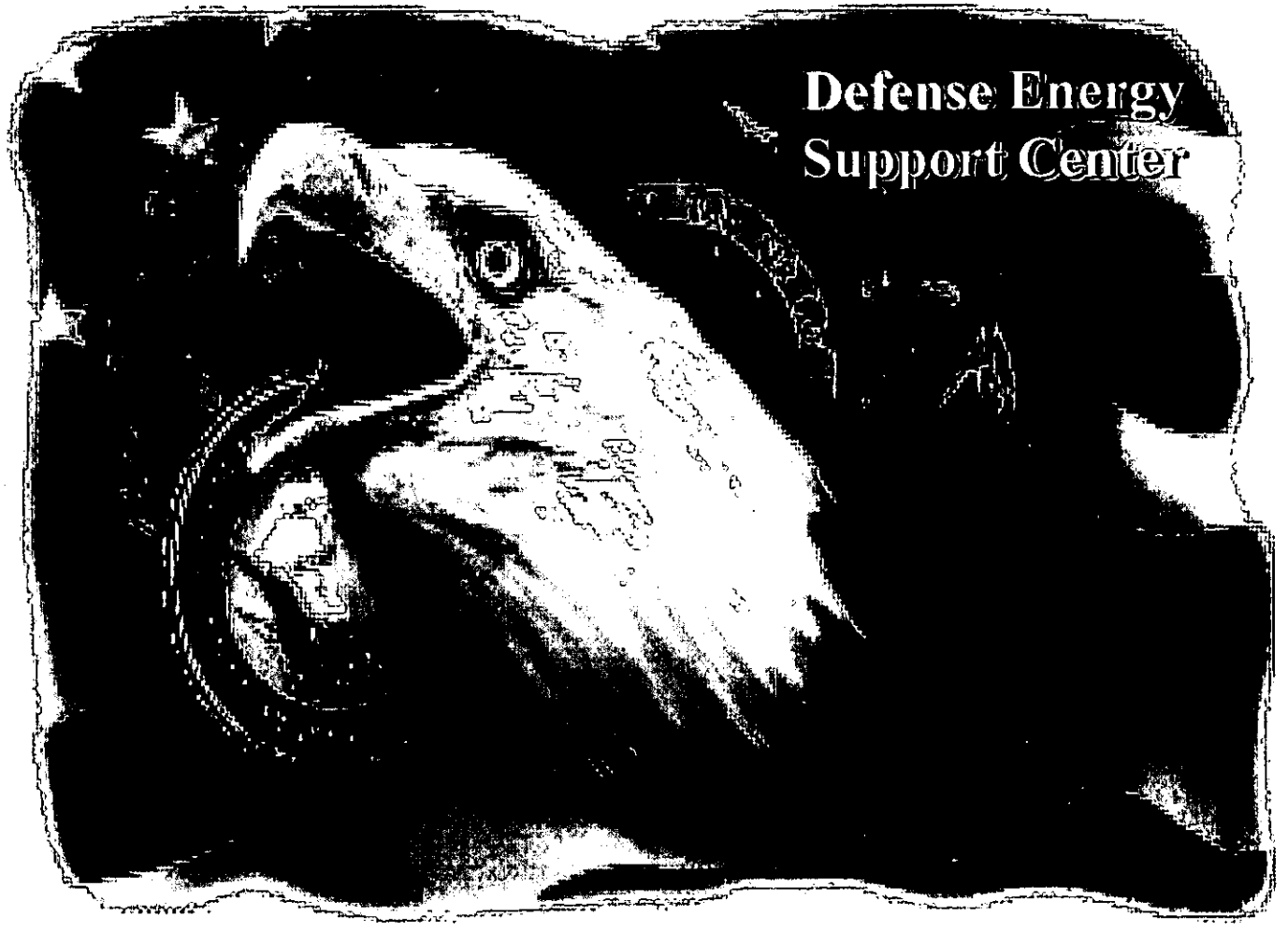
- 5 Time Zones (West Coast Lesser Antilles)
- 392 DFSPs
- 14 Major Pipeline Distribution Systems
- Fuel delivered annually – 3.2B USG
- 38/38 - Suppliers / Contracts (FY08)
- $4.9 Billion - Value of Contracts (FY08)
- 2,045 – Accounts
- 9,000 to 11,000 - Movements/Month
- 400,000 to 550,000 - Transactions/Month



Environmental Considerations

- Energy Independence and Security Act
  - Section 526
    - No Federal agency shall enter into a contract for procurement of an alternative or synthetic fuel, including a fuel produced from nonconventional petroleum sources, for any mobility-related use, other than for research or testing, unless the contract specifies that the lifecycle greenhouse gas emissions associated with the production and combustion of the fuel supplied under the contract must, on an ongoing basis, be less than or equal to such emissions from the equivalent conventional fuel produced from conventional petroleum sources.

Comments / Questions



4/13/09 CONFIRMA-TIONS: BOARDS OF FISHERIES & GAME

Brent G. Johnson
resumé for application to Alaska Board of Fisheries.

Fisheries experience:
• Cook Inlet setnetter since 1962. My wife, Judy, and I have owned our own setnet site since 1977. Together with my mother and our children we currently fish 11 permits, one of the largest operations in Cook Inlet. We have developed a way to put all our fish into slush ice at the point of harvest (in the skiffs).
•Crewed on a Prince William Sound salmon seiner several times, most recently in 2008. I typically do this after the Cook Inlet setnet season has closed.
•Seined and setnet for herring in Cook Inlet.
•Crewed on Cook Inlet halibut longline vessels.
•Drafted Shore Fisheries Diagrams for clients in Cook Inlet, Kodiak, Area M and Bristol Bay.

Public service organization experience:
•Served on the Kenai-Soldotna Fish & Game Advisory Committee for about 15 years, including terms as secretary and as chairman. Last service there was about 5 years ago.
•Served on the Cook Inlet Aquaculture Association Board of Directors for about 15 years. Currently serving as president of that organization.
•Served on the Kenai Peninsula Fishermen's Association Board of Directors for about 20 years, including several terms as president. Last term as president ended in the spring of 2008. At that time I retired from the KPFA Board of Directors, though I'm still a member of the organization.
•Served as an alternate to the Cook Inlet Salmon Brand (Kenai Wild) Board of Directors.
•Served on the Kenai Peninsula Borough Planning Commission for about 12 years. This is a paid position and I continue to serve there.
•Served on the Kasilof Regional Historical Association for about 4 years. Currently president of that organization.
•Elected president of the Kenai Peninsula Historical Association in May 2008 and continue to serve in that capacity.

Education:
Graduated from Ninilchik High School in 1973.
Numerous classes for personal development from U of A, Kenai River Branch.

Pertinent family ties:
•My brother-in-law, Doug Blossom, owns the setnet site adjacent to ours. He is also Chairman of the District 34 Republican Party.
•Two of my nephews work in the sport fish guiding industry and one of my nieces is married to a Cook Inlet salmon drift fisherman.
•My 89-year-old mother has been in Alaska since 1942.

Work:
• I worked for years for my father who was a private land surveyor. My brother has taken over his business and I've physically surveyed numerous Shore Fishery Leases for them.

STATE OF ALASKA
OFFICE OF THE GOVERNOR
P.O. Box 110001, Juneau, AK 99811-0001
Phone: (907) 465-3500 Fax: (907) 465-3532

BOARDS AND COMMISSIONS APPLICATION FORM

INSTRUCTIONS

A separate application is required for each position for which you apply. Complete and specific answers will aid in rapid and accurate processing of your resume. Please type or print legibly in ink. Forward to the above address. Be sure your answers are true. A willfully false answer may result in your disqualification or removal from office if you are appointed.

Board or Commission and seat for which I am applying: Board of Fisheries
(For example, Board of Agriculture, public seat)

Please list any other State Boards or Commissions on which you currently or previously have served:

Name: Brent G. Johnson

Mailing Address: 20773 Porcupine Ln.

Residence Address: 20773 Porcupine Ln.

City, State and Zip Code: Clam Gulch, AK 99568

Home or Message Telephone: 262-4763 Business Telephone: 262-4763

Fax Number: 260-5367 Cell Phone: _____

Email address: nagweb@gci.net

AS 39-05-100 requires that a person appointed to a state board or commission be a registered voter prior to the last general election:

Are you a registered voter: YES X NO _____ Voter Registration Number (Optional): _____

Social Security Number (Optional, required if appointed for travel, reimbursement etc.):

Have you ever been convicted of a misdemeanor within the past five years or a felony within the past ten years?

YES _____ NO X if "YES", explain the circumstances on a separate sheet of paper and attach it to this application. A conviction is not necessarily grounds for disqualification. The number of convictions, nature, recentness, and relationship to the board position applied for, will be evaluated and a determination will be made after a review of all relevant facts.

CONFLICTS OF INTEREST: Certain boards and commissions require full disclosure of personal financial data under AS 39.50.010. If required for the board or commission for which you are applying, are you willing to do so?
YES X NO _____

Could you or any member of your family be affected financially by decisions to be made by the board or commission for which you have applied? YES X NO _____

If "YES", explain: My family & I setnet in Cook Inlet

2500

TRAINING AND EXPERIENCE: (If resume attached, it is not necessary to complete items A-D)

A. List any professional licenses, certifications, or registrations and dates obtained that may be used as qualifying criteria:

B. List both formal and informal education and training experiences: (Use additional paper if necessary).
Graduated from Nikolchik High School, 1973

C. List any community service, municipal government, and state positions held, and any awards received. Include both compensated and uncompensated positions (such as president of a service organization or a mayor). Include length of time serviced. Kenai - Soldotna F&G Advisory Committee, Served about 15 years including terms as secretary & chairman, Cook Inlet Aquaculture Assoc., served about 15 years, currently President Kenai Peninsula Planning Commission

D. Employment work history – paid, unpaid or voluntary: (Use additional paper of necessary).

The Office of the Governor and the State of Alaska have an Affirmative Action Equal Employment Opportunity Program. To assist in the program, you are asked to voluntarily answer the following questions to provide the information necessary for reporting purposes. Under State and Federal law, the information you provide will not be used to illegally discriminate against you.

DATE OF BIRTH: SEX: FEMALE _____ MALE X

ETHNICITY:
Alaska Native ___ American Indian ___ Asian or Pacific Islander ___ Black ___ Hispanic ___ White X

MILITARY SERVICE (if applicable, give dates): _____

CERTIFICATION: I swear the information I have entered on this form is true to the best of my knowledge. I understand that if I deliberately conceal or enter false information on the form my application may be rejected, I may be removed from the list of eligible candidates, or I may be removed from the position. I agree that the Office of the Governor may contact present or former employees or other persons who know me to obtain an additional information about my skills and abilities. I understand that the information on this application is public information and may be released through a legal request for such information.

Signature (in ink): Brent Johnson Date: 11-21-08

Please attach a current resume with your application.

STATE OF ALASKA
OFFICE OF THE GOVERNOR

BOARDS AND COMMISSIONS

Name: Brent G. Johnson Date: 11-21-08

(Indicate top three boards/commissions of interest by number with #1 as your preference)

	Accounting Board
	Aerospace Development Corporation
	Aging Commission
	Agriculture & Conservation
	Alaska Juvenile Justice Advisory Committee
	Alaska Retirement Management Board
	Alaska Statehood Celebration Commission
	Alaska-Alberta Bilateral Council
	Alcohol/Drug Abuse
	Alcoholic Beverage Control
	Architects/Engineers / Land Surveyors
	Arts Council
	Assessment Review Board
	Aviation Advisory Board
	Bald Eagle Preserve
	Bar Association
	Barbers & Hairdressers
	Bering Sea Fishery Advisory Board
	Big Game Commercial Services
	Boating Safety Council
	Broadcasting Commission
	Children's Trust Board
	Chiropractic Examiners
	Clemency Advisory Committee
	Commemorative Coin Commission
	Commercial Fisheries Entry
	Commercial Fishing/ Agriculture Bank
	Community Service Commission
	Denali Access System Advisory Committee
	Dental Examiners
	Disabilities/Special Education
	Domestic Violence/Sexual Assault
	Education & Early Development
	Education Commission/States
	Emergency Medical Services
	Emergency Response Commission
	Employment of People with Disabilities
	Exxon Valdez Oil Spill Trustee
	Faith-Based & Community Initiatives Council
	Fire Standards Council
1	Fisheries

	Fisherman's Fund Advisory & Appeals
	Forestry
	Game
	Health Council
	Historical Commission
	Historical Records Advisory
	Homeless Council
	Housing Finance Corporation
	Human Rights
	Humanities Forum
	Independent Living Council
	Industrial Development/Export Authority
	Interstate Oil & Gas Compact
	Judicial Conduct
	Judicial Council
	Knik Arm Bridge
	Labor Relations Agency
	Libraries Advisory
	Local Boundary Commission
	Marine Pilots
	Marine Transportation Advisory Board
	Marital & Family Therapy
	Medical Board
	Mental Health Board
	Mental Health Trust Authority
	Midwives
	Minerals Commission
	Municipal Bond Bank
	Natural Gas Authority
	Natural Gas Pipeline Corporation
	Natural Resources Conservation Dev
	North Pacific Anadromous Fish
	North Pacific Fisheries Management Council
	North Pacific Research Board
	Nursing
	Occupational Safety
	Oil & Gas Conservation Commission
	Optometry
	Pacific Marine Fisheries Commission
	Pacific Salmon Commission-Commissioners
	Pacific Salmon Commission- Northern Panel

	Pacific Salmon Commission-Transboundary Panel
	Parole Board
	Permanent Fund
	Pharmacy Board
	Physical/Occupational Therapy
	Pioneer's Home Advisory
	Police Standards Council
	Postsecondary Education
	Professional Counselors
	Professional Teaching Practices
	Psychologist/ Psychological assoc.
	Public Offices Commission
	PWS Oil Spill Recovery Institute
	Railroad Corporation
	Real Estate Appraisers
	Real Estate Commission
	Regents
	Regulatory Commission (RCA)
	Royalty Oil & Gas Development
	Safety Advisory Council
	Seafood Marketing Institute
	Seismic Hazards Safety Commission
	Social Work Examiners
	Student Loan Corporation
	Subsistence Resource Commissions
	Suicide Prevention Council
	Telecommunications
	Uniform State Laws
	Veterans Advisory Council
	Veterinary Examiners
	Violent Crimes Compensation
	Water and Wastewater Works
	Western Interstate Comm/Higher Educ
	Wood-Tikchik State Park
	Worker's compensation
	Worker's Compensation Appeals Commission
	Workforce Investment Board
	Yukon River Panel

If appointed, a press release will be issued announcing your appointment pending the completion of the appointment process with the Governor's office. Please supply our office with the following information that will be included in the press release.

(Name): Brent Johnson (Age): 53 of (Hometown): Clam Gulch
is (Job title/Place of employment): Cook Inlet Setnetter.
(Name) holds (Listing of earned degrees like bachelor's, master's, ect.): Brent Johnson is President of Cook Inlet Aquaculture Associatio

(Or list relevant experience to the position you are being appointed to)
And has more than 40 years of experience setnetting in Cook Inlet.

Examples:

John A. Doe, 38 of Soldotna, is Director of T-Shirts & Co. Doe holds a bachelor's degree in business administration from X University and a master's degree in communications from X University.

John A. Doe, 38 of Palmer, is the owner and operator of Doe and Associates, Inc. Doe previously served as division manager at X, Inc. Doe is a certified personnel consultant.

SEWARD FISHERIES
division of
ICICLE SEAFOODS, INC.
P.O. BOX 8
SEWARD, ALASKA 99664
(907) 224-3381
Fax (907) 224-3285

ICICLE.

April 7, 2009

Senator Lesil McGuire
Senator Bill Wielechowski
Senate Resources Committee
Alaska State Legislature
120 4th Street, State Capitol, Room 3
Juneau, Alaska 99801-1182

Dear Co-chairs McGuire and Wielechowski,

As an Alaskan and person who has been in the seafood industry for 28 years, I support the confirmation of Brent Johnson to the Alaska Board of Fisheries.

Mr. Brent Johnson is an experienced Cook Inlet and Prince William Sound commercial fisherman. Each summer he produces high quality salmon at his Upper Cook Inlet set net site by bleeding and icing all of his catch. I believe that this conscientiousness for quality workmanship will carry over to the job he will do for the Alaska Board of Fisheries. The fact that he has his own ice machine proves that he goes out of his way to do the best job he can.

Brent has served on many boards and committees, devoting countless hours to understanding the issues faced by the multiple user groups of the resource. His sense of commitment and experience will be well used as a Board member.

Thank you for your time and consideration in the support of the confirmation of Brent Johnson to the Alaska Board of Fisheries.

Sincerely,

Charles McEldowney
Seward Fisheries Plant Manager

ICICLE
SEAFOODS, INC.

April 6, 2009

Senator Lesil McGuire
Senator Bill Wielechowski
Senate Resources Committee
Alaska State Legislature
120 4th Street, State Capitol, Room 3
Juneau, Alaska 99801-1182

Dear Co-chairs McGuire and Wielechowski,

I wish to express our support for the confirmation of Brent Johnson to the Alaska Board of Fisheries.

Mr. Johnson has many years of experience as a commercial fisherman in Cook Inlet and Prince William Sound harvesting salmon, herring and halibut. Through his experience on the fishing grounds and as an active board member of various organizations, including the United Fishermen of Alaska and the Cook Inlet Aquaculture Association, he has acquired a very good knowledge of Alaska's fisheries. He understands the importance of scientifically based fishery resource management and is a strong supporter of utilizing practices that promote quality. Having more than a decade of service on the Kenai-Soldotna Fish & Game Advisory committee has prepared him for this appointment.

We believe that Mr. Johnson will make a fine member of the Alaska Board of Fisheries and respectfully request your support of his confirmation.

Sincerely,

Duff Hoyt
Manager
Icicle Seafoods, Homer

Icicle Seafoods, Inc. 842 Fish Dock Road Homer, Alaska 99603
907-235-8107 Fax 907-235-779

ICICLE
SEAFOODS, INC.

April 7, 2009

Senator Lesil McGuire
Senator Bill Wielechowski
Senate Resources Committee
Alaska State Legislature
120 4th Street, State Capitol, Room 3
Juneau, Alaska 99801-1182

Dear Co-chairs McGuire and Wielechowski,

I wish to express my support for the confirmation of Brent Johnson to the Alaska Board of Fisheries.

I have served on the Board of Directors of Cook Inlet Aquaculture Association with Brent for many years. I have always found Brent to be a thoughtful, fair and reasonable voice. Serving as president of the BOD Brent understands the process and kept meetings moving while allowing members to voice their opinion. I can say Brent puts the association's agenda first and his unbiased character helps all the directors with some difficult decisions.

I believe that Mr. Johnson will make a fine member of the Alaska Board of Fisheries and respectfully request your support of his confirmation.

Sincerely,

Tim Schmidt
Central AK Fleet Manager
Icicle Seafoods, Inc.

Icicle Seafoods, Inc. 842 Fish Dock Road Homer, Alaska 99603
907-235-8107 Fax 907-235-779

TROUT UNLIMITED

Trout Unlimited Alaska

Trout Unlimited Alaska
419 sixth st. Suite 200
Juneau, AK
99801
(907) 723-3662

Rep. Bryce Edgmon, Chair. House Fisheries Committee
State Capitol, Room 424
Juneau, AK 99801-1182

Dear Rep. Edgmon,

Trout Unlimited Alaska supports the appointment of Brent Johnson to the Alaska Board of Fisheries. Mr. Johnson understands the important role habitat conservation plays in the well-being of fish and the sport, subsistence, and commercial users who benefit from our highly productive fisheries. Mr. Johnson has a balanced perspective on allocation between user groups and will address allocation issues based first and foremost on conservation of the resource and secondly by looking at the specific details of each fishery rather than applying blanket regulations across Alaska's diverse fishing areas, industries, and uses. We believe Brent Johnson will be a fair, open, and honest member on the Alaska Board of Fisheries and hope that the legislature will confirm his appointment.

Sincerely,

Tim Bristol

Tim Bristol, Director
Trout Unlimited Alaska

Alaska Trollers Association

130 Seward St., No. 211
Juneau, Alaska 99801
(907) 586-9400
(907) 586-4473 Fax

April 8, 2009

Alaska State Legislature
Juneau, AK 99811

Dear Legislator

The Alaska Trollers Association strongly supports the appointment of Brent Johnson to the Alaska Board of Fisheries.

Mr. Johnson has been involved in Alaska fisheries most of his life, fishing salmon, halibut, and herring from Cook Inlet to Prince William Sound, and serving on the board of his region's aquaculture association. This has provided him with a wealth of experience to draw upon as he approaches this new position. His tenure on the Kenai-Soldotna Fish and Game Advisory Committee has further prepared him for this next logical step.

Brent's exemplary involvement in his industry and community has been recognized by members of our association for many years. He is known as a strong advocate of Alaska's sustainable fisheries management program, always placing the needs of the resource above his business. He is studious, informed, approachable, and fair-minded. These traits will be of great value to the fishing public and many others concerned about Alaska's resources.

Brent is precisely the kind of person ATA looks for when searching out candidates for the Board of Fisheries. We encourage you to vote in support of his confirmation.

Best Regards,

Dale Kelley

Executive Director

Kodiak Regional Aquaculture Association

PO Box 3407
Kodiak, AK 99615

(907) 486-6555
fax (907) 486-4105
kraa@gci.net

April 7, 2009

Sen. Bill Wielechowski
Alaska State Legislature
120 4th Street
State Capital Room 3
Juneau, Alaska 99811-1182
907-465-2435, fax: 907-465-6615

Dear Senator Wielechowski,

The Kodiak Regional Aquaculture Association (KRAA) is a private nonprofit corporation that includes among its members the 605 Kodiak area commercial salmon fishery permit holders, numerous Kodiak sport fishing charter organizations, and uncounted local subsistence and sport fishermen, as well as others interested in the salmon resources of the Kodiak area.

I write to offer the support of the members of KRAA for the appointment of Brent Johnson to the Alaska Board of Fisheries. Mr. Johnson's intelligence, his breadth of experience in serving on committees and Boards within his community, his experience in and grasp of Alaskan fisheries and fisheries issues, and his willingness to serve the public distinguish him as an excellent candidate for appointment to this important Board.

Please support his appointment to this important position.

On behalf of the Board of Directors and members of KRAA,

Sincerely,

Kevin Brennan, Executive Director
Kodiak Regional Aquaculture Association

CC: Gov. Sarah Palin. Senators: Stevens, McGuire, and Wielechowski.
Representatives: Austerman, Johnson, and Neuman

Furthermore, one of the "sport" seats has fished commercially, in the past, for about ten years. Another "sport" seat used to be a fisheries biologist, Mr. Howard Delo, and he is one of our favorite board members. We never thought that we would be so inclined to be supportive of a fellow from Big Lake, but we are. (And please keep that in mind next year when this time of year rolls around again). We want Howard back on that board regardless of the fact that his home is not in Fairbanks. Some of the best folks may not come from the best geographic locations (not that Big Lake isn't a great place, it just isn't Fairbanks), but we want to see the best seven members on the board, regardless of affiliation or region.

Often we find more common interests with the so called "sport" representation than we do "commercial". And it helps that the "sport" seat can actually deliberate and vote on everything. **Interestingly enough, Brent Johnson will be not only conflicted out of voting on any Cook Inlet sport vs. commercial allocation issue but he will not be allowed to even deliberate. He must join the audience and is not allowed to speak on any conflicting issues.** We are bringing this to your attention so that you will know that some of the forces amassing against Mr. Johnson, while their points and concerns may be valid to their constituents, need to be reminded of this fact.

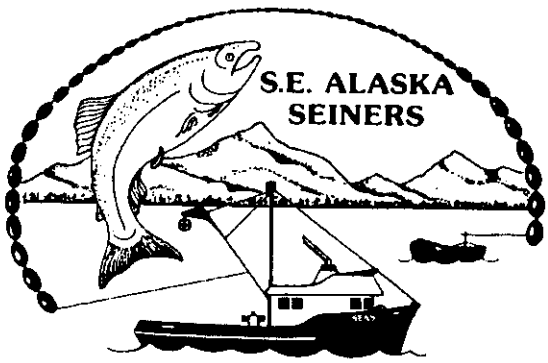
Brent Johnson will be unable to vote or deliberate on any contentious Cook Inlet issue because he is a Kenai setnetter.

I trust you will agree that these labels that are often used for the Board of Fisheries members often do not work out to paint an accurate picture. What is most important is that potential board members have an open mind, a commitment to the fish resource, and an unbiased determination to do what is right to enable the state of Alaska to continue to have a sustainable resource so that all users may benefit. And when the member must choose in an allocation disagreement, that they use the highest ethical and moral means to guide them in these decisions.

Again, SEAS requests your 'yes' vote for the confirmation of both of Governor Palin's Board of Fisheries appointees, Brent Johnson and Karl Johnstone.

Sincerely

Robert M. Thorstenson, Jr.
Executive Director, SEAS
410 Calhoun Ave
Juneau, AK 99801
(907) 463-5030



Senator Bill Wielechowski
Alaska State Legislature
Juneau, AK 99801

April 8, 2009

Dear Senator Wielechowski

Southeast Alaska Seiners Association (SEAS) is a non-profit fishing association representing well over 1000 direct and several thousand indirect jobs in the Southeast Alaska region. **We support both the confirmations of Karl Johnstone as well as Brent Johnson.**

While we have conducted our business in Southeast since 1968, we are very concerned about the regional and geographic balance on regulatory bodies that we deal with, such as the Alaska State Board of Fisheries. We understand that the Governor's appointments would now leave us with 3 seats in the Cook Inlet basin out of a total of 7 seats, these being Big Lake, Anchorage and Clam Gulch. With the remaining seats from Juneau, Petersburg, Kodiak and Naknek, there is quite a bit of diversity and geographic representation on the Board of Fisheries.

There will be statements and concerns coming from several quarters as to the geographic representation as well as the "balance" of this board. We are convinced that the Governors appointees are the right people for the job and will enhance and provide this balance. While most of our members are avid sportsmen as well as personal, subsistence and recreational users of the resource, our organization, SEAS, represents the commercial side of the Board of Fish arena.

Approximately 75% of all Board of Fish proposals are regulation changes, improvements, and management implementations that concern only commercial fishing. Thus, while you will hear that 4 of the 7 seats will now be considered "commercial", this is the way things should be. And the definition of "commercial" varies from region to region. Not one of these 7 Board of Fish members fish on a vessel large enough to qualify as a Southeast seiner. One of the "commercial" seats is a former processor who hasn't fished commercially for 40 years and the other 3 "commercial" seats have small enough vessels to fit on the deck of one of our boats.

☼ PO Box 23081, Juneau, AK 99802 ☼ 907-463-5030 ☼ Fax: 907-463-5083 ☼

[redacted]

From: George Veney [gveney@vcn.com]
Sent: Monday, April 13, 2009 9:42 AM
To: Sen. Lesil McGuire
Subject: Board of Fisheries Vote

Dear Legislator:

I am opposed to the appointment of Brent Johnson to the Alaska Board of Fisheries and ask you to please not vote to confirm his appointment. Thank you for your support in this matter.

George Veney

Sport Fisherman

PO Box 39598

Ninilchik, AK 99639

907-252-0946

[redacted]

From: Gene Palm [genepalm@gmail.com]

Sent: Monday, April 13, 2009 8:15 AM

To: Sen. Lesil McGuire; Sen. Bill Wielechowski; Sen. Charlie Huggins; Sen. Hollis French; Sen. Bert Stedman; Sen. Gary Stevens; Sen. Tom Wagoner

Subject: See what I mean

Can a Cook Inlet commercial fisherman EVER qualify for the Board of Fisheries?
A quote from Les Palmer from the Peninsula Clarion's outdoors columnist.

"....Don't get the idea that I have anything personal against Brent Johnson. As a person, I've always respected and liked him. I just think it's a bad idea putting a Cook Inlet commercial fisherman on the fish board."
Would you folks please put on the Alaska Legislature and the ADFG webpage some quote to the effect: For any Board of Fisheries or other fisheries related state positions, Cook Inlet Commercial Fisherman need not apply."
--
Gene Palm
907-776-8213 Home
907-398-7601 Cell [Preferred]

Gene Palm
55140 East Chinook Rd.
Kenai, AK 99611
907-398-7601
genepalm@gmail.com

April 12, 2009

Memo: Re appointment of Brent Johnson to Alaska Board of Fisheries

ALERT!! MEMBER OF COOK INLET SETNETTER CASTE APPOINTED TO BOARD OF FISHERIES!

This is indeed a potential travesty of momentous proportions! Brent Johnson, a Cook Inlet eastside setnetter (Yes, one of THOSE guys...They should have all been purged years ago!) has been appointed to the Board of Fisheries by Governor Palin! This cannot be!

Even though Brent:

- As president of various fishing organizations, and as a long-time member and president of the Kenai/Soldotna Advisory Board and the Cook Inlet Aquaculture Association, has a long experience dealing with Cook Inlet fisheries issues in general, and—more specifically—as a participant in the Board process including attendance and committee participation at numerous Board hearings...
- Is known by those who know him as one who always puts principle ahead of politics, one who, it is often said, "has people who disagree with him, but has no enemies".
- Is also actively involved in the Kenai Peninsula community supporting school activities, as a highly respected member and president of the Planning Commission and as president of various historical societies...
- Because of his engagement in and responsibility to the community is well versed and knowledged in the history and "going-ons" in that community and the state as a whole..
- In any of his community dealings does more than the requisite reading and attending of meetings, always seeking out the best information from a variety of sources in a variety of venues to help him make wise decisions...
- Is, if not the most qualified, one of the most qualified appointments to the Alaska Board of Fisheries in decades.
- Will be conflicted out of any Board of Fish deliberations and votes on any issues concerning Cook Inlet.

...even though all of the above, Brent is obviously not a suitable candidate to serve on the Board of Fisheries because:

- Brent is a Cook Inlet commercial fisherman, an east side setnetter at that—Duh! There is no way in these times ANY such individual can or should serve. It can't happen...it won't happen.

EVER!! [Though, perhaps, he could run for governor. It would probably be an easier and more likely successful endeavor than getting confirmed for the Board of Fisheries.]

- Despite the fact that:
  - Sport and recreational interests are commonly served and even represented as advocates for those interests on the board by a plethora of appointments who often don't have ANY fisheries experience or expertise.
  - Those sport and recreational "representatives" are able to deliberate and vote on ANY issue affecting anyone in the state, including any issue they're particularly passionate about UNLESS they or a relative or two have tangential commercial fishing interests—No conflict of interest, of course, for biased advocacy, but that negligible monetary interest in a commercial fishery? What an annoyance! Darn relatives! No biggy; talk about it a bit with other board members; conflict deemed insignificant. [This happened with Delo, who I think is actually not that bad of a guy..nevertheless...]
  - At this point in time there are only a couple Board of Fisheries members with significant current commercial fisheries experience, even though 80% or more of Board of Fisheries work load pertains to commercial fishing.

- Nevertheless, in sum, Brent can NEVER be appointed to the Alaska Board of Fisheries. Why?
  - ...And here, I am being quite serious: It's because of outright bigotry and prejudice against Brent by many influential people and groups who can't stomach the idea of having a Cook Inlet commercial fisherman, particularly a setnetter on the Board of Fisheries REGARDLESS of merit and qualifications.

- From a qualification standpoint, Brent is as qualified as any current member on the Board of Fisheries, more qualified than most past members of the Board of Fisheries.

- If Brent cannot or is not confirmed, why not?
  - Prejudice. (If not prejudice, under which scenario COULD a Cook Inlet eastside setnetter be confirmed?)
  - ?????? I honestly can't think of a legitimate reason.

Please vote to confirm Brent Johnson for a term as a member of the Alaska Board of Fisheries.

Sincerely,
Gene Palm

[redacted]

From: ccpwow@gci.net on behalf of ccpwow [ccpwow@gci.net]
Sent: Monday, April 13, 2009 5:18 AM
To: ;
Subject: letter regarding the appointment of Brent Johnson, to Alaska's Board of Fisheries

Dear Representative,

This letter regards the appointment of **Brent Johnson**, by our Governor, to Alaska's Board of Fisheries.
The below letter was generated and signed by 11 Alaskan Representatives and Senators.
I agree with the content of this letter so I am now sending it to you and Governor Palin.
A final legislative confirmation vote for this BOF position will happen within 5 days, **ON APRIL 17, 2009.**

I am a 30 year resident of Alaska and I am requesting that you **NOT CONFIRM** Brent Johnson to the Alaska Board of Fish for two reasons.
1.] The first reason is because it would leave interior Alaska and subsistence/ personal use residents without a voice on our BOF.
2.] The second reason is that we need people on our BOF who are able to see the big fisheries picture regarding our many fisheries USES here in Alaska. I have know Brent Johnson for 30 years and I personally know that he only carries a SINGLE picture in his head with regard to Alaska's fisheries. That perspective is one which enforces by regulation that commercial fishermen are allocated 98% of Alaska's fisheries and common users are given the left-overs. I believe this ratio should be the other way around, with our common users receiving priority access to our fisheries and commercial users receiving any harvestable excess, which the public cannot use.
Governor Palin has made a very poor choice with this BOF appointment of Johnson.

Thank you.

Don Johnson
907 262 7893
ccpwow@gci.net

Thank you.

April 10, 2009

The Honorable Sarah Palin
Governor, State of Alaska
State Capitol, Room 300
Juneau, AK 99801

Dear Governor Palin,

We commend the vetting process of members of state boards and commissions conducted by the Governor. We are confident the appointees are individuals of honesty, integrity and merit and we applaud their willingness to serve the people of Alaska. It is important for the Board of Fisheries to consist of members who are knowledgeable, honest and objective in their consideration of Alaska's fishery concerns.

It is crucial for board members to be true to the interests of all Alaskans. Appointees should have concern for those who depend on local fishing sources. Board members should be able to look at all sides of an issue without any preconceived notions. They should impartially evaluate the concerns and interests of the various groups and regions. They should also have the education to make well-studies, science-based decisions. In this sense, fairness and objectivity are essential modes of consideration and evaluation.

The Board of Fisheries should have a wide breadth of knowledge of fisheries issues across the state. It is safe to assume that each member is an expert of the issues in their residential region. A Juneau resident is familiar with the needs of Southeast commercial and sports fishermen. A Cook Inlet resident understands the needs of dipnetters and halibut fishermen. A resident of the Yukon-Kuskokwim region values the importance of fishing for personal use. A Board member from the Fairbanks area would have a profound understanding of fishing for personal use. The Chitina personal use fishery in the Copper River illustrates an Interior concern. The geographical location of Fairbanks is influential in its proximity to rural Alaska and its stature as the second largest city in the state. The Interior is largely dependent on the many services Fairbanks has to offer, particularly as a hub of economic stimulus and development for those who travel to the region to fish.

It is imperative for Board appointments to represent each unique region of our state. It is questionable whether members of the Board of Fisheries who are commercial and sports fishermen south of the Alaska Range are in tune to the needs of Interior and Native Alaskans that depend on fish for subsistence. There would be an unfair disparity among regional appointments if the Interior no longer has a representative on the Board. If the Interior goes unrepresented on the Board, this means a region that encompasses over half the state, including the Yukon River and its salmon concerns, would lack a residential voice familiar with the region and its issues and people. While current members of the Board undoubtedly serve Alaska's fisheries to the best of their abilities and knowledge, there is not a current member who is Native or resides north of Big Lake.

Given these concerns and issues, the Interior Delegation respectfully requests the Governor to appoint to the Board of Fisheries a resident from the Interior. We hope that you weigh these considerations carefully and understand the interests of this vast region of our state. While we have the utmost respect and no disregard for your appointee, the Interior Delegation feels that a representative of our region should be on the Board of Fisheries.

Thank you for your time and consideration of these important concerns expressed by our constituents. We have confidence you will consider the issues that are close to the hearts of Alaskans across the state. We appreciate your taking valuable time to find the most suitable and knowledgeable individuals to sit on the state's boards and commissions. Please feel free to contact member of the Interior Delegation if you have any questions, comments or concerns.

Respectfully,

1.] **Representative** Scott Kawasaki
House District 9 Fairbanks

2.] **Representative** John Coghill
Interior Delegation Chairman
House District 11 , Fairbanks

3.] **Representative** David Guttenberg
House District 8 Fairbanks

4.] **Representative** John Harris
House District 12 Valdez

5.] **Representative** Mike Kelly
House District 7 Fairbanks

6.] **Representative** Jay Ramras
House District 10 Fairbanks

7.] **Representative** Woodie Salmon
House District 6 Chalkyitsik

8.] **Senator** Gene Therriault
Senate District F North Pole

9.] **Senator** Joe Thomas
Senate District D Fairbanks

10.] **Senator** Albert Kookesh
Senate District C Angoon

11.] **Senator** Joe Paskvan
Senate District E Fairbanks

12.] Don Johnson
P.O. Box 876
Soldotna, Alaska 99669

[redacted]

From: Dennis Gease [dgease@alaska.net]
Sent: Sunday, April 12, 2009 1:16 PM
To: Sen. Lesil McGuire
Subject: Opposition to Brent Johnson on Board of Fish

April 12, 2009

Dear Legislator:

I am writing to you to ask that you oppose the appointment of Brent Johnson to the Alaska Board of Fisheries, because I don't think he can be fair towards other user groups besides commercial fishing. I sport fish on the Kenai River regularly during the summer months, and also make use of the Kenai dip net fishery. I also assist my daughter-in-law fish at the Kenaitze Indian Tribe's educational fishery on the Kenai beach. I helped start a new group representing dip netters – the Southcentral Alaska Dipnetters Association (SCADA), of which I am the vice president. I also served on the board of directors of the Kenai Watershed Forum for six years, and the Kenai – Soldotna AC for two years.

As a past member of the Kenai – Soldotna AC, I can say that having fair and balanced representation is important on the BOF and the local ADFG Advisory Committees. I served on the Kenai – Soldotna AC in 2006 and 2007. During this time we had an equal representation of three members active in the commercial fishing industry, and three members active in the sport guide charters. We also had a wide range of members from the general public, with representation in hunting, trapping, subsistence, personal use, and at-large.

During this time I can say I felt comfortable that the fish and game proposals we reviewed received fair and balanced treatment, with no one user group's viewpoint controlling the process. I feel we made valuable contributions through our comments and actions to both the BOF and the BOG. I feel our comments were welcomed and seen in a positive manner in the overall board processes.

I feel fortunate to have served on the Kenai – Soldotna AC when I did, because I understand that our local AC was not always viewed in such a positive light. I understand that the policy to have balanced representation from commercial and sport users on the Kenai – Soldotna AC came about *after* the tenure of Brent Johnson as the local AC Chair – because past AC's got stacked with commercial fishing interests and did not provide fair, balanced comments on fisheries proposals. From people I talked to, other user groups felt intimidated by the AC and did not feel their input was valued or wanted. There was a feeling that proposals from other user groups did not receive impartial judgments under his tenure.

I think all user groups deserve a fair shake at the BOF. As with my experience on a fair and balanced local AC, the BOF make-up should not be over balanced in favor of one user group. The appointment of Brent Johnson *does* overweight board representation to the commercial fishing industry, with four of seven seats. As such, I am afraid that other user groups will once again find problems getting fair hearing at the BOF.

What is also troubling to me is that much of Brent's support for his appointment comes from commercial fishing interests in Cook Inlet that are leading the attack on my right to dip net, something that I care very passionately about. I understand UCIDA has come out in full support of Brent's appointment, which is not surprising because he serves on the board of director of Cook Inlet Aquaculture Association with many of them.

UCIDA recently filed a Federal lawsuit wanting to ban dip netting on the Kenai, as does a similar lawsuit from other Cook Inlet commercial fishing interests. Why? Because resident only fisheries discriminate against UCIDA's non-resident members. I have seen the number of fish that non-resident drifters bring in from a day's fishing on the Inlet – many times more than the household limit I am allowed to bring back to my freezer for food. They are allowed to take home an unlimited number for home pack, and now my right to dip net is being attacked by them. This is an insult and outrage at its most basic level. Is this what I can expect from the BOF with Brent on board?

I also find it illuminating and troubling that as president of Kenai Peninsula Fishermen's Association (KPFA), Brent called for UCIDA's executive director, Roland Maw, to be the Commissioner of Fish and Game, or at the very least appointed to the BOF. I remember when the joint boards of Fish and Game refused to pass on the name Roland Maw as a qualified candidate for Commissioner. That should tell you something about how these boards felt about Roland Maw's qualifications. I was thankful of that because I witnessed more than once at Kenai – Soldotna AC meetings and BOF meetings where Roland Maw stretched, manipulated and just plain lied about the facts on proposals under consideration. The support between UCIDA and KPFA seems to be - I will scratch your back if you will scratch mine.

We don't need to stack the BOF with one user group over all others. The appointment of Brent Johnson does just that – we have seen that this approach does not work in the past – why would we expect it to work any better in the future. Please vote no on his confirmation.

Respectfully,

Dennis Gease
PO Box 2451, Kenai, AK 99611
(907) 252-9291

[redacted]

From: Gloria Self [gjself@ak.net]
Sent: Sunday, April 12, 2009 10:22 AM
To: Sen. Lesil McGuire
Subject: Brent Johnson Confirmation

Gloria Self
9125 Emerald
Anchorage, AK 99502-5134

April 12, 2009

The Honorable Lesil L. McGuire
Alaska Senate
State Capitol
Juneau, AK 99801-1182

Dear Senator McGuire:

I strongly oppose the appointment of Brent Johnson to the State Board of Fish and ask you to vote NO on his confirmation.

Sincerely,

Gloria Self
274-4324

[redacted]

From: Gene Palm [genepalm@gmail.com]
Sent: Sunday, April 12, 2009 10:48 PM
To: Sen. Lesil McGuire; Sen. Bill Wielechowski; Sen. Charlie Huggins; Sen. Hollis French; Sen. Bert Stedman; Sen. Gary Stevens; Sen. Tom Wagoner
Subject: Re Brent Johnson on Board of Fish
Attachments: Gene Palm re Brent Johnson BOF.pdf

Gene Palm
55140 East Chinook Rd.
Kenai, AK 99611
907-398-7601
genepalm@gmail.com

April 12, 2009

Memo: Re appointment of Brent Johnson to Alaska Board of Fisheries

ALERT!! MEMBER OF COOK INLET SETNETTER CASTE APPOINTED TO BOARD OF FISHERIES!

This is indeed a potential travesty of momentous proportions! Brent Johnson, a Cook Inlet eastside setnetter (Yes, one of THOSE guys...They should have all been purged years ago!) has been appointed to the Board of Fisheries by Governor Palin! This cannot be!

Even though Brent:

- As president of various fishing organizations, and as a long-time member and president of the Kenai/Soldotna Advisory Board and the Cook Inlet Aquaculture Association, has a long experience dealing with Cook Inlet fisheries issues in general, and—more specifically—as a participant in the Board process including attendance and committee participation at numerous Board hearings...
- Is known by those who know him as one who always puts principle ahead of politics, one who, it is often said, "has people who disagree with him, but has no enemies".
- Is also actively involved in the Kenai Peninsula community supporting school activities, as a highly respected member and president of the Planning Commission and as president of various historical societies...
- Because of his engagement in and responsibility to the community is well versed and knowledged in the history and "going-ons" in that community and the state as a whole..
- In any of his community dealings does more than the requisite reading and attending of meetings, always seeking out the best information from a variety of sources in a variety of venues to help him make wise decisions...
- Is, if not the most qualified, one of the most qualified appointments to the Alaska Board of Fisheries in decades.
- Will be conflicted out of any Board of Fish deliberations and votes on any issues concerning Cook Inlet.

...even though all of the above, Brent is obviously not a suitable candidate to serve on the Board of Fisheries because:

- Brent is a Cook Inlet commercial fisherman, an east side setnetter at that—Duh! There is no

way in these times ANY such individual can or should serve. It can't happen...it won't happen. EVER!! [Though, perhaps, he could run for governor. It would probably be an easier and more likely successful endeavor than getting confirmed for the Board of Fisheries.]

- Despite the fact that:
  - Sport and recreational interests are commonly served and even represented as advocates for those interests on the board by a plethora of appointments who often don' t have ANY fisheries experience or expertise.
  - Those sport and recreational "representatives" are able to deliberate and vote on ANY issue affecting anyone in the state, including any issue they're particularly passionate about UNLESS they or a relative or two have tangential commercial fishing interests— No conflict of interest, of course, for biased advocacy, but that negligible monetary interest in a commercial fishery? What an annoyance! Darn relatives! No biggy; talk about it a bit with other board members; conflict deemed insignificant. [This happened with Delo, who I think is actually not that bad of a guy..nevertheless...]
  - At this point in time there are only a couple Board of Fisheries members with significant current commercial fisheries experience, even though 80% or more of Board of Fisheries work load pertains to commercial fishing.

- Nevertheless, in sum, Brent can NEVER be appointed to the Alaska Board of Fisheries. Why?
  - ...And here, I am being quite serious: It's because of outright bigotry and prejudice against Brent by many influential people and groups who can't stomach the idea of having a Cook Inlet commercial fisherman, particularly a setnetter on the Board of Fisheries REGARDLESS of merit and qualifications.

- From a qualification standpoint, Brent is as qualified as any current member on the Board of Fisheries, more qualified than most past members of the Board of Fisheries.

- If Brent cannot or is not confirmed, why not?
  - Prejudice. (If not prejudice, under which scenario COULD a Cook Inlet eastside setnetter be confirmed?)
  - ?????? I honestly can't think of a legitimate reason.

Please vote to confirm Brent Johnson for a term as a member of the Alaska Board of Fisheries.

Sincerely,
Gene Palm

--

Gene Palm
907-776-8213 Home
907-398-7601 Cell [Preferred]

[redacted]

From: RichardErkeneff@aol.com
Sent: Monday, April 13, 2009 10:40 AM
To: Sen. Lesil McGuire
Subject: Nomination of Brent Johnson to the Board of Fish

I am writing this E-mail in regard to the nomination of Brent Johnson to the Board of Fish.

I am Richard Erkeneff, a resident of the Kenai Peninsula Borough and the owner of a Lodge and a Fishing and RV Camp on the Kenai River. I have been a resident of Alaska for approximately five years. The success of many of Alaska's small businesses and the well being of many our citizens depend upon Fish for all User Groups.

Its all about Fish! Whether your interest is Commercial, Sport, Personal Use or Subsistence, you need sustainable fisheries for **all Users.** I want to emphasize the word **ALL**. The BOF is an elite group of seven, who makes decisions regarding hundreds of proposals from all user groups. After public testimony, it is these seven members that deliberate and finally decide on issues regarding the regulations of the fisheries.

If all User groups are going to get a fair shake during these private deliberations, the board make up should not be over balanced in favor of one user group. I believe that this nomination does overweight the board representation with commercial fisherman interests to four of seven. If approved, Mr. Johnson will be the second commercial set netter (Vince Webster is the first). The Chairman of the BOF, Mr. Jensen, a commercial fisherman, and Mr. Morris, a seafood sales expeditor, the Past Chairman, support commercial fisherman interests.

During a past BOF nomination process, Mr. Johnson argued that the BOF members should have an extensive background in diverse fisheries. What does Mr. Johnson know that isn't duplicated by the abundant knowledge of Messrs. Jensen, Morris or Webster?

Additionally, one of his main support groups, Upper Cook Inlet Drifters Association (UCIDA), is advocating federal preemption of state management of salmon fisheries and seeking to outlaw the resident-only dip net fishery, in favor of non-resident commercial fishermen.

The Board will not have any representative for the Interior or non-coastal areas of Alaska if Mr. Johnson is approved.

For reasons noted above, I do not support the nomination of Mr. Johnson. I am hopeful that you will have a "nay" vote on Mr. Johnson's nomination.

****

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[redacted]

From: Rey, Karen [Karen.Rey@sjmneuro.com]
Sent: Saturday, April 11, 2009 10:45 PM
To: Sen. Lesil McGuire
Subject: Board of Fisheries Brent Johnson Opposition

Dear Legislator;

I am writing to ask you to vote against the appointment of Brent Johnson to the Board of Fisheries. I've been an Alaska resident since 1982 and an avid outdoors person, including hunting and fishing. I oppose Governor Palin's appointment for the following reasons:

- Brent Johnson appointment takes a seat from the Fairbanks / Interior area, negating an important and broad geographical region from the Board, especially in light of the upcoming 2009 / 2010 board meeting for Arctic – Yukon – Kuskokwim Finfish.
- Brent would be the fourth appointment to the board from the Southcentral / Cook Inlet region, and would leave the board without an Alaska Native or subsistence / personal use representative.
- Brent Johnson appointment puts a Cook Inlet set netter on the board, which would be the Governor's fourth appointment of commercial fishing orientation and second set netter.
- Brent Johnson is in the leadership of the Cook Inlet commercial fisheries, which has supported state lawsuits seeking to give commercial fishing permit holders private property rights to our public fishery resources. These past lawsuits failed in state court.

I do support Governor Palin's other Board appointment of Karl Johnstone. He has broad sport and commercial experience and has a good reputation with both entities. I'd like to see either a woman on the Board, or native representation. I'd ask that other nominee's be considered, like Mike Smith with Tanana Chiefs who would be fair representation of the interior Alaska as well as a Native Alaskan representation.

Please oppose the appointment of Brent Johnson to the Board of Fisheries. Thank you.

Karen Rey, RN
907-830-6048

644 West 11th Ave
Anchorage, Alaska 99501

[redacted]

From: Alaska River Adventures [info@AlaskaRiverAdventures.com]

Sent: Sunday, April 12, 2009 12:11 PM

To: Sen. Lesil McGuire

Subject: Brent Johnson's appointment to the BOF

Dear Senator McGuire-
I am writing to oppose the appointment of Brent Johnson to the Board of Fish. I know that you care greatly about the natural resources of our state since you have chosen to sit on the committees that protect them and I hope you want to protect the concept that they be accessible to all the citizens of the state... after all our constitution pretty much mandates that.

The appointment of Mr. Johnson is very likely to unbalance the Fish Board since he will be the 4th commercial fisherman on the board and the 4th to represent Cook Inlet... no one on the board will represent subsistence and personal use for the first time in something like 20 years, no one on the board will represent Alaskan Natives and no one will represent the Interior.

Mr. Johnson has been part of the commercial fishing leadership which has filed lawsuits that would have them "own" all of the salmon. It is his opinion that any fish that gets upriver over and above minimum escapement is a "wasted fish". He is a participant in current lawsuits that are attempting to usurp the powers of the Board of Fish (how ironic) and that are seeking to eliminate the popular personal use fisheries taking fish from all Alaskans to give them to the commercial fleet.

One of the main problems for the Cook Inlet commercial fishery is that you have one out of eight commercial fishermen in Alaska fishing there and they historically get only 2% of the commercially caught salmon in the state. Of course, this means higher costs and lower yields for each permit.

The answer according the commercial guys is to let them catch more fish by re-allocating more of the runs to the commercial fleet. Given that they already harvest over 80% of the fish taken, there is a very limited up side to this approach.

So, please make sure that someone more balanced is appointed to the open seat on the BOF. It will be in the best interests of the resource and the people.

Sincerely,
George Heim
Cooper Landing

[redacted]

From: Ronald Rainey [Ronakto@worldnet.att.net]
Sent: Saturday, April 11, 2009 2:50 PM
To: Sen. Lesil McGuire
Subject: Oppose Brent Johnson for BOF

Dear Legislator

The following are key points why Brent Johnson should not be appointed to the Board of Fish. This is not just a Cook Inlet issue but one that would affect all areas of Alaska.

This is not personal or one sided as all user groups deserve a fair shake at the BOF. The board make-up should not be over weighted in favor of one user group. This appointment does overweight board representation with commercial fishing interest with a 4of 7 majority voice. He will not have the support or trust of statewide user groups except for commercial fishing.

One of his main support groups, Upper Cook Inlet Drifters Association (UCIDA), is advocating federal preemption of state management of salmon fisheries and seeking to illegal the resident-only dip net fishery, in favor of non-resident commercial fisherman.

Based on past performance, I do not believe he will make balanced and impartial decisions that address the needs of various user groups. In addition, this appointment will leave the interior non-coastal area without a voice. Also, this will leave the Alaska Native community without a representative.

I strongly urge you not to confirm Brent Johnson to the BOF.

Sincerely,

Ron Rainey
Box 2004
Kenai, Ak 99611
907-953-8588

[redacted]

From: Ed Haney [edhaney2008@yahoo.com]
Sent: Saturday, April 11, 2009 9:16 AM
To: Sen. Lesil McGuire
Subject: Board of Fisheries Confirmation Hearing

Senator Lesil McGuire

Please vote against the confirmation of Brent Johnson to the Board of Fisheries. The Board of fisheries is currently loaded with commercial fishermen and this is not good for Alaska or Alaskans. Commercial Fishing is very important to our state but so is the individual sportsman, be that our neighbors fishing to put food in the freezer, or be it the tourist coming to Alaska for the adventure of a lifetime and sustaining many other vital jobs. The Board of Fish needs balance that can look at ALL of Alaska's needs and create fair regulations to the benefit of all of Alaska's people. This cannot be done if the board of fish is controlled by any one group.

Thank You
Ed Haney
907-789-3224

[redacted]

From: Jodi Sibson [jodisibson@hotmail.com]

Sent: Saturday, April 11, 2009 10:07 AM

To: senator@begich.senate.gov; Sen. Con Bunde; Sen. Hollis French; Sen. Linda Menard; Sen. Gary Stevens; Sen. Bettye Davis; Sen. Lyman Hoffman; Sen. Kevin Meyer; Sen. Gene Therriault; Sen. Fred Dyson; Sen. Charlie Huggins; Sen. Donny Olson; joe_thomas@legis.state.ak.us; Sen. Joe Thomas; Sen. Johnny Ellis; Sen. Albert Kookesh; Sen. Joe Paskvan; Sen. Tom Wagoner; Sen. Lesil McGuire; Sen. Bert Stedman; Sen. Bill Wielechowski

Subject: Support of Brent Johnson, Board of Fisheries

Senators and Representatives,

My name is Jodi Sibson and I writing in support of Brent Johnson as a Board of Fisheries Member.

Brent Johnson is active in commercial fishing in Cook Inlet as a set netter on the east side; he has been active as a salmon seiner, herring seiner, set netter, and halibut longliner.

Brent is an open-minded individual who is highly knowledgeable on the subject of fisheries management. He is a very approachable individual to all persons and user groups.

I believe with his experience through KPFA, CIAA, Kenai/Soldotna Fish & Game Advisory Committee, and the Kenai Peninsula Borough Planning Commission that he will be an asset to all Alaskans as a Board of Fisheries Member.

Respectfully,

Jodi Sibson
19424 Upper Skyline Drive
Eagle River, Alaska 99577
(907) 696-3177
jodisibson@hotmail.com

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[redacted]

From: Shay Wilson
Sent: Thursday, April 09, 2009 1:05 PM
To: Sen. Lesil McGuire
Subject: New Pom:Boards & Commissions

Follow Up Flag: Follow up
Flag Status: Yellow

Aaron Bloomquist
8807 Honeysuckle St Apt C

Anchorage 99502-5518,bloomya
bloomya@hotmail.com
907-982-2471
907-677-0405

Tuesday, April 7th the Anchorage Fish and Game Advisory Committee voted to Oppose the confirmation of Brent Johnson to the Alaska Board of Fisheries.
We feel his nomination is not in the best interest of recreational, personal use, or subsistence fishermen of Alaska.

[redacted]

From: spotsboy@gci.net on behalf of Dale Pedersen [spotsboy@gci.net]
Sent: Thursday, April 09, 2009 12:02 PM
To: Sen. Lesil McGuire
Cc: ufa@ufa1-fish.org
Subject: brent johnson

Follow Up Flag: Follow up
Flag Status: Yellow

Dear Senator McGuire, I am writing in support of Governor Palin's choice of Brent Johnson to the board of fish. Thank you Dale Pedersen

[redacted]

From: edfelt@gci.net on behalf of Larry Edfelt [edfelt@gci.net]
Sent: Friday, April 10, 2009 1:33 PM
To: Sen. Lesil McGuire; Sen. Bill Wielechowski; Sen. Hollis French; Sharon Long
Subject: Support for SJR 22

Dear Senators:

I strongly support passage of SJR 22. The resolution thoroughly captures my thoughts. I hope the examination of the fisheries management process the resolution calls for actually happens.

In this same vein, please also reject the appointment of Brent Johnson to the Board of Fisheries, and encourage the governor to provide more geographic balance and broader user group expertise to the board.

Thank you for whatever consideration you give to this.

sincerely,
Larry Edfelt

Box 210821
Auke Bay, AK 99821
907-780-4780

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[redacted]

From: Shay Wilson
Sent: Wednesday, April 08, 2009 5:33 PM
To: Sen. Lesil McGuire
Subject: New Pom:Voting

Follow Up Flag: Follow up
Flag Status: Yellow

Dennis Kelly
9531 Albatross Dr

Anchorage 99502-1659,
dennniskelly@alaska.net
907 441 9826
907 243 8926

please vote against the confirmation of Brent Johnson to the Board of Fisheries. thank you. do support Sport Fiheries

[redacted]

From: Todd Heesch [jth109@hotmail.com]
Sent: Thursday, April 09, 2009 10:34 AM
To: Sen. Lesil McGuire; Rep. Bob Buch
Subject: State Board of Fisheries Appointment
Follow Up Flag: Follow up
Flag Status: Yellow

Lesil and Bob,
Gov Palin has appointed Brent Johnson to the State Board of Fisheries and I need your support to stop this appointment.
The Anchorage Fish and Game Advisory Board voted last night not to support Mr. Johnson as a selection to Board of Fish as his history in the fishing community has not show interest in the preservation of Alaska's fish for all fishing groups.
Our current Fish and Game Board is already stacked with 4 of the 7 seats representing commercial fishing interests, so they don't need the additional commercial fishing coverage. We need a board appointment that will make decisions with an open mind for our resources and all Alaskans.

As an avid sportfisherman I need your help to protect my rights to Alaska's resources. There is enough to go around but the commercial fishing interests in Alaska have proved time and again that they want it al for themselves.

Please let me know where you stand?

Sincerely,
Todd Heesch

[redacted]

From: ata@gci.net

Sent: Thursday, April 09, 2009 9:19 AM

To: Sen. Lesil McGuire; Sen. Bill Wielechowski; Sen. Charlie Huggins; Sen. Hollis French; Sen. Bert Stedman; Sen. Gary Stevens; Sen. Tom Wagoner

Cc: Rep. Bill Thomas; Rep. Peggy Wilson; Rep. Beth Kerttula; Sen. Albert Kookesh; Rep. Kyle Johansen; Rep. Cathy Munoz

Subject: CS HB 134 and BOF Confirmation

Attachments: CSHB 134 comment 040909.pdf; BOF AppointmentBrentJohnson040909comm.pdf

Hello:

Please find attached ATA's comments in support of a sunset on the mixing zone provision of CSHB 134.

I am also attaching FYI ATA's letter in support of Brent Johnson for the Board of Fisheries.

Best regards,

Dale Kelley, Executive Director
Alaska Trollers Association
586-9400/723-8765

Alaska Trollers Association
130 Seward St., No. 211
Juneau, Alaska 99801
(907) 586-9400
(907) 586-4473 Fax

April 8, 2009

Alaska State Legislature
Juneau, AK 99811

Dear Legislator

The Alaska Trollers Association strongly supports the appointment of Brent Johnson to the Alaska Board of Fisheries.

Mr. Johnson has been involved in Alaska fisheries most of his life, fishing salmon, halibut, and herring from Cook Inlet to Prince William Sound, and serving on the board of his region's aquaculture association. This has provided him with a wealth of experience to draw upon as he approaches this new position. His tenure on the Kenai-Soldotna Fish and Game Advisory Committee has further prepared him for this next logical step.

Brent's exemplary involvement in his industry and community has been recognized by members of our association for many years. He is known as a strong advocate of Alaska's sustainable fisheries management program, always placing the needs of the resource above his business. He is studious, informed, approachable, and fair-minded. These traits will be of great value to the fishing public and many others concerned about Alaska's resources.

Brent is precisely the kind of person ATA looks for when searching out candidates for the Board of Fisheries. We encourage you to vote in support of his confirmation.

Best Regards,

Dale Kelley

Executive Director

[redacted]

From: Julie Etherington [julieellen321@yahoo.com]
Sent: Wednesday, April 08, 2009 8:17 AM
To: Sen. Lesil McGuire
Subject: Brent Johnson/cruise ships

Dear Sirs....
For the record, I want to express my opinion on two issues....
I have been an Area E gillnetter for 16 years, and strongly support Brent Johnson's appointment to the Board of Fish. There is no one who could better represent the Kenai Peninsula fairly and objectively. I am not a fan of Gov. Palin, but in this case I think she made an excellent choice in her nomination. I am sick and tired of sportfishing interests and associations getting their way because they spend so much money lobbying. The Board's decisions are supposed to made on the basis of science and biology, not money.
Also, I am DISGUSTED by the cruise ships emptying their waste water in our waters. I am disgusted by cruise ships anyway, people think they bring so much business to our state, but they really don't. No one spends extra $$ onshore to eat anywhere, and how many Alaska t-shirts does one visitor need? It is a joke and I am sick of our legislature supporting this industry like they do.
Just my humble opinion, Julie Etherington

[redacted]

From: bluenose-snowplow@attalascom.net
Sent: Saturday, April 11, 2009 4:36 PM
To: Sen. Lesil McGuire
Subject: Fish and Game Board appointment: Brent Johnson

Dear Senator McGuire:

I am writing to you to ask for your support to appointment Brent Johnson to the Alaska Fish and Game Board. Govenor Palin is recommending Brent and my husband and I personally know him. He would be fair and just and has many years of experiences on boards, such as Cook Inlet Aquaculture and Kenia Pensinsula Fisherman's Association. Brent is a Southcentral Commercial Fisherman and, if my information is correct, there is no Commercial Fisherman from the Southcentral region of our state on the board. There are sportfisherman from Southcentral. This is another reason to support Brent. I know that we talk about "fairness" on our boards, and this would even the playing field.

I thank you for you dedication to Alaska and appreciate your consideration on this important matter.

Audra Doner
Anchorage, Alaska

[redacted]

From: pharmboy@gci.net on behalf of Roger Penrod [pharmboy@gci.net]
Sent: Tuesday, April 07, 2009 12:50 PM
To: Sen. Lesil McGuire
Subject: Board of Fisheries
Follow Up Flag: Follow up
Flag Status: Yellow

Senator McGuire,

Please oppose Brent Johnson's appointment to the AK Board of Fisheries

Roger Penrod
10287 Halfhitch Circle
Anchorage, AK 99515
907-306-0546 (cell)
pharmboy@gci.net

[redacted]

From: ccpwow@gci.net on behalf of ccpwow [ccpwow@gci.net]
Sent: Monday, April 06, 2009 2:45 PM
To: ;
Subject: Alaska Board of Fish APPOINTMENT BRENT JOHNSON!!~??

Dear Alaska Representative,

I am contacting you regarding the appointment of Brent Johnson, by the Governor to our Alaska Board of Fish. I TOTALLY oppose this appointment.
Brent Johnson is one of the most radical commercial fishermen that I have ever known.
I have lived in Alaska for 30 years and he ranks right up there on top of my list of persons who consistently radically advance commercial fisheries access, while also reducing common user access to our fisheries. He is currently the President of our most notorious and extreme commercial fishing association here on our Kenai Peninsula, the Kenai Peninsula Fishermen's Association.
If you know anything about the KPFA, you know that it's membership works full time at figuring out ways to improve commercial fishing access, while reducing common user access.
The issue is purely a money issue. The KPFA looks at Alaska's fisheries resources as being completely granted to commercial fishermen within Alaska's Limited Entry Amendment.
They see common users as obstacles to be overcome and removed.
I believe Mike Smith of Fairbanks would be a much better choice to replace **Bonnie Williams**.
I personally do not understand what Governor Palin is thinking by attempting to change an **interior, native, subsistence & personal use seat** , into a commercial fishing extremist seat.
I am hoping you will do everything possible to make sure that Brent Johnson is not confirmed to replace Bonnie Williams.
As far as Brent Johnson's ['record' against sport and personal use fishing] goes, it is literally all over the internet with dozens of reference letters. (see below references)
That is all he has been about for the past 30 years. If you locate a single case were he supported sport or personal use access, it was to somehow acquire even greater fisheries access for commercial fisheries.
If you know of any persons or groups working to prevent Brent Johnson from being confirmed, please send me a website link or email address to contact them.

Please do not confirm Brent Johnson!

Palin's board pick draws fire adn.com

Posted by The Highliner
Posted: April 2, 2009 - 10:46 am
Sportfishermen aren't too keen on Gov. Sarah Palin's choice of Cook Inlet commercial salmon gillnetter Brent Johnson for a seat on the Board of Fisheries.
He's a press release from the Kenai River Sportfishing Association:

Kenai River Sportfishing Association
April 2, 2009
Kenai River Sportfishing Association (KRSA) Opposes Johnson's Appointment to Alaska Board of Fisheries
SOLDOTNA – Members of Alaska's largest sportfishing advocacy organization in the state,

Kenai River Sportfishing Association (KRSA), are opposing the appointment of Brent Johnson to the Alaska Board of Fisheries (BOF). With the appointment of Johnson – an Upper Cook Inlet east side set netter – to replace Bonnie Williams on the BOF, Gov. Sarah Palin removed the only subsistence/personal use and Fairbanks seat from the Board and has tipped the balance toward commercial fishermen.
The second set netter appointed by the Governor to the Board, Johnson's appointment also leaves the BOF with no Alaska Native or female representation in their management of Alaska's subsistence, sport, personal use and commercial fisheries.
"Anyone who believes in Alaskan's subsistence, sport and personal use fishing rights should be appalled by this appointment," said KRSA executive director Ricky Gease. "Johnson is unable to see other points of view and has shown in his past interactions with the Board that he is not able to take a fair and balanced approach to fish allocation decisions."
Johnson is past president of Kenai Peninsula Fishermen's Association (KPFA), a set netter trade association of Cook Inlet commercial fishing interests that has consistently claimed priority rights to the public fisheries of the region. KPFA aligned itself with past failed legal challenges in state courts that sought to grant exclusive private property rights to the State's public fishery resources as guaranteed in the Alaska constitution. These efforts have led to new legal challenges in Federal court that seek to invalidate every personal use fishery in the state of Alaska. More than 30,000 Alaskan households participated in the personal use fisheries last year. According to the 2007 report on the economic impacts and contributions of sportfishing in Alaska, there were more than $700 million in angler expenditures in Cook Inlet alone, a region that sees a quarter million people fish more than a million angler days each year.
"Johnson is no friend to those who believe that Alaska's fishing resources should be managed for all of the people of Alaska and not just for commercial fishermen," said Gease.
KRSA also contends that the appointment of Johnson is inappropriate because it means the Interior of Alaska is no longer represented on the Board. This large area contains not only the Yukon and Kuskokwim Rivers, but also many other important watersheds that are critical to subsistence, sport, personal use and commercial interests.
The current Board also lacks any Alaska Native representation, so they will not have that cultural aspect represented in their deliberations.
http://community.adn.com/adn/node/140065

Sending a Public Opinion Message, POM to your Representative Link
http://www.legis.state.ak.us/poms/

> 50 word letters
>
> Sample letter:
>
> I do not agree with replacing Bonnie Williams on our Alaska Board of Fish with commercial fisherman Brent Johnson. This seat historically has represented **interior, native, subsistence/personal use**. Brent Johnson is the President of the Kenai Peninsula Fishermen's Association; a commercial fishing extremist group, which opposes all common user access.
> ---

franan wrote on 04/06/2009 11:42:48 AM:
The KRSA (especially RG) wouldn't know what is fair and equitable if it hit them upside the head for weeks on end. They believe in their own math - their own limited version of reality -

and they would proudly stand over the demise of an industry in Cook Inlet that provides jobs and income for hundreds of families and food for tens of thousands of people around the world. They are people who have 'public ownership' of the resource confused with 'public access'. When Alaska stops inviting the rest of the world in to catch fish to support a few guides we might start understanding what drives the RG's of this world - their checkbooks - not their hearts and minds.
http://community.adn.com/adn/node/140065#none

Board of Fish Appointments

Board of Fisheries
Governor Palin appointed **Brent G. Johnson**, and reappointed Karl S. Johnstone, to the Board of Fisheries.
The seven-member Board of Fisheries is responsible for conservation and development of the state's fishery resources by setting seasons, bag limits, methods and means for the state's subsistence, commercial, sport, guided sport, and personal use fisheries.
The board sets fishery management policy, and makes the allocation decisions which the Department of Fish and Game must carry out through its management of fishery resources.
Johnson, of Clam Gulch, is a lifelong commercial fisherman who has been a salmon setnetter for most of his life. He has worked as a salmon and herring seiner and halibut longliner in Cook Inlet, and as a salmon seiner in Prince William Sound. Johnson has been active in fisheries management issues, having served more than a decade on the Kenai-Soldotna Fish and Game Advisory Committee from the early 1990s to 2002, the last two years as chairman. He was a member of the Cook Inlet Aquaculture Association board of directors from 1988-2001, and rejoined the board as president in 2005.
Johnson is a past president and board member of the Kenai Peninsula Fishermen's Association. His appointment represents the first appointment of a Cook Inlet commercial fisherman to the board since 1975.
Johnson has served on the Kenai Peninsula Borough Planning Commission since 1997.
He has also been president of Kasilof Regional Historical Association since 2005, and president of the Kenai Peninsula Historical Association since 2008. Born in Seldovia, he graduated from Ninilchik High School in 1973. He was appointed to a public seat.
http://www.seafa.org/

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4 BRENT JOHNSON LETTERS

Web posted Wednesday, April 18, 2007

Fish Board says no to changes
Upper Cook Inlet Management Plan won't be modified prior to season
By HAL SPENCE
Peninsula Clarion
The Upper Cook Inlet Management Plan will not be changed prior to the start of the 2007 fishing season, the Alaska Board of Fisheries decided Tuesday during a teleconferenced meeting. The board met by phone to discuss an emergency petition from four Upper Cook Inlet setnetters seeking changes to the Upper Cook Inlet Salmon Management Plan (UCISMP).

Robert Williams, Jeffery Beaudoin, **Brent Johnson** and Herman Hermansen had asked the board to clear up "apparent ambiguities" in management priorities by adopting an emergency regulation making it clear that the primary objective of management was achieving established escapement goals.
In their petition, the fishermen said that unless language was clarified, the 2007 season would begin without the Alaska Department of Fish and Game knowing whether staying within restrictions or meeting established escapement goals would be the greater management priority. According to the fishermen, the department acknowledged the priority dilemma in a salmon management issues paper in December 2006 that noted that the Board of Fisheries had adopted escapement goals, windows, and established fishing time restrictions, but that it was "unclear which is the higher priority; allowable fishing time or management within the escapement goals."
According to the petitioners, the uncertainty **has meant fish worth millions have gone unharvested**, though harvests have been biologically justifiable.
"Without clarification written into the UCISMP, large sockeye salmon escapement events, well in excess of established goals, will continue," the fishermen said.
http://www.peninsulaclarion.com/stories/041807/news_0418new001.shtml

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Letter to the Editor
Web posted Wednesday, January 30, 2008

Something's fishy on the Board of Fish

Letter to the Editor

Here's what's going down. The state Board of Fisheries (BOF) is going to hold a February meeting, put on a kangaroo court and enact regulations that will likely make commercial fishing in Cook Inlet a memory. Here's why: governors Palin, Murkowski, Knowles, Hickel, Cowper and Sheffield didn't appoint a single Cook Inlet commercial fisher to the BOF. Gov. Jay Hammond was the last to do that, with the appointment of Dannie Garroutte, a drift fisher from Ninilchik (served 1975-80).

Brent Johnson
Clam Gulch
http://www.peninsulaclarion.com/stories/013008/letters_3801.shtml

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» Letter to the Editor

Web posted Wednesday, February 20, 2008

Fish board meeting was fair

Like Jonah, who predicted too soon the demise of Ninevah, I must admit my own auguring of doom for commercial fishers has proven premature.
Going in to the recent Board of Fish (BOF) process I was certain commercial fishers had no advocate. I expected a fleet of flotsam downstream of this meeting.
While there can be no doubt that Alaska politics have short-changed Cook Inlet com fishers, the recent meeting seemed fair. Why was that?

Brent Johnson
Clam Gulch
http://www.peninsulaclarion.com/stories/022008/letters_4327.shtml

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(Brent Johnson complaining about professional bias from sportfish users.)
Web posted Thursday, January 13, 2005

Advice for the fish board (Professional Bias)

Is bias only OK if it is guided bias, as Ed Dersham has so often exhibited in past conflict of interest participation? Meanwhile, Penney pal and ex-board member attorney Dan Coffey will represent KRSA at the meetings.
Brent Johnson, Clam Gulch
http://www.peninsulaclarion.com/stories/011305/letters_0113let001001.shtml

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Story last updated at 7:14 PM on Thursday, April 19, 2007

Settnetters' petition denied at Board of Fish meeting

By Cristy Fry
Four Upper Cook Inlet setnetters were denied their petition to make escapement goals the priority in managing the salmon fisheries during an emergency Board of Fisheries teleconference Monday.

Specifically, the petitioners requested the board amend regulation 5 ACC 21.363 in the UCI salmon management plan, clarifying to the Alaska Department of Fish and Game that "achieving established escapement goals is the primary objective."
The petition was submitted by Robert Williams, Jeffrey Beaudoin and Herman Hermansen, all of Kasilof, and **Brent Johnson** of Clam Gulch. It was brought to the board at its March meeting, at which time the board decided the petition met the criteria for an emergency meeting.
It was not considered at the March meeting because any regulation change made by emergency petition is only in effect for 120 days and would expire before the 2007 UCI salmon season ended.
http://www.homernews.com/stories/041907/seawatch_24_001.shtml

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END

Thank you for responding to my concern.

Don Johnson
Soldotna, Alaska 99669
907 262 7893
ccpwow@gci.net

STATE OF ALASKA
OFFICE OF THE GOVERNOR
P.O. Box 110001, Juneau, AK 99811-0001
Phone: (907) 465-3500 Fax: (907) 465-3532

BOARDS AND COMMISSIONS APPLICATION/RESUME FORM

INSTRUCTIONS

A separate application is required for each position for which you apply. Complete and specific answers will aid in rapid and accurate processing of your resumé. Please type or print legibly in ink. Forward to the above address. Be sure your answers are true. A willfully false answer may result in your disqualification or removal from office if you are appointed.

Board or Commission for which I am applying: BOARD OF GAME

Please list any other State Boards or Commissions on which you currently or previously have served:

ALASKA BOATING SAFETY COUNCIL

Name: Cliff Judkins

Mailing Address: POB 874124

Residence Address: 2421 DAVIS RD

City, State and Zip Code: WASILLA ALASKA 99687

Home Telephone: _____ Business or Message Telephone: 907-376-6183

Fax Number: 907 373-3692 Cell Phone: _____

Email address : CDUDKINS@CUSTOMCPU.COM

AS 39.05.100 requires that a person appointed to a state board or commission be a registered voter prior to the last general election:

Are you a registered voter? YES X NO _____

Voter Registration Number (Optional): _____ Social Security Number (Optional): _____

Have you ever been convicted of a misdemeanor within the past five years or a felony within the past ten years?

YES _____ NO X If "YES", explain the circumstances on a separate sheet of paper and attach it to this application. A conviction is not necessarily grounds for disqualification. The number of convictions, nature, recentness, and relationship to the board position applied for will be evaluated and a determination will be made after a review of all relevant facts.

CONFLICTS OF INTEREST: Certain boards and commissions require full disclosure of personal financial data under AS 39.50.010. If required for the board or commission for which you are applying, are you willing to do so?
YES _____ NO X

Could you or any member of your family be affected financially by decisions to be made by the board or commission for which you have applied? YES _____ NO X

If "YES", explain:

TRAINING AND EXPERIENCE: (If resumé attached, it is not necessary to complete items A-D)

A. List any professional licenses, certifications, or registrations and dates obtained that may be used as qualifying criteria:

B. List both formal and informal education and training experiences: (Use additional paper if necessary)

B.S. DEGREE - WILDLIFE MGMT

C. List any community service, municipal government, and state positions held, and any awards received. Include both compensated and uncompensated positions (such as president of a service organization or a mayor). Include length of time served. Director Anch Boro Dept of Environmental Quality 1992-1994
member - Seward Fish Advisory committee 1976-1984
member/Chairman: Matanuska-Susitna F+G Advisory Committee 1991- Present
president - AK Boating Assoc - 1998 - present -

D. Employment work history - paid, unpaid or voluntary: (Use additional paper if necessary)

The Office of the Governor and the State of Alaska have an Affirmative Action Equal Employment Opportunity Program. To assist in the program, you are asked to voluntarily answer the following questions to provide the information necessary for reporting purposes. Under State and Federal law, the information you provide will not be used to illegally discriminate against you.

DATE OF BIRTH: ___

SEX: Male X Female _____

ETHNICITY: Alaska Native___ American Indian___ Asian or Pacific Islander___ Black___ Hispanic___ White X

MILITARY SERVICE (if applicable, give dates): USAF June 1954 - DEC 1957

CERTIFICATION: I swear the information I have entered on this form is true to the best of my knowledge. I understand that if I deliberately conceal or enter false information on the form my application may be rejected, I may be removed from the list of eligible candidates, or I may be removed from the position. I agree that the Office of the Governor may contact present or former employees or other persons who know me to obtain additional information about my skills and abilities. I understand that the information on this application is public information and may be released through a legal request for such information.

Signature (in ink): Geoff Jacobs Date: 12/23/02

Resume
Clifford P. Judkins
P.O.Box 874124
Wasilla, Alaska
99687
Work Experience:

Sept. 1998 to Present

Retired-Performing volunteer functions. Five year Member of the Matanuska-Susitna Fish and Game Advisory Committee. The last year as Chairman. Prepared and presented testimony the to Boards of Game and Fish. Served on Joint Boards task force charged with exploring the make up and function of the states Advisory Committee system,

Served as the President of the Alaska Boating Association since 1998. The ABA is a 1200 member statewide association of boaters that use their boats to hunt and fish. The association is dedicated to maintaining a high degree of access to state waters for hunting and fishing. The president serves as the legislative liaison for the association.

1987-1998-Owner operator of Wasilla Mini-Storage. Responsibilities included construction and maintenance of 35,000 Square Foot self-storage facility.

1973-1986 BUILDER, OWNER, OPERATOR
Judkins Crown Point Lodge
Moose Pass, Alaska

Constructed a major tourist accommodation including lounge, restaurant, grocery store, motel, gas station, shop, RV hookups and a residence. Accomplished all phases of construction including electrical, central air heating, plumbing and installation of on site sewer and water system including tank installation. Operated complete facility with my family after construction. Operated and maintained a backhoe excavating business throughout the area.

1983 - 1986 GENERAL CONTRACTOR
moose Pass, Alaska

During the last few years that I owned and operated Crown Point Lodge, I also operated a small construction company. Developed general contracting firm performing all phases of residential construction, light excavating work and light commercial concrete construction. Responsible for bidding jobs, hiring and supervising up to ten employees, maintaining records, handling accounts receivable and preparing payroll.

Resume
Clifford P. Judkins
P.0. Box 874124
Wasilla, Alaska

Work Experience (Cont)

June-1969 --Nov 1974- Director of the Greater Anchorage Area Borough Department of Environmental Quality. Responsible for the Administration of the Boroughs total Environmental Quality Program. The Department provided Food Sanitation and Epidemiology, Water Supply and Waste Disposal, Solid Waste control, Parks and Recreation, Air Pollution Control and a variety of Environmental Health related programs. This was a newly create Department developed to provide a total community wide Environmental Health Program. My responsibility was to take the Boroughs Division of Environmental Health from the Health Department and bring it to a Department level service. The end result was a 76-position department providing oversight of the community's environmental health needs.

Jan.1964- June 1969 Greater Anchorage Area Borough Health Department. Served in progressively responsible positions in the Environmental Health and Public Health fields. Final position was Administrative Director of the Department.

April 1 1963-Nov.1 1963 Biologist- Alaska Department of Fish and Game. Performed the duties of an entry-level biologist.

Jan. 1963 to March 1963 Sanitarian – Greater Anchorage Area Health District. Performed various health inspections in an assigned district within the Greater Anchorage Area

Feb. 1962-Oct. 1962. California Department of Water Resources. Special Project assignment to determine the impact of certain water diversion devices on the recreational activities (boat movement) in an assigned district of the Sacramento River Delta System.

Sept 1960-Jan. 1962 Humboldt State College, Arcata Ca.- Bachelor of Science Degree in Wildlife Management

1958-1960- Santa Rosa California Junior College- Transferred to Humboldt State.

WORKSHOPS AND SEMINARS

1966	Air Pollution Control Assoc. Educational Conference, San Francisco
1966	Radiological monitoring, 69 hours, University of Alaska. Federal Aviation Agency
1967	Air Pollution Control Assoc. Educational Conference, Cleveland
1968	American Medical Assoc. Air Pollution Res. Conference, Denver Air Pollution Control Assoc. Educational Conference, Saint Paul Elements of Solid Waste Management, US Public Health Service
1969	Design and management of sewage treatment for small federal installations. Federal Water Pollution Control Administration/Air pollution Control Assoc. Educational Conference, Vancouver, BC
1972	Workshop in Environmental Assessments, US Civil Service Commission Regional Training Center
1987	Nevada Environmental Health Association Bubonic Plague - 8 hrs.
1987	Emergency Medical Personel Radiological Seminar 8 hrs.
1987	National Environmental Health Association Home Study Course - Toxicology Home Study Course - Hazardous Materials Management Home Study Course - Hazardous Materials Incident Response
1987	University of Nevada - Las Vegas "Hazardous/Toxic Waste Management" 13 hrs.
1987	Environmental Hazards Institute OSHA 1910-120 Standard 8 hrs.
1987	Hazardous Waste Management Institute "Hazardous Materials Chemistry" 8 hrs.

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WORKSHOPS AND SEMINARS - cont'd

1987	Environmental Hazardous Waste Management Institute, "Risk Assessment", 8 hrs.
1987	Environmental Hazardous Waste Management Institute "Containment of Hazardous Materials Seminar"
1987	Commercial Pesticide Applicators Certification School, Nv. Div of Agriculture, 30 hrs.
1987	Investigative Techniques and legal aspects course of Hazard Waste regulation enforcement. 24 hrs.
	EPA Western States Hazardous Materials project, Salt Lake City, Utah
1988	Federal and State Laws governing Industrial activities in Hazardous waste, Long Beach, CA. 16 hrs.
	Hazardous and Infections Materials Handling in Health Care - Medical Safety Consultants, Long Beach, CA.,16 hrs.
1989	IBM AT/Lotus 1-2-3 Course, Clark County Community College, 30 hrs.
1989	OSHA Hazardous Chemicals Health and Safety Course-Certified Industrial Hygene Inc./Western Technologies Inc.,L.V., NV., 40 hrs.
1989	EPA Hazardous Waste Spill Site Risk Assesment workshop, 16 hrs.

Workshops and Seminars

1989	USPA-Risk Management and Decision Making at Hazmat sites
1990	University of Wisconsin Liquid UST Installation
1990	Hazmat Chemical Identification
1990	Hazmat waste workers Training Course
1990	Aids Infection Control and Management of Medical Waste Sites
1990	University of Wisconsin UST Leak Detection
1990	Pesticide Contaminated Hazardous Waste Sites
1991	Hazardous Materials and Waste Workshop
1991	Hazardous Waste Site Personnel
2002	American Home Inspectors Training Institute 8/day home inspectors master course

BOARDS AND COMMISSIONS

Member of Alaska Air Pollution Control Commission 1970 - 1973

Director, Cook Inlet Air Resource Management District Commission 1967-1973

President, Alaska Environmental Health Assoc. 1968 - 1969

President, Alaska Public Health Association, 1970

Chairman, Greater Anchorage Borough, Parks and Recreation Commission 1970 - 1973

Chairman, Greater Anchorage Health Planning Council, 1970 - 1973

APP/Game/040

BOARDS &

DEC 27 2002

State of Alaska
Office of the Governor
P.O.Box 110001, Juneau, AK. 99811-0001

Re: Application for the Board of Game

Dear Governor Murkowski

I would like to be considered for appointment to the Board of Game. I came to Alaska in 1962 after graduating from Humboldt State College in Northern Ca. with a Bachelors Degree in Wildlife Management. I worked for the Greater Anchorage Borough Health Departments and Environmental Quality Departments until Nov. of 1974. I was the Director of the Department of Environmental Quality when I left to build and operate Crown Point Lodge near Moose Pass. The lodge was damaged by a chemical accident in 1986. I moved to Wasilla and purchased Wasilla Mini-Storage, which I sold in 1998 and retired in the Wasilla area. While in Moose Pass I served on the Seward Fish and Game Advisory Committee. I am now the Chairman of the Matanuska-Susitna Fish and Game Advisory Committee. I have attended and testified for the AC at numerous Board of Game and Board of Fish meetings. I am an avid outdoor person and have fed my family moose, caribou and fish for forty years. My basic philosophy concerning wildlife management is that the State should work to provide an abundance of wildlife to provide for the needs of all Alaskans. Where shortages of wildlife for food occur the state should apply management techniques that assure customary users have the opportunity to harvest game for food. I would appreciate your consideration of my application for the Board of Game.

Sincerely Cliff Judkins

Stanley (Stosh) Hoffman, Jr.

PO Box 2374
Bethel, AK 99559
(907) 543-2850 H
(907) 544-4238 Cell
(907) 543-6202 W

Objective: *Interested in serving on the State of Alaska Board of Game*

Personal Information

Date of Birth: 09/10/70 *Race*: Yupik Eskimo

Summary of Qualifications

- Lifelong Alaskan
- Very Familiar with Hunting, Guiding, Subsistence Activities
- Experienced Assistant Guide, License #3951 (Big Game) Issued 8/12/97
- Commercial Fisherman, 21 Years, Captain 10 Years
- Familiar with City, State and Federal Agencies and Regulations
- Familiar with Alaska Native Cultures and Languages
- Self-Motivated

Owner & Business Manager:
S & A Rentals, Nunapik Dish Network,
Tundra Fencing

Work History

Employment Duties	*Position*	*Employer/Address*	*Reason for Leaving*
1/07 – Present	Director of Corporate Facilities	Yukon-Kuskokwim Health Corporation PO Box 528 Bethel, AK 99559	N/A
7/98 – 1/07	Projects/Safety Manager; Assist Director of Public Works; Project Supervisor; Port Supervisor; Construction Project Foreman Supervisor:	City of Bethel PO Box 388 Bethel, AK 99559	Accepted Position with YKHC

10/92-7/98	Driver: Operate fuel truck, deliver bulk fuel.	Hoffman Fuel Service PO Box 406 Bethel, AK 99559	Left while employed w/ summer jobs
1992 – 1998	various seasonal construction jobs in the Bethel area.		

Education History

High School:	McGrath High School	McGrath, Alaska 1985 – 1989
Degree/Diploma:	High School Diploma – Salutatorian	
College:	University of Alaska Anchorage	1989-1991 General Courses

References

Peter Shephard 661 Diamondback Dr Spring Creek, NV 89815 (775)753-4218	Frank Neitz PO Box 907 Bethel, AK 99559 (907) 543-5906	Jason Evans 1130 Jackson Drive Anchorage, AK 99518 (907) 230-9099

4/15/09 CONFIRMA-TION: TERESA ALBAUGH BOARD OF GAME

Teresa Sager Albaugh
HC 72 Box 835
Tok, Alaska 99780

I am a lifelong Alaskan, raised in Fairbanks, and a 23 year resident of the Tok / Mentasta area. I have a strong personal interest and family background in hunting, fishing and trapping, and support sound scientific, sustained yield management of Alaska's renewable resources. I also support the tenets of our state constitution guaranteeing all residents equal access to fish and game.

WORK HISTORY

1996 – Present
Summit Consulting Services, Inc., Tok, Alaska
(Remote Project Construction Management & Design Services)
Personnel Management • Proposal Development • Internal Operations Management

1983 – 1995
Alaska State Legislature

- 1995: Senate Rules Committee Aide • Senator Mike Miller, Chair
- 1993 – 1994: Senate Resources Committee Aide • Senator Mike Miller, Chair
- 1985 – 1992: Legislative Aide • Representative / Senator Steve Frank
- 1984: Interim Legislative Aide • Representative Dick Shultz
- 1984: House C&RA Committee Secretary • Representative Mike Miller, Chair
- 1983: Legislative Secretary • Representative John Ringstad

1981 – 1982
Fairbanks North Star Borough Transit System
Clerk / Revenue Collections

EDUCATION

Graduate, Monroe Catholic High School • Fairbanks

VOLUNTEER / NON-PROFIT POSITIONS

Alaska Outdoor Council

- President (2005 – 2007)
- Board Member (1986 – 1990 and 2004 – 2007)

Alaska Division of Elections • District R / 36 – Mentasta Precinct

- Chair / Volunteer Poll Worker Coordinator (1998 – Present)

Slana Alaskans Unite • Secretary (1998 – Present)

MEMBERSHIPS

Alaska Outdoor Council
Slana Alaskans Unite
National Rifle Association
Focus on the Family

PERSONAL BACKGROUND

I grew up in a family where being outdoors - well out of town and away from the crowds – was considered a great thing. As a child, my five siblings and I spent summers with our mother, father, aunt, uncle and grandparents at the family cabin, where we literally got our feet wet, our faces dirty, and our hearts and minds filled with a deep appreciation for "the woods." We learned to fish with a rod and reel, handle firearms, and to clean and eat what we killed. As adults, we have continued these traditions and we have the pleasure of now passing them on to our children, nieces and nephews.

I personally have had the good fortune of many wonderful hunting opportunities for moose, caribou, sheep, bear, and deer, as well as ducks, ptarmigan and grouse. My husband, Bill, runs a trapline in the winter and as often as possible I join him to learn from and share the experience. We live in a log home, haul water, run a propane cook stove and lights, and provide our own part-time power system. Much of our diet comes from the wild food we harvest and each year's bounty from the garden.

I have no formal or professional training in wildlife management. My experience comes from a combination of personal field observation spending time in the natural environment, and a layman's study of applicable state and federal fish and game laws.

In part because of my personal interest in the outdoors, my work as a legislative aide often involved resource issues, which allowed me to hear many hours of testimony from Alaskans who expressed their perspectives and strong opinions on a wide range of fish and wildlife issues. I was also fortunate to have worked toward the passage of laws that have benefited hunters and trappers. My service on the board of directors of the Alaska Outdoor Council, including two years as president, has further broadened my understanding and appreciation of how important wildlife and the outdoors are to the people of the state. I have attended local Advisory Committee meetings, offered testimony to the Game Board, and provided public comments to the National Park Service on proposals of impact to the people, land, fish and game of my area.

Enabling present and future Alaskans to be responsible stewards of the resource, and to continue building and strengthening our outdoor heritage by assuring opportunity, are objectives I consider very meaningful and important. I believe they are goals that can be pursued and achieved through the efforts of the Board of Game, and I would be grateful for the opportunity to serve in that capacity.

Dani Carlson

From: Defenders of Wildlife [defenders@mail.defenders.org] on behalf of Christine Betts [cdbak@yahoo.com]
Sent: Tuesday, April 07, 2009 11:37 AM
To: Sen. Lesil McGuire
Subject: Teresa Sager-Albaugh is the Wrong Pick for the Board of Game!

Apr 7, 2009

Senator Lesil McGuire
120 4th Street
Juneau, AK 99801-1182

Dear Senator McGuire,

As a constituent, I strongly believe that Teresa Sager-Albaugh should not be confirmed to the Board of Game. And it would be very encouraging if the game board actually paid attention to the strong feelings of Alaska constituents.
Thankyou

I urge you to oppose Teresa Sager-Albaugh's nomination to the Board of Game and look forward to your reply.

Sincerely,

Mrs. Christine Betts
3090 N Bald Eagle Dr
Wasilla, AK 99654-2619

Dani Carlson

From: Defenders of Wildlife [defenders@mail.defenders.org] on behalf of Bette Rutan [betteleigh@gci.net]
Sent: Tuesday, April 07, 2009 9:07 AM
To: Sen. Lesil McGuire
Subject: Teresa Sager-Albaugh is the Wrong Pick for the Board of Game!

Apr 7, 2009

Senator Lesil McGuire
120 4th Street
Juneau, AK 99801-1182

Dear Senator McGuire,

EMOTIONAL? Those of us who advocate for animal rights and fair wildlife practices hear it all the time as though feelings invalidate our stance. If anger is an emotion, then yes, we're emotional. We advocate fair and legal management practices for wildlife, and we're angry that radical extremists like Sager-Albaugh with her selfish agenda are even considered for a critical management position on the Board of Game. It is the overwhelming majority of Alaskans who want change in this state, and positive change and balance to the Board of Game. We're sick of the scales being dishonestly tipped in the wrong direction toward (and by!) these extremists in our government. As a

constituent, I strongly believe that Teresa Sager-Albaugh should not be confirmed to the Board of Game. OUR ENVIRONMENT, OUR FUTURE, AND OUR QUALITY OF LIFE ARE AT STAKE. Truth and justice should be more than a fantasy.

I urge you to oppose Teresa Sager-Albaugh's nomination to the Board of Game and look forward to your reply.

Sincerely,

Ms. Bette Rutan
9300 Ponderosa Dr
Anchorage, AK 99507-6029

Michelle Sydeman

From: Defenders of Wildlife [defenders@mail.defenders.org] on behalf of barbara reilly [barbarareilly131@yahoo.com]
Sent: Tuesday, April 07, 2009 10:38 AM
To: Sen. Bill Wielechowski
Subject: Teresa Sager-Albaugh is the Wrong Pick for the Board of Game!

Apr 7, 2009

Senator Bill Wielechowski
120 4th Street
Juneau, AK 99801-1182

Dear Senator Wielechowski,

As a constituent, I strongly believe that Teresa Sager-Albaugh should not be confirmed to the Board of Game. The Boartd of Game is so

slanted towards the hunting industry that it is not functioning for the people of the State of Alaska. The slaughter and carnage of this "exdtreme predator control" has got to stop!!! It is disgusting and I'm ashamed of it!!! This war against wildlife hasn't proved to increase moose & caribou! It;s just killing for killing sake uner the guise of game farming! Stop it!!! Re-structure the BOG with some hunters, trappers, photographers, outdoor enthusiasts, and some one from the Alaska Native community and the tourism industry.

I urge you to oppose Teresa Sager-Albaugh's nomination to the Board of Game and look forward to your reply.

Sincerely,

Ms. barbara reilly
1800 Parkside Dr
Anchorage, AK 99501-5750

Dani Carlson

From: Defenders of Wildlife [defenders@mail.defenders.org] on behalf of Malcolm Salway [macsalway@hotmail.com]
Sent: Tuesday, April 07, 2009 9:07 AM
To: Sen. Lesil McGuire
Subject: Don't pick Teresa Sager-Albaugh for the Board of Game!

Apr 7, 2009

Senator Lesil McGuire
120 4th Street
Juneau, AK 99801-1182

Dear Senator McGuire,

As a biologist and a constituent, I strongly believe that Teresa Sager-Albaugh should not be confirmed to the Board of Game. We need to focus on balanced wildlife management. Teresa Sager Albaugh views are not in line with most Alaskans and we need somebody more moderate. Somebody who uses predator control judiciously, not somebody who would allow predator control in Denali.

I urge you to oppose Teresa Sager-Albaugh's nomination to the Board of Game and look forward to your reply.

Sincerely,

Mr. Malcolm Salway
4701 Pavalof St
Anchorage, AK 99507-1018

Michelle Sydeman

From: Defenders of Wildlife [defenders@mail.defenders.org] on behalf of Dale Kelley [dearmounrd2@yahoo.com]
Sent: Tuesday, April 07, 2009 7:07 AM
To: Sen. Bill Wielechowski
Subject: Teresa Sager-Albaugh is the Wrong Pick for the Board of Game!

Apr 7, 2009

Senator Bill Wielechowski
120 4th Street
Juneau, AK 99801-1182

Dear Senator Wielechowski,

As a constituent, I strongly believe that Teresa Sager-Albaugh should not be confirmed to the Board of Game.
I am a B&B owner here in Alaska and I have already had potential

clients ask about this cruel and unneccesary state policy on the wanton killing of our precious wildlife. I have even had two clients cancel already because of our state's policy on the slaugher of wolves and bears. And I am only one of hundred's of B&B and hotel owners who is already feeling the effect of our state's actions on the lack of wildlife protection.
Where will this kind of "officially sanctioned cruelty" take us? Why this is happening is beyond comprehansion. If you don't think tourism is a huge benefit to this state you are wrong! People come

here - and spend millions each year - to see the incredible beauty and the wildlife that abounds. But we are getting an international

reputation for cruel and barbaric treatment of the resourses we have so cherished in the past.
Please put a stop to this king of extremism and help return our state

to the place of wildlife protection - and not just because such a stand is profitable - but because it is the right thing to do.

I urge you to oppose Teresa Sager-Albaugh's nomination to the Board of Game and look forward to your reply.

Sincerely,

Ms. Dale Kelley
4451 De Armoun Rd
Anchorage, AK 99516-3680

Dani Carlson

From: Defenders of Wildlife [defenders@mail.defenders.org] on behalf of Mary Miceli [alaskasnowbird89@yahoo.com]
Sent: Tuesday, April 07, 2009 9:38 AM
To: Sen. Lesil McGuire
Subject: Wrong Pick for the Board of Game -- Teresa Sager-Albaugh!

Apr 7, 2009

Senator Lesil McGuire
120 4th Street
Juneau, AK 99801-1182

Dear Senator McGuire,

As an Alaskan and one of your constituents, I strongly believe that Teresa Sager-Albaugh should not be confirmed to the Board of Game.

It is not just about humans. Wildlife populations are impacted by many changes taking place in their environments.
For one, trophy hunting is a terrible *form of hunting*. Taking the prime breeders out of a population because the males have a great rack to display on one's wall seriously removes genetically-viable individuals from a (waning) population and in this process, the Board of Game has to adopt *scapegoat* regulations to increase herd numbers.
The scapegoats are wildlife it deems to be destroyed by senseless slaughter because of *competition*.
Please tell me when the last wolf or bear shopped at a grocery store for its sustenance? Sustenance for wildlife comes from the wild and executing wildlife for doing the very thing they do naturally is aberrant policy.
Alaska is wild. It should not become a huge game farm. It is terrible policy what the Palin Administration is proposing!!

I urge you to oppose Teresa Sager-Albaugh's nomination to the Board of Game and look forward to your reply.

Sincerely,

Ms. Mary Miceli
PO Box 671294
Chugiak, AK 99567-1294

Michelle Sydeman

From: Defenders of Wildlife [defenders@mail.defenders.org] on behalf of Ryan Cree [rcree@defenders.org]
Sent: Tuesday, April 07, 2009 6:07 AM
To: Sen. Bill Wielechowski
Subject: Teresa Sager-Albaugh is the Wrong Pick for the Board of Game!

Apr 7, 2009

Senator Bill Wielechowski
120 4th Street
Juneau, AK 99801-1182

Dear Senator Wielechowski,

As a constituent, I strongly believe that Teresa Sager-Albaugh should not be confirmed to the Board of Game.
Sager-Albaugh voted to allow controversial practices that are unprecedented in Alaska's 50-year history. Here's a run down of the most egregious votes she cast at her first Board of Game meeting.
Sager-Albaugh voted to:
Allow predator control in Denali State Park.
Allow citizens who participate in predator control programs to use helicopters to support the killing of wolves and bears.
Permit "agents of the state" to use poison gas bombs to kill wolf pups in the den and put snares in and around wolf dens.
Let citizens snare bears -- even sows and cubs -- using bait to lure them to their death.
Allow citizens to kill over 800 bears and sell their fur for profit, which would encourage poaching and the illegal sale of bear parts.
Give citizens the go-ahead to use planes to spot, then land and shoot, brown bears -- including sows and cubs.
Extend the wolf hunting season to when mothers are nursing newborn pups.
Expand "predator control" programs in two new areas of the state -- an increase of 33%.

Sager-Albaugh's voting record isn't showing us anything new: she has a

long history of anti-wildlife extremism. After serving as president of the Alaska Outdoor Council from 2005-2007, she continues to keep close

ties to the radical special interest group that has been behind many of the state's most outrageous anti-wildlife laws and initiatives.
Alaska's Board of Game should reflect the broad diversity of the Alaskan people, not the extreme interests of a narrow few. There should be at least one seat for other interest groups around this

powerful table to promote balanced discussion of the costs and benefits of predator control for ALL Alaskans -- not just hunters and trappers.

I urge you to oppose Teresa Sager-Albaugh's nomination to the Board of Game and look forward to your reply.

Sincerely,

Mr. Ryan Cree
333 W 4th Ave Ste 302
Anchorage, AK 99501-2341

Dani Carlson

From: Defenders of Wildlife [defenders@mail.defenders.org] on behalf of Linda Bassett [labak8@netscape.net]
Sent: Tuesday, April 07, 2009 1:37 PM
To: Sen. Lesil McGuire
Subject: Teresa Sager-Albaugh is the Wrong Pick for the Board of Game!

Apr 7, 2009

Senator Lesil McGuire
120 4th Street
Juneau, AK 99801-1182

Dear Senator McGuire,

As a constituent, I strongly believe that Teresa Sager-Albaugh should not be confirmed to the Board of Game.
I believe we need a more diverse group representing on the board. I have lived in Alaska for over 23 years and have watched the process go backwards as more representation by hunters stands on the board. I have nothing against hunting in a fair manor, but while working in the boat charter industry, I have seen the slaughter of black bear carcass

left on the beach and floating in the water. It looked just like human bodies. What a wonderful sight to show tourists visiting Alaska. The tourist industry is also huge revenue for the State ... and we need representation of better husbandry for tourist wildlife sightings.

I urge you to oppose Teresa Sager-Albaugh's nomination to the Board of Game and look forward to your reply.

Sincerely,

Ms. Linda Bassett
2940 Mallard Ln
Anchorage, AK 99508-4606

Dani Carlson

From: Defenders of Wildlife [defenders@mail.defenders.org] on behalf of Jenny Goodnough [jenny@peak.org]
Sent: Tuesday, April 07, 2009 10:38 AM
To: Sen. Lesil McGuire
Subject: Teresa Sager-Albaugh is the Wrong Pick for the Board of Game!

Apr 7, 2009

Senator Lesil McGuire
120 4th Street
Juneau, AK 99801-1182

Dear Senator McGuire,

As someone who values the emphasis Alaskans have on the preservation of natural resources, I think the approach should be a balanced one.
Teresa Sager- Albaugh represents one segment of the population which seem to favor practices Alaskans have long abhorred and watched as "outsiders" practiced them.
The issues being addressed are difficult, the challenges almost insurmountable, yet, if we have a balanced and thoughtful group, we might find a new way to meet our needs.
Please confirm another candidate and vote against Teresa Sager-Albaugh.
Thank you for your consideration.
Jenny Goodnough

I urge you to oppose Teresa Sager-Albaugh's nomination to the Board of Game and look forward to your reply.

Sincerely,

Ms. Jenny Goodnough
1009 2nd St
Douglas, AK 99824-5411

Michelle Sydeman

From: Defenders of Wildlife [defenders@mail.defenders.org] on behalf of Susan Kerins [susanincolorado@aol.com]
Sent: Tuesday, April 07, 2009 7:07 AM
To: Sen. Bill Wielechowski
Subject: Teresa Sager-Albaugh is the Wrong Pick for the Board of Game!

Apr 7, 2009

Senator Bill Wielechowski
120 4th Street
Juneau, AK 99801-1182

Dear Senator Wielechowski,

As a constituent, I strongly believe that Teresa Sager-Albaugh should not be confirmed to the Board of Game. I live here in Alaska and I am ashamed that there is only hunters on the board of game and no one really that is there for REAL conservation efforts! This is about keeping big game for hunters and not for our state and my children to see! I am disgusted in Palin and I believe it is all about who has the most money anymore with her. I voted for her more then twice and at

this rate I will not repeat that mistake! I am not the only one here in alaska that feels this way either! It should be a board made up of biased individuals not ones that are or were hunters or guides with "money". I am watching our politics here in alaska starting

to really resemble that of Washington D.C. Please change this or I dont see a re-election for Palin at this rate!
Susan Kerins

I urge you to oppose Teresa Sager-Albaugh's nomination to the Board of Game and look forward to your reply.

Sincerely,

Ms. Susan Kerins
2222 Starlit Ln
North Pole, AK 99705-7557

Dani Carlson

From: Defenders of Wildlife [defenders@mail.defenders.org] on behalf of Judy Engh [judyrae427@yahoo.com]
Sent: Tuesday, April 07, 2009 10:38 AM
To: Sen. Lesil McGuire
Subject: Teresa Sager-Albaugh is the Wrong Pick for the Board of Game!

Apr 7, 2009

Senator Lesil McGuire
120 4th Street
Juneau, AK 99801-1182

Dear Senator McGuire,

As a constituent, I strongly believe that Teresa Sager-Albaugh should not be confirmed to the Board of Game.
As I understand it, the board is not a balanced board between

scientists and hunter-types. As a scientist and hunter, I demand equal representation! - or at the minimum, SOME representation from opposing sides!

I urge you to oppose Teresa Sager-Albaugh's nomination to the Board of Game and look forward to your reply.

Sincerely,

Ms. Judy Engh
7754 Port Orford Dr
Anchorage, AK 99507-6018

Michelle Sydeman

From: Defenders of Wildlife [defenders@mail.defenders.org] on behalf of Susan Kerins [susanincolorado@aol.com]
Sent: Tuesday, April 07, 2009 7:07 AM
To: Sen. Bill Wielechowski
Subject: Teresa Sager-Albaugh is the Wrong Pick for the Board of Game!

Apr 7, 2009

Senator Bill Wielechowski
120 4th Street
Juneau, AK 99801-1182

Dear Senator Wielechowski,

As a constituent, I strongly believe that Teresa Sager-Albaugh should not be confirmed to the Board of Game. I live here in Alaska and I am ashamed that there is only hunters on the board of game and no one really that is there for REAL conservation efforts! This is about keeping big game for hunters and not for our state and my children to see! I am disgusted in Palin and I believe it is all about who has the most money anymore with her. I voted for her more then twice and at

this rate I will not repeat that mistake! I am not the only one here in alaska that feels this way either! It should be a board made up of biased individuals not ones that are or were hunters or guides with "money". I am watching our politics here in alaska starting

to really resemble that of Washington D.C. Please change this or I dont see a re-election for Palin at this rate!
Susan Kerins

I urge you to oppose Teresa Sager-Albaugh's nomination to the Board of Game and look forward to your reply.

Sincerely,

Ms. Susan Kerins
2222 Starlit Ln
North Pole, AK 99705-7557

Dani Carlson

From: Defenders of Wildlife [defenders@mail.defenders.org] on behalf of Sonia Nagorski [s_nagorski@yahoo.com]
Sent: Tuesday, April 07, 2009 10:37 AM
To: Sen. Lesil McGuire
Subject: Teresa Sager-Albaugh is the Wrong Pick for the Board of Game!

Apr 7, 2009

Senator Lesil McGuire
120 4th Street
Juneau, AK 99801-1182

Dear Senator McGuire,

As a constituent, I strongly believe that Teresa Sager-Albaugh should not be confirmed to the Board of Game. She has a voting record that shows how extreme she is in her pro-hunting stance and does not appear to balance hunting with ecological considerations. Thank you for your consideration,

I urge you to oppose Teresa Sager-Albaugh's nomination to the Board of Game and look forward to your reply.

Sincerely,

Ms. Sonia Nagorski
605 N Franklin St
Juneau, AK 99801-1185

Dani Carlson

From: Defenders of Wildlife [defenders@mail.defenders.org] on behalf of DeWaine Tollefsrud [zodama2003@yahoo.com]
Sent: Tuesday, April 07, 2009 11:37 AM
To: Sen. Lesil McGuire
Subject: Teresa Sager-Albaugh - Good Grief NO!

Apr 7, 2009

Senator Lesil McGuire
120 4th Street
Juneau, AK 99801-1182

Dear Senator McGuire,

I will be brief as I know your are working hard for our interests. and yes, this is a robot system but these words are my own; as a

constituent, I strongly believe that Teresa Sager-Albaugh should not be confirmed to the Board of Game.
Let us end this war on predators. Managing wildlife for the sake of outside trophy hunters is ludicrous and the science behind managing wildlife populations through predator control is very shaky at best.
Thank you for all that you do.
Again

I urge you to oppose Teresa Sager-Albaugh's nomination to the Board of Game and look forward to your reply.

Sincerely,

Mr. DeWaine Tollefsrud
2267 Mount Augustine Dr
Homer, AK 99603-8326

Dani Carlson

From: Defenders of Wildlife [defenders@mail.defenders.org] on behalf of Margaret Enders [mjesundance@yahoo.com]
Sent: Tuesday, April 07, 2009 11:37 AM
To: Sen. Lesil McGuire
Subject: Teresa Sager-Albaugh is the Wrong Pick for the Board of Game!

Apr 7, 2009

Senator Lesil McGuire
120 4th Street
Juneau, AK 99801-1182

Dear Senator McGuire,

As a constituent, I strongly believe that Teresa Sager-Albaugh should not be confirmed to the Board of Game.
We need cool heads, peaceful attitudes and reasonable thinking on our Board of Game. Managing the wildlife in our State is a serious

business that needs people who understand, listen and follow though. I do not feel that Teresa Sager-Albaugh is one of those people. Special Interests should NOT be part of the process. The wildlife of this great State belongs to ALL of us, not just a chosen few.

I urge you to oppose Teresa Sager-Albaugh's nomination to the Board of Game and look forward to your reply.

Sincerely,

Ms. Margaret Enders
PO Box 110776
Anchorage, AK 99511-0776

Michelle Sydeman

From: Defenders of Wildlife [defenders@mail.defenders.org] on behalf of Tiffany Zagula [odd_lil_anime_person@hotmail.com]
Sent: Tuesday, April 07, 2009 7:07 AM
To: Sen. Bill Wielechowski
Subject: Teresa Sager-Albaugh is the Wrong Pick for the Board of Game!

Apr 7, 2009

Senator Bill Wielechowski
120 4th Street
Juneau, AK 99801-1182

Dear Senator Wielechowski,

As a constituent, I strongly believe that Teresa Sager-Albaugh should not be confirmed to the Board of Game.
I believe she is not qualified enough nor suited for this position.
Those who should be on the Board of Game are people who understand how to properly manage wildlife and not those who want to promote slaughter.
There have already been significant boycotts made toward Alaska's tourism due to anti-predator acts like those Sager-Albaugh proposes to

make. There will likely be far more if she is confirmed to the Board of Game. This will do major damage to Alaska's already suffering economy...is this what you want for Alaska?

I urge you to oppose Teresa Sager-Albaugh's nomination to the Board of Game and look forward to your reply.

Sincerely,

Ms. Tiffany Zagula
PO Box 13543
Trapper Creek, AK 99683-0543

Dani Carlson

From: Defenders of Wildlife [defenders@mail.defenders.org] on behalf of Kim Smith [krsmith@gci.net]
Sent: Tuesday, April 07, 2009 10:37 AM
To: Sen. Lesil McGuire
Subject: Teresa Sager-Albaugh is the Wrong Pick for the Board of Game!

Apr 7, 2009

Senator Lesil McGuire
120 4th Street
Juneau, AK 99801-1182

Dear Senator McGuire,

As a constituent, I strongly believe that Teresa Sager-Albaugh should not be confirmed to the Board of Game. I am a 31 year resident of our State. I contribute to our economy by taking wilderness adventures, "shooting" our wildlife with my camera. I have never shot an animal, yet have no issues with those hunting to feed their families.
I am so frustrated and sick to my stomach with some of the policies

coming out of this Board. It is appalling. Come on...we have a chance to value and preserve our wildlife, lets do it right. We need balance on this Board, I want my interests to hold value and be represented.

I urge you to oppose Teresa Sager-Albaugh's nomination to the Board of Game and look forward to your reply.

Sincerely,

Mrs. Kim Smith
PO Box 3235
Homer, AK 99603-3235

Michelle Sydeman

From: Reilly, Barbara N POA [Barbara.N.Reilly@usace.army.mil]
Sent: Monday, April 13, 2009 12:25 PM
To: Sen. Bill Wielechowski
Subject: Block -Reject Sager-Albaugh

Sager-Albaugh voted to allow controversial practices that are unprecedented in Alaska's 50-year history. She clearly expressed her ideological extremism at her first Board of Game meeting.

Examples of her extreme ideology include the following.

Sager-Albaugh voted to:

* Allow predator control in Denali State Park.
* Allow citizens who participate in predator control programs to use helicopters to support the killing of wolves and bears.
* Permit "agents of the state" to use poison gas bombs to kill wolf pups in the den and put snares in and around wolf dens.
* Let Alaskans and out-of-state residents snare bears - even sows and cubs - using bait to lure them to their death. Children as young as 10 years old may participate in the snaring.
* Allow the killing of more than 800 bears and selling of their fur for profit. This would encourage poaching and the illegal sale of bear parts.
* Give licensed hunters the go-ahead to use planes to spot, then land and shoot, brown bears - including sows and cubs.
* Extend the wolf hunting season to include the time when mothers are nursing newborn pups.
* Expand "predator control" programs in two new areas of the state - an increase of 33%.

Sager-Albaugh's voting record isn't showing us anything new: she has a long history of anti-wildlife extremism. After serving as president of the Alaska Outdoor Council from 2005-2007, she continues to keep close ties to this radical special interest group that has been behind many of the state's most outrageous anti-wildlife regulations.

Palin and her hand-picked cronies on the Board of Game want to turn Alaska into a game farm for out-of-state trophy hunters. Is this the Alaska you want to see?

Alaska's Board of Game should reflect the broad diversity of the Alaskan people, not just the extreme interests of a narrow few. Tell our state legislators that Alaskans won't stand by and let Sarah Palin and her Board of Game turn our state into a game farm.

Barbara N. Reilly
1800 Parkside Dr.
Anchorage, AK 99501
907 274 5933

Dani Carlson

From: Defenders of Wildlife [defenders@mail.defenders.org] on behalf of Dorothy Giloley [dorothy@cbna.org]
Sent: Tuesday, April 07, 2009 10:07 AM
To: Sen. Lesil McGuire
Subject: Teresa Sager-Albaugh is the Wrong Pick for the Board of Game!

Apr 7, 2009

Senator Lesil McGuire
120 4th Street
Juneau, AK 99801-1182

Dear Senator McGuire,

As a constituent, I strongly believe that Teresa Sager-Albaugh should not be confirmed to the Board of Game.
I stronglt feel that the way that the Board of Game and our Governor is handling preditor control is wrong. We have a duty to preserve our wildlife and to research the situation with wolves and bears before taking action in a irresponsible way. Why isn't there a biologist or someone with scientific knowledge and a research background on the Board of Game. The ones on it now are all involved with hunting and supporting or promoting hunters coming in for the
"lower 48" to kill our wildlife for sport ! I strongly
oppose the confirmation of Teresa Sager-Albaugh . Please let me know what you will do. I am a citizen of ALaska and one of your constituents. I need you to stand up for our wildlife and not just let these injustices go be without any opposition. I will looking to see what you do . I would like a reply to this letter also. Thank you for listening and hopefully acting justly ! dorothy giloley

I urge you to oppose Teresa Sager-Albaugh's nomination to the Board of Game and look forward to your reply.

Sincerely,

Ms. Dorothy Giloley
1316 Peger Rd
Fairbanks, AK 99709-5168

Michelle Sydeman

From: Defenders of Wildlife [defenders@mail.defenders.org] on behalf of Cynthia Davis [badinc2@mtaonline.net]
Sent: Tuesday, April 07, 2009 8:07 AM
To: Sen. Bill Wielechowski
Subject: Teresa Sager-Albaugh is the Wrong Pick for the Board of Game!

Apr 7, 2009

Senator Bill Wielechowski
120 4th Street
Juneau, AK 99801-1182

Dear Senator Wielechowski,

As a constituent, I strongly believe that Teresa Sager-Albaugh should not be confirmed to the Board of Game.

I urge you to oppose Teresa Sager-Albaugh's nomination to the Board of Game and look forward to your reply.

Sincerely,

Ms. Cynthia Davis
HC 30 Box 5291C
Wasilla, AK 99654-9705

2/1/10 UPDATE: PIPELINE PROGRESS BY TRANS-CANADA

ALASKA PipelineProject

Open Season Fact Sheet

Announcement of Open Season Filing:

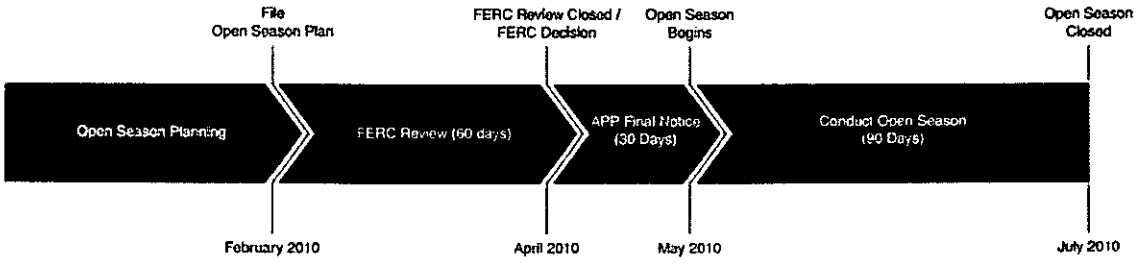
The Alaska Pipeline Project (APP) announced on January 29, 2010, that it filed its Open Season Plan with the U.S. Federal Energy Regulatory Commission (FERC) for the Commission's review and approval.

Purpose of Open Season:

In simple terms, the open season puts the project to a test of the market. During the open season, information about the project will be provided to potential shippers of natural gas (primarily North Slope producers) including details such as anticipated project costs, engineering design, tariffs and timelines. The shippers will assess this project information and determine their interest in shipping natural gas through the pipeline under the offered terms and whether to make long term commitments to reserve capacity on the pipeline. The project needs these shipper commitments to secure financing and to continue to be able to advance.

Open Season Process:

The process that has been initiated as of January 29 is not the open season itself, rather we have pre-filed our Open Season Plan for review and approval by FERC and for public comment as required by federal regulations. The project's Open Season Plan will next undergo a 60-day review process. It is anticipated the public review period will run through February and the FERC review and approval period to extend through March. If FERC approves the plan, we will begin our actual open season with shippers at the end of April 2010. The open season will run a minimum of 90 days through the months of May, June and July. The open season process we have initiated with FERC only applies to the portion of the project in the United States. A separate but coordinated open season for the Canadian portion of the project will be conducted concurrently.



Reporting of Open Season Results:

It is important to keep in mind that major pipeline builders rarely report open season results immediately because the shippers' bids to reserve pipeline capacity almost always include conditions, not unlike the contingencies written into a contract for sale of a home.

2580

Thus, with the close of the open season bidding period at the end of July, follow-up negotiations between the project and shippers are likely to commence to attempt to resolve those contingencies. Experts believe shippers may also include in their bids some conditions beyond the control of the Alaska Pipeline Project, such as taxation and resource access issues which cannot be decided by the project. Many people expect the shippers to ask for the State's engagement in resolving these issues before they will be able to commit to the project.

APP is targeting the completion of its open season bid review and negotiation process by year-end 2010, contingent upon the satisfactory resolution of shippers' conditions precedent.

Options to be Assessed During the Open Season:

During the open season, the Alaska Pipeline Project will present two alternative project options for assessment by potential customers, and shippers will have the opportunity to reserve capacity on the option they prefer.

It is economically feasible for only one of the two project options to advance and the results of the open season will determine the preferred development choice.

One option would transport an estimated 4.5 billion cubic feet per day of North Slope natural gas approximately 1,700 miles (2,736 kilometers) across Alaska to Alberta, Canada, (the Alberta option), where it could be sent on existing pipelines to North American gas markets.

Another option is to transport an estimated 3 billion cubic feet of natural gas per day approximately 800 miles (1,287 kilometers) to Valdez, Alaska, (the Valdez option), where shippers could liquefy the gas in a plant constructed by others and ship it on tankers to U.S. and international markets.

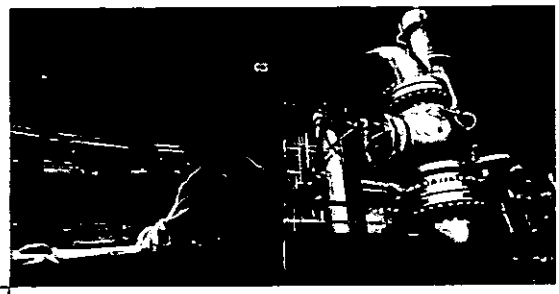
It is important to emphasize that both options would provide opportunities for Alaska communities to acquire natural gas from the pipeline from a minimum of five strategically located off-take connections. The Alberta option would also provide opportunities for local gas deliveries in Canada as well.

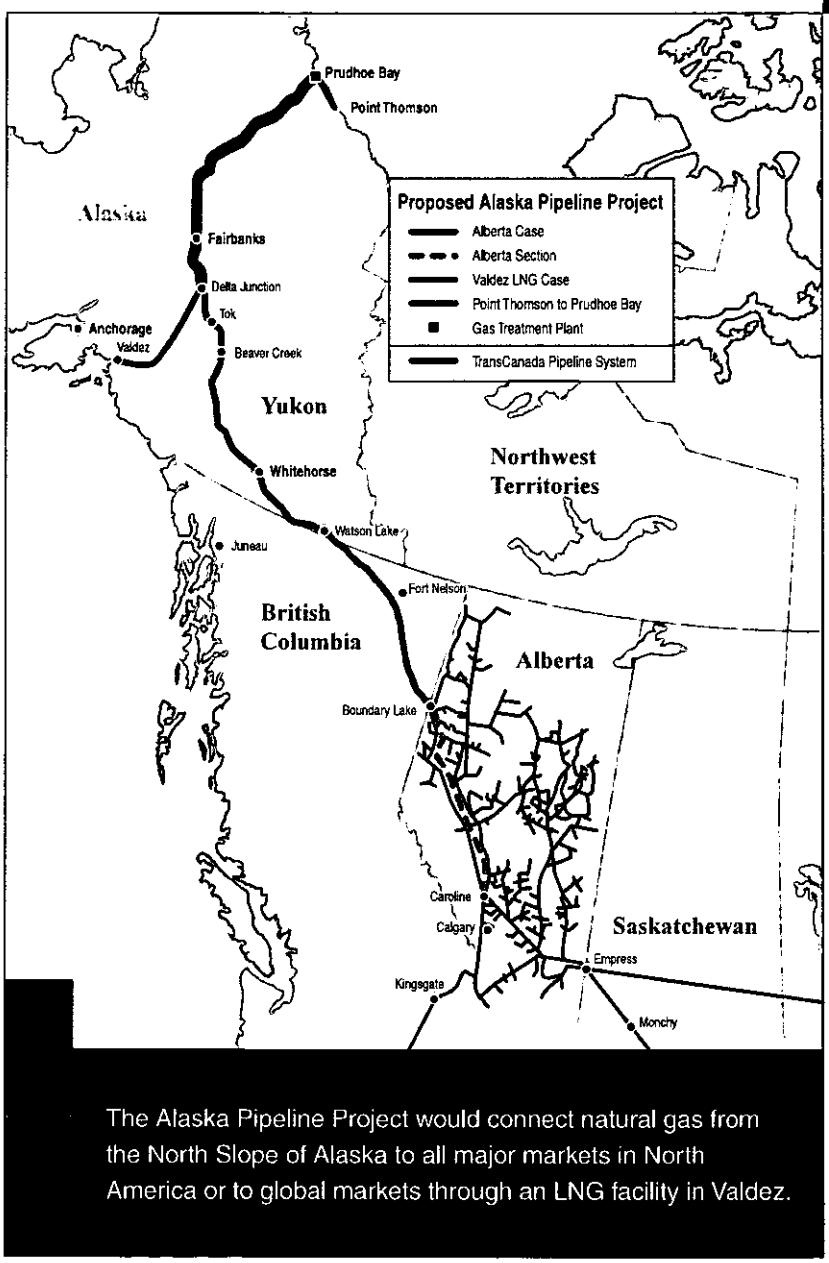
A world-class natural gas treatment plant, to be located adjacent to the North Slope's Prudhoe Bay facilities, and an approximately 58-mile (93-kilometer) transmission pipeline connecting the natural gas supplies of the Point Thomson field to the plant are components of both development options.

Open Season Information:

The Alaska Pipeline Project is fully committed to provide the public information on our Open Season Plan. The project has established a new internet website at www.thealaskapipelineproject.com. Members of the public can find our Open Season Plan submittal to FERC on the site, as well as on FERC's website. We welcome and invite public review and comment on the project.

ALASKA
PipelineProject





The Alaska Pipeline Project would connect natural gas from the North Slope of Alaska to all major markets in North America or to global markets through an LNG facility in Valdez.

TransCanada and ExxonMobil are working together to progress the Alaska Pipeline Project. The project, which will connect Alaska's North Slope natural gas resource to new markets, is designed to deliver a reliable and secure source of clean energy for decades to come. The project will provide numerous benefits to Alaska, Canada and the broader U.S., including jobs, business opportunities, government revenues, and long-term stable supplies of natural gas.

The scope of the joint project includes the following components:

- a gas treatment plant (GTP) near Prudhoe Bay, Alaska, which will condition the gas for pipeline transportation;
- a gas transmission pipeline connecting the Point Thomson field in Alaska to the GTP; and
- a gas transmission pipeline that will extend, subject to shipper confirmation during the Open Season process, from the GTP in Alaska to either:
  - The Alberta Hub (Alberta Case); or
  - Valdez, Alaska (Valdez LNG Case).

For the Alberta case, shippers would have the ability to deliver into pipeline systems located near Boundary Lake, Alberta, or into the Alberta Hub, and then onto other take-away pipelines to major North American markets.

For the Valdez LNG Case, shippers would have the ability to deliver into a liquefaction facility (to be developed by others) for subsequent delivery to LNG markets.

The Alaska Pipeline Project has established offices in Anchorage, Calgary, Houston and Whitehorse to conduct the diversity of engineering, technical, commercial, environmental, public consultation and other work that is currently underway. The project's initial open season is targeted for completion to be held from May to July 2010.

TransCanada ExxonMobil

For additional project information go to www.thealaskapipelineproject.com.

Point Thomson transmission pipeline

- Pipeline length:.....58 miles (93 km) (approx.)
- Pipeline diameter:.....32 inches
- Maximum operating pressure:.....1030 psig
- Pipeline capacity:.....1.1 bcf/d

Alberta Case (Prudhoe Bay to Alberta)

- Total length:..... 1700 miles (2737 km)
  - Pipeline length (Alaska):..... 734 miles (1182 km)
  - Pipeline length (Canada):..... 966 miles (1555 km)
- Pipeline diameter:.....48 inches
- Maximum operating pressure:.....2500 psig
- Pipeline capacity (base design case):.....4.5 bcf/d
- Pipeline capacity (with max compression):.....5.9 bcf/d

Valdez LNG Case (Prudhoe Bay to Valdez)

- Pipeline length:..... 803 miles (1293 km)
- Pipeline diameter:.....48 inches
- Maximum operating pressure:.....2500 psig
- Pipeline capacity (base design case):.....3.0 bcf/d

Compression

	Alberta Case 4.5 bcf/d	Alberta Case 5.9 bcf/d	Valdez LNG Case 3.0 bcf/d
• Total compressor stations (Alaska)	6	13	2
• Total compressor stations (Canada)	11	20	n/a

- In areas of continuous and discontinuous permafrost, gas chillers will be installed on the discharge side of compressor stations
- Each compressor station site will be approximately 25 acres

Gas Treatment Plant

- Initial design to process up to 5.3 bcf/d raw gas
- Delivers 4.5 bcf/d of pipeline quality gas to pipeline at 2500 psig
- Handles up to 0.6 bcf/d of CO_2 at 4000 psig
- 4 trains (Alberta Case) / 3 trains (Valdez LNG Case)

Gas Deliveries

Delivery points in Alaska will be provided for community gas off-takes for both the Alberta and the Valdez LNG Cases, and also in Canada for the Alberta Case.

Design Methodology

- The application of structured and proven project management processes and expertise for large complex projects will provide increased confidence to prospective shippers.
- A formal Front-End Execution Planning process will identify and address project execution issues early to minimize risk.
- Proven industry-leading technology will be specified for design, materials and construction to support safe, reliable and cost-effective operation.
- Proprietary, integrated hydraulics/geothermal/pipeline analysis modelling software will be utilized for system and pipeline design.

Primary Project Regulators

- Alberta Case: U.S. Federal Energy Regulatory Commission (FERC) for the Alaskan components of the project, and the Northern Pipeline Agency for the Canadian components.
- Valdez LNG Case: FERC

Stakeholder Engagement / Community Relations

A key objective of the Alaska Pipeline Project is to achieve positive long-term relationships, based on mutual trust and respect, with Alaska Native, Canadian Aboriginal and other communities along the project corridor. We believe these relationships will be realized through proactive communications and engagement as the project progresses.

ALASKA PipelineProject

ALASKA STATE LEGISLATURE

SENATOR LESIL McGUIRE
SENATOR BILL WIELECHOWSKI
Co-Chairs, Senate Resources Committee

MEMORANDUM

Date: February 1, 2010

To: Kirsten Waid, Senate Secretary

From: Senator Lesil McGuire, Co-Chair
Senator Bill Wielechowski, Co-Chair
Senate Resources Committee

Re: Senate Resources Committee Schedule

Committee Schedule
Senate Resources
For the week of February 1-5

Unless otherwise noted, all meetings will be held in the Butrovich, Rm 205 @ 3:30 p.m.

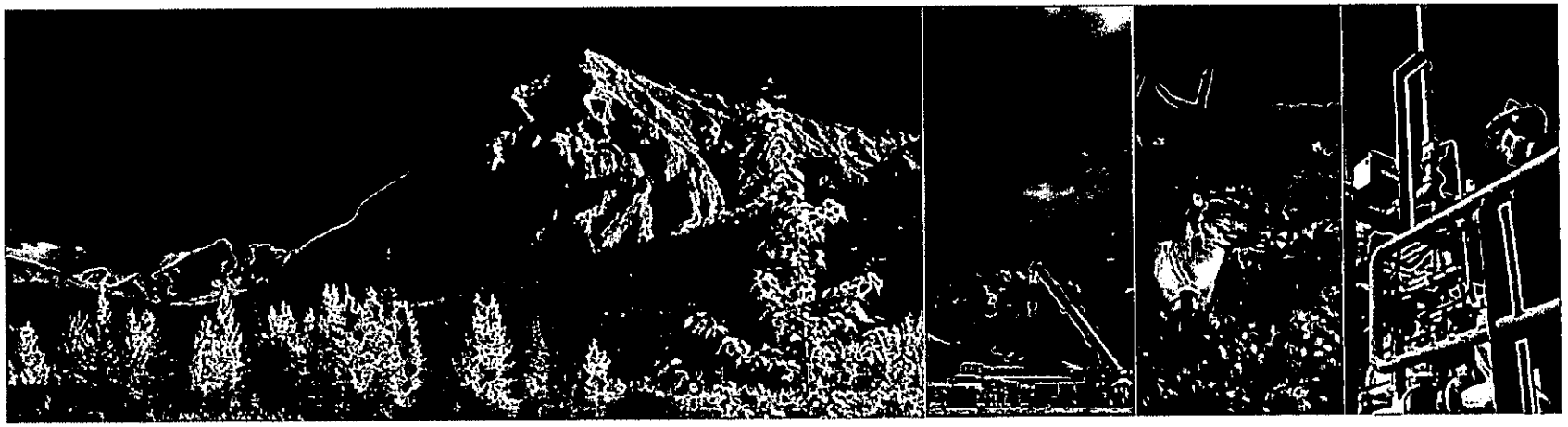
Monday, February 1st
\+ Update on Pipeline Progress by TransCanada

Wednesday, February 3rd
\+ * = SB 220 - Energy Efficiency/Alternative Energy
\+ * SB 104 – Stan Price State Wildlife Sanctuary
\+ * SB 195 – Make Goldstream Public Use Area Permit
\+ HB 20 – Fisheries Loans: Energy Efficiency/Amount

Thursday, February 4th
\+ Update by the Administration – ACES and its effect on Oil and Gas Investment

* First Hearing in First Committee of Referral
\+ Teleconferenced
= Bill was previously Heard/Scheduled

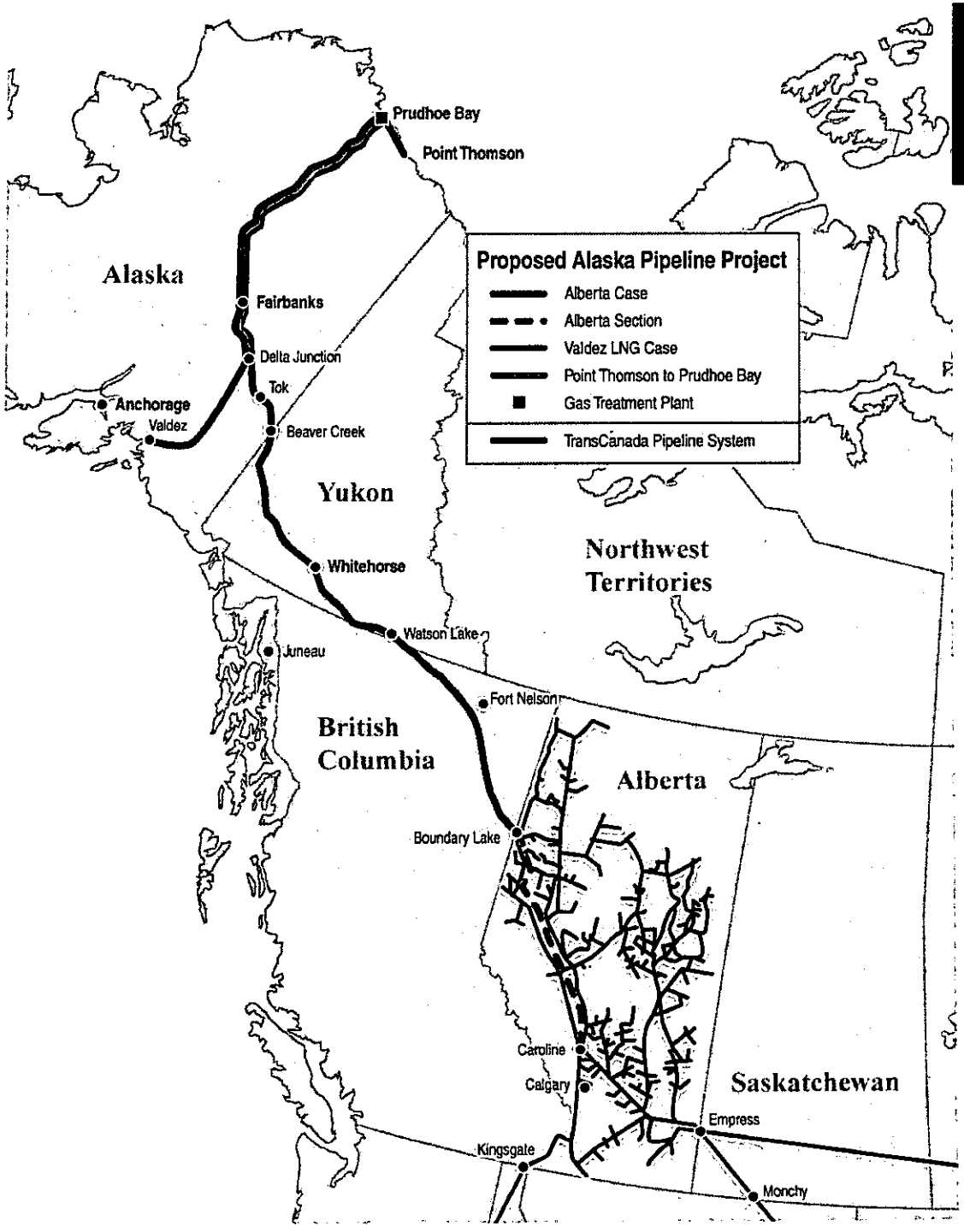
ALASKA
PipelineProject



Alaska Legislature
Senate/House Resources & Energy Committees

February 2010

TransCanada ExxonMobil



First Open Season for North Slope Gas

- On January 29, the Alaska Pipeline Project (APP) filed its plan with FERC to implement the first Open Season in history of North Slope natural gas.
- In an Open Season, the pipeline company provides potential shippers with an engineering design, commercial terms and an estimate of project costs, tariffs and timelines.
- The pipeline company is seeking shippers' contractual support for the project through executed precedent agreements.
- APP's initial Open Season offers service to potential shippers for markets in:
  - Alaska
  - Lower 48 via Alberta
  - U.S./international via Valdez

ALASKA PipelineProject

Path to In-service

- **Large pipeline projects undergo a lengthy development stage, and if successful, then move to construction and operations**
- **APP's development stage is scheduled to run through 2014**
  - Prior to Open Season – through April 2010
  - Open Season – May to July 2010
  - Post Open Season – August 2010 through 2014
- **All stakeholders in the Alaska gas pipeline have important initiatives underway to advance the project**
  - Alaska Pipeline Project, Producers / Shippers, Governments, others
  - To successfully move the Alaska Pipeline Project from the development stage onwards to the construction stage, all parties need to achieve commercial and regulatory breakthroughs

APP Development Stage – Prior to Open Season

Achievements to Date

- Producers / Shippers
  - Explored / developed gas reserves; reviewed transportation alternatives; researched potential natural gas markets
- State of Alaska
  - Established State's requirements in AGIA; granted AGIA License; finalizing royalty regulations under AGIA
- U.S. Government / FERC
  - Established legislative/regulatory structure (ANGPA); Federal Loan Guarantee; set FERC regulatory process
- Canadian Government
  - Established legislative / regulatory structure (Northern Pipeline Act); TransCanada's Right-of-Way through Yukon

APP Development Stage – Prior to Open Season

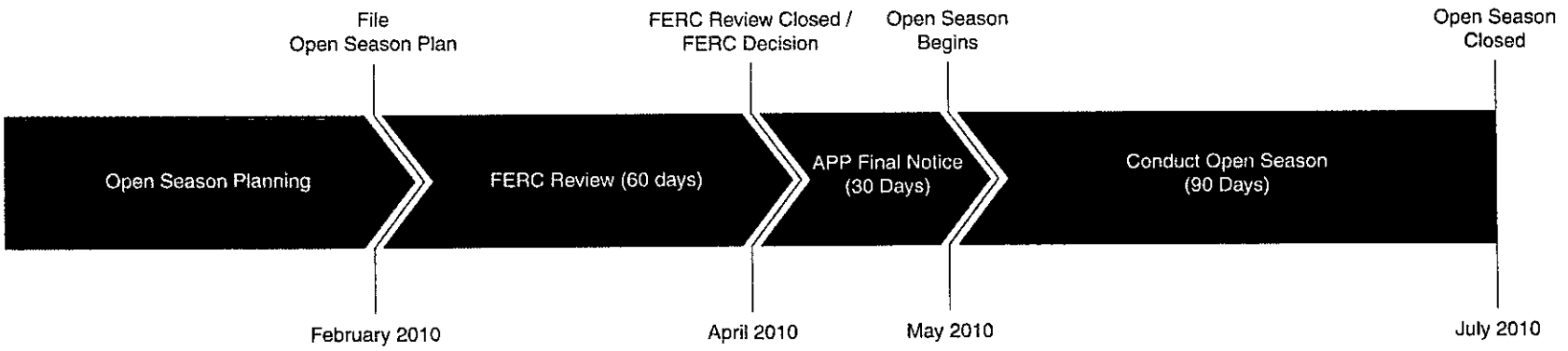
Achievements to Date

- APP
  - Alignment of key stakeholders
    - TransCanada / State of Alaska via AGIA License in 2008
    - TransCanada / ExxonMobil in 2009
    - Continue to offer equity participation to BP / ConocoPhillips
  - Initiated FERC (NEPA) pre-filing process in U.S.; Continuing interface with Northern Pipeline Agency (NPA) in Canada
  - First Nations negotiations in Canada; Interfaces with Alaska Native groups and communities along the project corridor in Alaska
  - Resolved claims on previous projects
  - Developed comprehensive Alberta and LNG alternatives – technical scope, cost estimates, schedules
  - Filed Open Season Plan with FERC
  - In-state Gas Study
    - Technical Conference in Anchorage on February 4 at 2:00 p.m.

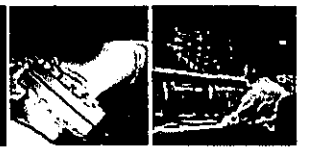
APP Development Stage - Open Season

Timeline

- **Filing begins 60-day FERC review for U.S. section**
- **If FERC approves plan, conduct Open Season from May-July 2010**
  - Concurrent Canadian Open Seasons for Alberta option
- **Expect APP / Shipper follow-up negotiations to resolve conditioned bids (typical situation)**
- **Final Open Season results targeted by year-end 2010**
  - Contingent on satisfactory resolution of Shippers' conditions precedent



Open Season Plan



- **Comprehensive, credible and competitive Open Season plan**
  - TransCanada and ExxonMobil have unparalleled expertise / experience in interstate/inter-provincial gas pipelines and gas treatment plants
  - Over one-quarter million hours of engineering, regulatory, technical, environmental, commercial, legal and project management work
  - Builds on significant base from past initiatives for Alaska gas
- **Joint project work has provided improved understanding of scope, costs, complexities and risk for this large, complex project**

Open Season Plan

- **APP offering better commercial terms / access than in AGIA Application**
  - Available to Shippers in APP's initial Open Season
  - Comprehensive Alberta and Valdez options
    - Responsive to Shipper discussions
    - 48 inch 3.0 Bcf/d pipeline to Valdez
    - Access to other pipelines upstream of Alberta Hub
    - 20-year minimum contract term for firm service
    - Interruptible, overrun and park-and-loan services
    - Shared development costs
  - Better commercial terms reduces tolls by $500 million/year
    - 12% ROE
    - 80% capital recovery over initial contract term
    - 70/30 debt/equity ratio for expansions

Project Scope

Two pipeline options for Shipper assessment in the APP Open Season

Option One: Pipeline from Alaska's North Slope to Alberta

- 4.5 Bcf/d; approx. 1,700 miles (2,737 km); 48 inch
- Gas delivered to pipeline systems serving major North American markets

Option Two: Pipeline from the North Slope to Valdez, Alaska

- 3.0 Bcf/d; approx. 800 miles (1,287 km); 48 inch
- Converted to liquefied natural gas (LNG) in a facility to be built by others and delivered by ship to U.S. and international markets

Both options include:

- Opportunity for Alaska communities to acquire natural gas from the pipeline
    - Minimum 5 off-takes in Alaska
- A world-class natural gas treatment plant, to be located adjacent to the North Slope's Prudhoe Bay facilities
    - One of the largest facilities of its kind that would treat the gas to remove CO^2/impurities
- An approx. 58-mile (93-kilometer) transmission pipeline connecting natural gas supplies from Point Thomson field to the plant

Project Cost Estimates and Indicative Tolls

Note: All numbers 2009$US

Option One: Pipeline from Alaska's North Slope to Alberta

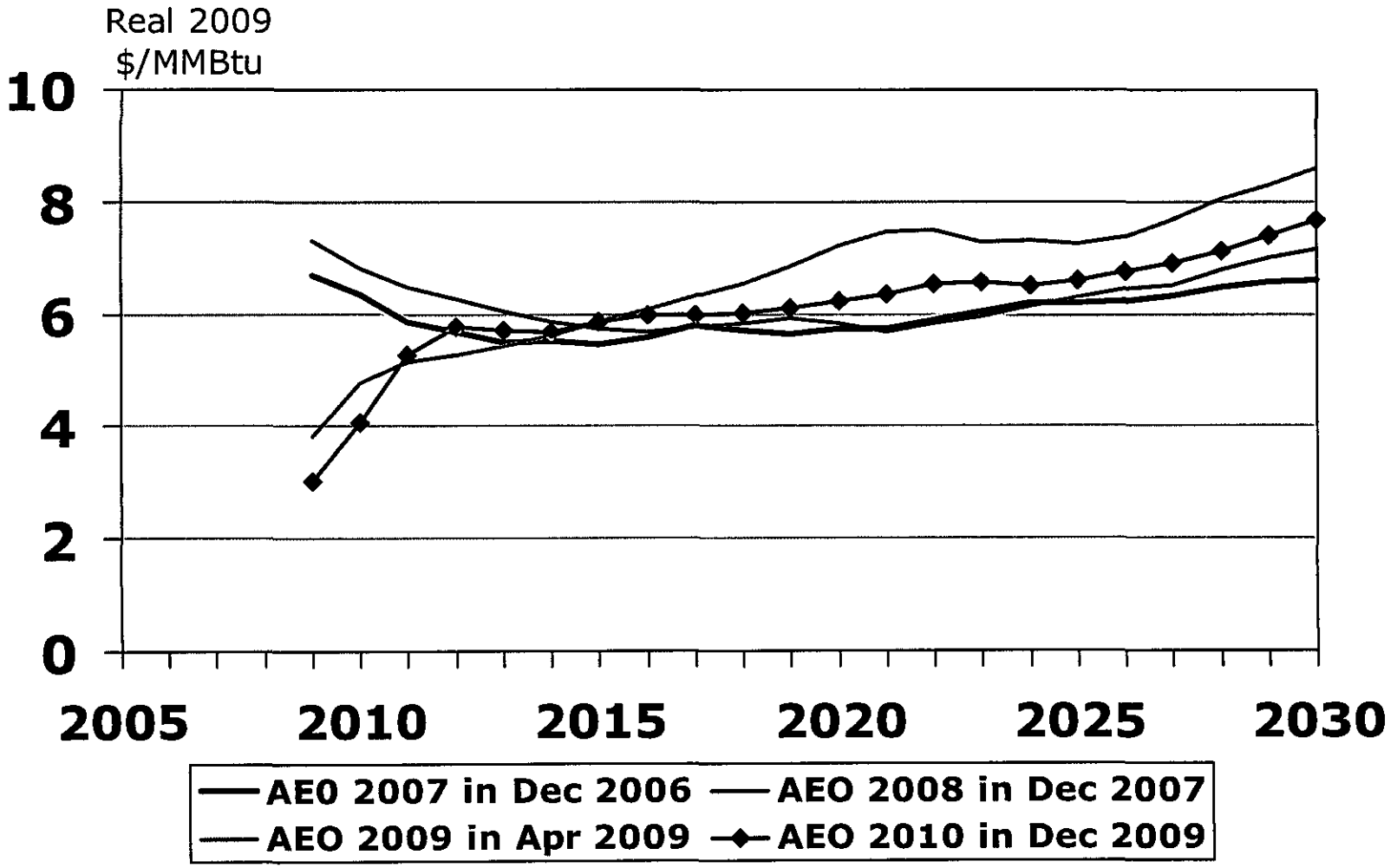
- Capital cost range $32B-$41 B
- Target in-service 2020
- Tariff range (incl. fuel)* $2.80-$3.50 / MMBtu (from GTP to Alberta Hub)
- Alberta Hub gas price** $6.25-$7.65 / MMBtu

Both the Alberta and Valdez options are technically and commercially viable based on current project costs and natural gas/oil price forecasts

* Prudhoe Bay to Alberta Hub (25-yr contract term). Add $0.15-0.20 / MMBtu for Pt. Thomson line

** Source: U.S. Dept. of Energy 2010 Annual Energy Outlook for the years 2020-2030

Comparison of Recent US DOE Annual Energy Outlooks for Alberta Hub Natural Gas Prices



Project Cost Estimates and Indicative Tolls

Note: All numbers 2009$US

Option Two: Pipeline from the North Slope to Valdez, Alaska

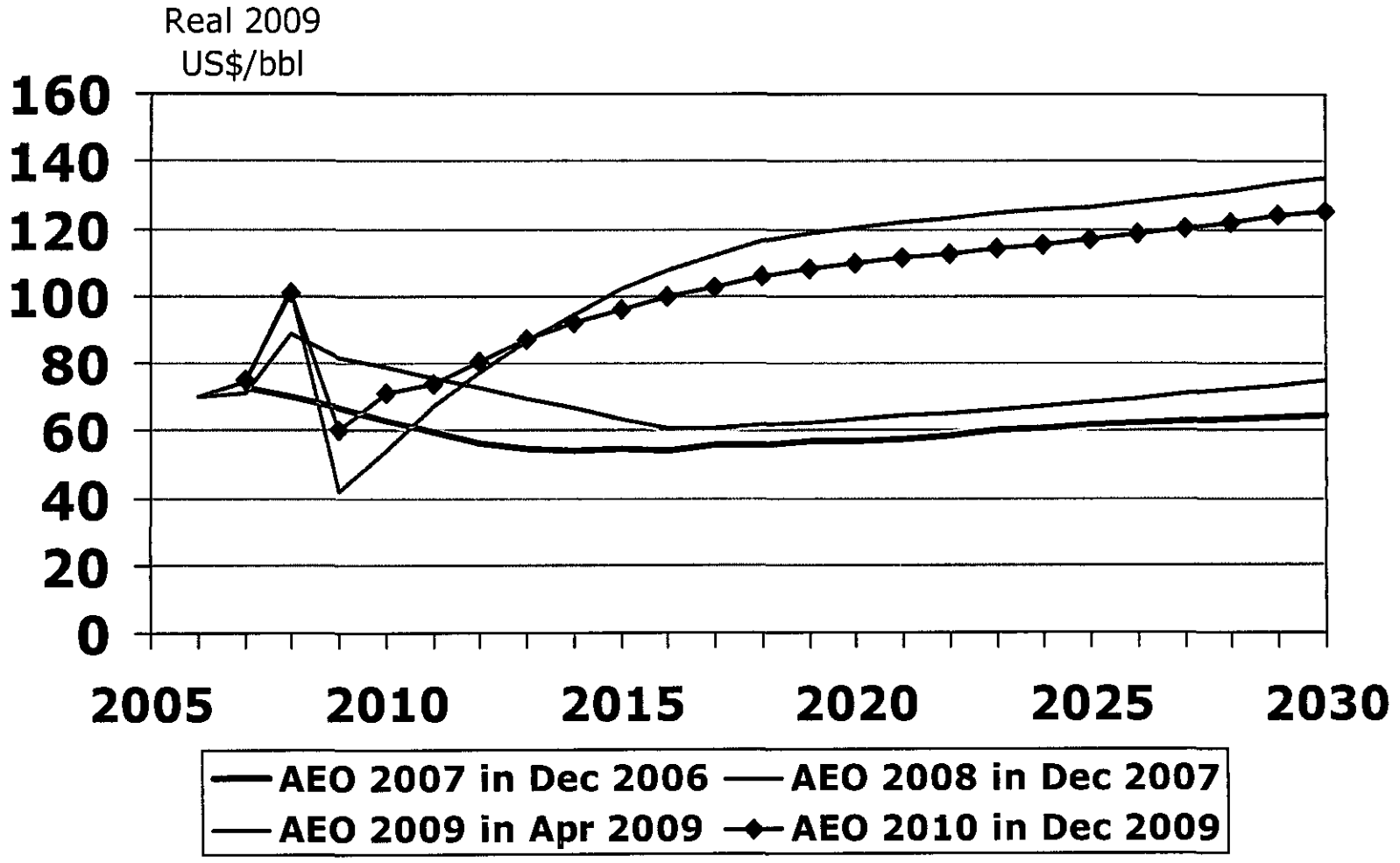
- Capital cost range $20B-$26 B
- Target In-service 2020
- Tariff range (incl. fuel)* $2.45-$3.15 / MMBtu (from GTP to Valdez)
- Henry Hub gas price** $6.75-$8.15 / MMBtu
- Oil prices** $110-$125 / bbl

Both the Alberta and Valdez options are technically and commercially viable based on current project costs and natural gas/oil price forecasts

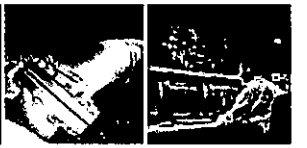
* Prudhoe Bay to Valdez (25-year contract term). Add $0.15-0.20/MMBtu for Pt. Thomson line

** Source: U.S. Dept. of Energy 2010 Annual Energy Outlook for the years 2020-2030

Comparison of Recent US DOE Annual Energy Outlooks for Light Sweet Imported Oil Prices



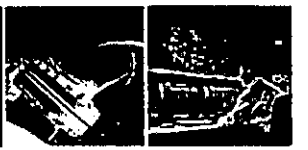
APP Development Stage – Post Open Season



Commercial / Regulatory Milestones

- APP
  - Resolve conditions precedent with Producers / Shippers
  - Progress engineering, environmental (including field work), and other work to prepare for major U.S. / Canadian permitting
    - Recent environmental contracts awarded to URS / AECOM for Alaska fieldwork commencing spring 2010
    - Canadian section awarded to TERA / Stantec
  - Meet AGIA obligations (including FERC Application in 2012)
  - Advance project in-step with commercial and regulatory breakthroughs
  - Continue to seek alignment with BP / ConocoPhillips

Post Open Season



Commercial / Regulatory Milestones

- Producers / Shippers
  - Resolve conditions precedent with APP
  - Resolve upstream fiscal / production levels at Prudhoe Bay, Point Thomson, other fields with State / AOGCC
  - Arrange downstream transportation; secure final gas markets and export permits (LNG option)
- State of Alaska
  - Resolve any upstream tax or production issues with Producers / Shippers
  - Facilitate project permitting
- U.S. Government / FERC
  - Establish Federal Loan Guarantee levels, terms and conditions
  - Facilitate project permitting
- Government of Canada / Alaska Natives / Canadian First Nations
  - Facilitate project permitting and alignment

Summary

APP Open Season May-July 2010 if FERC approves APP's plan

APP offering improved commercial terms vs. AGIA

Alberta / Valdez options both viable

Regulatory / commercial breakthroughs required by APP, Producers-Shippers, and Governments

TransCanada / ExxonMobil / State working together through AGIA structure provides best opportunity to:

- Align all stakeholders
- Achieve project benefits for Alaskans and other parties

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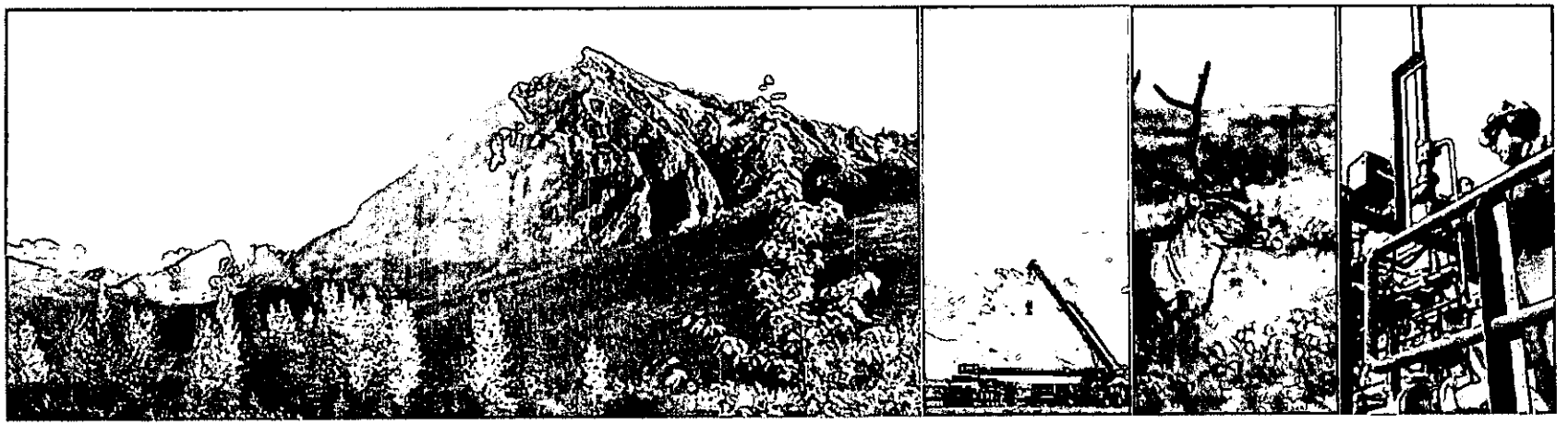


Thank You

Note: APP's Open Season plan is available at www.thealaskapipelineproject.com or on the FERC website

TransCanada ExxonMobil

2/4/10 UPDATE: ACES PRODUC-TION TAX

ACES PRODUCTION TAX UPDATE

February 4, 2010

Alaska Department of Revenue

ACES and Oil and Gas Investment

- ACES Overview
  - Tax Structure
  - Incentivizing New Investment
- ACES Status Report
  - Revenue comparison
  - Lease Expenditure Experience and Forecasts
  - Standard Deduction Experience
  - Oil and Gas Employment Figures
  - Drilling Activity Levels

ACES Overview

- **Production Tax Value (PTV)** is the market price transportation costs and Allowable Lease Expenditures
  - Allowable Lease Expenditures include operating and capital expenditures
- **Base tax rate** of 25% on PTV
- **Progressive Surcharge Rate**
  - Triggered when a company's PTV reaches $30 per barrel
  - $30.00/bbl < PTV < $92.50/bbl = Surcharge adds 0.4% to tax rate for each additional $1 increase in PTV, until combined tax rate reaches 50%
  - $92.50/bbl < PTV < $342.50/bbl = Surcharge adds 0.1% for each additional $1 increase in PTV until combined tax rate reaches the maximum of 75%

ACES Overview

How the Tax is Calculated

Production Tax Value (PTV) X Base Tax Rate =	Base Tax
	+
PTV X Progressive Surcharge Rate =	Progressive Surcharge
Pre-Credit Tax Bill	Total Taxes Before Credits
	-
Credits	Credits Applied Against Taxes
Final Tax Bill	**Total Production Taxes Owed**

ACES Overview (cont.)

- Tax Credits
  - $12 million for **small producers** (< 50,000bbl/yr.)
  - 20% for qualified **capital** expenditures
  - 30% - 40% for qualified **exploration** expenditures
  - 25% of **losses carried forward**

Example 1: New Entrant

- A new entrant with no current production pursues an exploration project requiring $200 million in investment
- Company receives a 20% - 40% investment credit (depending on location), worth $40 - $80 million
- Company also receives an additional 25% credit for its "tax loss", worth up to $50 million

Example 1: New Entrant (*cont.*)

- The total credits of $90 - $130 million, can be:
  - Directly recouped (cash) from the state
  - Transferred to a person that does pays tax, so that the Transferee pays $90 - $130 million less in tax
- Either way, State pays $90 - $130 million for the exploration; company pays $70 - $110 million.
- If the exploration effort fails, the state never recoups this money.

  The state bears the risk for failure as does the new entrant

Example 2: Incumbent Producer

- Incumbent with current production pursues a development requiring $200 million investment
- Company receives a 20% capital investment credit, worth $40 million
- By reducing their PTV, the company reduces their taxes due by the total capital expense multiplied by the tax rate:
  - $200 million * 25%, worth $50 million; plus
  - $200 million * progressivity surcharge rate (which is reduced due to the drop in PTV)

Example 2: Incumbent Producer (*cont.*)

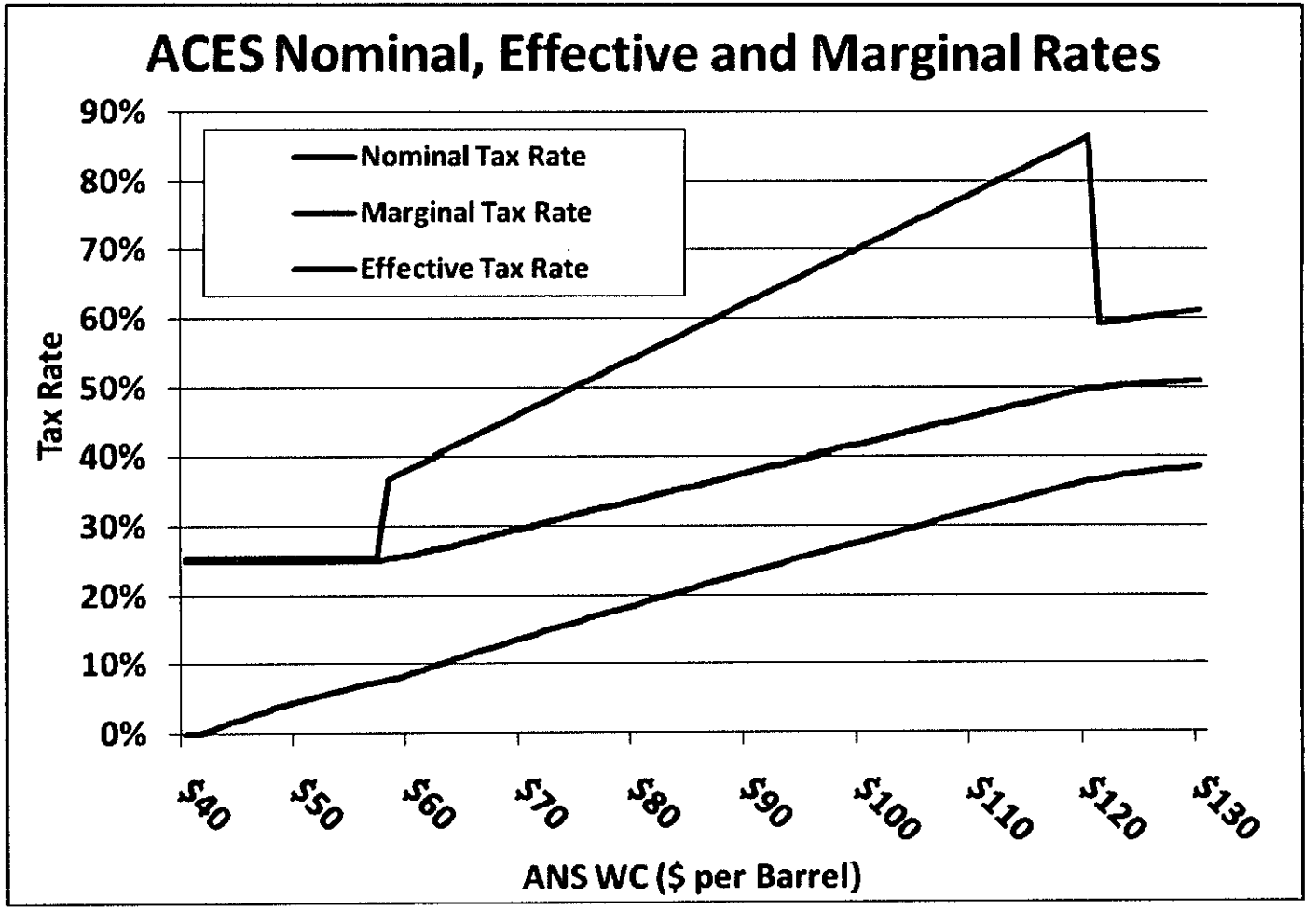
- Deductions and credits total more than 45% of the $200 million, greater than $90 million
- State pays more than $90 million of the new development's capital cost; true investment cost for the incumbent is less than $110 million
- If the development fails, the state never recoups this money

The state bears the risk for failure as does the incumbent investor

Key Points

- For the state there is no cash flow difference in providing a credit to a new entrant and an incumbent: **cutting a check (new entrant) is no different from a reduction in tax revenue (incumbent)**
- In both cases the state is an investor: real money leaves the treasury, **sharing the risk born by the active investor**
- ACES incentivizes investment **because state bears risk and reduces explorers/producers costs**
- ***Tax credits, along with the net-based structure, make the state the largest investor in exploration and new development activities***

ACES Tax Rate



* Based on $26 combined transportation and lease expenditure deductions

ACES and Oil and Gas Investment

- ACES Overview
  - How the Tax is Structured
  - Incentivizing New Investment
- ACES Status Report
  - Revenue comparison
  - Lease Expenditure Experience and Forecasts
  - Standard Deduction Experience
  - Oil and Gas Employment Figures
  - Drilling Activity Levels

ACES Status Report

Requested by the Commissioner to review experience with ACES to date

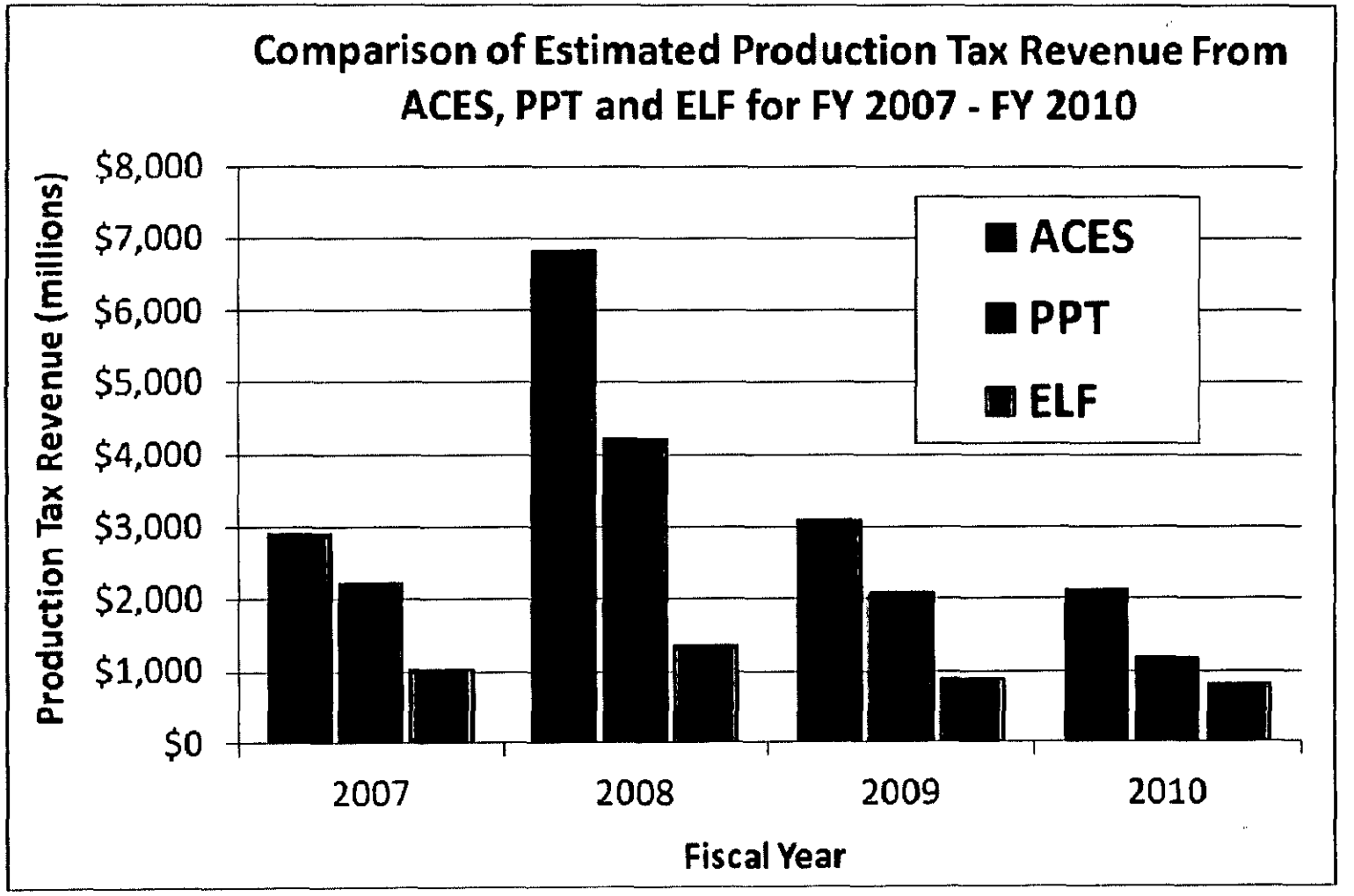
- Prepared by DOR Economics Technical Team
- Released on January 14, 2010

DOR Analysis of ACES

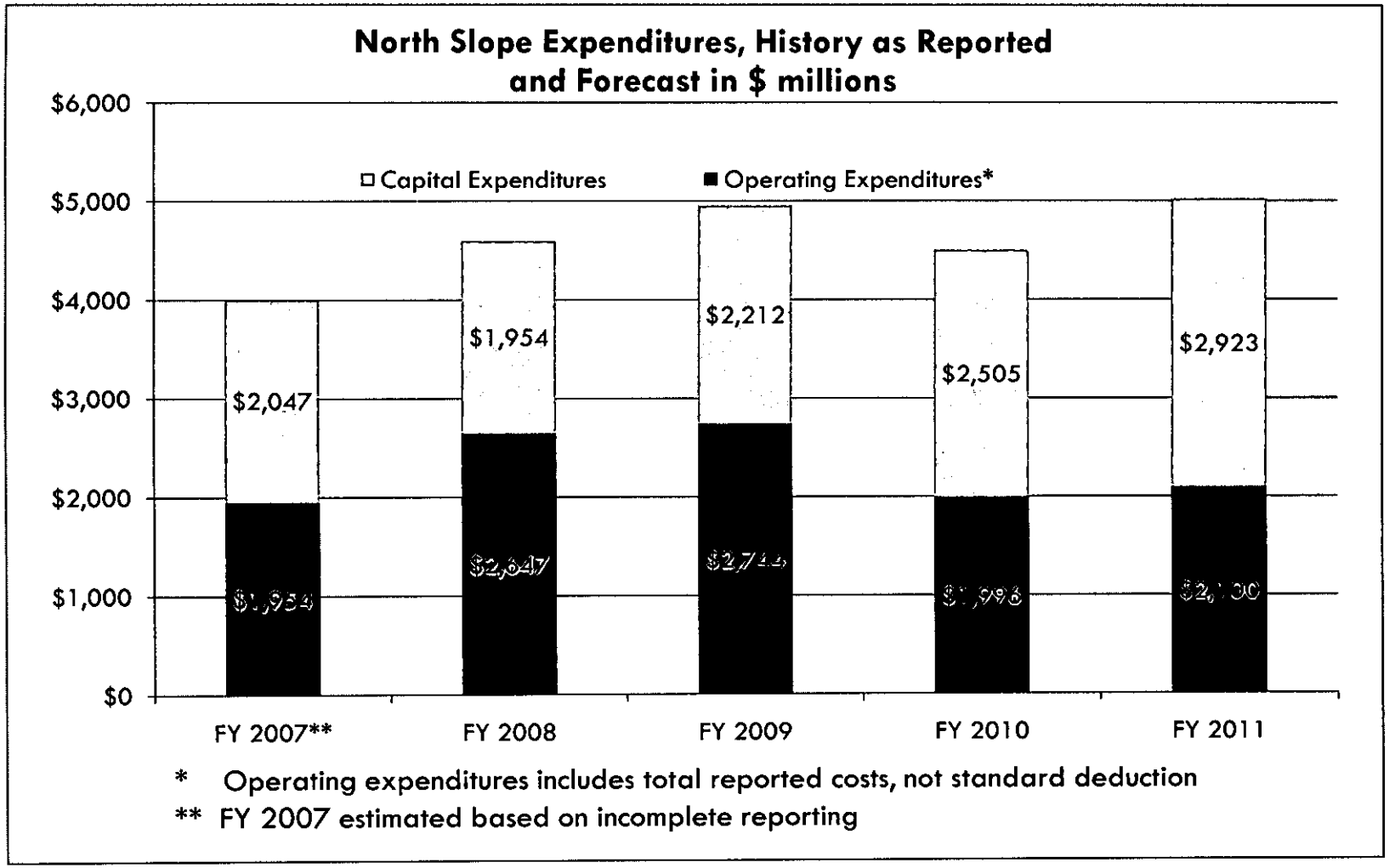
In conjunction with the ACES Status Report, and in response to inquiries from legislators, the department reviewed several sources of available information to gauge industry response to the recent tax changes. Sources included:

- Taxpayer Data
- Dept. of Labor Data
- AOGCC Data
- DNR Data

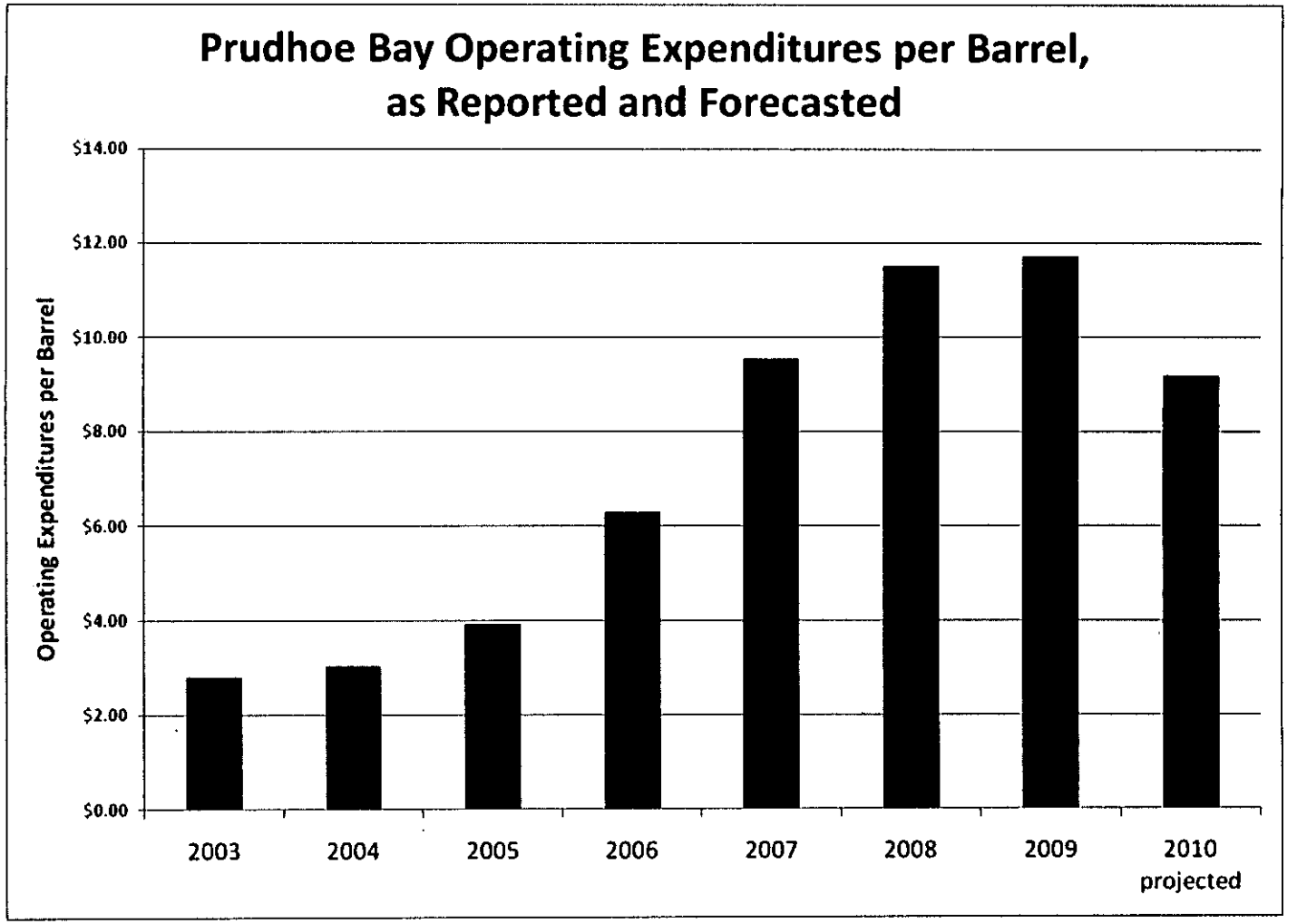
Revenue Under Various Tax Systems



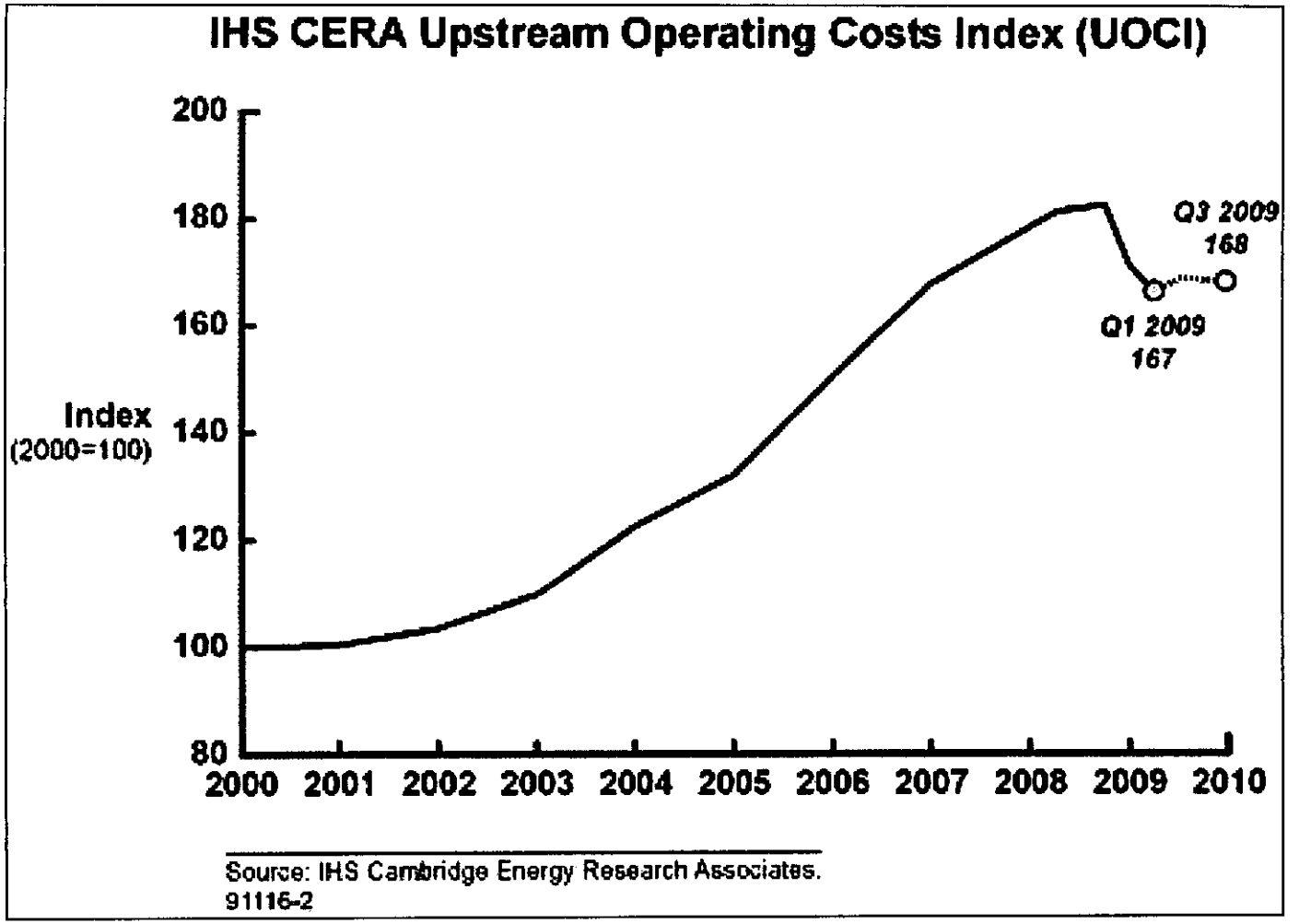
North Slope Expenditures



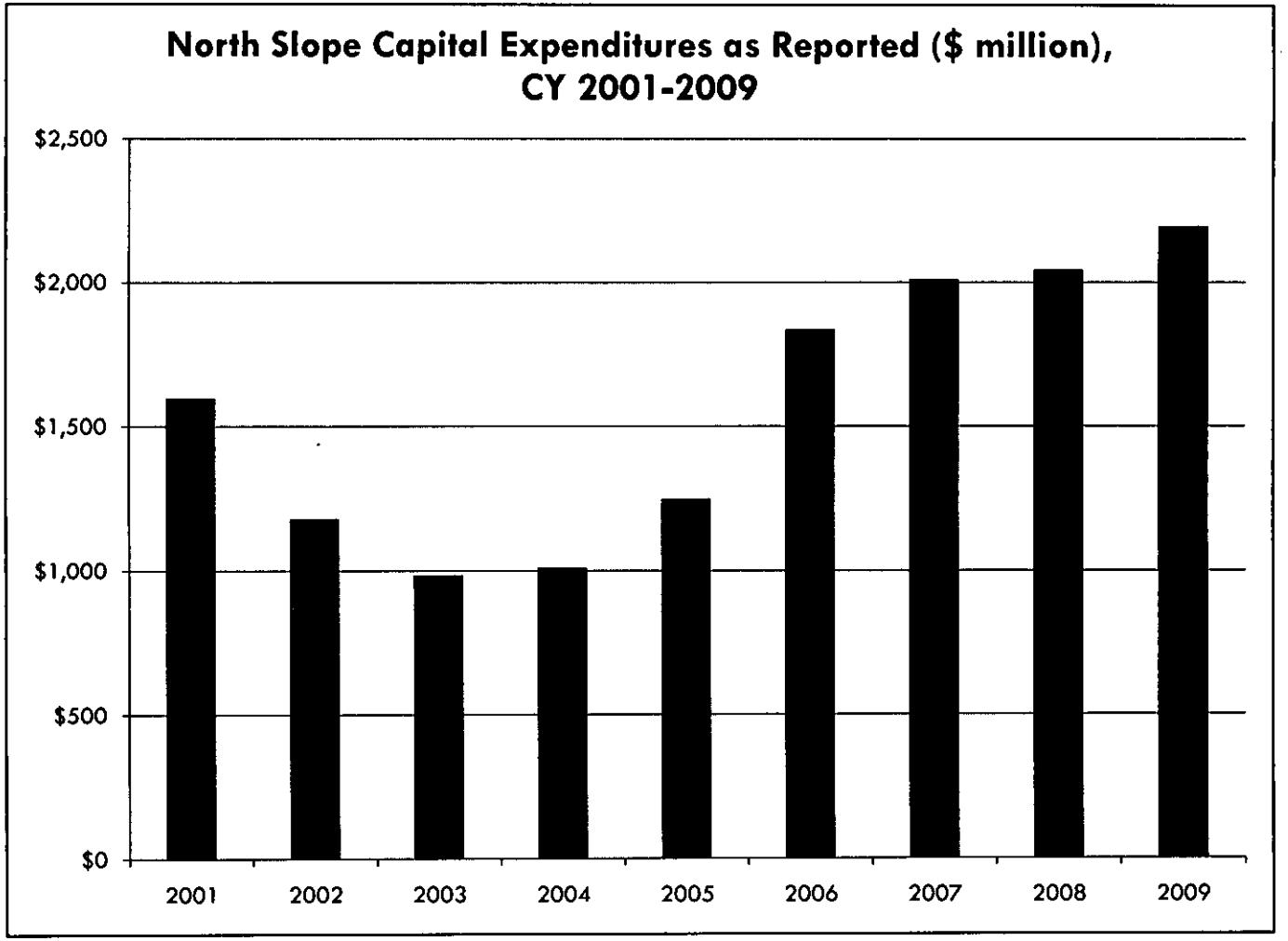
Historical Trends - Prudhoe Bay Operating Costs



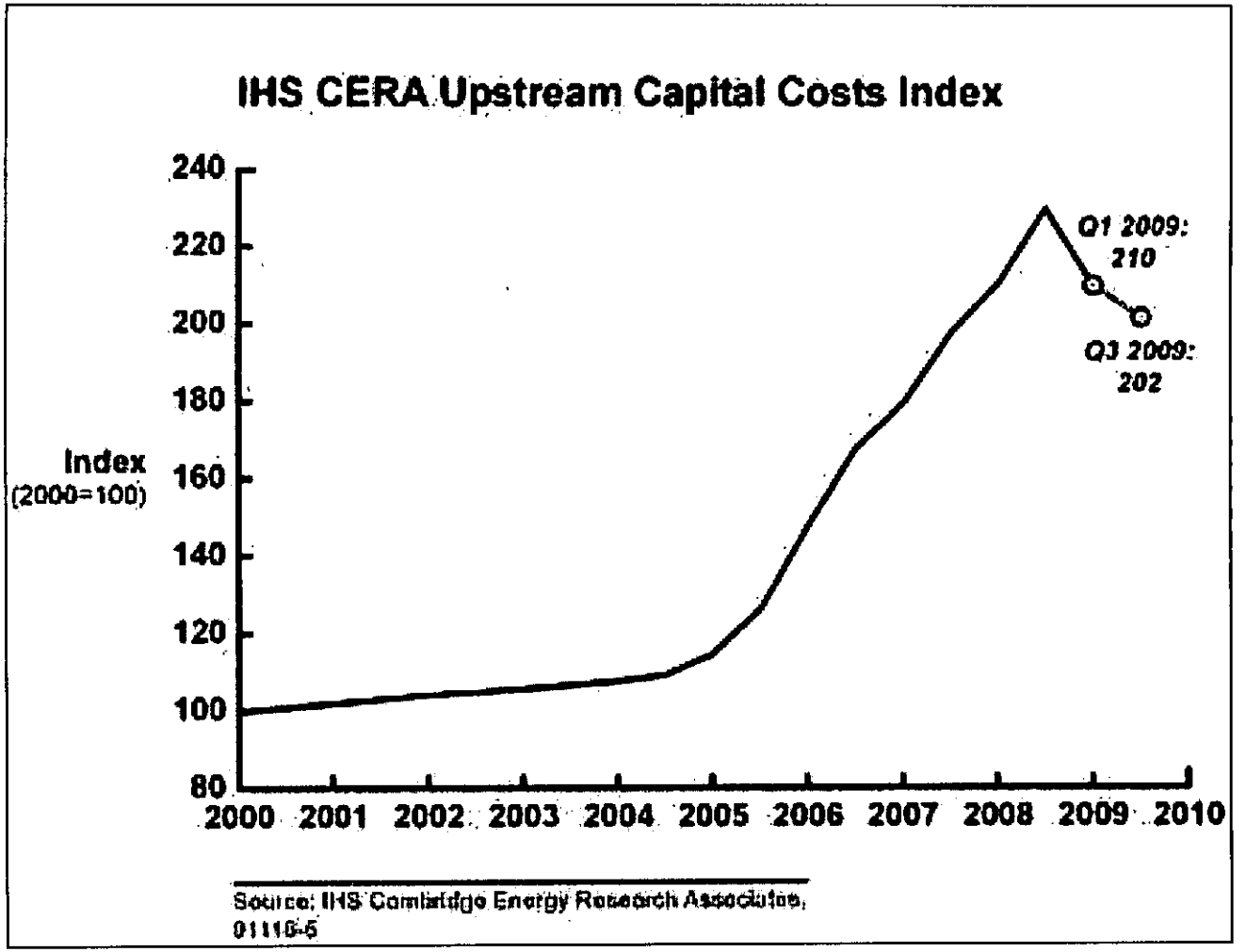
Historical Trends – Worldwide Upstream Operating Costs



Historical Trends – North Slope Capital Expenditures



Historical Trend – Worldwide Upstream Capital Costs

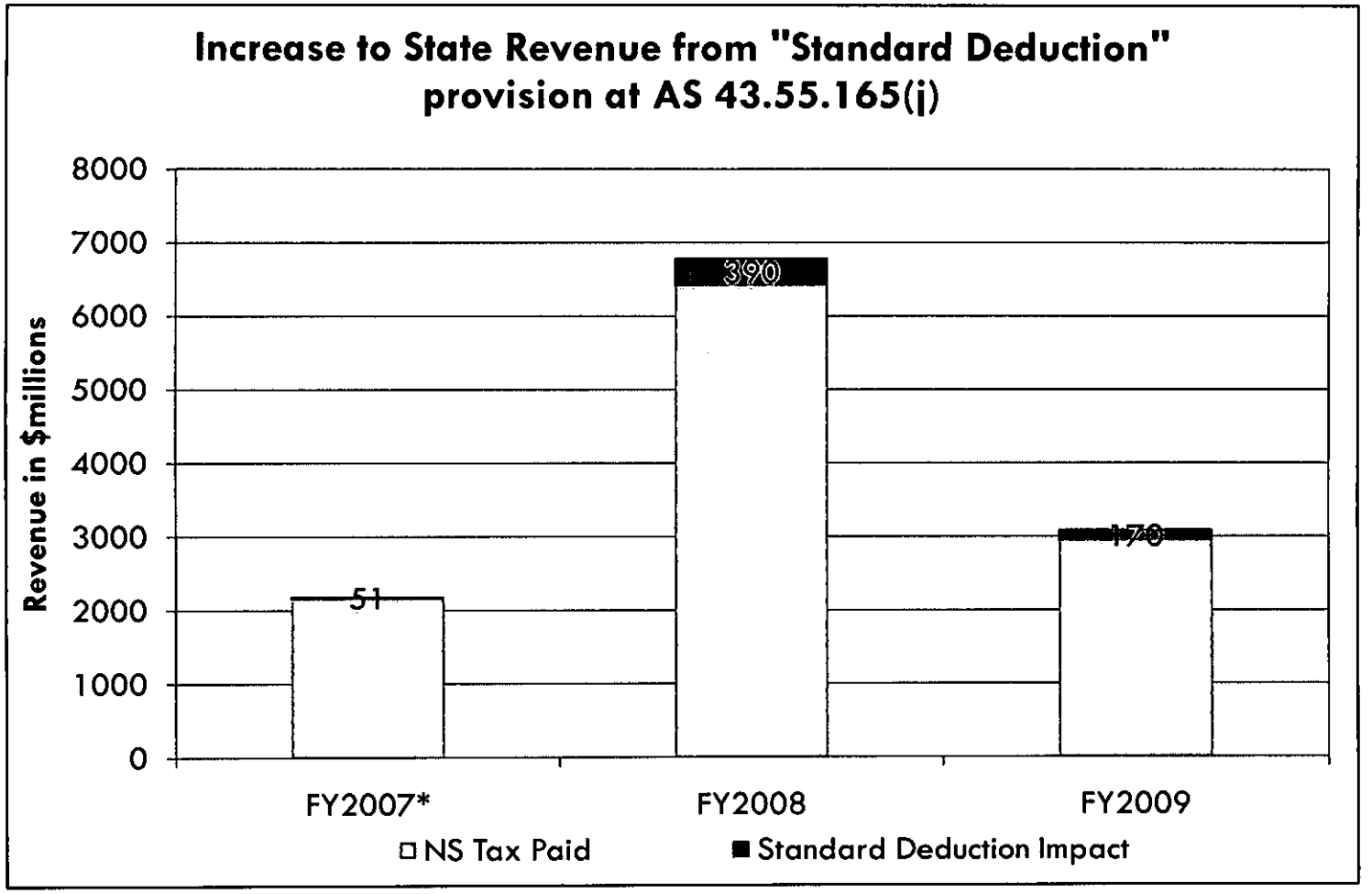


Are the Increasing Spending Levels due to Maintenance Costs?

CAPEX- Capital expenditures ("CAPEX") on pipeline repairs at Prudhoe Bay increased after corrosion incidents in 2006. However, the majority of growth in capital expenditures since 2007 is attributable to drilling, seismic and other production related projects.

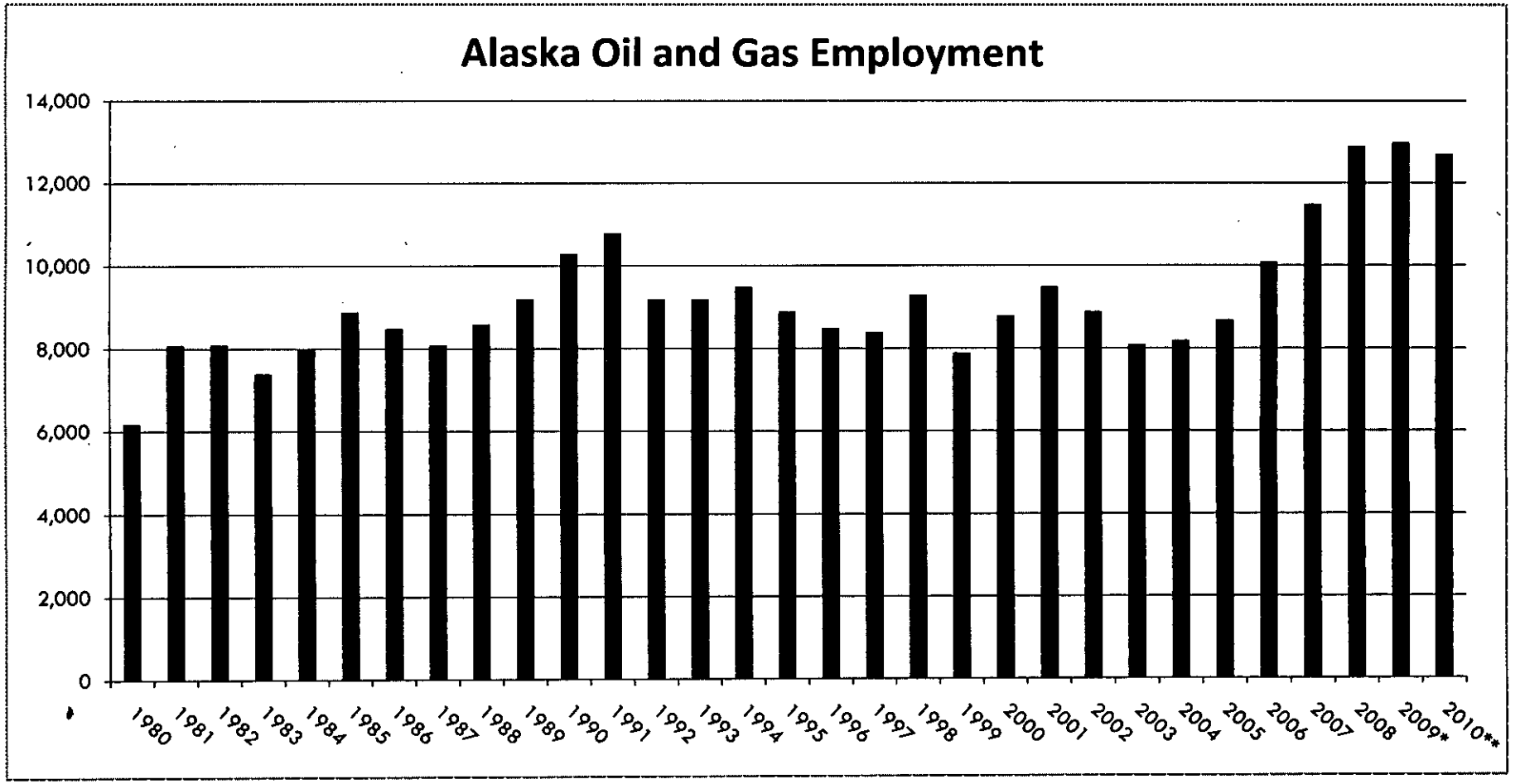
OPEX - Since 2007, the proportion of total operating expenditures ("OPEX") related to major repairs does not appear to be the key driver in the growth of total operating expenditures

Effect of Standard Deduction Provision



*Standard Deduction in place for half of FY 2007.

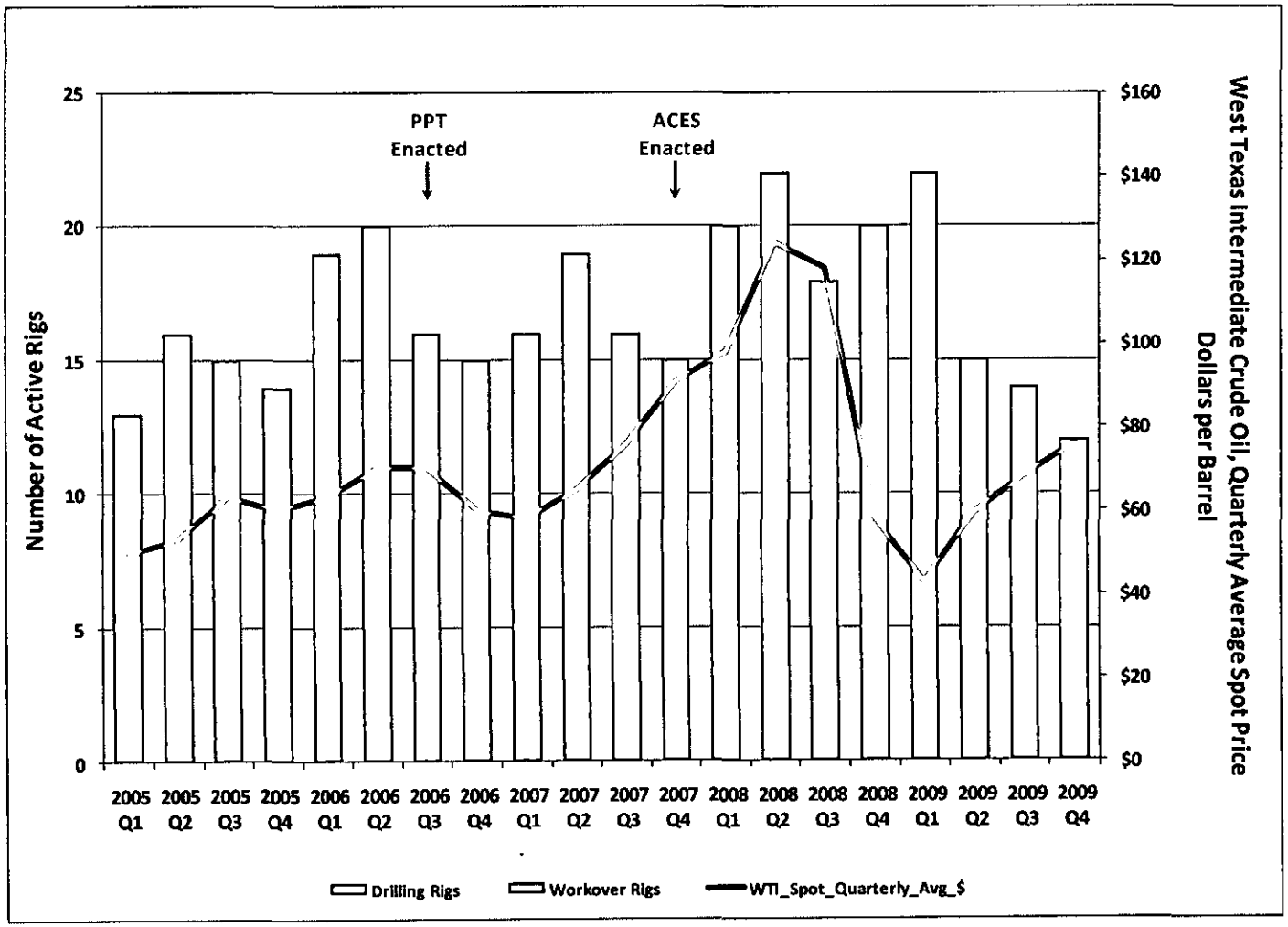
Oil and Gas Industry Employment 1980-2009



*Estimates for 2009 are preliminary; revised as of February 3, 2010.

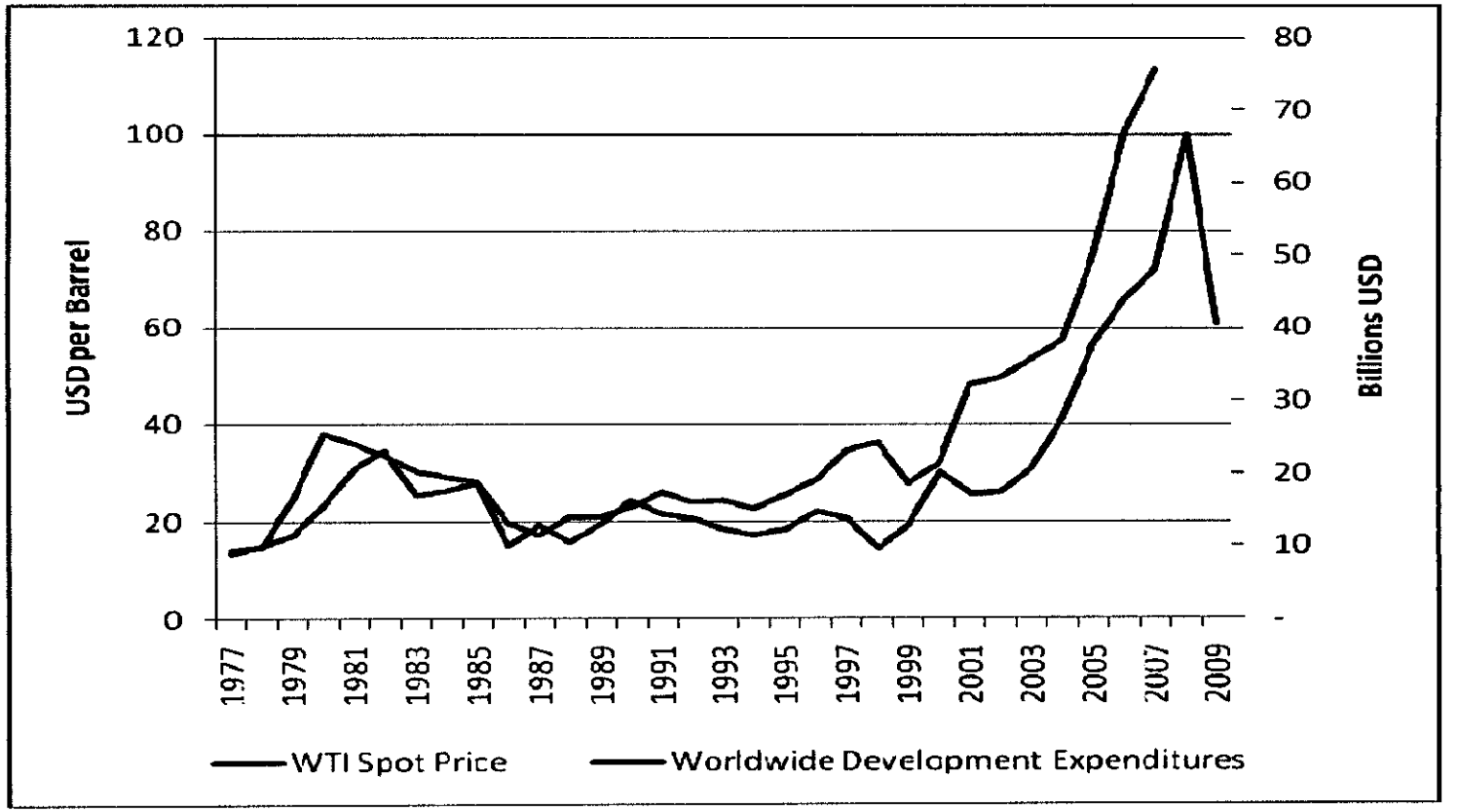
**Forecast.

Active Drilling Rigs in Alaska 2005-2009



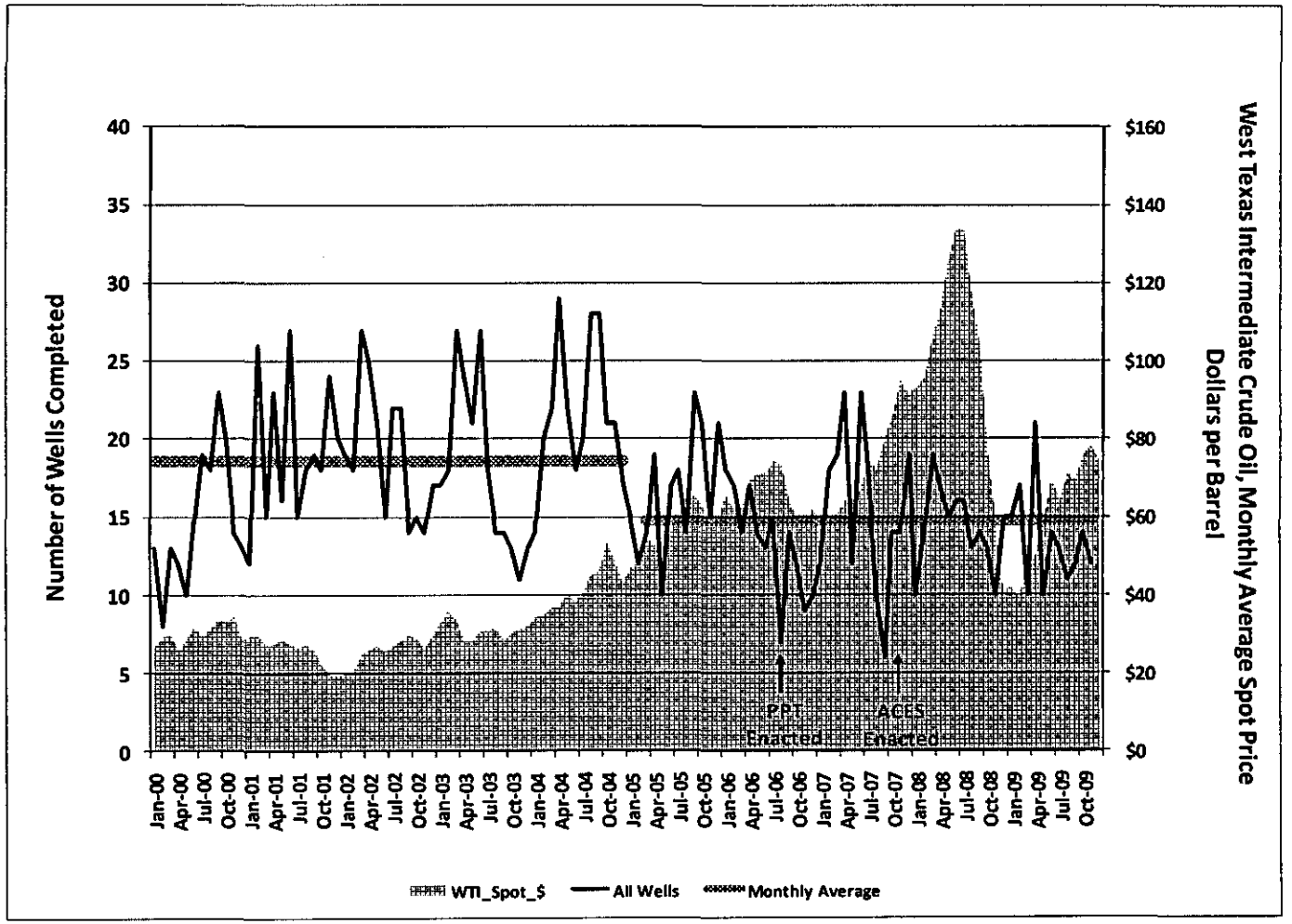
Development Expenditures Strongly Correlated with Oil Prices

Historical WTI Price and Worldwide Development Expenditures of EIA Surveyed Companies



Source: EIA Financial Reporting System data on development costs (data available thru 2007 only). Note, this survey does not reflect a consistent set of companies. WTI prices from BP Statistics and the Wall Street Journal.

Wells Completed 2000-2009



Companies Drilling in Alaska During the Last Year - by Region

North Slope

- Anadarko
- BP
- Brooks Range
- Conoco Phillips
- ENI
- Pioneer
- Savant
- Ultrastar

Cook Inlet

- Aurora
- Marathon
- Unocal

Interior

- Rampart
- Rutter & Wilbanks

Conclusions from the Analysis

In general, the information does not indicate that changes in the tax system have had a direct negative impact on industry activity in the state

In fact, the data would indicate that the investment incentive provisions of ACES are contributing to increased levels of expenditure

2631

The End

2/10/10 PRESENTATION: PORT MACKENZIE RAIL EXTENSION

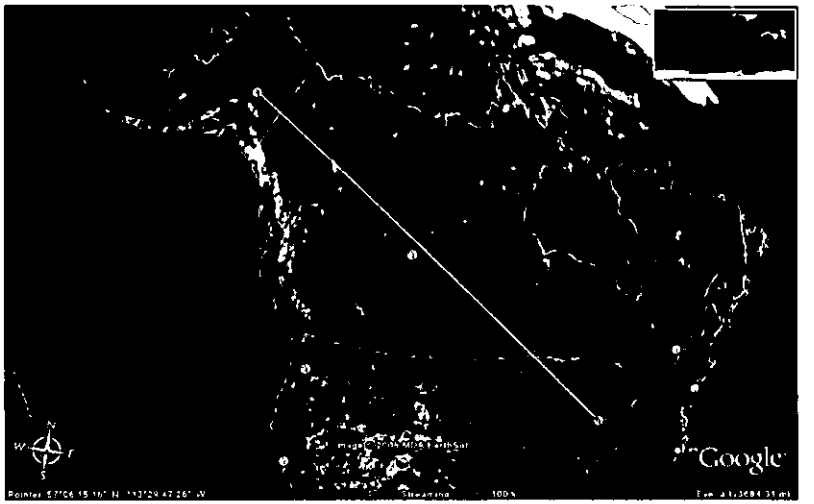
2633

Mineral Occurrences and Potential Sources of Freight for the Alaska Railroad Extensions – Port MacKenzie to the Canadian Border

By
Paul Metz, Ph.D., DIC, P.G.
Director, Mineral Industry Research Laboratory
University of Alaska Fairbanks
February 2007-2010

Objectives

- Estimation of the expected tonnage of mineral concentrates that would be generated within a 200 km wide corridor along the proposed route of the railroad extensions from Fairbanks to the Canadian Border over the next 100 years.
- Estimation of the expected economic impact of the mines that would generate those mineral concentrates.



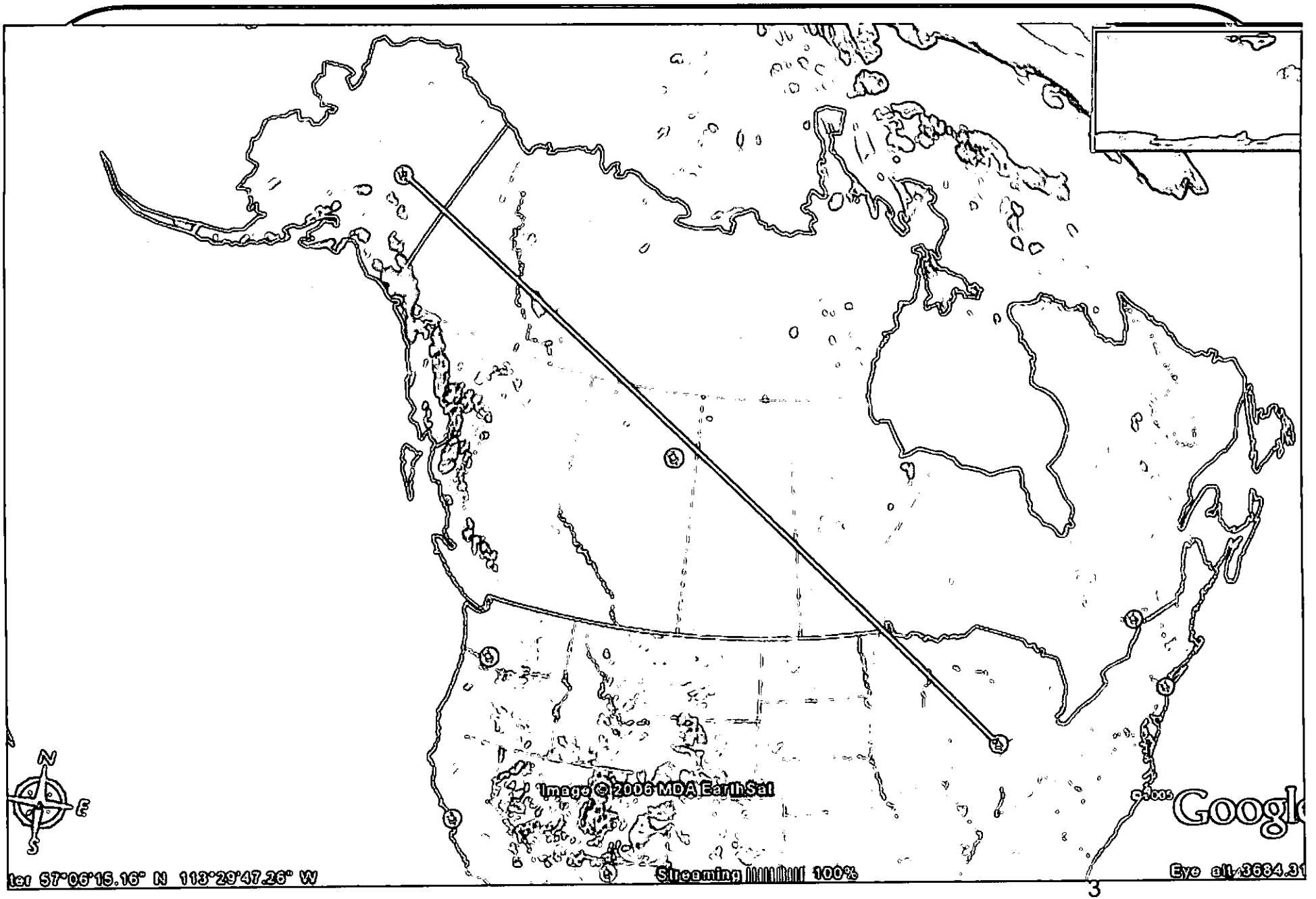

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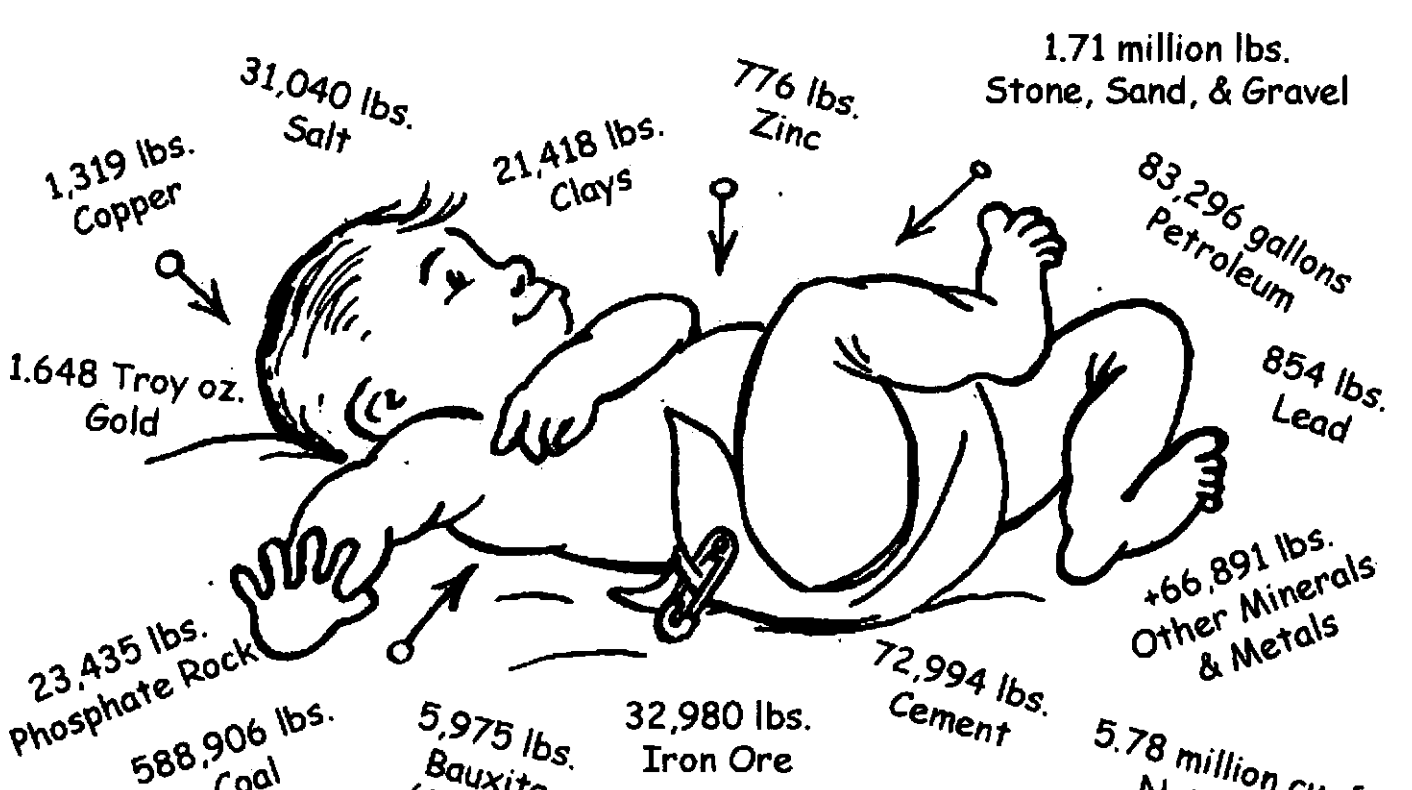
Image © 2006 MDA EarthSat
Google
Streaming 100%
57°06'15.16" N 113°29'47.26" W

Every American Born Will Need . . .



***3.7* million pounds of minerals, metals, and fuels in their lifetime**

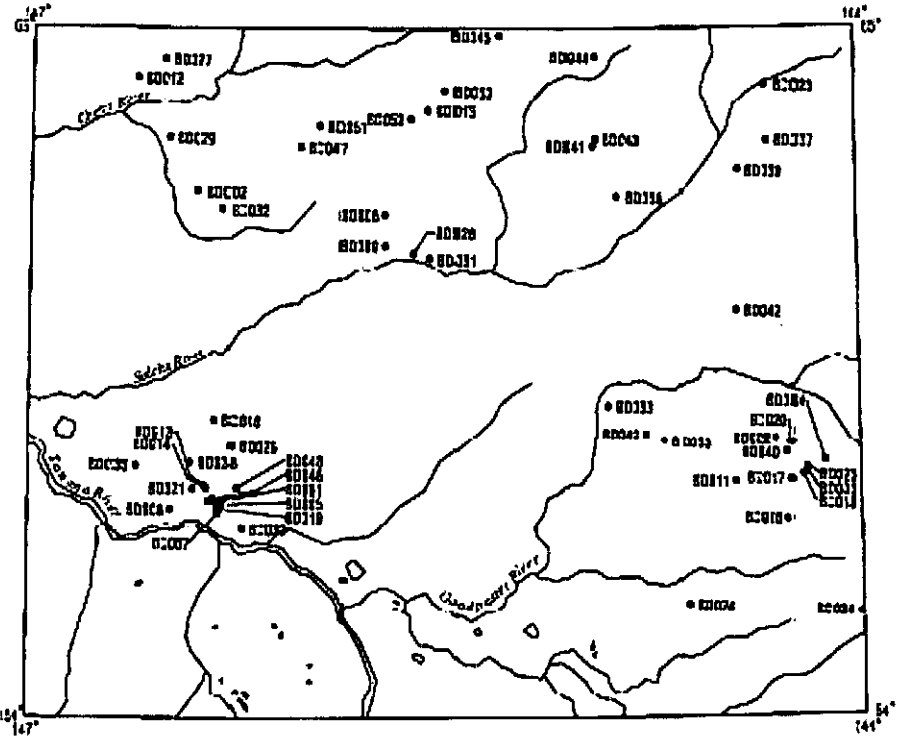
© 2008, Mineral Information Institute

2637

Sources of Data

- Alaska Resources Data Files (ARDF)
- Mineral Deposit Models in ARDF from Cox and Singer (1986).
- Mineral Evaluation Models developed for each mineral deposit model utilizing U.S. Bureau of Mines Cost Estimating System adjusted for current costs and mineral commodity prices.

Example of Alaska Resource Data Files Mineral Locations



Distribution of mineral occurrences in the Big Delta 1:250,000-scale quadrangle, Alaska

2639

Example of Tonnage Curve for Mineral Deposit Model from Cox and Singer 1986

Model 16--Con

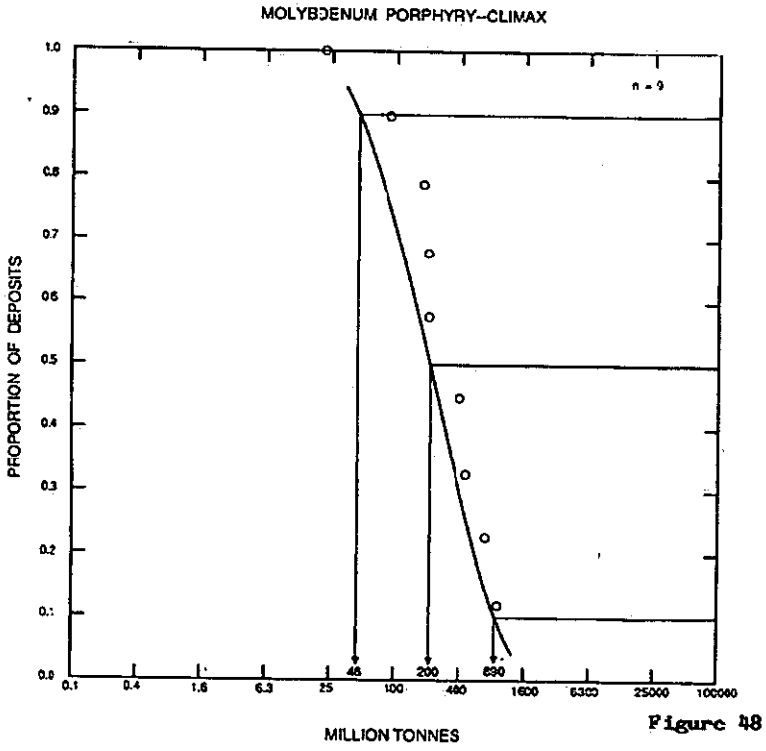


Figure 48. Tonnages of Climax Mo deposits.

Example of Grade Curve from Cox and Singer 1986

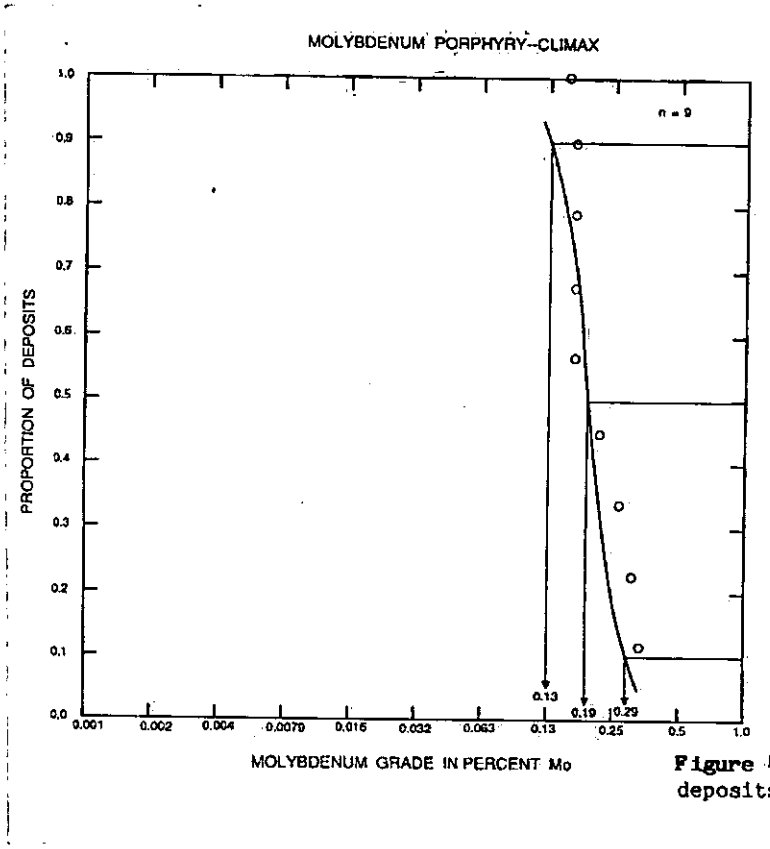


Figure 49. Molybdenum grades of Climax Mo deposits.

2641

Mineral Valuation Models Input and Output Data

- Mineral valuation models for 50 and 90 percentile tonnage and grade for 43 different mineral deposit types.
- Deposit type.
- Surface or underground mining method.
- Total tonnage/grade.
- Extraction rate.
- Dilution/waste rate.
- Proposed mine life.
- Daily production.
- Maximum ore depth.
- Stripping ratio.
- Site haulage distance.
- Distance to power.
- Beneficiation method.

Mineral Valuation Models Input and Output Data

- Mine capital and operating cost estimates
- Mill capital and operating cost estimates
- Infrastructure and operating cost estimates.
- Revenue estimates based on current commodity prices
- Cash flow analysis base on current taxation rates.
- Minimum rate of return on capital = 10%.

Mineral Occurrences in Each Quadrangle Transected by Proposed Railroad Extension Corridor

Quadrangle	No. Min. Occur.
Tyonek	17
Anchorage	98
Talkeetna	37
Talkeetna Mts.	147
Healy	37
Fairbanks	115
Livengood	155
Circle	2
Big Delta	14
Mt Hayes	153
Gulkana	29
Eagle	17
Tanacross	21
Nabesna	45
Total	887

2644

Mineral Deposit Model Types
(After Cox and Singer, 1986)

- 1. Stillwater Ni-Cu
- 7a. Synorogenic-synvolcanic Ni-Cu
- 8a. Minor podiform Cr
- 8b. Major podiform Cr
- 8c. Limassol Forest Co-Ni
- 8d. Serpentine hosted asbestos
- 10. Carbonatite
- 14a. W skarn
- 14b. Sn skarn
- 14c. Replacement Sn
- 15a. W veins
- 16. Climax Mo
- 17. Porphyry Cu

2645

Mineral Deposit Model Types
(After Cox and Singer, 1986)

- 18b. Cu -skarn
- 18c. Zn-Pb skarn
- 18d. Fe skarn
- 20c. Porphyry Cu-Au
- 21a. Porphyry Cu-Mo
- 21b. Porphyry Mo low-F
- 22a. Volcanic hosted Cu-As-Sb
- 22b. Au-Ag-Te veins
- 22c. Polymetallic veins
- 23. Basaltic Cu
- 24b. Besshi massive sulfide
- 25a. Hot-springs Au-Ag
- 25c. Comstock epithermal veins

Mineral Deposit Model Types
(After Cox and Singer, 1986)

- 26a. Carbonated-hosted Au-Ag
- 27d. Sb deposits
- 28a. Kuroko massive sulfide
- 29a. Quartz-pebble conglomerate Au-U
- 36a. Low-sulfide Au-quartz veins
- 36b. Homestake Au
- 37a. Unconformity U-Au
- 39a. Gold on flat faults

Mineral Commodity Prices
(as of January 2007)

Metal Prices Use in this Investigation (January 2007)		
Commodity	Units	Price
Aluminum	$/lb	1.28
Antimony	$/lb	0.85
Arsenic	$/lb	0.45
Asbestos	$/ton	125.00
Barite	$/ton	23.00
Bismuth	$/lb	0.18
Cadmium	$/lb	0.25
Chromite	$/lb	2.18
Cobalt	$/lb	18.00
Columbium	$/lb	8.07
Copper	$/lb	2.85
Fluorite	$/lb	152.00
Germanium	$/lb	391.00
Gold	$/tr oz	625.00

Mineral Commodity Prices
(Continued)

Iron	$/ton-unit	0.60
Lead	$/lb	0.79
Mercury	$/flask	700.00
Molybdenum	$/lb	28.00
Nickel	$/lb	6.75
Palladium	$/tr oz	286.00
Rhodium	$/oz	3095.00
Platinum	$/tr oz	1050.00
Silver	$/tr oz	12.30
Tantalum	$/lb	182.62
Tin	$/lb	2.48
Titanium	$/lb	1.30
Tungsten	$/lb	1.82
Vanadium	$/lb	1.75
Zinc	$/lb	1.94

2649

Probabilities

- Probabilities of discovery and development at a given tonnage and grade
  - Mineral occurrence not in historic mining district – 90th percentile; P = 0.0001
  - Mineral occurrence not in historic mining district – 50th percentile; P = 0.0005
  - Mineral occurrence in historic mining district – 90th percentile; P = 0.001
  - Mineral occurrence in historic mining district – 50th percentile; P = 0.001
  - Mineral occurrence in historic mining district, adjacent to major mine; P = 0.01

2650

Expected Tonnage of Concentrates

- 50 Percentile tonnage and grade; Expected Tonnage = 11,000,000 tons per year for 100 years.
- 90 Percentile tonnage and grade: Expected Tonnage = 26,000,000 tons per year (equivalent tonnage from the development of only one porphyry Mo deposit or one layered mafic complex Cu-Ni deposit every 10 years).

2651

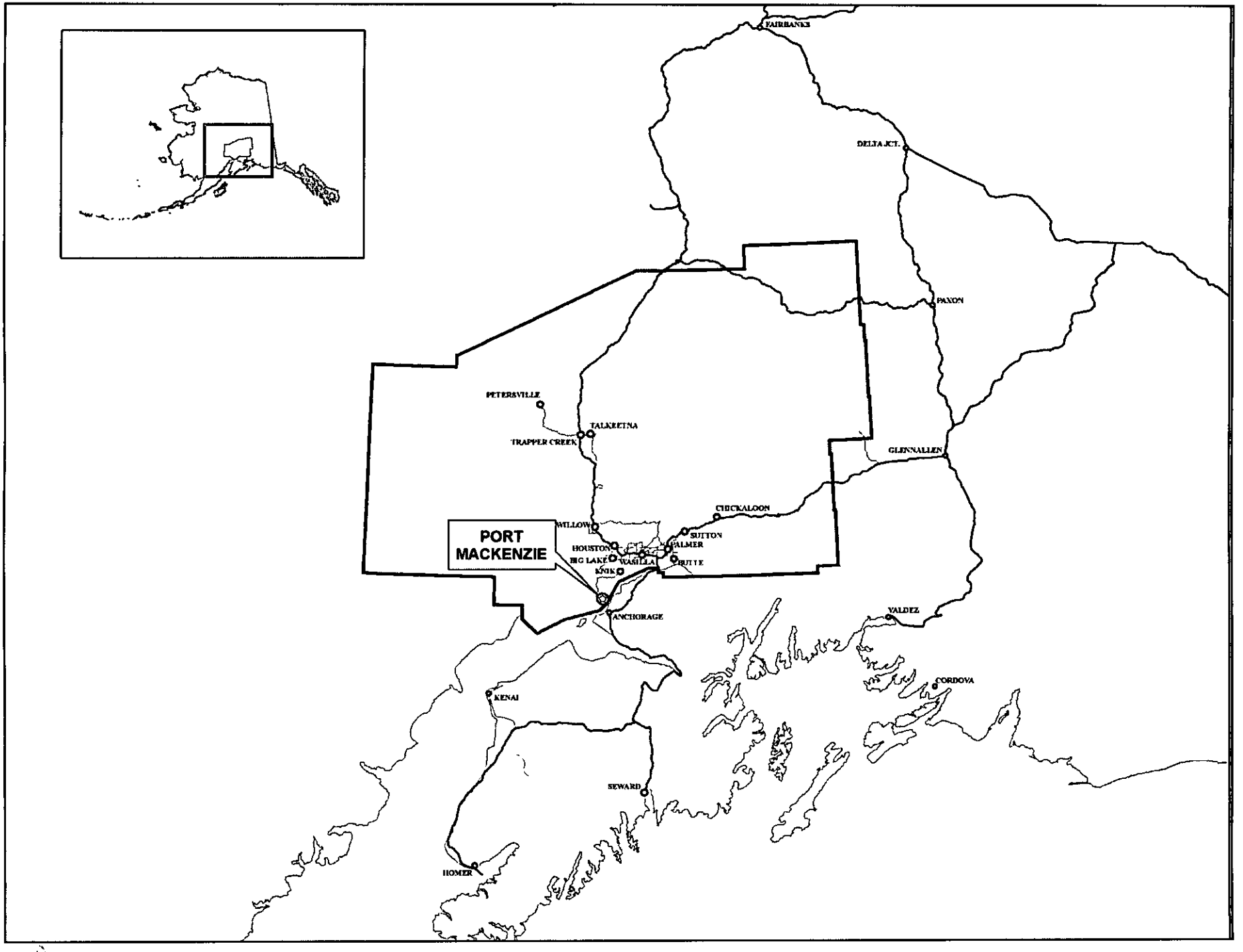
Expected Economic Benefits from the Development of the Mineral Occurrences in the Extension Corridor

- Economic benefits of the Fort Knox Mine – Information Insights, 1999 estimated $100 million per year to Fairbanks North Star Borough
- Over 12 year mine life the mine would provide economic benefits equivalent to the gross metal value of the deposit at the time of completion of the feasibility study.
- Expected gross metal value at 50 percentile = $9 billion
- Expected gross metal value at 90 percentile = $83 billion.

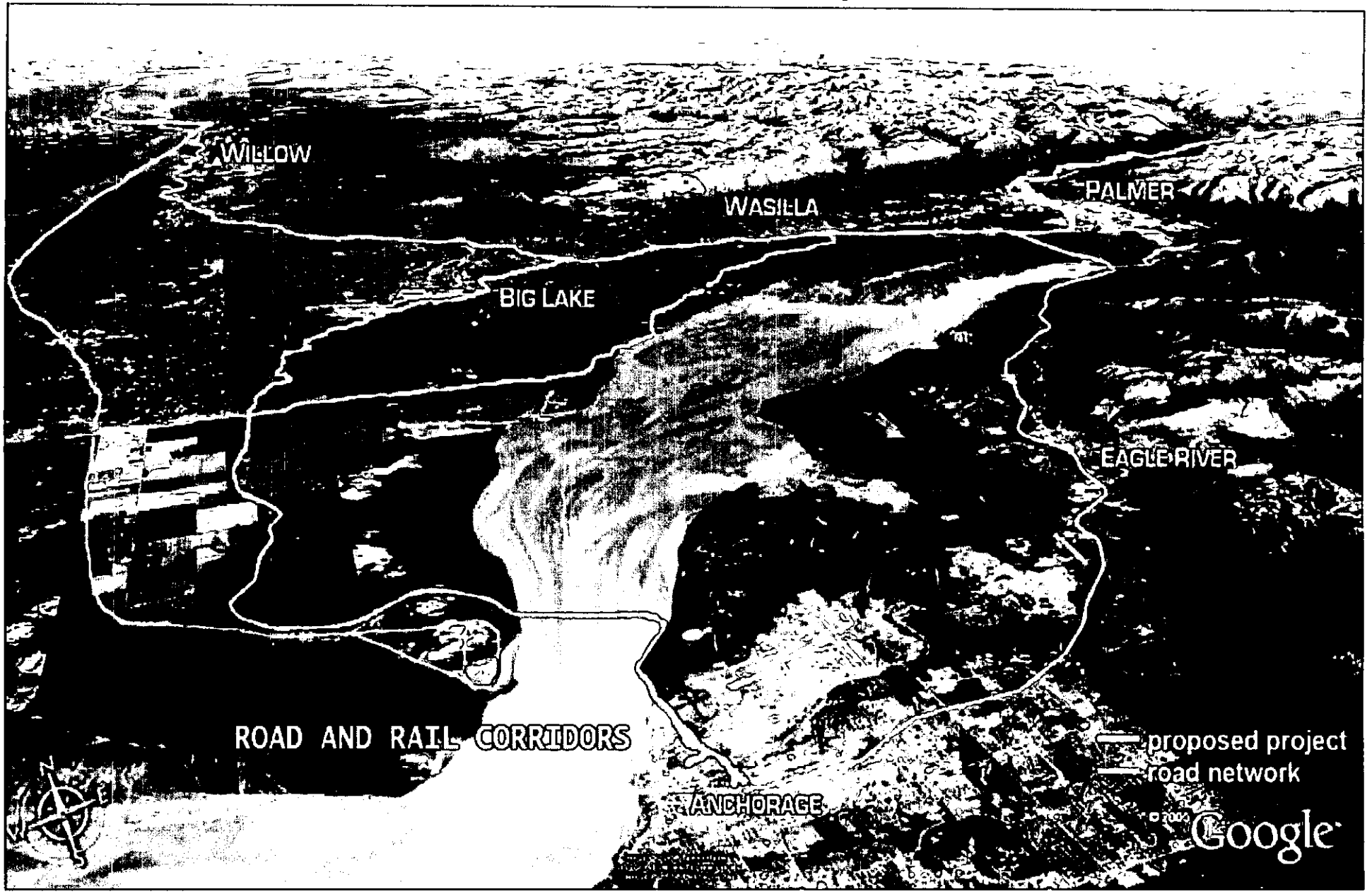
2652

Southcentral Rail Exension Project

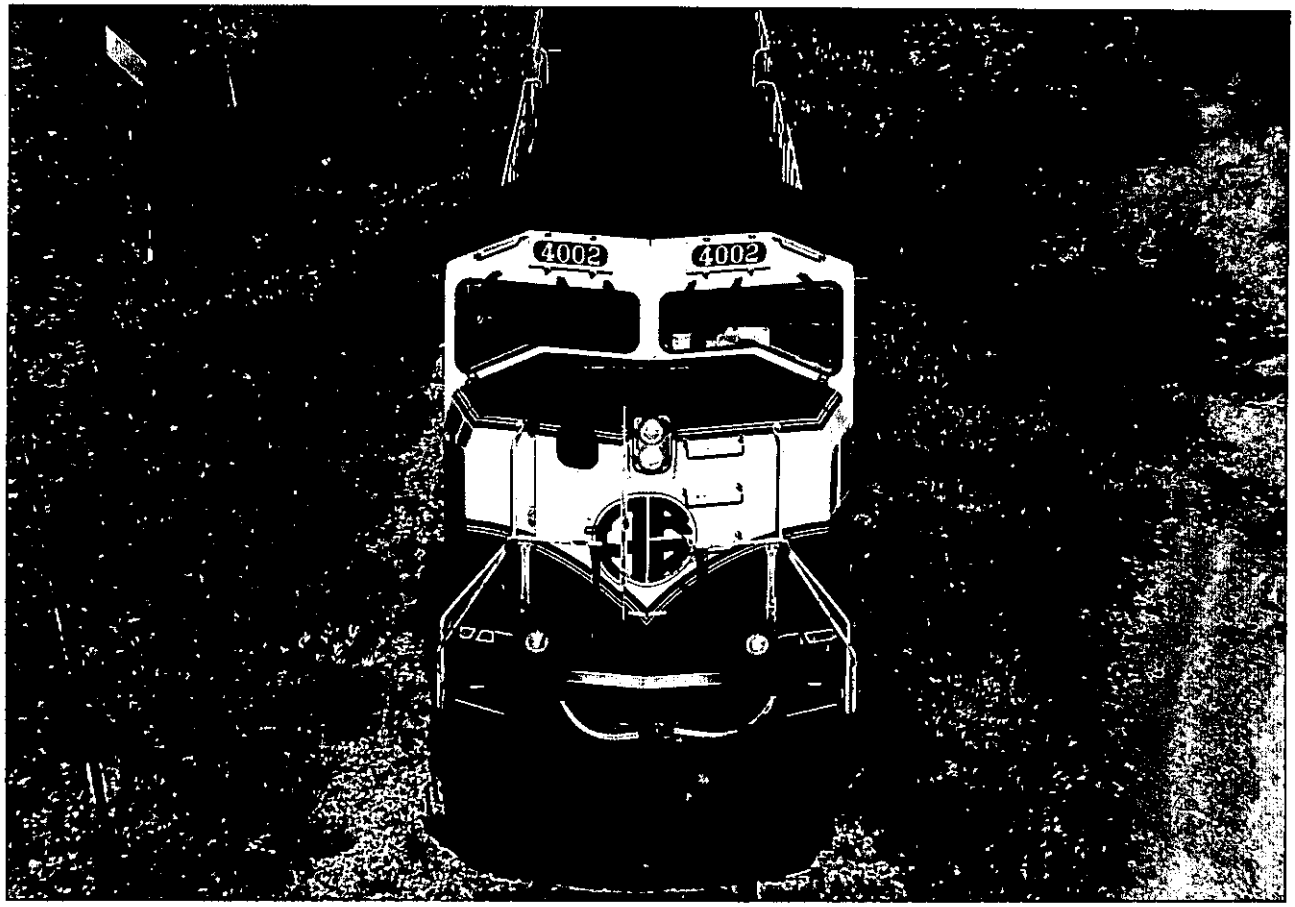
February, 2010


FAIRBANKS
DELTA JCT.
PAXON
PETERSVILLE
TALKEETNA
TRAPPER CREEK
GLENNALLEN
CHICKALOON
WILLOW
SUTTON
PALMER
HOUSTON
BIG LAKE
WASILLA
BUTTE
KNIK
PORT MACKENZIE
ANCHORAGE
VALDEZ
CORDOVA
KENAI
SEWARD
HOMER

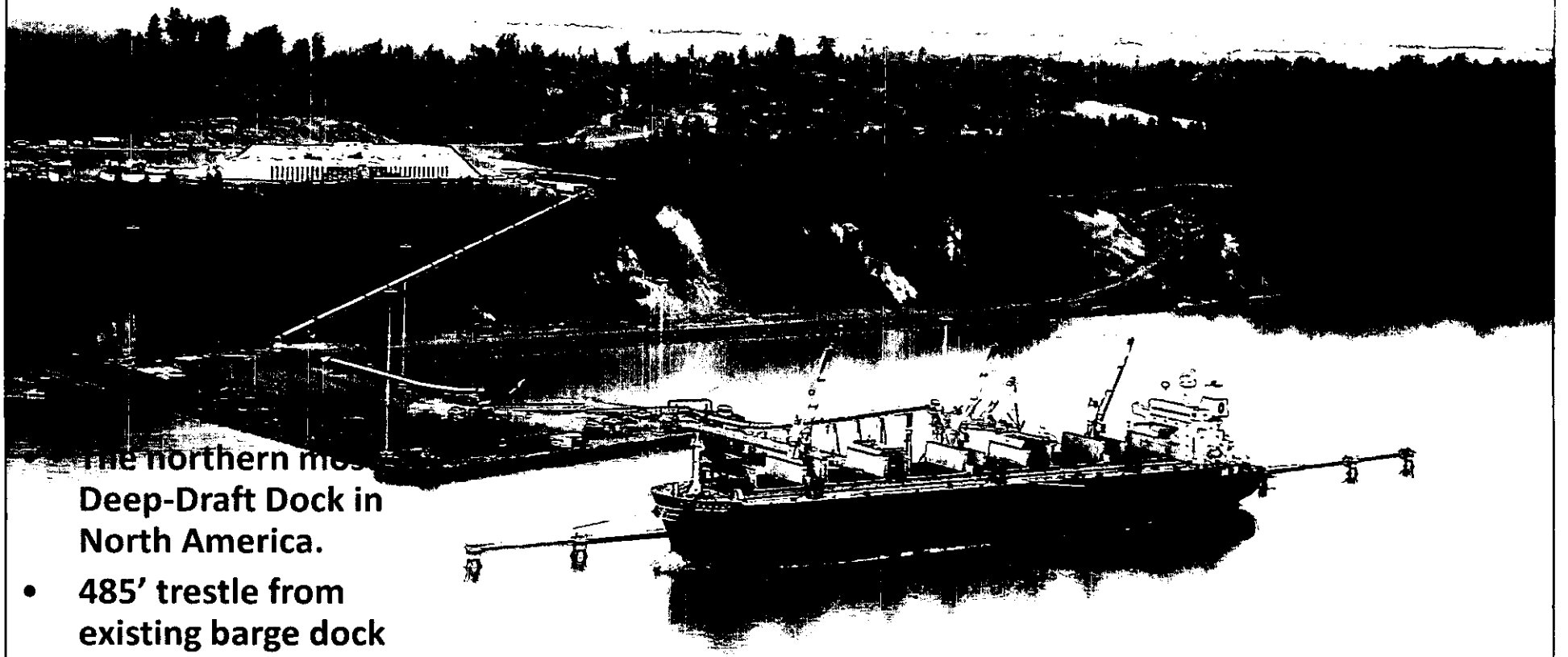
Location Map



South Central Rail Extension



DEEP-DRAFT DOCK (-60' MLLW)



- **The northern most Deep-Draft Dock in North America.**
- **485' trestle from existing barge dock leading to a dock face of 1,200'.**

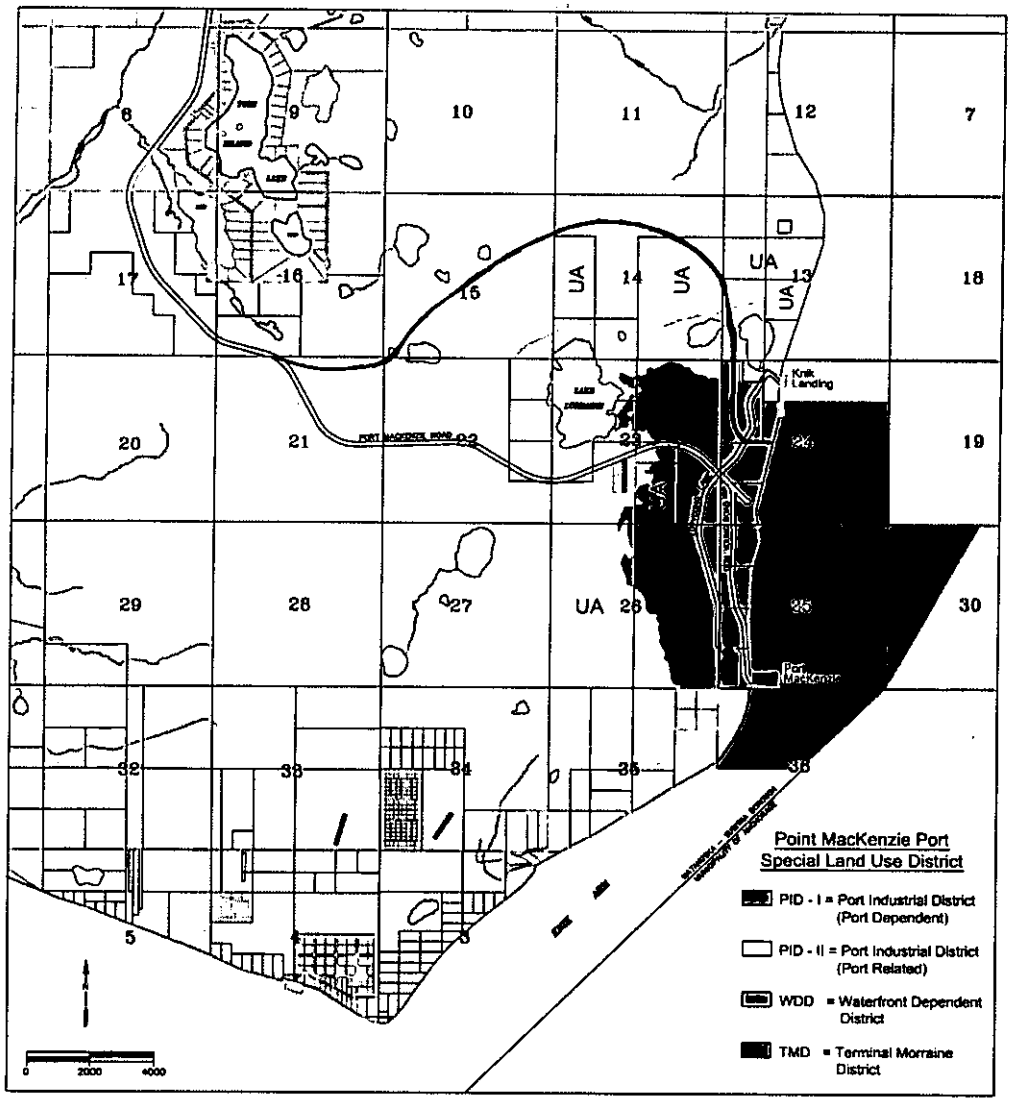
PORT DISTRICT

8,940 Acres

Commercial and Industrial Development

1,130 Acres

Borough Owned Tidelands



This is to certify that this is the official Point MacKenzie Port Special Land Use District adopted by Ordinance Serial No. 00-154. Revised by Ordinance Serial No. 02-208.

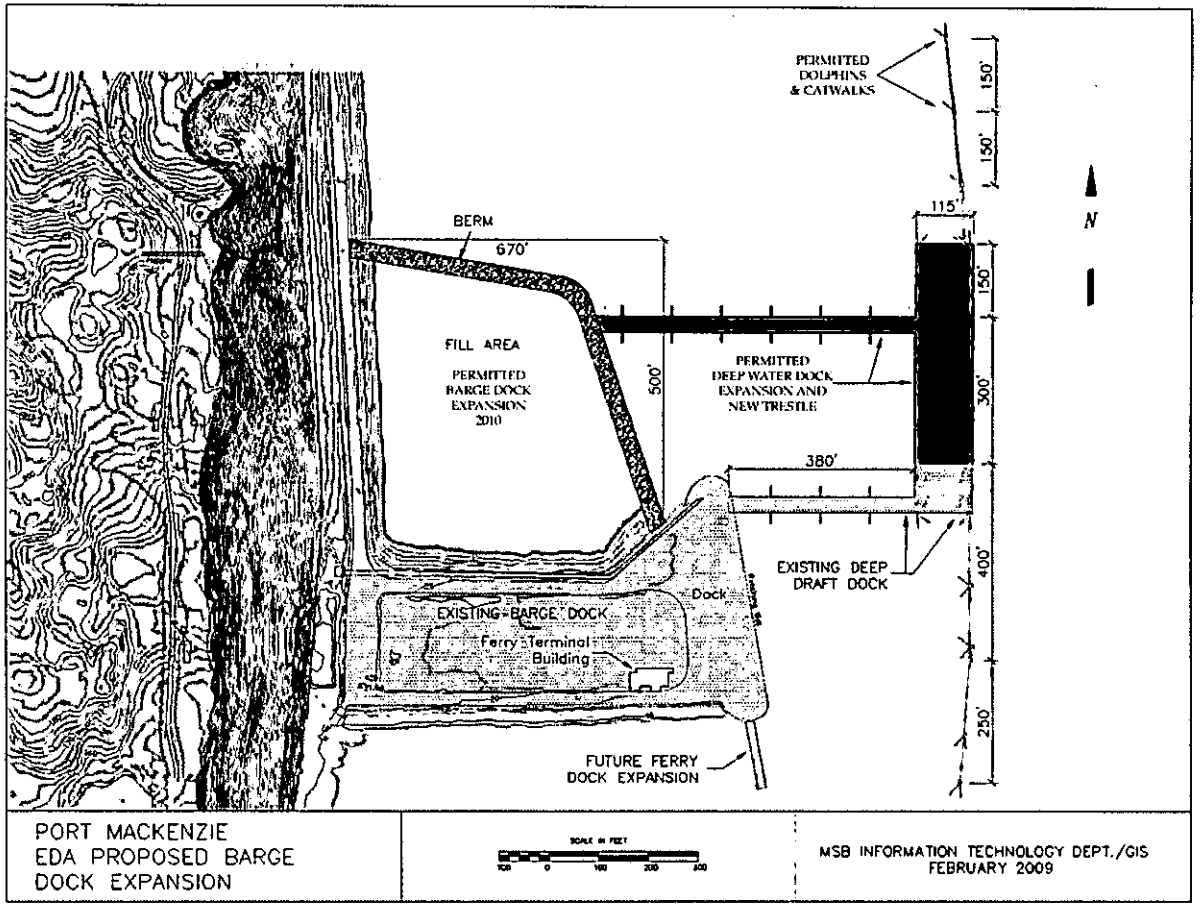
TIMOTHY L. ANDERSON, Borough Mayor

ATTEST:

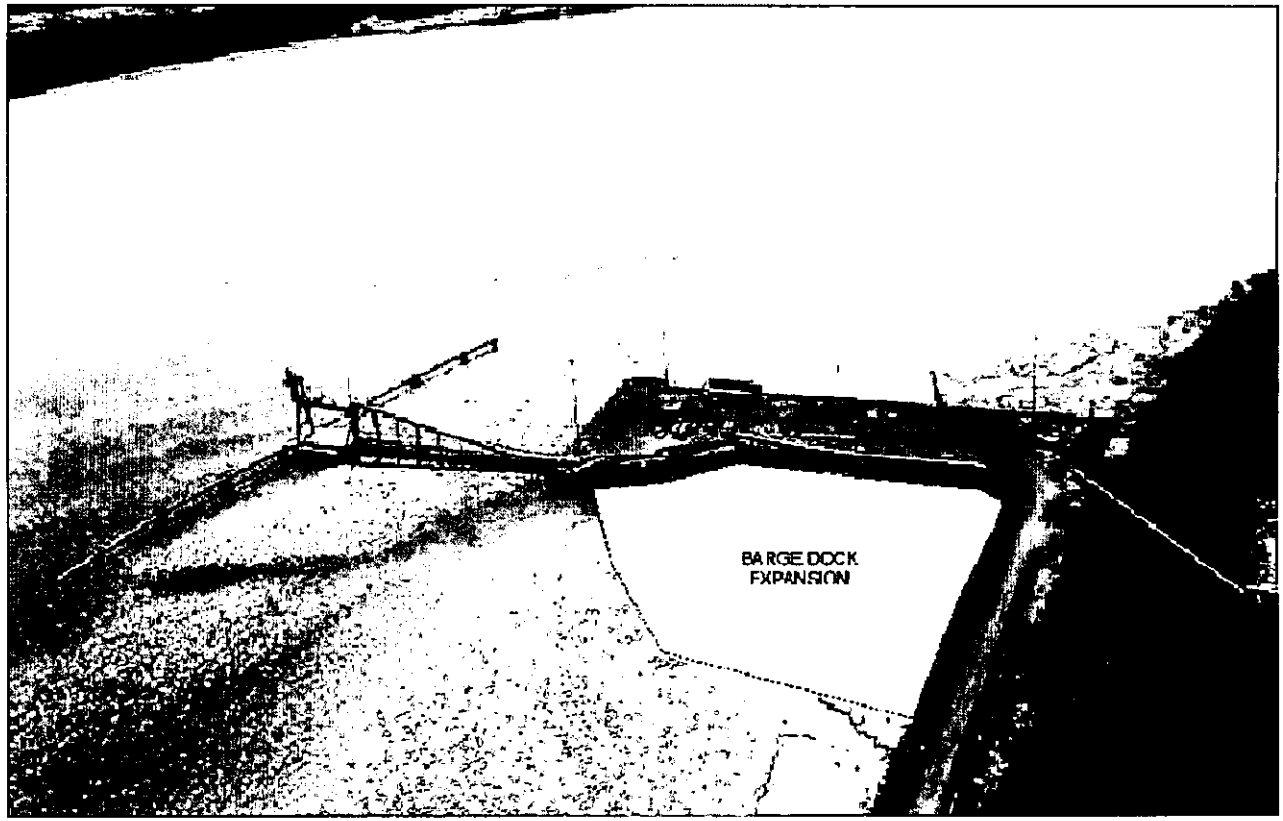
SANDRA A. DILLON, Borough Clerk

OFFICE OF INFORMATION TECHNOLOGY/GIS
February 10, 2004

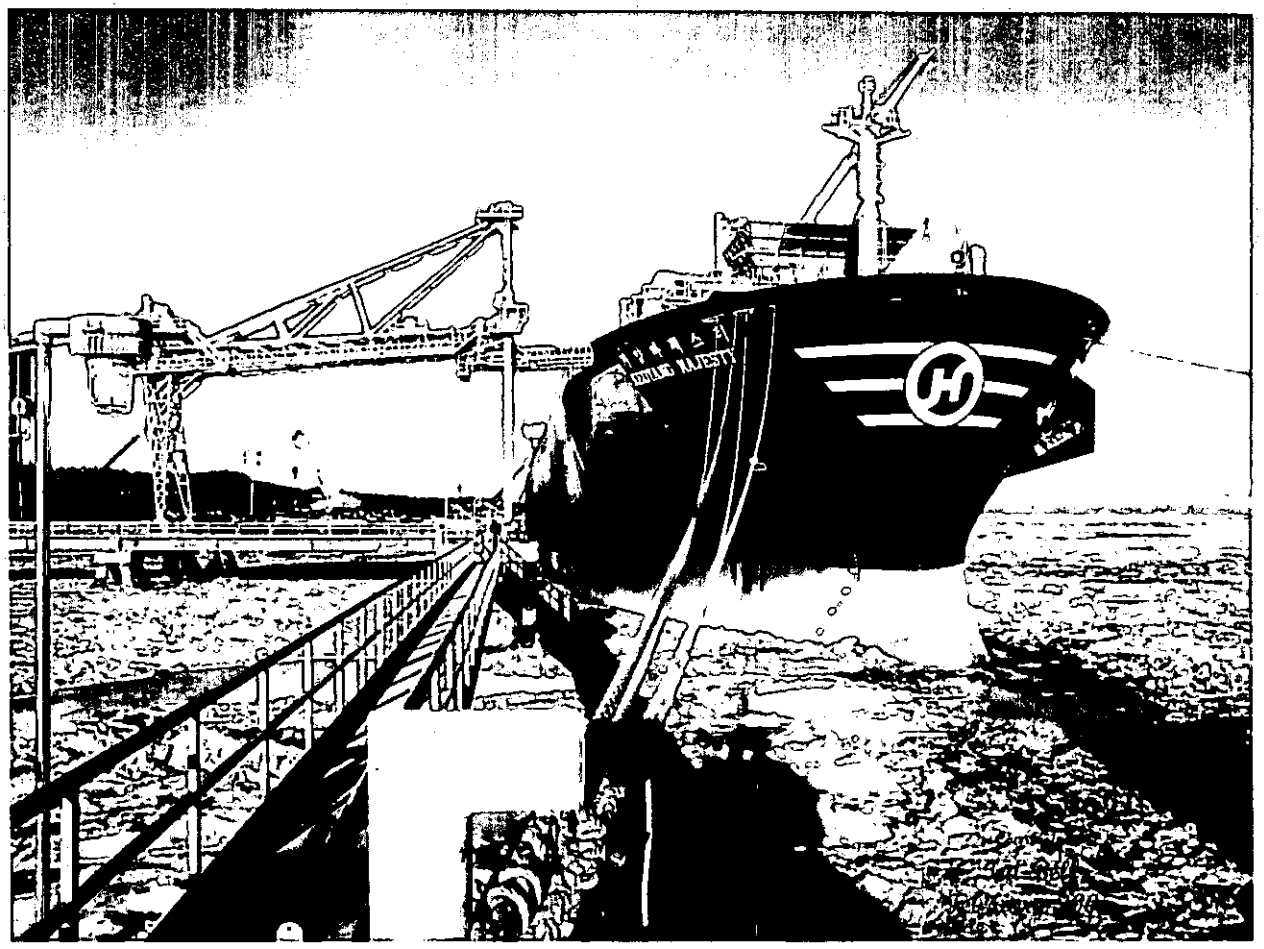
Permitted Expansion of Barge Dock and Deep-Draft Dock

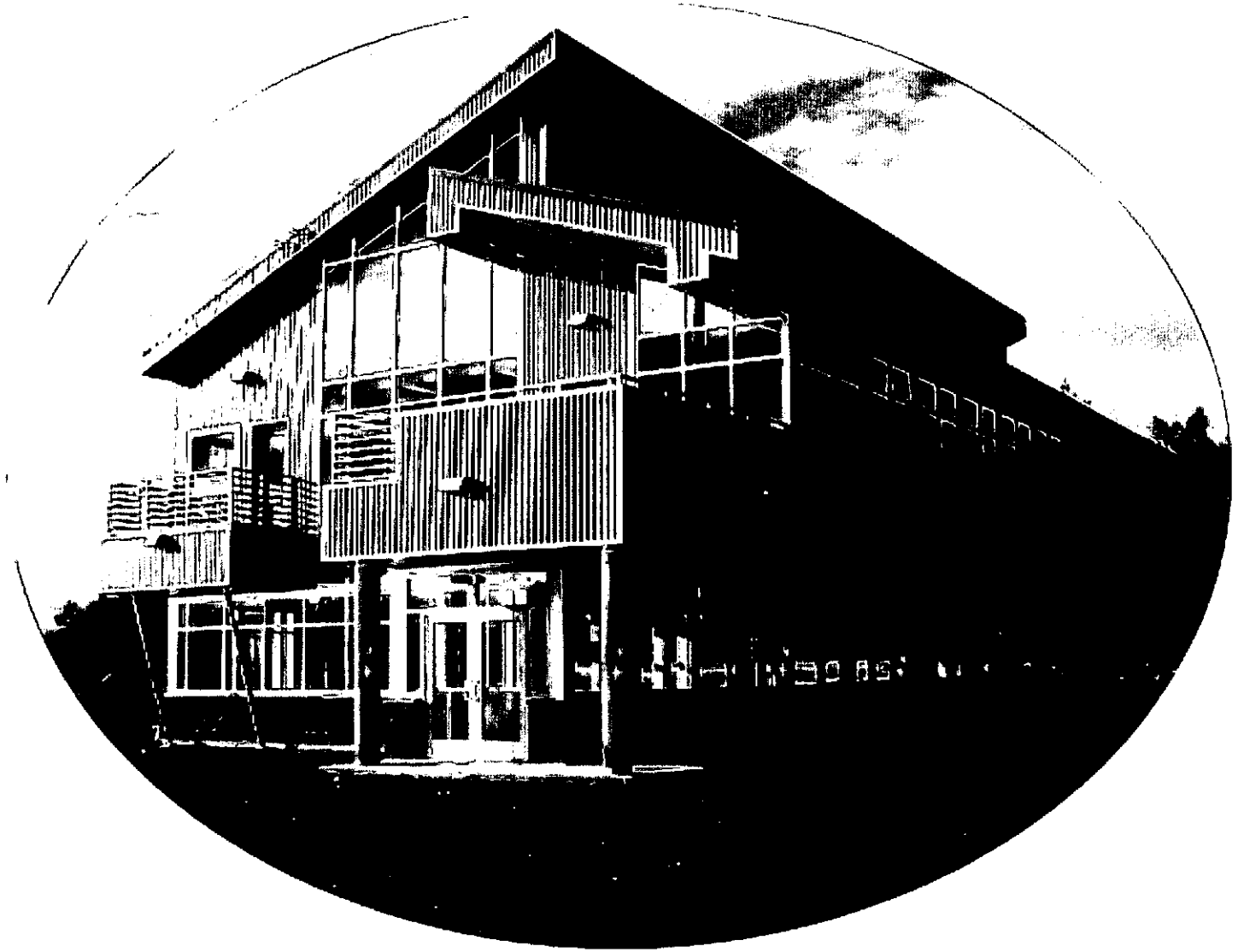


Barge Dock to be constructed Summer 2010



Winter/Summer Operations



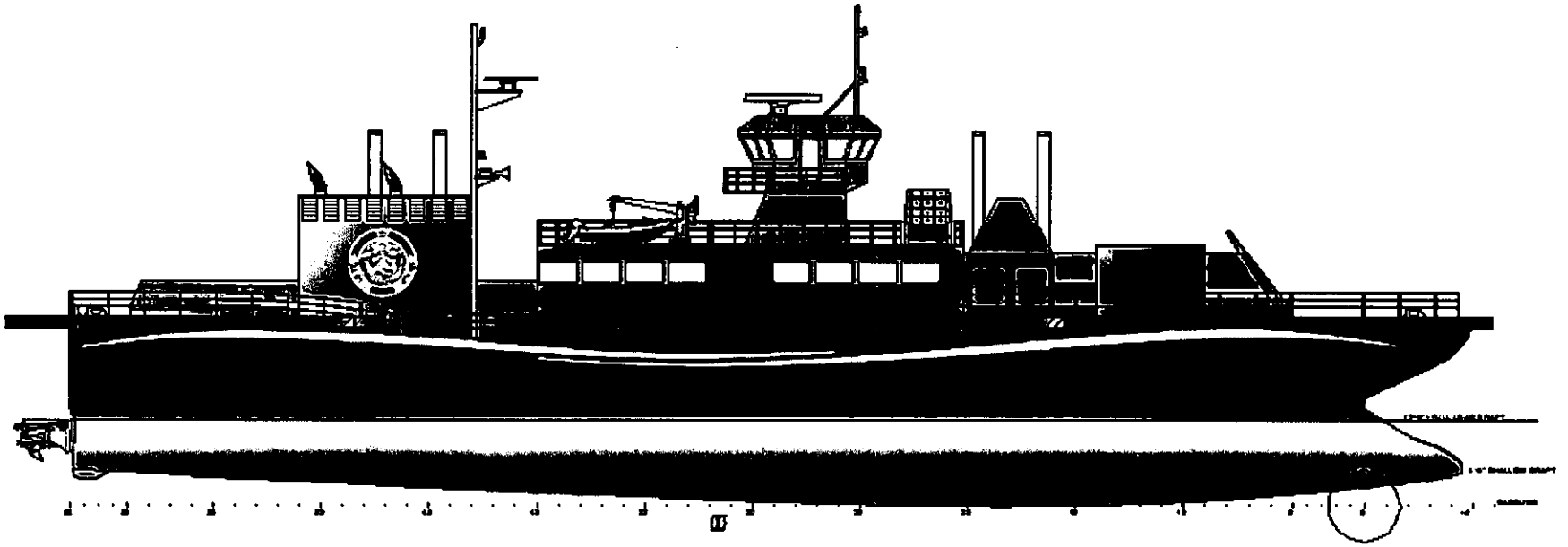


Port MacKenzie Ferry Terminal Building

2662

E-Craft

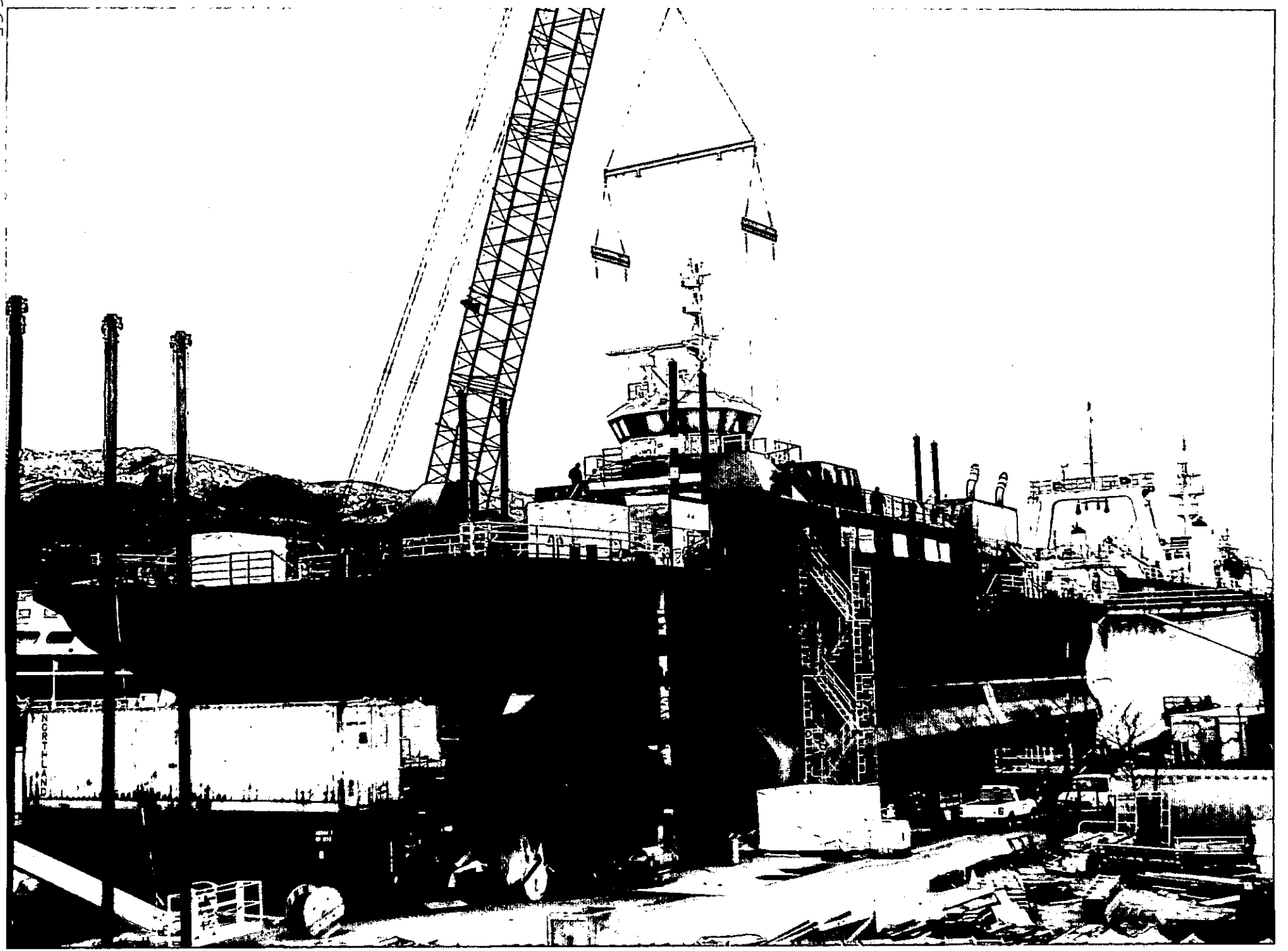
M/V SUSITNA



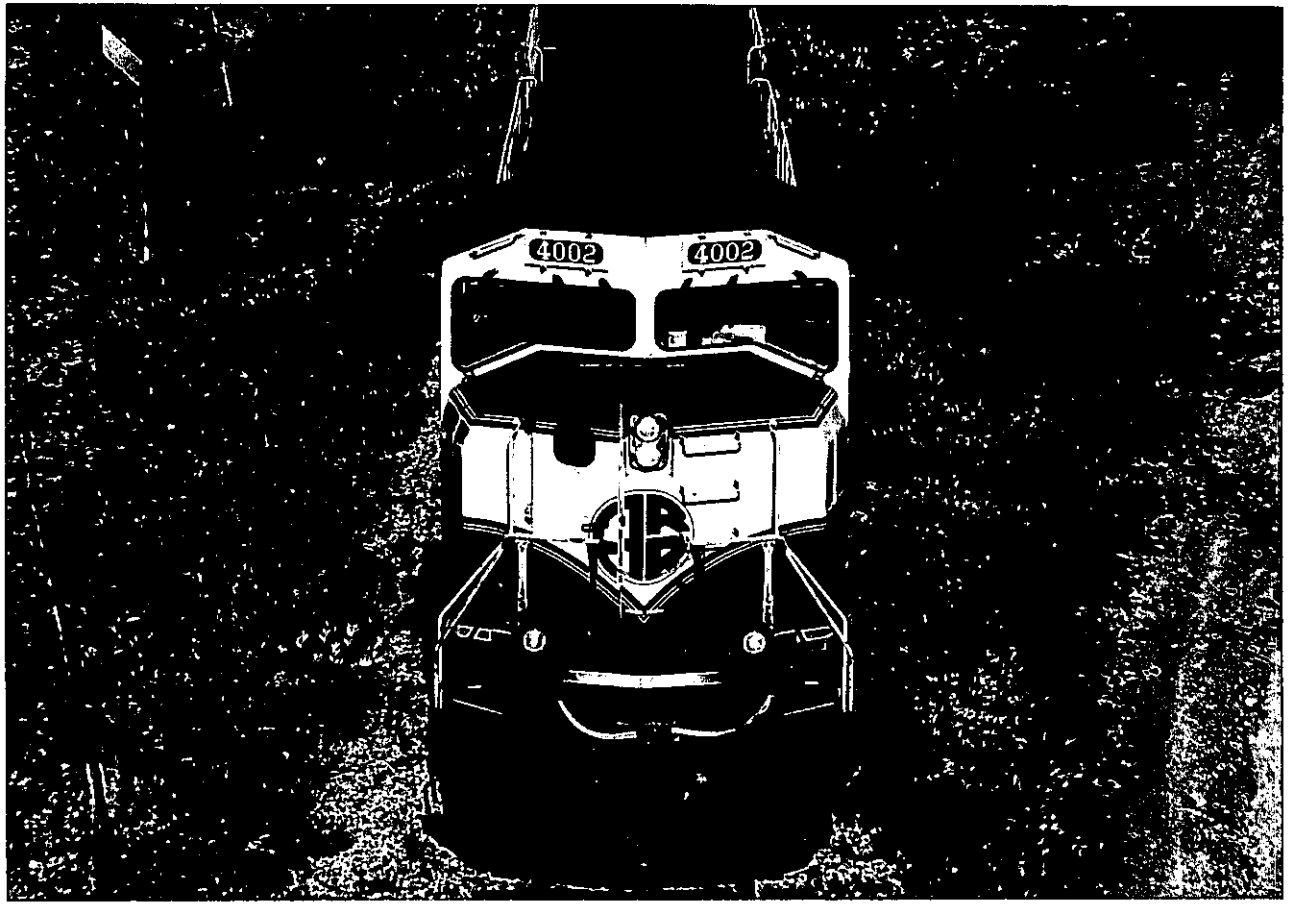
ASD
ALASKA
SHIP AND
DRYDOCK

60 Years
ONR
Relevant Research and Results . . . Yesterday, Today, and Tomorrow

1964
ALASKA


NORTHLAND

South Central Rail Extension



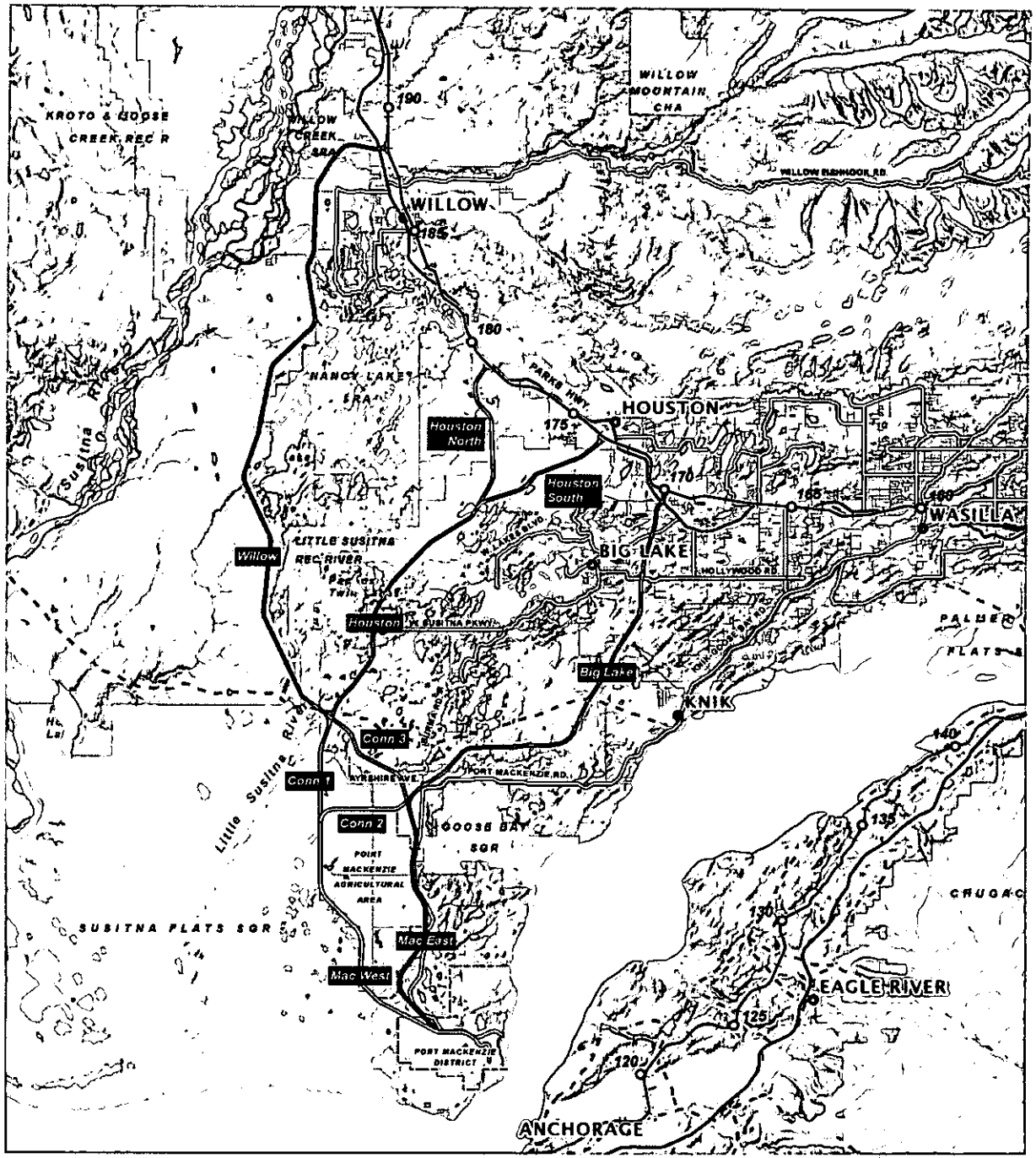
EIS Corridors Under Consideration

Draft EIS – Expected for public review in October 2009

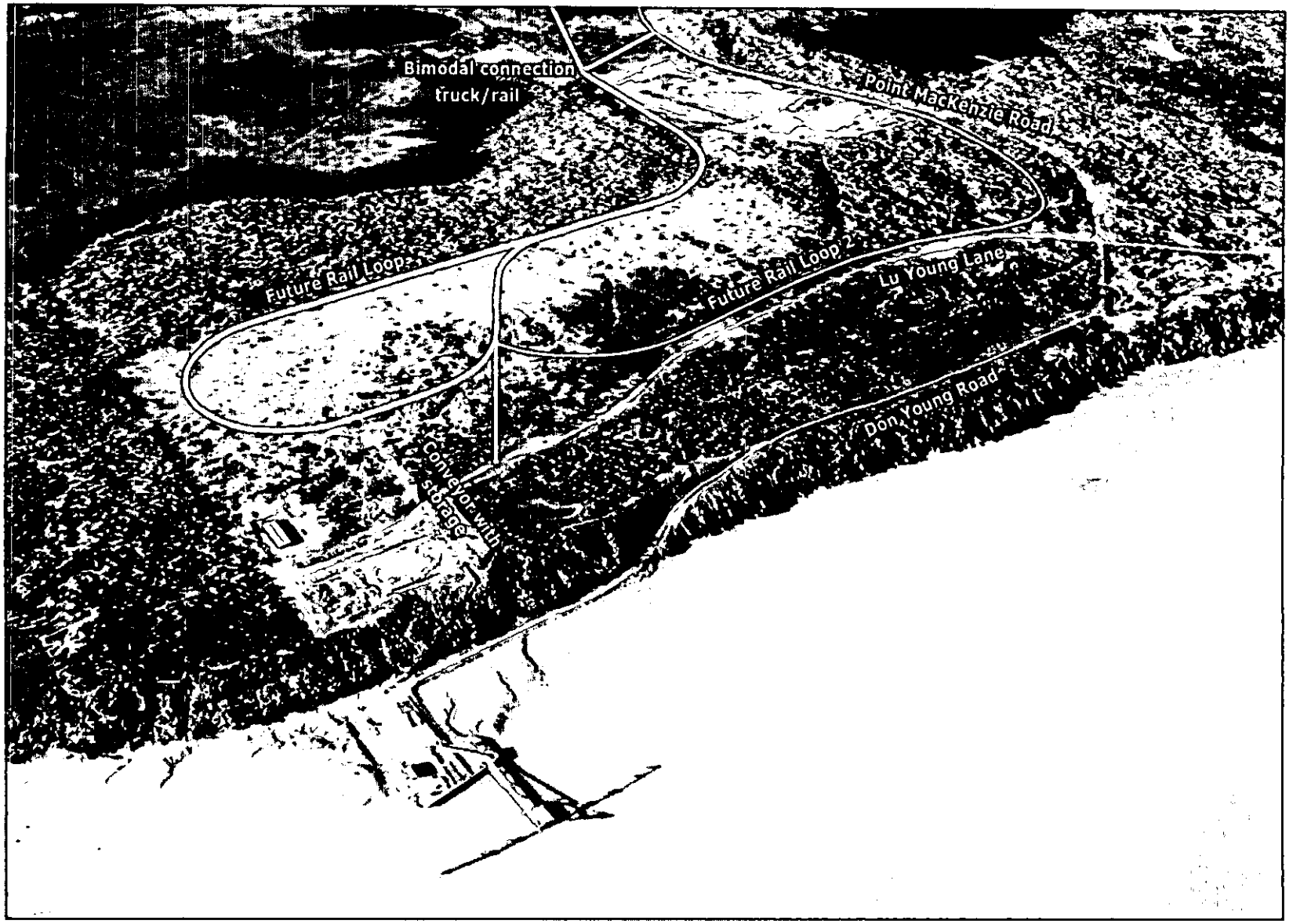
Final EIS – Expected in early Spring 2010

Note: These lines represent possible corridors and are subject to change.

3rd party contractor may arrive at additional routes as part of EIS process.



Rail Loop Under Construction

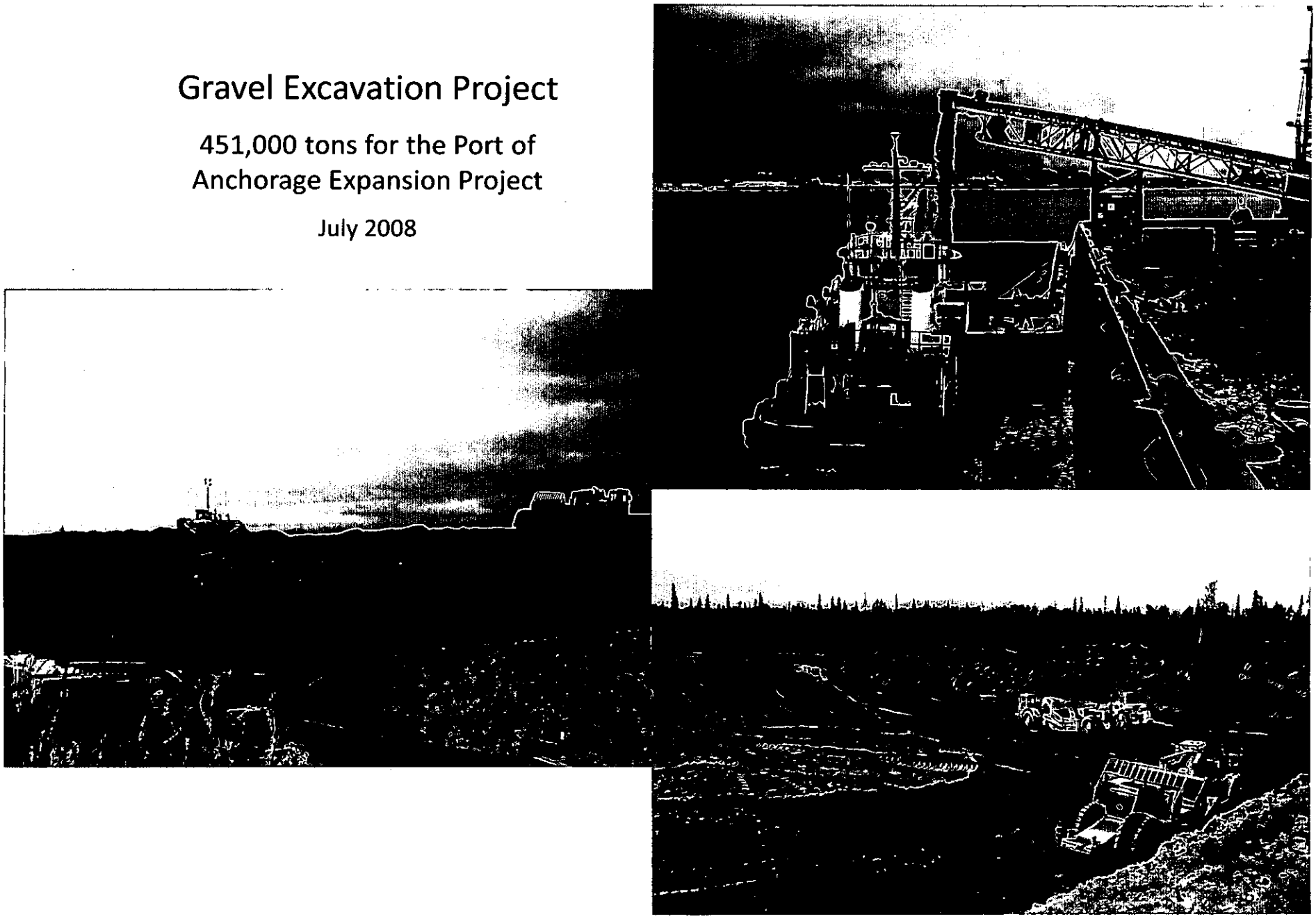


2669

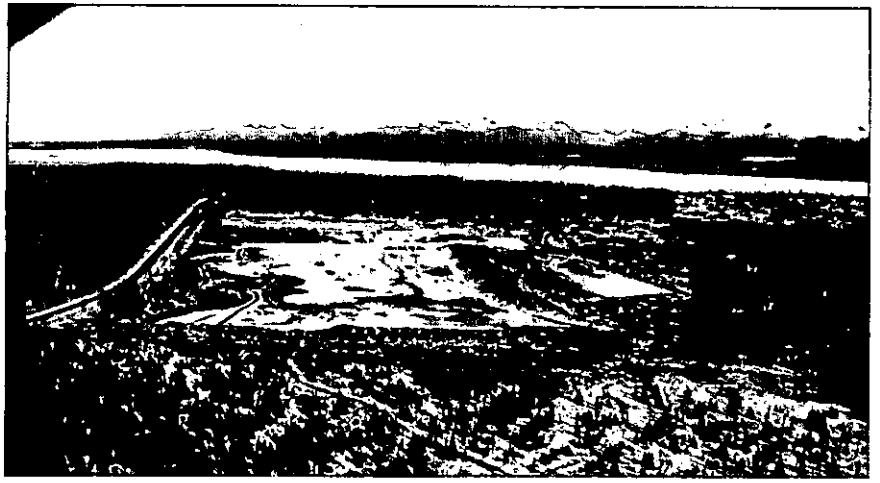
Gravel Excavation Project

451,000 tons for the Port of Anchorage Expansion Project

July 2008

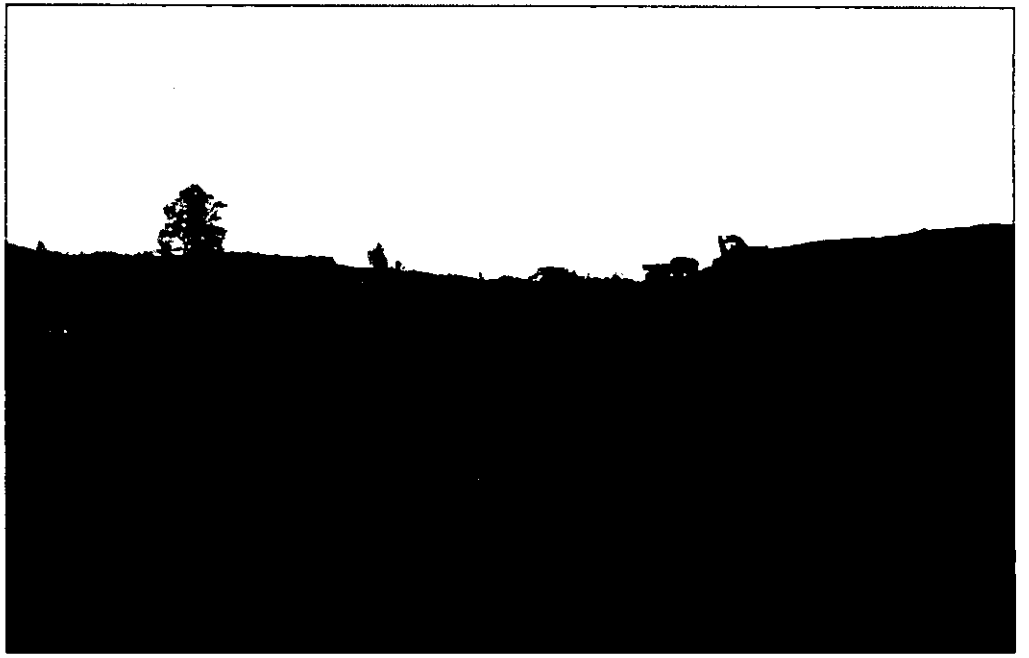


Bi-Modal Alignment Spring Tree Removal



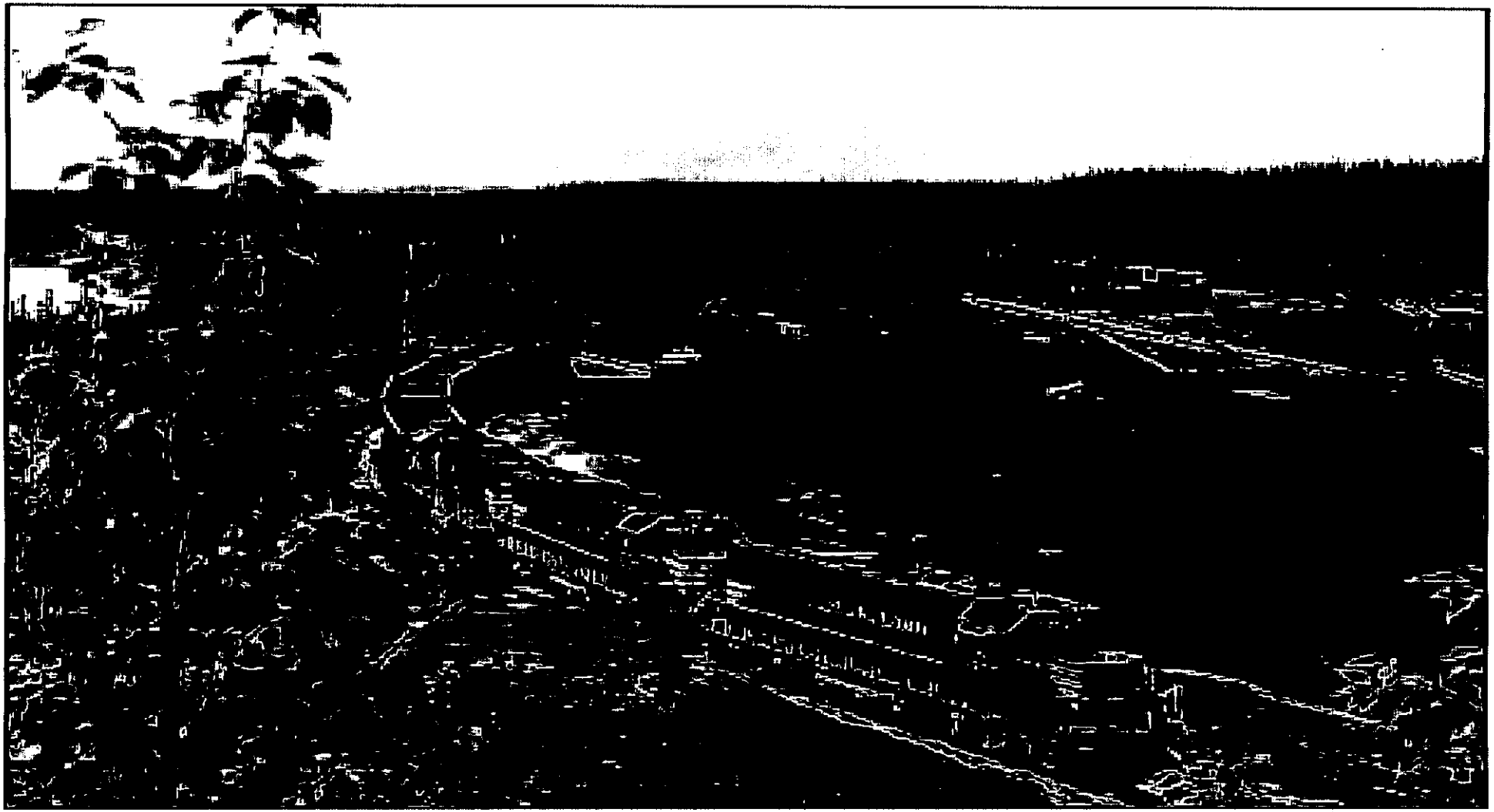
Summer Topsoil Removal Operations

Fall Excavation and Fill Work



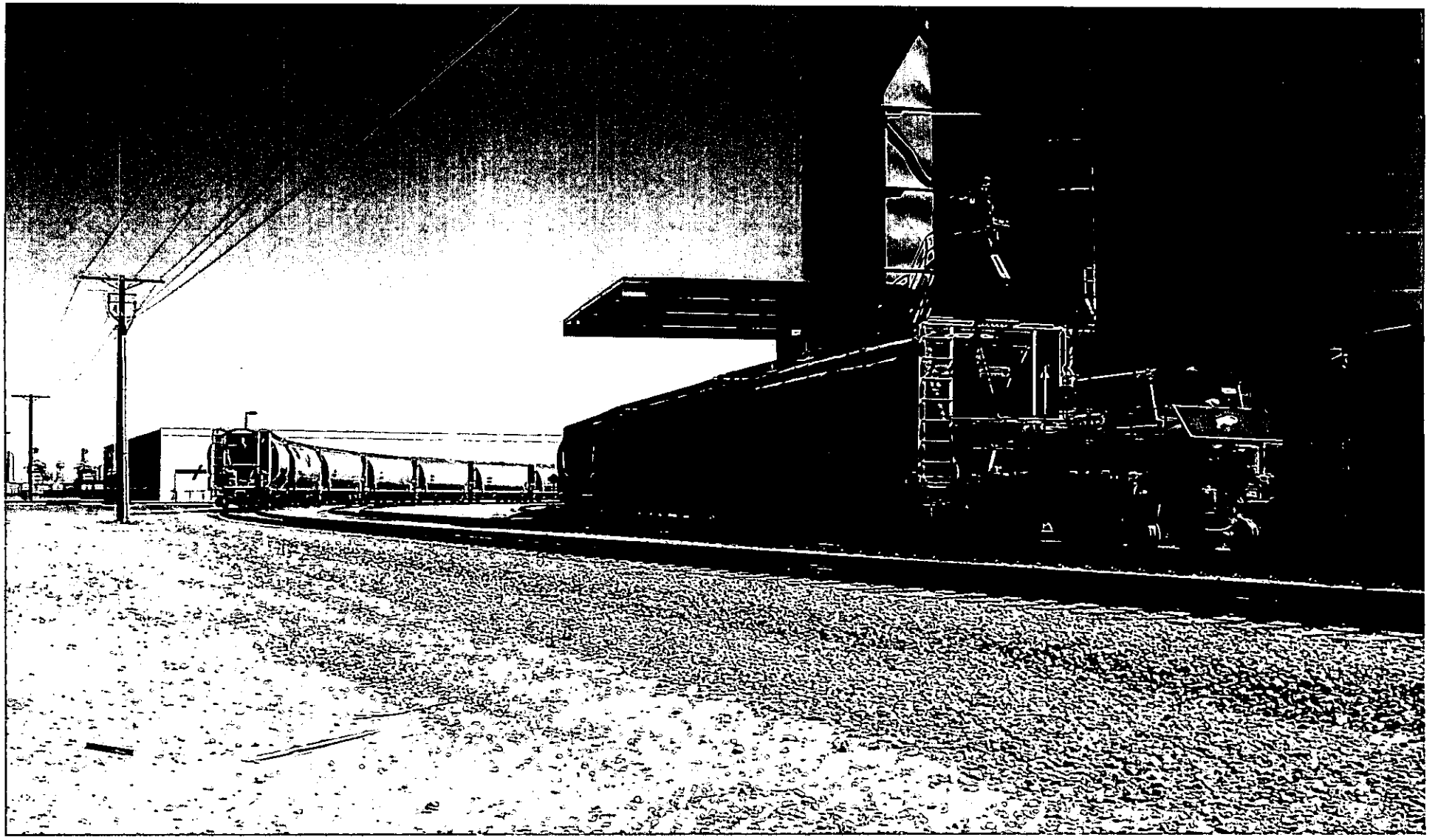
Port Mackenzie; the Shortest Distance to Tidewater

(Coal now has to travel to Seward)

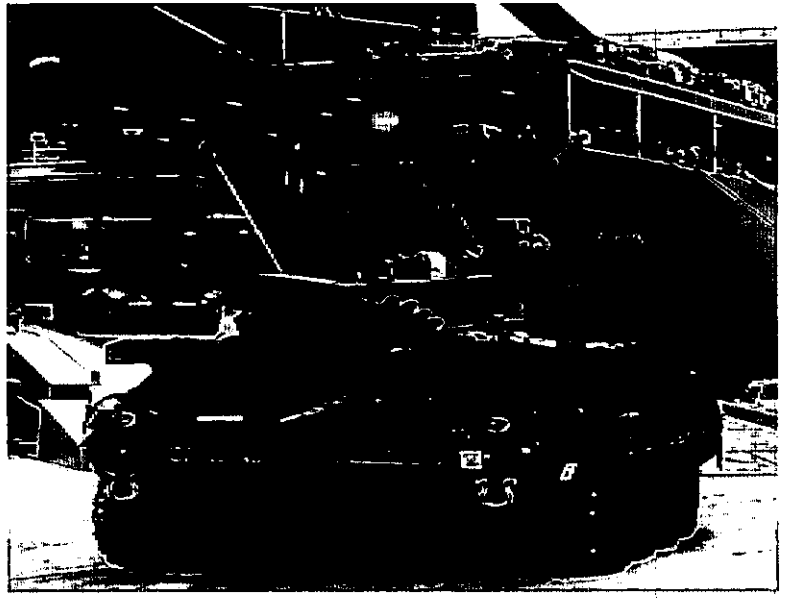


Only Alaskan Port with space for a Mile Long Rail Loop

(Example of loading cement on Loop Track)



Port MacKenzie - Military Logistics Option



Advantages and Savings of Using South Central Rail Extension to Port MacKenzie

- Transportation Savings.....$533 million
  (Benefit/Cost Ratio).....(1.9/1)

- Benefits to Alaska from New Mines
  - Gross Metal Value.....$172 billion
  - Community Benefits.....Permanent Jobs and Long-term Economic Engine

- State Revenue.....$6.3 billion

Summary of Rail Extension Statewide Benefits

- Supports Gas Pipeline Construction (mainline & spur line)
- New Interior Resource Development Opportunities
  (Benefits are $61M to $737M per year for 100+ years)
  - Limestone
  - Portland cement manufacture
  - Strategic Minerals (nickel, molybdenum)
  - Improved global price competitiveness of Alaska coal
- Transport Low Sulfur Fuel North (Interior, Southwest Alaska, North Slope)
- Alternate rail link to Interior (military mobilization/natural disaster /terrorism)
- Decreased rail congestion (Willow to Anchorage)
- Diversified Economy

Rail Project Project Scheduling

- ✓ **Phase 1** – EIS - **$10 Million**: 2007-2009

- ✓ **Phase 2** – Bi-Modal Loop & first 11 mile segment - **$17.5 Million**: 2008-2009
  - Permitting
  - Design of Bi-Modal Loop, Reserve and 11 miles
  - Right-of-way acquisition for Bi-Modal and 11 miles
  - Construction Bi-Modal Loop

- **Phase 3** – First 11 Mile Segment and EIS selected alternative – ($57 Million): **2010**
  - Construction of First 11 Mile Segment
  - Permitting, Design of EIS Selected Alternative

- **Phase 4** – EIS Selected Alternative – (*$150 Million): 2010-2011
  - Construction

- **Phase 5** – Track and Ancillary Facilities – (*$41 Million): 2012
  - Construction (laying rail, installing signals, etc.)
  - Project Completion Fall of 2012

*Note: Projected cost of $274 is expected to be adequate. Cost will be dependent on alternative selected in EIS

2677.1

Southcentral Rail Exension Project

February, 2010

RAIL EXTENSION PROJECT

Economic Benefits to the Central Alaska Regional Economy

(Anchorage, Mat-Su, Denali Borough, and Fairbanks)

Economic Problems facing Alaska's Economy

1. **Uncertainty about energy availability and costs**
2. **Uncertainty about the Gas Line construction**
3. **Uncertainty about the future of the TransAlaska Pipeline**

1

Economic Problems facing Alaska's Economy (cont'd)

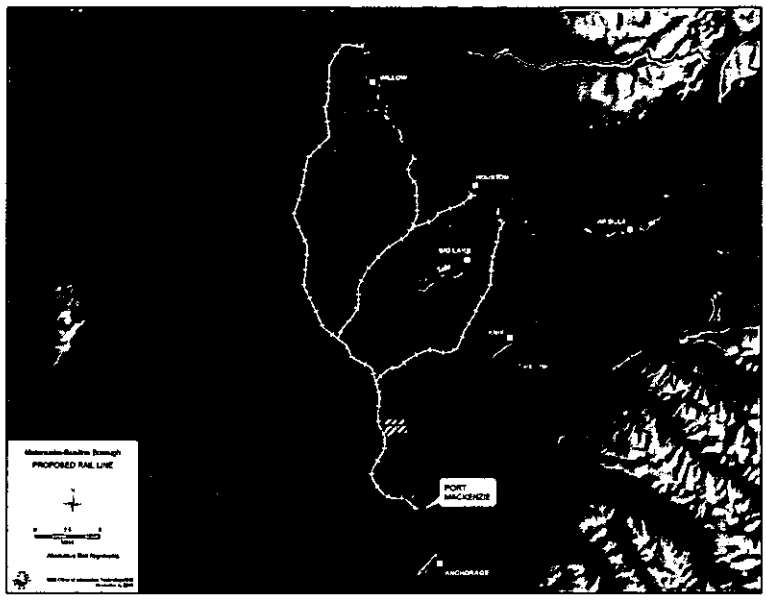
4. **Uncertainty about Small Business Administration contracting program for Native Business**
5. **Uncertainty about explorations permits for Chukchi and Beaufort Sea**
6. **Lack of Diversification of Alaska's Economy**
7. **Lack of Transportation Infrastructure to promote Economic Development**

2

*But a major solution to one of these problems is <u>just months away</u> and the **positive effects** will be felt **next summer**.*

3

The Rail Extension from Port MacKenzie to the Main Line of the Alaska Railroad



4

To Understand the Impact of Port MacKenzie and the Rail Extension, we need to begin thinking of the **Fairbanks North Star Borough, the Denali Borough, the Mat-Su Borough, and Anchorage** as a regional economy

Working, Building, and Growing Together

5

What the Rail Extension Means to this Regional Economy

1. Opens up the Interior to Resource Development
2. Facilitates the Development of a World Class Limestone Deposit in Livengood just north of Fairbanks
3. Facilitates the Development of a Cement Production Facility in or around Fairbanks
4. Opens up a development corridor along the Railbelt to exploration and extraction of strategic minerals (Lead, Zinc, Copper, Molybdenum and Silver)

6

What the Rail Extension Means to this Regional Economy (cont'd)

5. Improves the transportation of Lower Cost Fuel to Interior and Southwest Alaska
6. Dramatically improves the world competitiveness of Alaska Coal
7. Significantly reduces transportation and staging cost for the Gas Pipeline Construction (Important if it goes. Essential if it doesn't.)
8. Increases employment in the Mat-Su Borough, the Denali Borough, the Fairbanks North Star Borough and Anchorage

7

How does the Rail Extension do all these things?

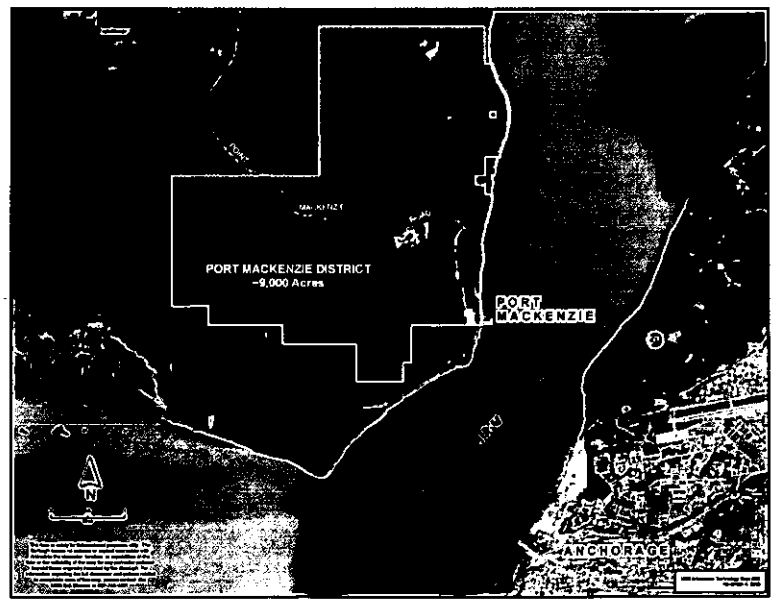
The Answer is <u>Port MacKenzie and the Rail Extension working Together</u>

Port MacKenzie?

Port MacKenzie is a Bulk Commodities Port for minerals, cement, coal, bulk fuel, pipe (Not a Consumer Goods or a Container Port like the Port of Anchorage)

8

It's a Port with 14 Square Miles of Industrial Zoned Land.
(That's nearly 9,000 Acres.)

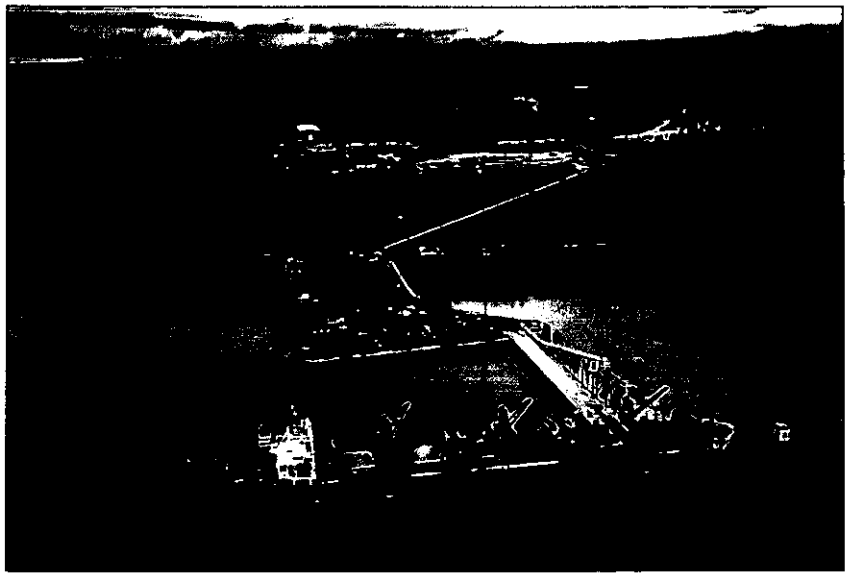


9

Port Mackenzie 20 Years Ago

10

Port MacKenzie 2 Years Ago

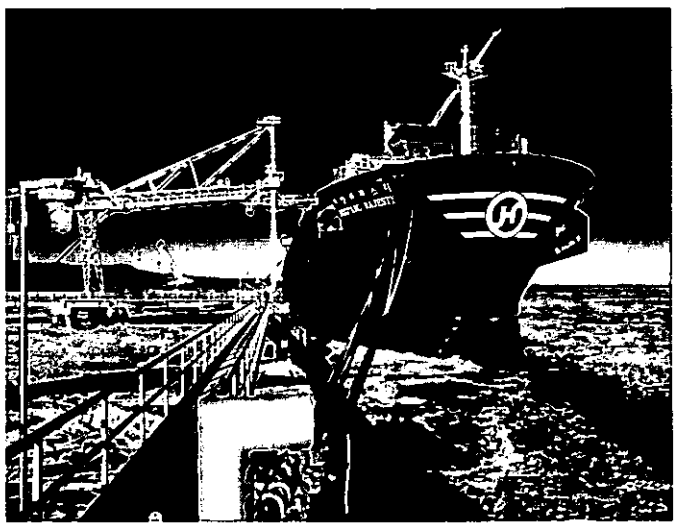


11

Port MacKenzie Now

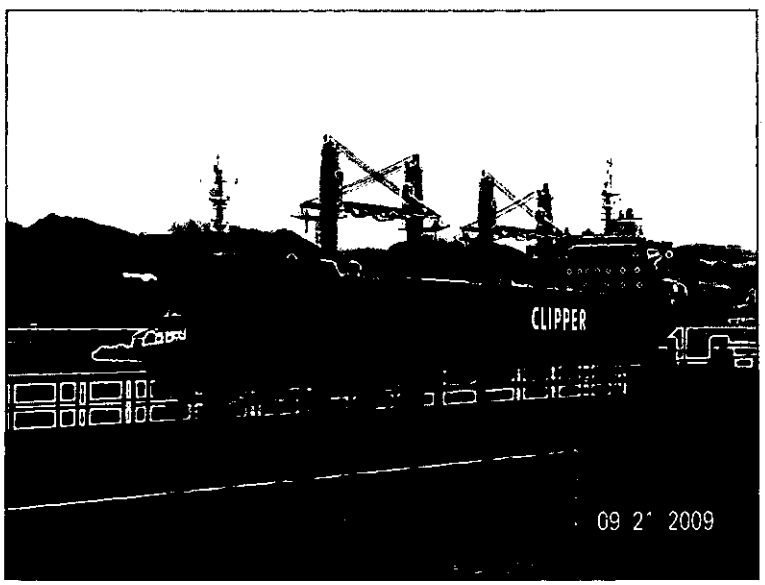
Does not compete with the Port of Anchorage (60' mean low tide compared to 35' for Port of Anchorage)

No Dredging Required



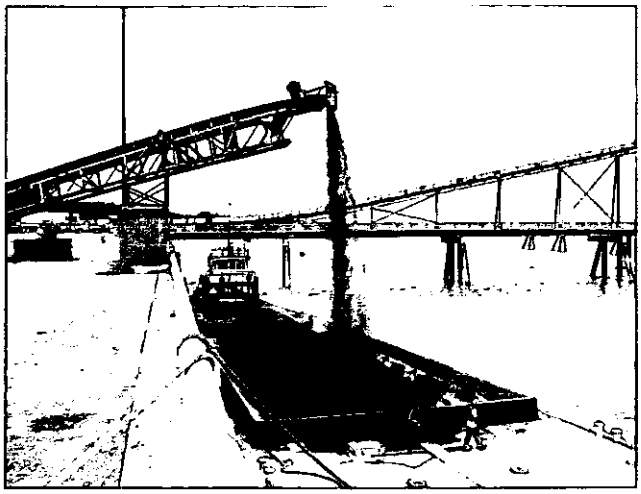
12

A Deep Water Port (MLLW-60) That Can Handle The World's Largest Cargo Ships today (Panamax and Cape Size Vessels)



13

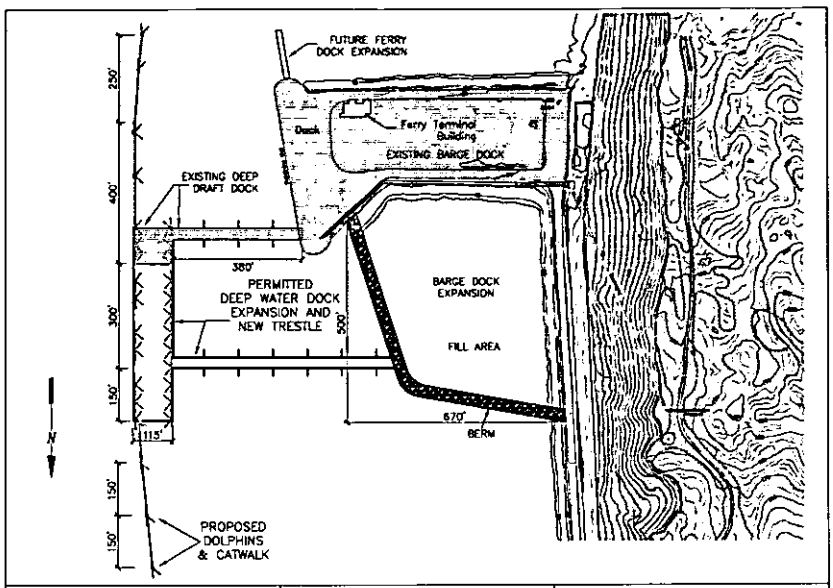
It's also Designed and Built to Easily Handle Barges Carrying Bulk Commodities, Minerals, Coal and Aggregate



14

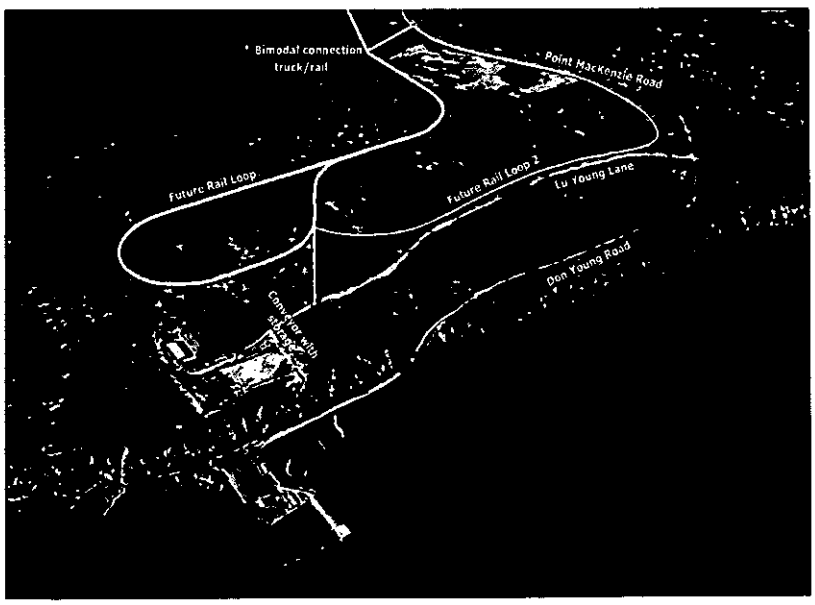
Barge Dock Expansion to be Complete Next Summer

15



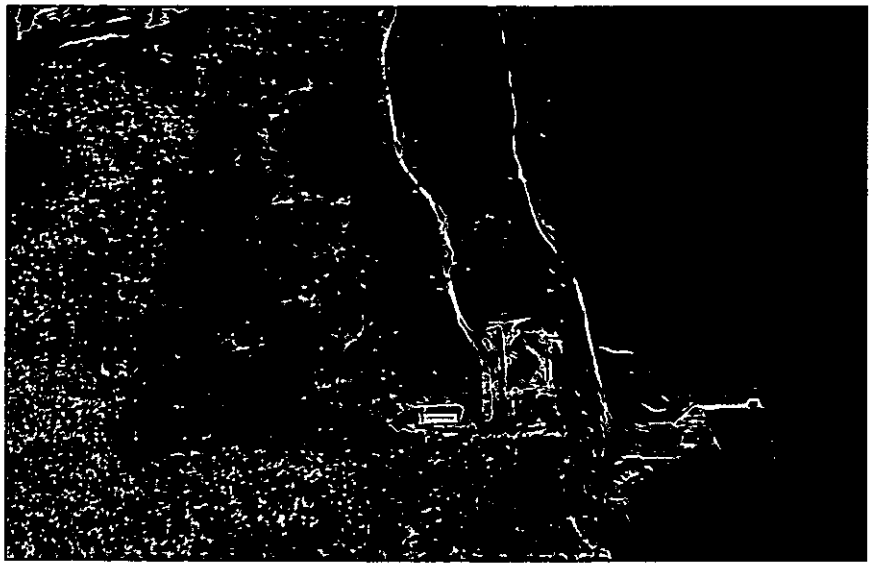
16

Rail Loop Under Construction



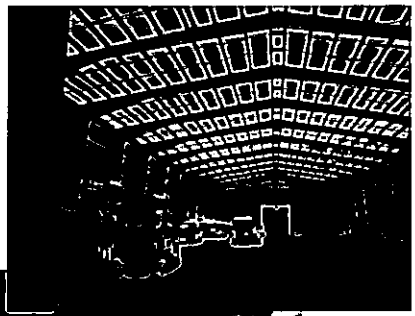
17

Plenty of Storage and Staging Capacity for
All the pipe needed for both Gas Lines



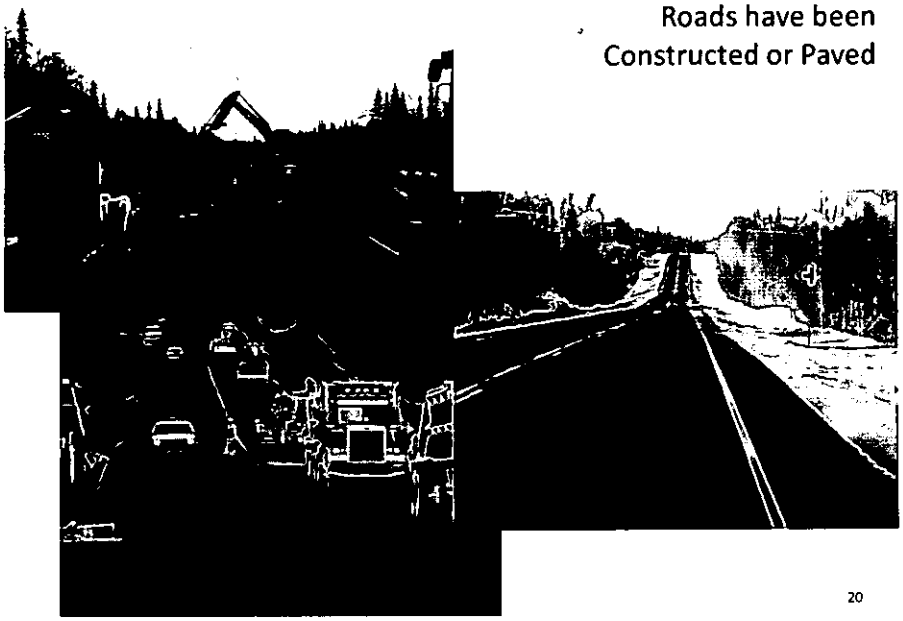
18

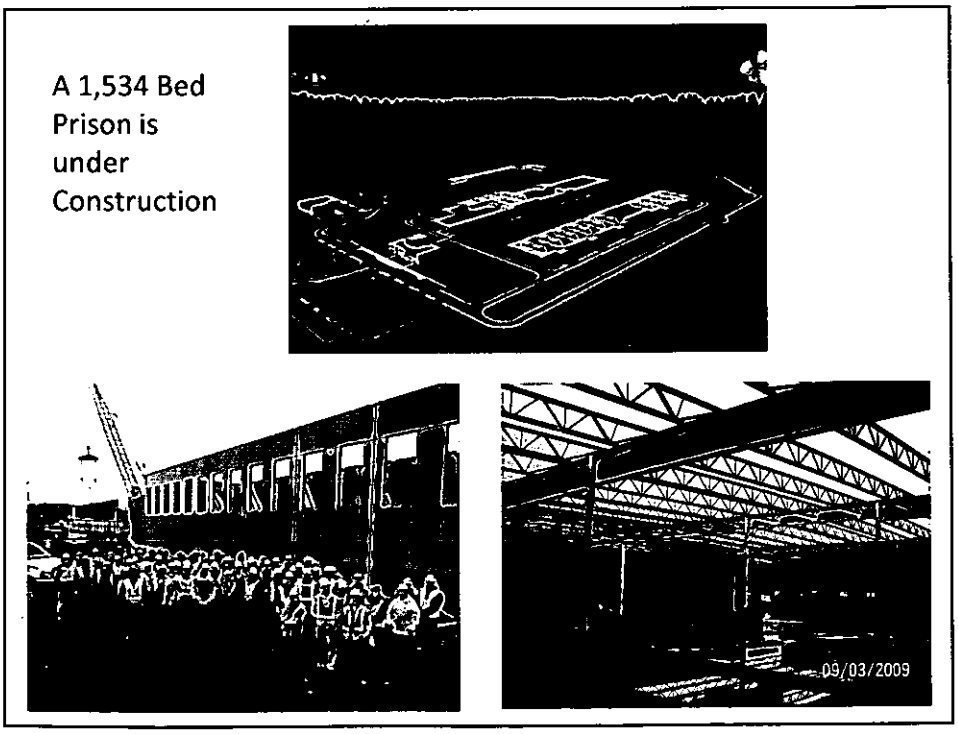
New 24,000 sq ft Warehouse



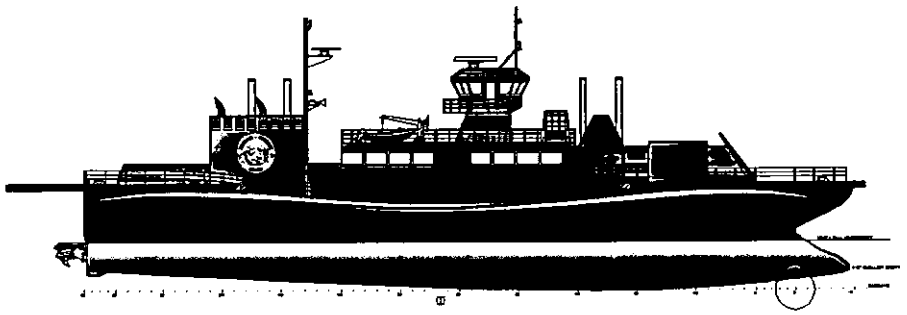
Warehouse &
Storage Areas
have been
Constructed

19


Roads have been
Constructed or Paved
20

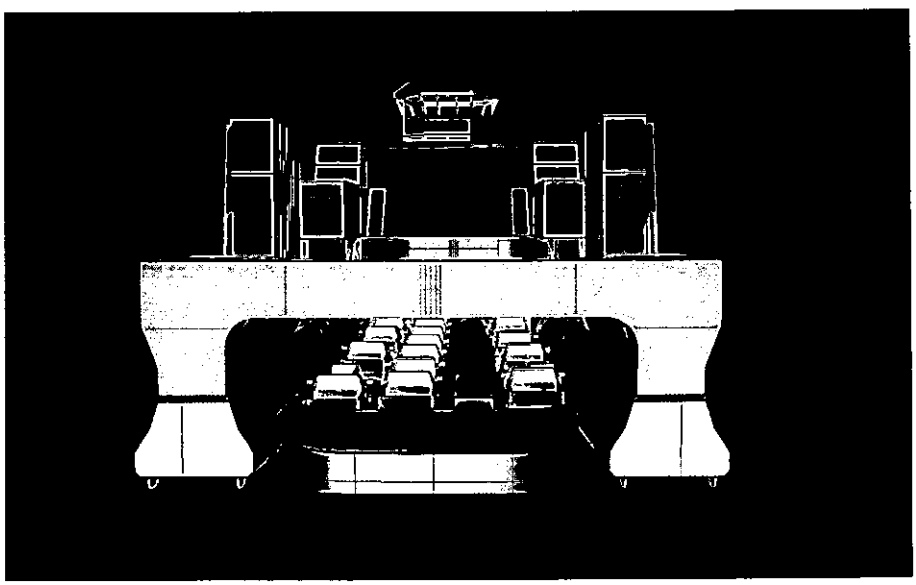

A 1,534 Bed
Prison is
under
Construction
09/03/2009

M/V SUSITNA



New State of the Art Ice Breaking Ferry currently under construction in **Ketchikan** scheduled to start operations in late 2011

22



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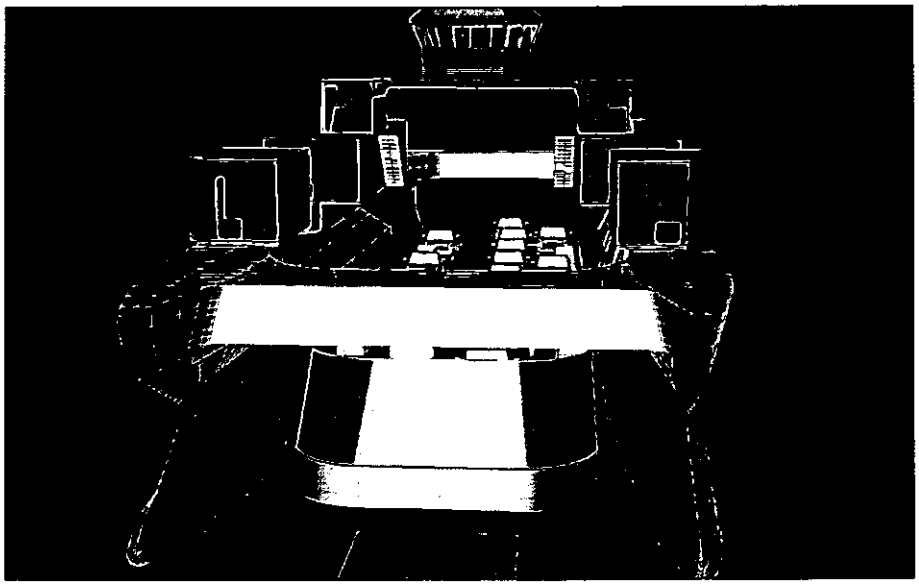

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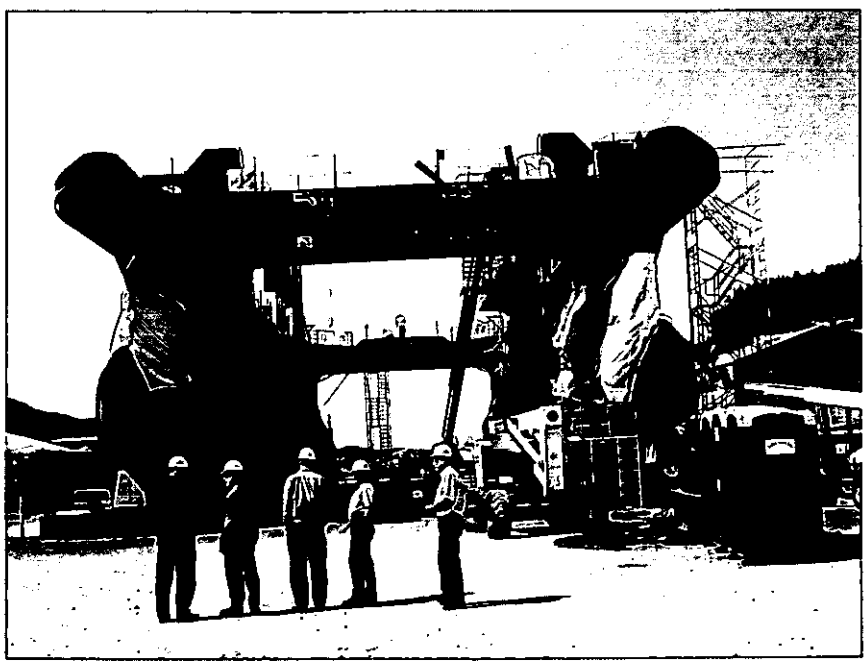

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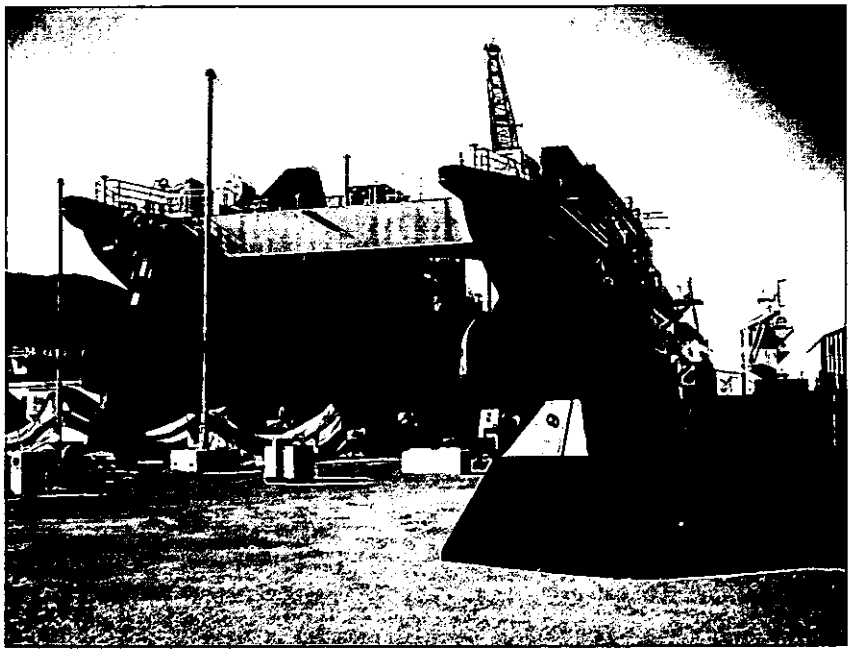

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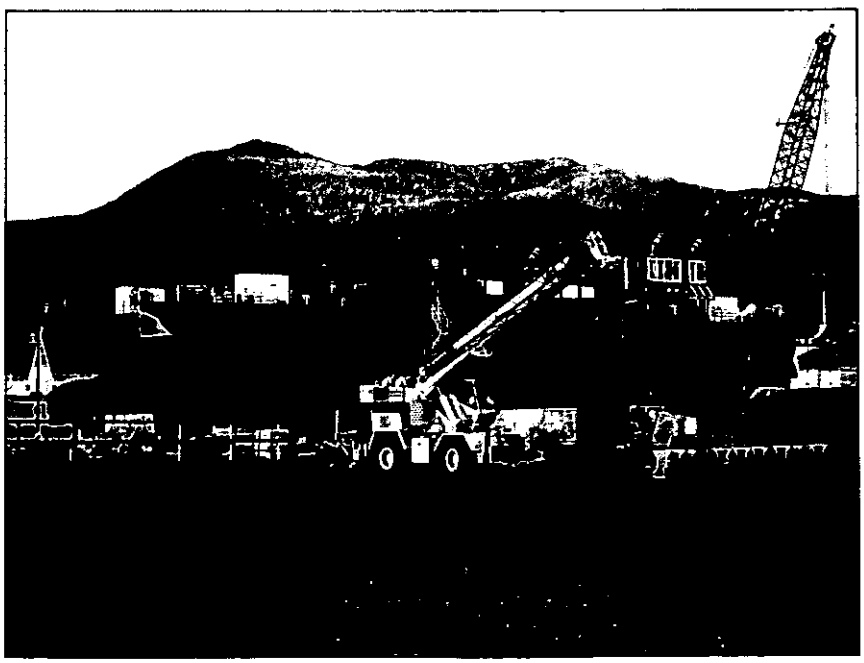
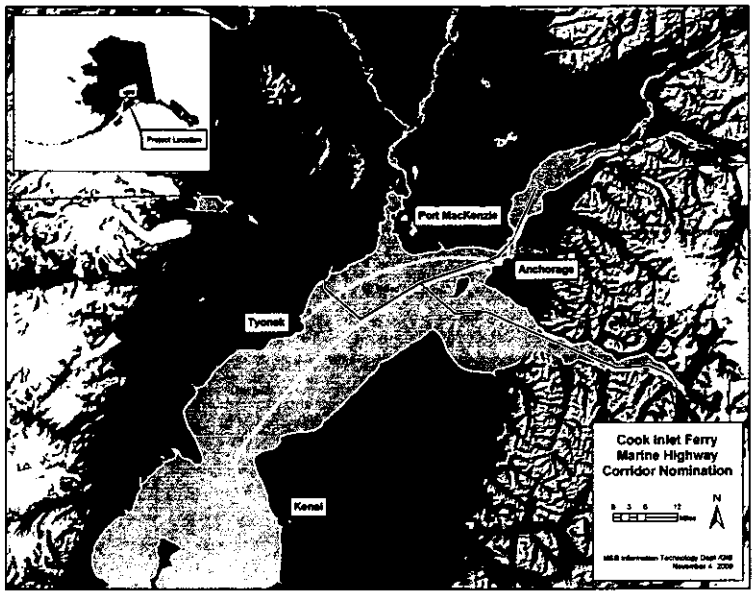


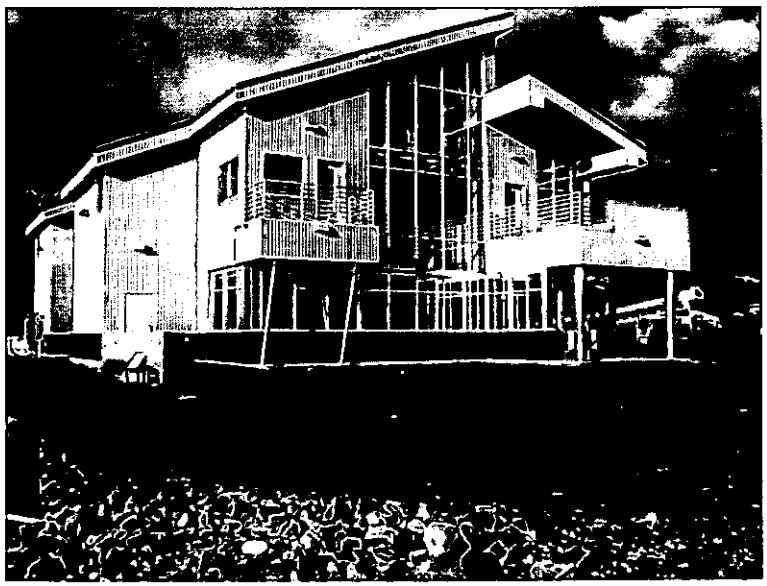
27

Hourly Service between Anchorage and Mat-Su Plus Service to Kenai and Tyonek



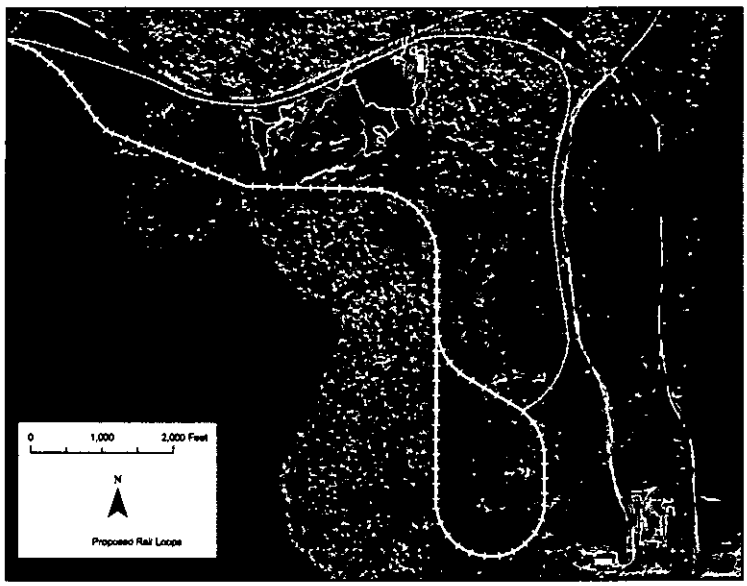
28

Port MacKenzie also has a Recently Constructed Ferry Terminal for **Anchorage-Port MacKenzie hourly runs**



29

Port MacKenzie and the Rail Extension Together are a Major Key to the Economic Development of the Region



30

What the Rail Extension Means to this Regional Economy

1. **Opens up the Interior to Resource Development**
2. **Facilitates the Development of a World Class Limestone Deposit in Livengood just north of Fairbanks**
3. **Facilitates the Development of a Cement Production Facility in or around Fairbanks**
4. **Opens up a development corridor along the Railbelt to exploration and extraction of strategic minerals (Lead, Zinc, Copper, Molybdenum and Silver)**

31

What the Rail Extension Means to this Regional Economy (cont'd)

5. **Improves the transportation of Lower Cost Fuel to Interior and Southwest Alaska**
6. **Dramatically improves the world competitiveness of Alaska Coal**
7. **Significantly reduces transportation and staging cost for the Gas Pipeline Construction (Important if it goes. Essential if it doesn't.)**
8. **Increases employment in the Mat-Su Borough, the Denali Borough, the Fairbanks North Star Borough and Anchorage**

32

Jobs Created by Rail Extension and Port MacKenzie Expansion*

Project Segment	JOBS
Rail Extension Construction Related Jobs (2010-2013)	3000
Port MacKenzie Constructon Related Jobs (2010-2013)	500

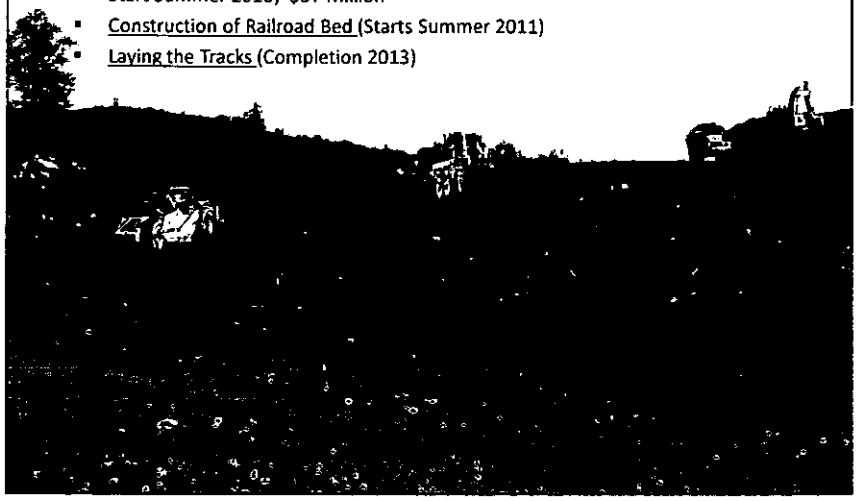
Private Development	JOBS
Mining Development Jobs along Rail Line	4000
Industrial Development of Port MacKenzie	3500

*Estimates by HDR and ISER

33

What's Next for the Rail Extension?

- Completion of the Environmental Impact Study (Spring 2010) $10 Million
- Construction of the Road/Rail Bimodal Loop (Under Construction) $17 Million
- Permitting, Design and Begin Construction of EIS Selected Alternative (Can Start Summer 2010) $57 Million
- Construction of Railroad Bed (Starts Summer 2011)
- Laying the Tracks (Completion 2013)



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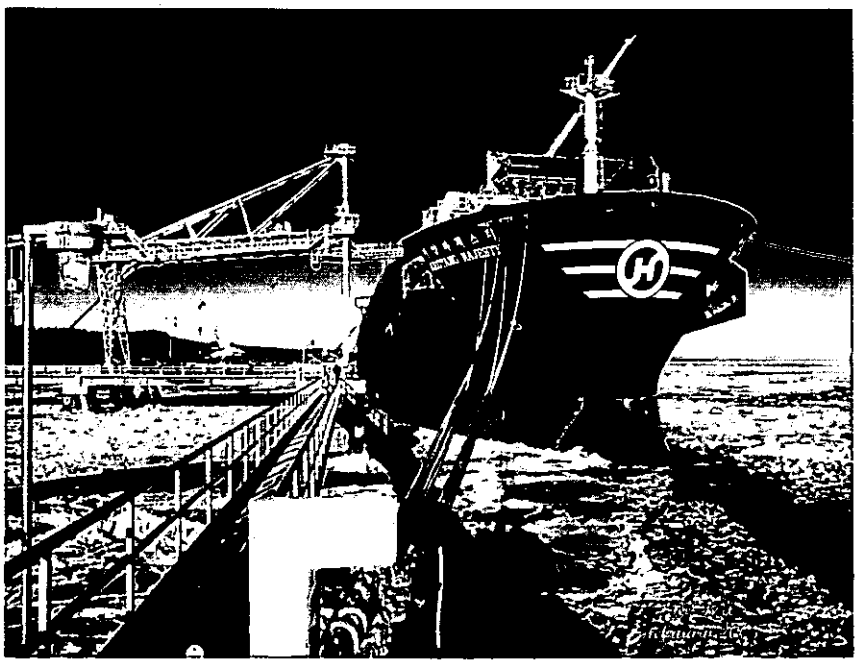
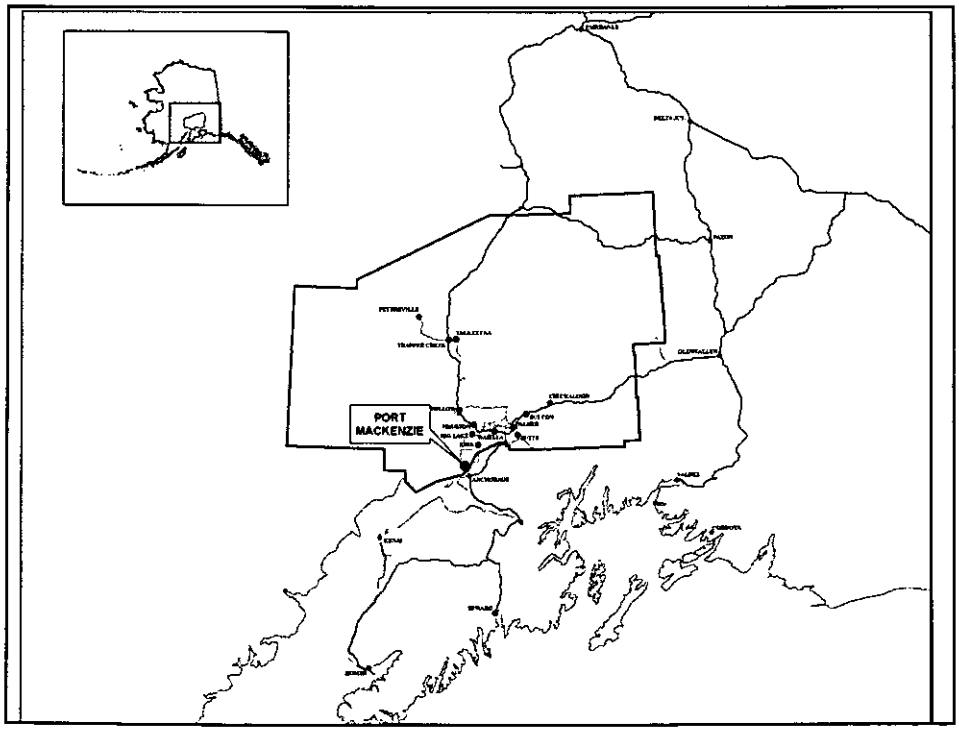


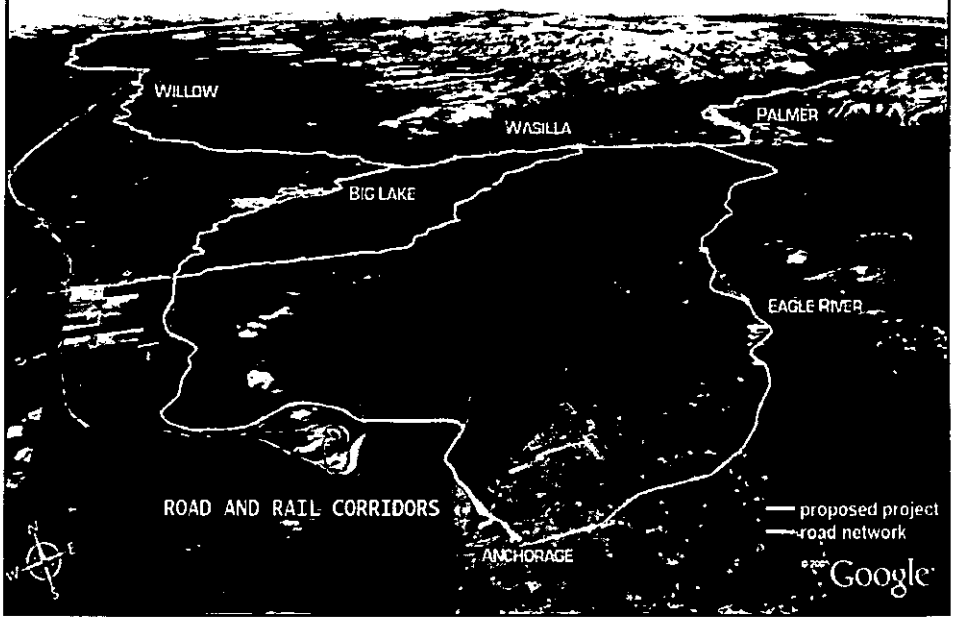
35

Southcentral Rail Exension Project

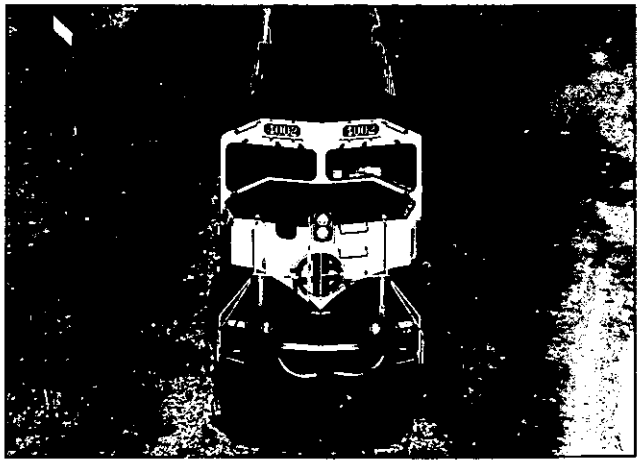
February, 2010



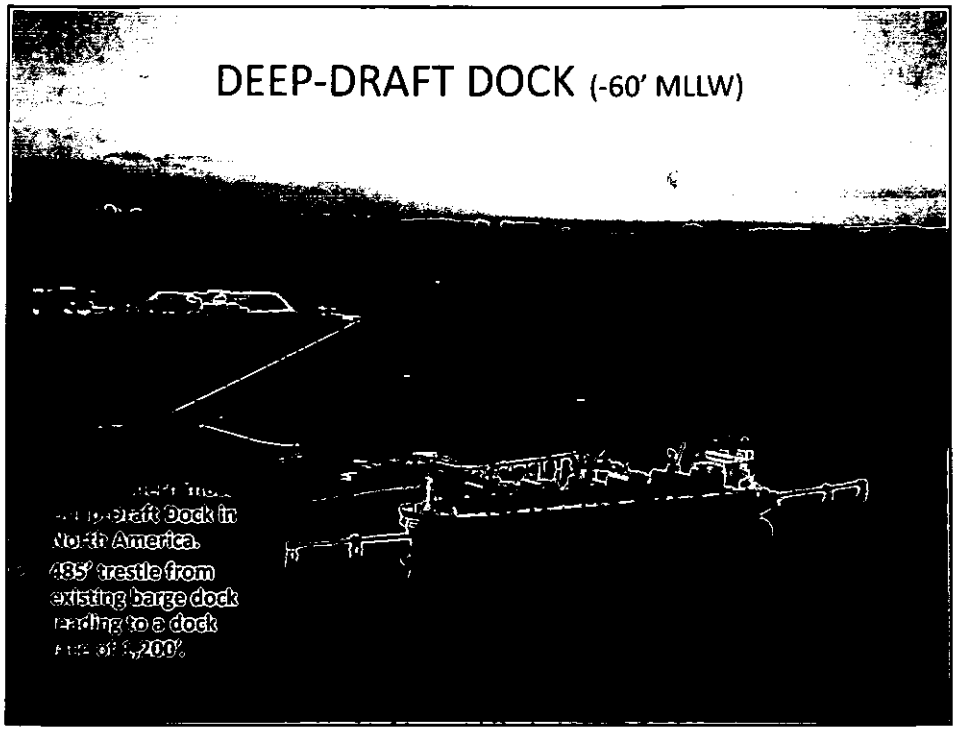
Location Map



South Central Rail Extension



DEEP-DRAFT DOCK (-60' MLLW)



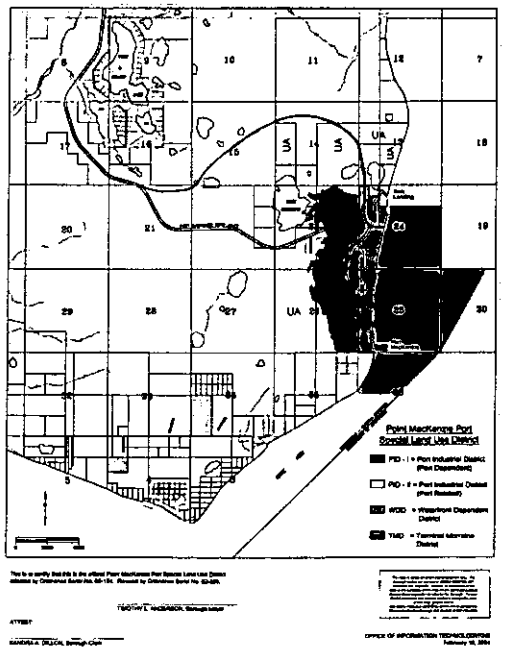
PORT DISTRICT

8,940 Acres

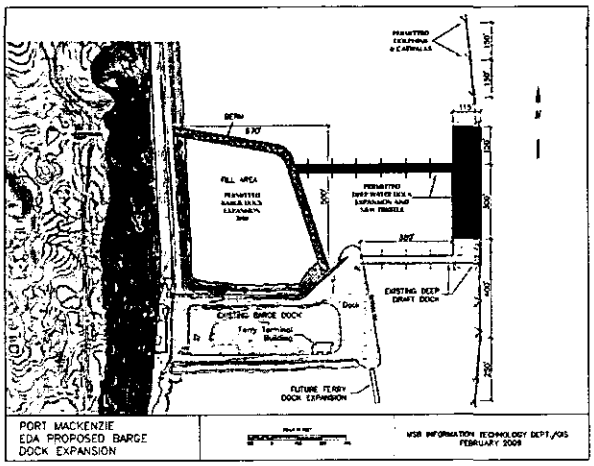
Commercial and Industrial Development

1,130 Acres

Borough Owned Tidelands

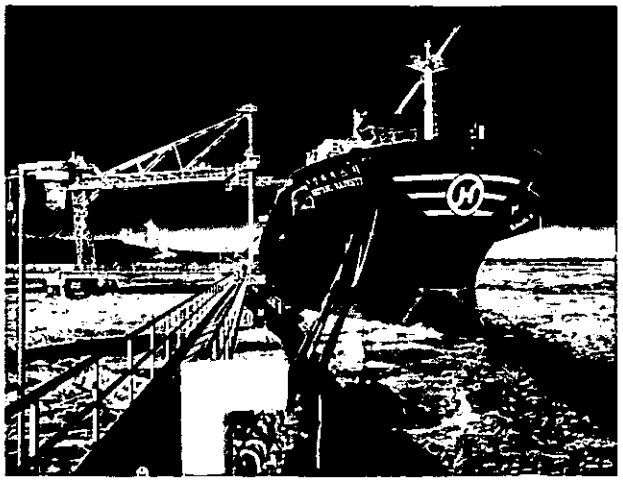


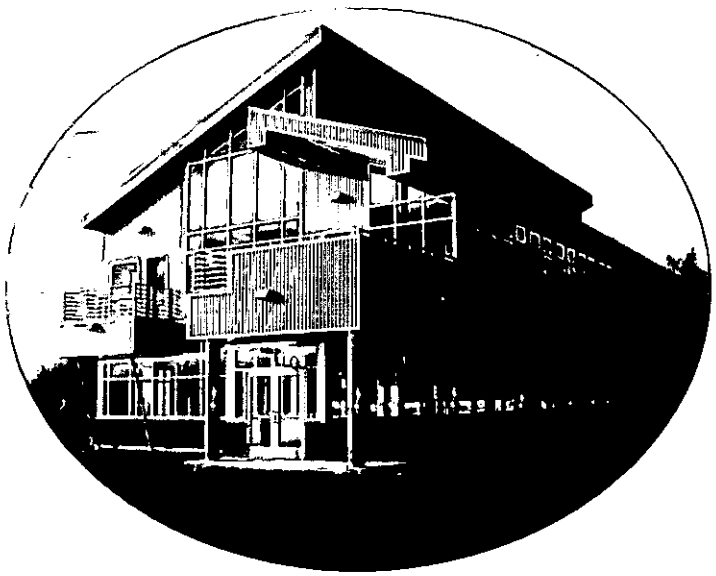
Permitted Expansion of Barge Dock and Deep-Draft Dock



Barge Dock to be constructed Summer 2010

Winter/Summer Operations

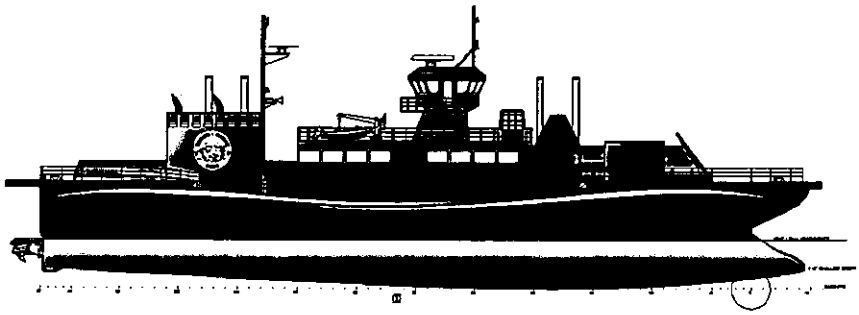




Port MacKenzie Ferry Terminal Building

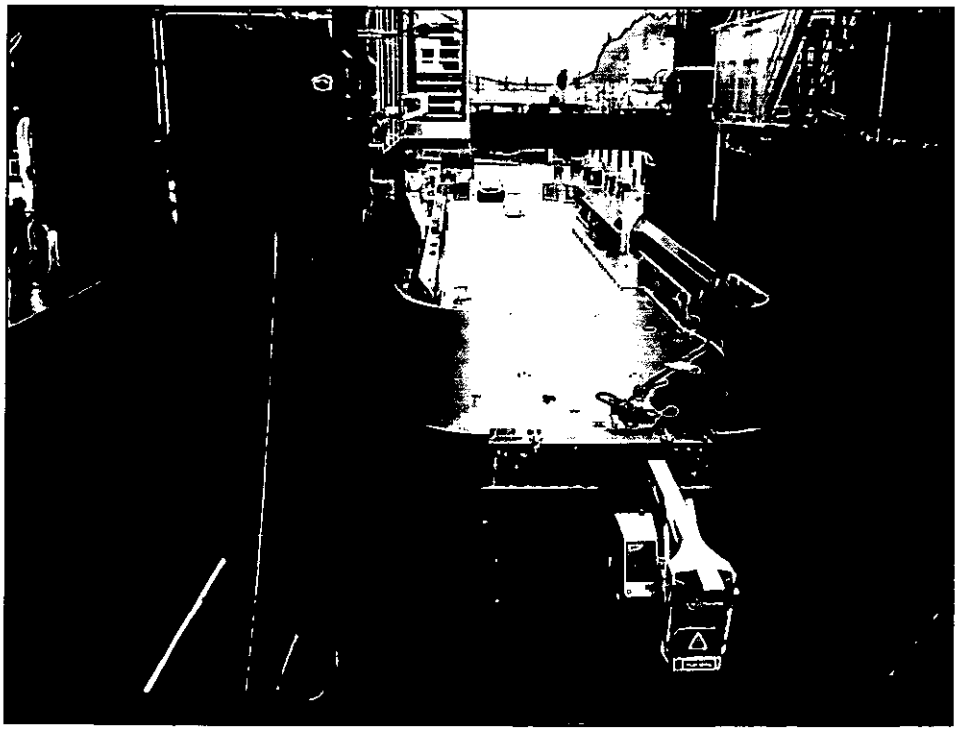
E-Craft

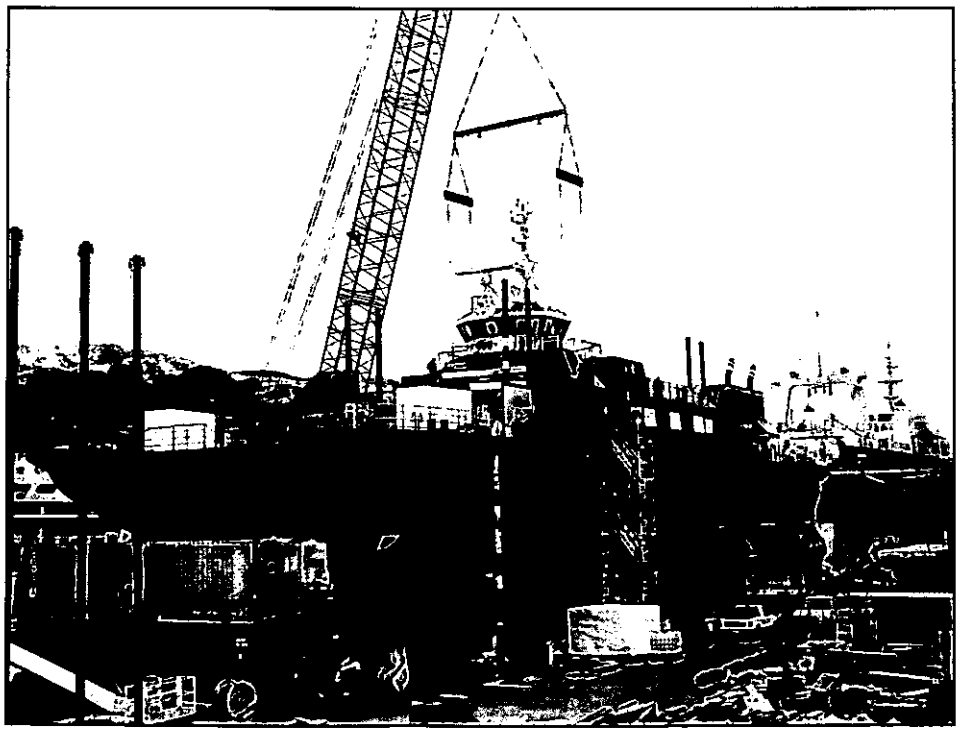
M/V SUSITNA



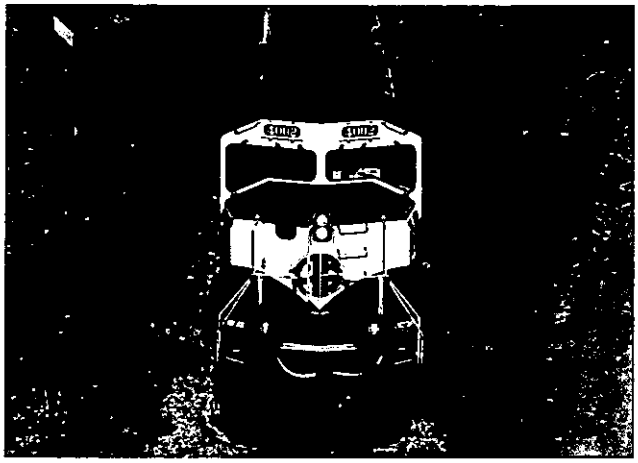
ASD
ALASKA
SHIP AND
DRYDOCK

ONR





South Central Rail Extension



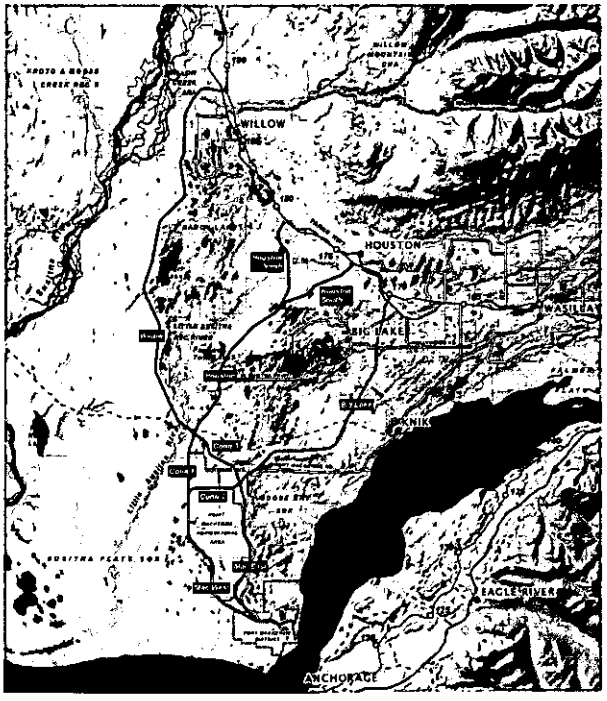
EIS Corridors Under Consideration

Draft EIS – Expected for public review in October 2009

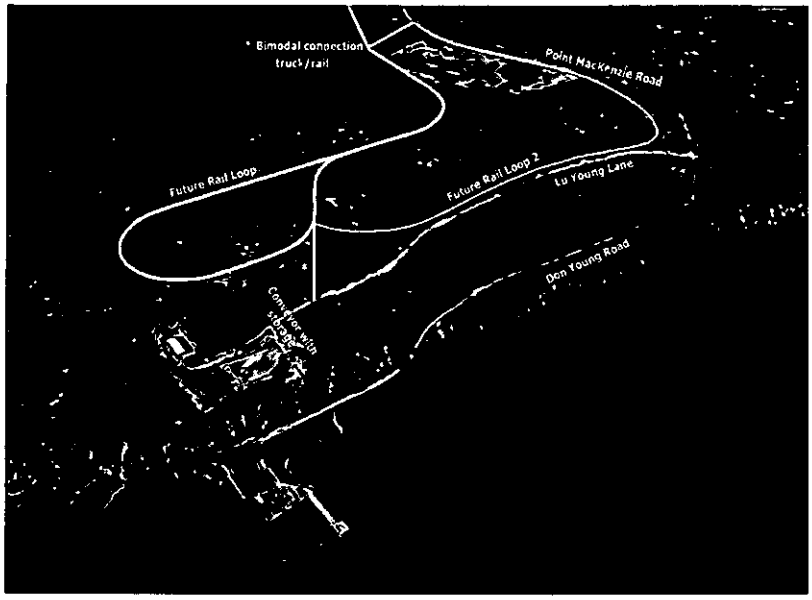
Final EIS – Expected in early Spring 2010

Note: These lines represent possible corridors and are subject to change.

3rd party contractor may arrive at additional routes as part of EIS process.



Rail Loop Under Construction

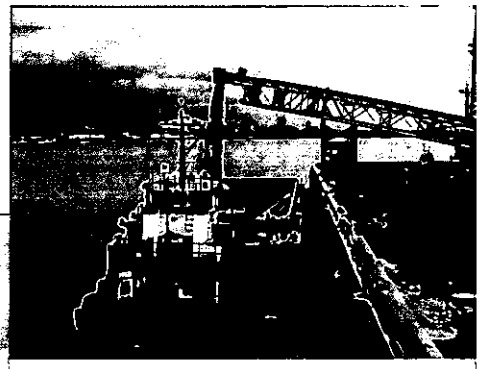


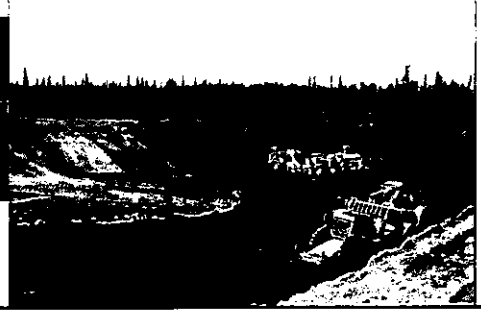
17

Gravel Excavation Project

451,000 tons for the Port of Anchorage Expansion Project

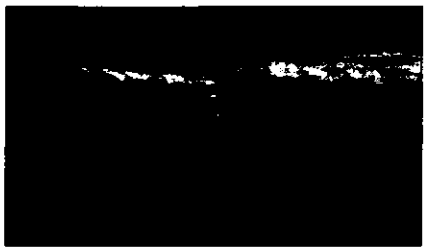
July 2008





Bi-Modal Alignment Spring Tree Removal

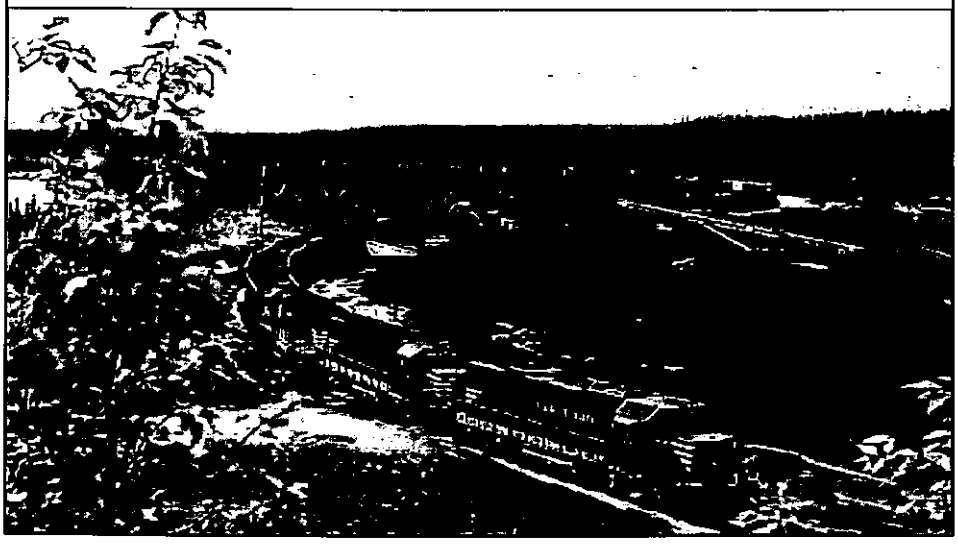
Summer Topsoil Removal Operations



Fall Excavation and Fill Work

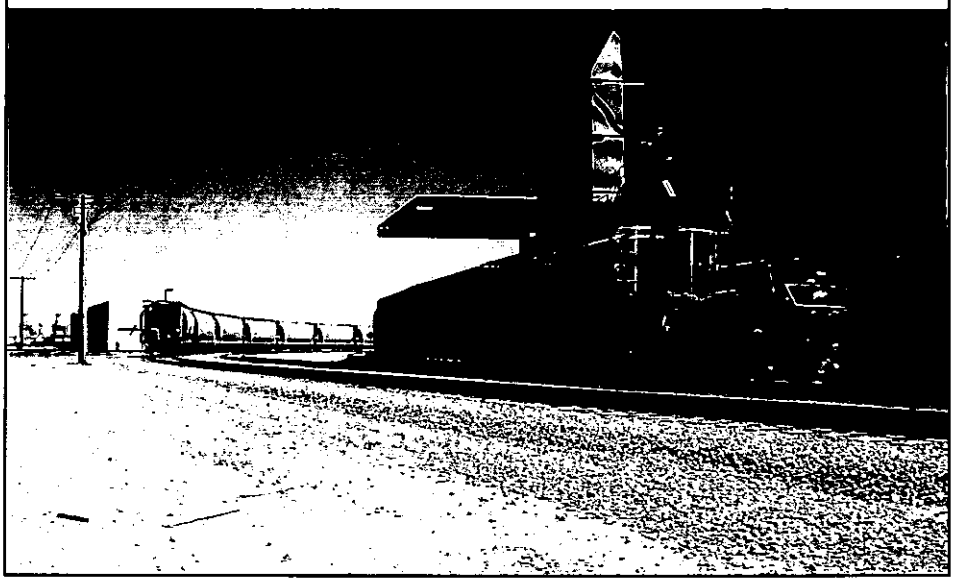
Port Mackenzie; the Shortest Distance to Tidewater

(Coal now has to travel to Seward)

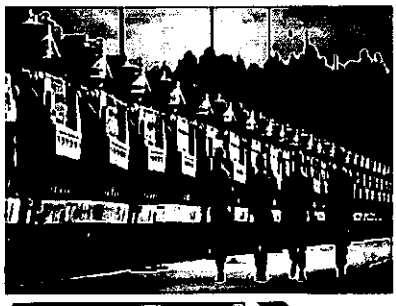


Only Alaskan Port with space for a Mile Long Rail Loop

(Example of loading cement on Loop Track)



Port MacKenzie - Military Logistics Option



Advantages and Savings of Using South Central Rail Extension to Port MacKenzie

- Transportation Savings.....$533 million
  (Benefit/Cost Ratio).....(1.9/1)
- Benefits to Alaska from New Mines
  - Gross Metal Value.....$172 billion
  - Community Benefits.....Permanent Jobs and Long-term Economic Engine
- State Revenue.....$6.3 billion

Summary of Rail Extension Statewide Benefits

- Supports Gas Pipeline Construction (mainline & spur line)
- New Interior Resource Development Opportunities
  (Benefits are $61M to $737M per year for 100+ years)
  - Limestone
  - Portland cement manufacture
  - Strategic Minerals (nickel, molybdenum)
  - Improved global price competitiveness of Alaska coal
- Transport Low Sulfur Fuel North (Interior, Southwest Alaska, North Slope)
- Alternate rail link to Interior (military mobilization/natural disaster /terrorism)
- Decreased rail congestion (Willow to Anchorage)
- Diversified Economy

Rail Project Project Scheduling

- ✓ **Phase 1** – EIS - **$10 Million**: 2007-2009
- ✓ **Phase 2** – Bi-Modal Loop & first 11 mile segment - **$17.5 Million**: 2008-2009
  - Permitting
  - Design of Bi-Modal Loop, Reserve and 11 miles
  - Right-of-way acquisition for Bi-Modal and 11 miles
  - Construction Bi-Modal Loop
- **Phase 3** – First 11 Mile Segment and EIS selected alternative – ($57 Million): **2010**
  - Construction of First 11 Mile Segment
  - Permitting, Design of EIS Selected Alternative
- **Phase 4** – EIS Selected Alternative – (*$150 Million): 2010-2011
  - Construction
- **Phase 5** – Track and Ancillary Facilities – (*$41 Million): 2012
  - Construction (laying rail, installing signals, etc.)
  - Project Completion Fall of 2012

*Note: Projected cost of $274 is expected to be adequate. Cost will be dependent on alternative selected in EIS

Southcentral Rail Exension Project

February, 2010

3/3/10 PRESENTATION: MAKING SENSE OF ENERGY EFFICIENCY

2709

Alaska Housing
FINANCE CORPORATION

Making $ense of Energy Efficiency

Cary Bolling
AHFC Energy Specialist

Conservation vs. Efficiency

CONSERVATION	EFFICIENCY
Turn off lights	Use energy efficient lights
Lower thermostat	Programmable thermostat
Use less hot water	Install water heater blanket
Open refrigerator less	Use Energy Star refrigerator

Cutting Back vs. Doing More with Less

Product Purchase Decisions

Model	Screen size (diagonal)	Power consumption (in watts)			Estimated annual energy cost
		Power on	Standby	Per sq. inch (when on)	
Sharp LC-37D40U	37 inches	177.25	1.19	0.30	$54.55
Sharp LC-37D90U	37 inches	218.74	40.04	0.37	$90.75

Source: CNET's "**54 TVs' power consumption compared**"
8hrs on. 16 hrs off @ 10.4 cents/kwh

ENERGY STAR

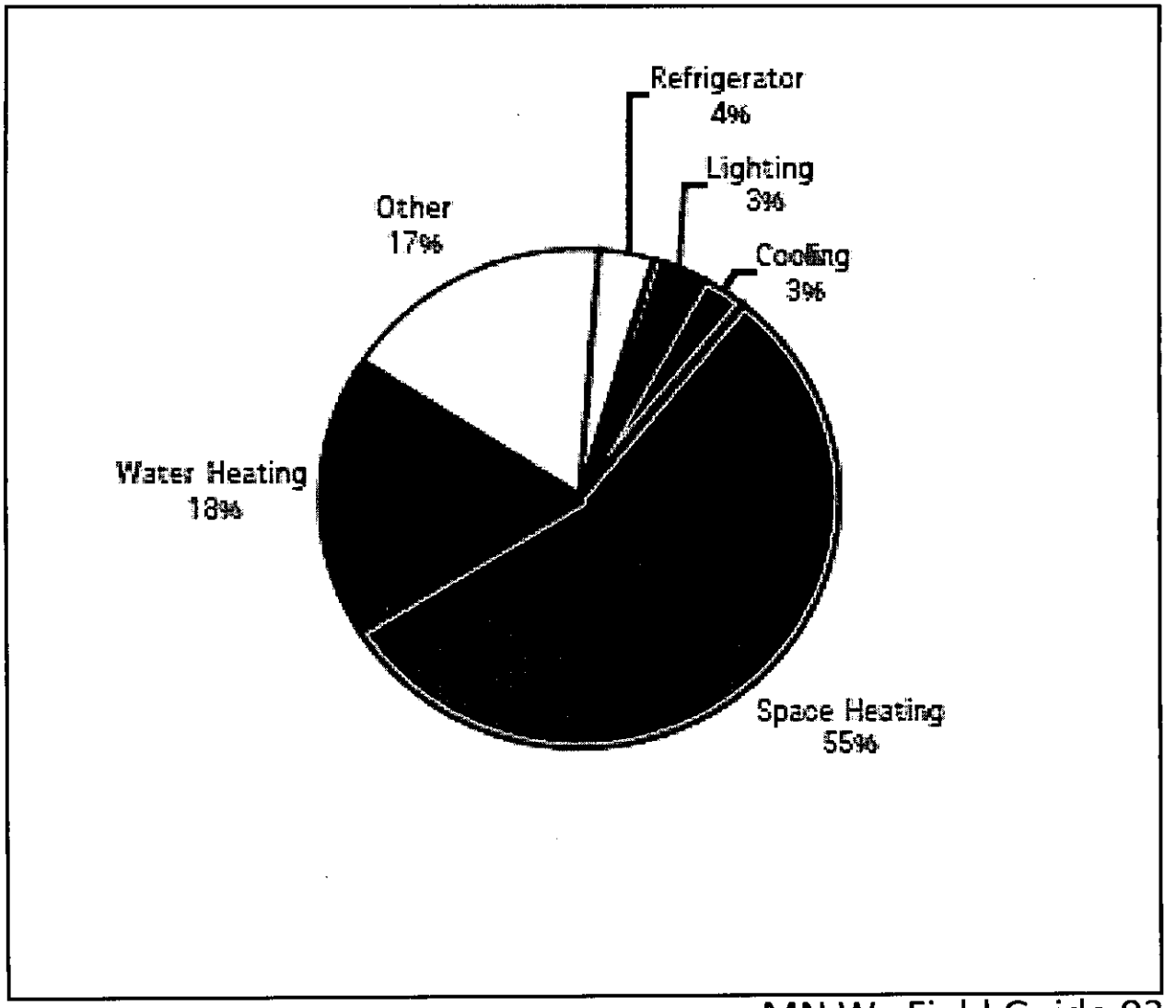
For $100

- 10 CFLS = 30.00
- 1.6 gpm showerhead = 12.00
- Water heater blanket = 20.00
- Door & window weatherstrip/caulk = 15.00
- Car block heater timer = 20.00
- Powerstrip = 3.00

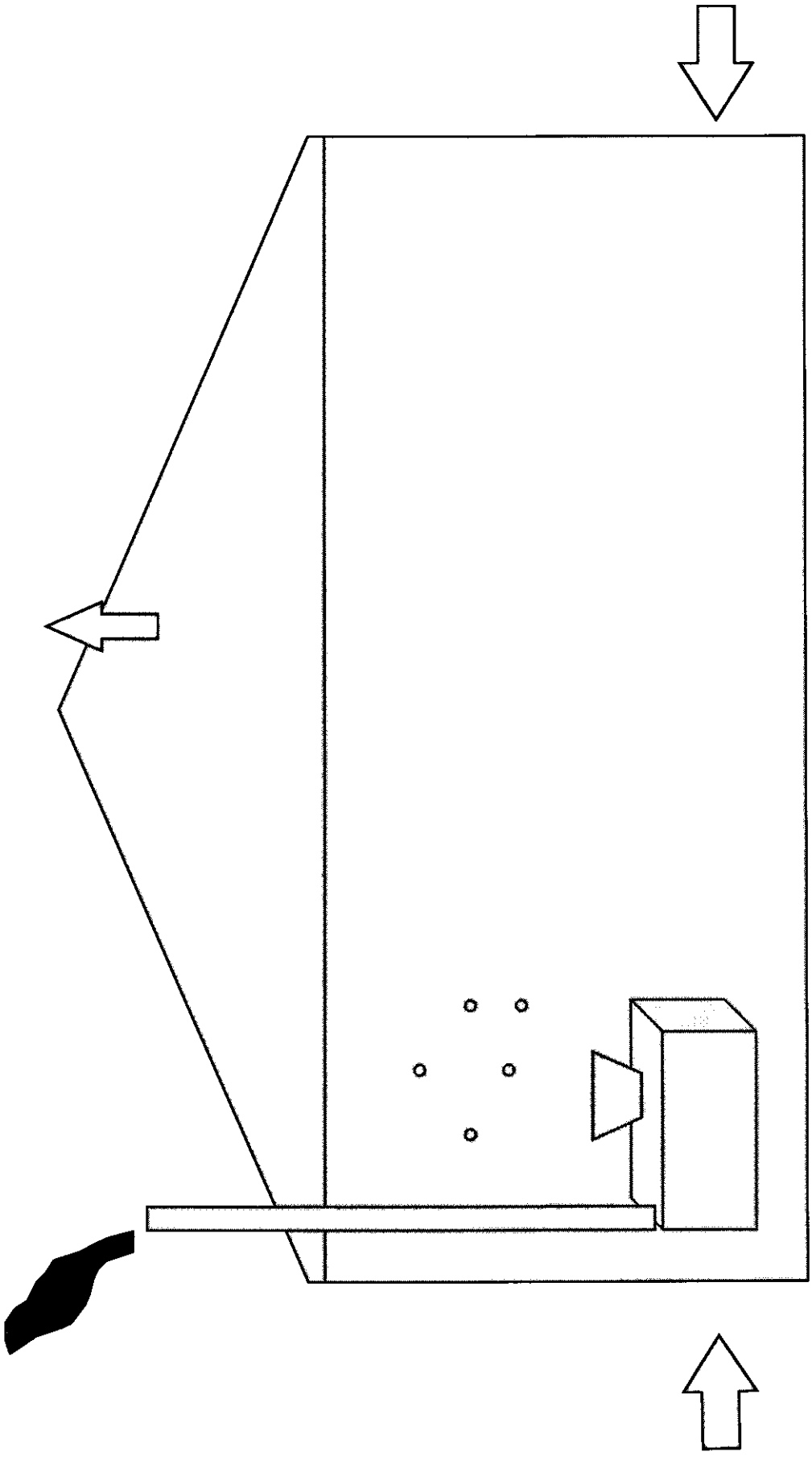
APPROXIMATE ANNUAL $AVINGS

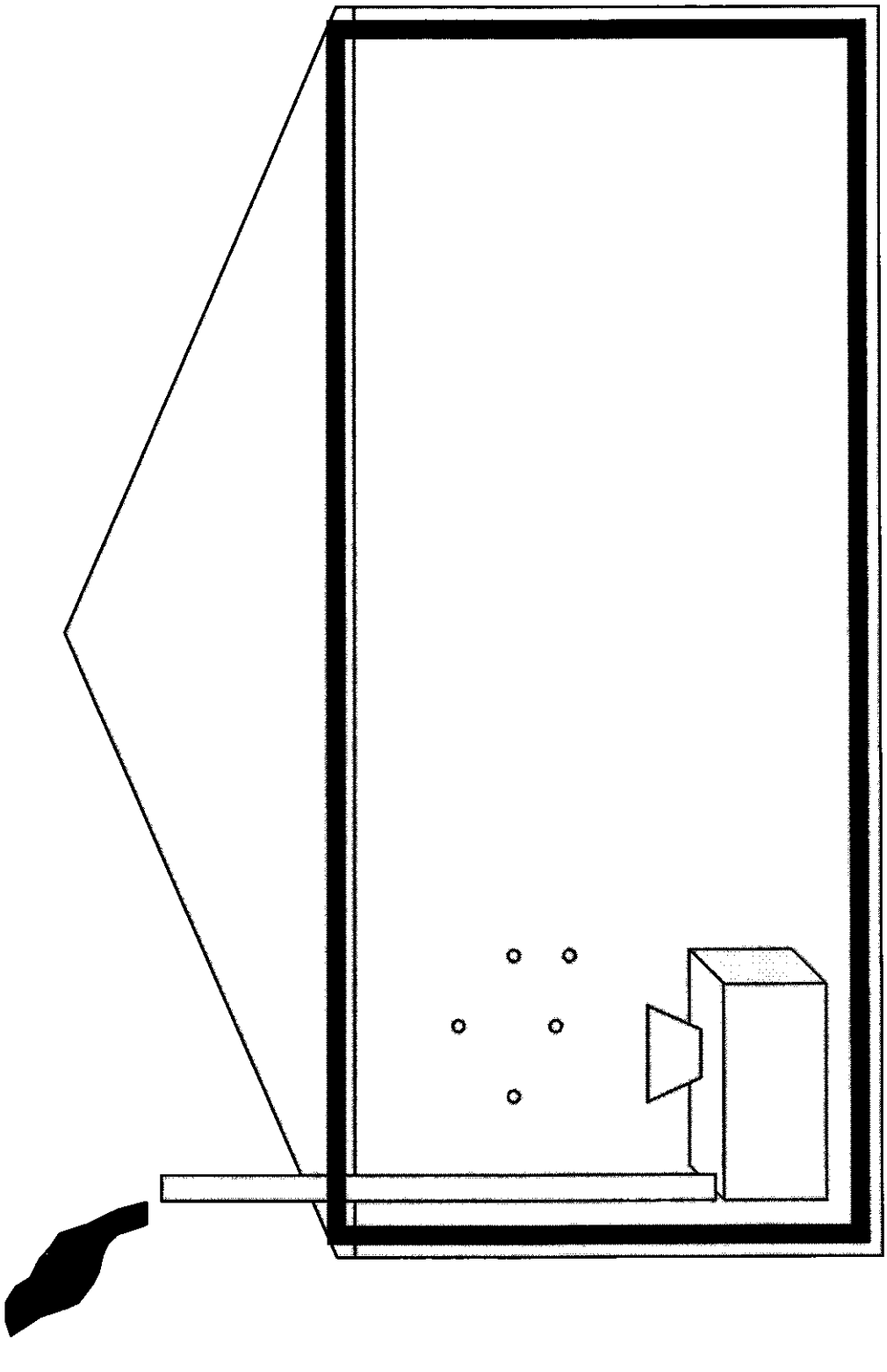
• 10 CFLS = 30.00	• = 200.00 / year
• 1.6 gpm showerhead = 12.00	• = 80.00+ / year
• Water heater blanket = 20.00	• = 10.00-30.00+ / year
• Door & window weatherstrip/caulk = 15.00	• = 40.00+ / year
• Car block heater timer = 20.00	• = 200.00 / year
• Powerstrip = 3.00	• = 100.00 / year
COST = 100.00	**SAVINGS = 650.00 / year**

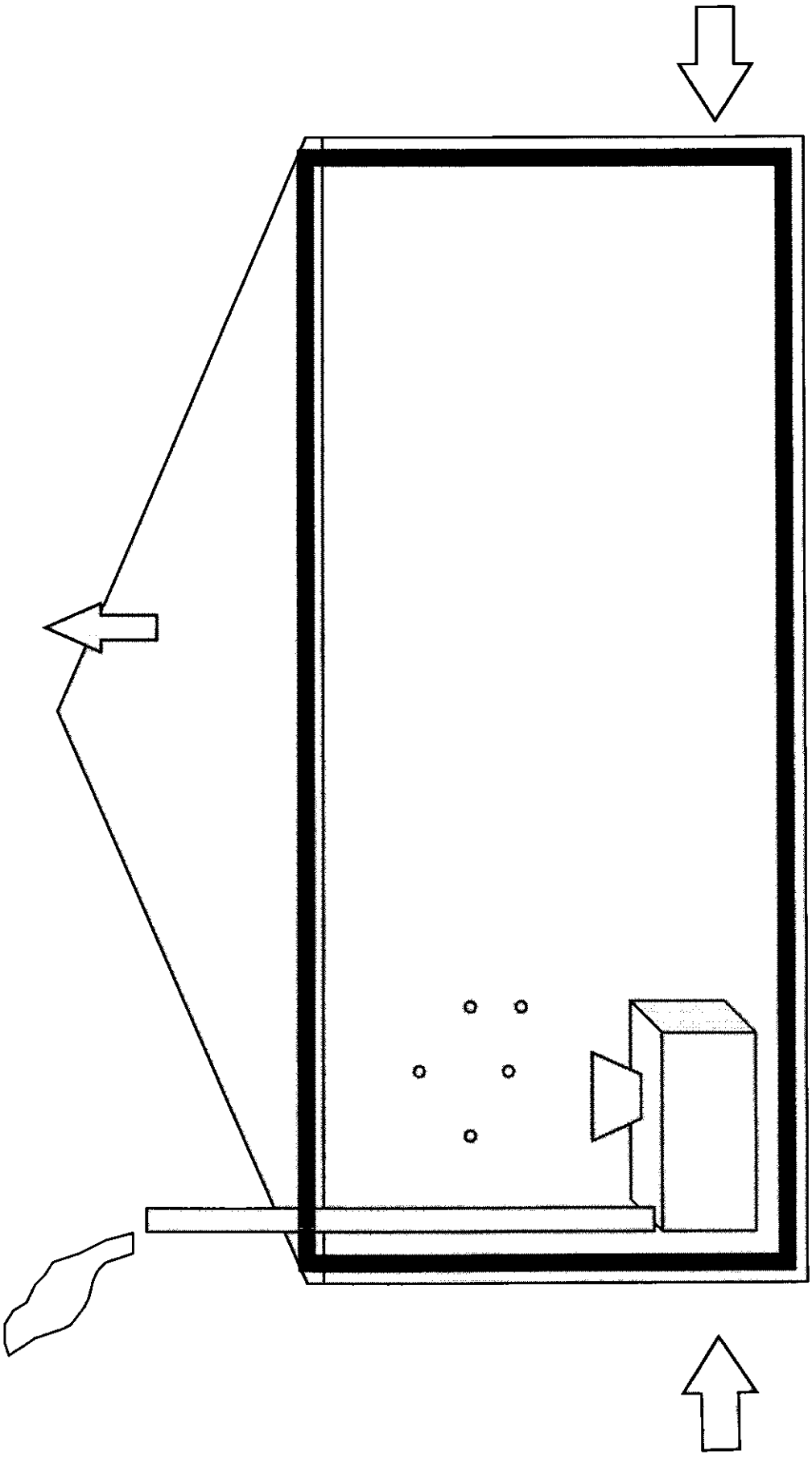
HOME ENERGY USE

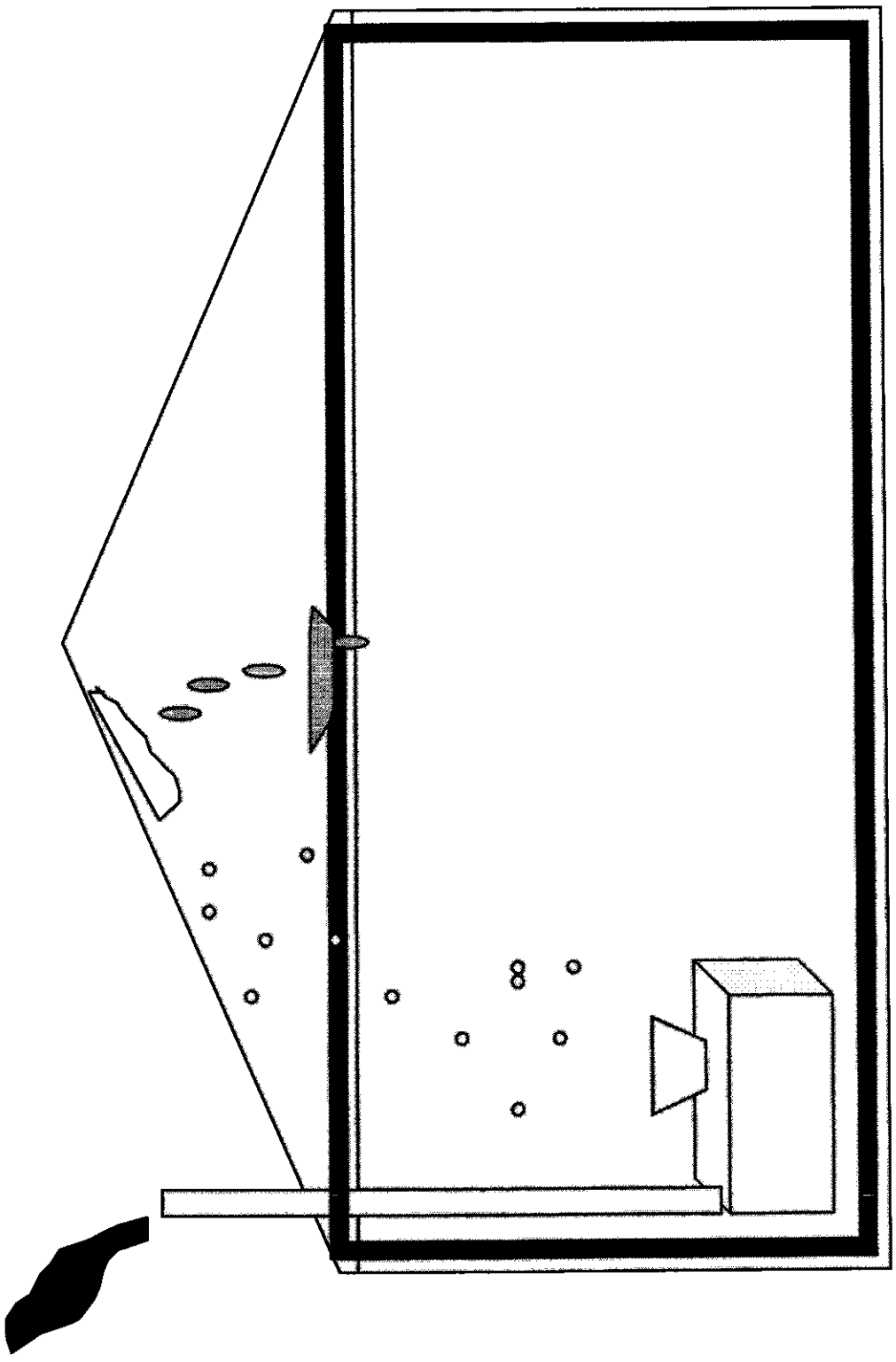


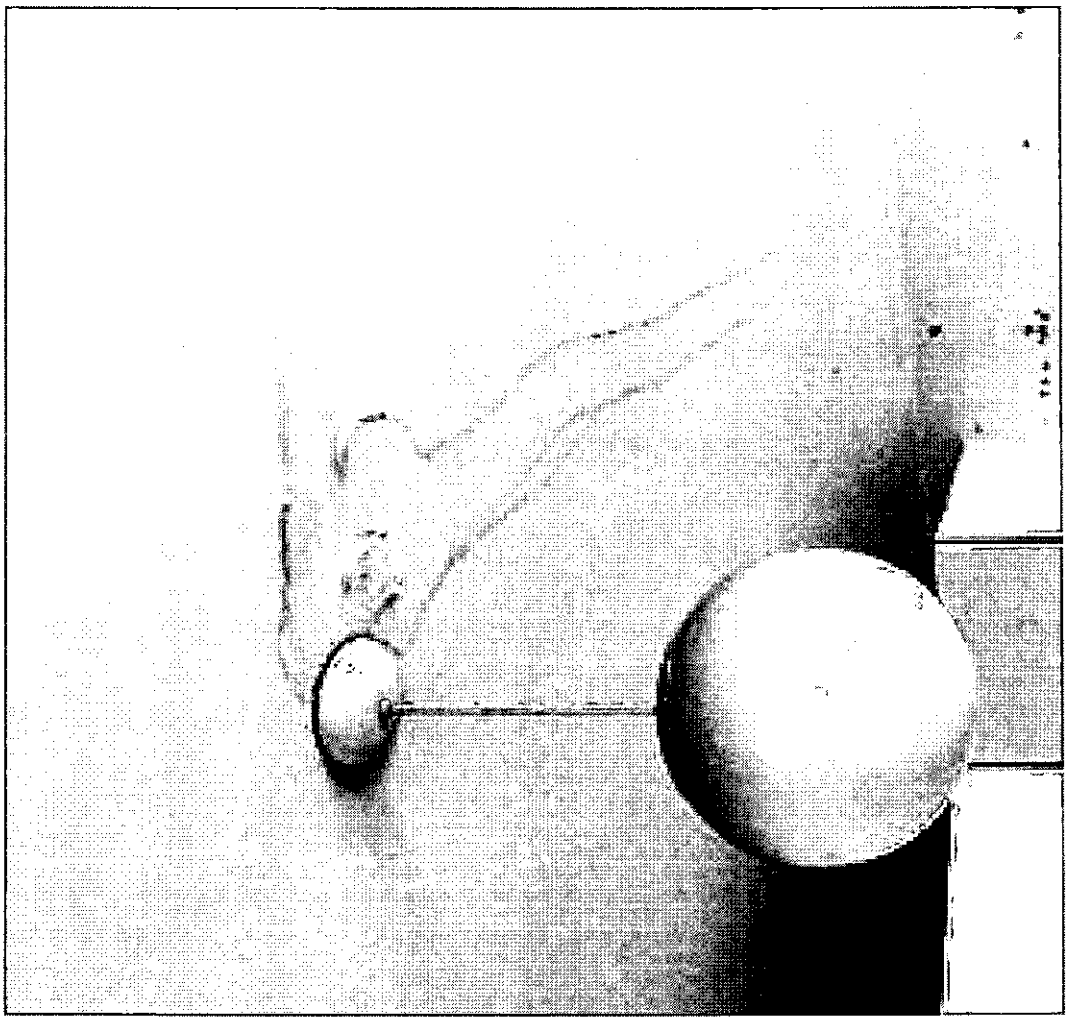
MN Wx Field Guide 03

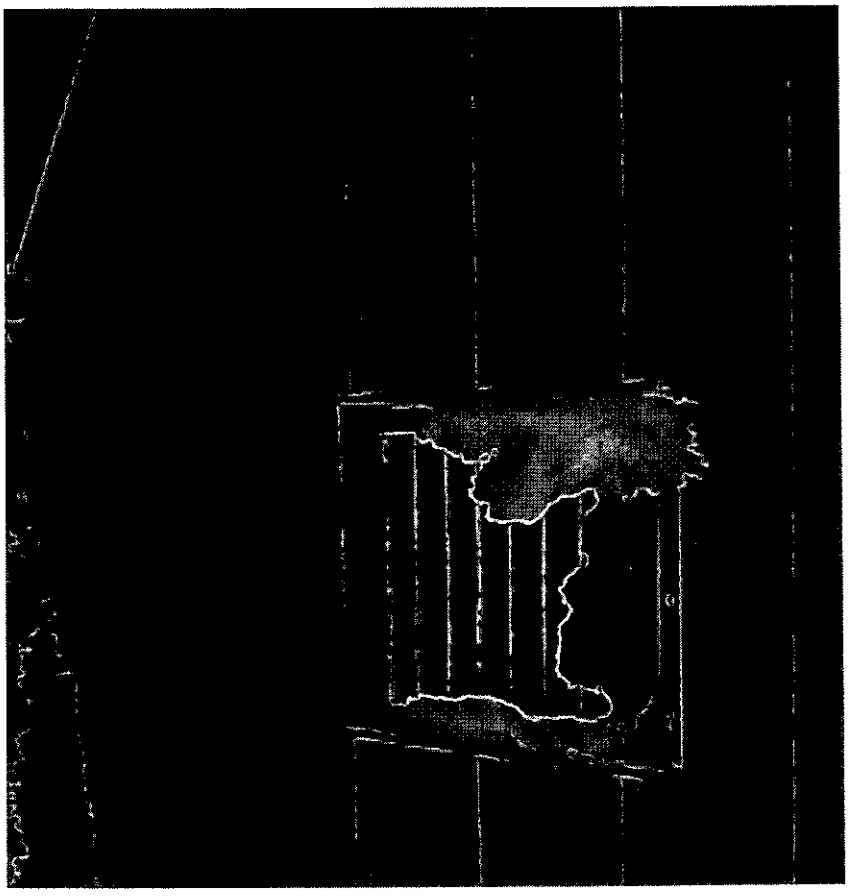


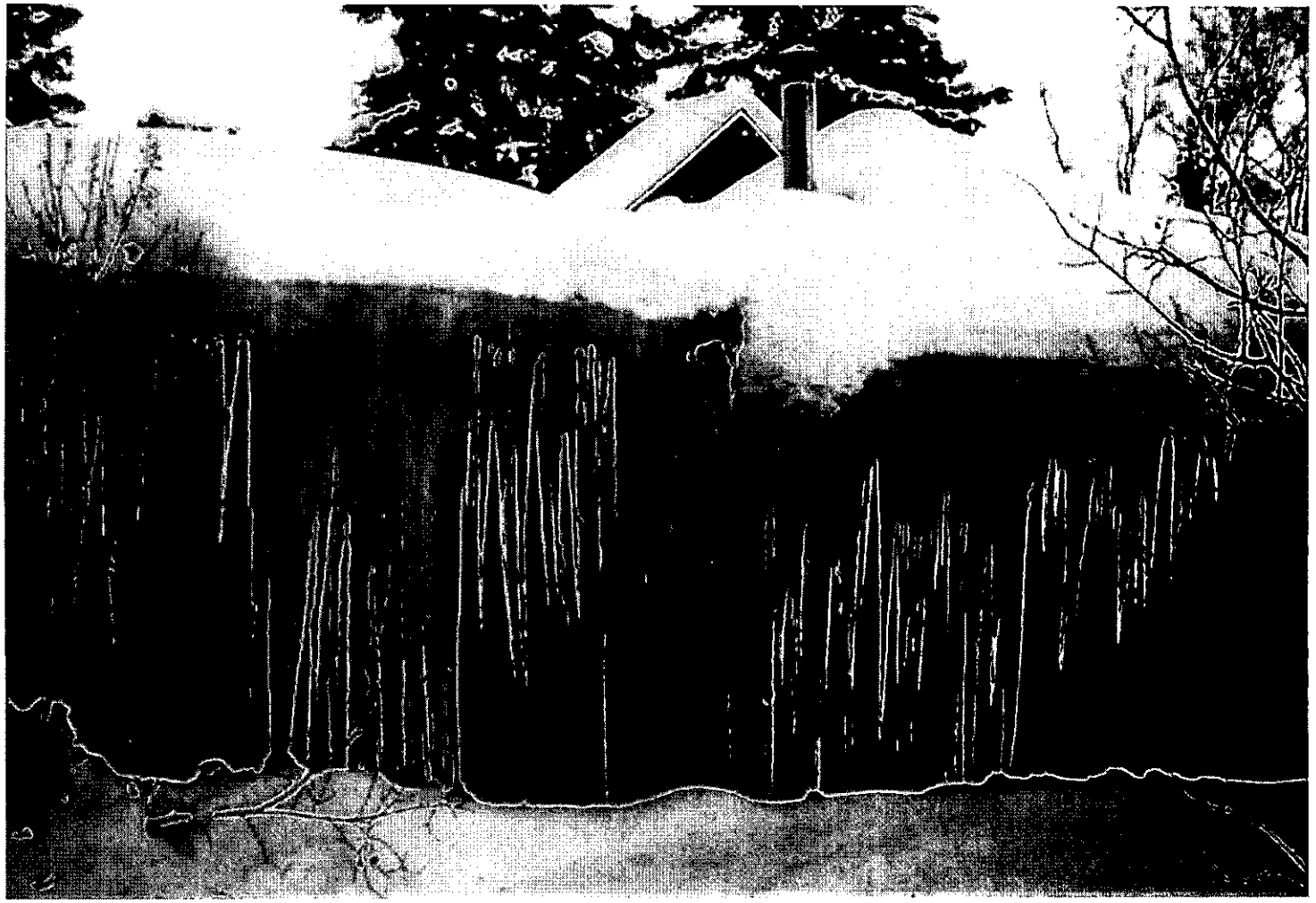


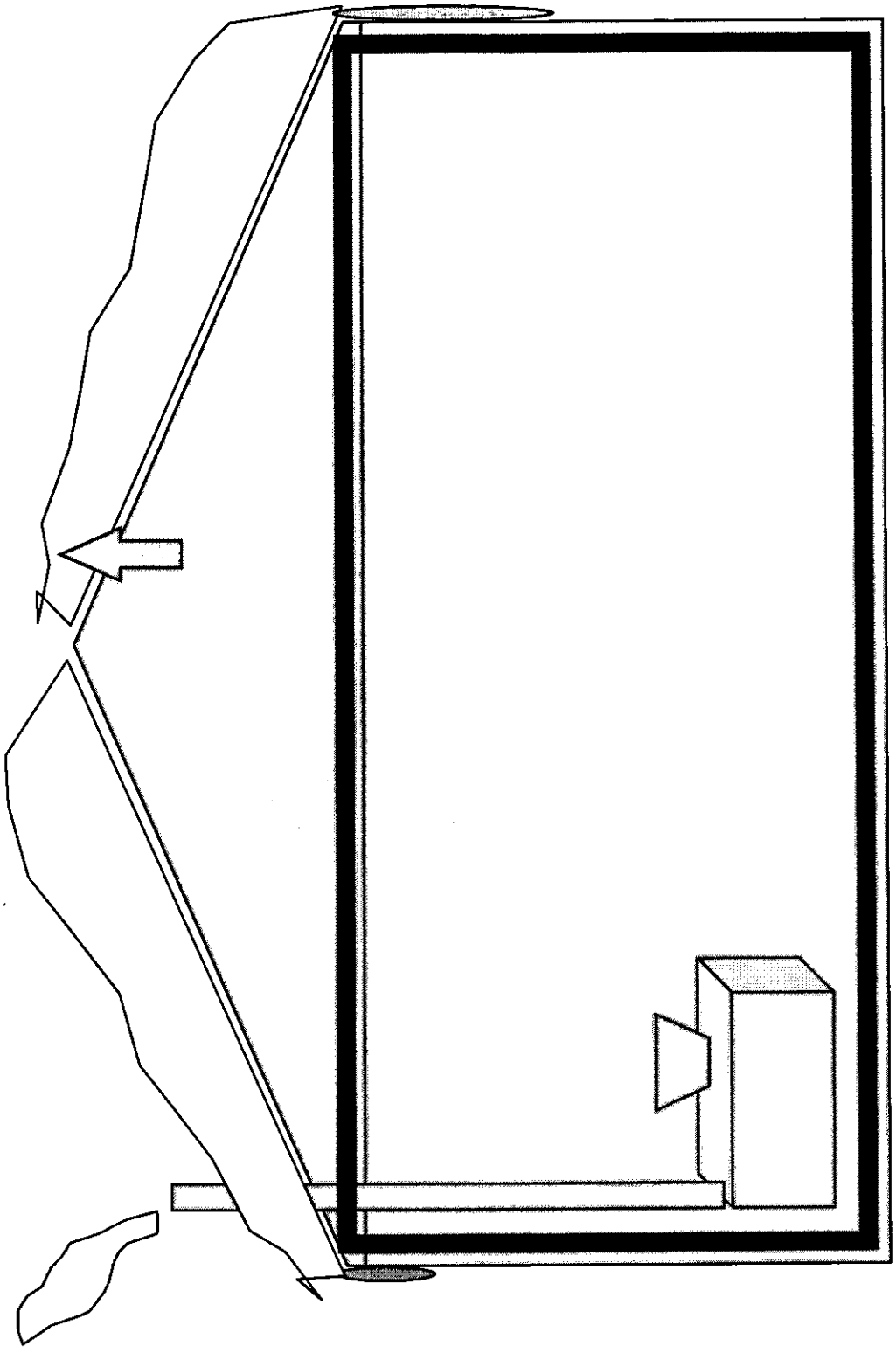


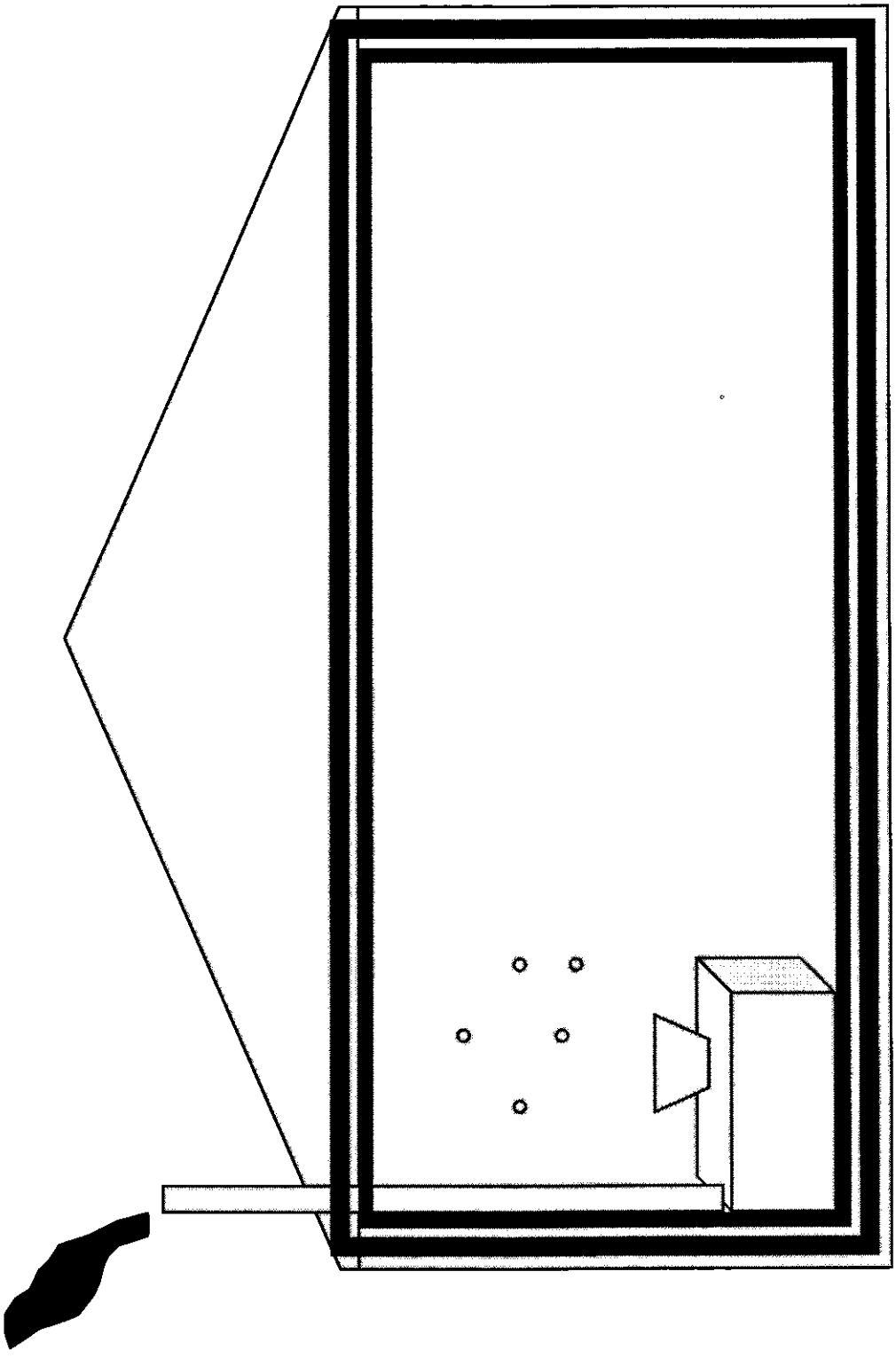


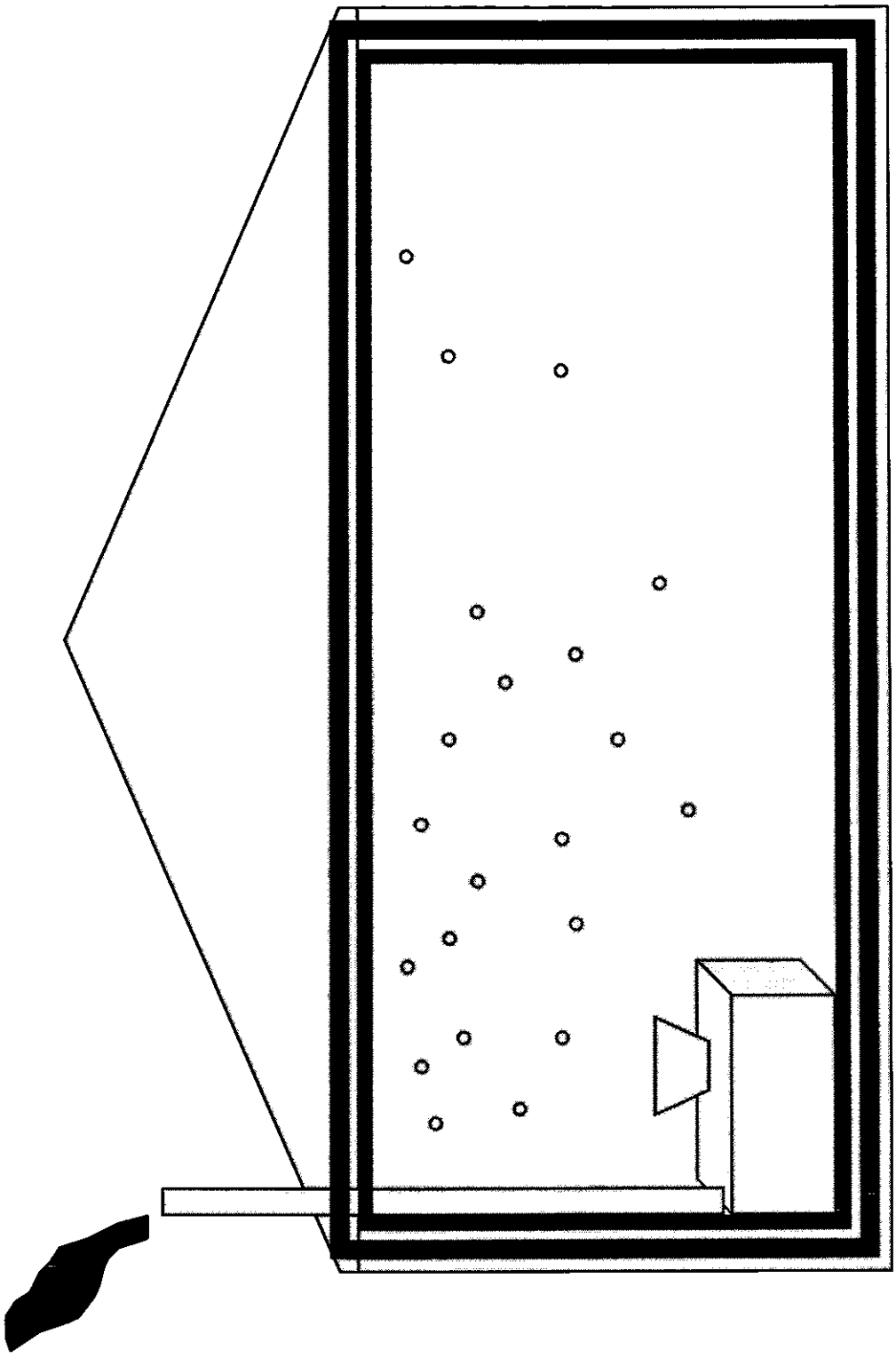


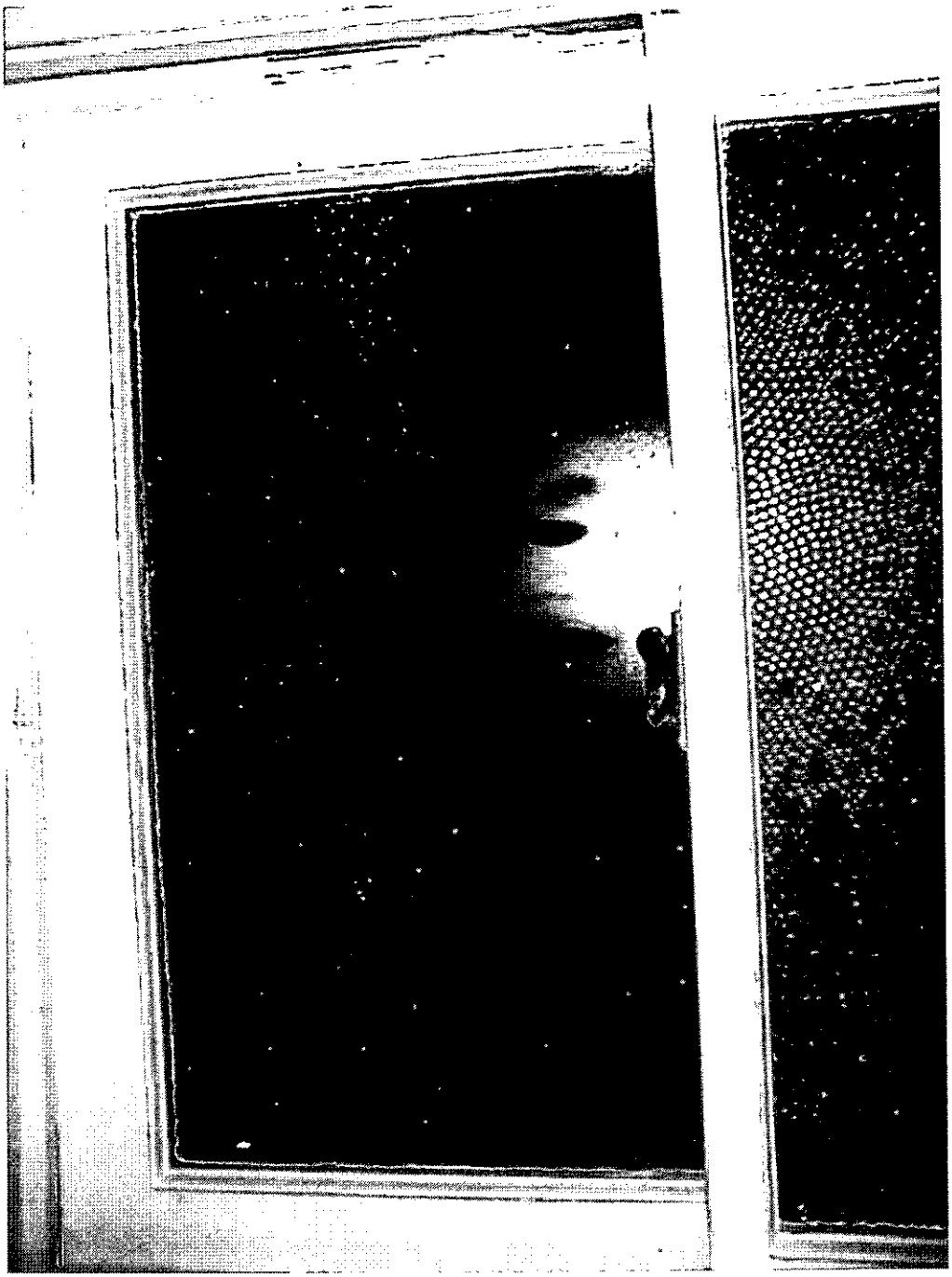


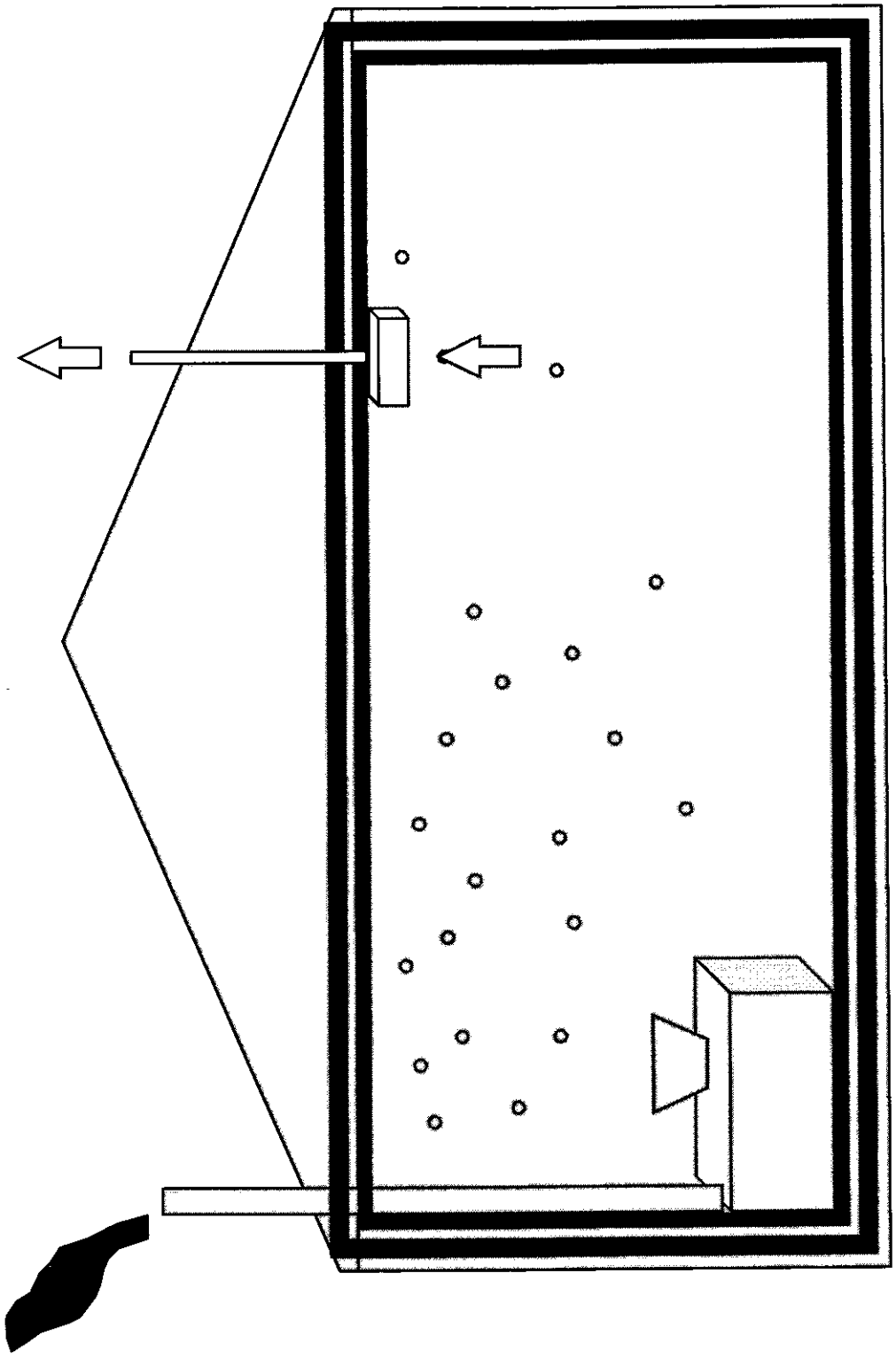




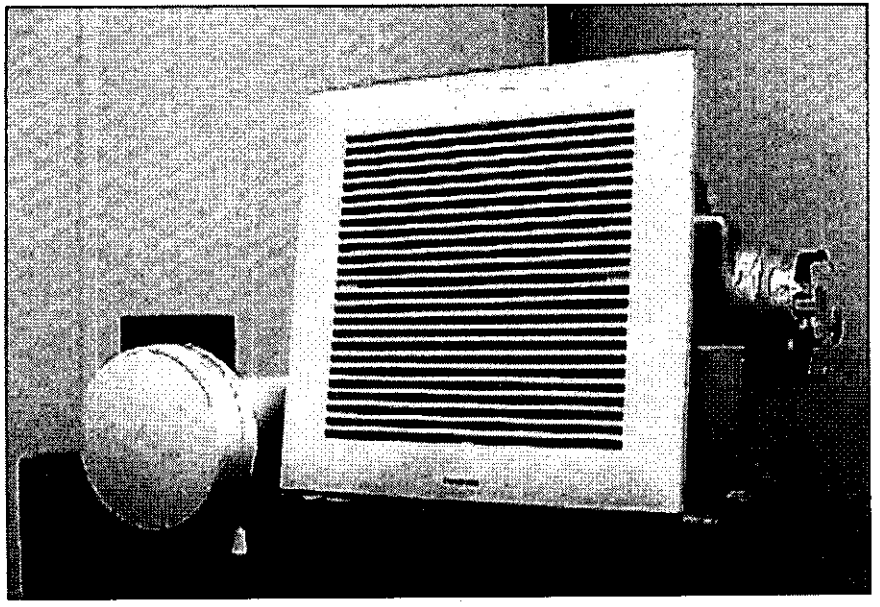


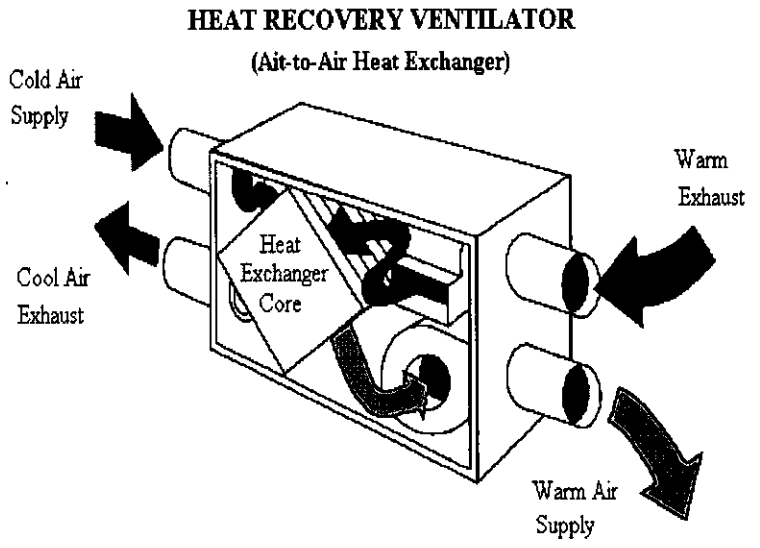




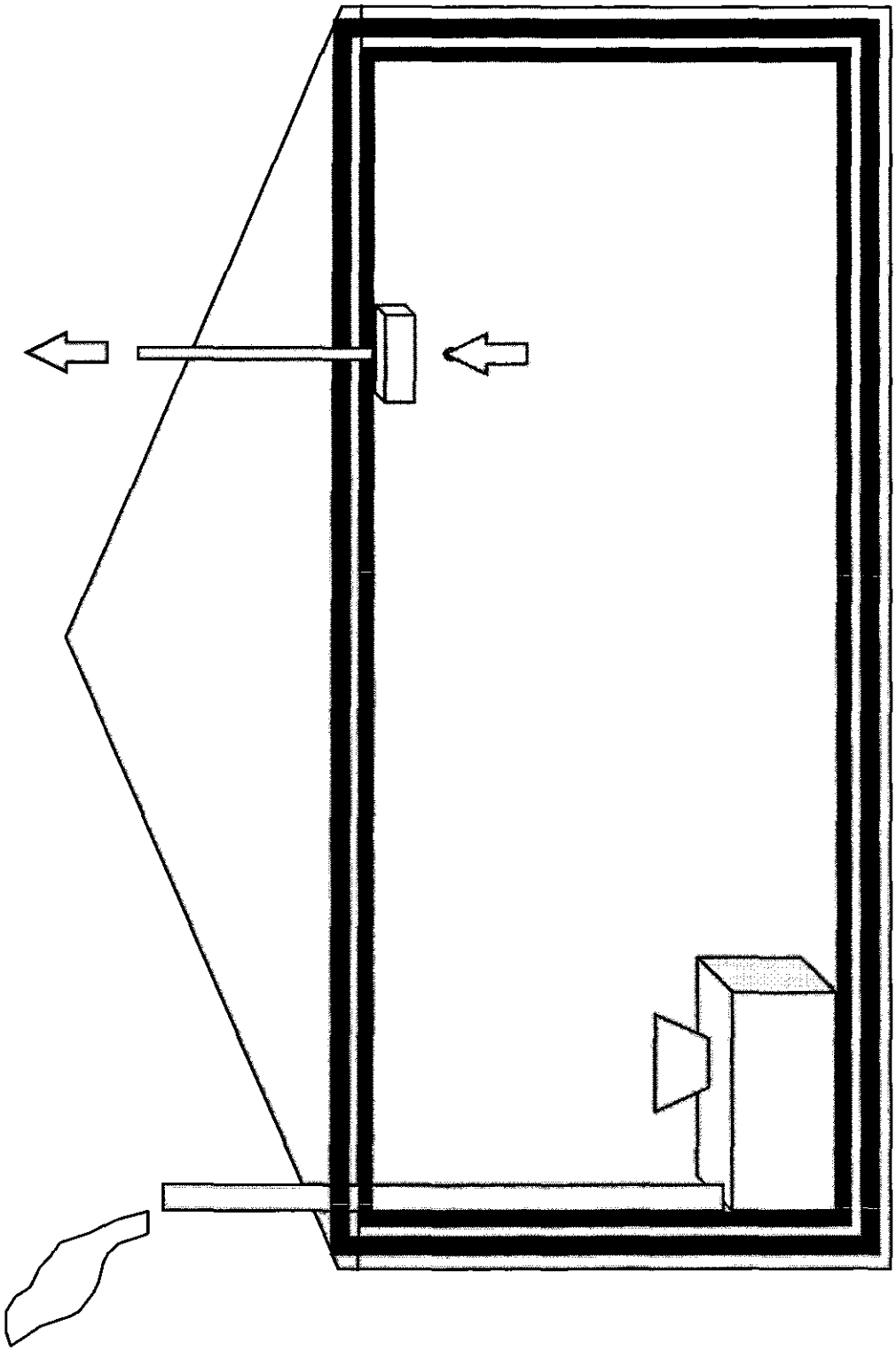


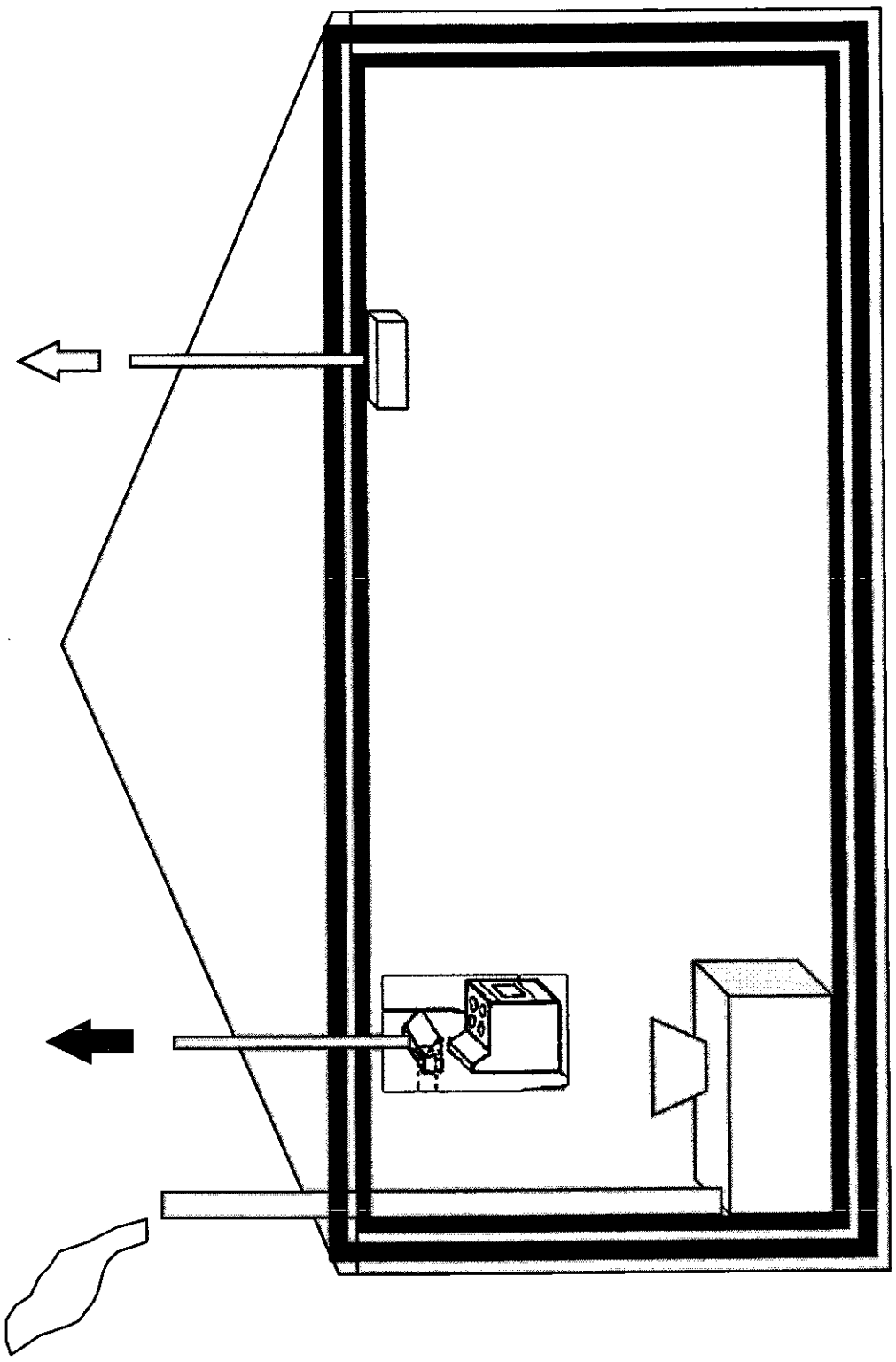
Ventilation System

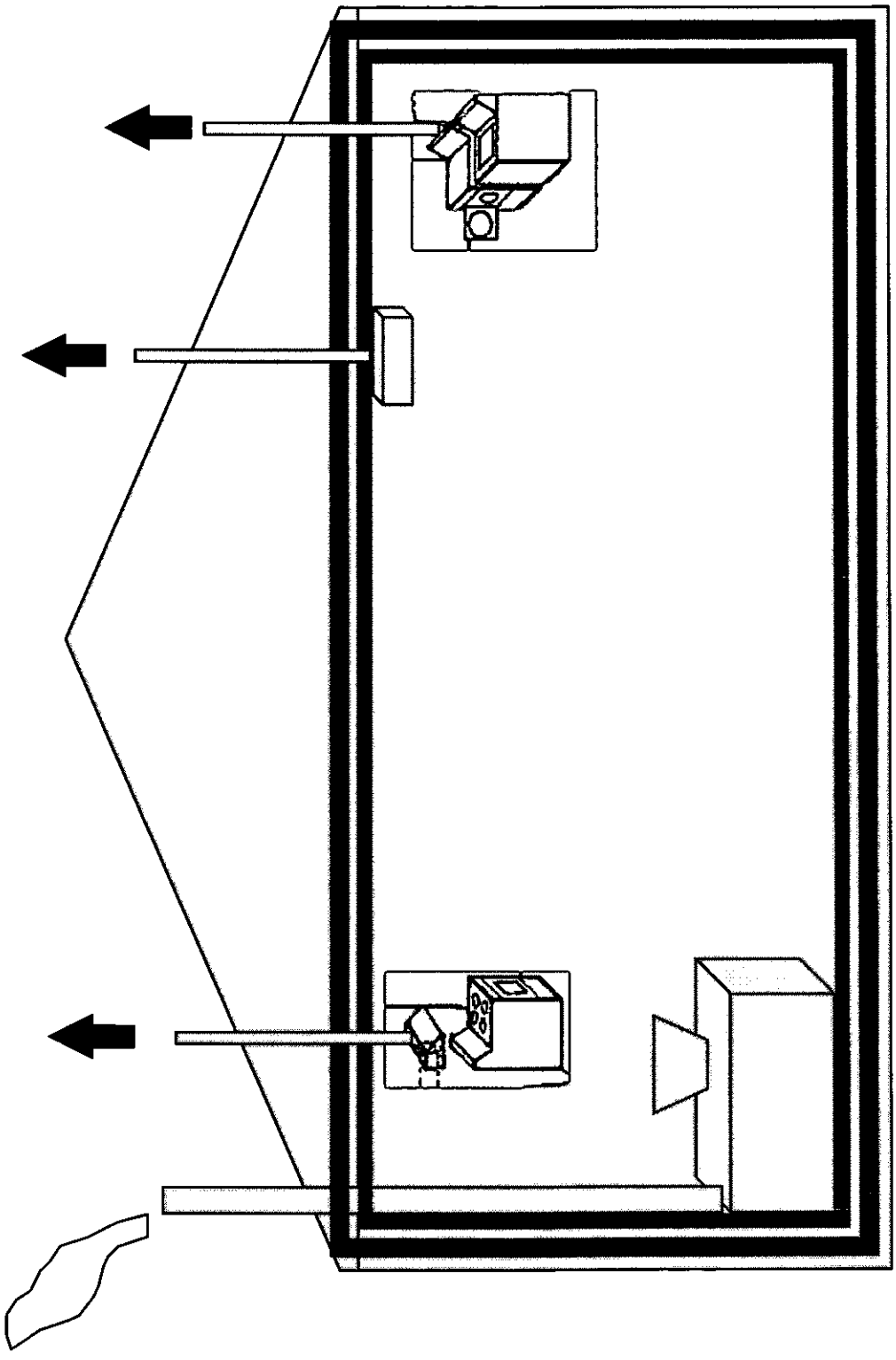


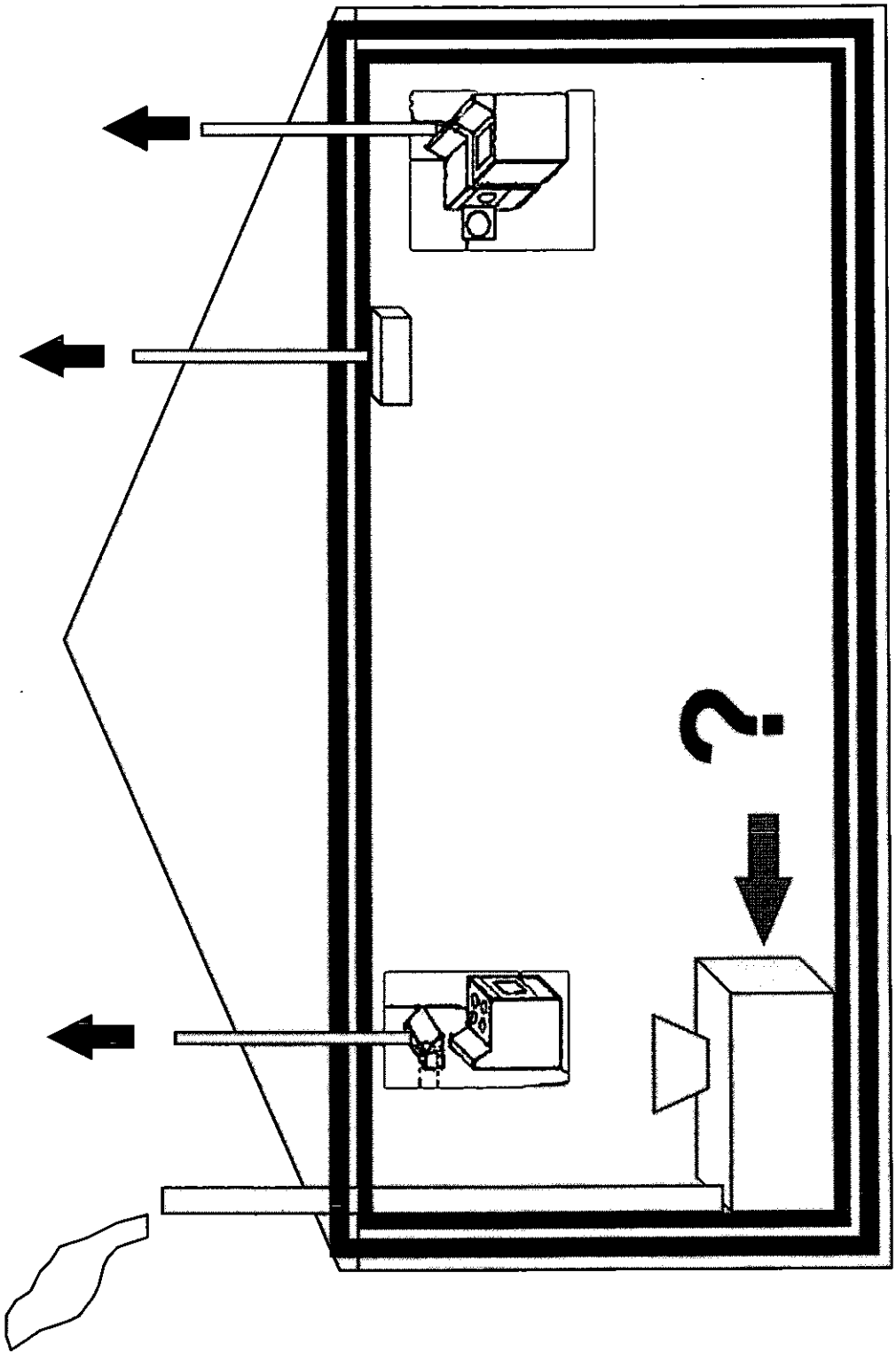


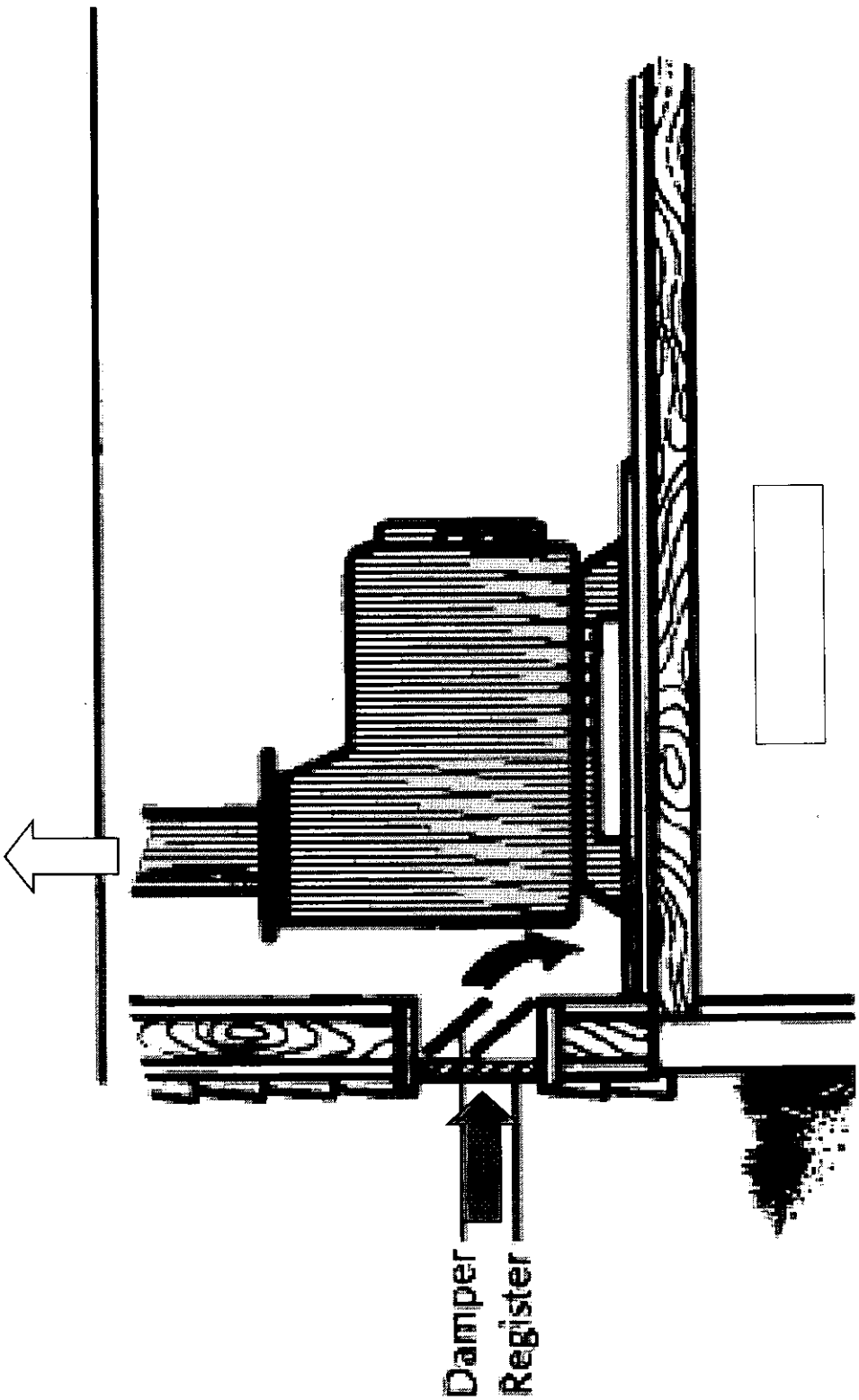
"Build tight, ventilate right"

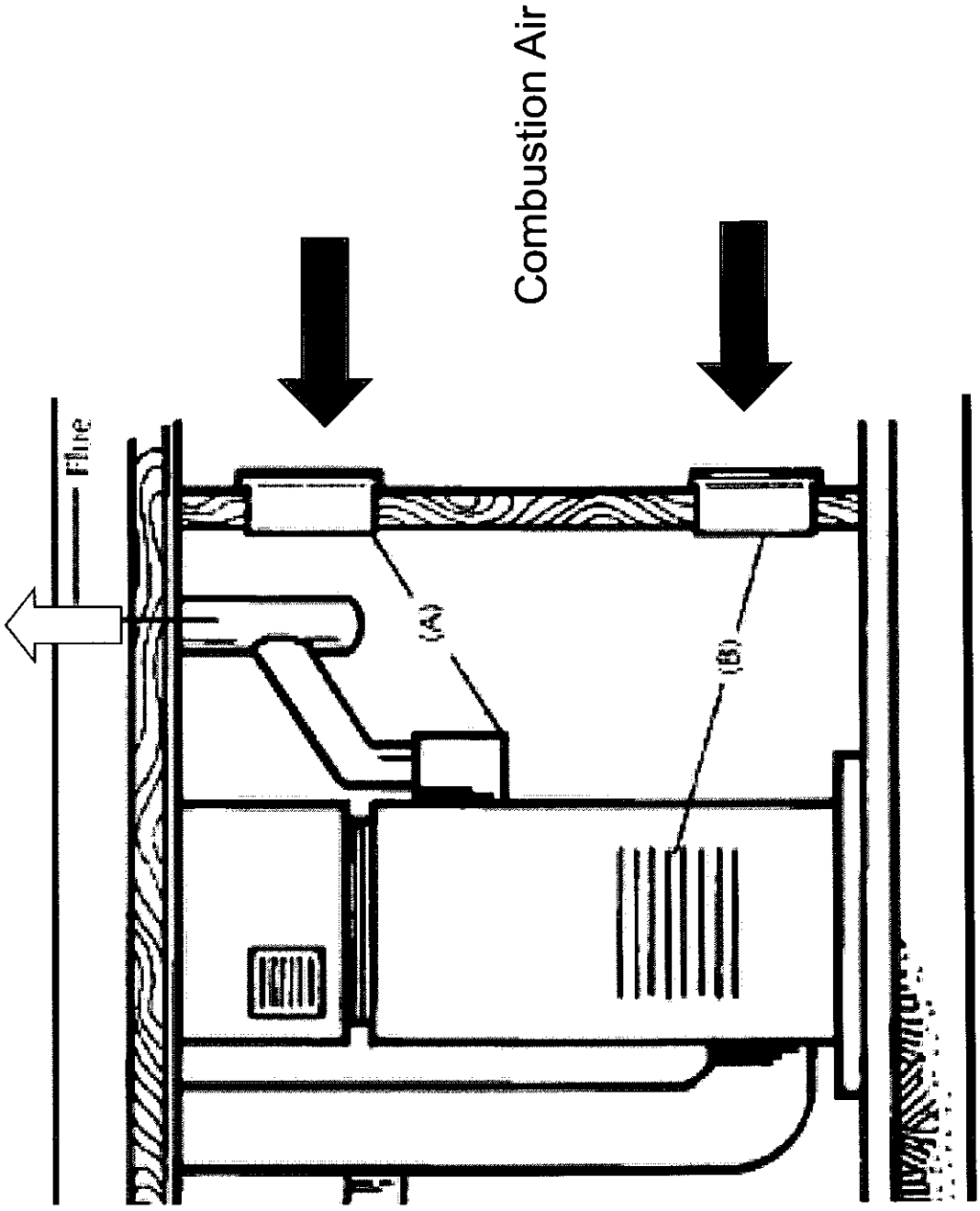




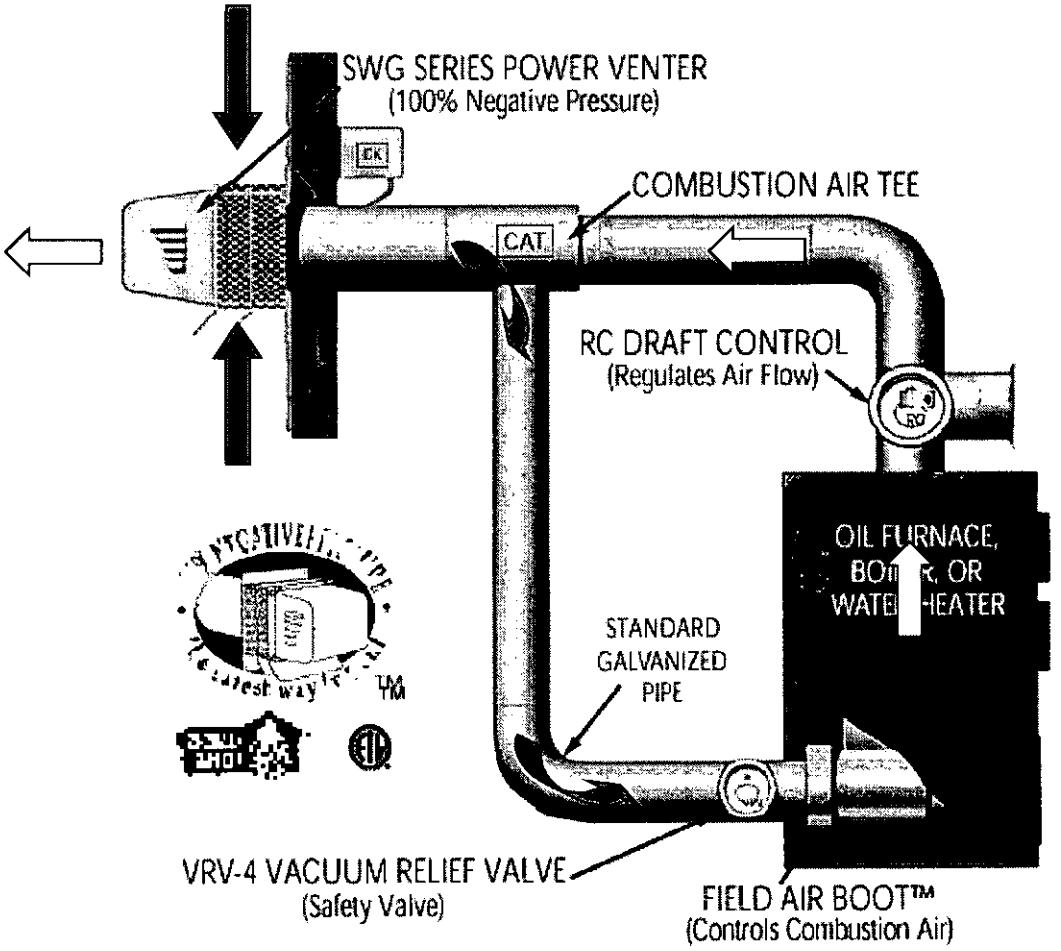




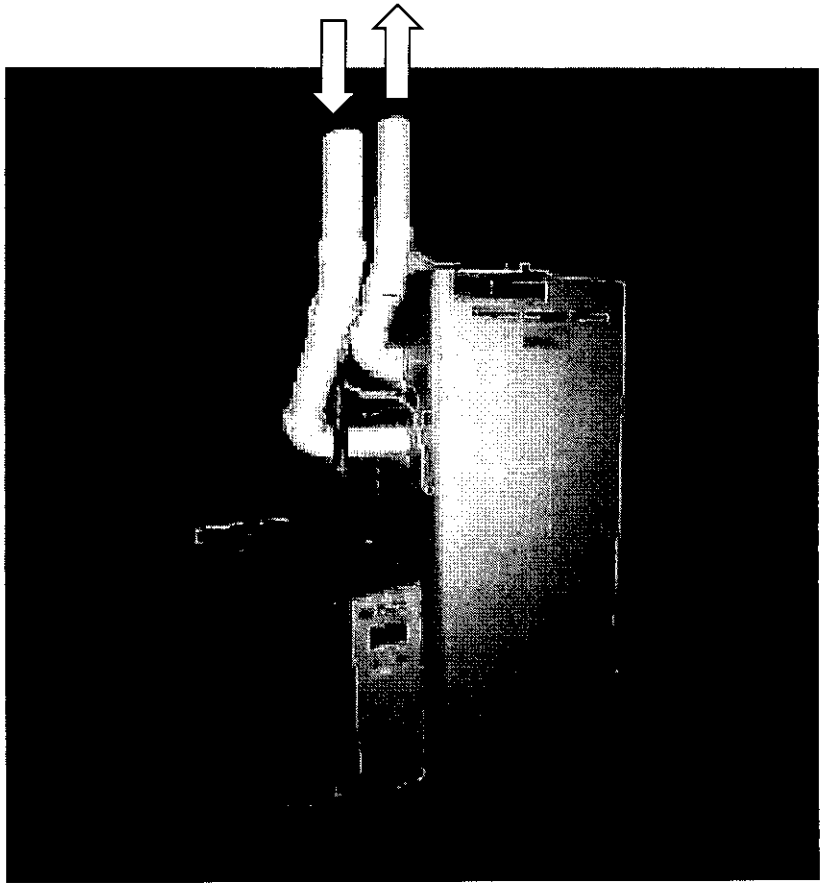

Damper
Register


Combustion Air
Flue
(A)
(B)

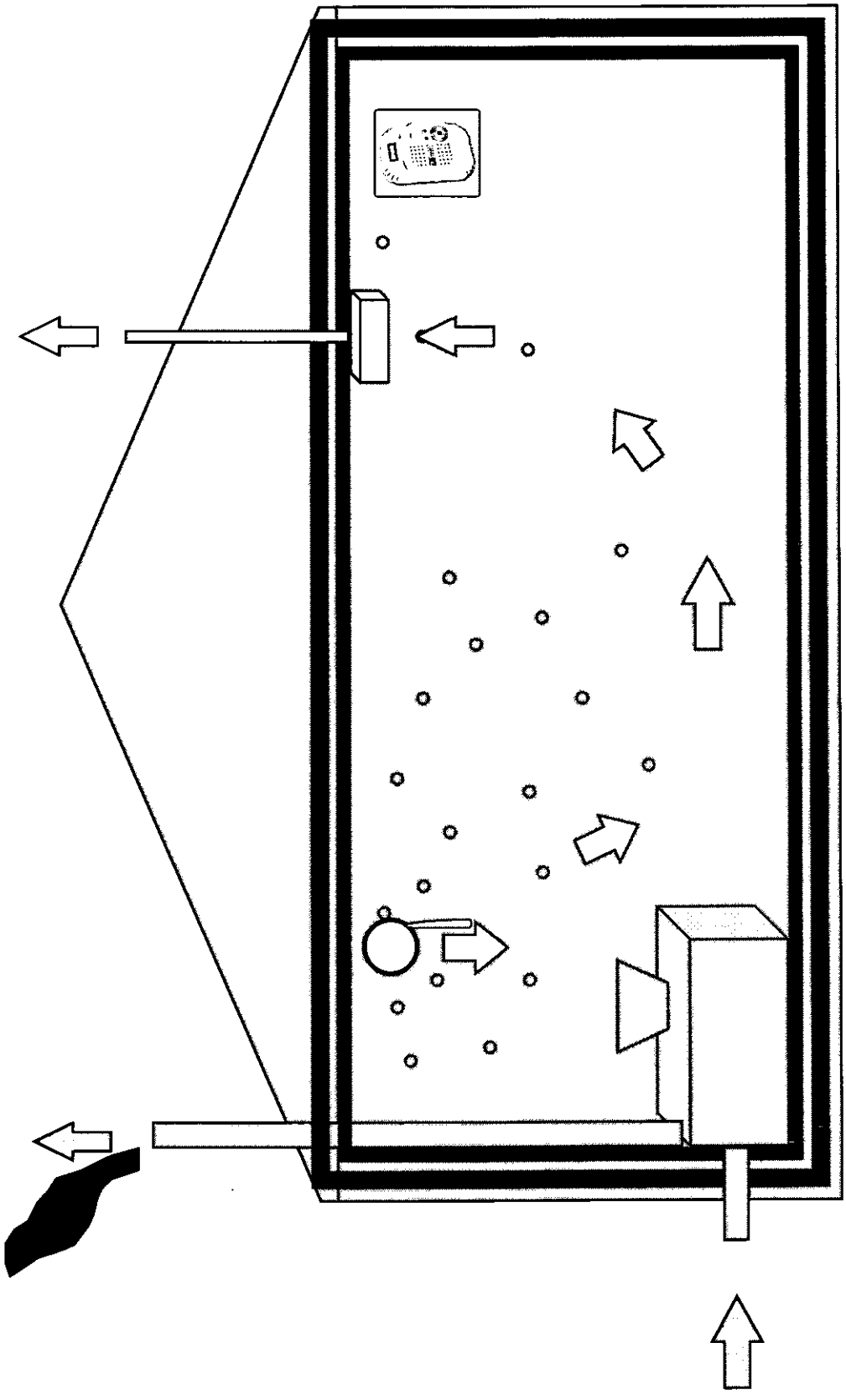
Direct Vent or Sealed Combustion Heating & Hot Water Heaters



Sealed Combustion Direct Vent Furnace



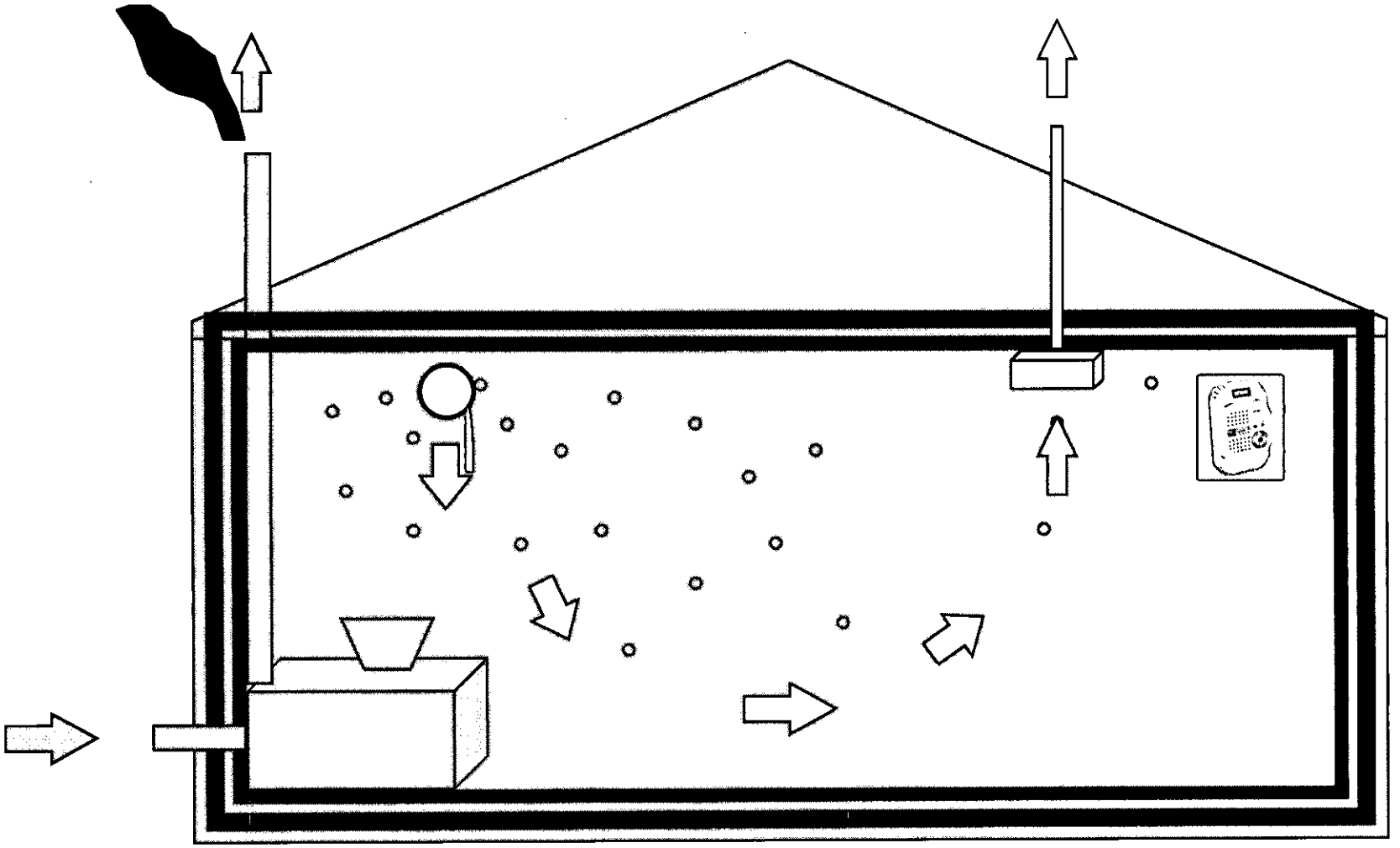
Helps prevent backdrafting



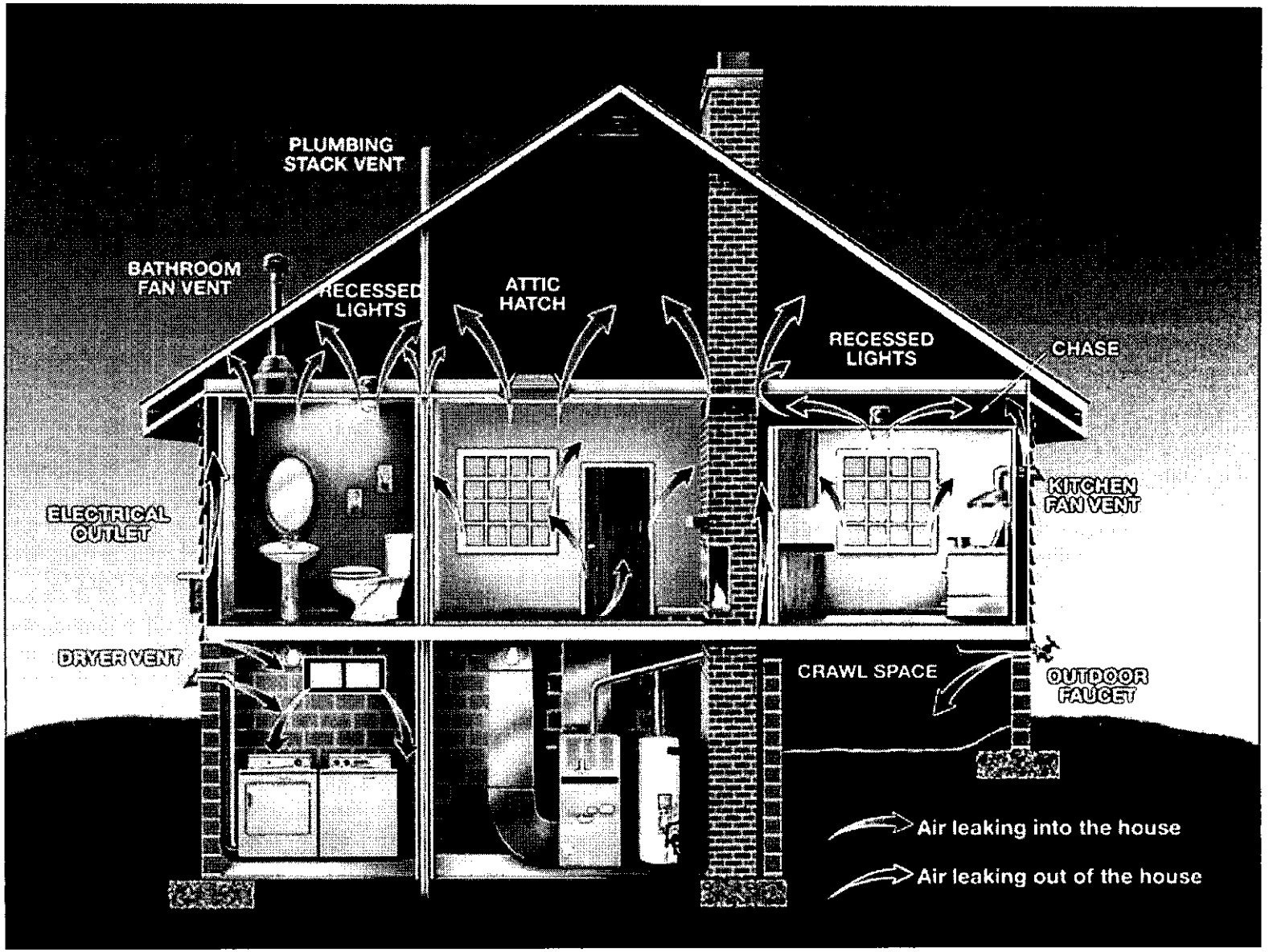
"I only thought about energy."

The House is a System

"Build tight….ventilate right!"



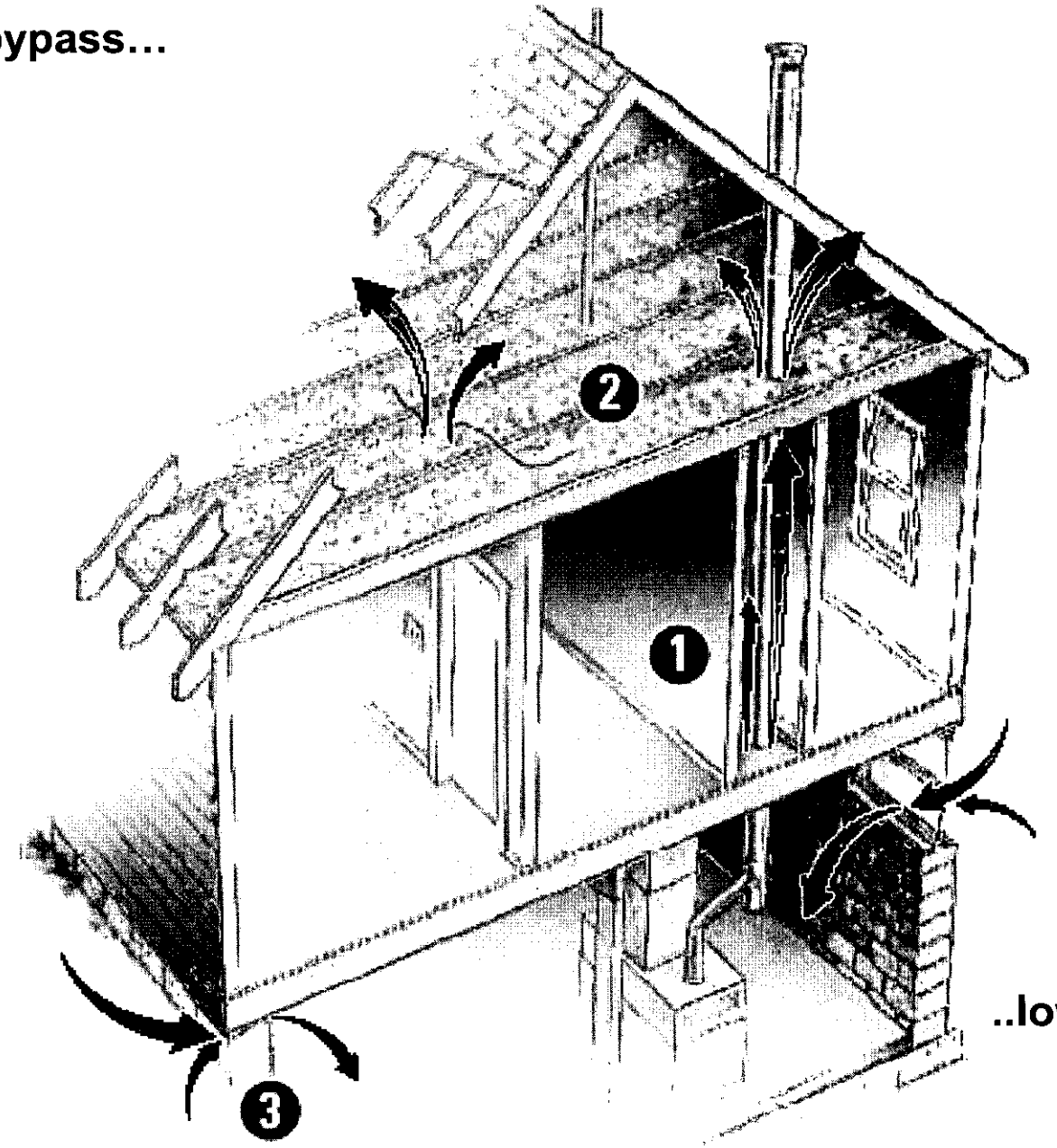
Seal high...



...and seal low

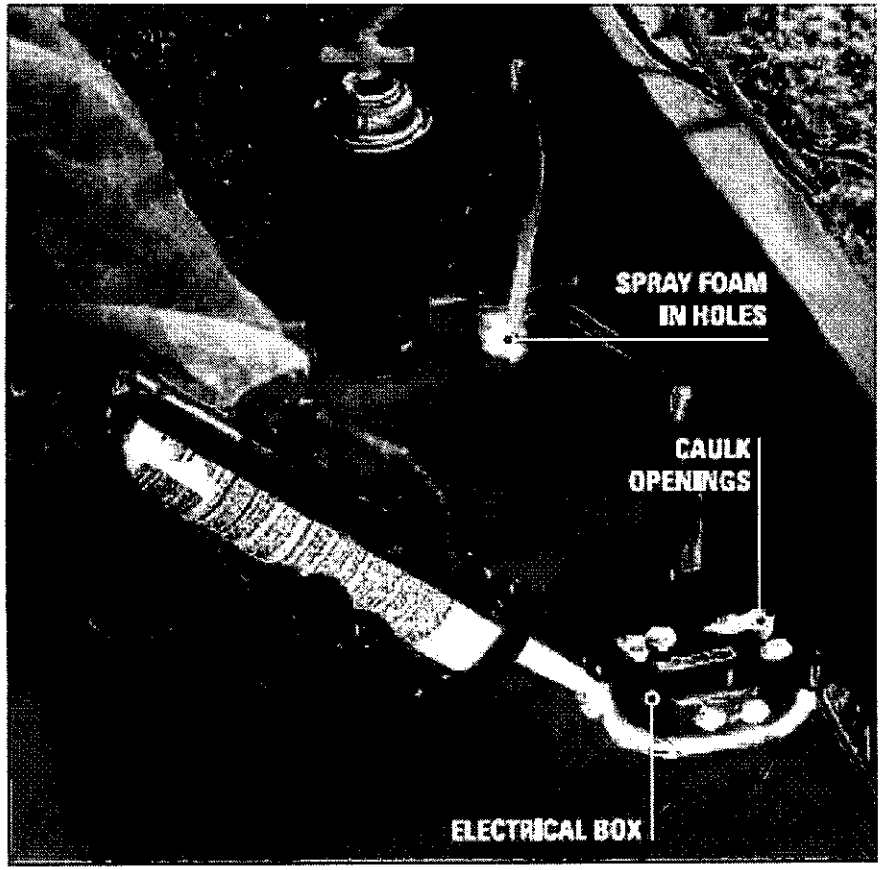
8. FIND ATTIC BYPASSES

The attic bypass…

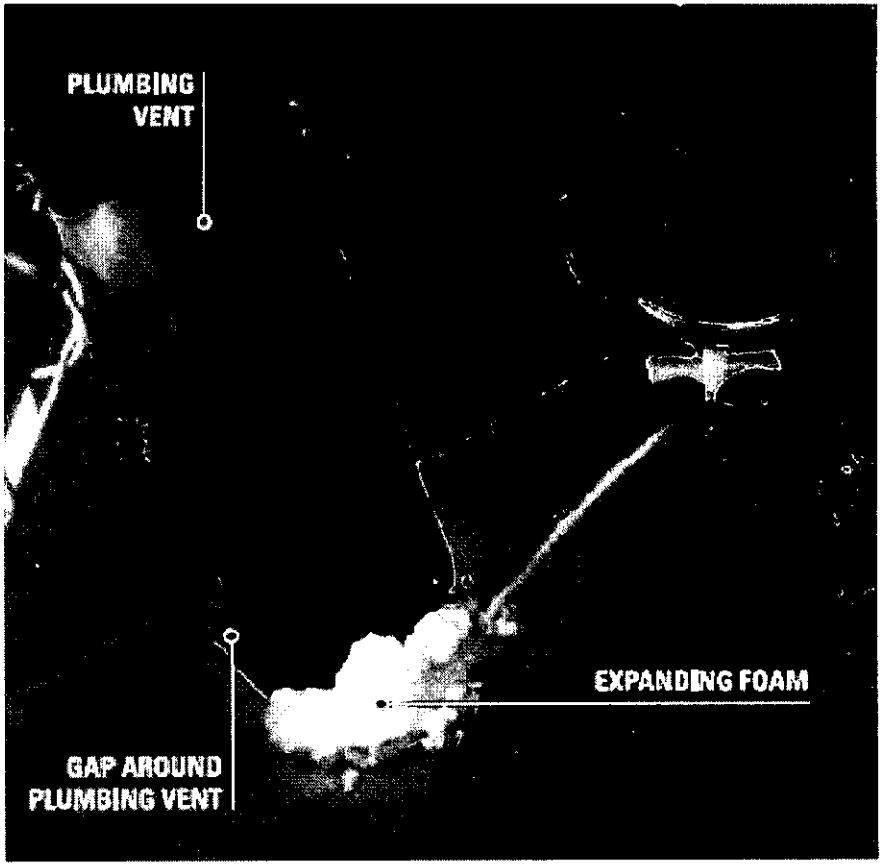


..low leaks exit high

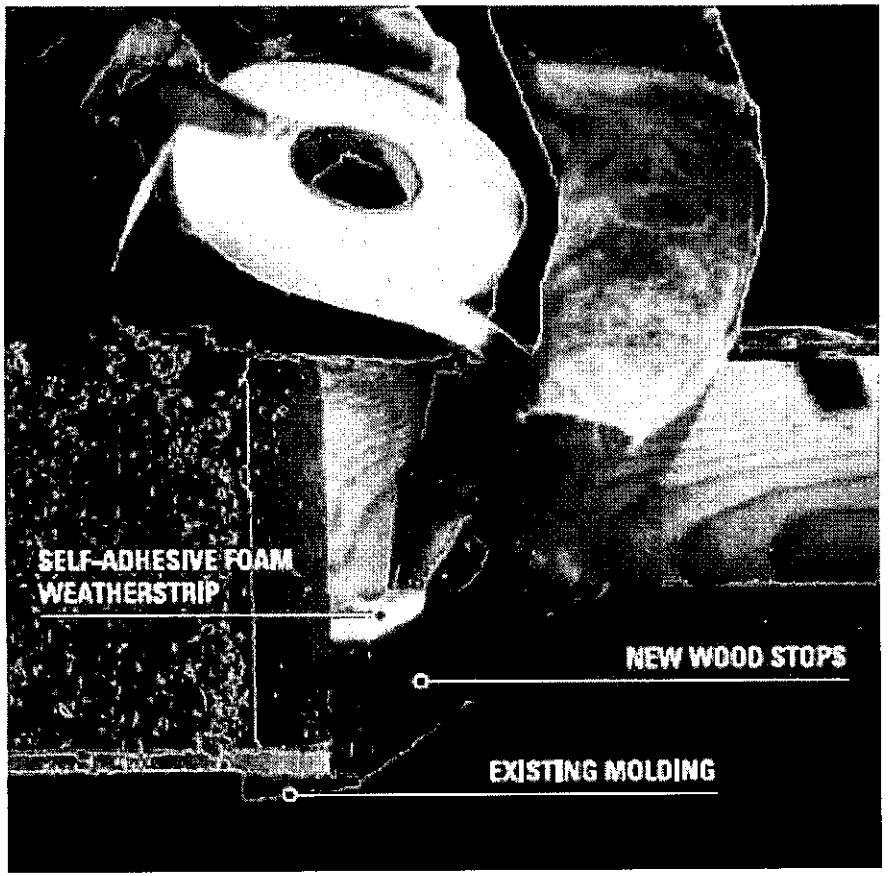
9. FILL HOLES WITH CAULK



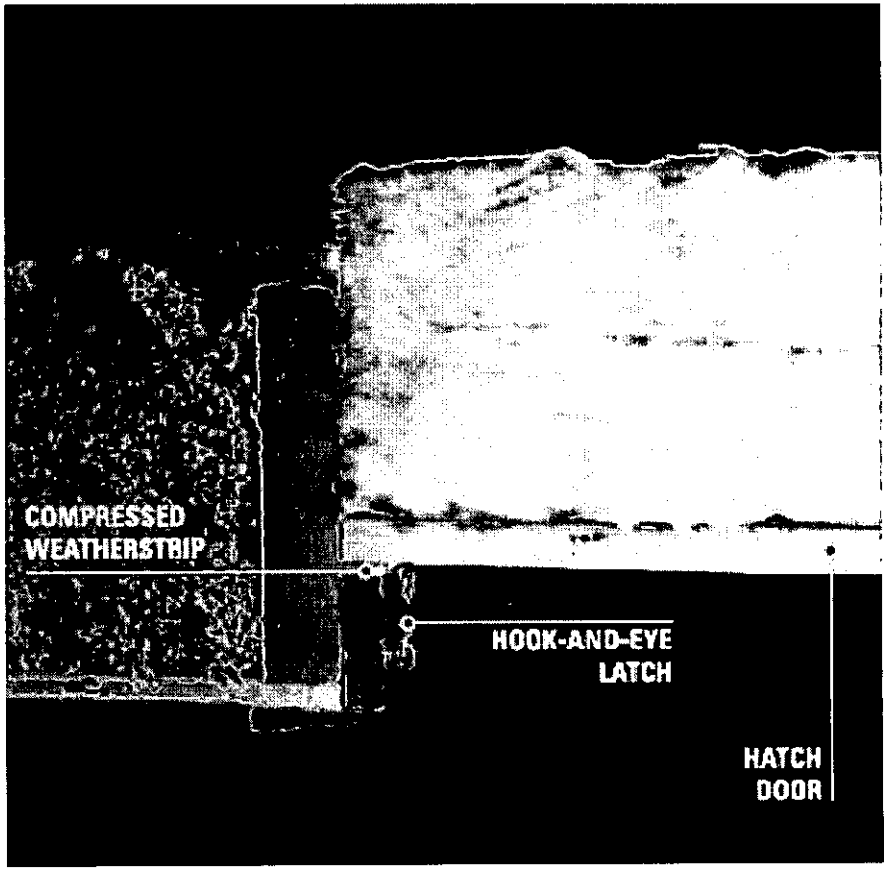
10. STUFF GAPS WITH INSULATION



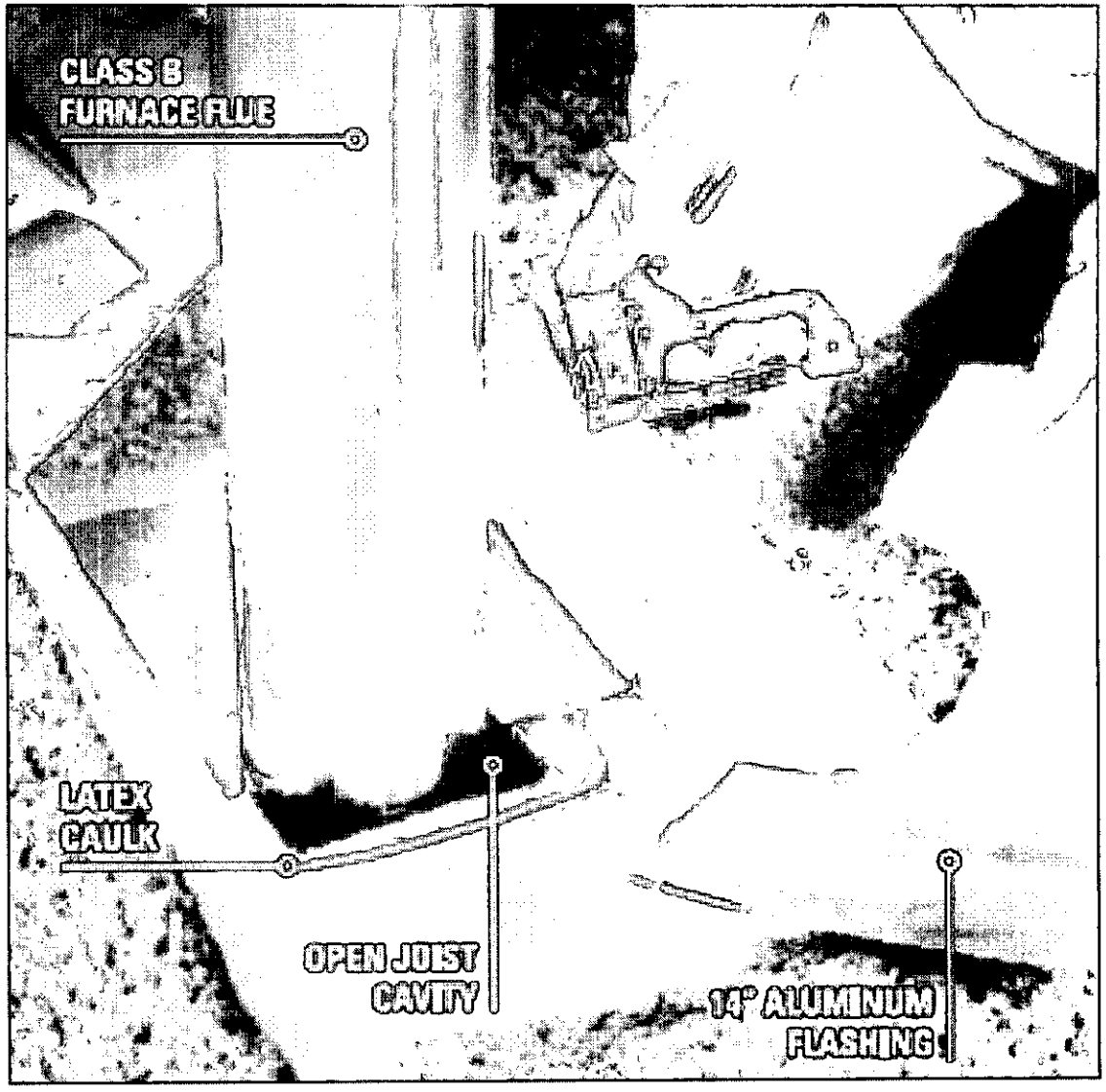
11. WEATHERSTRIP THE DOOR



12. ATTACH FASTENERS

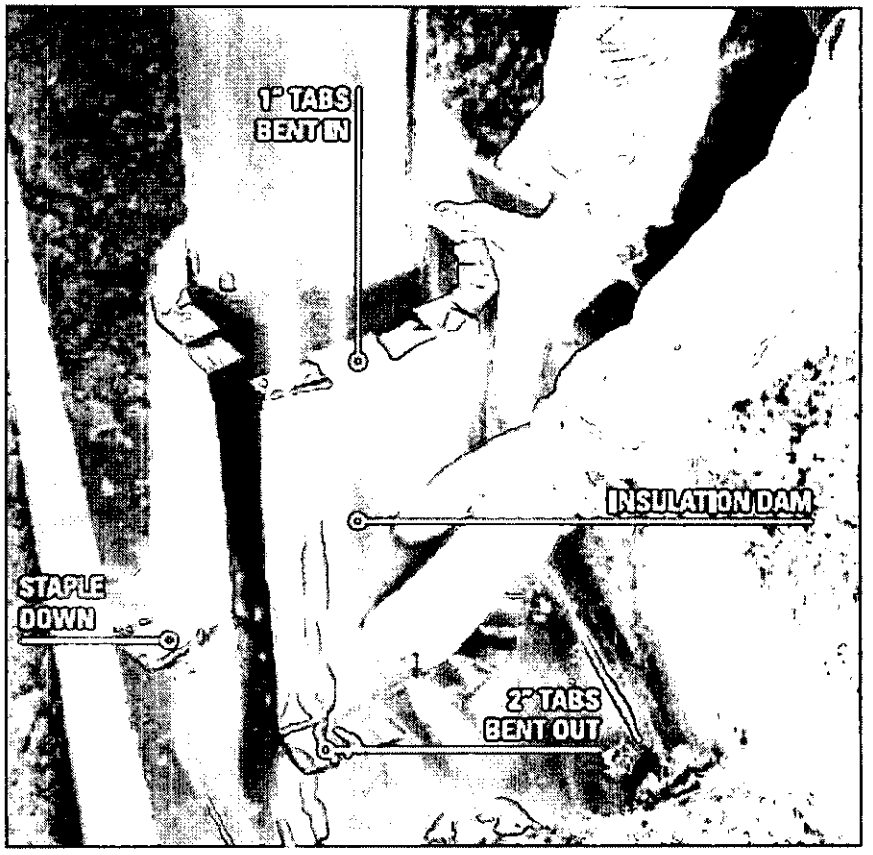


5. CUT ALUMINUM FLASHING



6. SEAL WITH SILICONE CAULK

7. FORM AN INSULATION DAM



...and seal low

Areas To Foam Or Caulk

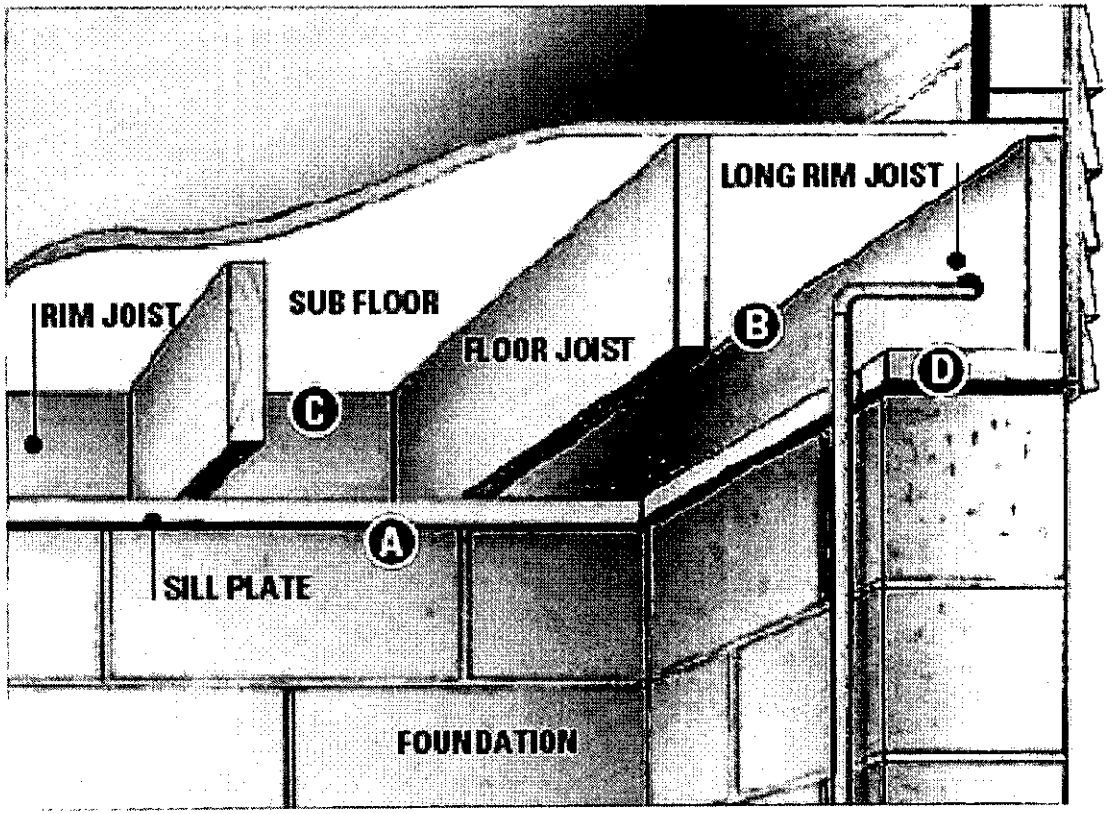
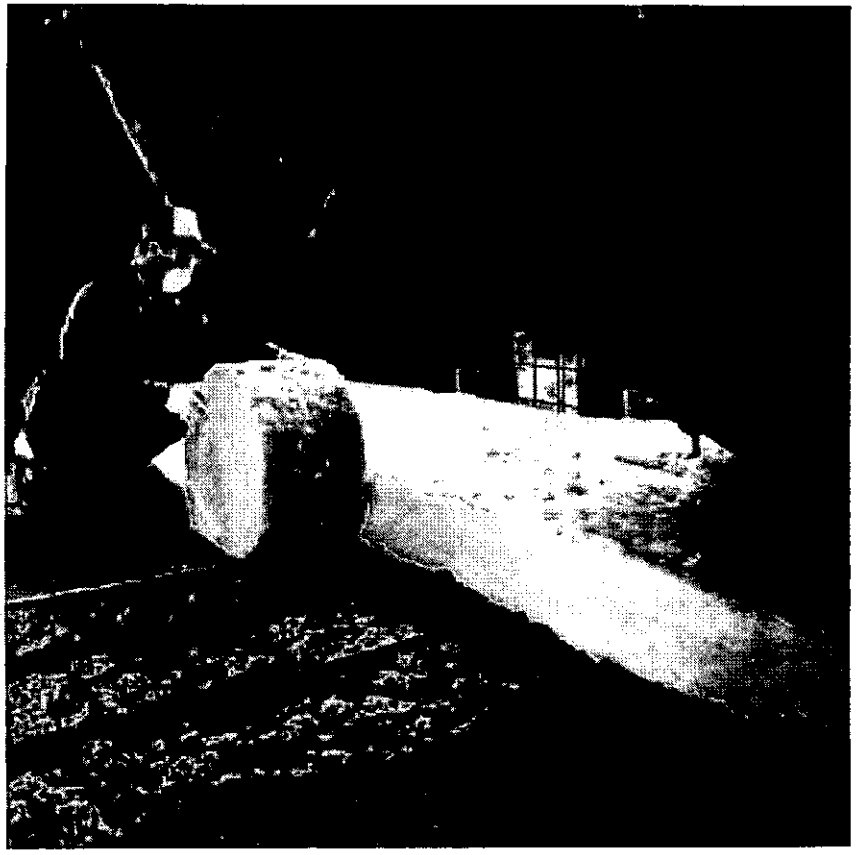


ILLUSTRATION BY DALE HOFFMEYER

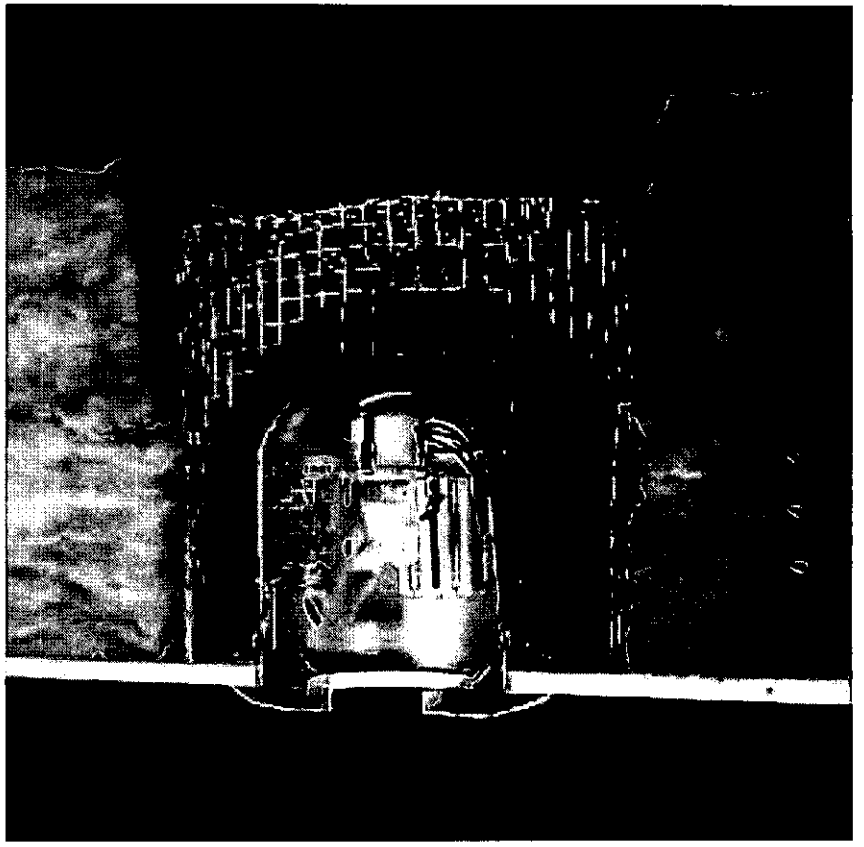
Sealed & Insulated Crawlspace

1. LAY FIBERGLASS ROLLS



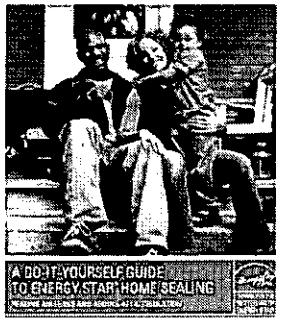
LAYER FIBERGLASS ROLL INSULATION PERPENDICULAR TO THE JOISTS.

2. CREATE A BARRIER



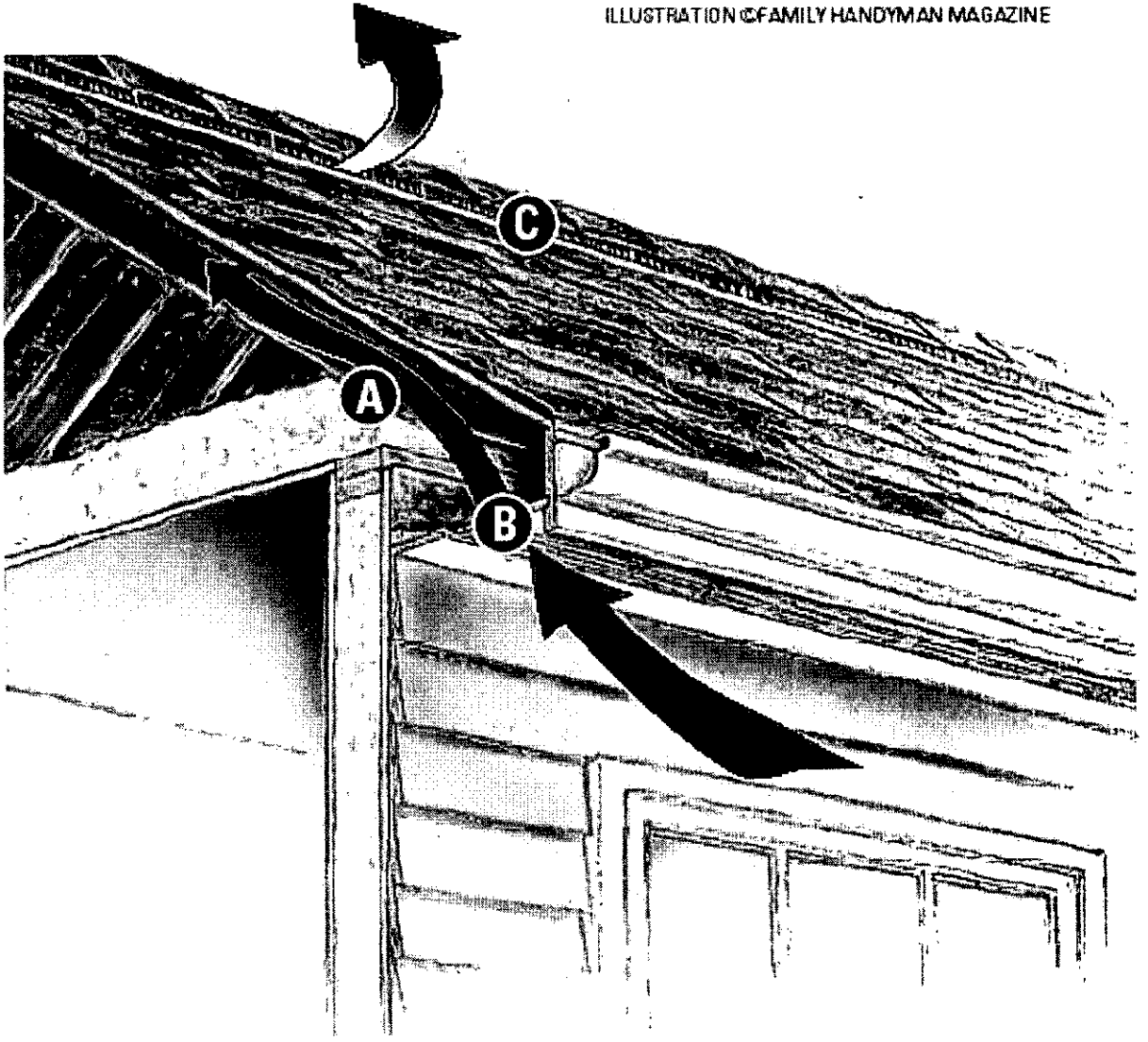
USE SHEET METAL OR WIRE MESH TO HELP CREATE A BARRIER AROUND FIXTURES OR VENTS.

Remember: Insulate AFTER sealing & weatherstripping!



USE A BLOWING MACHINE TO BLOW
IN LOOSE FILL INSULATION.

Attic/Roof Ventilation

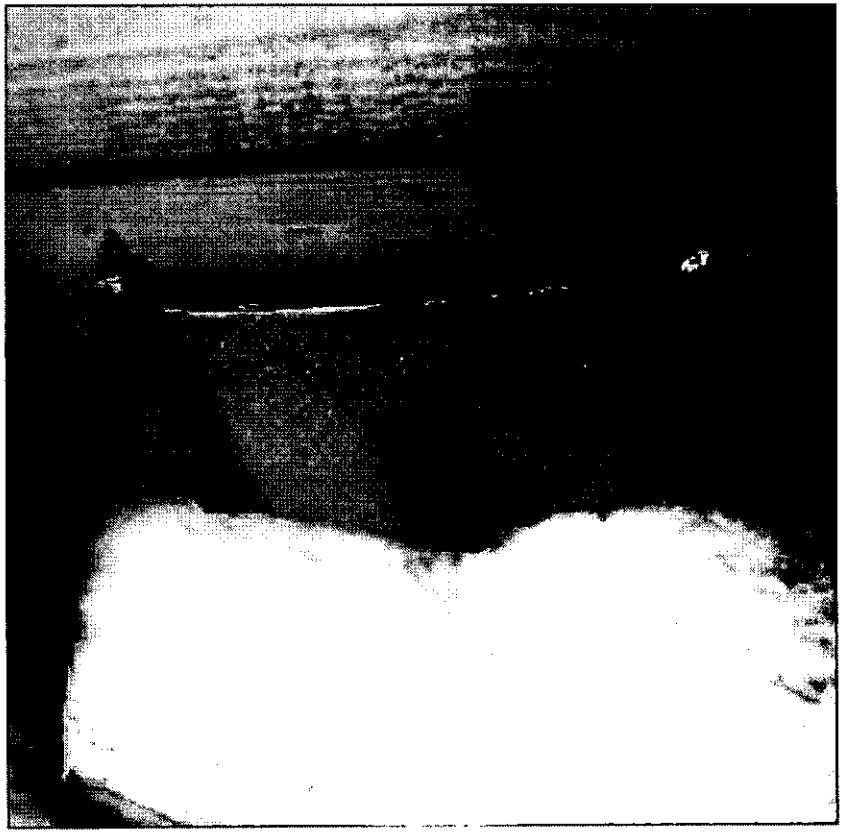


Attic/Roof Ventilation

3. PLACE RAFTER VENTS

PLACE RAFTER VENTS IN-BETWEEN THE RAFTERS WHERE THE CEILING MEETS THE FLOOR.

4. ADD INSULATION



ADD INSULATION AROUND THE RAFTER VENT AND OUT TO THE EDGE OF THE ATTIC FLOOR.

Typical Top Priority Items

- Caulk & seal air leaks high (between the ceiling and attic) and low (around the crawlspace or basement rim joist). Also seal around doors & windows.
- Add additional insulation to the attic, and crawlspace or basement walls.
- Get a heating & water heating system check up.

AND for health & safety:

- Install a quiet, energy efficient bathroom fan
- Make sure you have smoke & CO alarms
- Make sure you've met codes & standards

www.ahfc.us/energy

1-800-478-2432 or 1-907-338-6100

3/17/10 PRESENTATION: PROPOSED AGIA ROYALTY REGS

2760

Proposed AGIA Royalty Regulations

Senate Resources Committee

March 17, 2010

Agenda

- Introduction
- Major challenges valuing ANS gas in NA markets
- Overarching valuation principles adopted by DNR
- Valuation concepts and approaches
- Example of how to value royalty gas
- RIV/RIK switching issues and solution
- Value to producers

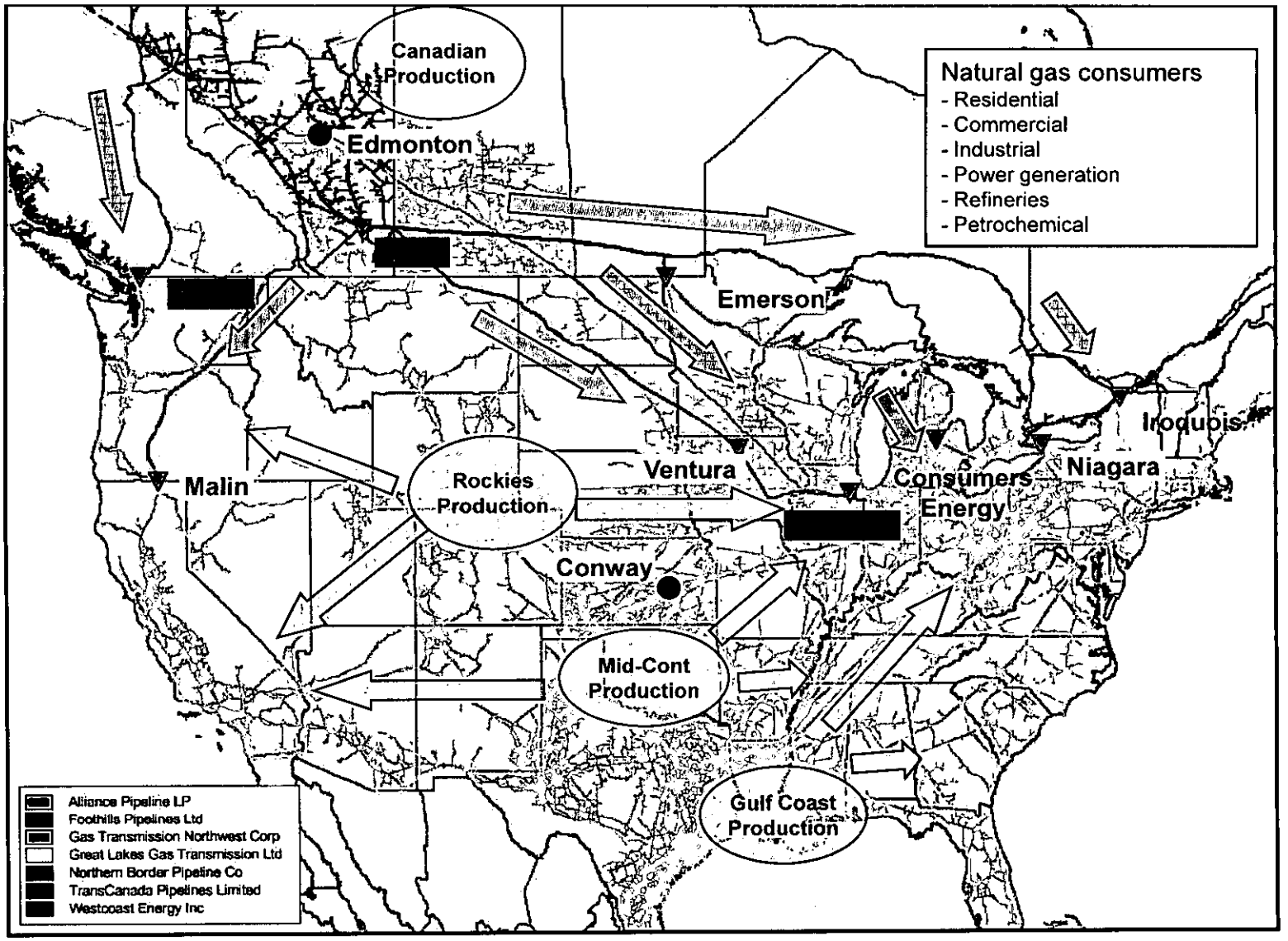
Overview of the AGIA Royalty Regulation

- Purpose of the regulation is to make offer to modify state lease contracts, consistent with requirements of the Alaska Gas Inducement Act (AGIA)
  - Establish method to determine "fair market value" (FMV) of the state's royalty share of gas production that increases clarity and predictability of royalty value
  - Establish terms under which the state will modify its ability to exercise current rights to switch between taking royalty in value (as money) or in kind (as gas), that reduces lessees exposure to stranded or insufficient transportation
  - Lessee who qualifies for royalty inducements can elect either (or both) Valuation or Royalty Switching provisions

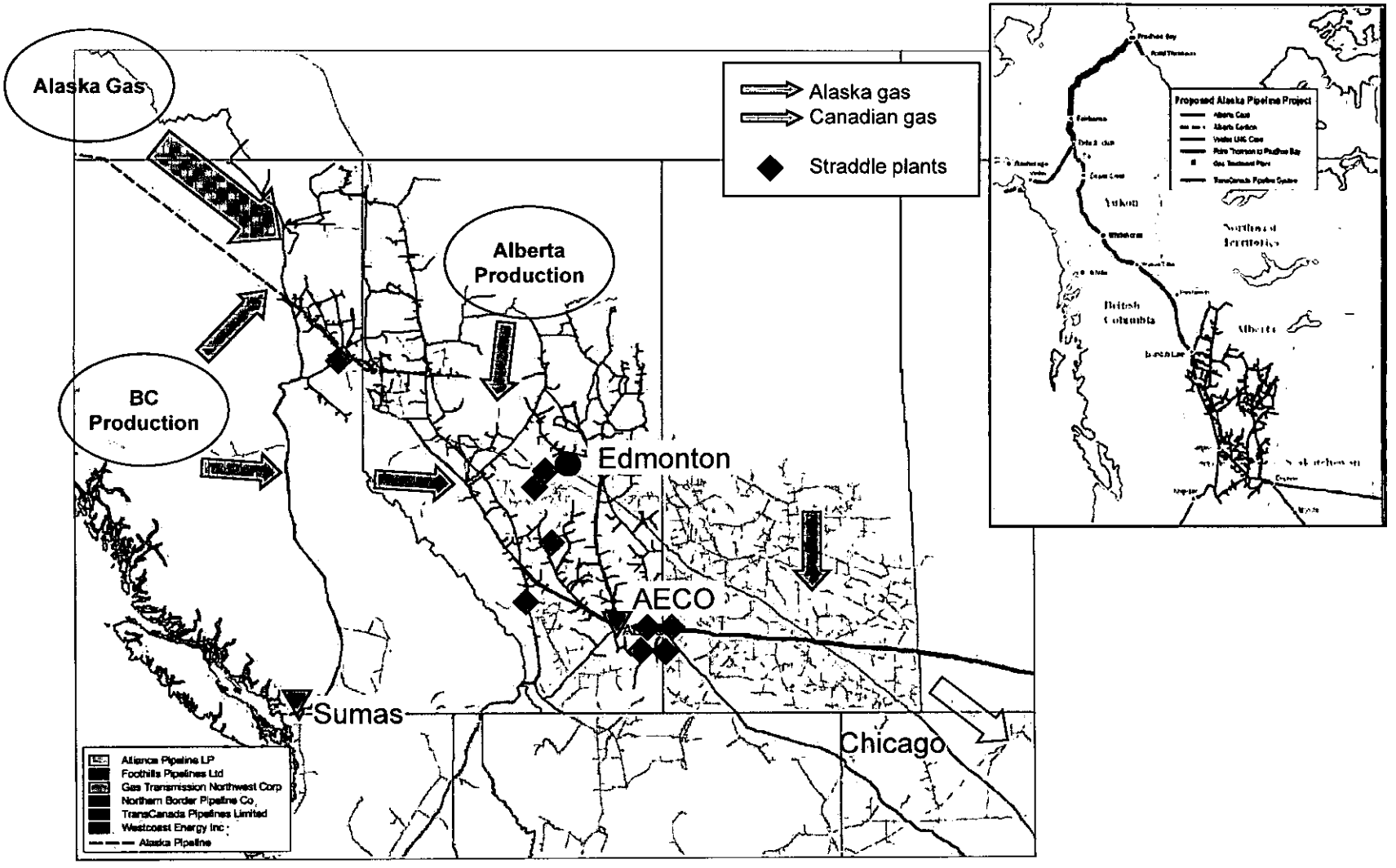
Requirements in AGIA

- Valuation regulations must:
  - Minimize retroactive adjustments in royalty value
  - Establish FMV based on reliable trade publications
  - Allow reasonable and actual deductions for transportation and processing
  - Allow for reasonable share of unused capacity
  - Allow deductions under the 1980 settlement agreement

Dynamic North America Natural Gas Market

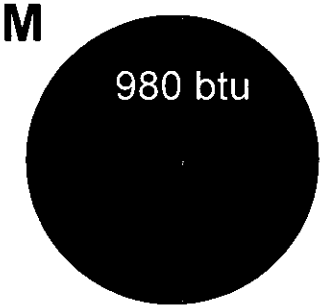


NS Gas Commingled with Other Production



Natural Gas Liquids Have Value

CBM



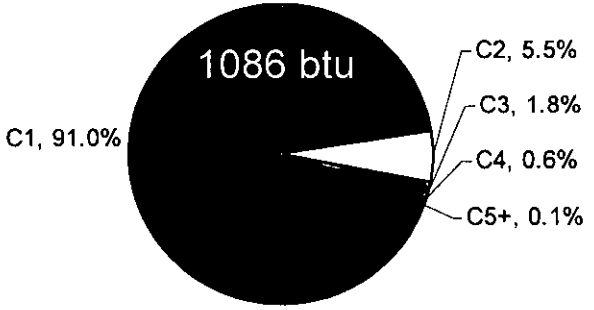
	Volume		Price		Value
Residue (Mmbtu)	0.98	x	3.51	=	3.44
Ethane (gal)	-	x	0.26	=	-
Propane (gal)	-	x	0.64	=	-
Butane (gal)	-	x	0.75	=	-
Pentane Plus (gal)	-	x	1.21	=	-

Total Value of 1 Mcf

$3.44

* NEB report shows that British Columbia and Alberta have significant coalbed methane resources

Alberta

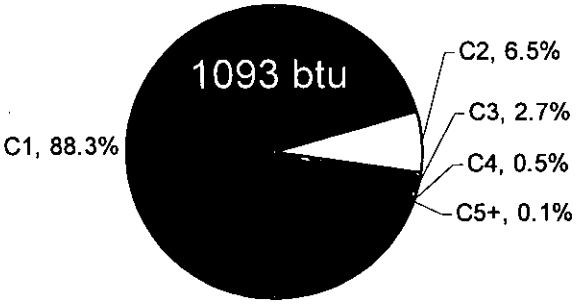


	Volume		Price		Value
Residue (Mmbtu)	1.02	x	3.51	=	3.58
Ethane (gal)	1.09	x	0.26	=	0.28
Propane (gal)	0.48	x	0.64	=	0.31
Butane (gal)	0.19	x	0.75	=	0.14
Pentane Plus (gal)	0.05	x	1.21	=	0.06

$4.37

* Alberta production composition is estimated based on information from NEB and EUB

PBU



	Volume		Price		Value
Residue (Mmbtu)	1.01	x	3.51	=	3.56
Ethane (gal)	1.28	x	0.26	=	0.33
Propane (gal)	0.70	x	0.64	=	0.45
Butane (gal)	0.16	x	0.75	=	0.12
Pentane Plus (gal)	0.03	x	1.21	=	0.04

$4.50

* Prudhoe Bay production composition is based on the report generated by PetroTel during the AGIA License Finding process.

Overarching Principles

1. Reduce lessee uncertainty
2. Maintain state's full royalty value
3. Incorporate natural gas industry practices to the extent doing so is consistent with (1) and (2)

Overarching Principle: Reduce Uncertainty

- Eliminate "higher-of" lease valuation terms
- Establish value based on published prices
- Minimize or eliminate retroactive adjustments
- Allocate volumes *pro rata* to increase clarity of gas value and costs of transportation and processing

Overarching Principle: Full Value Under Lease

- "Full Value" without gross proceeds
  - Gas components tracked; values separately established for residue gas, gas plant products, unprocessed gas, LNG
  - Published prices in destination markets establish value
  - Ability to update price publications, destination markets, location differentials
  - Valuation backstop "basket" ensures unrepresentative destination market published price doesn't distort FMV
  - No negative royalty
- *Pro rata* allocation of value and costs back to the lease establishes fair distribution and ensures full value

Overarching Principle: Incorporate Gas Industry Practices

- Use well established regulatory structure and methodology where practical to determine transportation costs (i.e. FERC)
- Use MMS regulations as a template
  - North Slope producers have extensive experience in complying with MMS gas regulations in Lower 48
  - Used as baseline; modified where necessary to reflect differences in circumstances of Alaska project

Key Valuation Concepts and Approaches

1. Destination where gas is valued
2. Publishing value at destination
3. Backstop measure of FMV for residue gas
4. "Actual and reasonable" transportation and processing deductions
5. Appropriate deductions for unused capacity

How to Determine Destination

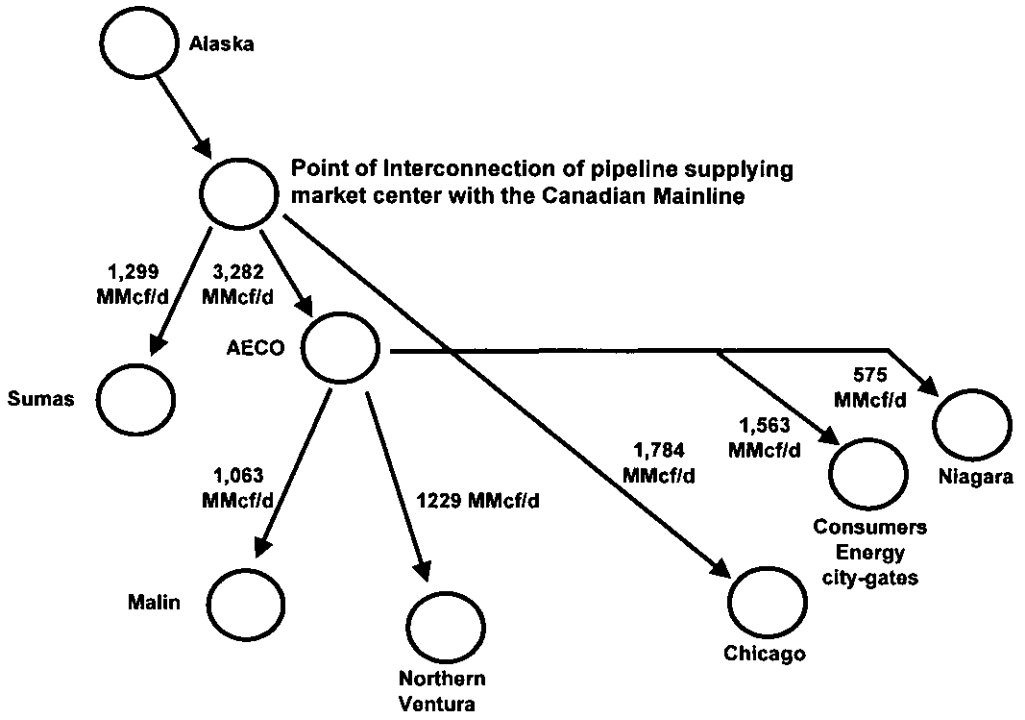
- A lessee's gas is valued for royalty at "Destination"
- A lessee's qualified gas is generally considered to be at "Destination" when it first:
    1. Enters a first destination market;
    2. Has been sold in an arm's length transaction; or
    3. Has been processed to extract residue gas and gas plant product
- "Destination values" are determined with reference to "first destination markets"
- First destination market is the first liquid market where ANS gas is physically transported to and bought, sold, processed, or regasified that has a reliable and widely available published price

Department to Publish Information Necessary to Determine Destination Value

- The department will publish on its website prior to the royalty reporting period:
  - The location of all First Destination Markets
  - The name of the source of the published price for residue gas, gas plant products at the First Destination Market
  - Appropriate location or quality differentials to establish FMV with reference to First Destination Market
  - Reasonable gas treatment, processing, or re-gasification cost allowances

Alternative Destination Value for Residue Gas

- Basket of published indices used to calculate a "backstop" fair market value to published index prices at destination markets
- Basket is relied upon only when the published price at a destination market is less than 95% of the basket price
- The alternative destination value protects the State from being locked in to a valuation rule that fails to reflect fair market value
- Pricing elements making up the basket determined by market liquidity criteria
- Basket reflects the volume weighted average of value received by the market



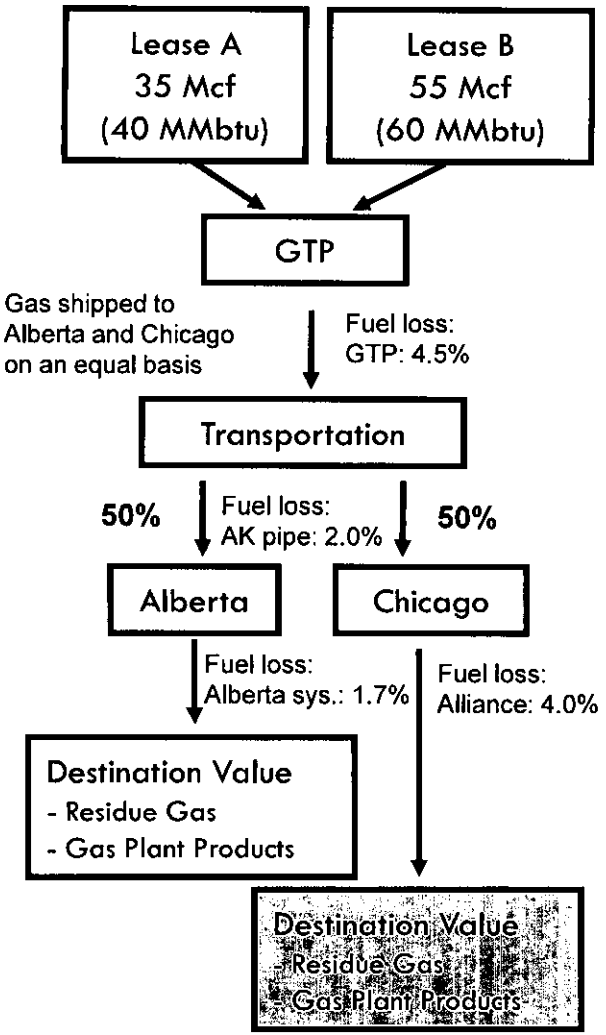
Actual and Reasonable Cost of Transportation and Processing - Non Arms Length Transactions

- Non-arm's length transportation cost allowance for Alaska and Canadian mainline is based on the terms proposed in the Open Season offer
  - If affiliated lessee negotiates a lower rate, then the transportation cost allowance will be based on this negotiated lower rate
- Other pipelines – Cost deductions calculated using FERC based cost of service methodology
- Generally follow MMS methodology to establish non-arm's length processing deductions

Deductions for Unused Transportation Capacity

- Unused capacity deductions were designed to balance the need to mitigate producers risk, but not expose the State to bearing unintended costs
- Deductions are allowed for Unused Capacity on Alaska and Canadian mainlines
- Unused Capacity = Allocated Capacity – Allocated Shipments
  - Allocated Capacity – Portion of firm transportation capacity acquired by lessee in first binding open season to transport production from state leases; measured with reference to actual state lease production
  - Allocated Shipments – greater of shipments of production from state leases or a pro-rata allocation of total shipments from all sources

Example – NS Gas Delivered to Alberta and Chicago



	Total
Value at Lease	**$ 190**

	Volume	Cost Rate	Total Cost
GTP Cost	96	1.00	$ 96

	Volume	Cost Rate	Total Cost
AK Pipeline (AK and Can)	94	3.00	$ 281
Alberta System	46	0.10	$ 5
Alliance Pipeline	45	1.00	$ 45
Transportation Cost			$ 330

	Volume	Cost Rate	Total Cost
Alberta	46	0.20	$ 9
Chicago	45	0.25	$ 11
Processing Cost			$ 20

	Volume	Price	Total Value
Residue Gas (Mmbtu)	41	6.00	$ 249
Gas Plant Prod. (gal)	92	0.50	$ 46
Destination Value			$ 295

	Volume	Price	Total Value
Residue Gas (Mmbtu)	40	6.75	$ 273
Gas Plant Prod. (gal)	90	0.75	$ 68
Destination Value			$ 341

Lease A	Lease B
74	**116**
Lease A	Lease B
38	58
Lease A	Lease B
112	168
2	3
18	27
132	198
Lease A	Lease B
3	6
4	7
7	13
Lease A	Lease B
95	154
21	25
116	179
Lease A	Lease B
105	168
31	37
136	205

Note: All prices and costs are for illustration purposes only

RIK/RIV Switching Issue

- Under lease the State has the option of taking its royalty share of production either in kind (RIK) or in value (RIV). This option creates a risk for shippers.
  - If the State switches from RIV to RIK, shippers may have stranded capacity corresponding to the royalty volumes
  - If the State switches from RIK to RIV, shippers may not have sufficient capacity on a timely basis
  - Additionally, shippers' marketing arrangements need to be reconciled with the State's RIK/RIV election
- Given the substantial tariffs on the Alaska project, the potential exposure associated with the State's RIV/RIK option is significant

RIK/RIV Solution: "Capacity Follows the Gas"

- Switching from RIV to RIK:
  - State obligated to seek capacity corresponding to the State's RIK share (*"RIK Capacity"*) from the Producers via a pre-arranged deal
  - Released capacity will be acquired at original contract rates (state forgoes opportunity to get a better deal)
- Switching from RIK to RIV:
  - Capacity corresponding to the State's RIK share (*"RIK Capacity"*) reverts back from the State to the Producers at contract rates
- State requested and FERC approved a waiver to allow pre-arranged deals for FT capacity at contract rates, consistent with these terms
- Increase notice period for RIK/RIV switching
  - 120 days when between 100,000 & 200,000 MMbtu/d
  - 180 days when quantity is greater than 200,000 MMbtu/d

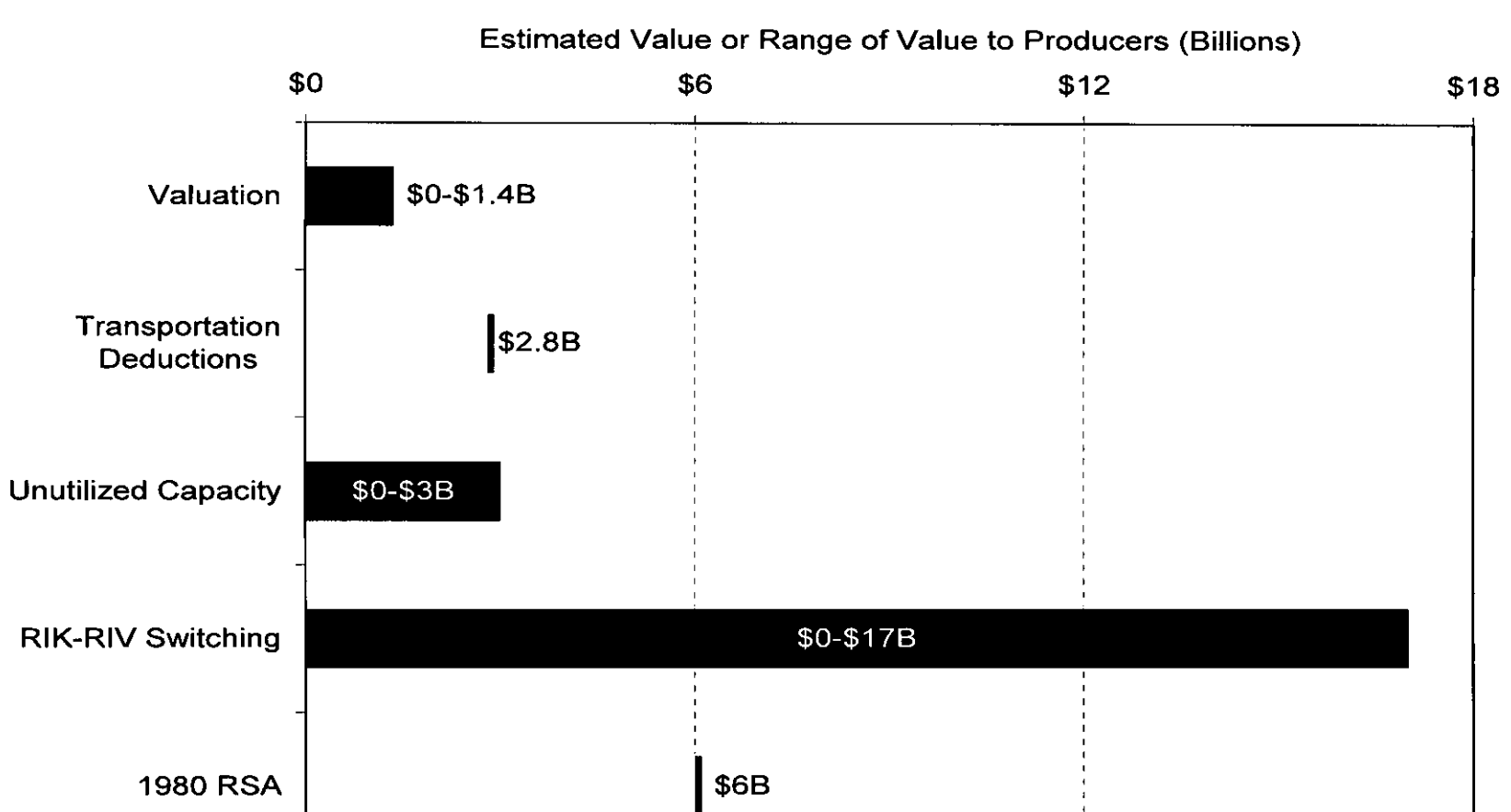
Value of Royalty Inducement to Producers

- The AGIA regulations provide value to producers while protecting State interests
- Some of the key provisions that provide value to producers include:
  - Valuation – moving away from "higher-of" provision
  - Transportation –
    - Adopting FERC-like approach for transportation deductions, rather than MMS-like approach
    - Allowing deductions for unused capacity
  - RIK/RIV switching – FERC waiver allows capacity transfer deal at contract rates

Aggressive Assumptions were Made to Establish Upper Bound of Value to Producers

- Recognize that the value of and need for these provisions may be lower depending on the facts of the project going forward:
  - Methane valuation – Assumed impact of moving away from "higher-of" provision is not offset by market basket concept
  - Transportation deduction for non-arm's length transactions – Assumed that alternative was MMS methodology
  - Unused capacity deduction – Assumed that no YTF gas is found
  - RIK-RIV switching - Assumed that entire royalty volume is switched from in-value to in-kind
- Very approximate estimates of the value to producers from provisions in the 1980 Royalty Settlement Agreement have also been shown here to provide a more complete picture of royalty value to producers

Estimated Value or Range of Value to Producers from Key Provisions in AGIA Regulations & 1980 RSA



4/7/10 CONFIRMA-TION: BRUCE TWOMLEY ACFEC

APR 0 7 2010

SENATE
CONFIRMATION COMMITTEE REPORT

Date: 4-7-10

In accordance with AS 39.05.080, the Resources Committee reviewed the following and recommends the appointments be forwarded to a joint session for consideration:

Alaska Commercial Fisheries Entry Commission
Bruce C. Twomley - Juneau
Appointed: 8/2/2005
Reappointed: 3/1/2006
Reappointed: 3/1/2010 Term Expires: 3/1/2014

This does not reflect an intent by any of the members to vote for or against the confirmation of the individuals during any further sessions.

Signature:	Printed Last Name
	French
	WAGONER
	Huggins
Co-Chair	McGuire
Co-Chair:	Wielechowski

Please return to the Senate Secretary's Office (Room 211).

BRUCE TWOMLEY
P.O. Box 020972
Juneau, AK 99802-0972
Work Phone: (907) 790-6944
Home Phone: (907) 586-3251

December 29, 2009

The Honorable Sean Parnell
Governor of Alaska
P.O. Box 110001
Juneau, AK 99811-0001

Dear Governor Parnell:

Respectfully, I ask you to reappoint me to the Alaska Commercial Fisheries Entry Commission (CFEC). I would welcome the opportunity to help complete the substantial work in progress before CFEC.

Before Governor Jay Hammond first appointed me to the commission, I had 10 years' experience as a lawyer suing state and federal bureaucracies on behalf of Alaskans and also representing Alaska fishermen before the Limited Entry Commission. My experience made me sensitive to the effects of limited entry on Alaskans (especially rural Alaskans) and qualified me to help the Commission avoid unnecessary legal issues and controversy. Enclosed is a copy of my resume.

I believe limited entry is a tool for the development and protection of the resource, as well as a historic means to protect local jobs and families. We do everything we can under the law to help keep limited entry permits in the hands of Alaska's local residents.

Most recently, I served on an advisory panel for a study commissioned by the Bristol Bay Economic Development Corporation to explore the means to increase the number of limited entry permits held by local Bristol Bay residents. In part from my urging, the Bristol Bay Economic Development Corporation and the Bristol Bay Native Association earlier created their own local agency to protect and maintain limited entry permits in their local areas. And, for more than 10 years, I have advocated for local and regional groups to participate in a loan guarantee program with the State Commercial Fishing Revolving Loan Fund to help local residents acquire and keep limited entry permits.

Additionally, I have worked closely with the IRS to help keep limited entry permits in the hands of local people. To help provide Alaska fishermen a tool to achieve voluntary compliance with their federal tax obligations, I worked for passage of a bill reinstating the Tax Obligation Loan Program within the Commercial Fishing Revolving Loan Fund. As the result of my work with the IRS, the U.S. Treasury Secretary appointed me to the National Taxpayer Advocacy Panel (TAP), where I was elected chairman of the TAP Multilingual Initiative Committee, served from 2002-2006, and did my best to ensure that remedies for taxpayers under the 1998 IRS Reform Act continued to be available and known to Alaska commercial fishermen and other taxpayers.

At the request of an earlier administration, I was a principal author of the *Outline of Options for Fleet Consolidation in Alaska's Salmon Fisheries*, a paper to provide Alaska fishermen with fundamental information about various potential remedies for the crisis in Alaska's salmon fisheries.

The paper has helped fishermen take a realistic view of the various options and continues to be a basis for discussion of salmon remedies today.

In addition to these overriding issues affecting the rights and well being of Alaska fishermen, my primary focus at the commission is on our fundamental tasks. During the period I have served on the commission, the commission limited entry into some 35 fisheries (overall, some 68 Alaska fisheries are currently under limitation).

While limiting entry is always controversial, we have spent considerable time communicating with members of the industry in an effort to ensure actions by the commission are predictable and understandable. We believe the fishing industry deserves a climate of regulatory stability at a time when there are few other sources of stability in commercial fishing.

In addition to limiting fisheries, our primary responsibility is adjudicating the high volume of cases that has been before the commission. I have participated in and written more than 2,900 commission decisions. My experience enables me to do this work efficiently and to make our decisions stick: from 1996, in the course of 20 appeals from our decisions, the commission has suffered only 2 partial reversals by the Alaska Supreme Court. Reversals of limited entry decisions can have serious consequences, because the courts may apply them retroactively to open cases previously closed and thereby undermine limitations of entire fisheries. The attached chart shows our steady progress through commission cases (despite the continuous influx of new appeals from more recently limited fisheries).

CFEC's decisions affect people in such personal and emotional ways (much like decisions affecting our childrens' health and education) that our decisions are always controversial. Nonetheless, since 1982, the number of pending court appeals from commission decisions has dropped from approximately 150 to 9 today. (This reduction in court appeals is despite the fact that an applicant can continue to fish as long as the individual can maintain an appeal.) Fewer appeals save the state money and provide stability to the fishing industry. Additionally, fewer appeals is a measure of acceptance by those affected. Although we must often disagree with claimants, I believe generally they regard the commission as fair.

Protecting fishermens' rights and preserving our ability to perform the fundamental tasks of the commission present some creative opportunities to shape cases that we know will go to court. For example, our recent favorable decision from the Alaska Supreme Court in *Simpson v. State*, CFEC, 101 P.3d 605 (Alaska 2004), will protect permit holders and enhance the commission's ability to complete adjudications expeditiously.

In short, at the Entry Commission, we have work in progress that serves goals of your administration. I am asking you to please grant me the opportunity to complete these tasks.

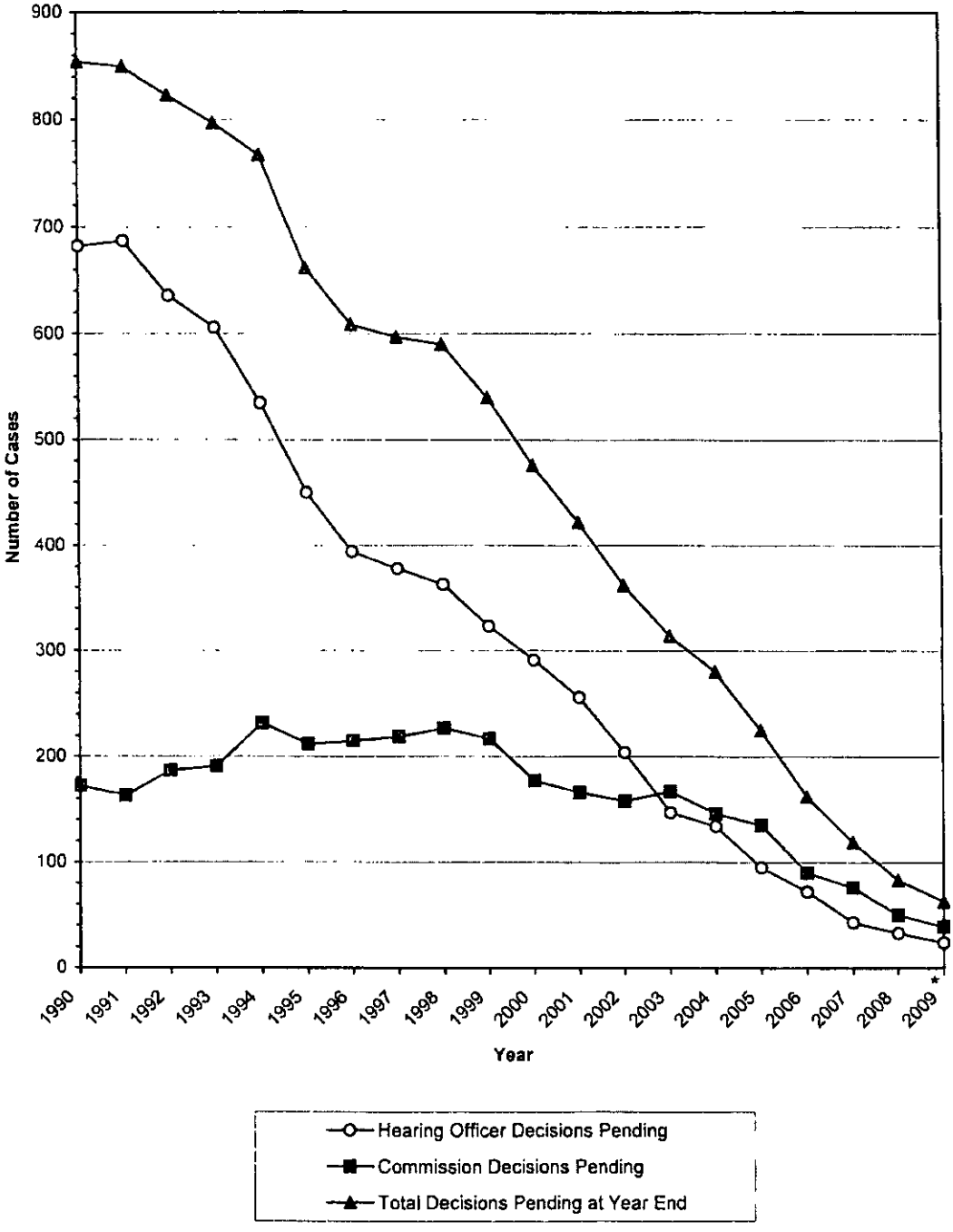
Respectfully yours,

Bruce Twomley

Enclosure

cc: Michael Nizich, Chief of Staff
Cora Campbell, Fisheries Policy Advisor
Jason Hooley, Director of Boards & Commissions
Daniel Saddler, Deputy Director of Boards and Commissions

Commission's Overall Adjudication Caseload



* as of 11/09/2009

RESUME
(December 2009)

of

BRUCE TWOMLEY
P.O. Box 020972
Juneau, AK 99802-0972
Work Phone: (907) 790-6944
Home Phone: (907) 586-3251
bruce.twomley@alaska.gov

Marital Status:	Married to Sara Minton
Children:	Christopher (20) Jonathan (18)
WORK EXPERIENCE:	Starting with Governor Jay Hammond, appointed by 6 succeeding Governors to the Alaska Commercial Fisheries Entry Commission (CFEC).
	Commissioner, CFEC. 1982 to present. Chairman, CFEC. 1983 to 2005. Member, Governor's Fisheries Cabinet. 1983 to 1990. Attorney, Alaska Legal Services. 1973 - 1982. VISTA Volunteer. 1972 - 1973. Legal Research for San Francisco Neighborhood Legal Assistance Foundation (as a law student). Indigent Adult Criminal Appeals (as a law student). Legal research for Professor Roscoe T. Steffen and private attorneys (as a law student).
POST LAW SCHOOL:	National Judicial College, University of Nevada, Administrative Law: Advanced Course (recruited to serve as a group discussion leader). 1988. National Judicial College, University of Nevada, Administrative Law: Fair Hearing. 1983.
LAW SCHOOL:	Hastings College of Law, San Francisco, California. 1967 - 1970. Graduated with J.D. in upper 15% of the class.
EDUCATION:	Northwestern University, Evanston, Illinois. 1963 - 1967. Graduated with A.B. in upper quarter of the class. Elgin High School, Elgin, Illinois. 1960 - 1963.
BAR MEMBERSHIPS:	Alaska State Bar California State Bar (inactive) United States District Court for the District of Alaska United States Court of Appeals for the Ninth Circuit

HONORS:

President's Volunteer Service Award. 2005
Alaska Legal Services Award. 1992.
Martindale-Hubbell highest (a v) lawyer rating. 1983
Alaska Legal Services Distinguished Service Award. 1983
Elected to Senior Men's Honorary, Northwestern (Deru).
Elected to Junior Men's Honorary, Northwestern (Norleggama).
Illinois State Scholarship Winner.
Elected Most Outstanding Male Graduate (Marie K. Ekvall Award), Elgin High School (student body: 2,000).

SELECTED PRESENTATIONS, PUBLICATIONS, AND PROJECTS:

2009 Advocacy: Served as a witness and consultant for the Office of Public Advocacy and Alaska Legal Services to ensure that applicants for Medicaid and SSI Disability were not unfairly denied benefits because they held an Alaska limited entry permit.

From 2006-2008, served on the **Guided Sportfish Task Force** (sponsored by the Sport Fish Division of the Alaska Department of Fish and Game).

In 2008, prepared and submitted a report on the status of permit adjudications for the **Alaska Department of Fish and Game's Northern Southeast Inside sablefish fishery industry meeting**.

In 2007, prepared and submitted a report to the **Southeast Alaska King and Tanner Crab Task Force** on the status of commission adjudications.

Throughout 2007, served on the advisory panel to a study commissioned by the **Bristol Bay Economic Development Corporation** to explore means to increase the number of limited entry permits held by local Bristol Bay residents.

Appointed by the U.S. Secretary of the Treasury to the **National Taxpayer Advocacy Panel** (served from 2002 through 2006; elected Chairman of the Multi-lingual Initiative Committee; worked to ensure that remedies provided for taxpayers under the 1998 IRS Reform Act continued to be available and known to Alaska commercial fishermen and other taxpayers).

Salmon Consolidation: Are Co-ops Dead Or Is Buyback Ahead? (panel presentation, Pacific Marine Expo, Seattle, November 2005).

Contributor and Editor of **Charting New Courses for Alaska Salmon Fisheries: The Legal Waters** (published by the University of Alaska Marine Advisory Program in November of 2003).

License Limitation in Alaska's Commercial Fisheries [at the request of former Governor Walter J. Hickel and the Institute of the North, wrote and presented a paper to the first Alaska meeting of the International Association for the Study of Common Property (IASCP), which has published the paper. August 2003].

Member, Advisory Panel for **An Analysis of Options to Restructure the Bristol Bay Salmon Fishery** (an independent study funded and published by the Bristol Bay Economic Development Corporation March 2003).

Status of Limited Entry Permits in Southeast Alaska Native Communities (presentation to the **Salmon for Success Summit in Juneau** sponsored by the Central Council of Tlingit and Haida Indians of Alaska. February 2003).

Presentation of Legal Issues in **A Workshop on Options for Restructuring Alaska's Salmon Fisheries at the University of Alaska in Anchorage** (sponsored by the Institute for Social and Economic Research, the University of Alaska Marine Advisory Program, and the Washington Sea Grant Program as part of the "Tools for the Salmon Industry Initiative." October 2002).

Commercial Fishing License Limitation in the State of Alaska: A Controversial System of Grandfather Rights (paper presented to and subsequently published by the International Institute of Fisheries Economics and Trade, Oregon State University, July 2000).

Fleet Reduction in Alaskan Salmon Fisheries (panel presentation, Alaska Salmon Forum '99, Anchorage).

Fleet Reduction in Bristol Bay Salmon Fisheries (panel presentation, Bristol Bay Native Association Forum, Anchorage, 1999).

Consolidating Salmon Fleets: Is Fewer Better than More? Different Alternatives to Managing Salmon (panel presentation, Fish Expo Seattle, 1999).

Coauthor, **Outline of Options for Fleet Consolidation in Alaska's Salmon Fisheries** (CFEC December 1998).

Contributor, **Limiting Access to Marine Fisheries: Keeping the Focus on Conservation**. Center for Marine Conservation and World Wildlife Fund U.S. 1994.

License Limitation in Alaskan Salmon Fisheries. Paper and panel presentation to Conference on Managing Marine Fisheries by Limited Access sponsored by World Wildlife Fund and Center for Marine Conservation. Annapolis, MD. 1992.

Getting and Keeping Alaska Limited Entry Permits in Local Rural Communities.

- Bristol Bay Native Association, Bristol Bay Fisheries Conference, Dillingham, 1992.
- Southeast Alaska ANCSA Economic Summit. Saxman, 1991.
- AFN Convention. Anchorage, 1991.

The IRS and Alaska Limited Entry Permits, University of Alaska Commercial Fishing Business Seminar, Federal Tax Impact on Commercial Fishermen. Anchorage, 1987.

Parental Involvement, Local Control, and Quality of Education, Alaska Native Education Association. Anchorage, 1981.

Alaska Native Control of Local Village Secondary School Programs, Lawyers Clinic on Parental Liberty in Education. Washington, D.C. December 1978.

SELECTED CASES, AND DECISIONS:

Simpson v. State, CFEC, 101 P.3d 650 (Alaska 2004). The Alaska Supreme Court affirmed the commission's optimum number decision for the Northern Southeast Inside sablefish fishery.

Crivello v. State, CFEC, 59 P.3d 741 (Alaska 2002). The Alaska Supreme Court affirmed a CFEC decision that advanced commission adjudications by limiting the extent to which the commission was required to grant additional hearings under *Forquer v. State*, CFEC, 677 P.2d 1236 (Alaska 1984).

In re Francis S. Carle, CFEC 96-003-P (1996). In the face of a demand by the Internal Revenue Service to force the transfer of a Southeast salmon herring seine permit held by a 61-year-old resident of Hydaburg, the commission (in a 96 page decision, including exhibits) declined to transfer the permit.

Wilson v. Watt, 703 F.2d 395 (9th Cir. 1983). Class action with co-counsel Kathleen Strasbaugh, sought preliminary injunction against Secretary of Interior James Watt to restore BIA general assistance payments to Alaska Natives.

Fairbanks Correctional Center Inmates v. Williamson, 600 P.2d 743 (Ak. Sup. Ct. 1979).

Ferdinand v. City of Fairbanks, 599 P.2d 122 (Ak. Sup. Ct. 1979).

Co-counsel for plaintiff class of 2,667 Alaska Native secondary school age children in *Tobeluk v. Lind* (known as the Molly Hootch case), 589 P.2d 873 (Ak. Sup. Ct. 1979), which by consent decree established the entitlement of Alaska Native children in 126 villages throughout the state to attend secondary school in their home villages and further required the state to expend more than $158-million for the construction of local secondary facilities.

Horton v. Horton, 519 P.2d 1131 (Ak. Sup. Ct. 1974).

Attorney for plaintiff class of Alaska Native women and minor children in *Finnesand v. Kleppe*, No. A75-42 Civ. (U.S. District Court Alaska), which by consent decree abolished a discriminatory eligibility standard for BIA General Assistance.

Represented more than 100 Alaska Native Allotment applicants before the Department of Interior. 1972-1982.

Attorney for the Akiak Indian Reorganization Act Council and parents of grade school children in *Akiak v. Lind*, No. 4BR 8-39 Civ.

Amicus Curiae (in cooperation with the Office for Civil Rights) in *The Matter of Alaska State Department of Education and Twenty-One Regional Educational Attendance Area School Districts* S-134, a proceeding before the Department of Health, Education and Welfare, to enforce Title VI of the 1964 Civil Rights Act on behalf of Alaska Native school children.

SUBJECT OF BIOGRAPHICAL NOTICE:
Who's Who in the World (17th Ed. 2000)
Who's Who in America (53rd Ed. 1999)
Who's Who in the West (28th Ed. 2000)
Who's Who in Society (1988)
Who's Who of Emerging Leaders in America (1st Ed. 1987)
The Dictionary of International Biography, Vol. XX. (Cambridge, England 1986)

ACTIVITIES:
Appointed by the U.S. Treasury Secretary to the National Taxpayer Advocacy Panel and elected Chairman of the Panel's Multilingual Initiative (2002-2006))
Secretary, Juneau Youth Football League Board of Directors (2002-2003)
Member, Bristol Bay Native Association Blue Ribbon Commission on Limited Entry (1994)
Member, Alaska Child Support Enforcement Division Rural Task Force (1995)
Member, Alaska Federation of Natives Task Force on IRS and Alaska Native Fishermen (1994)
Reading, Skiing, Hiking, Kayaking
Juneau Racquet Club Advisory Board (1989)
Guest Chef, Summit Restaurant (1987)
International Law Club, Hastings
President, Interfraternity Council, Northwestern
Kappa Sigma Fraternity, Northwestern
President, Student Council, E.H.S.

REFERENCES:
Will be furnished upon request.

4/7/10 CONFIRMA-TION: ROBERT MUMFORD BIG GAME COMMERC...

General Information

Board/Commission and seat you are seeking:
Big Game Commercial Services, Public Seat

Additional Boards/Commissions of interest:
1)
2)
3) **Big Game Commercial Services**

State Boards/Commissions on which you have served
Mumford

First	*Middlename*	*Last Name*
Robert	**Don**	**Mumford**
Home/Message Phone **907-345-7269**	*Business Phone*	*Cell Phone* **907-764-3177**
Mailing Address **13391 Baywind drive**	*City* **Anchorage**	*State & ZIP* **AK 99516**
Email Address **mumford@acsalaska.net**	*Are you a registered voter?* **Yes**	

Have you ever been convicted of a misdemeanor within the past five years or a felony within the past ten years?
No

Conviction Circumstances

Conflict of Interest

Certain boards and commissions require full disclosure of personal financial data under AS 39.50.010. If required for the board or commission for which you are applying, are you willing to do so?
Yes

Could you or any member of your family be affected financially by decisions to be made by the board or commission for which you are applying?
No

Please explain the potential financial benefit

Training, Experience & Qualifications

List any professional licenses, certifications, or registrations and dates obtained that may be used as qualifying criteria:
20+ Years Alaska State Troopers...18 within Fish and Wildlife Protection Division. Commercial Pilot, previous experience as Assistant Guide. Currently a public member of Big Game Commercial Services Board, term expires 03/10. Advanced law enforcement certificate.

List both formal and informal education and training experiences:
Law Enforcement training at the Alaska State Trooper academy in Sitka.

Commercial and Instrument Flight Training. High School diploma, Laguna Beach High, California 1972.

List any community service, municipal government, and state positions held, and any awards received.

Detachment Trooper of the year and awarded for Bravery in 1985.

Employment work history including paid, unpaid or voluntary.

USAF E-4 1975-1979; Alaska State Troopers, Lieutenant, 1982-2002; Assistant Guide (hunting) 2002; Arctic Air Alaska, and Forty Mile Air 2006-2008. Doyon Universal Services 2009. Volunteer Hunter Education Instructor 2007-current.

Date of Birth	*Ethnicity*
1954-10-29	**White**
Gender	
Male	
Military Service	
U.S. Air Force 1975-1979	

Certification of Accuracy & Completeness

I swear the information I have entered on this form is true to the best of my knowledge. I understand that if I deliberately conceal or enter false information on the form my application may be rejected, I may be removed from the list of eligible candidates, or I may be removed from the position. I agree that the Office of the Governor may contact present or former employees or other persons who know me to obtain an additional information about my skills and abilities. I understand that the information on this application is public information and may be released through a legal request for such information.

Type "I certify"

"I certify"

Resumé Addendum

I am seeking a second term reappointment to the Board on which I currently serve. I am an active member and feel that I am doing an excellent job in my position. I currently serve as a liason between the Board and the Department of Public Safety and I am able to look at the complicated issues that we face as a Board with fairness and experience. I have resided in many different areas within Alaska, including Palmer/Wasilla, Anchorage, Sand Point, Kodiak, Fairbanks Coldfoot and Soldotna. I have exparience in almost all aspects of the big game commercial services.

Press Release Wording

Robert Mumford, 55, of Anchorage has been reappointed to a four year term on the Big Game Commercial Services Board. Bob is a retired Alaska State Trooper/ Fish and Wildlife Protection Lieutenant and Commercial Pilot.

Submitted: 12/05/09 at 1:21 pm from 209.112.219.99

4/7/10 CONFIRMA-TIONS: BOARD OF FISHERIES

Claude V. Webster (Vince)
P.O. Box 121
King Salmon, AK 99613

Background:
I was raised on a farm in Indiana. My life dream was to go to Alaska. I joined the Air Force to support my family and was rewarded by a transfer to King Salmon, Alaska in 1978. There I was introduced to commercial fishing in Bristol Bay and the greatest Rainbow Trout fishing in the world. I was transferred to Elmendorf Air Force Base from 1979-1982 where I continued to enjoy the great outdoors. I was offered a job, in the maritime ship yards, on the west coast from 1982-1988. I purchased my first Bristol Bay set net permit in 1984. My wife (Sherry) and I moved our family (Troy and Derek) back to King Salmon in 1989 for a more intimate education. Our sons went on to graduate from Eastern Connecticut and Yale University with honors. We continue to reside in King Salmon and enjoy sharing our fishing operation with our sons and grand daughter every summer.

Work Experience:
1984-Present...Set gillnet operator in the Kvichak District of Bristol Bay.

2000-Present...Facilities & Maintenance Director for Lake & Peninsula School District.

2004-Present...Drift Gillnet Operator in the Naknek District of Bristol Bay.

1997-2000...Maintenance & construction for Katmia National Park.

1989-1990...Cannery construction for BKR & Associates at Cordova, Kodiak, Petersburg & Naknek.

1982-1988...Ship Repair Coordinator & Branch Manager for Donco Inc. in California & Washington.

1975-1982...US Air Force.

1978...Managed Air Force boat dock & operated Air Force charter boat at King Salmon.

Other Fisheries Experience:
Togiak Herring, Cinder River Salmon, Chignik Salmon, Bristol Bay Halibut and numerous sport fisheries throughout the state.

Volunteer Work:
Naknek/Kvichak Fish and Game Advisory Committee, over 15 years, Co-Chair.
Numerous fish committees & task forces.

Education:
Graduated Jennings Co. High School, Indiana 1974.
Versailles Vocational School, Indiana 1973 (While attending High School).
Air Force Aircraft Weapon's Release Systems Tech School 1976.

Fisheries, Board of **Thomas G. Kluberton**

General Information

Board/Commission and seat you are seeking:
Fisheries, Board of, Board of Fisheries

Additional Boards/Commissions of interest:
1) Knik Arm Bridge and Toll Authority, Alaska
2) Renewable Energy Fund Advisory Committee

State Boards/Commissions on which you have served
Governor's Council on Disabilities & Special Education

First	*Middlename*	*Last Name*
Thomas	**G.**	**Kluberton**
Mailing Address **P.O. Box 200**	*City* **Talkeetna**	*State & ZIP* **AK 99676**
Home/Message Phone **907-733-1457**	*Business Phone*	*Cell Phone*
Email Address **tomk@mtaonline.net**	*Are you a registered voter?* **Yes**	

Date of Birth **1952-01-21** *Gender* **Male** *Military Service* **n/a**	*Ethnicity* **White**

Conflict of Interest

Certain boards and commissions require full disclosure of personal financial data under AS 39.50.010. If required for the board or commission for which you are applying, are you willing to do so?
Yes

Could you or any member of your family be affected financially by decisions to be made by the board or commission for which you are applying?
No

Please explain the potential financial benefit

Employment History

Employment work history including paid, unpaid or voluntary.
- Innkeeper - Fireweed Station Inn, Talkeetna, 2003 - Present
- K&K Service & Rental, Co-Owner, Equipment Rental & Dirt Work, 1998 - 2000
- Denali SoftWorks - Info Systems and Mgmt. Consulting 1996 - 2003
- Director Market Research, Netsys Technologies Inc. 1994 - 1996

Education, Training, Experience & Qualifications

List both formal and informal education and training experiences:
Chairman of the Mat-Su Borough 'Mayor's Blue Ribbon Sportsman's Committee' 2006 - 2009 working w/Committee members (most notably Larry Engel) this committee contributed to the

identification of the Yentna and Susitna Sockeye as a Stock of Concern during the 2007 Upper Cook Inlet BOF Cycle - during those three years, I benefited immensely from the experience of Mr. Engel (Past BOF member and Chair) in learning much of the science and political history of the BOF

List any professional licenses, certifications, or registrations and dates obtained that may be used as qualifying criteria:
Commercial Driver's License
Food Service Manager Certification
Hunting and Sport Fishing Licenses annually

List any community service, municipal government, and state positions held, and any awards received.
- Mat-Su Borough Assembly - Oct. 2006 - Oct. 2009
- Mat-Su Borough Planning Commission 2004 - 2006
- 'Y' Community Council (Board Member) 2002 - 2004
- Director Statewide Information Systems, Alaska Dept. of Transportation & Public Facilities 1987 - 1993

Conviction Record

Have you ever been convicted of a misdemeanor within the past five years or a felony within the past ten years?
No

Conviction Circumstances

Certification of Accuracy & Completeness

By submitting this online application, I swear the information I have entered on this form is true to the best of my knowledge. I understand that if I deliberately conceal or enter false information on the form my application may be rejected, I may be removed from the list of eligible candidates, or I may be removed from the position. I agree that the Office of the Governor may contact present or former employees or other persons who know me to obtain an additional information about my skills and abilities. I understand that the information on this application is public information and may be released through a legal request for such information.

Type "I certify"
"I certify"

Resumé Addendum
RESUME Thomas G. Kluberton

Career Synopsis

Tom was elected to the Mat-Su Borough Assembly in October 2006 after serving two years on the Mat-Su Planning Commission. While on the Assembly, Tom Chaired the Mayor's Blue Ribbon Sportsman's Committee, and contributed his knowledge of the Department of Transportation and Public Facilities as a member of the Mayor's Blue Ribbon Road Service Area Task Force.

Alongside positions in local government, Tom owns and operates the Fireweed Station Inn at Sunshine, south of Talkeetna, with his wife. Originally built in 1946, their Inn is listed on the National Historic Register and was thoroughly reconstructed under Tom's direction between 1993 and 2003 when it opened.

He also served as financial and part-time operating partner in an equipment rental, greenhouse/nursery, and dirt-work business with his brother in the Talkeetna area from 1998 – 2000.

Since 1973 Tom has been handed complex business challenges, analyzed their component issues, spelled-out alternatives to management for resolving those issues, guided the team responsible for resolving the challenge to consensus in choosing the best alternative, and, managed numerous such projects to completion.

In April,1994 he joined a team of eight people with a good idea to create a network simulation and management software package. By August 1996, Netsys Technologies Inc. was selling a million dollars worth of software a month throughout the world. The company was sold to Cisco in Nov. '96 for $85M.

In 1991 as Director of Information Systems at the Alaska DOT&PF, Tom was responsible for implementing the State of Alaska's first Internet-like computer network interconnecting fourteen local networks in three Alaskan Cities. This implementation was designed and modeled on a computer before being implemented to ensure success.

As a consultant with Alaska's Department of Administration Information Resource Management Division Tom was involved in hundreds of information technology and networking projects in all aspects from technical and administrative reviews, to conducting full RFP procesess and project management.

Independent Consultant – dba Denali SoftWorks (1995 - 2003)

• Assisted GCI with Cable Modem product launch, analyzing the multitude of issues surrounding integration of broadband internet into their Cable TV organization
• Sat on Technical Advisory Board of Palo Alto based software development company that developed and sold large scale internetwork management and simulation software.
• Prepared initial U.S. Patent document for internetwork management and simulation software package
• Assisted AIDEA in for with various computing-related projects
* Performed Process Review of technology acquisition cycle for ARCO Alaska Inc

NETSYS Technologies Inc. (3/94 - 8-95)
Director, Market Research & Third Party Vendor Relationships

* Responsible for establishing strategic relationships with Third Party consulting firms selected for demonstrated expertise in computer network
* Provided product requirements input to software development team based on experiences delivering client server applications and via research into market demand and trends.

Alaska Department of Transportation and Public Facilities (1987 - 1989)
Director, Information Systems (& '91 - '93)

* Implemented statewide Management Reporting system including the state's first Internet-type TCP/IP network
* Performed initial analysis, conducted RFP process and managed contractor's development of Billing System for $200 million/yr Federal Aid highways program.
* Managed RFP process and managed implementation of department wide Asset Management Application to manage maintenance of two international airports and state equipment fleet of 6800+ vehicles.

Unisys Corporation (1989 - 1991)
Sr. Account Representative

* Drove sales effort to broaden State of Alaska IBM Mainframe network (SNA/SDLC) capabilities to Open Networking (TCP/IP). Presented concepts to all levels of government from cabinet to network technicians in effort to raise awareness of the need to move from outdated technology.

* Managed accounts for all public sector customers in Alaska.

Alaska Department of Administration (1984 - 1987)
Manager, Data Center Customer Services

* Managed all customer interface requirements for large IBM Mainframe center including implementation of chargeback system, planning and microcomputer acquisition process.
* Sat on committee in review of all State of Alaska technology acquisitions.
* Managed all end-user computing support staff.
* Provided consulting services to all State of Alaska agencies as needed on computer projects, primarily project management and acquisition issues.

Crown Zellerbach Inc. (1980 - 1984)
Wilson Foods Inc. (1978 - 1980)
Continental Oil Co. (CONOCO) (1973 - 1978)
IBM Mainframe Application Development and Systems Programming

* Implemented Stock Transfer system at CONOCO, first U.S. Corp. to be its own Transfer Agent.
* Supported Order Entry and Invoicing applications
* Performed all aspects of Systems Programming: SNA network and operating system support
* Application analysis, programming and project management

Education

Bachelor of Business Administration - University of Oklahoma, 1973

Press Release Wording

Tom Kluberton, 58 of Talkeetna, owns Fireweed Station Inn, was an Member of the Mat-Su Borough Assembly, a political appointee under three governors, and, has a bachelors degree in Business

Submitted: 02/21/10 at 10:54 pm from 216.137.239.1

4/7/10 CONFIRMA-TIONS: BOARD OF GAME

Grussendorf, Ben /Resume/
Game, Board of Game

Ben Grussendorf
1221 Halibut Point Road
Sitka, AK 99835

Personal:

Date of Birth: February 23, 1942 (Grand Rapids, Minnesota)
Spouse: Karen
Children: Tim and Karla

Education:

High School: Grand Rapids Minnesota.
College: Bachelor of Arts degree from University of Minnesota,
Master of Arts degree from University of Minnesota
Post-graduate work with Washington State University

Governing Experience:

Served in the Alaska House of Representatives from 1980-00, in various capacities including: Speaker of the House (1985-87, 1987-88, 1991-92); Chair of the Rules Committee, member of the Finance Committee, and the Special Committee on Fisheries.

Also served two terms as Mayor of the City and Borough of Sitka, and two terms as Sitka City and Borough Assembly Member.

Served as a member of the Alaska Municipal League Legislative Committee; President of the Alaska Conference of Mayors; Chair of the Municipal Finance and Utility Committee; Chair of the Sitka Charter Commission; and member of the National Education Association.

Teaching Experience:

Teacher and instructor in national, state and local government/social sciences at Sitka High School and Sitka Community College.

Service Organizations and Membership:

Lions Club, Sitka Chamber of Commerce, Alaska Native Brotherhood, Elks, Moose, Pioneers of Alaska, Sons of Norway.

Special Interests:

Hunting, fishing, wildlife viewing, exploring with the hound, public service.

Game, Board of **Allen Franices Barrette**

General Information

Board/Commission and seat you are seeking:
Game, Board of, Appointed

Additional Boards/Commissions of interest:
1) Agriculture and Conservation, Board of
2) Big Game Commercial Services Board
3) Fisheries, Board of

State Boards/Commissions on which you have served
none

First	*Middlename*	*Last Name*
Allen	**Franices**	**Barrette**
Mailing Address **380 Peger Rd**	*City* **Fairbanks**	*State & ZIP* **AK 99709**
Home/Message Phone **(907)457-3863**	*Business Phone* **(907)452-6047**	*Cell Phone*
Email Address **barrette@gci.net**	*Are you a registered voter?* **Yes**	

Date of Birth **1965-10-02** *Gender* **Male** *Military Service* **1983-1993**	*Ethnicity* **American Indian/Native American**

Conflict of Interest

Certain boards and commissions require full disclosure of personal financial data under AS 39.50.010. If required for the board or commission for which you are applying, are you willing to do so?
Yes

Could you or any member of your family be affected financially by decisions to be made by the board or commission for which you are applying?
No

Please explain the potential financial benefit

Employment History

Employment work history including paid, unpaid or voluntary.
Owner/Operator of Fairbanks Fur Tannery for the past 17 years.

Education, Training, Experience & Qualifications

List both formal and informal education and training experiences:
1983 was certified in artificial insemination,1984 graduated high school,1992 completed apprenticeship program for heavy duty diesel mechanic,4 credit hours left on a associates degree automotive technician.

List any professional licenses, certifications, or registrations and dates obtained that may be used as qualifying criteria:
Business license, Fur Tannery/Taxidermy License, Class A assistant guide Licence, Importer/Exporter License, All Licenses listed are current.

List any community service, municipal government, and state positions held, and any awards received.
2005 Was elected to the Fairbanks Fish and game Advisory Committee and appointed chairman of the trapping subcommittee. Still hold that same seat currently.

Conviction Record

Have you ever been convicted of a misdemeanor within the past five years or a felony within the past ten years?
No

Conviction Circumstances

Certification of Accuracy & Completeness

By submitting this online application, I swear the information I have entered on this form is true to the best of my knowledge. I understand that if I deliberately conceal or enter false information on the form my application may be rejected, I may be removed from the list of eligible candidates, or I may be removed from the position. I agree that the Office of the Governor may contact present or former employees or other persons who know me to obtain an additional information about my skills and abilities. I understand that the information on this application is public information and may be released through a legal request for such information.

Type "I certify"
"I certify"

Resumé Addendum
Allen F Barrette
380 Peger Rd.
Fairbanks, Ak. 99709
907-452-6047
barrette@gci.net

I and my family have been Alaskan Residents for 21yrs. Since we chose to move to Alaska we've never thought of living anywhere else. This is the greatest state in the union. We have enjoyed all that Alaska has to offer. From the greatest hunting, fishing, and trapping opportunities, too some of the greatest sights known to the world. I and my family have always been consumptive users of most of Alaskan resources. We count it a blessing everyday that we manage its resources for the maximum benefit of its people and for its conservation. I believe its my time to step up if the honor be bestowed to me. To serve at the highest level of public participation, The Board of Game. I will bring my vast knowledge of conservation of wildlife my understanding of urban and rural social issues, my ability to listen and learn about issues that will come up that I have no or little experience with. I am able to understand and use The Alaska Fish & Game Law and Regulations to resolve situations. I'm a very pro predator management and believe the Department of Fish & Game should have all the tools necessary to manage predator and ungulates alike for sustained yield. We should be wise stewards of all our resources. As our local Department of Fish & Game can attest I'm very interested in why, how, or their ideology on management of Fish & Game.
If afforded this opportunity I would continue to what I believe is the best public process of regulating and managing users and game for the state for all current users and the future generations.

Family- Married wife Laura in 1987 (22 years), Raising 3 children all born in Fairbanks Jacob 17, Mickinze 14, Ashley 10,

Education- 1983 was certified in artificial insemination,1984 graduated high school,1992 completed apprenticeship program for heavy duty diesel mechanic,4 credit hours left on a associates degree automotive technician.

History-
Born 1965 Dollar Bay Michigan (43yrs)
Native American, Keweenan Bay Indian Community
1979 hire as dairy farm hired hand
1982 promoted to dairy herdsman
1984
1983 Joined the US Army as a vehicle mechanic, served in Washington state, South Carolina, Germany and Alaska was my last duty station.
1987 Reenlisted to be stationed in Alaska
1993 Was honorably discharged from an injury
1993 Became a disabled vet
1993 Started and operated Fairbanks Fur Tannery, 1st commercial tannery in the interior which I still continue
1995 Became involved in making proposals and learning the B.O.G process
1995 seriously started supplementing our family income from trapping
2002 Purchased the Alaskan No. 9 trap Co. And continue to manufacture the Alaskan wolf trap
2005 Was elected to the Fairbanks Fish and game Advisory Committee and appointed chairman of the trapping subcommittee. Still hold that same seat currently.
2006 Received first gunners permit in the predator control program.
2007 Became a class A Big Game Guide.

Interest-

• Educating preservationist and less educated persons on why and how come I do what I do or the science or biology behind what the State or I do.
•Showing my family how to handle fish and game properly and only take what your going to use not necessarily the limit that is afforded to us, being good stewards of the land
•Educating young and inexperienced trappers to all facets of trapping
•Thinking outside the box when persistent or longtime dilemmas exist. i.e. social or urban/rural subsistence allocations
•Learning how biology works in conjunction with the management of game
•Trying to introduce ideas to our legislators pertaining to Fish and Game
•How to reduce regulations pertaining to Fish and Game when applicable
•Big game Guiding
•Taxidermy
•Trapping
•Hunting
•Fishing
•Camping and wildlife photography

Life Memberships-
•Alaska Trapping Association A.T.C,
•The National Rifle Association N.R.A

Press Release Wording

{Allen Barrette}, {44} of {Elkhart Lake, Wisconsin}, is {Owner of Fairbanks Fur Tannery}

Submitted: 01/03/10 at 8:30 pm from 24.237.153.36

SB

3

SENATE COMMITTEE REPORT

DATE: 2/6/09

FURTHER:

DATE TURNED
IN TO OFFICE: _____

Resources Committee considered SENATE BILL NO. 3

SB 3 CFEC AS INFORMATION RESOURCE

"An Act authorizing an Alaska regional development organization to use the Alaska Commercial Fisheries Entry Commission as an informational resource."

and recommends:

[ ] be **replaced** with [ ] **SCS** or [ ] **CS** _____ (_____)

[ ] adopt **previous** [ ] **SCS** or [ ] **CS** _____ (_____)

[ ] attached amendment(s)

[ ] adopt _____Letter of Intent

[ ] further referral to _____Committee

SENATE BILL:
[ ] Same Title
[ ] New Title

HOUSE BILL:
[ ] Same Title
[ ] Technical Title Change
[ ] New Title w/ SCR #_____

NEW FISCAL NOTE(S):

Department	Date	Fiscal	Indet	Zero	FN#

PREVIOUS FISCAL NOTE(S):

Department	Date	Fiscal	Indet	Zero	FN#
DFG	02/02			✓	2
CED	02/02			✓	1

[ ] **APPROPRIATION - no fiscal note**

SIGNATURES AND RECOMMENDATIONS	PRINTED LAST NAME	DO PASS	DO NOT PASS	NO REC	AMEND
	STEVENS	X			
	STEDMAN	✓			
	Wielechowski	✓			
	French	✓			
CO-CHAIR:	McGuire	✓			
CO-CHAIR:					

FISCAL NOTE

STATE OF ALASKA
2009 LEGISLATIVE SESSION

Fiscal Note Number:
Bill Version: SB0003A
() Publish Date:

Identifier (file name): SB003-DFG-CFEC-02-02-09
Dept. Affected: Fish and Game
Title: An Act authorizing an Alaska regional development organization to
RDU: Comm Fisheries Entry Commission
Component: Comm Fisheries Entry Commission
Sponsor: Senator Olson
Requester: Senate Community and Regional Affairs Committee
Component Number: 471

Expenditures/Revenues (Thousands of Dollars)

Note: Amounts do not include inflation unless otherwise noted below.

	Appropriation Required	Information					
OPERATING EXPENDITURES	**FY 2010**	**FY 2010**	**FY 2011**	**FY 2012**	**FY 2013**	**FY 2014**	**FY 2015**
Personal Services	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Travel	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Contractual	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Supplies	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Equipment	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Land & Structures	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Grants & Claims	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Miscellaneous	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL OPERATING	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
CAPITAL EXPENDITURES	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
CHANGE IN REVENUES ( )	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**

FUND SOURCE (Thousands of Dollars)

1002 Federal Receipts	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1003 GF Match	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1004 GF	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1005 GF/Program Receipts	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1037 GF/Mental Health	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Other Interagency Receipts	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**

Estimate of any current year (FY2009) cost: 0.0

POSITIONS

Full-time	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
Part-time	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
Temporary	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**

ANALYSIS: *(Attach a separate page if necessary)*

There are no significant fiscal impacts for CFEC associated with this bill.

Prepared by: Shirley Penrose, Administrative Officer
Phone 907-790-6960
Division: Commercial Fisheries Entry Commission
Date/Time 2/2/09 7:25 AM
Approved by: Frank M. Homan, Chairman
Commercial Fisheries Entry Commission
Date 2/2/2009

(Revised 9/10/2008 OMB)

2812

FISCAL NOTE

STATE OF ALASKA
2009 LEGISLATIVE SESSION

Fiscal Note Number:
Bill Version: SB 3
() Publish Date:

Identifier (file name): SB3-CED-OED 02-02-09
Dept. Affected: DCCED
Title: CFEC AS INFORMATION RESOURCE
RDU: Economic Development
Component: Office of Economic Development
Sponsor: Senator Olson
Requester: Senate Community and Regional Affairs
Component Number: 2743

Expenditures/Revenues (Thousands of Dollars)

Note: Amounts do not include inflation unless otherwise noted below.

	Appropriation Required	Information					
OPERATING EXPENDITURES	**FY 2010**	**FY 2010**	**FY 2011**	**FY 2012**	**FY 2013**	**FY 2014**	**FY 2015**
Personal Services							
Travel							
Contractual							
Supplies							
Equipment							
Land & Structures							
Grants & Claims							
Miscellaneous							
TOTAL OPERATING	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
CAPITAL EXPENDITURES							
CHANGE IN REVENUES ( )							

FUND SOURCE (Thousands of Dollars)

1002 Federal Receipts							
1003 GF Match							
1004 GF							
1005 GF/Program Receipts							
1037 GF/Mental Health							
Other Interagency Receipts							
TOTAL	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**

Estimate of any current year (FY2009) cost:

POSITIONS

Full-time							
Part-time							
Temporary							

ANALYSIS: *(Attach a separate page if necessary)*

This bill would allow the Commercial Fisheries Entry Commission to share fisheries information and data with regional Alaska Regional Development Organizations (ARDORs). Currently there is an ongoing charge for this information from the Department of Fish and Game.

There is zero fiscal impact on the Department of Commerce, Community and Economic Development.

Prepared by: Tyson Fick
Phone 465-2503
Division: Legislative Liaison, DCCED
Date/Time 02-02-09/ 8:30am
Approved by: Emil Notti, Commissioner
Date 2/2/2009
Department of Commerce, Community and Economic Development

(Revised 9/10/2008 OMB)

ALASKA STATE LEGISLATURE

SENATOR DONALD C. OLSON

ALASKA
STATE CAPITOL
ROOM 514
JUNEAU, ALASKA 99801-1182

(907) 465-3707
FAX (907) 465-4821

Senate Bill 3 – C.F.E.C. As An Information Source

Version 26-LS0018/A, February 5, 2009
STAFF: Tim Benintendi, 465-4989

SPONSOR STATEMENT and SECTIONAL ANALYSIS

SPONSOR STATEMENT:

SB 3 would allow ARDORs to benefit from commercial fishery and related information generated by the Commercial Fisheries Entry Commission (CFEC), at no cost. No confidential information may be disclosed, per AS 16.05.815.

There are eleven ARDORs (Alaska Regional Development Organizations) established under AS 44.33.895. These are non-profit organizations comprised of representatives of the economic, political, and social interests in each region. Their purpose is to encourage and assist economic development in their specific areas.

Eight ARDORs would especially benefit from this legislation: Southwest Alaska Municipal Conference, Bering Strait Development Council, Lower Kuskokwim Economic Development Council, Northwest Arctic Borough Economic Development Commission, Kenai Peninsula Borough Economic Development District, Mat-Su Resource Conservation & Development, Inc., Prince William Sound Economic Development District, and the Southeast Conference.

For these organizations, commercial fishing activities provide a substantial portion of their regions' economic base. To illustrate, the wholesale value of the 2005 commercial fishery exceeded $3 billion. Earnings of the 27,700 participating fishermen accounted for $1.2 billion. Another 22,500 persons participated in the seafood processing workforce, earning $277 million in wages. For coastal communities, approximately 37% of private-sector workers were employed in fish harvesting and seafood processing activities. CFEC information

can be critical for ARDOR understanding of economic trends in their regions, and development opportunities which may emerge.

The CFEC supports Senate Bill 3, and regards the loss of fees under this bill as negligible.

SECTIONAL ANALYSIS:

SECTION 1: Would amend AS 16.43.100(a) by adding to CFEC responsibilities, providing without charge to regional development organizations formed under AS 44.33.895, public information relevant to fisheries, participants in fisheries, permit holders' harvests, and earnings data. No confidential information would be released under Senate Bill 3.

FISCAL NOTE: Zero note from CFEC.

STATE OF ALASKA

COMMERCIAL FISHERIES ENTRY COMMISSION

SARAH PALIN, GOVERNOR

8800 GLACIER HWY, #109
P O. Box 110302
JUNEAU, AK 99811-0302

(907) 789-6150 Licensing Calls
(907) 789-6160 Other Business
(907) 789-6170 FAX
(907) 789-6180 BBS

INTERNET: www.cfec.state.ak.us

January 30, 2009

The Honorable Donny Olson
Alaska State Senator
State Capitol, Room 514
Juneau, AK 99801-1182

RE: SB 3 "An Act authorizing an Alaska regional development organization to use the Alaska Commercial Fisheries Entry Commission as an informational resource"

Dear Senator Olson:

We have reviewed SB 3 and support this legislation.

We understand that the intent of SB 3 is to allow Alaska Regional Development Organizations (ARDORS) established under AS 44.33.895 to request public information from the Commercial Fisheries Entry Commission (CFEC) fishery database without charge. As you know, CFEC has a wealth of public information regarding Alaska's commercial fisheries that we regularly make available upon request to any person or entity. However, there may be a fee required depending on the extent of the effort needed to provide the data. Under SB 3 we would provide data to ARDORS just as we would without this bill, however, without charge.

As a clarification, any CFEC public information available from CFEC data sources must comply with AS 16.05.815 "Confidential nature of certain reports and records." (See enclosed) Basically this statute prohibits the release of any individual fisherman's earnings and harvests obtained from fish ticket information unless aggregated to protect confidentiality. That prohibition is not affected by SB 3.

We do not believe SB 3 would be a significant impact on CFEC resources since there are a limited number of ARDORS and not all represent coastal areas.

Thank you for the opportunity to comment on SB 3.

Sincerely,

Frank Homan
Chairman

Enclosure

2816

(1) during the first full 10 days after the time when a taking is prohibited, except as provided in (3) of this section;

(2) if the fish or game or part of fish or game is in a preserved condition whether frozen, smoked, canned, salted, pickled, or otherwise preserved; or

(3) with respect to crab aboard a commercial crab fishing vessel, during the first full three days after the time when a taking is prohibited. (§ 26 art I ch 94 SLA 1959; am § 1 ch 42 SLA 1974)

Sec. 16.05.815. Confidential nature of certain reports and records. (a) Except as provided in (b) and (c) of this section, records required by regulations of the department concerning the landings of fish, shellfish, or fishery products, and annual statistical reports of fishermen, buyers, and processors required by regulation of the department are confidential and may not be released by the department or by the Alaska Commercial Fisheries Entry Commission except as set out in this subsection. The department may release the records and reports set out in this subsection to the Alaska Commercial Fisheries Entry Commission. The department and the Alaska Commercial Fisheries Entry Commission may release the records and reports set out in this subsection to the recipients identified in this subsection if the recipient, other than a recipient under (5) — (9) of this subsection, agrees to maintain the confidentiality of the records and reports. The department and the Alaska Commercial Fisheries Entry Commission may release

(1) any of the records and reports to the National Marine Fisheries Service and the professional staff of the North Pacific Fishery Management Council as required for preparation and implementation of the fishery management plans of the North Pacific Fishery Management Council within the exclusive economic zone;

(2) any of the records and reports to the professional staff of the Pacific States Marine Fisheries Commission who are employed in the Alaska Fisheries Information Network project for the purpose of exchanging information with users authorized by the department;

(3) any of the records and reports to the Department of Revenue to assist the department in carrying out its statutory responsibilities;

(4) records or reports of the total value purchased by each buyer to a municipality that levies and collects a tax on fish, shellfish, or fishery products if the municipality requires records of the landings of fish, shellfish, or fishery products to be submitted to it for purposes of verification of taxes payable;

(5) such records and reports as necessary to be in conformity with a court order;

(6) on request, the report of a person to the person whose fishing activity is the subject of the report, or to a designee of the person whose fishing activity is the subject of the report;

(7) on request, annual statistical reports of a fisherman, buyer, or processor to the fisherman, buyer, or processor whose activity is the subject of the report, or to a designee of the fisherman, buyer, or processor whose activity is the subject of the report;

(8) any of the records and reports to the Department of Public Safety for law enforcement purposes;

(9) fish tickets, fish ticket information, records required of sport fishing guides, and annual statistical reports of fishermen, buyers, and processors and information in those reports to the law enforcement personnel of the National Marine Fisheries Service and the National Oceanic and Atmospheric Administration for the purpose of enforcing fishery laws in waters of this state and in waters of the exclusive economic zone adjacent to this state;

(10) fish tickets, fish ticket information, and records required of sport fishing guides regarding halibut to the International Pacific Halibut Commission;

(11) any of the records and reports to the child support services agency created in AS 25.27.010, or the child support enforcement agency of another state, for child support purposes authorized under law; and

(12) any of the records and reports to the Department of Natural Resources to assist the department in carrying out its statutory responsibilities in regard to sport fishing operations and sport fishing guides within the Kenai River Special Management Area under AS 41.21.500 — 41.21.514.

(b) Except as provided in (c) of this section, records or reports received by the department which do not identify individual fishermen, buyers, or processors or the specific locations where fish have been taken are public information.

(c) Crab stock abundance survey information that reveals crab catch by sampling location is confidential and is not subject to inspection or copying under AS 40.25.110 — 40.25.120 until the close of the fishing season for which the survey was conducted.

(d) Except as otherwise provided in this section, the department shall keep confidential (1) personal information contained in fish and wildlife harvest and usage data; and (2) the records of the department that concern (A) telemetry radio frequencies of monitored species; (B) denning sites; (C) nest locations of raptors that require special attention; (D) the specific location of animal capture sites used for wildlife research or management; and (E) the specific location of fish and wildlife species. The department may release records and information that are kept confidential under this subsection if the release is necessary to comply with a court order, if the requestor is a state or federal agency, if the requestor is under contract with the state or federal agency to conduct research on a fish or wildlife population, or if the requestor has been authorized by the department to perform specific activities and agrees to use the records and information only for

purposes as provided under a contract or agreement with the department. After 25 years, the records and information that are kept confidential under this subsection become public records subject to inspection and copying under AS 40.25.110 — 40.25.140 unless the department determines that the release of the records or information may be detrimental to the fish or wildlife population. In this subsection, "personal information" has the meaning given in AS 40.25.350. (§ 1 ch 117 SLA 1970; am § 1 ch 117 SLA 1974; am § 1 ch 66 SLA 1980; am §§ 1, 2 ch 72 SLA 1982; am § 1 ch 84 SLA 1985; am §§ 1, 2 ch 115 SLA 1988; am § 1 ch 32 SLA 1989; am § 10 ch 200 SLA 1990; am § 1 ch 89 SLA 1994; am § 19 ch 87 SLA 1997; am § 1 ch 59 SLA 1999; am § 1 ch 119 SLA 2002; am § 5 ch 70 SLA 2004; am § 1 ch 41 SLA 2007)

Revisor's notes. — In 2000, in subsection (c), "AS 40.25.110 — 40.25.120" was substituted for "AS 09.25.110 — 09.25.120" and in subsection (d) "AS 40.25.110 — 40.25.140" was substituted for "AS 09.25.110 — 09.25.140" to reflect the 2000 renumbering of AS 09.25.110 — 09.25.140.

In 2004, "child support enforcement agency created in AS 25.27.010" was changed to "child support services agency created in AS 25.27.010" in paragraph (a)(11) of this section in accordance with § 12(a), ch. 107, SLA 2004.

In 2007, "AS 40.25.350" was substituted for "AS 44.99.350" in subsection (d) to reflect the 2004 renumbering of AS 44.99.350.

Cross references. — For exceptions to this section related to the weathervane scallop fishery, see AS 16.43.911(c) and to other fisheries, see AS 16.43.520(i); for reporting of wholesale canned salmon prices, see AS 43.80.050 — 43.80.100.

Effect of amendments. — The 2002 amendment, effective July 6, 2002, in subsection (a) inserted "fishermen" in the first sentence and updated an internal reference, added the language beginning ", or to a designee" to the end of paragraph (6), added present paragraph (7) and redesignated former paragraphs (7)-(10) as paragraphs (8)-(11), rewrote paragraph (8), in paragraph (9) inserted ", and annual statistical reports of fishermen, buyers, and processors and information in those reports"; and made stylistic changes.

The 2004 amendment, effective January 1, 2005, in subsection (a), substituted "department" for "Department of Revenue" in paragraph (3), rewrote paragraph (8), and added paragraph (12).

The 2007 amendment, effective July 4, 2007, inserted "records required of sport fishing guides" in paragraphs (a)(9) and (a)(10), and made related changes.

Editor's notes. — The delayed amendments to this section by § 148(c), ch. 87, SLA 1997, as amended by § 53, ch. 132, SLA 1998, which were to take effect July 1, 2001, were repealed by § 15, ch. 54, SLA 2001.

Sec. 16.05.820. Research by the federal government. The Secretary of the Interior, the Secretary of Commerce, or the Secretary of Agriculture of the United States and their authorized agents or other appropriate federal agencies may conduct fish cultural operations and scientific investigations in the state in the manner and at the times jointly considered necessary or proper by the Board of Fisheries and the secretary and their authorized agents. (§ 29 art I ch 94 SLA 1959; am § 14 ch 206 SLA 1975; am § 10 ch 208 SLA 1975)

Sec. 16.05.822. Transplanting of musk oxen. The board may transplant surplus musk oxen from Nunivak Island to appropriate areas on the mainland of the state, when good management practices dictate the action. The board shall determine which transplant sites are appropriate and whether a surplus of animals exists. (§ 1 ch 220 SLA 1975)

Revisor's notes. — Formerly AS 16.05.865. Renumbered in 2008.

Sec. 16.05.825. State upland game bird release program. (a) In addition to any other program for the stocking or propagation of game birds that the department has as of July 23, 1974, the department shall establish a special program for the raising, maintenance, and release of upland game birds in the state. Birds raised under this program may be released in an appropriate area of the state, at any time, but may be harvested only during regular hunting seasons, as specified by the board under AS 16.05.255(a)(2). The board shall adopt regulations necessary to implement this section.

(b) The department shall establish an appropriate facility for the raising and maintenance of upland game birds to be located at an appropriate place, as determined by the commissioner, in interior Alaska.

(c) The department shall employ a method of tagging game birds released under this section and compile harvest statistics.

(d) In this section, "upland game bird" means a game bird for which a season is established under AS 16.05.255(a)(2) as of July 23, 1974, excluding waterfowl. (§ 1 ch 31 SLA 1974; am § 15 ch 206 SLA 1975; am § 7 ch 126 SLA 1994)

Sec. 16.05.826. Waterfowl conservation stamp program. (a) The waterfowl conservation tag authorized in AS 16.05.340(a)(17) shall be produced annually in stamp form by the department in an amount the commissioner considers appropriate. The department shall make stamps available for the creation of waterfowl conservation limited edition prints and shall provide for the sale of stamps and prints to the public.

(b) The department shall provide by appropriate means for the selection of the design of the annual waterfowl conservation stamp and for the production and sale of the stamps.

(c) The department may contract to others the performance of the department's responsibilities under this section. Contracting under this subsection is governed by AS 36.30 (State Procurement Code), except that a contract may include provisions for advance payment or reimbursement for services performed under the contract. All costs incurred under this section may be paid from the fish and game fund.

(d) *[Repealed, § 28 ch 90 SLA 1991.]* (§ 5 ch 71 SLA 1984; am § 8 ch 106 SLA 1986; am § 31 ch 138 SLA 1986; am E.O. No. 73 § 12 (1989); am § 28 ch 90 SLA 1991)

2818

SWAMC

Southwest Alaska Municipal Conference
3300 Arctic Boulevard, Suite 203 Anchorage, AK 99503 p: 907.562.7380 f: 907.562.0436 www.swamc.org

Alaska Peninsula
Aleutian Chain
Bristol Bay
Kodiak Island
Pribilof Islands

January 23, 2009

Senator Donny Olson
Alaska Legislature
Juneau, AK 99811

Re: Senate Bill 3

Dear Senator Olson:

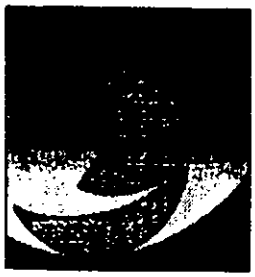
The Southwest Alaska Municipal Conference is an Alaska Regional Development Organization (ARDOR) and also a federally recognized Economic Development District. Our region includes three of the biggest seafood ports (2006) in the nation for total volume landed: Dutch Harbor (#1), Kodiak (#4), Naknek (#12) and includes the world's largest sockeye run – Bristol Bay. This region also includes three of the most valuable seafood ports (2006) in the nation for total landed value: Dutch Harbor (#2), Kodiak (#3), and Naknek (#8). The fisheries of Alaska have just been rated as the ninth largest fishery in the world and account for sixty two percent (62%) of the nation's total seafood catch.

Much of our region's economic vitality and development potential is based on commercial fisheries and their health. We do a lot of research and analysis of fisheries data for the region to assist in our efforts to promote development opportunities in the region. So for SWAMC to have free access to commercial fisheries data from the Commercial Fisheries Entry Commission is vital to our mission and the quality of work.

On behalf of our Board of Directors and staff we fully support your efforts to allow ARDORs free access to this critical economic data that is vital to our economic development efforts.

Sincerely,

Michael Catsi
Executive Director



prince william sound
ECONOMIC DEVELOPMENT DISTRICT

Chenega Bay
Cordova
Tatitlek
Valdez
Whittier

January 26, 2009

Senator Donald Olson
State Capitol, Room 514
Juneau, AK 99801-1182

RE: SB3 – Commercial Fisheries Entry Commission

Dear Senator Olson:

Prince William Sound Economic Development District became an ARDOR (Alaska Regional Development Organization) in 1991, and a federal economic development district in 2001. Our region is comprised of Chenega Bay, Cordova, Tatitlek, Valdez, and Whittier.

The fishing industry is of great importance to our regional economy, and therefore we are requesting that ARDORs have free access to economic data gathered by the Commercial Fisheries Entry Commission, as described in SB3, public information relevant to fisheries, participants in fisheries permit holders' harvests, and earnings data.

Thank you for considering our request.

Sincerely,

Sue Cogswell

Sue Cogswell
Executive Director

ALASKA REGIONAL DEVELOPMENT ORGANIZATION
3237 Spenard Rd., Suite 207 • Anchorage, Alaska 99503 Phone (907) 222-2440 • FAX (907) 222-2411 • Cell (907) 223-7672 • Email: pwsedd@gci.net

ARDOR

Lower Kuskokwim Economic Development Council
PO Box 2021, Bethel, Alaska 99559 * 907 543-5967

Jan 29, 2009

Senator Donny Olson
Alaska State Senate
Juneau, AK 99801

Dear Sen. Olson: re: Senate Bill 3

This letter is written in support of your Senate Bill 3, introduced in the current session, that will provide Alaska fisheries information to Alaska Regional Development Organizations (ARDORs), and other economic development organizations that provide assistance to Alaskan commercial fishermen.

By providing current fisheries information to these organizations, the State of Alaska will provide timely and appropriate assistance to these self employed entrepreneurs and help to strengthen Alaskan commercial fisheries for the long term benefit of all Alaskans.

Very truly,

Carl Berger
Executive Director

Kenai Peninsula Economic Development District, Inc.

BUSINESS INNOVATION CENTER

January 30th, 2009

FAXED 1/30/09

Senator Donny Olson
Alaska Legislature
Juneau, Alaska 99811

SENT BY FAX 907-465-4821

Reference Senate Bill No. 3

Dear Senator Olson: Donny

The Kenai Peninsula Economic Development District is an Alaska Regional Development Organization, (ARDOR) and also a federally recognized Economic Development District.

Our region includes the ports in Seward, Homer, Seldovia, Port Graham and other parts of the Cook Inlet.

Part of our responsibilities as an ARDOR is to do research, analysis and planning for our region. A large part of that is to have the free flow of information from other State and Federal agencies of the data that each is responsible to collect.

Your proposed legislation, Senate Bill No. 3, goes a long way to ensure that this data exchange is open and free flowing.

The Kenai Peninsula Economic Development District is in full support of this legislation.

Thank you for taking a leadership role in providing this economic data to the effective ARDORS.

John Torgerson
Executive Director

14896 KENAI SPUR HWY, SUITE 103-A, KENAI, AK 99611-7014
PHONE: (907) 283-3335 **FAX:** (907) 283-3913
EMAIL: info@kpedd.org www.kpedd.org www.exportalaska.com

FISCAL NOTE

STATE OF ALASKA
2009 LEGISLATIVE SESSION

Fiscal Note Number: 1
Bill Version: SB 3
(S) Publish Date: 2/6/09

Identifier (file name): SB3-CED-OED 02-02-09
Dept. Affected: DCCED
Title: CFEC AS INFORMATION RESOURCE
RDU: Economic Development
Component: Office of Economic Development
Sponsor: Senator Olson
Requester: Senate Community and Regional Affairs
Component Number: 2743

Expenditures/Revenues (Thousands of Dollars)

Note: Amounts do not include inflation unless otherwise noted below.

	Appropriation Required	Information					
OPERATING EXPENDITURES	**FY 2010**	**FY 2010**	**FY 2011**	**FY 2012**	**FY 2013**	**FY 2014**	**FY 2015**
Personal Services							
Travel							
Contractual							
Supplies							
Equipment							
Land & Structures							
Grants & Claims							
Miscellaneous							
TOTAL OPERATING	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
CAPITAL EXPENDITURES							
CHANGE IN REVENUES ( )							

FUND SOURCE (Thousands of Dollars)

1002 Federal Receipts							
1003 GF Match							
1004 GF							
1005 GF/Program Receipts							
1037 GF/Mental Health							
Other Interagency Receipts							
TOTAL	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**

Estimate of any current year (FY2009) cost:

POSITIONS

Full-time							
Part-time							
Temporary							

ANALYSIS: *(Attach a separate page if necessary)*

This bill would allow the Commercial Fisheries Entry Commission to share fisheries information and data with regional Alaska Regional Development Organizations (ARDORs). Currently there is an ongoing charge for this information from the Department of Fish and Game.

There is zero fiscal impact on the Department of Commerce, Community and Economic Development.

Prepared by: Tyson Fick
Phone 465-2503
Division: Legislative Liaison, DCCED
Date/Time 02-02-09/ 8:30am
Approved by: Emil Notti, Commissioner
Date 2/2/2009
Department of Commerce, Community and Economic Development

(Revised 9/10/2008 OMB)

FISCAL NOTE

STATE OF ALASKA
2009 LEGISLATIVE SESSION

Fiscal Note Number: 2
Bill Version: SB 3
(S) Publish Date: 2/6/09

Identifier (file name): SB003-DFG-CFEC-02-02-09
Dept. Affected: Fish and Game
Title: An Act authorizing an Alaska regional development organization to
RDU: Comm Fisheries Entry Commission
Component: Comm Fisheries Entry Commission
Sponsor: Senator Olson
Requester: Senate Community and Regional Affairs Committee
Component Number: 471

Expenditures/Revenues (Thousands of Dollars)

Note: Amounts do not include inflation unless otherwise noted below.

	Appropriation Required	Information					
OPERATING EXPENDITURES	**FY 2010**	**FY 2010**	**FY 2011**	**FY 2012**	**FY 2013**	**FY 2014**	**FY 2015**
Personal Services	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Travel	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Contractual	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Supplies	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Equipment	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Land & Structures	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Grants & Claims	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Miscellaneous	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL OPERATING	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
CAPITAL EXPENDITURES	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
CHANGE IN REVENUES ( )	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**

FUND SOURCE (Thousands of Dollars)

1002 Federal Receipts	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1003 GF Match	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1004 GF	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1005 GF/Program Receipts	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1037 GF/Mental Health	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Other Interagency Receipts	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**

Estimate of any current year (FY2009) cost: 0.0

POSITIONS

Full-time	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
Part-time	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
Temporary	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**

ANALYSIS: *(Attach a separate page if necessary)*

There are no significant fiscal impacts for CFEC associated with this bill.

Prepared by: Shirley Penrose, Administrative Officer
Phone 907-790-6960
Division: Commercial Fisheries Entry Commission
Date/Time 2/2/09 7:25 AM
Approved by: Frank M. Homan, Chairman
Date 2/2/2009
Commercial Fisheries Entry Commission

(Revised 9/10/2008 OMB)

ALASKA STATE LEGISLATURE

SENATOR DONALD C. OLSON

ALASKA
STATE CAPITOL
ROOM 514
JUNEAU, ALASKA 99801-1182

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Senate Bill 3 – C.F.E.C. As An Information Source

Version 26-LS0018/A, January, 2009

STAFF: Tim Benintendi, 465-4989

SPONSOR STATEMENT and SECTIONAL ANALYSIS

SPONSOR STATEMENT:

SB 3 would allow ARDORs to benefit from commercial fishery and related information generated by the Commercial Fisheries Entry Commission (CFEC), at no cost. No confidential information may be disclosed, per AS 16.05.815.

There are eleven ARDORs (Alaska Regional Development Organizations) established under AS 44.33.895. These are non-profit organizations comprised of representatives of the economic, political, and social interests in each region. Their purpose is to encourage and assist economic development in their specific areas.

Eight ARDORs would especially benefit from this legislation: Southwest Alaska Municipal Conference, Bering Strait Development Council, Lower Kuskokwim Economic Development Council, Northwest Arctic Borough Economic Development Commission, Kenai Peninsula Borough Economic Development District, Mat-Su Resource Conservation & Development, Inc., Prince William Sound Economic Development District, and the Southeast Conference.

For these organizations, commercial fishing activities provide a substantial portion of their regions' economic base. To illustrate, the wholesale value of the 2005 commercial fishery exceeded $3 billion. Earnings of the 27,700 participating fishermen accounted for $1.2 billion. Another 22,500 persons participated in the seafood processing workforce, earning $277 million in wages. For coastal communities, approximately 37% of private-sector workers were employed in fish harvesting and seafood processing activities. CFEC information

can be critical for ARDOR understanding of economic trends in their regions, and development opportunities which may emerge.

The CFEC supports Senate Bill 3, and regards the loss of fees under this bill as negligible.

SECTIONAL ANALYSIS:

SECTION 1: Would amend AS 16.43.100(a) by adding to CFEC responsibilities, providing without charge to regional development organizations formed under AS 44.33.895, public information relevant to fisheries, participants in fisheries, permit holders' harvests, and earnings data. No confidential information would be released under Senate Bill 3.

FISCAL NOTE: Zero note from CFEC.

SB

4

ALASKA STATE LEGISLATURE

SENATOR DONALD C. OLSON

ALASKA
STATE CAPITOL
ROOM 514
JUNEAU, ALASKA 99801-1182

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CSSB 4 (CRA) – Coastal Management Programs

Version 26-LS0019/R, January, 2009
STAFF: Tim Benintendi, 465-4989

SPONSOR STATEMENT

In 2003, HB 191 instituted significant changes to the Alaska Coastal Management Program (ACMP). It unduly impacted local participation in development reviews and approvals affecting both state and federal actions in the coastal zone. Prior to 2003, the program was not felt to be significantly problematic. Currently, there are 28 management districts either approved, or under review for approval. For a list of current districts, see the Alaska Coastal Management Program website at (http://alaskacoast.state.ak.us/district/html/progressfinal.htm). To identify a community within a particular coastal district, see http://alaskacoast.state.ak.us/explore/communityindex.pdf .

The authority for a Consistency Review Process, used to implement the ACMP, is found at 11 AAC 110. This process reviews proposed development activities for conformity with state laws and regulations,, and district enforceable policies. 11 AAC 112 and 11 AAC 114 also apply. The governing statutes are AS 46.39 and AS 46.40. With the changes from 2003, regulations adopted by the Department of Natural Resources severely limited the ability of coastal districts to establish enforceable policies regarding the eventual effects of development on coastal resources and uses. So dramatic were the changes that the federal Office of Oceans and Coastal Resource Management formally reviewed state actions for compliance, and took two years to determine acceptance.

Since the 2003 changes, Alaska's coastal districts have dealt with controversy and delay by DNR where achieving suitable district management plans are concerned. Formerly, disputes over approval of district plans were resolved by the Coastal Policy Council. Disbanding the Council under HB 191 concentrated all decision-making power within DNR.

CSSB 4 (CRA) would establish the Alaska Coastal Policy Board within the Department of Natural Resources, and restore an authoritative role for local residents, one that was working acceptably prior to 2003. The new board would be much trimmer than the pre-2003 panel of seventeen members. Nine members would compose the new board, including five public members appointed by the governor. One of the five would be at-large from any of the coastal districts, and the others would be appointed from four defined regions: Northwest Alaska, Southwest Alaska, Upper Cook Inlet, and Southeast Alaska. Filling out the board membership

would be the commissioners of DEC, F&G, DNR, and CCED. DNR would continue to provide day-to-day management and support.

This bill would also reinstate locally-generated enforceable policies, streamline project reviews, provide Board approval of agency-generated regulations, provide for district management plan approvals, allow for receiving grants and other monies, and empower the Board with other authorities.

The primary thrust of CSSB 4 (CRA) is to return significant authority to local district residents by sharing power over the Alaska Coastal Management Program ,between them and the identified commissioners. Since 2003, all authority has rested solely with the Commissioner of the Department of Natural Resources.

ALASKA STATE LEGISLATURE

SENATOR DONALD C. OLSON

ALASKA
STATE CAPITOL
ROOM 514
JUNEAU, ALASKA 99801-1182

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SECTIONAL ANALYSIS

CSSB 4 (CRA) Coastal Management Programs

Version 26-LS0019/ R, February 5, 2009

STAFF: Tim Benintendi, 465-4989

(Compared to SB 4)

Section 1: Establishes the ALASKA COASTAL POLICY BOARD, composed of five coastal district members and the commissioners of DNR, F&G, DEC, and COMMERCE. One co-chair will come from the district membership, and one co-chair from the commissioners. This board is smaller than the 17-member panel prior to the 2003 changes. Differences from SB 4 are: Added one district member, and added commissioner of CCED to Board.

Section 2: Clarifies that DNR coordinates all project consistency reviews for projects with only departmental permits or for projects that involve two or more other state resource agency permits. Not included in SB 4.

Section 3: Allows but does not mandate that regulations approved by the Board may be adopted by DNR. Same provision is in SB 4, Section 2.

Section 4: Establishes powers of the Board, including taking reasonable action to carry out provisions of AS 46.39 (administration) and AS 46.40 (ACMP). Same provision is in SB 4, Section 3.

Section 5: Provides for the Board to approve statewide ACMP standards and criteria, as developed by the department, for district plan approval.

Section 6: Defines "Board" in AS 46.39.900. Same provisions in SB 4, Section 5.

Section 7: Provides for approval of ACMP program changes by the Board. Same provisions in SB 4, Section 6.

Section 8: Adds "subsistence" to the list of values included in the ACMP objectives. Same provisions in SB 4, Section 7.

Section 9: Subsection (a) removes requirement for district enforceable policies to meet the statewide standards. Clarifies that district enforceable policies apply to all land and water issues subject to the plan. Removes requirement to describe proper and improper uses. Changes the term "areas meriting special attention" to "special management areas." Subsection (b) requires district enforceable policies to be clear and concise, either prescriptive (how to proceed toward goal) or performance-based (goal achievement by various methods), and stricter or more specific policy than state or federal laws. If stricter, support may include traditional, local knowledge. This section was not included in SB 4.

Section 10: Makes conforming changes for Board approval of ACMP regulations. Deletes language in AS 46.40.040(a)(2) – (5); moved to a new subsection (d). Compares to SB 4, Section 8, changing "areas of the coast that merit special attention," to "special management areas."

Section 11: Moves language deleted from Section 10, to a new section outlining responsibilities of the Board. Not included in SB 4.

Section 12: Makes conforming amendments to clarify that district plans must be approved by the Board. Not included in SB 4.

Section 13: Establishes the review and approval process for coastal district plans, including provisions for districts to work with DNR to resolve issues before the Board approves a plan. Allows districts to request mediation of the Board's decision. Not included in SB 4.

Section 14: Establishes criteria for Board approval of district plans and clarifies that district enforceable policies may not address matters pre-empted by state or federal laws. Rewritten from SB 4.

Section 15: Makes conforming changes for Board approval of ACMP regulations governing the consistency review and determination process. Same provision is in SB 4, Section 15.

Section 16: Changes the term "subsequent review" to the commonly used term "elevation" and clarifies that the three state resource agencies make the final decision on a project elevation. Modifies SB 4, Section 18, by allowing more autonomy for state resource agencies in preparing a consistency review and determination.

Section 17: Clarifies that aspects of an activity covered by a general or nationwide permit are excluded from a consistency review (rather than the entire activity). Same provision is in SB 4, Section 19.

Section 18: Makes conforming changes for Board approval of district enforceable policies. Same provision is in SB 4, Section 20.

Section 19: Allows for ACMP consistency reviews of projects inland of the coastal zone, if there would be direct and significant effects to coastal uses or resources. Clarifies that seismic survey activities in federal waters are subject to consistency reviews. Differences from SB 4, Section 21, are the inclusion of activities and impacts "inland from the coastal zone," in federal "waters," and "seismic survey activity" on the Outer Continental Shelf. DNR currently exempts this activity from review.

Section 20: Clarifies that categorically or generally consistent activities are for routine projects. From SB 4, Section 22 of this version, deletes a reference mandating Board approval.

Section 21: Exempts federal activities and federally-permitted projects from the 90-day consistency review time limit. Allows extension of the time limit for adjudication of coastal district permits. Differs from SB 4, Section 23 by adding language for a 30-day extension period for an affected coastal resource district to accommodate the adjudication process.

Section 22: Clarifies that the term "affected coastal resource district" includes districts with a publicly-reviewed draft plan or approved plan. Not included in SB 4.

Section 23: Requires an individual consistency review for each Outer Continental Shelf lease sale. Not included in SB 4. Would make each lease sale a separate consistency review.

Section 24: Gives the Board authority to act on a petition regarding non-implementation of a coastal district plan. Same provision is in SB 4, Section 24.

Sections 25, 27, 28: Make conforming amendments regarding Board action on a petition regarding non-implementation of a coastal district plan. Ties to Section 24. Same provisions are in SB 4, Sections 25, 27, 28.

Section 26: Provides that the Superior Courts have jurisdiction to enforce orders of the Board, as well as the department. Same provision is in SB 4, Section 26.

Section 29: Clarifies that a coastal resource service area (CRSA) may accept new matter submitted by a city or village into its coastal management plan. Not included in SB 4.

Section 30: Clarifies that municipalities are part of a CRSA unless they choose to be excluded. Not included in SB 4. There are currently no 3rd class boroughs in Alaska.

Section 31: Removes language about boroughs that do not exercise planning and zoning authority. Not included in SB 4.

Section 32: Makes a conforming amendment clarifying the board's role in coastal boundary changes. Same provision is in SB 4, Section 30.

Section 33, 34: Make conforming amendments regarding the Board's role in approving district plans and district enforceable policies. Same provisions are in SB 4, Sections 31, 32.

Section 35: Clarifies that the term "project" applies to federal activities and federally-permitted activities, including individual lease sales. Not included in SB 4.

Section 36: Adds new definitions for the terms "Board" and "special management areas." Definition of "special management areas" was not included in SB 4.

Section 37: Repeals the exemption for DEC permits from consistency reviews (eliminates DEC carve-out) (AS 46.40.040(b)–(c), not included in SB 4,

and AS 46.40.096(i)). Only this reference was included in SB 4.

Removes the requirement for re-submittal of district plans every 10 years (AS 46.40.050(a)). Not included in SB 4.

Removes the exemption of shallow gas projects from ACMP reviews (AS 46.40.205). Not included in SB 4.

Removes the definition for "areas meriting special attention" (AS 46.40.210(1)). Not included in SB 4.

FISCAL NOTE

STATE OF ALASKA
2009 LEGISLATIVE SESSION

Fiscal Note Number:
Bill Version: **CSSB 4 (CRA)**
() Publish Date:

Identifier (file name): **SB004CS(CRA)-DNR-DCOM-02-02-09**
Dept. Affected: Natural Resources
Title: An Act relating to the Alaska Coastal Management Program.
RDU: Resource Development
Component: Coastal and Ocean Management
Sponsor: Sen. Donny Olson
Requester: Senate Community and Regional Affairs Committee
Component Number: 2680

Expenditures/Revenues (Thousands of Dollars)

Note: Amounts do not include inflation unless otherwise noted below.

	Appropriation Required	Information					
OPERATING EXPENDITURES	**FY 2010**	**FY 2010**	**FY 2011**	**FY 2012**	**FY 2013**	**FY 2014**	**FY 2015**
Personal Services	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Travel	82.0	0.0	82.0	82.0	82.0	82.0	82.0
Contractual	80.0	0.0	30.0	30.0	30.0	30.0	30.0
Supplies	3.0	0.0	3.0	3.0	3.0	3.0	3.0
Equipment	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Land & Structures	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Grants & Claims	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Miscellaneous	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL OPERATING	**165.0**	**0.0**	**115.0**	**115.0**	**115.0**	**115.0**	**115.0**
CAPITAL EXPENDITURES	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
CHANGE IN REVENUES ( )	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**

FUND SOURCE (Thousands of Dollars)

1002 Federal Receipts	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1003 GF Match	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1004 GF	165.0	0.0	115.0	115.0	115.0	115.0	115.0
1005 GF/Program Receipts	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1037 GF/Mental Health	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Other Interagency Receipts	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL	**165.0**	**0.0**	**115.0**	**115.0**	**115.0**	**115.0**	**115.0**

Estimate of any current year (FY2009) cost: 0.0

POSITIONS

Full-time	0	0	0	0	0	0	0
Part-time	0	0	0	0	0	0	0
Temporary	0	0	0	0	0	0	0

ANALYSIS: *(Attach a separate page if necessary)*

CSSB 4(CRA) will have the following fiscal impact:

1. Travel - It is expected that the Coastal Policy Board (CPB) will need to meet at least four times annually to fulfill the obligations and provide the services outlined in CSSB 4 (CRA). Travel (including air, hotel, and per diem) for appointed members, designated members, and state agency staff is included.
2. Contractual - In order to re-write the guiding regulations, DNR must secure contractual services for the promulgation and final Department of Law review of the regulations (FY 2010 only). In addition, contractual services for the CPB meetings must be procured, and will be an annual expense.
3. Supplies - The CPB meetings will require some level of supplies for ensuring the members have proper materials.

Prepared by: Randy Bates, Director — Phone 465-8797
Division: Coastal and Ocean Management — Date/Time February 2, 2009
Approved by: Tom Irwin, Commissioner — Date February 2, 2009
Natural Resources

(Revised 9/10/2008 OMB)

STATE OF ALASKA
2009 LEGISLATIVE SESSION

BILL NO. CSSB 4 (CRA)

ANALYSIS CONTINUATION

4. Although not contemplated above as an additional expense, it is expected that coastal districts will choose to revise, amend, and seek approval for their coastal district plans. No funding is included in this fiscal note for Coastal District Plan revisions. DNR does not typically set aside any funding for plan revisions.

FISCAL NOTE

STATE OF ALASKA
2009 LEGISLATIVE SESSION

Fiscal Note Number:
Bill Version: **SB 4**
() Publish Date:

Identifier (file name): SB4-DEC-CO-1-30-09
Dept. Affected: Dept. of Environmental Conservation
Title: Coastal Management Program
RDU: Administration
Component: Office of the Commissioner
Sponsor: Senator Olson
Requester: Senate Community and Regional Affairs Committee
Component Number: 633

Expenditures/Revenues (Thousands of Dollars)

Note: Amounts do not include inflation unless otherwise noted below.

	Appropriation Required	Information					
OPERATING EXPENDITURES	**FY 2010**	**FY 2010**	**FY 2011**	**FY 2012**	**FY 2013**	**FY 2014**	**FY 2015**
Personal Services	86.8		86.8	86.8	86.8	86.8	86.8
Travel	12.5		12.5	12.5	12.5	12.5	12.5
Contractual	10.4		10.4	10.4	10.4	10.4	10.4
Supplies	6.9		0.5	0.5	0.5	0.5	0.5
Equipment							
Land & Structures							
Grants & Claims							
Miscellaneous							
TOTAL OPERATING	**116.6**	**0.0**	**110.2**	**110.2**	**110.2**	**110.2**	**110.2**
CAPITAL EXPENDITURES							
CHANGE IN REVENUES ( )							
FUND SOURCE		(Thousands of Dollars)					
1002 Federal Receipts							
1003 GF Match							
1004 GF							
1005 GF/Program Receipts							
1037 GF/Mental Health							
Other Interagency Receipts	116.6	0.0	110.2	110.2	110.2	110.2	110.2
TOTAL	**116.6**	**0.0**	**110.2**	**110.2**	**110.2**	**110.2**	**110.2**

Estimate of any current year (FY2009) cost: 0.0

POSITIONS

Full-time							
Part-time	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Temporary							

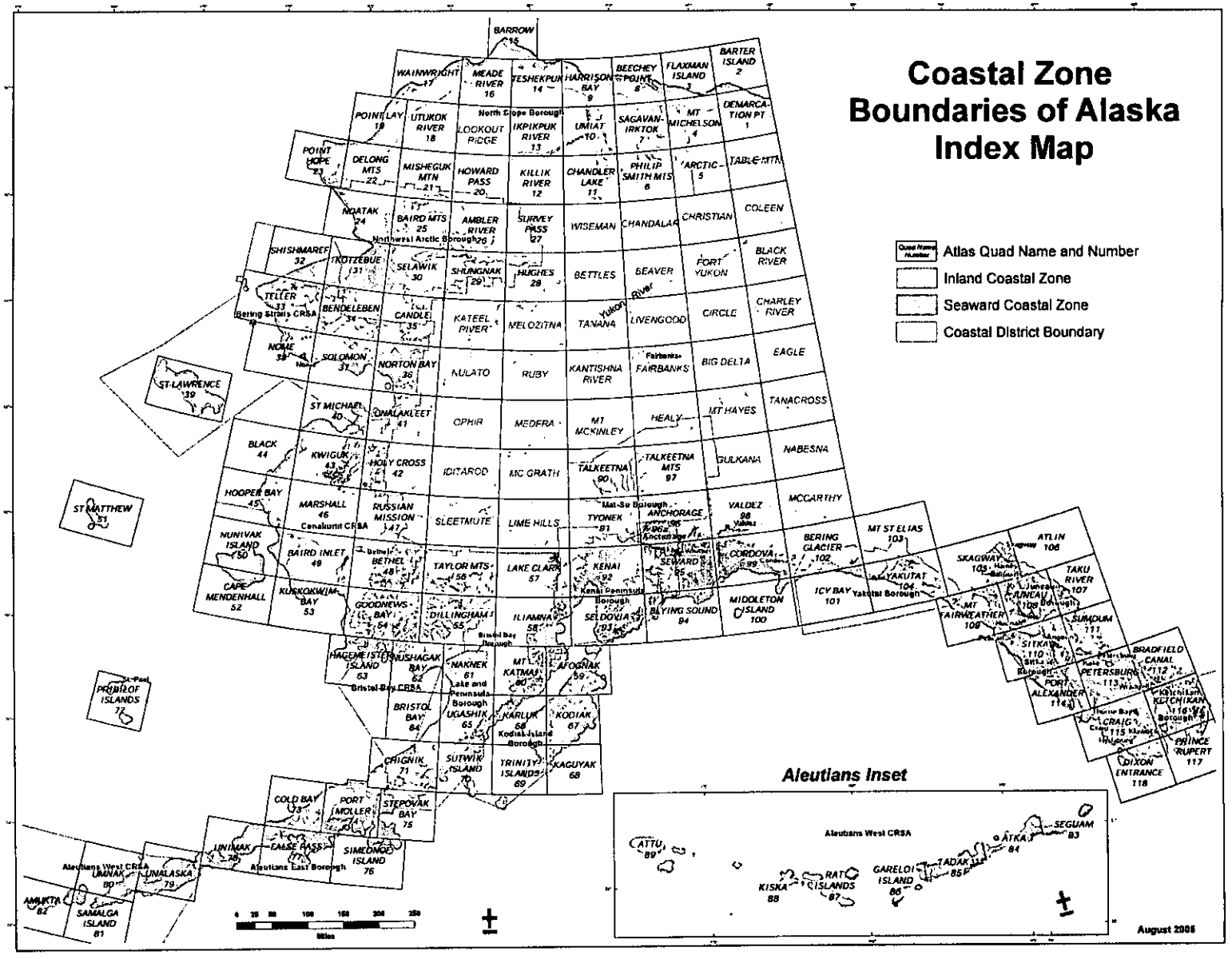
ANALYSIS: *(Attach a separate page if necessary)*

This legislation amends Alaska statutes related to the Alaska Coastal Management Program (ACMP). The bill requires that the Department of Environmental Conservation process its permits in accordance with the ACMP coastal consistency review procedures where permits are currently processed independent from those procedures. The increased work load for existing staff is estimated at one-half of the salary cost of a Range 19 position.

In addition to increasing the effort required to process a permit, the changes require a new half-time position to serve as ACMP lead for DEC with responsibility for internal and external coordination of ACMP matters. The fiscal note reflects the personnel and support costs of a new, part-time (0.5 FTE, Range 20) position to serve as DEC's ACMP Program Coordinator. First-year costs include one-time supply costs that are not reflected in subsequent years.

Prepared by: Marit Carlson-VanDort
Phone 465-5065
Division: Commissioner's Office
Date/Time 2/2/09 12:00 AM
Approved by: Dan Easton
Date 2/3/2009
Deputy Commissioner

(Revised 9/10/2008 OMB)



Quad Name	Number
ADAK	85
AFOGNAK	59
AMBLER RIVER	26
AMLIKTA	82
ANCHORAGE	96
ANCHORAGE INSET	96E
ARCTIC	5
ATKA	84
ATLIN	106
ATTU	89
BAIRD INLET	49
BAIRD MTS	25
BARROW	15
BARTER ISLAND	2
BEECHEY POINT	8
BENDELEBEN	34
BERING GLACIER	102
BETHEL	48
BLACK	44
BLYING SOUND	94
BRADFIELD CANAL	112
BRISTOL BAY	64
BUNDUM	111
CANDLE	35
CAPE MENDENHALL	52
CHANDLER LAKE	11
CHIGNIK	71
COLD BAY	73
CORDOVA	99
CRAIG	115
DE LONG MTS	22
DEMARCATION PT.	1
DILLINGHAM	55
DIXON ENTRANCE	118
FALSE PASS	77
FLAXMAN ISLAND	3
GARELOI ISLAND	86
GOODNEWS BAY	54
HAGEMEISTER IS.	63
HARRISON BAY	9
HOLY CROSS	42
HOOPER BAY	45
HOWARD PASS	20
HUGHES	28
ICY BAY	101
IKPIKPUK RIVER	13
ILIAMNA	58
JUNEAU	109
KAGUYAK	68
KARLUK	66
KENAI	92
KETCHIKAN	116
KILLIK RIVER	12
KISKA	88
KODIAK	67
KOTZEBUE	31
KUSKOKWIM BAY	53
KWIGLIK	43
LAKE CLARK	57
MARSHALL	46
MEADE RIVER	16
MIDDLETON IS.	100
MISHEGUK MTN	21
MT FAIRWEATHER	108
MT KATMAI	60
MT MICHELSON	4
MT ST ELIAS	103
NABESNA	97
NAKNEK	61
NOATAK	24
NOME	36
NORTON BAY	36
NUNIVAK ISLAND	50
NUSHAGAK BAY	62
PETERSBURG	113
PHILIP SMITH MTS	6
POINT HOPE	23
POINT LAY	19
PORT ALEXANDER	114
PORT MOLLER	74
PRIBILOF ISLANDS	72
PRINCE RUPERT	117
RAT ISLAND	87
RUSSIAN MISSION	47
SAGAVANIRKTOK	7
SAMALGA ISLAND	81
SEGUAM	83
SELAWIK	30
SELDOVIA	93
SEWARD	95
SHISHMAREF	32
SHUNGNAK	29
SIMEONOF	76
SITKA	110
SKAGWAY	105
SOLOMON	37
ST LAWRENCE	39
ST MATTHEW	51
ST MICHAEL	40
STEPOVAK BAY	75
SUMDUM	111
SURVEY PASS	27
SUTWIK ISLAND	70
TALKEETNA	89
TALKEETNA MTS	97
TANACROSS	98
TAYLOR MTS	56
TELLER	33
TERRACE BAY	14
TRINITY ISLANDS	69
TYONEK	91
UGASHIK	65
UMIAT	10
UNIMAK	80
UNALAKLEET	41
UNALASKA	79
UNIMAK	78
UTUKOK RIVER	18
VALDEZ	98
WAINWRIGHT	17
YAKUTAT	104

Index Map

NORTHWEST ARCTIC BOROUGH

P.O. Box 1110

Kotzebue, Alaska 99752

(907) 442.2500 or (800) 478.1110

Fax: (907) 442.3740 or 2930

February 3, 2009

Honorable Senator Donny Olson
Capitol, Room 514
Juneau, Alaska 99811

Honorable Representative Reggie Joule
Capitol, Room 502
Juneau, Alaska 99801

Re: SB 4 and HB 74 Alaska Coastal Management Program

Dear Senator Olson and Representative Joule:

The Northwest Arctic Borough (NWAB) would like to thank you for the introduction of SB 4 and HB 74 on the Alaska Coastal Management Program (ACMP). On behalf of the Borough, I would like to address the substance of HB 74 because we understand the Senate Community and Regional Affairs Committee will consider adoption of the provisions of HB 74 into a senate committee substitute.

The NWAB supports the proposed legislation that would restore the ability of coastal districts to effectively participate in the program and establish meaningful policies under the ACMP; therefore providing valuable local input to development that happens in a very large and unique state. Another important provision in the bills would establish a board made of Alaskans to oversee the major aspects of ACMP as a publicly funded program. The proposed board would jointly represent state agencies and local coastal districts thereby restoring effective public engagement in the ACMP.

Currently, only the Alaska Department of Natural Resources (DNR) as a single agency makes all coastal management decisions. This has proved to be very one-sided and frustrating. For example, as you may know, during 2008 the NWAB attempted mediation with DNR to improve the decisions regarding our coastal management plan. Unfortunately, the mediation ended in an impasse with the majority of the proposed plan flat out denied. According to the

NORTHWEST ARCTIC BOROUGH

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ACMP now, our only re-course for a fair review is again to go back to the DNR commissioner for re-consideration of a decision that has already been made by the commissioner and his staff. As you can see, the ability to obtain a third party review that involves the public is not possible under the current program, and the new provisions in this bill will help prevent such a future problematic situation and provide state staff the clear criteria and direction for approval of coastal district policies with involvement of the coastal policy board.

The NWAB also supports the addition of subsistence to the ACMP objectives in AS 46.40.020. Until changes made by the Murkowski Administration, the ACMP has been an effective tool balancing resource development and protection of our coastal resources that support healthy subsistence. It is very important that Alaskans have the ability to propose local policies that demonstrate the real life connection of people and communities to coastal areas and actually reflect the close relationship Alaskan residents have to this land, the coastal zones and our valuable subsistence way of life. For the NWAB, the ability to cooperatively work with developers and the state to address subsistence impacts is the primary reason for participating in the ACMP so that development honors our long-time and permanent Alaskans lifestyles.

We also support provisions in the bill that would bring activities covered by the Alaska Department of Environmental Conservation back into the ACMP consistency review process. Impacts to air and water quality also affect habitat and subsistence, and it makes sense to address these issues together in a consolidated format during a single consistency.

The NWAB encourages responsible development of our natural resources. We recognize the economic importance of development in providing new revenues to fund local public services and facilities, and to provide steady employment opportunities in rural areas. However, it is important that local coastal districts have a role in voicing valid concerns and potential impacts to subsistence and other coastal uses and resources - all to ensure that we are doing resource development the right way.

In closing, these bills restore a meaningful role for coastal districts to facilitate effective future development opportunities. I appreciate your interest in improving the ACMP, and I look

NORTHWEST ARCTIC BOROUGH

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forward to working with you during this legislative session. Please contact me or Ukallaysaaq Tom Okleasik if you have any questions about our proposed plan at (907) 442-2500.

Sincerely,

Sikauraq Whiting, Mayor

Cc: Ukallaysaaq Tom Okleasik, Planning Director
Alagiaq Grant Hildreth, Deputy Planning Director
Kill'aq John Chase, Community Planner & Coastal Area Specialist

February 18, 2009

MEMO TO: Administrator Jim Dinley
Mayor and Assembly

FROM: Marlene Campbell, Government Relations Director
(and Coastal Management Coordinator)

SUBJECT: Resolution Supporting Revisions to Alaska Coastal Management Program

Your approval or modification of proposed Resolution 2009-32 is requested to affirm CBS support for "legislation to enable Alaska's Coastal Communities To More Effectively Participate in the Alaska Coastal Management Program (ACMP)". There are several bills (HB 74, SB 4, and possibly others) being considered by the Legislature which could help rebuild the ACMP.

When House Bill 191 substantially changed the ACMP in 2003, all coastal plans had to be rewritten. Sitka lost more than half of its enforceable policies which must be considered in coastal consistency reviews and other proposals for projects within the City and Borough of Sitka. Sitka's Coastal Plan has been a model of effective coastal management since it was first approved in 1981. The Sitka Plan's 1989 major amendment was even more specific, with enforceable policies which permitted the City and Borough of Sitka and the Sitka community to have a "seat at the table" in management decision making on uses and activities in Sitka's coastal zone.

This local "due deference" has almost entirely been lost since the forced revision of Sitka's program approved in April, 2007. Other changes such as not permitting policies relating to air or water quality and removing the Department of Environmental Conservation (DEC) from the ACMP process have greatly reduced coastal communities' ability to comment. The movement of the Alaska Coastal Management Program from the Governor's office to the Department of Natural Resources Division of Coastal and Ocean Management has proved damaging to the former positive relationship the coastal communities enjoyed with the former Alaska Division of Governmental Coordination. DNR's mission as manager of the development and use of Alaska's natural resources is inconsistent with the protection and public use of those same resources for which the ACMP previously provided a balanced perspective.

The attached petition discusses some key issues which from Alaska's Coastal Management Program coordinators' perspectives would help restore some of the major losses of the ACMP and greatly improve Sitka's ability to comment on Coastal Management permits and activities. Sitka's program has since its inception supported active involvement in the ACMP, and the proposed legislation will permit Sitka to have "standing" to comment on ACMP issues which is now not possible for the most part. Since the specific bills addressing these issues could change, the resolution supports the key provisions rather than just certain bills.

If there are questions please contact Marlene Campbell at 747-1855 (campbell@cityofsitka.com e-mail).

SPONSOR: Administrator

CITY AND BOROUGH OF SITKA

RESOLUTION 2009-32

A RESOLUTION OF THE ASSEMBLY OF THE CITY AND BOROUGH OF SITKA, ALASKA, SUPPORTING LEGISLATION TO ENABLE ALASKA'S COASTAL COMMUNITIES TO MORE EFFECTIVELY PARTICIPATE IN THE ALASKA COASTAL MANAGEMENT PROGRAM (ACMP)

WHEREAS, the "streamlined ACMP process" which resulted from the passage of House Bill 191 in 2003, and its implementation by regulations and statutory amendments, forced the complete revision of all Alaska Coastal Management Plans in Alaska, including Sitka's; and

WHEREAS, as a result, Sitka lost more than half of its enforceable policies (the only section of coastal plans which had standing to be considered as part of the ACMP review process for permits and management decision-making affecting coastal communities), and those policies remaining were so restricted as to be virtually un-usable in coastal comments; and

WHEREAS, there has been an increasing, widespread effort to revise the ACMP to help coastal Alaskan communities regain a "seat at the table" in management decision making affecting Alaska's coastal zone, and reign in the Department of Natural Resources which is charged with managing the State's resources but now also makes all coastal management decisions on developing those same resources; and

WHEREAS, prior to the ACMP's revisions, the Sitka Coastal Management Program had been a model of effective coastal management, allowing the Sitka community to have due deference and protect local resources and activities while permitting responsible development; and

WHEREAS, House Bill 74 sponsored by Representative Joule and Senate Bill 4 sponsored by Senator Olson are being considered by the Alaska Legislature, and this legislation could help restore a meaningful role for coastal municipalities such as Sitka in the ACMP, including the following key provisions (among others):

- Establishes Alaska Coastal Policy Board with 5 public members representing coastal districts and 5 commissioners of resource agencies to make ACMP policy decisions.
- Establishes duties of the Board to approve ACMP standards and criteria for district plans.
- Adds subsistence to the list of resources included in the ACMP objectives.
- Restores local plan ability to write meaningful enforceable policies by enabling policies to be either prescriptive or performance-based, stricter or more specific than state or federal laws, and clarifies policies apply to all land and water uses subject to the plan.
- Eliminates the "DEC carve-out" exempting DEC permits from consistency reviews.
- Allows ACMP consistency reviews of projects inland of the coastal zone if there would be direct and significant impacts to coastal uses or resources;
- Permits meaningful local participation in the ACMP through expanded enforceable policies

addressing a wide range of coastal uses.

NOW, THEREFORE, BE IT RESOLVED that the Assembly of the City and Borough of Sitka, Alaska, supports the revision of the Alaska Coastal Management Program to restore these key provisions and permit the City and Borough of Sitka to better manage its coastal zone per the Alaska State Constitution's provision for maximum local self-government.

PASSED AND APPROVED by the Assembly of the City and Borough of Sitka, Alaska, on this twenty-fourth day of February, 2009.

_____
Scott McAdams, Mayor

ATTEST:

_____
Colleen Ingman, MMC
Municipal Clerk

CS Senate Bill 4 (CR&A)
Alaska Coastal Management Program (ACMP)
HIGHLIGHTS
January 26, 2009

Streamlines Project Reviews and District Plan Approvals

- Brings DEC permits back into the coordinated ACMP project review process
  - Eliminates need for a separate DEC review to determine ACMP consistency
  - Reduces confusion with current process about scope of ACMP review
- Promotes interagency cooperation and issue resolution
  - Encourages coordination of municipal Title 29 permitting with the ACMP process
    - Meaningful district policies will encourage local participation and resolution of issues during the state-coordinated ACMP review[1]
  - Reduces chances for conflicting permit conditions (federal, state and local permits)
  - Encourages early resolution of project issues
- Allows coastal districts to have performance-based enforceable policies[2]

Restores Checks and Balances

- Establishes streamlined Coastal Policy Board (CPB)
  - The 9-member CPB represents coastal districts, DNR, DEC, ADF&G, and DCCED[3]
  - Board provides guidance on 3 matters by approving:
    - 1) District coastal plans, 2) Grant programs, & 3) ACMP regulations
  - DNR retains day-to-day management of all ACMP matters
  - DNR retains responsibility for project consistency reviews
- Involves all 3 state resource agencies in project elevations (pre-decision appeals)
- Allows districts to keep their existing plan (no requirement to amend plan as in 2003 legislation)
- Encourages districts to resolve issues with DNR before their plan is reviewed by the CPB

Restores Traditional Role of Coastal Districts

- Allows districts to establish local enforceable policies that do not conflict with state or federal law or address matters preempted by state or federal agencies
- Restores intent of the ACMP
  - Original 1977 Alaska Coastal Management Act emphasized role of local coastal districts
  - The 2004 Murkowski Administration ACMP regulations conflicted with 2004 legislation by eliminating ability to establish district enforceable policies for matters not adequately addressed by state or federal law

Restores States' Rights

- Reinstates provisions eliminated by the 2003 legislation to assert state rights
  - Allows extension of the 90-day review limit for reviews with federal permits
  - Allows review of projects inland of the coastal zone if there are coastal effects
  - Allows for review of individual oil and gas lease sales in federal OCS waters

[1] Before the 2003 ACMP changes, less than 1% of projects were appealed.

[2] Performance-based policies are preferred by industry (rather than policies that prescribe a specific action)

[3] The former Coastal Policy Council was originally a 17-member body that had responsibility for project reviews.

Alaska Coastal Management Program

Program Goals and Objectives

The Alaska Coastal Management Program (ACMP) oversees the responsible development of coastal uses and resources, federal activities within the coastal zone, and activities on the Outer Continental Shelf.

ACMP Structure and Organization

The ACMP is a voluntary State program, authorized by the Coastal Zone Management Act of 1972, as amended. The Division of Coastal and Ocean Management (DCOM), within the Department of Natural Resources, is the lead agency for the ACMP. Several State departments and agencies participate in the implementation of the ACMP. In addition, several coastal municipalities and service areas (collectively known as coastal districts) voluntarily participate in the implementation of the ACMP. This structure and organization of State agencies and coastal districts provides for a networked implementation scheme designed to comprehensively manage coastal uses and resources.

The primary tool used to implement the ACMP is the consistency review process at 11 AAC 110. Through this process, proposed resource development activities are reviewed for consistency and compliance with the State's coastal management program which includes State laws, State standards, and district enforceable policies.

Value of ACMP

Having a federally-approved coastal management program allows the State the opportunity to:

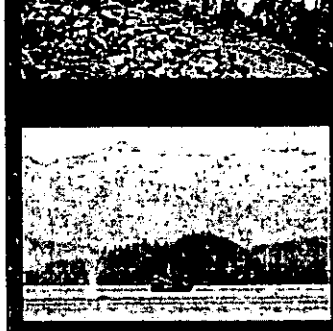
- Balance the need for economic investment and development in coastal areas with the need to protect and manage the uses and resources of coastal areas
- Act as the State's liaison to federal agencies (1) conducting/permitting activities within the State's coastal area and the Outer Continental Shelf; (2) involving federal laws/initiatives that effect development of the coastal zone, waters, uses or resources of the State
- Act as the department's lead on issues affecting or addressing the coastal waters affecting the State
- Apply State ACMP enforceable policies to federal agency activities
- Provide project applicants with a single point of contact for the State's review of resource development permit applications
- Incorporate coastal district input and knowledge for reasoned decisions

Key FY 2008 and FY 2009 Priorities and Needs

- Educate and train participants on implementation of ACMP
- Re-evaluate the ACMP Statutes (AS 46.39 and 40) and Regulations (11 AAC 110, 112, 114), so to strengthen the ACMP as a State program
- Implement the approved Coastal Impact Assistance Program (CIAP) and act as the liaison between the federal government and the State of Alaska

A Program of the Division of Coastal and Ocean Management

"The Alaska Coastal Management Program provides stewardship for Alaska's rich and diverse coastal resources to ensure a healthy and vibrant Alaskan coast that efficiently sustains long-term economic and environmental productivity."



ALASKA DEPARTMENT OF NATURAL RESOURCES · DIVISION OF COASTAL AND OCEAN MANAGEMENT ·
JUNEAU OFFICE: 302 GOLD ST, SUITE 202, PO BOX 111030 · JUNEAU, AK 99811-1030 · T: 907.465.3562 · F: 907.465.3075
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Alaska Coastal Management Program

Key 2008 Calendar Year Accomplishments

- In June 2008, DNR/DCOM initiated a series of workshops to review the current ACMP statutes (AS 46.39 and 46.40) and regulations (11 AAC 110, 112, and 114). The purpose of the re-evaluation is to strengthen the ACMP as a State program, that will benefit applicants and the public in the coordinating project reviews and that will enhance coastal district participation regarding activities occurring in the coastal area and on the outer continental shelf.

- DNR is currently revising the list of expedited consistency reviews using the ABC List. This revision was initiated to meet the legislative intent of identifying and broadening categories of activities subject to the expedited consistency review process. AS 46.40.096(m) SB 102 (2005) requires that DNR establish in regulation the state resource agency permits and federal permits that would trigger a consistency review. The ABC List categorizes development activities in the Coastal Zone according to expected levels of impact on uses and resources in the Zone. The last time the ABC List was substantively amended was in 1995. The current revision initiative will clarify the review process for certain resource development projects that are "de minimis" in nature or that are routine and can be made consistent with standard alternative measures. By updating the ABC List and developing new expedited consistency reviews for routine activities, DNR expects to reduce the workload for State agencies and coastal districts.

- In September 2008, the federal Minerals Management Service approved the State of Alaska Coastal Impact Assistance Program (CIAP) plan, making Alaska eligible to receive approximately $9.7 million in federal funds under the CIAP initiative. Due to an increase in OCS revenue off the coast of Alaska, the state's portion of CIAP funds will increase by more than $53 million in the next two fiscal years. DCOM is currently working on amending the CIAP plan to reflect Alaska's new allocation. A portion of the funds will go to 8 municipalities that are within 200 nautical miles of OCS development, and a portion will be offered to State agencies and the public through a competitive grant process.

- During the 2008 calendar year, nine more coastal district plans went into effect, bring the total of approved coastal district management plans to 25.

- During the 2008 calendar year, DCOM performed 262 coordinated or expedited consistency reviews, issued 415 No Additional Reviews and 29 Single Agency Reviews for resource development projects within the coastal zone.

ACMP Originally Approved:
1979

Coastal Population in 1979:
330,960

Coastal Population in 2004:
538,332

Miles of Coastline:
44,500

CZMA Funds:
$2,503,000

State and Other Matching Funds:
$1,967,000

Total:
$4,470,000

ACMP State Contact

Randy Bates, Director - DCOM, T: 907.465.8797, F: 907.465.3075
E-mail: randy.bates@alaska.gov

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Roger D. (Dale) Summerlin
Vice President
Health, Safety & Environment

P.O. Box 100360
Anchorage, AK 99510-0360
Phone 907.263.4662
Fax 907.263.4438

ConocoPhillips
Alaska, Inc.

February 4, 2009

The Honorable Donald Olson
Chairman, Senate Committee on Community & Regional Affairs
Alaska State Legislature
Alaska State Capitol, Room 514
Juneau, Alaska 99801

VIA FAX TO (907) 465-4821
& Next Day UPS Delivery

RE: Proposed Senate Bill No. 4
An Act Relating to the Alaska Coastal Management Program (ACMP)
Establishment of the Alaska Coastal Policy Board
State Statutes AS 46.39 and AS 46.40

Dear Senator Olson:

ConocoPhillips Alaska, Inc. (CPAI) has prepared this formal response to proposed Senate Bill No. 4, an act relating to the Alaska Coastal Management Program (ACMP) and establishment of an Alaska Coastal Policy Board, and offers the following comments for your consideration.

Retention of the Current Program

CPAI has been, and remains, a supporter of the centralized ACMP process which resulted from the passage of House Bill (HB) 191 in 2003 and was later implemented by regulations and statutory amendments. In 2003, the Alaska Legislature concluded that "the Alaska coastal management program (ACMP) is intended to function with a minimum of delay and avoid regulatory confusion, costly litigation, and uncertainty regarding the feasibility of new investment." In addition, the legislature stated that statewide standards "be clear, and concise and provide the needed predictability as to the application, scope, and timing of the consistency review process of the program."

Proposed changes in Senate Bill (SB) No. 4 would allow districts to restrict selected activities within their coastal district; these activities will undoubtedly involve uses of state concern and/or may involve matters already adequately addressed by existing regulatory programs. Decision-making authority concerning the management and use of state resources vests with the State.

The current program's approach eliminates enforceable policies which may be conflicting between coastal districts, state, and federal agencies, and which could result in a loss of

conformity of district policies that currently exists in the ACMP program. The existing statewide standards provide clear and concise predictability to the ACMP process. Coastal districts are still afforded the ability to propose enforceable policies that conform to the district plan approval criteria and requirements outlined in 46.40.040 and 46.40.070; or those that are not duplicative, restate existing state or federal policies, and do not redefine, replace, or otherwise modify existing standards. From an applicant's perspective, the retention of the centralized ACMP will provide applicants with assurances of an efficient permitting process.

Elimination of the Alaska Department of Environmental Conservation (ADEC) Carve Out (AS 46.40.040 and 46.40.096)

CPAI believes the ADEC carve out should be retained in its present form and the carve out should not be eliminated from the ACMP program. CPAI believes there is significant misunderstanding by many stakeholders on this matter. Approvals for air, water, and C-Plan permits require public notice and public comment periods which allow for public input. The public notice and comment periods for these permits were not negatively affected by carving out the ADEC permits. Timelines associated with these approval processes are at least six months in duration, far longer than the existing 50- to 90-day ACMP coordination process. In addition, the timelines for public participation do not align with the intent or the process of the ACMP program which is one of thoughtful timely coordination and decision-making.

Eliminating the ADEC carve out will re-introduce conflicting regulatory mandates between ADEC and the ACMP process, and will delay the start of the consistency review process. Adequate public participation and opportunities for review by coastal districts is provided in the existing program. Adequate environmental protection is being provided by ADEC, regardless of whether or not their approvals are part of a consistency review process.

In closing, as we look at the substantial nature of the changes proposed in SB 4, we ask the question: Why? Since the passage of HB 191, have resource development projects been permitted by the state where a coastal district's input and concerns have not been accommodated? Is this change going to help motivate resource development projects in this state? We suggest that the current program is working as intended and changes are neither necessary nor desirable.

Sincerely,

Dale Summerlin

Roger D. (Dale) Summerlin

cc: All Legislators

Division of Coastal and Ocean Management

CZMA fund summary

State Fiscal Year 2008 (federal FY 2007)

Section 306- Program Implementation	Federal Funds	State Funds (match)	Total	Notes
Requires 1:1 Match				
DCOM Admin/Implementation of program	$769,500.00	$1,214,500.00	$1,983,999.00	DCOM overmatches federal funds to make up for coastal district match (see below)
Coastal District Plan Development and Implementation	$710,000.00	$265,000.00	$975,000.00	DCOM meets the additional match requirements of $445,000.00
State Agency Implementation	$487,500.00	$487,500.00	$975,000.00	State agencies meet required 1:1 match
Total 306 Funds	**$1,967,000.00**	**$1,967,000.00**	**$3,933,999.00**	

Section 309 - Result in Program Change	Federal	State Funds (match)	Total	Notes
No Match Required				
DCOM Publications/Communications	$103,248.00	$0.00	$103,248.00	Outreach & Education
Competitive Grants	$272,000.00	$0.00	$272,000.00	Coastal districts and state agencies compete for funds to make a program change or implement a change to the ACMP.
Information Tech	$97,759.00	$0.00	$97,759.00	Business Information System for DNR
Coastal Nonpoint Source Pollution	$62,993.00	$0.00	$62,993.00	Sub-Awarded out to District(s)
Total 309 Funds	**$536,000.00**	**$0.00**	**$536,000.00**	

SB 4

Which Coastal District is Your Community In?

CITY	DISTRICT
Adak	Aleutians West CRSA
Akhiok	Kodiak
Akiachak	Ceñaliulriit CRSA
Akiak	Ceñaliulriit CRSA
Akutan	Aleutians East
Alakanuk	Ceñaliulriit CRSA
Aleknagik	Bristol Bay CRSA
Alexander Creek	Mat-Su Borough
Ambler	Northwest Arctic
Amchitka	Aleutians West CRSA
Anaktuvuk Pass	North Slope Borough
Anchor Point	Kenai Peninsula
Anchorage	Anchorage
Angoon	Angoon
Aniak	Ceñaliulriit CRSA
Atka	Aleutians West CRSA
Atmautluak	Ceñaliulriit CRSA
Atqasuk	North Slope Borough
Attu	Aleutians West CRSA
Barrow	North Slope Borough
Bethel	Bethel
Big Lake	Mat-Su Borough
Bird Creek	Anchorage
Brevig Mission	Bering Straits CRSA
Buckland	Northwest Arctic
Candle	Northwest Arctic
Cape Chiniak	None*
Cape Pole	None*
Cape Yakataga	None*
Chefornak	Ceñaliulriit CRSA
Chenega Bay	None*
Chevak	Ceñaliulriit CRSA
Chickaloon	Mat-Su Borough
Chignik	Lake and Peninsula Borough
Chignik Bay	Lake and Peninsula Borough
Chignik Lagoon	Lake and Peninsula Borough
Chignik Lake	Lake and Peninsula Borough
Chugiak	Anchorage
Clam Gulch	Kenai Peninsula
Clark's Point	Bristol Bay CRSA
Coffman Cove	None*
Cohoe	Kenai Peninsula
Cold Bay	Aleutians East
Cooper Landing	Kenai Peninsula
Cordova	Cordova
Council	Bering Straits CRSA
Craig	Craig
Cube Cove	None*
Deadhorse	North Slope Borough
Deering	Northwest Arctic
Dillingham	Bristol Bay CRSA
Diomede	Bering Straits CRSA
Dora Bay	None*
Douglas	Juneau
Dutch Harbor	Aleutians West CRSA
Eagle River	Anchorage
Edna Bay	None*
Eek	Ceñaliulriit CRSA
Egegik	Lake and Peninsula Borough
Ekuk	Bristol Bay CRSA
Ekwok	Bristol Bay CRSA
Elfin Cove	None*
Elim	Bering Straits CRSA
Elmendorf AFB	Anchorage
Emmonak	Ceñaliulriit CRSA
English Bay	Kenai Peninsula
Excursion Inlet	None*
Eyak	Cordova
False Pass	Aleutians East
Fortuna Ledge	Ceñaliulriit CRSA

*Note: "None" means a coastal community not within a coastal district.

CITY	DISTRICT
Ft. Richardson	Anchorage
Funter Bay	None*
Gambell	Bering Straits CRSA
Girdwood	Anchorage
Golovin	Bering Straits CRSA
Goodnews Bay	Ceñaliulriit CRSA
Gravina Island	Ketchikan
Gustavus	None*
Haines	Haines
Halibut Cove	Kenai Peninsula
Happy Valley	Kenai Peninsula
Hawkins Island	None*
Hinchinbrook Island	None*
Hobart Bay	None*
Hollis	None*
Homer	Kenai Peninsula
Hoonah	Hoonah
Hooper Bay	Ceñaliulriit CRSA
Hope	Kenai Peninsula
Houston	Mat-Su Borough
Hydaburg	Hydaburg
Igiugig	Lake and Peninsula Borough
Iliamna	Lake and Peninsula Borough
Indian	Anchorage
Ivanof Bay	Lake and Peninsula Borough
Juneau	Juneau
Kachemak	Kenai Peninsula
Kake	Kake
Kaktovik	North Slope Borough
Kalgin Island	Kenai Peninsula
Karluk	Kodiak
Kasaan	None*
Kasigluk	Ceñaliulriit CRSA
Kasilof	Kenai Peninsula
Kenai	Kenai Peninsula
Ketchikan	Ketchikan
Kiana	Northwest Arctic
King Cove	Aleutians East
King Salmon	Bristol Bay Borough

CITY	DISTRICT-
Kipnuk	Ceñaliulriit CRSA
Kivalina	Northwest Arctic
Klawock	Klawock
Klukwan	None*
Kobuk	Northwest Arctic
Kodiak	Kodiak
Kokhanok	Lake and Peninsula
Kokhanok Bay	Lake and Peninsula
Koliganek	Ceñaliulriit CRSA
Kongiganak	Ceñaliulriit CRSA
Kotlik	Ceñaliulriit CRSA
Kotzebue	Northwest Arctic
Koyuk	Bering Straits CRSA
Kuiu Island	None*
Kupreanof	None*
Kwethluk	Ceñaliulriit CRSA
Kwigillingok	Ceñaliulriit CRSA
Labouchere Bay	None*
Lake Louise	Mat-Su Borough
Larsen Bay	Kodiak
Levelock	Lake and Peninsula
Long Island	None*
Lower Kalskag	Ceñaliulriit CRSA
Manokotak	Bristol Bay CRSA
Marshall	Ceñaliulriit CRSA
Mekoryuk	Ceñaliulriit CRSA
Metlakatla	None*
Meyers Chuck	None*
Moose Pass	Kenai Peninsula
Mountain Village	Ceñaliulriit CRSA
Mt. Edgecumbe	Sitka
Naknek	Bristol Bay Borough
Nanwalek	Kenai Peninsula
Napakiak	Ceñaliulriit CRSA
Napaskiak	Ceñaliulriit CRSA
Naukati	None*
Nelson Lagoon	Aleutians East
New Stuyahok	Bristol Bay CRSA
Newhalen	Lake and Peninsula

*Note: "None" means a coastal community not within a coastal district.

CITY	DISTRICT
Newtok	Ceñaliulriit CRSA
Nightmute	Ceñaliulriit CRSA
Nikiski	Kenai Peninsula
Nikolski	Aleutians West CRSA
Ninilchik	Kenai Peninsula
Noatak	Northwest Arctic
Nome	Nome
Nondalton	Lake and Peninsula
Noorvik	Northwest Arctic
Nuiqsut	North Slope Borough
Nunapitchuk	Ceñaliulriit CRSA
Old Harbor	Kodiak
Oscarville	Ceñaliulriit CRSA
Ouzinkie	Kodiak
Palmer	Mat-Su Borough
Pedro Bay	Lake and Peninsula Borough
Pelican	Pelican
Pennock Island	Ketchikan
Perryville	Lake and Peninsula Borough
Petersburg	Petersburg
Pilot Point	Lake and Peninsula Borough
Pilot Station	Ceñaliulriit CRSA
Pitkas Point	Ceñaliulriit CRSA
Platinum	Ceñaliulriit CRSA
Point Baker	None*
Point Hope	North Slope Borough
Point Lay	North Slope Borough
Polk Inlet	None*
Port Alexander	None*
Port Alsworth	Lake and Peninsula
Port Armstrong	None*
Port Clarence	Bering Straits CRSA
Port Graham	Kenai Peninsula
Port Heiden	Lake and Peninsula Borough
Port Lions	Kodiak
Port Moller	Aleutians East
Port Protection	None*
Portage	Anchorage
Post Lake	Mat-Au Borough

CITY	DISTRICT
Prudhoe Bay	North Slope Borough
Quinhagak	Ceñaliulriit CRSA
Red Mountain	Kenai Peninsula
Ridgeway	Kenai Peninsula
Rowan Bay	None*
Russian Mission	Ceñaliulriit CRSA
Sand Point	Aleutians East
Savoonga	Bering Straits CRSA
Sawmill Bay	None*
Saxman	Ketchikan
Scammon Bay	Ceñaliulriit CRSA
Security Bay	None*
Selawik	Northwest Arctic
Seldovia	Kenai Peninsula
Seward	Kenai Peninsula
Shaktoolik	Bering Straits CRSA
Sheep Mountain	Mat-Su Borough
Sheldon Point	Ceñaliulriit CRSA
Shemya AFS	Aleutians West CRSA
Shishsmaref	Bering Straits CRSA
Shungnak	Northwest Arctic
Sitka	Sitka
Skagway	Skagway
Skwentna	Mat-Su Borough
Soldotna	Kenai Peninsula
South Naknek	Bristol Bay Borough
Squaw Harbor	Aleutians East
St. George Island	None*
St. Mary's	Ceñaliulriit CRSA
St. Michael	Bering Straits CRSA
St. Paul	St. Paul
Stebbins	Bering Straits CRSA
Sterling	Kenai Peninsula
Sunrise	None*
Sutton	Mat-Su Borough
Talkeetna	Mat-Su Borough
Tatitlek	None*
Tazlina	None*
Teller	Bering Straits CRSA

*Note: "None" means a coastal community not within a coastal district.

CITY	DISTRICT
Tenakee Springs	None*
Thorne Bay	Thorne Bay
Tin City	Bering Straits CRSA
Togiak	Bristol Bay CRSA
Toksook Bay	Ceñaliulriit CRSA
Tolstoi Bay	None*
Trapper Creek	Mat-Su Borough
Tuluksak	Ceñaliulriit CRSA
Tuntutuliak	Ceñaliulriit CRSA
Tununak	Ceñaliulriit CRSA
Tutka Bay	Kenai Peninsula
Twin Hills	Bristol Bay CRSA
Two Moon Bay	None*
Tyonek	Kenai Peninsula
Ugashik	Lake and Peninsula
Umiat	North Slope Borough
Unakwik Inlet	None*
Unalakleet	Bering Straits CRSA
Unalaska	Aleutians West CRSA
Ungalik	Bering Straits CRSA
Valdez	Valdez
Wainwright	North Slope Borough
Wales	Bering Straits CRSA
Wasilla	Mat-Su Borough
Whale Pass	None*
White Mountain	Bering Straits CRSA
Whittier	Whittier
Willow	Mat-Su Borough
Wrangell	Wrangell
Yakutat	Yakutat

For more information contact:

The Alaska Coastal Management Program
Juneau — 907- 465-3075
Anchorage — 907-269-7470

*Note: "None" means a coastal community not within a coastal district.

North Slope Borough

OFFICE OF THE MAYOR

P.O. Box 69
Barrow, Alaska 99723
Phone: 907 852-2611 or 0200
Fax: 907 852-0337 or 2595
email: edward.itta@north-slope.org

Edward S. Itta, Mayor

February 3, 2009

Senator Donny Olson
Alaska State Legislature
State Capitol, Room 514
Juneau, Alaska 99801

Sent by fax: _____.

RE: **SB 4 Alaska Coastal Management Program**

Dear Senator Olson:

Thank you for pre-filing SB 4 about the Alaska Coastal Management Program (ACMP). I understand the Senate Community and Regional Affairs Committee will be considering adopting a committee substitute similar to the version of this bill in the House. The North Slope Borough (Borough) supports the committee substitute because it will restore meaningful local involvement in the ACMP, implement checks and balances and streamline project reviews.

The Borough appreciates the sections of the proposed committee substitute that clarify the ability of coastal districts to establish enforceable policies, especially the provisions in AS 46.40.030 and 070. While the 2003 legislative changes to the ACMP allowed coastal districts to establish policies for matters not adequately addressed by state or federal law, many of our proposed enforceable policies were denied on the basis that they addressed an agency's authority. We made an extra effort to focus our proposed policies on matters that were not addressed by existing laws, but still they were denied.

The committee substitute for SB 4 would restore checks and balances to the ACMP by establishing the Coastal Policy Board. This body would represent coastal districts and state agencies. It would be responsible for approving changes to ACMP regulations, amendments to coastal district programs and overall grant programs. This body is similar to the former Coastal Policy Council except that it has fewer members and it is not responsible for project consistency reviews. Restoring the responsibility for project elevations to the three state resource agencies will ensure these agencies have a seat at the table.

The Borough also supports the sections of the proposed committee substitute that streamline project reviews. The ACMP used to be an effective program that resolved issues among local, state and federal agencies, but changes to the program statutes and regulations reduced its effectiveness. Bringing the Alaska Department of Environmental Conservation back into the consistency review process will bring air and water quality issues back into ACMP project reviews. Likewise, allowing coastal districts to have meaningful policies will encourage their participation in the coordinated consistency review process. These changes will streamline project reviews because issues can be resolved early in the process by all parties. The changes will also encourage permitting agencies to ensure their permit stipulations are compatible and reasonable.

Again, the North Slope Borough thanks you for introducing SB 4, and I look forward to testifying on this bill as it moves through the committee process.

Sincerely,

Edward S. Itta
Mayor

cc Johnny Aiken, NSB Director Planning & Community Services
Karla Kolash, NSB Mayor's Office
Andy Mack, NSB Mayor's Office

SB 31

26-LS0217\N
Kane
3/6/09

CS FOR SENATE BILL NO. 31(ENE)

IN THE LEGISLATURE OF THE STATE OF ALASKA

TWENTY-SIXTH LEGISLATURE - FIRST SESSION

BY THE SENATE SPECIAL COMMITTEE ON ENERGY

Offered:
Referred:

Sponsor(s): SENATORS MCGUIRE, Ellis, Thomas

A BILL

FOR AN ACT ENTITLED

"An Act relating to an alternative energy production tax credit that may be claimed or applied against tax due under the Alaska Net Income Tax Act; and providing for an effective date."

BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF ALASKA:

*** Section 1.** AS 43.20.021(d) is amended to read:

(d) Where a credit allowed under the Internal Revenue Code is also allowed in computing Alaska income tax, it is limited to 18 percent for corporations of the amount of credit determined for federal income tax purposes **that** [WHICH] is attributable to Alaska. This limitation does not apply to a special industrial incentive tax credit under AS 43.20.042 **or to an alternative energy production tax credit under AS 43.98.040**.

*** Sec. 2.** AS 43.98 is amended by adding a new section to read:

Sec. 43.98.040. Alternative energy production tax credit. (a) An energy producer that produces alternative energy may claim an alternative energy production

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tax credit in the amount of 2.1 cents for each kilowatt-hour of alternative energy produced or sold for each of the first four tax years after the date the system used to produce alternative energy is placed into service if

(1) the alternative energy produced supplies all or part of the energy required by commercial units owned or used by the energy producer; or

(2) the energy producer sells all or part of the energy produced.

(b) A tax credit under this section may be claimed only for

(1) an alternative energy system placed into service on or after January 1, 2010; or

(2) an expansion of an alternative energy system if the expansion is made on or after January 1, 2010.

(c) An unused tax credit under this section may be carried forward and applied against the tax liability of the energy producer.

(d) A tax credit provided under (a) of this section may be sold, assigned, exchanged, conveyed, or otherwise transferred, in whole or in part.

(e) A taxpayer acquiring a tax credit under (a) or (d) of this section may use the tax credit or a portion of the tax credit to offset taxes imposed under AS 43.20.011. Any portion of the credit not used may be used at a later time or transferred under (d) of this section. A tax credit under this section may not exceed 20 percent of the energy producer's capital investment for the system used to produce alternative energy.

(f) An energy producer that claims a tax credit under this section and that wishes to transfer the unused tax credit to a taxpayer under (d) of this section may apply to the department for a transferable tax credit certificate. An application under this subsection must be in a form prescribed by the department and must include supporting information and documentation that the department reasonably requires. The department shall grant or deny an application, or grant an application as to a lesser amount than that claimed and deny it as to the excess, not later than 120 days after it receives the application.

(g) A taxpayer acquiring a tax credit under (a) or (d) of this section may not use the tax credit or a portion of the tax credit to offset taxes imposed by AS 43.20.011 in the same year the taxpayer uses a federal alternative energy credit under 26 U.S.C.

45, authorized by AS 43.20.021, to offset taxes imposed by AS 43.20.011.

(h) The department shall

(1) prescribe an application form for a tax credit under this section; and

(2) adopt regulations necessary for the administration of this section.

(i) In this section,

(1) "alternative energy" means geothermal, solar, hydroelectric, wind, biomass, hydrokinetic or tidal, and wave energy;

(2) "energy producer" means an electric utility or independent power producer holding a certificate of public convenience and necessity under AS 42.05.

*** Sec. 3.** The uncodified law of the State of Alaska is amended by adding a new section to read:

EXHAUSTION OF UNUSED ALTERNATIVE ENERGY PRODUCTION TAX CREDITS. Notwithstanding the repeal of AS 43.98.040, an unused portion of a tax credit acquired under AS 43.98.040(a) or (d) may be carried forward until exhausted, except that the unused portion of the tax credit may not be carried forward to tax years beginning after December 31, 2028.

*** Sec. 4.** AS 43.98.040 is repealed January 1, 2025.

*** Sec. 5.** This Act takes effect January 1, 2010.

26-LS0217\D
Kane
3/13/09

CS FOR SENATE BILL NO. 31( )

IN THE LEGISLATURE OF THE STATE OF ALASKA

TWENTY-SIXTH LEGISLATURE - FIRST SESSION

BY

Offered:
Referred:

Sponsor(s): SENATORS MCGUIRE, Ellis, Thomas

A BILL

FOR AN ACT ENTITLED

"An Act relating to a renewable energy production tax credit that may be claimed or applied against tax due under the Alaska Net Income Tax Act; and providing for an effective date."

BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF ALASKA:

*** Section 1.** AS 43.20.021(d) is amended to read:

(d) Where a credit allowed under the Internal Revenue Code is also allowed in computing Alaska income tax, it is limited to 18 percent for corporations of the amount of credit determined for federal income tax purposes **that** [WHICH] is attributable to Alaska. This limitation does not apply to a special industrial incentive tax credit under AS 43.20.042 **or to a renewable energy production tax credit under AS 43.20.046**.

*** Sec. 2.** AS 43.20 is amended by adding a new section to article 1 to read:

Sec. 43.20.046. Renewable energy production tax credit. (a) An energy producer that produces renewable energy may claim a renewable energy production

tax credit in the amount of 15 percent of the retail rate for each kilowatt-hour of electricity charged by the energy producer, as determined by the Regulatory Commission of Alaska; however, a tax credit may not be less than 2.1 cents for each kilowatt-hour of renewable energy produced or more than five cents for each kilowatt-hour of renewable energy produced.

(b) An energy producer may claim a renewable energy tax credit under this section for each kilowatt-hour of renewable energy produced or sold for each of the first five tax years after the date the capital investment used to produce renewable energy is placed into service if the energy producer sells all or part of the energy produced.

(c) A renewable energy tax credit under this section may be claimed only for a capital investment

(1) to produce renewable energy that is placed into service on or after JULY 09 January 1, 2010; or

(2) to expand production of renewable energy if the investment for production expansion is made on or after JULY 09 January 1, 2010.

(d) An unused renewable energy tax credit under this section may be carried forward and applied against the tax liability of the energy producer.

(e) A renewable energy tax credit provided under this section may be sold, assigned, exchanged, conveyed, or otherwise transferred, in whole or in part.

(f) A taxpayer acquiring a renewable energy tax credit under (a) or (e) of this section may use the tax credit or a portion of the tax credit to offset taxes imposed under this chapter. Any portion of the credit not used may be used at a later time or transferred under (e) of this section.

(g) A renewable energy tax credit acquired under (a) or (e) of this section, when combined with any state aid that the energy producer receives for the capital investment made to produce renewable energy for which the credit is acquired, may not exceed 10 percent of the energy producer's capital investment for production of renewable energy, aggregated over the five years within which the credit is allowed to be claimed under (b) of this section.

(h) An energy producer that claims a renewable energy tax credit under this

section and that wishes to transfer the unused tax credit to a taxpayer under (e) of this section may apply to the department for a transferable tax credit certificate. An application under this subsection must be in a form prescribed by the department and must include supporting information and documentation that the department reasonably requires. The department shall grant or deny the tax credit certificate, or grant the tax credit certificate as to a lesser amount than that for which application is made and deny it as to the excess, not later than 120 days after it receives the application.

(i) An energy producer that uses a renewable energy production tax credit to offset the tax imposed by this chapter or transfers the credit under (e) of this section may not also claim the federal renewable energy credit under 26 U.S.C. 45, authorized by AS 43.20.021, for a capital investment associated with the production or expansion of renewable energy that generated the credit under this section.

(j) The department shall

(1) prescribe an application form for a tax credit under this section; and

(2) adopt regulations necessary for the administration of this section.

(k) In this section,

(1) "capital investment" means an expenditure made

(A) as a cash expenditure or binding payment agreement for real property or tangible personal property used in this state in the production of renewable energy; and

(B) for an asset first placed in service for the production of renewable energy in the state during or before the tax year in which the credit is claimed; in this subparagraph, "placed in service for the production of renewable energy in the state" means that the first use of the capital investment is in this state; if the property on which the claim of the credit is based has been used elsewhere in the tax year of acquisition and is brought to this state during that year or a subsequent year, the property does not qualify as a capital investment;

(2) "energy producer" means

(A) an electric utility or independent power producer holding a

certificate of public convenience and necessity under AS 42.05; or

(B) an independent power producer producing more than 100 kilowatts of electricity from renewable energy;

(3) "renewable energy" means geothermal, solar, hydroelectric, wind, biomass, hydrokinetic or tidal, and wave energy.

*** Sec. 3.** AS 43.20.046 is repealed January 1, 2025.

*** Sec. 4.** The uncodified law of the State of Alaska is amended by adding a new section to read:

EXHAUSTION OF UNUSED RENEWABLE ENERGY PRODUCTION TAX CREDITS. Notwithstanding the repeal of AS 43.20.046 by sec. 3 of this Act, an unused portion of a tax credit acquired under AS 43.20.046(a) or (e), enacted by sec. 2 of this Act, may be carried forward until exhausted, except that the unused portion of the tax credit may not be carried forward to tax years beginning after December 31, 2025.

*** Sec. 5.** This Act takes effect January 1, 2010.

FISCAL NOTE

STATE OF ALASKA
2009 LEGISLATIVE SESSION

Fiscal Note Number:
Bill Version: **CSSB 31 (ENE)**
() Publish Date:

Identifier (File Name): CSSB31(ENE)-DOR-TAX-03-02-09
Dept. Affected: Revenue 04
Title **Alternative Energy Production Tax Credit**
RDU **Taxation and Treasury**
Component Taxation and Treasury
Sponsor **Senators McGuire, Ellis, Thomas**
Requester **(S) Energy**
Component No. **2476**

Expenditures/Revenues (Thousands of Dollars)

Note: Amounts do not include inflation unless otherwise noted below.

	Appropriation Required	Information					
OPERATING EXPENDITURES	**FY 2010**	**FY 2010**	**FY 2011**	**FY 2012**	**FY 2013**	**FY 2014**	**FY 2015**
Personal Services	108.9	0.0	108.9	108.9	108.9	108.9	108.9
Travel	2.0	0.0	2.0	2.0	2.0	2.0	2.0
Contractual	34.9	0.0	4.9	4.9	4.9	4.9	4.9
Supplies	0.5	0.0	0.5	0.5	0.5	0.5	0.5
Equipment							
Land & Structures							
Grants & Claims							
Miscellaneous							
TOTAL OPERATING	**146.3**	**0.0**	**116.3**	**116.3**	**116.3**	**116.3**	**116.3**
CAPITAL EXPENDITURES	**0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
CHANGE IN REVENUES ( )	*	**0.0**	*	*	*	*	*

FUND SOURCE (Thousands of Dollars)

1002 Federal Receipts							
1003 GF Match							
1004 GF	146.3	0.0	116.3	116.3	116.3	116.3	116.3
1005 GF/Program Receipts							
1037 GF/Mental Health							
Other Interagency Receipts							
TOTAL	**146.3**	**0.0**	**116.3**	**116.3**	**116.3**	**116.3**	**116.3**

Estimate of any current year (FY2009) cost: **0**

POSITIONS

Full-time	1.00	0	1.00	1.00	1.00	1.00	1.00
Part-time							
Temporary							

ANALYSIS: *(Attach a separate page if necessary)*

See Attached.

Prepared by: **Dan Stickel, Economist** Phone (907) 465-3279
Division Tax Division Date/Time
Approved by: Date
Agency

(Revised 9/2008 OMB)

ANALYSIS CONTINUATION

Bill Language:
This bill will create a tax credit for electricity production from new alternative energy projects in the state. The amount of the credit will be 2.1 cents for each kilowatt hour of alternative energy produced or sold in "each of the first four years after the date the system used to produce alternative energy is placed into service," up to a limit of 20 percent of capital costs. The tax credit would be applicable only to the Alaska Corporate Net Income Tax. Unused tax credits could be carried forward or transferred.

For purposes of this bill, "alternative energy" means geothermal, solar, hydroelectric, wind, biomass, hydrokinetic or tidal, and wave energy. The credit could be claimed by an "electric utility holding a certificate of public convenience and necessity under AS 42.05 or an independent power producer." The term "independent power producer" would need to be defined in regulation and could potentially include any entity that chooses to implement an eligible alternative energy project.

The effective date of the bill is January 1, 2010. There bill includes a sunset date of January 1, 2025.

Revenues:
Revenues from this bill are indeterminate because we do not know the size or number of projects that would qualify for the credit. According to the US Department of Energy, Alaska currently produces 1.3 billion kilowatt hours of alternative energy annually (hydroelectric, biomass, solar and wind power; there is currently no commercial geothermal electric generation). For each 10 percent increase in alternative energy production, tax revenue to the state would be reduced by $2.7 million per year for four years.

Some examples of credits generated by possible projects include the following (These examples are for illustrative purposes only. They are based on publicly available information and typical capacity utilization rates):

- A 14-megawatt hydroelectric project such as the Lake Dorothy project near Juneau could be eligible for a $1.5 million annual credit (assuming the project operates at 60% of capacity). Over four years, this credit would amount to about 9.7% of the estimated $64 million capital cost.

- A 30-megawatt wind farm such as the Fire Island project near Anchorage could be eligible for a $1.7 million annual credit (assuming the project operates at 30% of capacity). Over four years, this credit would amount to about 12.3% of the estimated $54 million capital cost.

- A 1.2-megawatt wind farm such as the Nome wind farm could be eligible for a $66,000 annual credit (assuming the project operates at 30% of capacity). Over four years, this credit would amount to about 4.8% of the estimated $5.5 million capital cost.

Many smaller projects would likely also qualify for the credit. Based on our analysis of the sample projects listed above, we believe that for most projects, the total credit over four years would amount to less than 20 percent of capital expenditures.

We anticipate that this credit will mostly be used by corporations that acquire the credit through the transferability provision. The transferability provision will be used because many power producers are owned by municipalities, non-profits or S-corporations and therefore are not subject to the corporate income tax. Also, independent power producers, once defined in regulation, could potentially include individuals, sole proprietorships, LLC's, S-corporations, non-profits and other entities that are not subject to the corporate income tax.

Expenditures:
This bill would require the Department of Revenue to administer a new tax credit program, including the review and approval of credit applications and issuance and tracking of credit certificates. This new credit program will likely involve a large number of projects and millions of dollars in credits claimed annually.

The Department is requesting a Corporate Income Tax Auditor III position (Range 22) to audit the tax credits and manage the approval, issuance and tracking of the credits. There will also be $30,000 in one-time startup expenses: $20,000 for enhancements to our tax examination system, and $10,000 for an education and public outreach program.

ALASKA STATE LEGISLATURE

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Co-Chair
Senate Resources Committee

Chair
Senate Special Committee on Energy
Senate Special Committee on World Trade, Technology & Innovation

Member
Senate Judiciary Committee
Joint Armed Services Committee

SENATOR LESIL MCGUIRE

SPONSOR STATEMENT

SB 31: Alternative Energy Production Tax Credit

SB 31 encourages the development of Alaska's vast renewable energy resources by offering power producers and utilities a valuable production tax credit for each kilowatt-hour of electricity they produce from geothermal, wind, hydro, tidal, wave, biomass, in-river, or solar energy.

In its simplest terms, a tax credit is a direct reduction in the amount of taxes owed. The production tax credit created by SB 31 rewards power producers in the state of Alaska for producing electricity from alternative energy sources by offering to directly reduce the amount of state corporate income tax they owe. In Alaska, the corporate income tax rate is graduated from 1% to 9.4% in increments of $10,000 of taxable income. The 9.4% maximum rate applies to taxable income of $90,000 and over.

SB 31 offers a production tax credit in the amount of 2.1 cents per kilowatt-hour (kWh), which matches the rate of the federal Renewable Electricity Production Tax Credit. What this means is that the state will directly reduce the amount of corporate tax owed by 2.1 cents for each kWh of energy produced. By way of example, a 400 kWh plant similar to the Chena Hot Springs Geothermal project, operating at the 75% capacity typical for a geothermal plant, could claim just over $55,000 in credits per year (400 kW x $0.021 x 8760 kWh/year x 75% = $55,188/year); a 30 MW project similar to the Fire Island Wind Project, assuming the typical wind farm capacity of 30%, would be eligible for $1.7 million in credits annually. The credit can only be claimed for each of the first four years after a power plant is placed into service and is capped at 20% of the capital investment of a power project.

However, the dominant model for energy production in Alaska is not the privately owned power producer that pays corporate tax, but rather the publically owned cooperatives and municipal utilities that are tax exempt. To level the playing field and to ensure that all power producers in the state can benefit from the tax credit, SB 31 proposes a transferable tax credit. A transferable tax credit can be sold or traded on an open market to other corporate entities that are required to pay the state corporate income tax.

Because the production tax credit can only be claimed by a power producer that has made a significant investment in infrastructure and is already producing electricity, SB 31 allows a way to incentivize alternative energy development without requiring hefty state appropriations to unproven projects and technologies.

In energy plans across the nation, production incentives are playing an increasingly important role in encouraging the development of renewable energy resources. Twenty-five states offer some sort of renewable energy corporate tax incentive and five states and the federal government offer a production tax credit similar to the one proposed by SB 31.

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SUMMARY OF CHANGES

SB 31 Version M to Version N

(1) Page 1
Revisor's changes: changed Section 2 to Section 1, renumbered accordingly, and changed "which" to "that" in line 8.

(2) Page 2, line 8-11:
Added a clause that would limit eligibility for the PTC to only projects or expansions to projects placed into service on or after January 1, 2010.

(3) Page 3, line 8-9:
Changed the definition of "energy producer" to require independent power producers to hold an RCA issued certificate of public convenience and necessity in order to be eligible for the tax credit.

ALASKA STATE LEGISLATURE

SENATOR LESIL McGUIRE
SENATOR BILL WIELECHOWSKI
Co-Chairs, Senate Resources Committee

MEMORANDUM

Memorandum

To: Brian Kane, Leg. Legal

From: Shalon Szymanski, Committee Aide
Senate Resources Committee

Date: March 13, 2009

Re: Final CS Request

Please create a Final Committee Substitute (SRES) for work order # **26-LS0217\D,** mirroring the CS but also including:

-1 attached amendment

SB 31 did move out of committee today with no changes to the CS and we would like to have it read across on the floor Monday.

Thank you!

26-LS0217\D

AMENDMENT #1

TO: CS SB 31
OFFERED BY: Senator Stevens

Page 2, Line 14 and Line 16:

Delete:
"January 1, 2010"

Insert:
"July 1, 2009"

ALASKA STATE LEGISLATURE

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Senate Special Committee on World Trade, Technology & Innovation

Member
Senate Judiciary Committee
Joint Armed Services Committee

SENATOR LESIL MCGUIRE

SUMMARY OF CHANGES

CS for SB 31 - Version D

(1) Section 2(a)
Changed the amount of the PTC to a graduated system that ties the tax credit to the retail cost of power for a community. The amount of the tax credit is equal to 15% of the retail electricity rate for a given community. The tax credit amount is a minimum of 2.1 cents/kWh and a maximum of 5 cents/kWh.

Reason:
As suggested by Chris Rose during Monday's hearing, this seemed to be a more equitable and sensible way to incentivize renewable energy development in communities where it is needed the most. This change ties the amount of the PTC to the cost of power rather than power plant capacities or community populations, which were also explored. Has the advantages of a tiered system but without the arbitrary thresholds.

(2) Section 2(a)(2) removed
Removed language that allowed power producers to claim the tax credit if they used the electricity they produced for their own commercial purposes.

Reason:
Part of the intent of this bill has become to encourage the production and distribution of electricity to communities that need it the most. This (1) ensures that the power being incentivized by the tax credit makes it onto the grid and into the homes of Alaskans, and (2) addresses the industry concern of power producers claiming the tax credit by selling electricity to themselves.

(3) Section 2(b)
Changed the number of years that the credit could be claimed from four to five years.

Reason:
Industry experts suggested extending to as much as ten years, but cursory analysis quickly showed that his would add up to huge subsidies over a ten year period. Half that – five years – seemed a reasonable compromise.

2870

(4) Section 2(g)
Capped the aggregate amount of tax credit plus state grants that can be claimed to 10% of the capital cost of a given project.

Reason:
Prevents over-subsidization of projects that are eligible for both the PTC and Renewable Energy Fund grants. As pointed out by Sen. French, giving a tax credit to a project that has already been subsidized through the renewable energy fund may "over-stimulate" that project.

(5) Section 2(k)(2)
Changed the definition of "energy producer" so that independent power producers are not required to obtain a certificate of public convenience and necessity from the RCA. Limited the eligibility of projects to power plants with a production capacity of 100 kW or more.

As per Sen. Huggins' concern, the certificate may be an unnecessary burden to both the producer and the RCA. Limiting eligibility to 100 kWh or more addresses the problem of "back-door net-metering" as brought up by Chris Rose of REAP.

(6) Section 2(k)(3) and all sections
Changed all occurrences of "alternative energy" to "renewable energy".

Alternative energy and renewable energy are often used interchangeably, but there is an important distinction. The types of energy that are eligible for the PTC program under SB 31 (geothermal, solar, hydroelectric, wind, biomass, hydrokinetic, tidal, and wave energy) are all renewables, not alternatives. The nomenclature was changed to reflect that.

(6) All sections
Moved the tax credit language from 43.98 (Revenue and Taxation: Miscellaneous Provisions) to 43.20 (Revenue and Taxation: Alaska Net Income Tax).

Reason:
Language change recommended by the Tax Division. Ensures that the credit is applicable only against the corporate income tax and not any other state taxes.

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907-561-6103
Fax: 907-561-5547
www.alaskapower.org

February 10, 2009

Senator Lesil McGuire
Chair, Senate Special Committee on Energy

Re: Committee Substitute of SB 31, Alternative Energy Production Tax Credits

Dear Honorable Chair McGuire:

Alaska Power Association (APA) is the statewide trade association for the electric utilities that supply power to more than a half-million Alaskans in communities from Barrow to Unalaska and down the Inside Passage.

APA strongly supports the development of alternative energy projects. State financial assistance and incentives will play a critical role in getting these projects off the drawing board. The Committee Substitute for Senate Bill 31 would help encourage the construction of alternative energy projects through the use of tax credits. It is for these reasons that Alaska Power Association supports the Committee Substitute for Senate Bill 31.

I would like to offer the following suggested changes:

APA suggests defining the time during which a renewable energy producer could claim a credit as 48 months instead of four (4) years. Under the existing bill, if a utility or independent power producer started producing power in August, it could only claim a few months worth of production for that year. By counting months instead of years, the bill would allow for a full four (4) years of production to be claimed over a five-year period. The change could be made by amending subsection (b) to read as follows:

> (b) An energy producer may claim a tax credit under this section in the amount of .35 cents for each kilowatt-hour of alternative energy produced or sold. A tax credit may be claimed for each of the first ~~four years~~ **forty-eight months** after the date the system used to produce alternative energy is placed into service.

APA also suggests amending subsection (e) to clarify that it is referring to the credits described in subsection (d). The clarified language would read as follows:

> (e) A taxpayer acquiring a ~~transferable~~ tax credit **under (d) of this section** may use the tax credit or a portion of the tax credit to offset taxes imposed under AS 43.20 (Alaska Net Income Tax Act). Any portion of the credit not used may be used at a later time or transferred under (d) of this section.

APA believes that this minor change to section (b) and the clarification to subsection (e) are consistent with the intent behind Committee Substitute for SB 31.

If you have any questions regarding this letter, please contact me at 907-771-5703 or mleland@alaskapower.org. I will be traveling to an out-of-state meeting the day of the first hearing on this bill. As a result, I regret that I will not be able to testify at the hearing.

Thank you for your work on this and other issues of importance to the Alaska electric utility industry.

Sincerely,

Marilyn Leland
Executive Director

Alaska Conservation Alliance

Uniting for Alaska's Future

February 12, 2009

The Honorable Lesil McGuire
Alaska State Senate
Alaska State Capitol
Juneau, Alaska 99801-1182

Dear Senator Lesil McGuire,

On behalf of the 40 conservation groups and the 38,000 Alaskans that are represented by the Alaska Conservation Alliance, I am pleased to acknowledge our strong support for SB 31 to establish an Alternative Energy Production Tax Credit. This credit will give Alaskan communities, utilities and entrepreneurs the incentive needed to develop clean, stably priced clean energy sources.

As you are well aware, Alaska is at an energy crossroads. Much of the state's aging electricity generation infrastructure will have to replaced in the next decade. With power plant life spans of 20 to 100 years, decisions made today about electric power technology will affect generations of Alaskans to come. A decision now to base Alaska's energy infrastructure solely on fossil fuels will result in decades of energy price volatility. Additionally, it is commonly accepted that a carbon cap and trade system to limit the greenhouse gas emissions of fossil fuels, further increasing the costs associated with fossil fuels, will soon likely be implemented. An alternative energy production tax credit gives rural and urban communities incentive to tap a fuel-free, zero-carbon energy source that will stabilize Alaska's future energy costs.

Investing in clean energy production and research can help Alaska become an exporter of clean energy technologies to the world in addition to supplying Alaskans with clean and stably priced energy. Through incentives similar to the Geothermal Tax Credit, Germany built an $8.7 billion renewable energy industry, creating 170,000 jobs.

The Alaska Conservation Alliance would like to thank you for this opportunity to voice our support for SB 31 and we encourage passage of this bill.

Sincerely,

Kate Troll

Kate Troll
Executive Director

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February 18, 2009

Senator Lesil McGuire
State Capital, Room 125
Juneau, Alaska

Dear Senator McGuire:

The efforts you are making towards building Alaska's clean, renewable energy infrastructure is commendable. Our survival as a civilization in the North is dependent on our ability to have affordable and dependable energy available to homes and businesses. As we have seen over the last few years we cannot rely on the stability of fossil fuel prices and need to further develop energy resources that are sustainable and secure. The work you are doing in the Senate Energy Committee shows your commitment to the future of our state's communities and economy.

Specifically, I would like to commend you and Senator Ellis on the development of Senate Bill 31, which if adopted would greatly encourage investment in renewable energy projects and an incentive to get the projects online rapidly. The approach of offering transferable tax credits is the perfect solution for small power producers who won't see significant net income in the first four years of operation. It is also helpful that the tax credits can be assigned, exchanged, or transferred in whole or part; this allows the small producer to have a more favorable revenue outlook when planning a new project.

Many other states have enacted similar legislation. The New Mexico Renewable Energy Production Tax Credit provides a tax credit against the corporate income tax North Dakota allows any taxpayer -- an individual or corporation -- to claim an income tax credit for the cost of equipment and installation of a system that uses geothermal, solar, biomass, or wind energy. All or part of the unused credit may be sold, assigned or otherwise transferred by the taxpayer under certain limitations.

I am strongly in support of SB 31 and look forward to how it can encourage the development of renewable energy. In Alaska, we can be smokestack free by 2023. What we need is vision, passion, and the cooperation of multiple stakeholders. Any movement towards a sustainable Alaska is a step in the right direction. SB 31 will help accomplish our common goals.

Sincerely,

Bernie Karl

Bernie Karl
Chena Hot Springs Resort

Chena Hot Springs Resort Post Office Box 73440 Fairbanks, Alaska 99707
Reservations Office (907) 452-7867 Office Fax (907) 456-3122 Resort (907) 451-8104

SB 54

ALASKA STATE LEGISLATURE

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Senator Bill Wielechowski

SPONSOR STATEMENT
Senate Bill 54

"An Act making sales of and offers to sell certain energy resources by a refiner at prices that are exorbitant or excessive an unlawful act or practice under the Alaska Unfair Trade Practices and Consumer Protection Act."

Alaskans are paying far too much for heating and motor fuel. This bill will help reduce the cost of gasoline, and heating fuel for many Alaska residents, from road system communities where the price of gasoline is excessive, to rural communities where the price of heating fuel is far too high.

There is evidence that Alaska's refiners are marking up the cost they pay for crude oil at a rate that far exceeds the markup charged by West Coast refiners, and that is higher than the historical Alaska mark up. Many other states have price gouging laws, and Alaska should have one too.

Most Alaska motor fuel and heating oil is produced by the Tesoro and Flint Hills refineries, with most motor fuel coming from the former. Evidence to date shows that the high price Alaskans are paying for motor fuel and heating oil is caused in large part by this refiner mark-up. While it is understandable that fuel prices will rise and fall with the price of oil, there is questionable justification for the margins Alaska's main refiners are adding to their cost for Alaska crude oil.

This bill provides protection for Alaskan communities, individuals, and businesses that rely on refined petroleum products for heating and transportation by prohibiting refineries from charging excessive or exorbitant prices for heating oil, diesel, and automobile and aircraft fuel. An objective threshold is established where prices are presumed to be excessive or exorbitant, which refiners can rebut by showing that their prices are a reasonable response to expenses. The bill provides for monetary damages to deter potential violators.

During the recent fuel cost crisis, the rate at which Alaskan prices have been higher than Lower 48 rates has consistently exceeded historical norms, and Alaskan prices have increased while Lower 48 rates decreased. Even suspending Alaska's gasoline tax has not been able to eliminate this disparity.

This bill targets refinery prices, because the investigations conducted by the Legislative Research Division and the House Judiciary Committee have shown that the price disparities have arisen because of the prices that refineries sell products to retailers. This bill does not set or control pricing, and disparate pricing would still be legal if refiners can show their prices to be reasonable. This bill only applies to refiners with annual sales of over one million gallons of applicable fuel, exempting smaller community refiners.

While many other states' prohibitions against excessive fuel prices only apply in the event of natural disasters, terrorist attacks, or declared emergencies, Alaska has a unique Constitutional responsibility to ensure that natural resources are used to the maximum benefit of the Alaskan people. This bill prohibits refineries from charging exorbitant or excessive prices that are detrimental to state and local economies and the welfare of individual Alaskans. Also, this recent crisis has shown that high fuel costs alone can be enough to create an economic emergency.

LEGAL SERVICES

DIVISION OF LEGAL AND RESEARCH SERVICES
LEGISLATIVE AFFAIRS AGENCY
STATE OF ALASKA

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FAX (907) 465-2029
Mail Stop 3101

State Capitol
Juneau, Alaska 99801-1182
Deliveries to: 129 6th St., Rm. 329

MEMORANDUM January 23, 2009

SUBJECT: Senate Bill 54: sectional analysis
(Work Order No. 26-LS0209\E)

TO: Senator Bill Wielechowski

FROM: Jack Chenoweth
Assistant Revisor

Senate Bill 54 makes a refiner's sales of and offers to sell certain energy resources at prices that are exorbitant or excessive an unlawful act or practice under the Alaska Unfair Trade Practices and Consumer Protection Act (AS 45.50.471 - 45.50.561).

Bill section 1 amends AS 45.50.471(b) to add, as a new paragraph, the material enacted by bill section 2 to the list of "unfair methods of competition" and "unfair or deceptive acts or practice" set out in the Act.

Bill section 2 adds a new section, AS 45.50.483, to make sale of certain energy resources by Alaska refiners at a price that is "exorbitant or excessive" subject to provisions of the Act. More specifically,

- subsection (a) declares that a refiner may not sell or offer to sell an energy resource at an exorbitant or excessive price;

- subsection (b) specifies the types of fuel to which the section applies;

- subsection (c) declares that it is prima facie evidence that a wholesale price is exorbitant or excessive if the price exceeds by more than 10 percent the average wholesale price of the comparable energy resource charged by refiners in the state of Washington; it also provides that the refiner may rebut the presumption by providing evidence that the price charged was due to reasonable costs incurred by the refiner;

- subsection (d) directs the attorney general to initiate an investigation if that officer believes that this section is being violated;

- subsection (e) specifies the maximum amount the attorney general may recover in civil penalties upon the finding of a violation of the section; and

- subsection (f) supplies a definition for the term "refiner."

This memo was prepared in response to a request by George Ascott.

JBC:lmb
09-005.lmb

ALASKA STATE LEGISLATURE

Senator Bill Wielechowski

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Senator Bettye Davis

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Senator.Bettye.Davis@legis.state.ak.us

August 11, 2008

Attorney General Talis J. Colberg
P.O. Box 110300
Juneau, AK 99811-0300

Dear Attorney General Colberg:

We are writing to request an investigation into gasoline pricing in Alaska. As you know, the price of gasoline in Alaska is the highest in the nation. As of today, the average Alaska price is $4.62/gallon, while the national average is $3.88/gallon. This gap of 75 cents is substantially higher than the 20 cent spread that has historically existed. In fact, the actual price spread is higher than 75 cents, as Alaska's gasoline tax—which was 8 cents/gallon until recently suspended—was the second lowest in the country.

We would like to know what is responsible for this unprecedented discrepancy in pricing. Specifically could collusion at the wholesale or retail level be inflating prices in Alaska? We note that in 1999, after the last investigation into gasoline prices was initiated, the spread between Alaska and Lower 48 prices narrowed dramatically. This has led many people to speculate about whether informal price-fixing may have been at work.

We urge you to initiate this investigation as soon as possible as many Alaskans are struggling with today's exorbitant prices and desperately need relief.

Please do not hesitate to contact us if you have any questions about this request.

Sincerely,

Senator Bill Wielechowski

Bettye Davis

Senator Bettye Davis

STATE OF ALASKA

DEPARTMENT OF LAW

OFFICE OF THE ATTORNEY GENERAL

Sarah Palin, Governor

P.O. BOX 110300
JUNEAU, ALASKA 99811-0300
PHONE: (907)465-2133
FAX: (907)465-2075

August 11, 2008

The Honorable Bill Wielechowski
Alaska State Legislature
716 W. 4th Avenue, Suite 540
Anchorage, AK 99501

The Honorable Bettye Davis
Alaska State Legislature
716 W. 4th Avenue, Suite 450
Anchorage, AK 99501

Re: Alaska Gasoline Pricing

Dear Senators Wielechowski and Davis:

Thank you for your August 11, 2008 letter requesting an investigation into gasoline pricing in Alaska. I am also concerned with the high cost of gasoline and the apparent disparity between prices in Alaska and markets in other parts of the United States. On Saturday, August 9, 2008, at the request of the Governor, I directed the Consumer Protection Unit within the Department of Law to initiate an investigation into Alaska gasoline pricing.

We completed a similar investigation in November, 2002 which lasted over three years. The results of that investigation did not find evidence of any illegal activity. This type of investigation is complicated, and will require significant resources including the retention of experts to assist us in gathering and deciphering documents and information. We do not know when the investigation, which must remain confidential, will be completed.

Thank you again for your inquiry. Please contact my office if you have any questions.

Sincerely,

Talis J. Colberg
Attorney General

Talis Colberg
Attorney General
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DEPARTMENT OF LAW

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Press Release

ATTORNEY GENERAL'S OFFICE

For Immediate Release
November 20, 2008

UPDATE ON DEPARTMENT OF LAW'S GASOLINE PRICING INVESTIGATION

(Anchorage, Ak) - At the direction of Governor Sarah Palin, the Department of Law began an investigation into the pricing of gasoline in Alaska. The investigation was initiated in August, following the decline of gasoline prices across the country as the price of crude oil began to drop from record highs near $150 a barrel in July. Gasoline prices in Alaska, however, did not follow national trends, and soon became the highest in the nation. The Department's investigation is focused on explaining the slow decline of gasoline prices in Alaska, and whether the price of gasoline is the result of any illegal conduct, like price fixing or other collusive behavior.

The Department's investigation is ongoing, and must remain confidential under state law. The Department has gathered significant information from refiners, distributors, and retailers about the pricing of gasoline, and continues to gather additional data and information. The Department has retained Barry Pulliam, a Senior Economist at the Los Angles firm of Econ One, to assist the Department in its investigation. The Department has also attended two House Judiciary Committee hearings convened to discuss gasoline pricing issues.

The following is some useful information about gasoline pricing generally that may help explain some of the pricing for gasoline in Alaska.

1. The State of Alaska (or any state) does not regulate gasoline prices. Refiners, distributors, and retailers can sell gasoline at any price they want so long as those prices are not the result of collusive behavior, like "price fixing." If the price reached an "unconscionable" level, the price could also violate Alaska's consumer protection laws.

2. Because gasoline pricing is not regulated, economic forces including the available supply, consumer demand, and competition in the marketplace are the primary factors that determine gasoline prices.

3. Alaska does not have a price gouging law. Sellers of all goods and services (including gasoline) are not required to sell products on a "cost plus" basis. Thus, it does not matter what it costs the seller to acquire the goods or provide a service. Sellers can sell their products for whatever the market will bear. There is no "cap" on the amount of profit any business can make.

4. It does not matter what gasoline prices were when the price of oil was the same as it is today. For example, if refiners sold gasoline for $1.10/gallon when oil was $60 a barrel, this does not require them to sell it for $1.10 every time oil is $60 a barrel.

5. The price of gasoline in the lower 48 is not a good indicator of what prices "should be" in Alaska. The competitive forces that operate to control gasoline prices in the lower 48 are completely different from Alaska. The dynamics of supply, demand, and competition are unique in Alaska.

6. The demand for gasoline is not as "price sensitive" in Alaska as it is in other parts of the country. This means that regardless of the price, the demand does not change by much. This creates less incentive for suppliers to lower their price compared to areas of the country where demand drops significantly when prices rise.

7. Gasoline sold in Southeast Alaska is barged up from the Pacific Northwest and from Cook Inlet. Because fuel is only barged in once a month or every few months, it takes longer for prices to reflect current market conditions. It may take two or three months to exhaust current supply before less (or more) expensive gasoline is available and sold to retailers.

8. Some cities and boroughs charge tax on fuel sales. In the Kenai and Soldotna area, for example, the pump price adds a 6% city and borough tax that is not present in other cities, like Anchorage. Coupled with lower volumes and fewer stations, prices will tend to be higher in these communities.

The Department will complete its investigation to determine if there is any illegal activity among gasoline sellers that may be a cause of the high price of gasoline, and will prepare a summary of its findings when the investigation is done.

For further information, contact Department of Law Assistant Attorney General Clyde (Ed) Sniffen at (907) 269-5200.

# # #

Daily Fuel Gauge Report

AAA's Media Site For Retail Gasoline Prices

Metro Averages:

- **National Average**
- **State by State Average**
- **What's Moving the Market**
- **National Media Contacts**
- **Local AAA Club Media Contacts**
- **Local AAA Clubs**
- **Methodology**

Get The Current
Fuel Costs For A Trip

Select A Market

Prices updated: 1/27/2009 3:06:26 AM

*Data provided by **Oil Price Information Service** in cooperation with Wright Express*

Media are encouraged to localize fuel price stories by contacting their local AAA club media representative.

Current State Averages: Click on state for detailed information

**Prices Are In US Dollars Per Gallon.*

State	Regular	Mid	Premium	Diesel
Alaska	$2.536	$2.683	$2.837	$3.493
Alabama	$1.743	$1.863	$1.919	$2.317
Arkansas	$1.738	$1.834	$1.950	$2.270
Arizona	$1.887	$1.968	$2.081	$2.323
California	$2.101	$2.236	$2.273	$2.485
Colorado	$1.696	$1.814	$1.896	$2.317
Connecticut	$1.905	$2.068	$2.122	$2.779
District of Columbia	$1.895	$2.018	$2.079	$2.774
Delaware	$1.753	$1.862	$1.944	$2.401
Florida	$1.902	$2.060	$2.098	$2.424
Georgia	$1.741	$1.871	$1.954	$2.315
Hawaii	$2.342	$2.477	$2.523	$3.925
Iowa	$1.838	$1.935	$2.027	$2.303
Idaho	$1.689	$1.783	$1.832	$2.417
Illinois	$1.923	$2.069	$2.133	$2.483
Indiana	$1.831	$1.970	$2.025	$2.388
Kansas	$1.776	$1.823	$1.894	$2.259
Kentucky	$1.794	$1.923	$2.010	$2.255
Louisiana	$1.747	$1.862	$1.949	$2.304
Massachusetts	$1.797	$1.932	$2.006	$2.580
Maryland	$1.799	$1.913	$1.962	$2.446
Maine	$1.907	$2.057	$2.114	$2.637
Michigan	$1.894	$2.006	$2.087	$2.391
Minnesota	$1.831	$1.905	$1.954	$2.406
Missouri	$1.696	$1.765	$1.868	$2.121
Mississippi	$1.728	$1.822	$1.904	$2.173
Montana	$1.547	$1.613	$1.691	$2.426
North Carolina	$1.796	$1.906	$1.990	$2.378
North Dakota	$1.855	$1.920	$1.988	$2.697
Nebraska	$1.843	$1.884	$1.937	$2.327
New Hampshire	$1.776	$1.923	$1.992	$2.465
New Jersey	$1.668	$1.788	$1.856	$2.395
New Mexico	$1.862	$1.983	$2.069	$2.353
Nevada	$2.032	$2.142	$2.220	$2.363
New York	$1.966	$2.103	$2.148	$2.830
Ohio	$1.828	$1.949	$2.027	$2.391
Oklahoma	$1.710	$1.768	$1.866	$2.125
Oregon	$1.956	$2.064	$2.095	$2.505
Pennsylvania	$1.863	$1.964	$2.050	$2.578

Rhode Island	$1.855	$1.974	$2.039	$2.612
South Carolina	$1.692	$1.799	$1.887	$2.240
South Dakota	$1.813	$1.929	$2.008	$2.372
Tennessee	$1.713	$1.813	$1.900	$2.279
Texas	$1.720	$1.819	$1.885	$2.258
Utah	$1.649	$1.739	$1.815	$2.329
Virginia	$1.750	$1.836	$1.907	$2.351
Vermont	$1.843	$1.982	$2.069	$2.652
Washington	$2.000	$2.072	$2.175	$2.587
Wisconsin	$1.925	$1.999	$2.091	$2.393
West Virginia	$1.934	$2.022	$2.124	$2.519
Wyoming	$1.503	$1.567	$1.669	$2.304

AAA's Daily Fuel Gauge Report is updated each business day and is the most comprehensive retail gasoline survey available. Everyday over 100,000 self-serve stations are surveyed.

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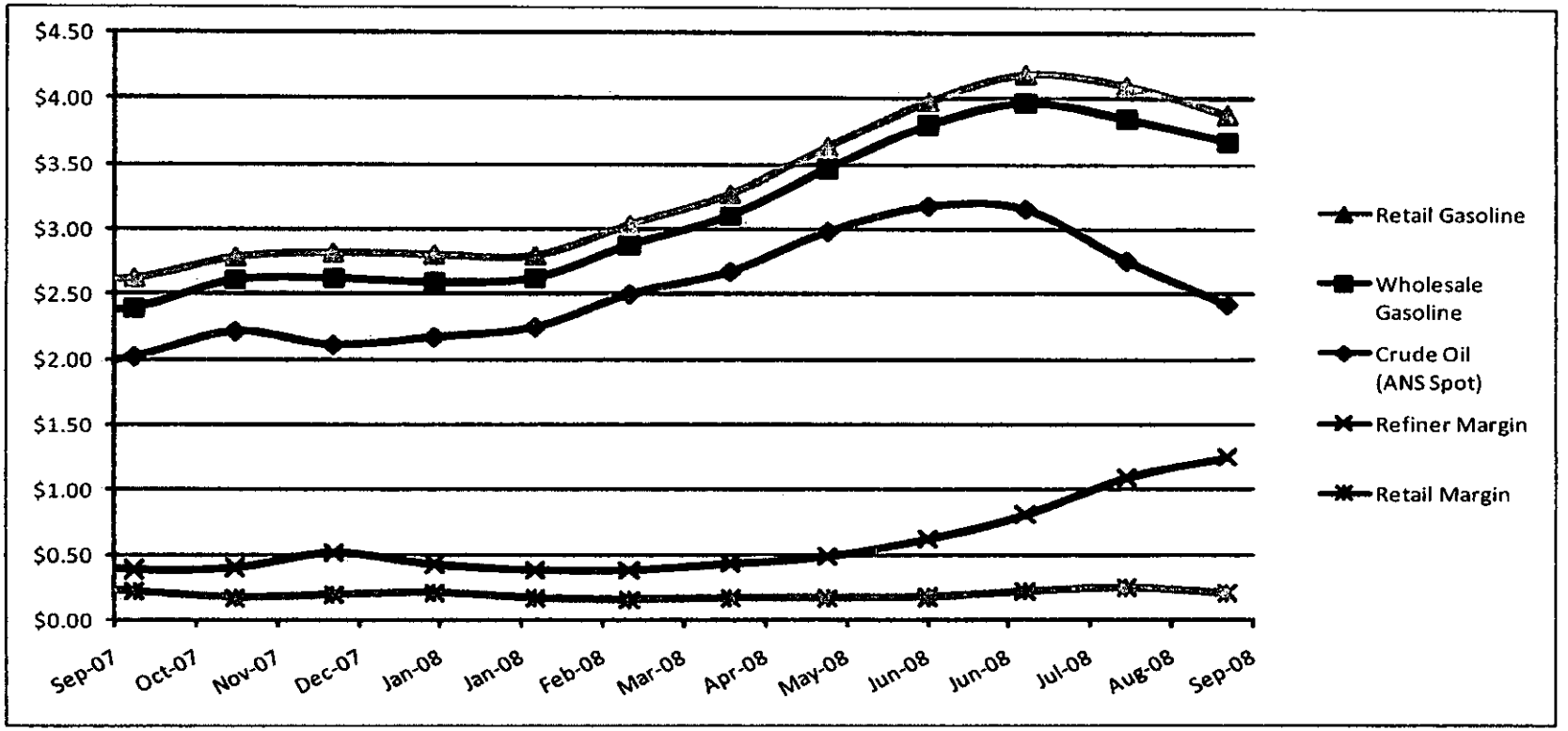
5/11/07

Figure 1: Selected Components of Alaska Gasoline Prices, September 2007 to September 2008



Notes: All dollar amounts are per gallon. We use the word "margin" to mean the proportion of gasoline costs attributable to a certain step in the process of bringing a gallon of gasoline to the retail market. In this context, only a percentage of the total margin is taken as profit.
1) "Retail Gasoline" is the average price of gasoline "at the pump" to end-users and include taxes;
2) "Wholesale Gasoline" is the average price of gasoline charged by Alaska refinters to resellers;
3) "ANS Spot" is the cost of Alaska North Slope crude oil on the commodity market. We calculated this cost by dividing the price per barrel by 42 (the number of gallons in a standard barrel);
4) "Refiner Margin" is refiner wholesale price minus ANS Spot prices;
5) "Retail Margin" is retail price minus wholesale price.
Sources: U.S. Department of Energy, Energy Information Administration, *http://www.eia.doe.gov/.* ; ANS Spot prices are from the Alaska Department of Revenue, Tax Division, *http://www.tax.state.ak.us/.*

STATE OF ALASKA

DEPARTMENT OF LAW

OFFICE OF THE ATTORNEY GENERAL

FRANK H. MURKOWSKI, GOVERNOR

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ANCHORAGE, ALASKA 99501-1994
PHONE: (907) 269-5255
FAX: (907) 279-8644

December 29, 2004

Ms. Rynnieva Moss
Office of Representative John Coghill
State Capitol, Room 204
Juneau, Alaska 99801-1182

Re: Studies regarding gasoline prices in Alaska by AG's office

Dear Ms. Moss:

You have requested that the Department of Law provide you with copies of any reports done regarding investigation of gasoline pricing in Alaska. I have located two such reports which are enclosed, one prepared by the Alaska Department of Law dated December 21, 2001 and entitled, "Alaska Petroleum Products Pricing Investigation: Update and Status," and the other also prepared by the Alaska Department of Law, dated November 21, 2002 entitled, "Alaska Petroleum Products Pricing Investigation: Closing Report." Please let me know if you have any further questions.

Sincerely,

GREGG D. RENKES
ATTORNEY GENERAL

By:

David W. Márquez
Chief Assistant Attorney General
Legislation and Regulations Section
Legislative Liaison

DWM:cb
cc: Gregg D. Renkes, Attorney General
Scott Nordstrand, Deputy Attorney General
Kevin Jardell, Director, Governor's Legislative Office

ALASKA PETROLEUM PRODUCTS PRICING INVESTIGATION:
UPDATE AND STATUS
Prepared by the Alaska Department of Law
December 21, 2001

Introduction

The Office of the Attorney General for the State of Alaska began an investigation of Alaska petroleum prices in 1999 by issuing Civil Investigative Demands to petroleum refiners and product distributors. The investigation was begun because of public complaints and inquiries to the Attorney General about the high price of gasoline in Alaska in comparison to other states. The purpose of the investigation is to determine whether Alaska petroleum product pricing is the product of illegal price fixing or other anticompetitive behavior in violation of state or federal statutes.

The Attorney General's investigation is ongoing. The Department of Law is reviewing the documents and data provided by the state's gasoline marketers. The Department of Law has not made a determination regarding whether there is sufficient evidence to warrant bringing an antitrust or other enforcement action.

Background

To bring an action under Section One of the Sherman Act (the federal antitrust law) or under AS 45.50 (Alaska's antitrust law), there must be evidence of an illegal agreement. This could be an actual written agreement, testimony, or other evidence of an agreement to fix prices, divide the market, or otherwise restrain competition.

Under existing law, the State of Alaska does not attempt to regulate wholesale or retail gasoline prices. A business is free to set its own price, but it is illegal for a business to collude with competitors to set prices.

The state has reviewed thousands of pages of documents, conducted interviews, and reviewed market data to determine whether there is direct evidence of an illegal agreement.

All material and data provided to the state in response to the civil investigative demands of the Attorney General are confidential by statute. AS 45.50.592(e). The following is a summary of the non-confidential portions of the analysis prepared by the department to date.

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Price Differences Between Alaska and the Lower 48

Retail prices of gasoline in Alaska have more closely followed prices in other West Coast states than prices in the rest of the U.S. Given Alaska's relative proximity to the West Coast, this probably is to be expected. Though Alaska's refineries supply much of the petroleum products required in the state, jet fuel, diesel, and gasoline have regularly been shipped from West Coast refineries to Alaska during the past decade. (Alaska's sources of supply for petroleum products are discussed in greater detail below.) In addition, gasoline and other products have been exported from Alaska to the West Coast. Because West Coast refineries are the closest alternative source of refined petroleum products outside Alaska, and because refined products move from Alaska to the West Coast, Alaska prices are influenced by West Coast prices.

Unfortunately, gasoline prices on the U.S. West Coast have, historically, been higher than prices in the rest of the U.S. Over the past seven years, the average retail price for gasoline, excluding taxes[1], on the West Coast has been 11 cents per gallon ("cpg") higher than the average retail price throughout the 50 states.

Concerns expressed by consumers and others about West Coast gasoline prices prompted the Federal Trade Commission ("FTC") to initiate an investigation. The FTC studied West Coast gasoline pricing practices for almost three years, but ultimately concluded that there was nothing unlawful about the manner in which West Coast wholesalers priced gasoline.

The FTC closed its West Coast investigation in May 2001. In doing so, it concluded that the West Coast has several important characteristics that set it apart from much of the rest of the U.S. gasoline market. One of the most important characteristics is the West Coast's relative distance from the Gulf Coast. The Gulf Coast is the largest refining center in the U.S. and an important source of supply of gasoline and other refined products. Refined products move to much of the U.S. from Gulf Coast refineries through a network of pipelines. There are no pipeline connections, however, between the Gulf Coast's refineries and the West Coast. This means that products like gasoline moving from the Gulf Coast's refineries to the West Coast must be shipped through the Panama Canal on marine tankers. This may explain in part why gasoline and other products refined on the West Coast command higher prices.

Unique product requirements, such as those imposed by the California Air Resources Board ("CARB"), also tend to raise the price of gasoline. In addition, there are a limited number of gasoline refiners and wholesalers on the West Coast, and all refiners and wholesalers do not compete in all metropolitan areas.

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[1] Retail gasoline prices at the pump include federal, state, and local taxes. Since Alaska has one of the lowest gasoline taxes in the nation, retail price comparisons understate the differences between prices in Alaska and elsewhere unless taxes are deducted.

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Apart from the CARB standards, the West Coast market characteristics identified above are also present in Alaska. Compared to the West Coast, however, Alaska is even more distant from Gulf Coast product markets, has fewer refiners, and has even greater wholesale market concentration. This may explain in part why Alaska prices tend, on average, to be higher than those in other western states.

Yet these market characteristics, by themselves, do not explain why the price difference between Alaska and the West Coast grew sharply between 1995 and 1998. During this period, Anchorage-area prices were on average 17 cpg above retail prices in the Seattle area, a level nearly double the 9 cpg difference seen in the prior four years. This is curious given that Alaska refiners produced more gasoline during this period than was consumed here, and exported the surplus to the West Coast and Far East at prices lower than those offered in Alaska. Beginning in 1999, however—after the Attorney General initiated this investigation—the spread narrowed dramatically. Between January 1999 and December 2000, Anchorage-area retail prices averaged just 3 cpg above Seattle-area retail prices.

Supply and Demand of Petroleum Products

In addition to gasoline, the other major petroleum products sold in Alaska are jet fuel and diesel (No. 2 heating oil and No. 2 diesel fuel). These products and gasoline constitute more than 95% of the total volume of petroleum products sold in the state.

The Tesoro and Williams refineries produce gasoline, jet fuel, and diesel. The PetroStar refinery produces jet fuel and diesel, but no gasoline.

The Williams refinery, near Fairbanks, and the PetroStar refineries, near Fairbanks and in Valdez, all take Alaska North Slope crude ("ANS") directly from the TAPS line. Both companies reinject the unrefined portion of ANS back into the TAPS line.

Alaska's current demand for refined petroleum products is approximately 100 thousand barrels per day (MBD), or 1.5 billion gallons per year. Jet fuel consumption is just over 60 MBD, accounting for a little more than 60% of total demand for refined product in the state. Consumption of diesel and gasoline in Alaska runs approximately 16 MBD, or 245 million gallons per year, for each product.

More gasoline is produced in Alaska than is consumed. The excess is exported to the West Coast and foreign destinations. Nevertheless, gasoline, diesel, and jet fuel are barged into southeastern Alaska from Seattle-area refineries.

Historically, Alaska's refineries have not produced enough jet and diesel fuel to supply the state. These products are imported from the Far East or the West Coast.

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Tesoro's refinery supplies the majority of gasoline consumed in Alaska, but Williams supplies most of the gasoline sold in Fairbanks and interior Alaska. Williams also ships gasoline and jet fuel by rail to Anchorage.

The Anchorage metropolitan area accounts for about 60% of the state's retail gasoline sales while Fairbanks, Juneau, the Kenai Peninsula, and Western Alaska account for roughly 10% of retail sales each. There are approximately 300 service stations in Alaska. About one-third of Alaska's 300 retail gasoline stations are located in the Anchorage area. The average retail station in Anchorage is larger and sells much higher volumes than stations in the rest of the state.

Alaska's Gasoline Industry Is Highly Concentrated

Williams, Tesoro, Chevron, and Texaco[2] account for the vast majority of gasoline marketed in Alaska. The state's two gasoline refiners, Williams and Tesoro, were also its largest gasoline marketers, accounting for nearly 65% of Anchorage-area sales between them in 1999. Chevron and Texaco accounted for approximately 32% of Anchorage volumes. These same four marketers have accounted for nearly all of Alaska's gasoline sales over the past decade.

For purposes of analyzing competition within a market, the U.S. Justice Department and the Federal Trade Commission categorize markets into the following three groups: Unconcentrated, Moderately Concentrated, Highly Concentrated. Alaska's gasoline industry is Highly Concentrated at both the refining and wholesale distribution levels. Wholesale gasoline markets in Alaska are more concentrated than in most other wholesale gasoline markets in the U.S. and on the West Coast. Analysis of the available market share data shows that with the exception of the southeast part of the state, concentration levels are much higher in regions outside of Anchorage.

Competition, Oligopoly, and Illegal Behavior

Unconcentrated markets are characterized by a large number of sellers offering the same or similar products to consumers who can shop for the best value. Unconcentrated markets are generally assumed to be competitive. The more sellers, the more likely competition will thrive. In a competitive situation, no single seller has market power; the

[2] Since the late 1990's, in the West and Midwest, Texaco brand gasoline has been marketed by Equilon, a joint venture between Texaco and Shell. As a condition to approving the recent merger of Chevron and Texaco, Alaska, other states, and the Federal Trade Commission required Texaco to divest its interest in Equilon to Shell or another buyer. Therefore, the Chevron-Texaco merger should not reduce competition in the Alaska gasoline market.

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power to influence prices in the market on its own. Also where there are many sellers, it is difficult for sellers to coordinate their behavior or agree to volume or price restrictions without being detected.

In a competitive market, sellers are motivated to lower their prices in order to increase their sales, while buyers are motivated to seek out the best deal. Prices will tend to drop over time until they are close to sellers' costs. If prices begin to rise above costs, sellers will try to take advantage of the opportunity to increase profits by making more of the product available in the market. This increase in supply will in turn drive prices down to the point where they again are close to the sellers' costs. If prices fall to a level that does not cover sellers' costs, some sellers will go out of business. Those that are left will offer less of the product until prices start to increase again.

On the other end of the spectrum are highly concentrated markets, where there are relatively few sellers of a particular product. Economists call such a market an "oligopoly." Oligopolies do not always lead to higher prices, however. Prices in an oligopoly can be competitive even when there are very few sellers if, for example, potential new sellers are ready, willing, and able to enter the market in the event of even a small increase in price. In this situation, the threat of additional competition may tend to keep prices low. However, if there are relatively high costs associated with entering a market (entry barriers), existing sellers may be able to increase prices without much concern about attracting new competition.

When there are few sellers in a market, it is, presumably, easier for each to observe how its competitors react to decisions regarding output and prices, and each may take into account the potential impact of its own actions on market prices and the potential responses from other sellers. This type of competitive behavior, which is dependent in part on the expected actions or reactions of other sellers, is often referred to as "oligopolistic pricing" or "oligopolistic interdependence." In this environment, it is easy for sellers to develop a "live and let live" attitude toward their rivals that would not be possible to maintain in a competitive market. As a result, oligopolistic behavior can result in prices that are above competitive levels over extended periods of time.[3]

This type of interdependent behavior on the part of sellers is not generally regarded as a violation of antitrust laws so long as each business develops and implements its pricing and output decisions independently. That is, in determining what volumes to produce or what prices to offer, businesses can incorporate their expectations about a rival's likely reactions as long as those expectations are developed independently and without the aid of other sellers. If the sellers communicate about price setting or enter into

[3] Not all economists agree with this theory, and some would require empirical evidence supporting the theory before considering it valid for a particular market. In any event, whether higher-than-competitive prices in a market can be explained by oligopolistic interdependence is highly dependent on the facts.

an agreement that affects prices, it is considered collusion and a violation of the antitrust laws.

Economists believe collusion is more likely when certain conditions are present in a market, especially in markets for a relatively homogenous product like gasoline. These conditions include (1) the presence of only a few sellers (oligopoly), (2) inelastic demand, (3) relatively static or declining demand over time, (4) easy detection of sales by competitors, (5) price visibility, (6) difficulty of entry by potential new competitors, (7) frequent contact between sellers, and (8) few "fringe" or smaller sellers. All of these conditions are present in Alaska. But their presence, together with gas prices higher than one would expect in a competitive market, do not in themselves constitute a legal basis for an antitrust enforcement action. There must also be evidence of an illegal agreement or evidence that would allow the inference of such an agreement.

Additional Information on the Investigation

The companies have recently finished producing documents to the state. The state is in the process of reviewing and analyzing those documents to determine whether any laws or regulations have been violated.

Under Alaska's antitrust law, many aspects of this case are to be kept confidential. In particular, documents and their contents provided to the state in response to the Civil Investigative Demands (CIDs) issued by the Office of the Attorney General are to be kept confidential in the absence of a court order authorizing their disclosure to the public. AS 45.50.592(e). Such an order might be requested by the state if the investigation leads to an enforcement action. If the state finds no evidence of a violation of the antitrust laws, CID information may not be disclosed to the public in the absence of express authorization by the firm that provided the documents. AS 45.50.592(e). Because of the lawsuits filed against the state by some of the companies being investigated, court pleadings have been filed in the public record that contain some information about the investigation that would normally not be available to the public.

The state's initial CIDs were served upon several dealers of wholesale petroleum products in June, July, and August of 1999. Shortly thereafter, Tesoro, Chevron, and Texaco filed suit in Alaska Superior Court in Anchorage protesting the scope of the CID questions and the state's intended use of the produced documents. Those cases were consolidated under case number 3AN-99-8544CI. In an order issued October 7, 1999, the Superior Court upheld the propriety of the CIDs, with minor modification to a small number of questions, and the right of the state to share the documents with contract counsel without permission of the producing companies.

On October 13, 1999, Tesoro filed an appeal of the Superior Court's decision in the Alaska Supreme Court (Case No. S9379). Tesoro appealed both the scope of the CIDs and the state's right to share documents with contract counsel. The Alaska Supreme Court heard oral argument on November 15, 2000, but has yet to issue a decision.

The initial petition filed by Tesoro in the Superior Court explains Tesoro's contentions with respect to the scope of the CID. The CID, attached to the petition as an exhibit, lists the issues being examined by the Department of Law. Likewise, the state's opposition to Tesoro's petition outlines the issues that are the focus of the CID. The state's brief in the Alaska Supreme Court analyzes the issues being pursued and gives a brief history of the case proceedings. These documents are available at the state court clerk's office in Anchorage.

Other Resources

Interested persons may obtain gasoline pricing information from a number of sources on the Internet. The Energy Information Agency of the Federal Department of Energy tracks petroleum-related information nationwide. It compiles retail and wholesale gasoline pricing data and maintains reference documents about petroleum economics and various aspects of the energy markets:
http://www.eia.doe.gov

There is information on average wholesale prices at:
http://www.eia.doe.gov/pub/oil_gas/petroleum/data_publications/petroleum_marketing_monthly/current_pdf/pmmtab35.pdf

The following article discusses the reasons that West Coast prices tend to be higher than those in the rest of the country:
http://www.eia.doe.gov/pub/oil_gas/petroleum/presentations/2001/senate_testimony_0501/index.html

The following article explains the many factors influencing the costs of refining:
http://www.eia.doe.gov/emeu/finance/usiR/refdowpstrctu/index.html

In August 2001, the Federal Trade Commission conducted a hearing regarding factors influencing the price of refined petroleum products. Testimony and information regarding that hearing can be found at:
http://www.ftc.gov/bc/gasconf/

The American Automobile Association publishes daily average gasoline prices at:
http://www.fuelgaugereport.com

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ALASKA PETROLEUM PRODUCTS PRICING INVESTIGATION:

CLOSING REPORT

Prepared by the Alaska Department of Law

November 21, 2002

Introduction

At my direction, the Alaska Department of Law conducted an extensive three-year investigation into the pricing of petroleum products in Alaska. The investigation was initiated in 1999 in response to public complaints about the high price of gasoline in Alaska in comparison to other states. I am closing the investigation because there is insufficient evidence indicating a violation of the antitrust laws.

Conditions Prompting the Investigation

Historically, the price of gasoline on the West Coast of the United States averaged 11 cents per gallon (cpg) higher than the average retail price throughout the 50 states, excluding taxes,[1] and the price of gasoline in Alaska has tended to be higher than the price of gasoline on the West Coast by about 9 cpg. Between 1995 and 1998, however, gasoline prices in Alaska were as much as 17 cpg higher than West Coast prices. This was the impetus for the investigation. Immediately after I initiated the investigation, beginning in 1999, the spread between prices in Alaska and the West Coast narrowed dramatically, more closely tracking the historical spread between Alaska and the other states.

Legal Standards

In order to establish a violation of Alaska's antitrust statute, AS 45.50.562 and AS 45.50.564 (or the comparable federal law), there must be evidence that two or more companies entered into an express or "tacit" agreement to fix petroleum prices. A showing that companies charged prices in excess of the competitive level, or raised and lowered prices in a parallel fashion, is not enough to establish the existence of a tacit agreement. Instead, evidence of uniform pricing must be accompanied by additional evidence demonstrating that two or more parties had a "meeting of the minds" to engage in cooperative pricing behavior, such as: (1) actions contrary to an entity's independent economic interests; (2) departure from normal business practices; (3) motive to conspire; (4) opportunity to conspire; (5) high level of inter-company communications; and (6) past antitrust violations involving collective action.[2]

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[1] Retail gasoline prices at the pump include federal, state, and local taxes. Since Alaska has one of the lowest gasoline taxes in the nation, retail price comparisons understate the differences between prices in Alaska and elsewhere unless taxes are deducted.

[2] *See, In re Baby Food Litigation*, 166 F.2d 112, 122 (3d Cir. 1999) (proof of plus factors is a "prerequisite to finding that parallel action amounts to a conspiracy").

The Investigation

The investigation began in the summer of 1999 when my staff issued Civil Investigative Demands (CIDs) to refiners and distributors of petroleum products in the state. Hundreds of boxes of documents were produced in response to the demands. The investigation involved the review of thousands of pages of internal company documents, detailed analysis of pricing data, interviews of witnesses and potential witnesses, and formal depositions of several current and former oil company employees and executives.

Findings

My staff provided a summary of the investigation in a report entitled "Alaska Petroleum Price Fixing Investigation: Update and Status," December 21, 2001, http://www.law.state.ak.us/civil/oil-gas-mining/AKPPPI-1a_final.pdf. That report describes the economic conditions and market forces present in Alaska that affect the pricing of petroleum products. All of the information and data provided to me in response to the CIDs is, by statute, confidential. AS 45.50.592(e).

The investigation found that Alaska's gasoline industry is highly concentrated, in that four marketers accounted for the vast majority of gasoline sales during the relevant time period. When there are few sellers in a market, like Alaska, it is easier for them to observe how competitors react to decisions regarding output and prices, and each may take into account the potential impact of its own actions on market prices and the potential responses from other sellers. This type of interdependent behavior on the part of sellers often leads to parallel pricing, but that is not, in the absence of an express or implied agreement to set prices, a violation of the antitrust laws so long as each business develops and implements its pricing and output decisions independently. The investigation has not produced evidence of an express or implied agreement to set prices or to otherwise violate antitrust laws.

For the reasons set forth above, I am closing this investigation without further action. However, I expect the Department of Law to continue to monitor gasoline prices in Alaska.

Justin Powell
1075 Trianon Dr.
Fairbanks, Alaska

Testimony to Energy Committee on SB54
February 12, 2009

I imagine that all members of this committee have read the House Judiciary Committee's report on gas prices. In my testimony today I want to point our several omissions from the report that dramatically effect the conclusion the committee chair has reached.

The burden that high gas prices have on Alaska residents is real and our prices over the last year are unjustified. Gasoline, diesel and heating oil are not a luxury items that households can simple go without. In the winter, heating oil is literally a life and death matter. High energy prices have a ripple effect through the economy as every resident pays for our higher fuel costs several times over.

We have been paying over a dollar a gallon at the gas pump and this has been a highly visible and contentious issue. What is less obvious is that we then pay again in increase freight costs for food, clothing and retail products. We pay more to heat our homes and then in turn have to pay more for goods and services as businesses are forced to pass on their additional energy costs.

Lacking from the judicial committee report was quantitative information. Based upon the latest published information, the annual gasoline consumption in Alaska is 285 million gallons[1]. At a conservative estimate of $.80 cents over Seattle prices Alaska consumers are paying an additional $230 million dollars a year for gasoline alone. This is money that leaves our state and provides us no direct or indirect benefit.

The house judiciary committee report concluded that our gas prices are basically subsidizing jet fuel to keep Alaska's airline industry profitable. Unfortunately these findings were based on intuition rather than fact. As I just stated, Alaska's gas market is 285 million gallons annually. The jet market on the other hand is over four times this volume at 1.3 billion gallons annually[2]. If the extra $230 million dollars that Alaskans are paying was added to the cost of jet fuel it would raise the price by only 4.6 cents a gallon or 2%.

It is hard to reach the conclusion that 4.6 cents would bring an end to the Alaska airline industry. The report stated that refiners in Alaska do not base their gas prices on their cost but rather base the price on market conditions. The same holds true for the airline industry. Airline fares often cost double or more for endpoint within Alaska compared to fares in the lower 48. This is not a function of increased costs, but rather lack of competition. Even if fares did increase to cover the added 4 cents, at least then the cost would be born by the users of the service and not by all Alaskans.

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[1] U.S. Energy Information Administration 2006 report, Consumption of 6,789 thousand barrels of gasoline.
[2] U.S, Energy Information Administration 2006 report, Consumption of 31,747 thousand barrels of jet fuel.

The report also said that Ft. Greely, Eielson and Ft. Wainwright would be impacted and potential shut down by any potential legislation. It is far flung to conclude that the military would sacrifice our national defense for 4.6 cents per gallon. Additionally, the prime supplier for all military installations in Alaska is the Petrostar refinery who would be exempt under section (f) of this bill.

In conclusion I feel that lower gas prices would have a positive effect on our economy and that the benefits far outweigh the potential impacts to the airline industry. Industries such as fishing, tourism, recreation and ground transportation are no less important than air transportation. The $230 million dollars extra we are currently paying at the pump would be spent within the state, benefiting Alaska's economy, rather than large airline corporations..

26-LS0209\S
Chenoweth
3/10/09

CS FOR SENATE BILL NO. 54( )

IN THE LEGISLATURE OF THE STATE OF ALASKA

TWENTY-SIXTH LEGISLATURE - FIRST SESSION

BY

Offered:
Referred:

Sponsor(s): SENATORS WIELECHOWSKI, ELLIS AND FRENCH, Thomas

A BILL

FOR AN ACT ENTITLED

"An Act making sales of and offers to sell certain energy resources by a refiner at prices that are exorbitant or excessive an unlawful act or practice under the Alaska Unfair Trade Practices and Consumer Protection Act."

BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF ALASKA:

*** Section 1.** AS 45.50.471(b) is amended by adding a new paragraph to read:

(56) violating AS 45.50.483 (sales of certain energy resources by refiners).

*** Sec. 2.** AS 45.50 is amended by adding a new section to read:

Sec. 45.50.483. Sales of certain energy resources by Alaska refiners. (a) A refiner may not sell or offer to sell an energy resource at a price that is exorbitant or excessive.

(b) The provisions of this section apply only to sales of

(1) motor fuel used in an engine for the propulsion of a motor vehicle, as that term is defined in AS 28.90.990, or an aircraft;

(2) fuel for space heating; and

(3) diesel fuel.

(c) If the attorney general believes that a refiner has engaged in or is engaging in a violation of (a) of this section, the attorney general shall initiate an investigation under AS 45.50.495.

(d) Notwithstanding the penalties authorized by AS 45.50.551, the attorney general may recover, on behalf of the state, a civil penalty of not less than the greater of

(1) 10 times the economic benefit obtained by the refiner through the refiner's conduct that violated or violates this section; or

(2) $50,000,000.

(e) In this section, "refiner" means a company, corporation, or individual who owns or controls, or controls through a substantially owned subsidiary, partnership, or joint venture, a refinery used for the production of an energy resource described in (b) of this section having total annual sales that exceed 1,000,000 gallons of all of those energy resources.

26-LS0209\T
Chenoweth
3/17/09

CS FOR SENATE BILL NO. 54( )

IN THE LEGISLATURE OF THE STATE OF ALASKA

TWENTY-SIXTH LEGISLATURE - FIRST SESSION

BY

Offered:
Referred:

Sponsor(s): SENATORS WIELECHOWSKI, ELLIS, AND FRENCH, Thomas

A BILL

FOR AN ACT ENTITLED

"An Act making sales of and offers to sell certain energy resources at prices that are exorbitant or excessive an unlawful act or practice under the Alaska Unfair Trade Practices and Consumer Protection Act."

BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF ALASKA:

*** Section 1.** AS 45.50.471(b) is amended by adding a new paragraph to read:

(56) violating AS 45.50.483 (sales of certain energy resources by refiners, distributors, and retailers).

*** Sec. 2.** AS 45.50 is amended by adding a new section to read:

Sec. 45.50.483. Sales of certain energy resources by Alaska refiners, distributors, and retailers. (a) A refiner, distributor, or retailer may not sell or offer to sell an energy resource described in (b) of this section at a price that is exorbitant or excessive.

(b) The provisions of this section apply only to sales of

(1) motor fuel used in an engine for the propulsion of a motor vehicle,

as that term is defined in AS 28.90.990, or an aircraft;

(2) fuel for space heating; and

(3) diesel fuel.

(c) If the attorney general believes that a refiner, distributor, or retailer has engaged in or is engaging in a violation of (a) of this section, the attorney general shall initiate an investigation under AS 45.50.495.

(d) In addition to the civil penalties authorized by AS 45.50.551, the attorney general may recover, on behalf of the state, a civil penalty of not less than 10 times the economic benefit obtained by the refiner, distributor, or retailer through the conduct of the refiner, distributor, or retailer that violated or violates this section.

(e) Only the attorney general may bring an action to enforce this section. In an action to enforce this section in which the attorney general is the prevailing party, the attorney general may recover attorney fees and costs as authorized by AS 45.50.537(d). The provisions of AS 45.50.531 and 45.50.535 do not apply to authorize a person

(1) who suffers an ascertainable loss of money or property as a result of the act of a refiner, distributor, or retailer declared unlawful by this section to bring a civil action to recover for each unlawful act; or

(2) who was the victim of an unlawful act under this section, whether or not the person suffered actual damages, to bring an action to obtain an injunction prohibiting the refiner, distributor, or retailer from continuing to engage in the act that is made unlawful by this section.

(f) In an action to enforce this section, a refiner, distributor, or retailer has the right to submit evidence that the price charged by the refiner, distributor, or retailer that is alleged to be exorbitant or excessive was attributable to additional reasonable costs incurred in connection with the sale of the energy resource by the refiner, distributor, or retailer.

(g) In this section,

(1) "distributor" means a person or corporation other than a refiner who is engaged in the sale, assignment, or distribution of an energy resource described in (b) of this section to one or more retailers for sale through retail outlets;

(2) "refiner" means a company, corporation, or individual who owns or controls, or controls through a substantially owned subsidiary, partnership, or joint venture, a refinery used for the production of an energy resource described in (b) of this section having total annual sales that exceed 1,000,000 gallons of all of those energy resources;

(3) "retailer" means a person in the state who is engaged in the business of selling at retail an energy resource described in (b) of this section.

FISCAL NOTE

STATE OF ALASKA
2009 LEGISLATIVE SESSION

Fiscal Note Number: 1
Bill Version: **CSSB 54(ENE)**
(S) Publish Date: 3/16/09

Identifier (file name): SB054-LAW-CIV-2-11-09
Dept. Affected: LAW
Title: An Act related to refiner price gouging for motor fuel, diesel, and heating fuels.
RDU: CIVIL
Component: COMMERCIAL & FAIR BUSINESS
Sponsor: Senator(s) Wielechowski, Ellis, French, Thomas
Requester: ENE
Component Number: 2717

Expenditures/Revenues (Thousands of Dollars)

Note: Amounts do not include inflation unless otherwise noted below.

	Appropriation Required	Information					
OPERATING EXPENDITURES	**FY 2010**	**FY 2010**	**FY 2011**	**FY 2012**	**FY 2013**	**FY 2014**	**FY 2015**
Personal Services							
Travel							
Contractual							
Supplies							
Equipment							
Land & Structures							
Grants & Claims							
Miscellaneous							
TOTAL OPERATING	***	***	***	***	***	***	***
CAPITAL EXPENDITURES							
CHANGE IN REVENUES ( )							

FUND SOURCE (Thousands of Dollars)

1002 Federal Receipts							
1003 GF Match							
1004 GF							
1005 GF/Program Receipts							
1037 GF/Mental Health							
Other Interagency Receipts							
TOTAL	***	***	***	***	***	***	***

Estimate of any current year (FY2009) cost: _____

POSITIONS

Full-time							
Part-time							
Temporary							

ANALYSIS: *(Attach a separate page if necessary)*

See attached page...

Prepared by: Robert Meiners, Deputy Director — Phone 907.465.5427
Division: Administrative Services Division — Date/Time 1/31/09 11:00 AM
Approved by: Talis Colberg, Attorney General — Date 1/31/2009
Department of Law

(Revised 9/10/2008 OMB)

STATE OF ALASKA
2009 LEGISLATIVE SESSION

BILL NO. CSSB 54(ENE)

ANALYSIS CONTINUATION

SB 54 amends AS 45.50 to add a new section that prohibits a refiner from selling an energy resource at a price that is exorbitant or excessive. The bill only applies to motor fuel, diesel, and heating fuel. Violations of this law would become violations of the consumer protection act, and enforceable by the attorney general. The bill requires the attorney general to initiate an investigation upon belief that a refiner has engaged in a violation of the statute. Penalties under the statute are set at 10 times the economic benefit obtained through the refiner's conduct, or $50 million, whichever is greater.

Because it is difficult to predict when a refiner may be engaging in illegal conduct under this bill, the resources necessary to investigate and enforce this bill is unknown. The two recent gasoline pricing investigations undertaken by the attorney general required significant time and resources, including the retention of an expert economist. Petroleum pricing investigations take several months if not years. The most recent investigation spanned five months, and required a contract with an economic expert for $250,000. The prior investigation took three years, and significant resources, including retention of economic experts.

Accordingly, the fiscal impact of this legislation on the department of law is indeterminate, and would depend on the number of investigations required.

SB 58

SENATE COMMITTEE REPORT

DATE: 3/3/09

FURTHER:

DATE TURNED IN TO OFFICE: _____

Resources Committee considered SENATE BILL NO. 58

SB 58 MARMOT DAY

"An Act establishing February 2 of each year as Marmot Day; and providing for an effective date."

and recommends:

[ ] be **replaced** with [ ] **SCS** or [ ] **CS** _____ (_____)

[ ] adopt **previous** [ ] **SCS** or [ ] **CS** _____ (_____)

[ ] attached amendment(s)

[ ] adopt _____ Letter of Intent

[ ] further referral to _____ Committee

SENATE BILL:
[ ] Same Title
[ ] New Title

HOUSE BILL:
[ ] Same Title
[ ] Technical Title Change
[ ] New Title w/ SCR #_____

NEW FISCAL NOTE(S):

Department	Date	Fiscal	Indet	Zero	FN#

PREVIOUS FISCAL NOTE(S):

Department	Date	Fiscal	Indet	Zero	FN#
ALL	3/3			✓	1

[ ] **APPROPRIATION - no fiscal note**

SIGNATURES AND RECOMMENDATIONS:	PRINTED LAST NAME	DO PASS	DO NOT PASS	NO REC	AMEND
Thomas W. Wagoner	WAGONER			✓	
	FERVO			X	
			✓		
CO-CHAIR:	MCBRIDE	✓			
CO-CHAIR:	WIELECHOWSKI			✓	

2909

Senator Linda Menard

State Capitol, Room 9
Juneau, Alaska 99801

Phone: (907) 465-6600
Fax: (907) 465-3805

Alaska State Legislature

Sponsor Statement for SB 58

Senate Bill 58, an act establishing February 2nd of each year as Marmot Day, will create a localized, Alaska version of Groundhog Day.

While many people in the Lower 48 spend every February 2nd honoring Punxsutawney Phil, or some other incarnation of the famous groundhog, Alaska residents don't have the same representation.

The Marmot Day bill (SB 58) solves that, giving school children, public institutions and even adults the opportunity to use a local hire (the marmot) as their symbol.

Marmot Day can be celebrated in myriad ways, from special events at the Alaska Zoo to school celebrations with an educational angle so children can learn more about Alaska's furry ground squirrel.

Already, the Marmot Day bill has received support from the Alaska Zoo and the Mat-Su Borough School District.

I hope you will also support the Marmot Day bill.

FISCAL NOTE

STATE OF ALASKA
2009 LEGISLATIVE SESSION

Fiscal Note Number:
Bill Version: SB 58
() Publish Date:

Identifier (file name): HB019-GOV-OMB-3-02-09
Dept. Affected: All
Title: Establishing February 2 as Marmot Day
RDU
Component
Sponsor: Sen. Menard
Requester: Senate State Affairs Committee
Component Number

Expenditures/Revenues (Thousands of Dollars)

Note: Amounts do not include inflation unless otherwise noted below.

	Appropriation Required	Information					
OPERATING EXPENDITURES	**FY 2010**	**FY 2010**	**FY 2011**	**FY 2012**	**FY 2013**	**FY 2014**	**FY 2015**
Personal Services							
Travel							
Contractual							
Supplies							
Equipment							
Land & Structures							
Grants & Claims							
Miscellaneous							
TOTAL OPERATING	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
CAPITAL EXPENDITURES							
CHANGE IN REVENUES ( )							

FUND SOURCE (Thousands of Dollars)

1002 Federal Receipts							
1003 GF Match							
1004 GF							
1005 GF/Program Receipts							
1037 GF/Mental Health							
Other Interagency Receipts							
TOTAL	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**

Estimate of any current year (FY2009) cost:

POSITIONS

Full-time							
Part-time							
Temporary							

ANALYSIS: *(Attach a separate page if necessary)*

After burrowing into the details of this legislation, we have determined that the bill will not have a significant fiscal impact on any State agency.

Prepared by: Jack Kreinheder, Senior Analyst — Phone 465-4676
Division: Office of Management and Budget — Date/Time 3/2/09 11:45 AM
Approved by: Karen Rehfeld, Director — Date 3/2/2009
Office of Management and Budget

Marmot

From Wikipedia, the free encyclopedia

Marmots are members of the genus ***Marmota***, in the rodent family Sciuridae (squirrels).

Marmots are generally large ground squirrels. Those most often referred to as marmots tend to live in mountainous areas such as the Alps, northern Apennines, Carpathians, Tatra, and Pyrenees in Europe, the Rockies and the Sierra Nevada in the United States, and Northern Canada. However, the groundhog is also properly called a marmot, while the similarly-sized but more social prairie dog is not classified in the genus *Marmota* but in the related genus *Cynomys*.

Marmots typically live in burrows, and hibernate there through the winter. Most marmots are highly social, and use loud whistles to communicate with one another, especially when alarmed.

The name *marmot* comes from French *marmotte*, from Old French *marmotan, marmontaine*, from Old Franco-Provençal, from Low Latin *mures montani* "mountain mouse", from Latin *mures monti*, from Classical Latin *mures alpini* "Alps mouse".

Marmots mainly eat greens. They eat many types of grasses, berries, lichens, mosses, roots and flowers.

Contents

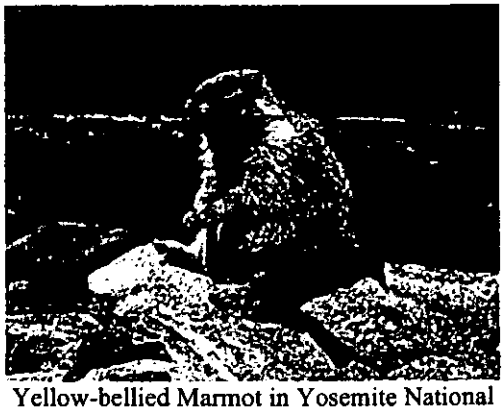
- 1 Species
- 2 Examples of species
- 3 References
- 4 External links

Species

The following is a list of all *Marmota* species recognized by Thorington and Hoffman (2005). They divide marmots into two subgenera.

- **Genus Marmota - marmots**
  - Subgenus *Marmota*
    - Alpine Marmot *Marmota marmota* found only in Europe in the Alps, northern

Marmot
Fossil range: Late Miocene - Recent



Yellow-bellied Marmot in Yosemite National Park

Scientific classification

Kingdom:	Animalia
Phylum:	Chordata
Class:	Mammalia
Order:	Rodentia
Family:	Sciuridae
Subfamily:	Xerinae
Tribe:	Marmotini
Genus:	***Marmota*** Blumenbach, 1779

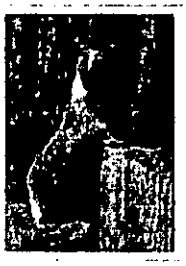
Species

Marmota baibacina
Marmota bobak
Marmota broweri
Marmota caligata
Marmota camtschatica
Marmota caudata
Marmota flaviventris
Marmota himalayana
Marmota marmota
Marmota menzbieri
Marmota monax
Marmota olympus
Marmota sibirica
Marmota vancouverensis

Apennines in Italy, Carpathians, Tatra, and reintroduced in the Pyrenees.
- Gray Marmot or Altai Marmot *Marmota baibacina* Siberia
- Bobak Marmot *Marmota bobak* Central Europe to Central Asia
- Alaska Marmot, Brower's Marmot or Brooks Range Marmot *Marmota broweri* Nearctic
- Black-capped Marmot *Marmota camtschatica* Eastern Siberia
- Long-tailed Marmot, Golden Marmot or Red Marmot *Marmota caudata* Central Asia
- Himalayan marmot or Tibetan Snow Pig *Marmota himalayana* Himalaya
- Menzbier's Marmot *Marmota menzbieri* Central Asia
- Woodchuck, Groundhog, or Whistlepig *Marmota monax* North America
- Tarbagan Marmot, Mongolian Marmot or Tarvaga *Marmota sibirica*, Siberia

- Subgenus *Petromarmota*
  - Hoary Marmot *Marmota caligata* Northwestern North America
  - Yellow-bellied Marmot *Marmota flaviventris* South western Canada, Western United States
  - Olympic Marmot *Marmota olympus* Olympic Peninsula, Washington, USA
  - Vancouver Island Marmot *Marmota vancouverensis* Vancouver Island, British Columbia, Canada

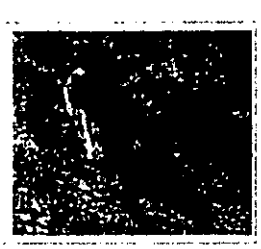
Examples of species



A Yellow-bellied Marmot near Princeton, British Columbia

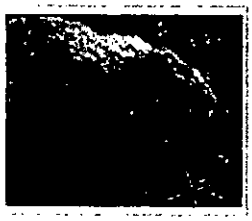
Groundhog, *Marmota monax*

A Hoary Marmot in Mt. Rainier National Park



Alpine Marmot in the Massif des Écrins, southern France.

drawing of Bobak Marmot



Olympic Marmot

Video of adult marmot

Marmot Day

From Wikipedia, the free encyclopedia

Marmot Day is a community celebration in Owosso, Michigan, occurring on July 25th (or on the following Monday if the 25th falls on a weekend). It is a celebration of all marmots, which include groundhogs, woodchucks, and ground squirrels.

Confusion with Groundhog Day

Because groundhogs are also marmots, Groundhog Day (which occurs on February 2) has also been referred to as Marmot Day[1]. The Owosso celebration is a distinct event.

History of Marmot Day

Marmot Day was begun in 2002 in Owosso, Michigan, as a day of celebration for this animal which is usually considered as a pest. A luncheon is traditional as part of the celebration, and marmot jokes are also shared, among other festivities typical of any party or celebration. At 12:45 P.M., a marmot is positioned outside its hole, and if it goes into its hole, legend has it that summer is over; if it does not go into its hole, there will be one more month of summer.

Retrieved from "http://en.wikipedia.org/wiki/Marmot_Day"
Hidden categories: Orphaned articles from February 2009 | All orphaned articles

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Menard mad about marmot

By BRIAN O'DONOGHUE
Frontiersman staff

JUNEAU—A nefarious conspiracy is afoot among powerful members of the Legislature to deny a noble Alaskan its day in the sun.

Because of the conspiracy, Rep. Curt Menard said, next Tuesday the eyes of the nation will once again be drawn to a hole in Pennsylvania, instead of gazing with wonder at the Alaska Zoo.

"It's a disgrace to tourism," the representative declared over the phone from the state capital this week.

Menard's anguish stems from the Byzantine political fate of House Bill 181, his bold legislation to replace Groundhog Day with an occasion honoring an official state marmot.

House speaker Ben Grussendorf confirmed Menard's dire forecast.

"I don't think we're going to see the marmot's shadow out of committee and onto the floor by the time Groundhog Day rolls around," the speaker said.

Though he originally banished the bill to four committees, Grussendorf denied he is part of a crusade to deny marmots their due.

(Please see Marmot Back Page)

Marmot

(Continued from Front Page)

"I look at what we call local hire, or Alaska preference, and the marmot may well serve that purpose," he said. "I've no personal preference on it. If the bill comes out of committee it's fine with me."

Marmots living this far north are seldom seen this time of year, according to Alaska Zoo director Fammye Seawell. However, Smoke Alarm, the Zoo's senior hoary marmot, is apparently an exception.

"Every few weeks Smoke Alarm sticks his nose out," the zoo director said.

Groundskeepers say Smoke Alarm's restlessness is a matter of personal hygiene. In the halls of the Statehouse, however, the consensus holds the furry weathervane is actually sniffing out the political situation.

Pressed to explain the legislative logjam, Grussendorf shook his head.

"There's no leverage in the Marmot Bill," he said.

Nonetheless, this much is clear: Rep. John Sund is holding official recognition for Smoke Alarm hostage in his Judiciary Committee.

"We call it the dark hole," Menard said. "There's not a whole lot that comes out of that committee. I've talked to John a couple time about moving it. But he's not too big on the poor little critter."

So, I don't think the marmot's going to stick it's head out of the hole," Menard said, chuckling. "I think the speaker's right."

A lot of ribbing goes on about the Marmot Bill, but Menard said he takes it in stride.

"A lot of them are saying it's a joke thing, but there's a long-term value in terms of tourism. I thought it would give some promotion to the zoo. There's a town in Penn where the official Groundhog lives. They built a big tourist industry on that critter alone, selling shirts and all kinds of knickknacks. People go there for souvenirs.

"We always say we're different," he added. "If we're going to be different we don't have to drag all these traditional things up from the Lower 48."

Marmot Day: This is especially beneficial to the valley. Our community is sadled with a lot of embarrasing stereotypes (meth capitol of the state, etc.), which cause young people especially to be disrespectful of our community. Marmots are local and have been here all along; recoginzing their value with Marmot Day shows that we in the Valley have some local pride. Without that, it's impossible to maintain a sense of community identity.

Growing up in the Valley, I knew that our strip malls and box stores were nothing special. Independence Mine at Hatcher Pass, populated by marmots, is special. Marmot Day draws attention to the rich cultural resources preserved at Independence Mine and throughout the Talkeetna Mountains. The more we can do to imbue our community with a depth of history, the more the Mat-Su becomes somewhere we can be proud to live. I have watched the most talented members of my high school class leave the Valley with no plans of returning. Things like Marmot Day may be insignificant alone, but when we connect them together, they represent something important. The act of valuing local aspects like gold mines and marmots, or the Palmer Hay Flats and waterfowl, gives my generation a reason to stay-- or to come home again

-Will Elliot, Wasilla

Jasmine Riski
501 valley St.
anchorage, ak
99504

Dear Senator Menard,

I am willing to support SB58 for naming February 2 "Marmot day in Alaska for three reasons. First, because its a special day for Alaska to have fun. Second, because Alaska does not have Ground Hogs; we have Marmots. Last but not least, because Alaska will be the only state in the US that has Marmot day. Obviously I hope that Ground Hog Day gets changed to Marmot Day.

Sincerely,
Jasmine Riski

Raia Stamm
6801 Pottle Heights Dr.
Anchorage, AK
99516.

To Whom it may concern,

I am writing to support SB58. I have been going to Arctic Valley my whole life and they celebrate "Merry Marmot Day." On that day a group of people arrange a bunch of activities and contests for the kids. Also we don't have Ground Hogs in Alaska. Anybody can see that this bill should be passed because it would give Alaskans a special day to celebrate.

Sincerely,

Raia Stamm

Joey Aist
4700 Marsh Dr.
Anchorage AK
March 2 2009

Dear Senator Menard

I support SB58 for these reasons. First, groundhogs don't even live in Alaska, but marmots live all over Alaska. Second, marmots are equivalent to groundhogs. Third, a lot of people in Alaska appreciate and like the marmot. Clearly marmots are Alaska's groundhogs, so a day to honor them makes sense.

Sincerely,
Joey Aist

10041 Hanley Cir.
Anchorage, AK. 99507
March 2nd 2009

Dear Senator Menard,

I am writing in support of SB 58. Every year during the spring the Artic Valley Ski area hosts a "Merry Marmot Festival" and has many fun activities honoring the Marmot. During the festival many people come to celebrate the Marmot, so why not make it offical? The Marmot is very similar to the Groundhog, only Marmots live in Alaska and Groundhogs do not. Having February 2nd be Marmot Day would give Alaska another very unique quality.

Sincerely,
Ms. Ryan Terry

3236 [illegible]
Anchorage [illegible]
March 2, 2009

Dear, Senator Menard,

I support SB58 to have a "Merry Marmot Day", every February 2nd. We should have a "Merry Marmot Day", instead of Ground Hogs' Day because, the Marmot is Alaska's Ground Hog. The kind of Marmot here is the Hoarey Marmot. The Marmot lives here, and the Ground Hog doesn't so why does the Ground Hog get a special day? As you can see the Marmot deserves their own special day.

Sincerely,
Caleena B. Shafer

[illegible] Valley Brook Cir
Anchorage, Ak 99507
March 2, 2009

Dear Senator Menard,

I am writing to support SB58. We should have a Marmot day because it would add to the uniqueness of Alaska. Also, we would be able to celebrate a cute, furry mammal, and many people love cute and furry mammals. One more thing is that marmots are afraid of their shadows, like groundhogs, so we will still be able to tell how much longer winter will last, instead of doing something else. All in All, Marmots are the groundhogs of Alaska, so a special day for them makes sense.

Sincerely,
Yungshu Wang

p.5
240 PENISKO
Anchorage.
AK 99515

Dear Senator Menard,

I support your bill and have agreed that the marmot day is a great day to have for alaska. We need our own special day, like the other states have.

Marmots are cute, kind, and gentle. They help keep alaska beautiful.

So I believe that the marmot would be a great day for alaskans.

Sincerley
Maddie Flores

Dear senator Menard,

I support [illegible] Marriot Day is a good idea because it would be interesting to have a unique animal to celibrate. Second of all, Ground Hogs don't even live here, marmots do. Finally, we should choose an animal That lives here unlike Ground Hogs. To sum it all up, the marmot deserves to have its special day.

Sincerly,
Ciara Brady

SB

71

26-LS0343\E
Kane
3/16/09

CS FOR SENATE BILL NO. 71( )

IN THE LEGISLATURE OF THE STATE OF ALASKA

TWENTY-SIXTH LEGISLATURE - FIRST SESSION

BY

Offered:
Referred:

Sponsor(s): SENATOR THERRIAULT

A BILL

FOR AN ACT ENTITLED

"An Act relating to alternative energy systems for public works."

BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF ALASKA:

*** Section 1.** AS 35.10 is amended by adding a new section to article 1 to read:

Sec. 35.10.085. Alternative energy for public works. (a) When preparing and adopting plans and specifications and determining standards for the construction of a public work under AS 35.10.010, the department shall review the option of using a viable alternative energy system for heat or electrical power for the public work.

(b) If a viable alternative energy resource is available and can be used as a primary or secondary source of heat or electrical power or the department determines a viable alternative energy source will become available, a public work constructed under this chapter shall be constructed to accommodate or be compatible with the viable alternative energy system.

(c) In this section, "viable alternative energy system" means a system that uses a nonfossil fuel fired system for heat or electrical power that, if used over the course of the life of the facility, will cost not more than a fossil fuel fired system to purchase,

install, maintain, and operate and will have less measurable adverse effect on the environment than a fossil fuel fired system.

FISCAL NOTE

STATE OF ALASKA
2009 LEGISLATIVE SESSION

Fiscal Note Number:
Bill Version: **SB 71**
() Publish Date:

Identifier (file name): SB71-DOT-SPF-3-06-09
Dept. Affected: DOT&PF
Title: Alternaitve Energy for Public Works
RDU: Design, Engineer & Constructon
Component: Statewide Public Facilities
Sponsor: Sen. Therriault
Requester: S ENE
Component Number: 2882

Expenditures/Revenues (Thousands of Dollars)

Note: Amounts do not include inflation unless otherwise noted below.

	Appropriation Required	Information					
OPERATING EXPENDITURES	**FY 2010**	**FY 2010**	**FY 2011**	**FY 2012**	**FY 2013**	**FY 2014**	**FY 2015**
Personal Services							
Travel							
Contractual							
Supplies							
Equipment							
Land & Structures							
Grants & Claims							
Miscellaneous							
TOTAL OPERATING	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
CAPITAL EXPENDITURES							
CHANGE IN REVENUES ( )							

FUND SOURCE	(Thousands of Dollars)						
1002 Federal Receipts							
1003 GF Match							
1004 GF							
1005 GF/Program Receipts							
1037 GF/Mental Health							
Other Interagency Receipts							
TOTAL	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**

Estimate of any current year (FY2009) cost:

POSITIONS							
Full-time							
Part-time							
Temporary							

ANALYSIS: *(Attach a separate page if necessary)*

The Department designs and constructs the best buildings possible given the amount appropriated. Energy efficiency is a component of that. This bill will have no fiscal impact on the Department's operating budget.

Prepared by: Mary Siroky, Legislative Liaison — Phone 465-4772
Division: Department of Transportation and Public Facilities — Date/Time 3/6/09 5:15 AM
Approved by: Nancy Slagle, Admin Director — Date 3/6/2009
Department of Transportation and Public Facilities

(Revised 9/10/2008 OMB)

SENATOR
GENE THERRIAULT
Mailing Address:
1292 Sadler Way, Suite 308
Fairbanks, Alaska 99701
(907) 488-0857
Fax: (907) 488-4271

Alaska State Legislature

Senate

While in session
State Capitol
Juneau, Alaska
99801-1182
(907) 465-4797
Fax: (907) 465-3884
SENATE DISTRICT F

Senate Bill 71

Sponsor Statement

With the recent spikes in energy costs, Alaskans have turned their time and efforts to identify and develop alternative energy sources. Through the passage of HB 152 in 2008, the state established a funding source to support these efforts. Now we must prepare to use the alternative energy as it becomes available both to save money and to help make these energy sources viable on a broader scale to the public.

Senate Bill 71 proposes to expand state support for the development of alternative energy by constructing public facilities in such a way that they can easily use those energy sources without costly renovations or retrofitting. By preparing in advance to use alternative energy sources, the state may very well determine the economic viability of developing projects that will in turn support local jobs and infrastructure in the surrounding geographic area.

Senate Bill 71 does not require the state to purchase alternative energy at an increased cost to the public, nor does it require the state to add design changes where they do not make sense. Senate Bill 71 does bring recognition that state facilities are large consumers of energy and when alternative energy sources are applicable the state as a sizable consumer can open the door and lower costs for all other local energy consumers.

Email: Senator_Gene_Therriault@legis.state.ak.us

SB 104

Alaska State Legislature
Juneau Senate Office
District B

Sponsor Statement
SB 104 Expand Stan Price Wildlife Sanctuary

This bill expands the size of the wildlife sanctuary at Pack Creek, on Admiralty Island in Southeast Alaska, by adding additional state-owned tidelands and submerged land. Pack Creek contains a unique population of human-habituated brown bears, and is a significant tourist attraction for boaters and fly-in day visitors from Juneau.

Fish and game management on Admiralty Island is reserved for the state, although most uplands—nearly 1 million acres—are federally owned and managed as Admiralty Island National Monument and Kootznoowoo Wilderness.

Hunting is prohibited in the Stan Price sanctuary. Since 1984, the uplands adjacent to Pack Creek and several surrounding watersheds have been closed to hunting by the Board of Game. This area, about 77,000 acres in total, is known as the Upper Seymour Canal Closed Area. There is a continuing vocal attempt from the same small number of hunters to reopen this area to bear hunting. They have brought this issue before the Board of Game seven times since 1984 and failed each time. These repeated efforts consume a significant effort in board and ADF&G staff time and unfairly burden the public which has to wage a campaign to defend the closure each time. By expanding the Sanctuary to include state tidelands and submerged lands that conform to the boundaries of the Upper Seymour Canal Closed Area, this bill would effectively foreclose the possibility of re-opening that area to bear hunting.

This bill is a good government measure. It is clear that the great majority of Southeast Alaska citizens, including hunters, support keeping the area closed to bear hunting, as it has been for years. It is a waste of scarce public resources to continually revisit this issue.

Currently, the Forest Service requires specific access permits to visit the Pack Creek area but does not require this in the rest of the Upper Lynn Canal Closed Area. SB 104 would have no effect on this Forest Service policy; areas outside Pack Creek would remain open to visitors without a permit. Likewise, the vast majority of Admiralty Island will not be affected by this bill and will continue to be open for bear hunting.

2931

State Capitol, Juneau, AK 99801-1182 Phone: 907-465-4947 Fax: 907-465-2108
Alida.Bus@legis.state.ak.us

ALASKA FLY'N'FISH CHARTERS
9604 Kelly Court Juneau, Alaska 99801 (907) 790-2120 akbyair@gci.net

January 31, 2010

RE: Support for SB 104, HB 142; Legislation to Expand the Pack Creek Sanctuary.

Dear Senator Egan and Representative Kerttula,

As Alaska residents and local business owners who have made their living for the past 18 years guiding visitors on bear watching excursions to Pack Creek, Windfall Harbor and Swan Cove, we wanted to thank you for sponsoring this important legislation. We understand how vital it is to extend permanent protection to the closed areas surrounding the tiny amount of actual sanctuary land at Pack Creek itself. Years of experience have shown us how frequently the habituated bears that make Pack Creek viewing special also range throughout the adjacent drainages of Windfall Harbor and Swan Cove, and how vulnerable Pack Creek bears would be to hunting in these areas. We can also attest to how important Windfall Harbor and Swan Cove are in their own right as viewing locations. These areas have long offered bear viewing options to visitors when permits for Pack Creek are not available. Even with a business as limited as ours that operates with just one pilot/guide serving small very groups, the numbers are significant. Looking at our use figures since the year 2000, we have taken an average of 86 clients into Windfall and Swan each year. That is in addition to the approximately 180 clients we have taken to Pack Creek each season.

Having spent the better part of 2 decades intensively engaged in bear viewing in this area we can especially speak to how this activity enriches Juneau's economy. It is well understood that wildlife watching is big business in Alaska and an essential aspect of our tourism economy. It is perhaps less apparent just how much of that business is done by small, locally owned and operated ventures. That is particularly the case for bear viewing within the Pack Creek/Windfall/Swan complex. Tours for bear viewing in these areas are not sold through the cruise ships. Instead this is a market aimed at independent travelers and facilitated by local guiding businesses, Juneau's air taxi charters, and small Alaskan travel agencies. Small businesses and local residents are the primary beneficiaries of bear viewing activity at Pack Creek, Windfall Harbor and Swan Cove. These businesses overwhelmingly employ people who live, own property, pay taxes and spend their money right here.

Not only does the income we've earned from bear watching flow through the local economy, a significant amount of it goes directly back to underwriting the cost of managing Pack Creek itself through special dedicated use fees we pay to the Forest Service. Our Pack Creek permit fees average over $5000 per year. And that amount is in addition to other use fees we pay each year as a commercial operator in the National Forest. Altogether such funds generated by watchable wildlife are an important source of revenue for the agencies that manage public lands; a fact that is often not given proper credit. However it is certainly true at Pack Creek that wildlife viewers pay their way. Pack Creek, Windfall Harbor and Swan Cove, along with Windfall and Swan Islands just offshore of Pack Creek itself, function as a whole, and together they comprise an extremely valuable public resource. We urge the legislature to safeguard this area's future, and the future of those who depend on it for their livelihoods, by finally extending full sanctuary status to all of these lands.

Respectfully,
Butch Laughlin and Sarah Dunlap
Alaska Fly'n'Fish Charters LLC

USDA United States Department of Agriculture | Forest Service | Alaska Region Tongass National Forest | 648 Mission Street Ketchikan, AK 99901 Phone: (907) 225-3101 Fax: (907) 228-6215

File Code: 2300
Date: January 27 , 2010

Denby Lloyd
Commissioner, Alaska Department of Fish and Game
PO Box 115526
Juneau, AK 99811-5526

Dear Commissioner Lloyd,

The USDA Forest Service and Alaska State Department of Fish and Game have co-managed the bear viewing opportunities at Pack Creek for more than 25 years. We have invested considerable time and energy into making a successful partnership and the result has been impressive. Up to 1,200 visitors per year pay a $50 permit fee, or up to $450 in guided fees to view these tolerant bears. Visitation is limited to 24 persons per day and visitors expect a high quality viewing and photography experience. Pack Creek is now highly regarded as a sustainable ecotourism destination where federal and state agencies have closely aligned our goals, objectives and allowed uses.

In 1997 the Forest Service designated the Pack Creek Zoological Area (PCZA) in our Tongass Land Management Plan with a boundary that matches the State of Alaska's 1984 Seymour Canal Closed Area. By doing so, the Forest Service took an important step toward expanding our cooperative management with the State. The PCZA includes Swan Cove to the north of Pack Creek and Windfall Harbor to the south where management focuses on protecting bear habitat and providing opportunities for wilderness visitors to see wildlife in a less-structured setting as compared to Pack Creek.

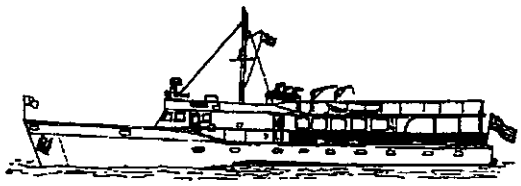
Recent PCZA planning by the Forest Service has highlighted some important differences between the protective upland wilderness management of the forest and the tideland management of the State of Alaska Department of Natural Resources (outside of the existing Stan Price Wildlife sanctuary). For example, generally allowed uses of State tidelands in Windfall Harbor or Swan Cove could include landing helicopters, using off-road vehicles, assembling groups up to 50 persons, cutting firewood, and recreational mining. To better align our management objectives, the Forest Service supports expanding the jurisdiction of the Department of Fish and Game, our long term partners, in directly managing these tidelands. This could be accomplished by expanding the Stan Price Wildlife Sanctuary to include all of the Seymour Canal Closed Area. As a result, the two agencies could best serve the public by enhancing wildlife viewing opportunities; this has been suggested in scoping for our current plan, and has been successfully demonstrated at Pack Creek. This could also improve client experience on Outfitted and Guided tours thereby supporting continued investment in bear viewing businesses.

The Forest Service looks forward to continuing our beneficial relationship with the State of Alaska. Pack Creek has provided a great example of co-management that can be expanded and strengthened in the surrounding areas. Thank you for continued partnership in this world class wildlife viewing area.

Sincerely,

FORREST COLE
Forest Supervisor

Cc: Commissioner, Alaska Department of Natural Resources
Marti Marshall, Admiralty District Ranger



Adventures Afloat

Francis and Linda Kadrlik 4950 Steelhead Juneau, AK 99801
Tel: (907) 586-3312, (800) 3AFLOAT FAX: (907) 789-3312
Web site: http://home.gci.net/~valkyrie Email: adventuresafloat@gci.net

February 2, 2010

RE: Support for SB 104, HB 142; Legislation to Expand the Pack Creek Sanctuary.

Dear Senator Egan and Representative Kerttula,

Thank you for your support of this important legislation that maintains the protections of Pack Creek and related areas. We often take visitors to Pack Creek, and at times the bear viewing is better in Windfall Harbor than at the creek itself. The same bears frequent the entire area, and without protection, would certainly provide less viewing opportunities. We don't have a guide license, so our clients must procure Pack Creek permits themselves, and if they don't happen to receive permits, they can often see the bears at Windfall Harbor.

Your support safeguards this area's future, and the future of those who depend on it for their livelihoods, by finally extending full sanctuary status to all of these lands. This is a public resource that is frequented and used by our local tour companies, since local charter vessels and air carriers are the major means of transport to this area. Local businesses like ours that provide this service live and work in Juneau, and purchase their own goods and services here, strengthening Juneau's economy.

We look forward to the passage of this legislation and the protections this area deserves.

Sincerely,

Francis and Linda Kadrlik
Adventures Afloat

Territorial Sportsmen INC.

Post Office Box 32712 • Juneau, Alaska 99803

Telephone: (907) 789-2399 • Fax: (907) 586-6020

January 18, 2010

Senator Bill Wielechowski
Senator Lesil McGuire
Alaska Senate
Co-Chair Senate Resources Committee
Alaska Capitol Building, Room 115
Juneau, Alaska 99801

Dear Senators Wielechowski and McGuire:

The Territorial Sportsmen Inc. (TSI) supports SB 104 to extend the boundaries of the Stan Price Wildlife Sanctuary beyond the Pack Creek Delta to include state-owned tidelands south to Windfall Harbor and north to Swan Cove and including Swan and Windfall Islands. This extension will insure that brown bears are protected on tidelands throughout the Seymour Canal Closed Area.

TSI appreciates the changes made to the original bill that addressed our concerns. TSI supports the committee substitute for Senate bill 104.

TSI is a Juneau based sportsmen organization with 1800 members. We advocate for the rights of hunters, trappers, sport fishermen and other outdoor users.

Sincerely yours

Wayne Regelin

Wayne Regelin
President, Territorial Sportsmen, Inc.

Cc: Senator Dennis Egan

Alaska State Legislature
Juneau Senate Office
District B

CSSB 104
Work Draft 26-LS0545\S

Sectional Analysis

Section 1: Amends the legal description of tidelands included within the Stan Price Refuge to encompass additional areas.

Section 2: Amends the statutory language establishing the purpose of the refuge to make explicit that, except for bear hunting, all commercial, sport and subsistence fishing and hunting is allowed.

State Capitol, Juneau, AK 99801-1182 Phone: 907-465-4947 Fax: 907-465-2108
Alida.Bus@legis.state.ak.us

26-LS0545\S
Kane
12/18/09

CS FOR SENATE BILL NO. 104( )

IN THE LEGISLATURE OF THE STATE OF ALASKA

TWENTY-SIXTH LEGISLATURE - SECOND SESSION

BY

Offered:
Referred:

Sponsor(s): SENATOR ELTON

A BILL

FOR AN ACT ENTITLED

"An Act amending the boundaries of the Stan Price State Wildlife Sanctuary and relating to activities allowed in the sanctuary."

BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF ALASKA:

*** Section 1.** AS 16.20.150(a) is amended to read:

(a) The state-owned tide and submerged land and water within the following described parcels is established as a state wildlife sanctuary to be known as the Stan Price State Wildlife Sanctuary:

(1) Township 45 South, Range 68 East, Copper River Meridian

Sections 1 - 2

Sections 11 - 13

Section 24;

(2) Township 45 South, Range 69 East, Copper River Meridian

Sections 6 - 8

Section 16: S1/2, NW1/4

New Text Underlined [DELETED TEXT BRACKETED]

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Sections 17 - 22

Sections 26 - 27

Sections 29 - 33

Section 35

Section 36: SW1/4;

(3) Township 46 South, Range 69 East, Copper River Meridian

Section 1: W1/2

Sections 2 - 9

Sections 16 - 20

Section 21: NW1/4

Sections 29 - 32;

(4) Township 47 South, Range 69 East, Copper River Meridian

Section 6

[SECTION 5: W1/2, W1/2E1/2

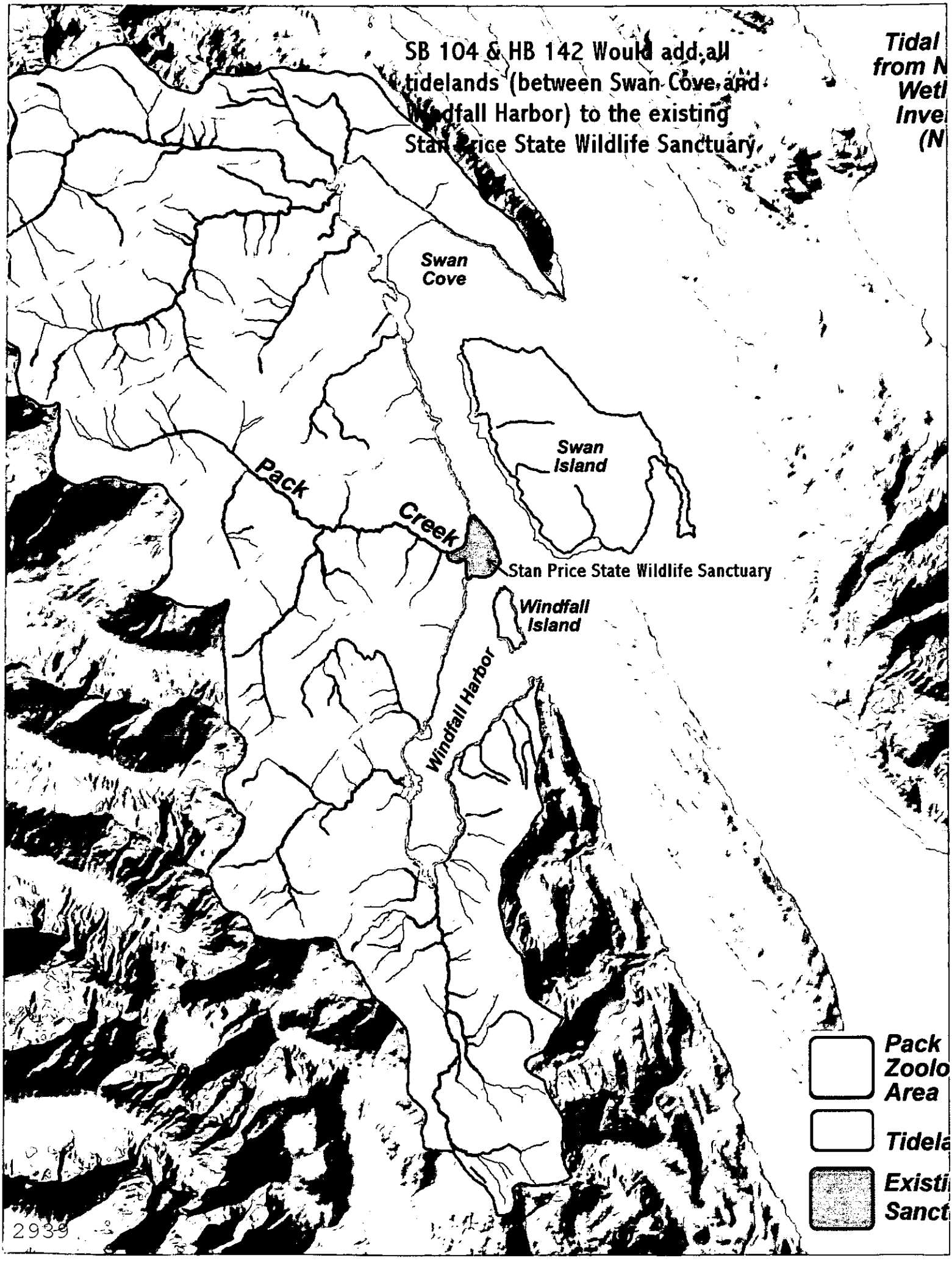
SECTION 6: SE1/4SE1/4

SECTION 7: NE1/4NE1/4

SECTION 8: NW1/4, W1/2NE1/4, N1/2SW1/4].

* **Sec. 2.** AS 16.20.150(b) is amended to read:

(b) The Stan Price State Wildlife Sanctuary is established to provide permanent protection for brown bears, other fish and wildlife populations, and their habitats in the area so that these resources may be preserved for scientific, aesthetic, and educational purposes. **The department shall allow commercial, sport, and subsistence fishing, trapping, and hunting of game other than for brown bear within the Stan Price State Wildlife Sanctuary under regulations of the Board of Fisheries and Board of Game.**


SB 104 & HB 142 Would add all tidelands (between Swan Cove and Windfall Harbor) to the existing Stan Price State Wildlife Sanctuary
Tidal from N Wetl Inve (N
Swan Cove
Swan Island
Pack Creek
Stan Price State Wildlife Sanctuary
Windfall Island
Windfall Harbor
Pack Zoolo Area
Tidela
Existi Sanct
2939

Board of Game Southeast Regional Meeting
November 10-14, 2006

DESIGNATED REPORTER: Gerry Bigelow
This summary of actions is for information purposes only and is not intended to detail, reflect or fully interpret the reasons for the Board's actions.

PROPOSAL 13 ACTION: Failed
DESCRIPTION: Open Swan Cove and Swan Island in the Pack Creek – Seymour Canal Closed Area to spring and fall brown bear hunting.
DISCUSSION: Board members commented on the overwhelming number of comments opposing the proposal. The board referenced the public hearing in Juneau on October 19th where many individuals testified in opposition to the proposal. Board members felt there was not a compelling reason to open the small area to brown bear hunting and that Admirality Island seems to be well balanced with wildlife viewing and hunting opportunities. The board discussed the issue of habituated bears roaming outside the boundaries of the closed area and are not entirely protected from hunting. The board imposed a ten year moratorium to exclude the Seymour Canal Closed Area from future calls for proposals unless a majority of board members request it.

PROPOSAL 15 ACTION: Failed
DESCRIPTION: Open Swan Cove in the Pack Creek – Seymour Canal Closed Area to spring and fall brown bear hunting.
DISCUSSION: The proposal failed in light of the action taken on proposal 13.

To see the proposals from the Nov 2006 board meeting:
http://www.boards.adfg.state.ak.us/gameinfo/meetinfo/gprop.php
http://www.boards.adfg.state.ak.us/gameinfo/meetinfo/2006-2007/gcal2006_2007.php

To see the department's recommendations regarding the proposals:
http://www.boards.adfg.state.ak.us/gameinfo/meetinfo/2006-2007/bog-fall06-anr.pdf

Department comments regarding proposal 13:

PROPOSAL 13

EFFECT OF THE PROPOSAL: Open Swan Cove and Swan Island in the Pack Creek – Seymour Canal Closed Area to spring and fall brown bear hunting.

DEPARTMENT RECOMMENDATION: **Do Not Adopt**

RATIONALE: The Pack Creek – Seymour Canal closed area has been an important brown bear viewing area for many decades. Today, ADF&G and the US Forest Service jointly operate a permitted viewing area at this site. Pack Creek and its immediate surrounding area were closed to bear hunting in 1934, and the Swan Cove and Windfall Harbor areas were added to the closure in 1984. The Swan Cove and Windfall Harbor closures were established to protect the bears that frequent the area and that had become habituated to the presence of humans as a result of the original Pack Creek closure. These bears represent a very small component of a large population of brown bears that inhabit Admiralty Island.
The Pack Creek – Seymour Canal closed area represents a small percentage (6%) of the island. This area is popular and used intensively from spring through fall each year by a large number (1,200-1,400 per year) of visitors interested in viewing brown bears in their natural environment.

Results from a recent small-scale study of bear movements, using hair snares and DNA forensic approaches, indicates both male and female bears move between Windfall Harbor, Pack Creek, and Swan Cove. Findings from long-term brown bear research conducted by the department on Admiralty and Chichagof islands have shown that brown bear home ranges are often larger than the area constituting the existing closed area. Opening Swan Cove would increase the likelihood of harvesting bears that are among the most habituated and viewed in the closed area, thereby compromising the long-term investment in this public bear viewing area.

In addition to a number of economic and social reasons, opening Swan Cove is also contrary to the recommendation made by a citizens/agency brown bear management advisory team in its Southeast Alaska Unit 4 Brown Bear Management Strategy (2000). That recommendation included opposition to creating new viewing areas on the Pack Creek or McNeil River models, but also recommended against trying to modify or diminish the existing bear viewing areas in any way (including Pack Creek). A new management area concept was proposed by the Group that would establish new, "Brown Bear Special Use Zones," in which hunting and viewing would be managed as compatible and equal in priority.
****
***

SB 104: FREQUENTLY ASKED QUESTIONS

What would SB 104 do? SB 104 seeks to officially expand the Stan Price State Wildlife Sanctuary at Pack Creek on Admiralty Island to include the state owned tide and submerged lands of the surrounding closed areas at Windfall Harbor, Windfall Island, Swan Cove and Swan Island. These areas adjacent to Pack Creek, identified by the BOG as the Upper Seymour Canal Closed Area, have functioned as if they were part of the sanctuary for the past 25 years. However their status as no-hunting zones is not permanent and could be revoked. SB 104 would enhance consistent and coordinated state and federal management in these four areas that lie immediately adjacent to the Pack Creek watershed and estuary.

Why is SB 104 necessary? The areas adjacent to Pack Creek were initially closed to bear hunting in 1984 by action of the Alaska Board of Game in order to serve as necessary buffer zones bracketing the tiny amount of actual sanctuary land at found at Pack Creek itself. Since then the Upper Seymour Canal Closed Area has functioned and been managed as an essential part of the sanctuary. However it has never had the full protection of sanctuary status. Its continued closure as a non-hunting area has been threatened repeatedly over the last quarter century and remains imperiled to this day. The only way to truly ensure permanent protection for Pack Creek itself is for the Alaska Legislature to officially extend sanctuary status to the rest of the closed areas below mean high tide that are under state jurisdiction. Because it is Forest Service policy to manage the uplands in a way that is compatible with state tidelands designations, this would effectively close the uplands as well.

Would SB 104 cause any noticeable changes for visitors to Pack Creek or the surrounding closed areas at Windfall Harbor and Swan Cove? No. Management on the ground within the sanctuary and closed areas would not change, nor would any additional management expenses be incurred. The very point of this legislation is to ensure that the area will not suffer changes, given that the common consensus is that it functions very well as it currently is. Rather SB 104 would help preclude the possibility of drastic changes resulting from any of the closed areas ever being reopened to bear hunting.

What would the benefits of SB 104 be? Ultimately it would safeguard the future of Pack Creek, and allow the agencies that manage the sanctuary, and the businesses that rely on Pack Creek, to plan for that future with clarity and certainty. Since 1984 the BOG has considered reopening some or all of the Upper Seymour Canal Closed Area, six times. Each time that possibility arises a large array of people and agencies must prove and defend the closed areas' continued necessity as no hunting zones. Pack Creek's managing agencies, the U.S. Forest Service and the Alaska Department of Fish & Game, are required to divert scare resources to provide current documentation of the closed area's vital importance to the overall integrity of the sanctuary. A wide variety of local businesses that depend on Pack Creek for their livelihoods are burdened with fighting for their futures. The general public must mobilize to speak out in defense of a precious public resource. And periodically the BOG itself is burdened with taking an inordinate amount of time out of their busy agenda to go over this same old issue that past boards have settled in favored of continued closure many times before. **The closure of these areas to bear**

hunting has become one of the most thoroughly vetted and consistently reaffirmed land use allocations in Alaskan history. Yet it takes nothing more than a single individual hunter to make a proposal to the BOG to start the entire process over again. Only legislative action can stop this wasteful cycle of pointless, endless review.

Is SB 104 an anti-hunting measure? No. The creation of the Upper Seymour Canal Closed Area in 1984 was compensated for by reopening other long closed areas on the island to bear hunters. No net loss of hunting area on Admiralty ever resulted from this closure where over 90% of Admiralty Island is open to bear hunting. Historically, bear hunters have been some of the most passionate champions of conservation measures on Admiralty Island, as has been the case with this area. The original 1984 upper Seymour Canal closure was supported by well know bear guide, Carl Lane, along with former members of the BOG. Additionally many hunters are concerned with how the hunting of this population of habituated brown bears would violate ethical standards of fair chase and reflect badly upon their sport.

Admiralty Island is an amazing resource. It affords opportunities for world-class brown bear hunting alongside opportunities for world-renowned bear viewing. The prohibition of hunting within the Upper Seymour Canal Closed Areas surrounding Pack Creek at Windfall Harbor, Windfall Island, Swan Cove and Swan Island are an essential part of the stable and equitable balance that has been struck between these two user groups. Further review of their already established necessity, and continued uncertainty about their future, serves no good purpose. It is time for the Alaska Legislature to extend full sanctuary status to these lands.

Alaska State Legislature

Juneau Senate Office

District B

SB 104: PACK CREEK HISTORY

Admiralty Island's Pack Creek is a magical place; one of just a handful of sites on the planet where wild brown bears go freely about their lives within the presence of humans. Because of this, Pack Creek offers a compelling and powerful wildlife viewing experience to visitors and rare insights into the lives of creatures that are too often misunderstood and sensationalized. As a world-renowned destination for bear watching Pack Creek has long been recognized as a valuable public resource and a great asset to Alaska's and Juneau's tourism economy. In brief here is a history of the public policy decisions that have lead to the creation and protection of Pack Creek.

• **1934: The Alaska Territorial Commission closes Pack Creek to bear hunting.** This original hunting closure covers only the Pack Creek drainage and comprises approximately 5,700 acres and only a half mile of beach front. This closure was part of a compromise between a national movement to make all of Admiralty Island a refuge and local development interests.

• **1935: Forest Service selects Pack Creek as a brown bear viewing area.** That year the Civilian Conservation Corps constructs Pack Creek's first observation tower and trail.

• **1956 - 1989: Stan Price resides at Pack Creek.** Stan's presence discourages poaching, and his hospitality, home movies, and tales of life among the bears help promote Pack Creek as a bear viewing destination.

• **1984: Bear hunting closure expanded to Swan Cove and Windfall Harbor.** Over time the original no-hunting area proves to be far too small to sufficiently protect the habituated bears that frequent Pack Creek because such wide ranging animals constantly move out of the protected area to adjacent drainages and islands. The Alaska State Board of Game approves a proposal to expand the closed area to include the drainages on either side of Pack Creek along with two islands lying just offshore of Pack Creek's tidal flat. This area, referred to as the Upper Seymour Canal Closed Area, adds approximately 75 more square miles to the previously protected area at Pack Creek. These closures in Seymour Canal are offset be opening other areas on the island to bear hunters, resulting in no net loss of hunting opportunities on Admiralty where over 90% of the island remains available to bear hunters.

• **1991: State of Alaska establishes Stan Price State Wildlife Sanctuary.** After Stan's death in 1989, Alaska honors his memory by making Pack Creek a State Wildlife Sanctuary. Only the Pack Creek estuary below mean high tide is given the legislative protection of sanctuary status. Swan Cove, Swan Island, Windfall Harbor and Windfall Island remain closed to hunting only by order of the Alaska Board of Game.

• **1985 - 2006: Numerous proposals are brought before the BOG to re-open bear hunting in the Upper Seymour Canal Closed Areas surrounding Pack Creek.** On six different occasions within a 25 year period the Alaska Board of Game considers proposals by a small number of bear hunters to reopen portions of the Upper Seymour Canal Closed Area. Each time public outcry, scientific evidence, and the recommendations of the managing agencies overwhelming support continued closure. The BOG ultimately rejects each proposal.

• **2006: The most recent proposal to re-open bear hunting in Swan Cove and Swan Island is rejected by the Board of Game.** Once again the BOG is persuaded by vigorous public protest to unanimously retain the no-hunting boundaries around Pack Creek. However, the possibility of reopening these areas to hunting remains. This ongoing threat underscores the need to finally make this thoroughly debated, scientifically verified, long established and broadly supported land use decision permanent through legislative action.

• **2009: Senate Bill 104 is introduced into the Alaska State Legislature to expand the boundaries of the Stan Price State Wildlife Sanctuary to include the state owned lands of the Upper Seymour Canal Closed Areas surrounding Pack Creek.**

State Capitol, Juneau, AK 99801-1182 Phone: 907-465-4947 Fax: 907-465-2108
Alida.Bus@legis.state.ak.us

SB 108

1/

SENATE COMMITTEE REPORT
First Committee of Referral

DATE: 2/17/09

FURTHER: Finance

Date of 5-Day Notice: _____
(in accordance with Uniform Rule 23)

DATE TURNED IN TO OFFICE: _____

Resources Committee considered SENATE BILL NO. 108

SB 108 STAMPEDE STATE RECREATION AREA

"An Act creating the Stampede State Recreation Area."

and recommends:

[ ] be **replaced** with [ ] **SCS** or [√] **CS** SB 108 (RES)

[ ] adopt **previous** [ ] **SCS** or [ ] **CS** _____ (_____)

[ ] attached amendment(s)

[ ] adopt _____Letter of Intent

[ ] further referral to _____Committee

SENATE BILL:
[√] Same Title
[ ] New Title

HOUSE BILL:
[ ] Same Title
[ ] Technical Title Change
[ ] New Title w/ SCR #_____

NEW FISCAL NOTE(S):

Department	Date	Fiscal	Indet.	Zero	FN#
DNR	3/16/09	√			

PREVIOUS FISCAL NOTE(S):

Department	Date	Fiscal	Indet.	Zero	FN#

[ ] **APPROPRIATION - no fiscal note**

SIGNATURES AND RECOMMENDATIONS:	PRINTED LAST NAME	DO PASS	DO NOT PASS	NO REC	AMEND
	Huggins			X	
	French	X			
Thomas P. Wagoner	WAGONER				
CO-CHAIR:	Wielechowski			X	
CO-CHAIR:	McGuire			✓	

AMENDMENT

OFFERED IN THE SENATE BY THE SENATE RESOURCES

TO: CSHB 134(RES), Draft Version "W" COMMITTEE

Page 1, line 11:

Delete "if the"

Insert ". The"

Page 1, lines 12 - 14:

Delete ", in consultation with its science advisory panel on wastewater treatment, determines that compliance with those limits or standards is the most technologically effective and economically feasible"

Insert "shall establish and consult with a science advisory panel on wastewater treatment to evaluate the most technologically effective and economically feasible treatment options."

Page 2, following line 18:

Insert a new bill section to read:

"* **Sec. 3.** AS 46.03.462(b), as amended by sec. 2 of this Act, is amended to read:

(b) The minimum standard terms and conditions for all discharge permits authorized under this section require that the owner or operator

(1) may not discharge untreated sewage, treated sewage, graywater, or other wastewaters in a manner that violates any applicable effluent limits or standards under state or federal law, including Alaska Water Quality Standards governing pollution at the point of discharge [, EXCEPT AS PROVIDED IN (e) OF THIS SECTION];

(2) shall maintain records and provide the reports required under

AS 46.03.465(a);

(3) shall collect and test samples as required under AS 46.03.465(b) and (d) and provide the reports with respect those samples required by AS 46.03.475(c);

(4) shall report discharges in accordance with AS 46.03.475(a);

(5) shall allow the department access to the vessel at the time samples are taken under AS 46.03.465 for purposes of taking the samples or for purposes of verifying the integrity of the sampling process; and

(6) shall submit records, notices, and reports to the department in accordance with AS 46.03.475(b), (d), and (e)."

Renumber the following bill sections accordingly.

Page 4, line 2:

Delete "2014"

Insert "2015"

Page 4, line 17:

Delete "2014"

Insert "2015"

Page 4, line 26:

Delete "AS 46.03.464 is"

Insert "AS 46.03.462(e), 46.03.462(f), and 46.03.464 are"

Page 4, line 27:

Delete all material and insert:

"* **Sec. 8.** Sections 3 and 7 of this Act take effect January 1, 2015."

Page 4, line 28:

Delete "Sections 1 through 5 of this Act take"

Insert "Except as provided in sec. 8 of this Act, this Act takes"

26-LS0568\R
Bullock
2/18/09

CS FOR SENATE BILL NO. 108( )

IN THE LEGISLATURE OF THE STATE OF ALASKA

TWENTY-SIXTH LEGISLATURE - FIRST SESSION

BY

Offered:
Referred:

Sponsor(s): SENATOR THOMAS

A BILL

FOR AN ACT ENTITLED

"An Act creating the Stampede State Recreation Area."

BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF ALASKA:

*** Section 1.** AS 41.21 is amended by adding new sections to article 4 to read:

Sec. 41.21.401. Purpose of AS 41.21.401 - 41.21.405. The purpose of AS 41.21.401 - 41.21.405 is to establish the area described in AS 41.21.405 as the Stampede State Recreation Area. The Stampede State Recreation Area is established to

(1) perpetuate and enhance

(A) general public recreation;

(B) public enjoyment of fish and wildlife;

(2) protect and maintain fish and wildlife habitat so that traditional public use of fish and wildlife populations may continue;

(3) provide an area for the public to enjoy the full spectrum of public uses, including maintenance and enhancement of motorized and nonmotorized recreational opportunities;

New Text Underlined *[DELETED TEXT BRACKETED]*

L
2950

(4) allow

(A) continued motorized access for owners of private property in the Stampede State Recreation Area; and

(B) additional public uses of the area determined by the commissioner to be compatible with this section.

Sec. 41.21.402. Management. (a) The commissioner is responsible for the management of the land and mineral estate within the Stampede State Recreation Area consistent with the purposes of AS 41.21.401. After adequate public hearings and in consultation with the Denali Borough Assembly, the commissioner may designate incompatible uses and shall adopt and may revise a management plan for the Stampede State Recreation Area.

(b) The commissioner of fish and game, the Board of Fisheries, and the Board of Game are responsible for the management of fish and game resources and public use of fish and wildlife in the Stampede State Recreation Area consistent with the purposes of AS 41.21.401.

Sec. 41.21.403. Incompatible uses. (a) Except as provided in this section, the commissioner may prohibit or restrict uses determined to be incompatible with the purposes of the Stampede State Recreation Area under AS 41.21.401 within the state-owned land and water described in AS 41.21.405.

(b) Nothing in AS 41.21.401 - 41.21.405 prohibits the Department of Fish and Game from engaging in rehabilitation, enhancement, and development of fish and wildlife habitat within an area described in AS 41.21.405 that is consistent with the purposes stated in AS 41.21.401.

(c) The commissioner may not restrict

(1) lawful fishing, hunting, or trapping rights allowed under a regulation of the Board of Fisheries or the Board of Game in the Stampede State Recreation Area; or

(2) the use of weapons, including firearms, in the Stampede State Recreation Area except in locations where the commissioner determines that the use of weapons constitutes a threat to public safety.

(d) The commissioner shall

(1) allow the Stampede State Recreation Area to be used for activities compatible with the reasons for establishing the public recreation area in AS 41.21.401, including all-terrain vehicle use, watercraft use, snowmobiling, horseback riding, hiking, bicycling, dog sledding, cross-country skiing, skijoring, camping, hunting, fishing, wildlife viewing, and photography; and

(2) recognize the traditional use of existing motorized and nonmotorized uses in the area; reroute an existing trail to avoid sensitive habitat; conduct trail rehabilitation or reroute a trail to minimize damage; maintain and enhance motor vehicle options and opportunities; and provide for increased use of the public recreation area.

Sec. 41.21.404. Purchase authorized; eminent domain prohibited. The commissioner may acquire, by purchase in the name of the state, title to or interest in real property lying within the boundaries of the Stampede State Recreation Area. The state may not acquire by eminent domain privately owned land for inclusion in the Stampede State Recreation Area.

Sec. 41.21.405. Stampede State Recreation Area. The state-owned land and water, vacant and unappropriated, and all that acquired in the future by the state lying within the following parcels are designated as the Stampede State Recreation Area, reserved from all uses incompatible with their primary function as public recreation land, and assigned to the department for control, development, and maintenance:

(1) Township 12 South, Range 9 West, Fairbanks Meridian
Sections 3 - 10
Sections 15 - 22
Sections 27 - 34

(2) Township 12 South, Range 10 West, Fairbanks Meridian
Sections 1 - 36

(3) Township 12 South, Range 11 West, Fairbanks Meridian
Sections 1 - 36

(4) Township 13 South, Range 9 West, Fairbanks Meridian
Sections 3 - 10

(5) Township 13 South, Range 10 West, Fairbanks Meridian

Sections 1 - 6 excluding national park lands

Sections 7 - 12 excluding national park lands

(6) Township 13 South, Range 11 West, Fairbanks Meridian

Sections 1 - 6 excluding national park lands

Sections 7 - 12 excluding national park lands.

FISCAL NOTE

STATE OF ALASKA
2009 LEGISLATIVE SESSION

Fiscal Note Number: 1
Bill Version: CSSB 108(RES)
(S) Publish Date: 4/11/09

Identifier (file name): SB108-DNR-Parks-03-16-09
Dept. Affected: Natural Resources
Title: STAMPEDE STATE RECREATION AREA
RDU: Parks & Recreation Management
Component: Parks Management
Sponsor: Senator Thomas
Requester: Senate Resources Committee
Component Number: 452

Expenditures/Revenues (Thousands of Dollars)

Note: Amounts do not include inflation unless otherwise noted below.

	Appropriation Required	Information					
OPERATING EXPENDITURES	**FY 2010**	**FY 2010**	**FY 2011**	**FY 2012**	**FY 2013**	**FY 2014**	**FY 2015**
Personal Services	86.6		175.4	88.8	88.8	88.8	88.8
Travel	3.0		8.0	5.0	5.0	5.0	5.0
Contractual	61.0		59.9	26.0	26.0	26.0	26.0
Supplies	15.0		18.0	11.5	11.5	11.5	11.5
Equipment							
Land & Structures							
Grants & Claims							
Miscellaneous							
TOTAL OPERATING	**165.6**	**0.0**	**261.3**	**131.3**	**131.3**	**131.3**	**131.3**
CAPITAL EXPENDITURES							
CHANGE IN REVENUES ( )							

FUND SOURCE (Thousands of Dollars)

1002 Federal Receipts							
1003 GF Match							
1004 GF	165.6		261.3	131.3	131.3	131.3	131.3
1005 GF/Program Receipts							
1037 GF/Mental Health							
Other Interagency Receipts							
TOTAL	**165.6**	**0.0**	**261.3**	**131.3**	**131.3**	**131.3**	**131.3**

Estimate of any current year (FY2009) cost: 0.0

POSITIONS

Full-time			1	1	1	1	1
Part-time							
Temporary	1		1	0	0	0	0

ANALYSIS: *(Attach a separate page if necessary)*

The costs associated with management of this new state recreation area include funding for a limited 2 year public planning process to develop a management plan (FY 2010-2011), followed by funding for a full time Park Ranger providing field management beginning in FY2011. Costs associated with the public planning process include scoping and survey work, draft management plan preparation, maps, displays, public notice advertising, room rentals, printing and distribution of final plan, lease space, computer and office supplies. Field management costs beginning in FY2011 include funding for a park ranger position, lease space, vehicle costs, utilities, and general supplies. One-time start up costs include one new vehicle, office supplies, and law enforcement gear.

Potential infrastructure identified in the management plan such as camping areas could generate park fees in future years.

Prepared by: James King
Phone (907) 269-8701
Division: Parks and Outdoor Recreation
Date/Time March 16, 2009
Approved by: Tom Irwin, Commissioner
Date March 16, 2009
Natural Resources

(Revised 9/10/2008 OMB)

ALASKA STATE LEGISLATURE

SENATOR JOE THOMAS

Senate Bill 108 - An Act creating the Stampede State Recreation Area

Sponsor Statement

The Stampede Road corridor, northwest of Healy and flanked on three sides by the Denali National Park, is a traditional place for many Alaskans to hunt, fish, trap, snowmachine, mush and pursue other recreational opportunities. Home to a growing number of Denali Borough residents and businesses, this is a wild and beautiful place that Alaskans from across the state can easily access.

This bill would establish the Stampede State Recreation Area in the vacant and unappropriated state land and water within the corridor as described in the bill and attached maps. The purpose of State Recreation Areas is to manage state-owned land and water in such a way that provides the maximum level of outdoor recreation opportunities without significant adverse effects on the natural system. The goal of this legislation is to protect the area for continued traditional use.

The Stampede mining trail was trail blazed in the 1930s. In 1961, the new State of Alaska upgraded the trail as part of the Pioneer Road Program. The project was halted in 1963 after some fifty miles of road was built, but no bridges were ever constructed over the several rivers it crossed, and the route was shortly rendered impassable by thawing permafrost and floods. While the road is described as being fifty miles long, only the first few miles are paved, and only the first eight miles are passable by standard car.

SB 108 will preserve the traditional uses of this area by creating the Stampede Recreation Area within the Stampede corridor. Several years ago, former Governor Murkowski proposed to build a road through this area. This planned road was vehemently opposed by borough residents as well as the recreational and traditional user groups who had an interest in keeping things "the way they are." In an effort to preserve the area for use by residents and visitors, the Denali Borough Assembly passed a resolution calling on the Alaska Legislature to designate the corridor as the Stampede State Recreation Area, with a strong emphasis on self-determination by the residents and users of the area.

The current use of the area includes off-road and all-terrain vehicle use, watercraft use, snowmobiling, horseback riding, hiking, bicycling, dog sledding, cross-country skiing, skijoring, camping, hunting, fishing, wildlife viewing, and photography. Recreational users of the area come from the Denali Borough, Fairbanks, Mat-Su and Anchorage. Tourists and adventurers travel to the area from across the globe. The area supports several tourism-related businesses including several lodges and a road-touring company that rents all-terrain vehicles for use on the more primitive sections of the road.

This bill is supported by the Denali Borough Assembly (see attached resolution). Additionally, the bill's sponsor has hosted several constituent meetings on the proposed legislation. By and large, the proposed area is supported by local residents and trail users. The main impetus behind the legislation is to protect the area for continued traditional use.

January – May: State Capitol – Juneau, Alaska 99801 – (907) 465-2327 – 1 (800) 336-7383 – Fax (907) 465-5241
June – December: 1292 Sadler Way Ste 203 – Fairbanks, Alaska 99701 – (907) 456-8161 – Fax (907) 456-8163
Senator.Joe.Thomas@legis.state.ak.us

ALASKA STATE LEGISLATURE

SENATOR JOE THOMAS

MEMORANDUM March 16, 2009

SUBJECT: Sectional Summary for SB 108

TO: Senators Lesil McGuire and Bill Wielechowski, Co-Chairs
Members of the Senate Resources Committee

FROM: Senator Joe Thomas, Sponsor

This sectional summary is developed based on earlier summaries developed by Legislative Legal, and should not be considered an authoritative interpretation of the bill.

Section 1. Establishes the Stampede State Recreation Area. Describes the purpose for creating the recreation area, the land and water to be included, management responsibilities and incompatible uses. Identifies activities that the commissioner may not restrict within the recreation area. Authorizes the commissioner to purchase real property lying within the boundaries of the recreation area. Prohibits the use of the power of eminent domain to acquire privately owned land for inclusion in the recreation area.

January – May: State Capitol – Juneau, Alaska 99801 – (907) 465-2327 – 1 (800) 336-7383 – Fax (907) 465-5241
June – December: 1292 Sadler Way Ste 203 – Fairbanks, Alaska 99701 – (907) 456-8161 – Fax (907) 456-8163
Senator.Joe.Thomas@legis.state.ak.us

LEGAL SERVICES

DIVISION OF LEGAL AND RESEARCH SERVICES
LEGISLATIVE AFFAIRS AGENCY
STATE OF ALASKA

(907) 465-3867 or 465-2450
FAX (907) 465-2029
Mail Stop 3101

State Capitol
Juneau, Alaska 99801-1182
Deliveries to: 129 6th St., Rm. 329

MEMORANDUM February 18, 2009

SUBJECT: Technical corrections to SB 108 (Work Order No. 26-LS0568\R)

TO: Senator Joe Thomas
Attn: Joseph Hardenbrook

FROM: Donald M. Bullock Jr.
Legislative Counsel

Enclosed is a draft committee substitute for SB 108. SB 108 incorrectly includes references to sec. 41.21.407; this draft corrects the references to refer to sec. 41.21.405. Sec. 41.21.405 describes the area to be included in the Stampede State Recreation Area and is the last of the five statutory sections proposed to be enacted.

I suggest you provide this draft to the chair of the first committee to which the bill has been referred. The changes in this draft are not substantive and merely correct internal references.

If I may be of further assistance, please advise.

DMB:med
09-008.med

Enclosure

DENALI BOROUGH, ALASKA
RESOLUTION NO. 07-01

A RESOLUTION IN SUPPORT OF THE ALASKA LEGISLATURE DESIGNATING MANAGEMENT OF THE STAMPEDE ROAD AREA WEST OF EIGHT MILE LAKE TO THE STATE OF ALASKA; DIVISION OF PARKS AND OUTDOOR RECREATION:70 CREATE THE STAMPEDE STATE RECREATION AREA.

WHEREAS, there are many issues related to the Stampede Trail and surrounding area west of Eight Mile Lake, many of which have brought into question the ability to continue traditional use dating back prior to statehood; and

WHEREAS, the Denali Borough has openly and repeatedly expressed a desire to have recreational opportunities and uses continued in this area; and

WHEREAS, the current use of the area includes motor vehicle access, horseback riding, dog mushing, cross-country skiing, skijoring, hiking, fishing, hunting, snowmobiling, and other outdoor activities; and

WHEREAS, there are no designated Alaska State Parks or Recreation Sites within the Denali Borough; and

WHEREAS, the Stampede Trail and surrounding area are well known critical habitat for caribou, moose and other wildlife; and

WHEREAS, this area is of current and future importance for providing a land base to support Alaska-owned outdoor recreation enterprises at Denali National Park and Preserve and other existing tourism destinations.

THEREFORE, BE IT RESOLVED that the Denali Borough Assembly strongly encourages the state of Alaska Legislature to pass legislation designating management of the following area to the state of Alaska, Division of Parks and Outdoor Recreation the following area: Fairbanks Meridian, Healy Quadrangle, the western half of Township 12S9W, the western half of Township 13S9W, Township 12S10W, Township 12511 W, Township 13S10W, Township 13S11 W.

BE IT FURTHER RESOLVED that the Denali Borough specifically requests that the aforementioned current uses be included in the management of the area and the Denali Borough Assembly be designated as the Local Advisory Management Council for the Stampede Recreation area.

ED a APPROVED by the DENALI BOROUGH ASSEMBLY this 10th day of January, 2007.

Denali Borough Mayor

ATTEST: Borough Clerk

RESOLUTION IN SUPPORT OF THE STAMPEDE STATE RECREATION AREA
DENALI BOROUGH, ALASKA

WHEREAS, the State of Alaska has recognized the importance of the Stampede townships for habitat and public recreation by classifying most of this area as Wildlife Habitat and/or Public Recreation in the Tanana Basin Area Plan (1991); and

WHEREAS, the State of Alaska recently validated the importance of these lands for habitat and recreation by choosing to retain acreage around 8 Mile Lake and near Otto Lake in state ownership when determining the Denali Borough's entitlement conveyances; and

WHEREAS, 8 Mile Lake is a logical gateway to such a State Recreation Area, and is most in need of immediate planning to provide services and avoid negative impacts; and

WHEREAS, local citizens who attended two Stampede Summits and commented on land and resource planning issues have re-iterated their individual interest in maintaining these lands for existing recreational uses; and

WHEREAS, growing numbers of statewide and national visitors enjoy the Denali area, for its landscape, wildlife, and its unique recreational opportunities; and

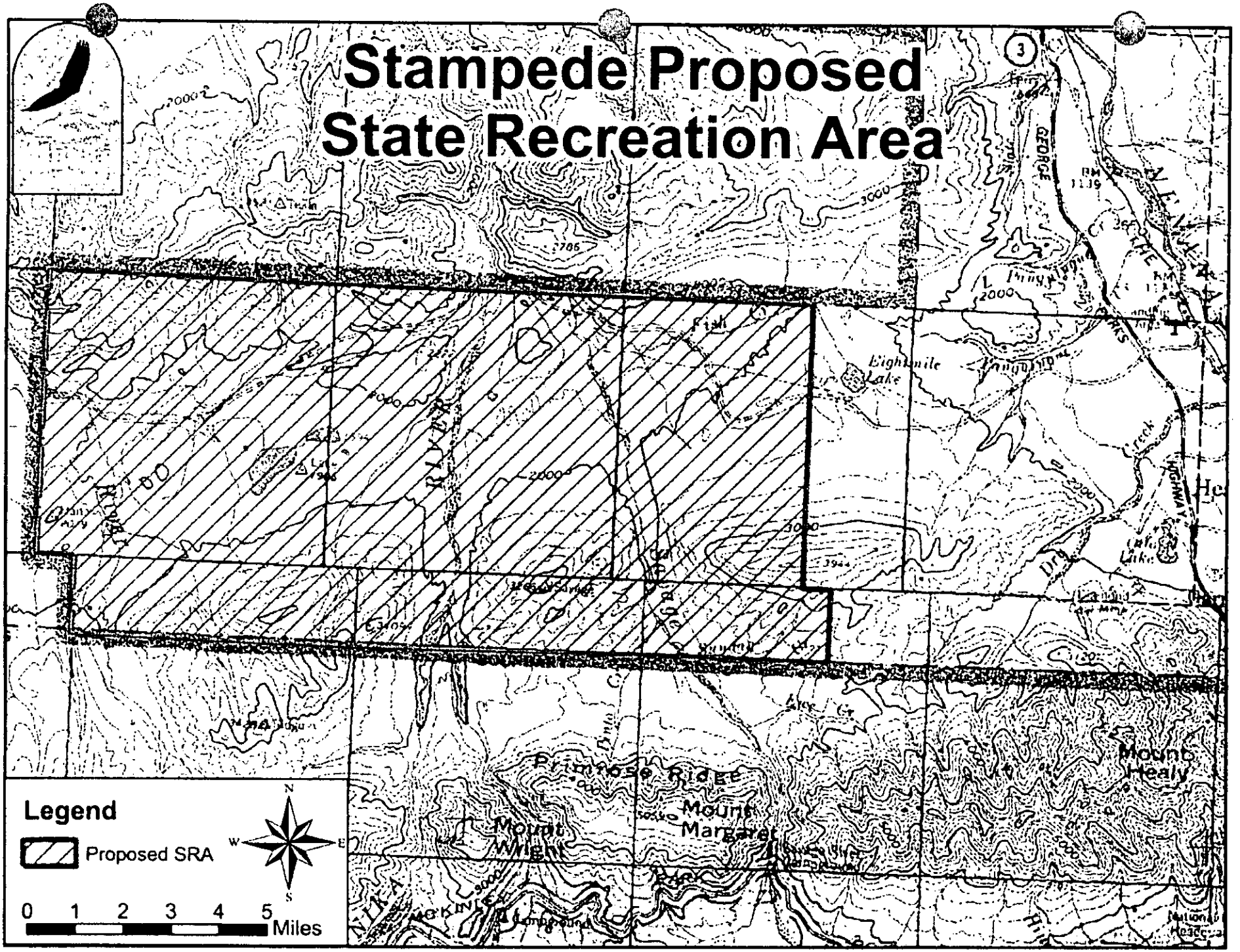
WHEREAS, in view of increased pressures for visitation, the established purposes of the Stampede townships will best be furthered by use of a management structure that enables all stakeholders to plan the future of this valuable public resource; and

WHEREAS, designation as a State Recreation Area will ensure such management.

THEREFORE, BE IT RESOLVED BY THE BOARD AND MEMBERS OF THE DENALI CITIZENS COUNCIL, that we support the establishment by the State of Alaska of the Stampede State Recreation Area, with boundaries as described in the legislation brought forth by Senator Joe Thomas, but with the ADDITION of nine sections around 8 Mile Lake (see map attached).

March 10, 2009

Denali Citizens Council
PO Box 78
Denali Park, AK
907-683-3396


Stampede Proposed
State Recreation Area
Legend
Proposed SRA
N
W
E
S
0 1 2 3 4 5
Miles
Eightmile Lake
Primrose Ridge
Mount Wright
Mount Margaret
Mount Healy
McKinley
PARK
GEORGE
HIGHWAY
3

Division of Geological & Geophysical Surveys
Coal and CBM Resource Assessment for the Proposed Stampede State Recreation Area

Executive Summary

The Division of Geological & Geophysical Surveys undertook the following short analysis of available geologic data in an area west of Healy, Alaska, to determine the state's current understanding of the area's coalbed methane (CBM) and other energy resource potential. Figure 1 outlines the acreage that is being considered for designation as a State Recreation Area (SRA). Sedimentary rocks of the coal-bearing Usibelli Group were mapped and analyzed at the southern boundary of the SRA by previous geologists working this region. They noted that the thickest coal seam was 13 feet, 6 inches and the thickest cumulative coal at one locality was 22 feet. Coal quality analyses from these exposures indicate the maturity rank is predominantly Lignite A. If coal bearing strata extending beneath the extensive covered area to the north within the SRA are all of this rank, the potential for commercially viable CBM or other energy resources would be low.

However, coal measures exposed to the east of the SRA, in the vicinity of the town of Healy, contain much thicker coal seams and are of much higher thermal rank. If these strata are present in the subsurface in the area of the SRA, there would be unrealized potential for natural gas and/or coal resources within the area in question. The currently available information does not rule out either interpretation. Gathering subsurface information by drilling a few critically-placed core holes would provide a relatively definitive answer as to the energy resource potential of the area.

Sources of Information

Available resource information for the proposed Stampede State Recreation Area include several regional 1:250,000 scale geologic maps (Csejtey and others, 1992; see Fig. 1); detailed 1:63.360 scale geologic map of the Healy D-5 quadrangle (eastern half of the proposed area, Wahrhaftig, 1970; see Fig. 2), and maps of the Healy D-5 and D-6 quadrangles (Gilbert and Bundtzen, 1976); U.S. Bureau of Mines Report of Investigations 4520 (Toenges and Jolley, 1949); Alaska coal geology, resources, and coalbed methane potential (Flores and others, 2004, see Fig. 3); geologic report on coal investigations in Alaska (Barnes and others, 1951); the Alaska Coal Mine Land Inventory (Plangraphics, Inc., 1983); and the U.S. Bureau of Mines Selected Coal Deposits in Alaska (Meyer, 1990). The RI 4520 contains outcrop descriptions of bed and coal thickness, strike and dip bedding attitude information, and coal quality analyses (11 analyses shown in table 1) at seven sites (1-7 on attached map, Fig. 1) that are at or just below the southern margin of the area. Unfortunately, the locations of these sites are indicated on a single page, hand drafted cartographic map (Fig. 7 from Toenges and Jolley, 1949) so no precise latitude or longitude data are available. However, these locations were approximately located on the map of Csejtey and others, 1992 (our Fig. 1) by using the river drainages as depicted on Fig. 7 in Toenges and Jolley, 1949, and the descriptions given in the text. The discussion that follows is based on the above mentioned **publicly-available** data and relies on the geologic mapping

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presented in Csejtey and others (1992) and Wahrhaftig (1970). This discussion will focus on the coal geology and related data that are relevant to the proposed Stampede State Recreation area.

Geology

The proposed Stampede State Recreation area contains Quaternary surficial deposits (**Qt** map unit, Fig. 1), and sedimentary rocks consisting of the Nenana Gravel (**Tcn** map unit, Fig. 1), and the Tertiary-age coal-bearing Usibelli Group (**Tcb** map unit, Fig. 1) exposed on its southern border. These Tertiary rocks were deposited on much older metamorphic rocks of the Yukon-Tanana terrane, that includes Paleozoic and Precambrian (?) pelitic and quartzose schist (**PzpCp**, **Pzk** and **MDt** map units, Fig. 1).

The Usibelli Group (**Tcb** map unit, Fig. 1) is predominantly Miocene-age strata that were deposited in southward-flowing fluvial, lacustrine, and peat bog environments situated north of the present day central Alaska Range (Ridgway and others, 2007). The Usibelli Group sedimentary sequence consists of five formations that are summarized in Fig. 3. These are from bottom to top: 1.) coal-bearing Healy Creek; 2.) noncoaly Sanctuary; 3.) coal-bearing Suntrana; 4.) coal-bearing Lignite Creek; and 5.) noncoaly Grubstake. The Usibelli group is conformably overlain by the Tertiary-age Nenana Gravel (unit 6 described in Fig. 3).

East of the Parks Highway near Healy, Alaska the Usibelli Coal Mine successfully produces annually about 1.5 million short tons of coal. In the immediate area, the only past production west of the Parks Highway and southeast of the proposed Stampede State Recreation area was at the abandoned Diamond Coal Mine (shown as DCM on Fig. 1). Here, a 40 foot thick coal bed that strikes N62° E and dips 33° NW, along the slope of the hill, was mined in 1946, producing 34,911 (short) tons of coal in stripping operations (Toenges and Jolley, 1949). This unit is mapped as **Tcu**, or undifferentiated coal-bearing Usibelli Group by Wahrhaftig (1970, see Fig. 2).

Figure 1 shows outcrops of the Usibelli Group at the southern edge of the proposed Stampede State Recreation area and south into Mt. McKinley National Park as coal-bearing strata (**Tcb**). Strikes and dips of **Tcb** shown on the Fig. 1 are from Toenges and Jolley (1949) and they generally dip from 9° to 33° to the northwest, directly into the proposed recreation area. The total thickness of the exposed coal at these localities ranges from 8 ft to 22 ft (see Fig. 1) with the thickest bed of coal at 13 ft 6 in (data from Toenges and Jolley, 1949; locations approximate). In general, detailed geologic mapping by Wahrhaftig (1970) shows similar directions of bedding attitude (strike and dip) of the coal-bearing Usibelli Group. However, Wahrhaftig's mapping further differentiates the Usibelli Group into the lowermost Healy Creek Formation (unit 1, Fig. 3) and the Lignite Creek Formation (unit 4, Fig. 3). The Lignite Creek Formation is queried (Tlc?) indicating uncertainty which formation is present. The intervening Sanctuary Formation (unit 2, Fig. 3) and the Suntrana Formation (unit 3, Fig. 3), the main source of minable coal to the east at the Usibelli Coal Mine are not indicated on the Wahrhaftig 1970 map in the area along the southern border of the proposed Stampede State Recreation area. Additionally, Wahrhaftig's 1970 map of the Healy D-5 quadrangle has structure contours (red-dashed lines, Fig. 2) drawn at the base of the Nenana Gravel that suggest that the local basin may be up to 2500 ft deep. However, his cross sections A to A' (shown on Fig. 2) and B to B' (not

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shown) imply that this small basin is filled with ~2500 ft of Nenana Gravel. The base of the Nenana gravel in these cross sections is denoted by question marks (?) indicating what lies beneath the Nenana Gravel is unknown. The 1970 Wahrhaftig map does not indicate the source of the information for the structure contour, or that data that indicates the local "basin" may be 2500 feet deep. On the basis of the general trend of northwest dipping strata it is reasonable to suggest that coal-bearing Usibelli Group rocks might underlie the proposed recreation area at some depth. However, drilling would be necessary to confirm their presence, thickness, and depth.

Coal Quality of Coal Exposed near the Proposed Stampede State Recreation Area

Eleven coal quality analyses reported in Toenges and Jolley (1949) for coal seams sampled at the seven localities (1-7 shown on the map, Fig. 1) were placed into an Excel spreadsheet and Apparent Coal Rank was calculated for each (Table 1). Nine of the samples have an Apparent Rank of Lignite A and have Moist, Mineral Matter Free BTUs between 7536 to 8140. Two samples have "Apparent Ranks" of High Volatile Bituminous C (Locality 1, analysis C- 64425) and Subbituminous C (Locality 5, analysis C-64418). The high moisture content of 26.3% for sample C- 64425 at locality 1 suggests that this sample was highly weathered prior to testing and that the "Apparent Rank" of High Volatile Bituminous C is suspect. The description given on page 22 in Toenges and Jolley (1949) suggests that this 7 ft 10 in thick coal seam is directly beneath the Nenana Gravel and was subaerially exposed for a long period of time. Bacterial action on highly weathered coals results in higher water retention, and the moisture content of High Volatile Bituminous C coals should not exceed 20%. Therefore, discounting the analysis for this sample, all of the other coals are low rank Lignite A (9 samples) to Subbituminous C (1 sample). The low apparent rank of these coals indicates that the original peat bogs were never buried deep enough and for a long enough time to develop into higher rank coals. This is consistent with these coals likely being from the uppermost Lignite Creek formation (unit 4, Fig. 3).

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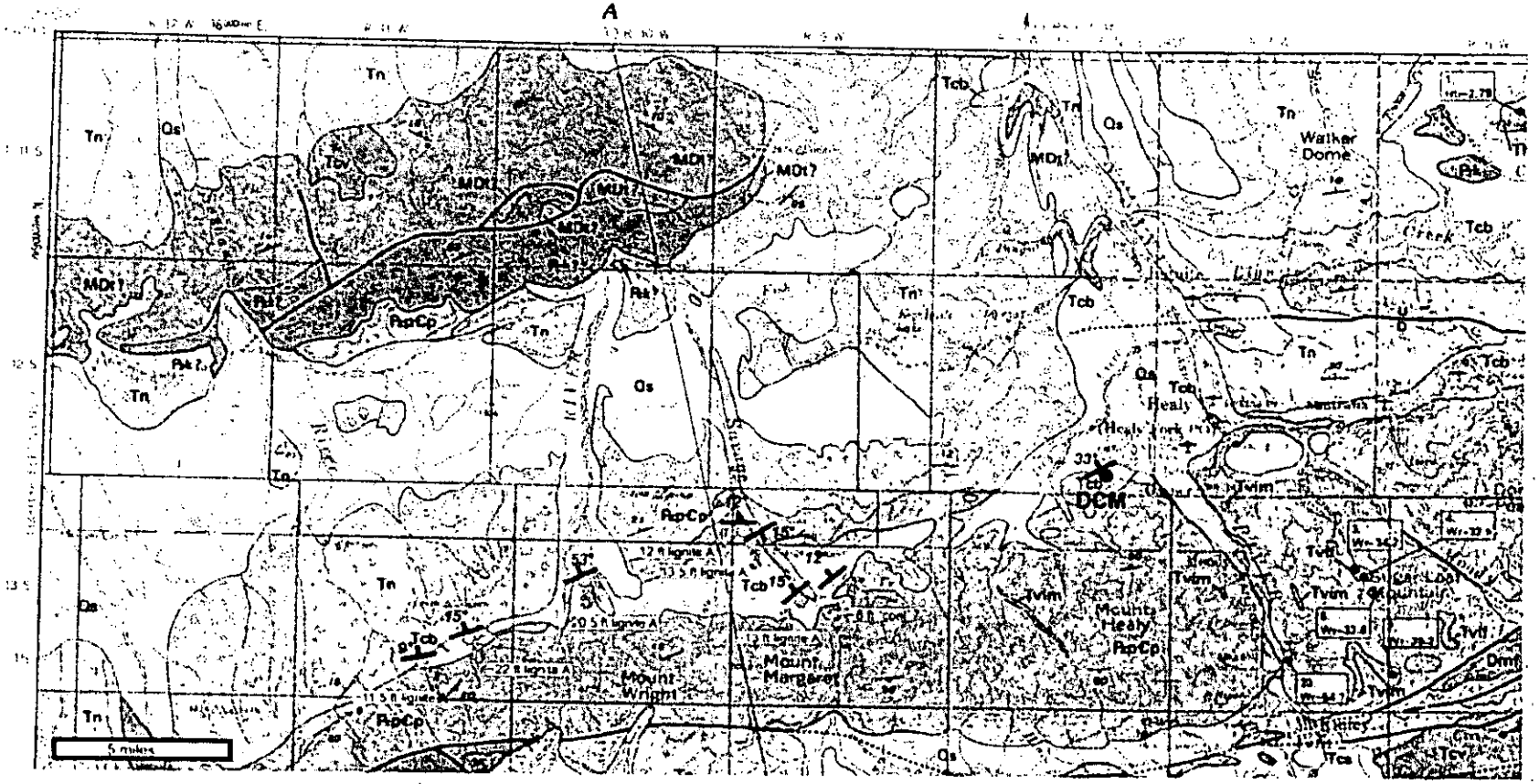
U.S. DEPARTMENT OF THE INTERIOR
U.S. GEOLOGICAL SURVEY



Boundary of proposed Stampede State Recreation area

1 Approximate locations (1-7) of coal localities with strike and dip, coal analyses, and total coal thickness from Toenges and Jolley, 1949.

50° Strike and dip of bedding (from Toenges and Jolley, 1949)

ROCK UNITS IN PROPOSED STAMPEDE STATE RECREATION AREA

Qs	Surficial Deposits	MDt?	Metamorphic schists
Tn	Nenana Gravel	Pzk?	
Tcb	Coal-bearing rocks Usibelli Group	PzPzCp	

Fig. 1. Geologic map modified from NW corner of geologic map of Csejtey and others, 1992.

Denali Chamber of Commerce

PO Box 437
Healy, AK 99743
907-683-INFO (4636)

website: http://denalichamber.com
email : denali.chamber@gmail.com

March 16, 2009

Senator Joe Thomas
State Capitol, Room 510
Juneau, AK 99801

RE: Senate Bill 108, Creation of a Stampede State Recreation Area

Dear Senator Thomas,

The Denali Chamber of Commerce was created for the purpose of cooperating in matters of interest to the public and professional people of the community; to promote and perpetuate the business, commercial, manufacturing and civic interests of the members and the community; to promote and perpetuate the general welfare and prosperity of the Denali area, and to stimulate public interest to these ends; and to develop a uniform public spirit whereby we may put forth the maximum effort in the aid of our area and to make it more prosperous, beautiful and a better place in which to live.

Therefore, in fulfilling the purpose of the Denali Chamber of Commerce, the Board of Directors on behalf of the members of the chamber support the proposed legislation you have introduced in the State of Alaska Senate, for the Creation of the Stampede State Recreation Area.

Our community residents use this area for many recreational purposes such as hiking, bird watching, motor vehicle travel (ATV's and snowmobiling), dog mushing, skiing, skijoring, photography, berry picking, hunting and trapping. Several chamber members own business enterprises on the Stampede Road which provide recreational services to users of the area which include horseback riding, jeep safari tours and sled dog tours along the Stampede Trail, as well as lodging facilities for tourists visiting the area.

The chamber members also support inclusion of lands around the 8-Mile Lake area in the legislation. These lands provide a natural gateway to a recreation area and are most in need of management. Most locals and visitors use this as a parking and/or staging area for access to the Stampede Trail and state lands on which they recreate.

Denali Chamber of Commerce

PO Box 437
Healy, AK 99743
907-683-INFO (4636)

website: http://denalichamber.com
email : denali.chamber@gmail.com

We are most appreciative of your efforts to introduce this important legislation which will provide a means of management to encourage stewardship and continued recreation opportunities for all Alaskans and visitors alike. We also appreciate you making the wishes of your constituents known to the legislature.

Best regards,

Denali Chamber of Commerce Board of Directors

Josh Wilhour, President

Heidi DeCoeur, Vice President

Julia Potter, Treasurer

Cathey Peterson-Hall, Correspondence Secretary

Teresa Loegering, Recording Secretary

Panguingue Creek Homeowner's Association
P.O. Box 451, Healy, AK 99743

3/24/2009

Dear Senator Thomas,

The Panguingue Creek Homeowner's Association would like to thank you for sponsoring the bill to create the Stampede State Recreation Area and for your work toward its passage. The Panguingue Creek Subdivision is located along the first few miles of the Stampede Road, so all of our members are very interested in the future of the lands proposed to be a part of the new recreation area.

Many of us that own property in this area and choose to live here do so because of the area's beautiful setting and access to Alaska's wilderness. We live here because we enjoy hiking, camping, berry picking, bird watching, skiing, skijoring, dog mushing, snowmobiling, riding ATV's, hunting, trapping, and fishing, and just about everything you can do to enjoy Alaska's beauty. Indeed, we have given up easy access to groceries and services we travel for over 100 miles to obtain, in order to have easy access to all the Stampede area has to offer.

Already, people from across the state, the country, and the world pass through here to use the state's land for recreation. Creating the Stampede State Recreation Area will help ensure that future generations of Alaskans and visitors will be able to enjoy this area, as well. As homeowner's closest to the proposed area, we know of the need that already exists for some type of management and improvement of this area.

Stampede Road offers vehicle access as far as Eight-mile Lake, one of the area's biggest draws, for the summer months. This area sees the highest use in the summer months, and without any improvements, its quality as a destination will continue to deteriorate as users leave trash and impact the area. The area around Eight-mile Lake already serves as a trail head for the area and begs for its inclusion in the State Recreation Area Proposal.

Two "Stampede Summits" got our community together to think about what we could do to make sure that we will always have access to these lands so near to our homes. The Stampede State Recreation Area is the best way to achieve that goal, and we thank you for taking this issue to Juneau for us.

Sincerely,

Panguingue Creek Homeowner's

William Price, President
Phil Brease, Secretary
Jared Zimmerman, Treasurer

Stewart Cubley

Senate Bill 108
Proposed Stampede State Recreation Area
March 18, 2009

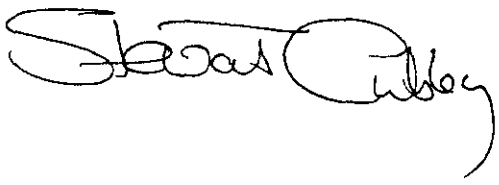
Dear Senator Thomas,

I am a private landowner in the Wolf Townships. I have a homestead near the Sanctuary River that I staked out in 1972 through an open-to-entry program, and later purchased it from the state. Over the years I have built a log cabin and accessory structures on the property and I live there for part of each year. I have traveled throughout the Wolf Township going to and from my property under all manner of locomotion and in all seasons for over three decades. I know firsthand the diversity of the land and its value as a natural resource for animal habitat as well as traditional recreational uses.

I **support** the inclusion of the Wolf Townships in the proposed Stampede Trail State Recreation Area, including the area surrounding 8 Mile Lake. I believe that the creation of this recreation area would provide more certainty for management of the lands under the direction of the Division of Parks and Outdoor Recreation than with the current management by the Division of Mining, Land and Water. If this area is not protected, inevitable commercial pressures will place them at risk for fragmentation by sale or lease, leaving fewer options for wise management and appropriate use.

This land is especially appealing for its open vistas and sightlines to the mountains of Denali to the south, thus making its apparent development value high. But anyone who has traveled to this area knows that this openness is due to poor soils underlain by permafrost. From the public policy standpoint, we should strive to protect this sensitive area and manage it for the existing public uses that have been in place for the last three decades.

As a potential in-holder in the Stampede State Recreation Area, I strongly support the intent of SB 108 to preserve the traditional nature of this region. I hope that you will recognize the extraordinary value of this land and that you will act to insure its responsible management in the future.



Sincerely, Stewart Cubley

PO Box 309 | Fairfax | CA | 94978 | 415-457-8615 | 225-410-0515 fax | stewartcubley@yahoo.com

Denali Citizens Council
Serving to protect Denali National Park and environs
PO Box 78 Denali Park, Alaska 99755 907-683-3396 www.denalicitizens.org

March 19, 2009

Senator Joe Thomas
State Capitol
Juneau, AK 99801

Dear Senator Thomas,

On behalf of the Board of Directors and members of the Denali Citizens Council (DCC), I would like to thank you for introducing SB 108, an Act creating the Stampede State Recreation Area. DCC, a grassroots citizen's organization founded in Cantwell in 1974, is composed largely of Alaskans, many of whom live in Denali Borough communities. Over the years, we've been involved in a number of public deliberations regarding land uses in the Denali Borough. Our local members live near the proposed Recreation Area and use it for recreation in diverse ways, including hiking, snow machining, and dog mushing. Some of our members are potential inholders within the bounds of the proposed Recreation Area.

We support SB 108. Establishment of a State Recreation Area in the Stampede townships will allow the recreational activities our members enjoy to continue. In addition, it will involve stakeholders in how best to manage this area for the future. It recognizes that the priority use of these lands is for recreation and the habitat that sustains it.

In the Denali Borough, whose livelihood and economic vitality depend largely upon tourism, a State Recreation Area is the right designation for these lands. We recently circulated a petition inviting local and statewide citizens to support the formation of this Recreation Area and have had an excellent response.

When local citizens met with representatives of Alaska Parks and Outdoor Recreation last year, we supported inclusion of 8 Mile Lake in the Recreation Area. We urge you to amend the bill to include this area. It is the logical gateway to the Recreation Area and is the most currently utilized and impacted area.

Thank you for the opportunity to provide input into this important legislation. We urge the Senate Resources Committee to pass SB 108.

Sincerely,

Nancy Bale

Nancy Bale, President DCC

DCC Board

Nancy Bale
Anne Beaulaurier
Jean Balay
Cass Ray
Jenna Hamm
Joan Frankevich
Nan Eagleson
Jared Zimmerman
Julia Potter, Community Organizer

18 March 2009

Senator Joe Thomas
Alaska State Capitol
Room #510
Juneau, AK 99801

Dear Senator Thomas:

We are writing in support of Senate Bill 108, an act establishing the Stampede State Recreation Area. Due to prior commitments, we will be unable to testify before the Senate Resources Committee this Friday but hope that you can use this letter to help show local support for the bill.

Since 1980 we have owned land along the Savage River within the proposed recreation area and have used the cabin we built there for vacations with family and friends, usually several times a year. There is no place on earth more dear to us. We have enjoyed seeing moose, wolves, caribou, lynx, sandhill cranes, and other wildlife on our trips through the area and want future generations to be able to enjoy that as well. According to your sponsor statement, "the purpose of State Recreation Areas is to manage state-owned land and water in such a way that provides the maximum level of outdoor recreation opportunities without significant adverse effects on the natural system". We wholeheartedly support that protection for this land.

We would also like to see Eight-Mile Lake and the land to the east that is within the Wolf Townships included in the proposed recreation area. Inclusion would recognize the existing pattern of use since one of the main destinations for summer recreational users is Eight-Mile Lake. The trail between the parking lot and the lake is showing "significant adverse effects on the natural system" and would benefit from more active management.

As year-round residents of Panguingue Creek Subdivision on the Stampede Road, this area is our backyard playground, and we are willing to put time, energy, and money into its upkeep. Its designation as a State Recreation Area with a management plan and local advisory board would, we hope, put in place a structure through which we and our neighbors could help to limit the degradation of its natural beauty.

Thank you for sponsoring Senate Bill 108. If we can help your fellow senators see the value of this legislation, please let us know.

Sincerely,

Susan and David Braun
PO Box 222
Healy, AK 99743

Joe Hardenbrook

From: tparagi@alaska.net
Sent: Thursday, March 19, 2009 9:35 PM
To: Sen. Gary Stevens; Sen. Charlie Huggins; Sen. Tom Wagoner; Sen. Bert Stedman
Cc: Sen. Joe Thomas
Subject: support for SB 108 Stampede State Recreation Area

Dear Senators Huggins, Stedman, Stevens, and Waggoner:

I am a member of the Citizen Advisory Board for State Parks in the Northern Area and ask you to support Senate Bill 108 to establish a Stampede State Recreation Area west of the Parks Highway near Healy. This area provides an outstanding opportunity to continuing allowing traditional access to the land for a variety of recreational purposes (hunting, snowmachining, horseback riding, berry picking, mountain biking, etc.) while providing a level of protection against having it degraded by unsustainable uses. A nearby example of what to avoid is the level of damage caused to the Rex Trail by a dramatic increase in unregulated motorized traffic in recent years that has effectively excluded many of the traditional access means.

I have enjoyed mountain biking along the Stampede Trail in addition to backcountry skiing and horseback riding to the south off the trail. A state recreation area in this scenic place would be the first along the Parks Highway north of the Alaska Range and provide additional recreational opportunities not allowed in nearby Denali National Park.

I recognize the fiscal note for planning and staffing this proposed addition to the Alaska State Park system comes at a poor time given the condition of the state and national economies. This is an investment for the future of public recreation lands. Local residents can help plan for the types of activities that will be appropriate, and State Parks can work to ensure a variety of uses while protecting the infrastructure of sustainable trails, campgrounds, and other appropriate facilities.

Sincerely,

Tom Paragi
1271 Lowbush Lane
Fairbanks, AK 99709

cc: Sen. Joe Thomas

Joe Hardenbrook

From: Dianna Leinberger [dleinberger@acsalaska.net]

Sent: Thursday, March 19, 2009 5:57 PM

To: Sen. Lesil McGuire; Sen. Bill Wielechowski; Sen. Charlie Huggins; Sen. Hollis French; Sen. Bert Stedman; Sen. Gary Stevens; Sen. Tom Wagoner

Cc: Sen. Joe Thomas

Subject: SB 108

Dear members of the Senate Resources Committee

I am writing in support of senate bill 108 to establish the Stampede State Recreation Area and I hope you too will support this bill. This area would provide the people of Alaska and it's visitors with an outstanding area for outdoor recreation which I feel is one of the primary reasons people live in and visit this state. The Alaska State Park System is one that provides maximum recreational opportunity while still maintaining the natural resources. Alaska State Parks are truly valued by by the people who visit them.

The Stampede trail area is currently used primarily for recreation and this bill would provide management that would protect it from incompatible land use. Recreational use in this area is important for many residents of interior Alaska. The establishment of a state recreation area could invite both out of state tourists and residents from other parts of the state to visit the Healy area thus providing an economic benefit. Also, given the use restrictions of the nearby Denali National Park, the establishment of a state recreation area would open recreational opportunities to motorized use in this area.

I hope you will realize that this is an opportunity to invest in the recreational opportunities of both current and future Alaskans which improves quality of life. Given the current economic situation, I know that it is difficult to add another expense to the state budget, however, I hope you can support this bill and start the process of creating the Stampede State Recreation Area.

Thank you for your time

Jeremy Douse
Fairbanks, Alaska

Joe Hardenbrook

From: Mike Gianncehini [mikeyg@mtaonline.net]
Sent: Sunday, March 22, 2009 7:18 PM
To: Sen. Joe Thomas
Subject: Stampede Recreation Area

22 March 2009

Senator Joe Thomas
Alaska State Capitol
Room #510
Juneau, AK 99801

Dear Senator Thomas:

I am writing in support of Senate Bill 108, an act establishing the Stampede State Recreation Area. Due to prior commitments, I could possibly be unable to testify before the Senate Resources Committee this Friday but hope that you can use this letter to help show local support for the bill.

I have enjoyed seeing grizzly, moose, wolves, caribou, lynx, sandhill cranes, and other wildlife on our trips through the area and want future generations to be able to enjoy that as well. According to your sponsor statement, "the purpose of State Recreation Areas is to manage state-owned land and water in such a way that provides the maximum level of outdoor recreation opportunities without significant adverse effects on the natural system". I wholeheartedly support that protection for this land.

I would also like to see Eight-Mile Lake and the land to the east that is within the Wolf Townships included in the proposed recreation area. Inclusion would recognize the existing pattern of use since one of the main destinations for summer recreational users is Eight-Mile Lake. The trail between the parking lot and the lake is showing "significant adverse effects on the natural system" and would benefit from more active management. I am a year-round residents of Healy. This area is our backyard playground, and we are willing to put time, energy, and money into its upkeep. Its designation as a State Recreation Area with a management plan and local advisory board would, I hope, put in place a structure through which my neighbors and I could help to limit the degradation of its natural beauty.

Thank you for sponsoring Senate Bill 108. If I can help your fellow senators see the value of this legislation, please let me know.

Sincerely,

Mike Giannechini
PO Box 58
Healy, AK 99743

phone: (907) 683-2926
email: mikeyg@mtaonline.net

SB

121

SENATE COMMITTEE REPORT
First Committee of Referral

DATE: 2/20/09

FURTHER: Finance

Date of 5-Day Notice: _____
(in accordance with Uniform Rule 23)

DATE TURNED IN TO OFFICE: 3/13/09

Resources Committee considered SENATE BILL NO. 121

SB 121 ENERGY EFFICIENCY BLDGS/PUBLIC WORKS

"An Act relating to energy efficiency for public facilities with the intent of reducing state operating costs."

and recommends:

[ ] be **replaced** with [ ] **SCS** or [✓] **CS** SB 121 (RES)

[ ] adopt **previous** [ ] **SCS** or [ ] **CS** _____ (_____)

[ ] attached amendment(s)

[ ] adopt _____ Letter of Intent

[ ] further referral to _____ Committee

SENATE BILL:
[ ] Same Title
[✓] New Title

HOUSE BILL:
[ ] Same Title
[ ] Technical Title Change
[ ] New Title w/ SCR #_____

NEW FISCAL NOTE(S):

Department	Date	Fiscal	Indet	Zero	FN#
DCCED	3/9	✓			
1 fiscal info forthcoming					

PREVIOUS FISCAL NOTE(S):

Department	Date	Fiscal	Indet	Zero	FN#

[ ] **APPROPRIATION - no fiscal note**

SIGNATURES AND RECOMMENDATIONS:	PRINTED LAST NAME	DO PASS	DO NOT PASS	NO REC	AMEND
Thomas W. Wagoner	WAGONER	✓			
	STEVENS			X	
Bert Stedman	STEDMAN			X	
	Wielechowski	✓			
CO-CHAIR: Lesil McGuire	McGuire	✓			
CO-CHAIR:					

ALASKA STATE LEGISLATURE

SENATOR LESIL McGUIRE
SENATOR BILL WIELECHOWSKI
Co-Chairs, Senate Resources Committee

MEMORANDUM

Memorandum

To: Leg. Legal

From: Shalon Szymanski, Committee Aide
Senate Resources Committee

Date: March 13, 2009

Re: Final CS Request

Please create a Final Committee Substitute (SRES) for work order # **26-LS0586\W**.

SB 121 did move out of committee today with no changes to the CS and we would like to have it read across on the floor Monday.

Thank you!

CS for SB 121\W (3/13/09)
compared with CS for SB 121 \P (3/9/09).

"An act relating to energy audits of public facilities and to energy efficiency for public facilities with the intent of reducing state operating costs."

The following five changes have been made to the CS for SB 121\P based on feedback provided by experts and committee members at its first hearing on Monday, Mar. 9, 2009. All changes have been requested and/or approved by Dept. of Transportation & Public Facilities and Alaska Energy Authority.

Changes to the bill:

1. The Dept. of Transportation & Public Facilities has requested that the database be updated annually, rather than every 10 years. This can be done simply by having individual building managers update data based on their utility bills. If substantial inefficiencies are found in a facility, then an energy audit and potential retrofit will be scheduled for that facility. **The only difference here is an annual update.**

2. All facilities **(not just heated facilities)** shall be retrofitted and eligible for performance contract retrofit projects. DOT asked that ALL facilities be eligible for performance contracting, regardless of whether or not they are heated and the section regarding retrofitting was also adjusted for consistency. *(Lighting projects still must be as efficient as possible while meeting federal guidelines; however the department felt it important for all buildings to be evaluated and eligible for retrofits.)*

3. **The reference to the International Energy Conservation Code (IECC) was removed** and the bill now states that: Facilities will be made to meet or exceed the most recently published edition of the ASHRAE/IESNA standard 90.1 as published by the American Society of Heating, Refrigerating and Air-Conditioning Engineers. **ASHRAE is more typically used for commercial facilities and also does a much better job at addressing Alaska's climate conditions**, while still meeting the same basic guidelines found in the IECC. Although the IECC embodies ASHRAE, it only recognizes 3 climatic zones which is insufficient for the entire state of Alaska. *(For the point of definitions, IESNA refers to the Illuminating Engineering Society of North America).*

4. The **decision to postpone a retrofit** due to lack of cost-effectiveness was modified to add a provision that this decision may be based in part on whether or not the department would be able to meet a return on investment within 15 years after project completion.

5. **The energy use index language** found in Sec. 44.83.955, was **adjusted to better define the energy use index and the database**. The Alaska Energy Authority shall establish an energy use index to measure energy consumption. The database they prepare will be made up of energy use index data for each facility. These changes did not alter content, just provided for better clarity through definition.

26-LS0586\P
Kane
3/9/09

CS FOR SENATE BILL NO. 121(RES)

IN THE LEGISLATURE OF THE STATE OF ALASKA

TWENTY-SIXTH LEGISLATURE - FIRST SESSION

BY THE SENATE RESOURCES COMMITTEE

Offered:
Referred:

Sponsor(s): SENATE RESOURCES COMMITTEE

A BILL

FOR AN ACT ENTITLED

"An Act relating to energy audits of public facilities and to energy efficiency for public facilities with the intent of reducing state operating costs."

BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF ALASKA:

*** Section 1.** The uncodified law of the State of Alaska is amended by adding a new section to read:

PURPOSE. The purpose of this Act is to reduce the amount of energy consumed by public facilities by 20 percent not later than 15 years after the completion of the energy use index database, thereby reducing costs to the state and increasing jobs in energy efficiency industries.

*** Sec. 2.** AS 44.42.065 is amended to read:

Sec. 44.42.065. Energy use index database maintenance; energy audit [CONSERVATION OF ENERGY IN PUBLIC BUILDINGS]. (a) The department shall

(1) update the energy use index database established in

AS 44.83.955

(A) when a retrofit project for a public facility is completed;

(B) not less than every 10 years after completion of a retrofit project for a public facility;

(C) when the state acquires ownership of a new public facility; or

(D) when significant capital improvements have been performed on a public facility; and

(2) conduct [, AT LEAST ONCE EVERY SEVEN YEARS, PERFORM] an energy audit of each public **facility whenever, in updating the energy use index under (1) of this subsection, the department determines there is substantial energy inefficiency for the public facility** [BUILDING].

(b) The department shall include in each energy audit required by **(a)(2)** [(a)] of this section recommendations for corrective measures to improve the energy efficiency and to minimize the life-cycle cost of the public **facility** [BUILDING] surveyed. These measures may include (1) energy conservation measures, (2) measures involving solar technology and other alternative energy systems, (3) energy management, and (4) maintenance and operating procedures and energy-related modifications. In recommending the corrective measures, the department shall give priority to changes in maintenance and operating procedures over measures requiring substantial structural modification or installation of equipment.

(c) In this section, "energy audit" means a determination of

(1) the energy consumption characteristics of a **public facility** [BUILDING], including the size, type, and rate of energy consumption of major energy-consuming systems of the **public facility** [BUILDING] and the climate characterizing the region where the **public facility** [BUILDING] is located; and

(2) a determination of the energy conservation and cost savings likely to result from appropriate energy-conserving maintenance and operating procedures and modifications, including the purchase and installation of energy-related fixtures.

*** Sec. 3.** AS 44.42 is amended by adding a new section to read:

Sec. 44.42.067. Retrofits; performance contracting for energy efficiency. (a) In addition to its obligation under AS 44.42.065, the department shall retrofit all heated public facilities listed in the energy use index described in AS 44.83.955. For nonheated public facilities listed in the index, the department shall retrofit, replace, or redesign inefficient lighting fixtures to be as efficient as possible while meeting federal guidelines.

(b) In carrying out the duty under (a) of this section, the department may, if no other funding or partial funding for a project is available

(1) enter into an energy performance contract; and

(2) administer a performance contract for a public facility by contracting with an energy service company that is a member of the National Association of Energy Service Companies.

(c) If the department uses an energy performance contract under (b) of this section for a project retrofitting a heated public facility, the contract may also include alternative energy projects and capital improvements not related to energy retrofitting.

(d) The department shall manage its duties under (a) of this section so that the retrofitting of state facilities identified in the energy use index database described in AS 44.83.955 shall be completed not later than 15 years after completion of the energy use index database.

(e) If the department determines that an energy retrofit described under (a) of this section is not cost-effective, the department may postpone the retrofit until it is determined to be cost-effective or additional capital improvements are required.

(f) Any retrofit, new construction, or deferred maintenance of a public facility performed under this section shall be made in accordance with the most recently published edition of the International Energy Conservation Code or the 90.1 standard of the American Society of Heating, Refrigerating and Air-Conditioning Engineers. The department is not required to comply fully with the International Energy Conservation Code or the 90.1 standard of the American Society of Heating, Refrigerating and Air-Conditioning Engineers if the climate of an area of the state makes the standards inappropriate for the retrofit, new construction, or deferred maintenance.

(g) In this section,

(1) "performance contract" means an agreement for the provision of energy services and equipment in which a private entity or qualified third party agrees to finance, design, construct, install, maintain, operate, or manage energy systems or equipment to improve the energy efficiency of, or produce energy for, a facility in exchange for a portion of the cost savings, lease payments, or specified revenue, and by which the level of payments is made contingent on verified energy savings, energy production, avoided maintenance, avoided energy equipment replacement, or any combination of verified energy savings, energy production, avoided maintenance, or avoided energy equipment replacement;

(2) "public facility" means a facility owned or controlled and held by the state for government or public use.

*** Sec. 4.** AS 44.83 is amended by adding a new section to read:

Sec. 44.83.955. Energy use index. (a) The authority shall

(1) establish an energy use index for all public facilities to capture baseline energy consumption data and energy efficiency data for prioritization of energy retrofit projects;

(2) prepare a baseline energy use index database for all public facilities evaluated and of the energy information collected; and

(3) adopt regulations establishing the methodology to be used in determining the energy use index described in (1) of this subsection.

(b) In this section, "public facility" means a facility owned or controlled and held by the state for government or public use.

*** Sec. 5.** The uncodified law of the State of Alaska is amended by adding a new section to read:

ENERGY USE INDEX DATABASE. The Alaska Energy Authority shall establish the energy use index database described in AS 44.83.955, added by sec. 4 of this Act, not later than six months after the effective date of this Act.

*** Sec. 6.** The uncodified law of the State of Alaska is amended by adding a new section to read:

ENERGY PERFORMANCE REPORT. Not later than January 31 of each of the three

years following the completion of an energy retrofit project, the Department of Transportation and Public Facilities shall submit to the legislature an energy performance report detailing the effectiveness of the energy efficiency measures provided for in this Act.

FISCAL NOTE

STATE OF ALASKA
2009 LEGISLATIVE SESSION

Fiscal Note Number:
Bill Version: **CSSB 121 (RES)**
() Publish Date:

Identifier (file name): SB121CS(RES)-CED-AEA 03-09-09
ENERGY EFFICIENCY FOR PUBLIC FACILITIES

Dept. Affected: DCCED
RDU Alaska Energy Authority
Component Alternative Energy & Efficiency

Sponsor Senate Resources Committee
Requester Senate Resources Committee

Component Number 2888

Expenditures/Revenues (Thousands of Dollars)

Note: Amounts do not include inflation unless otherwise noted below.

	Appropriation Required	Information					
OPERATING EXPENDITURES	**FY 2010**	**FY 2010**	**FY 2011**	**FY 2012**	**FY 2013**	**FY 2014**	**FY 2015**
Personal Services							
Travel							
Contractual							
Supplies							
Equipment							
Land & Structures							
Grants & Claims							
Miscellaneous							
TOTAL OPERATING	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
CAPITAL EXPENDITURES	**100.0**						
CHANGE IN REVENUES ( )							

FUND SOURCE (Thousands of Dollars)

1002 Federal Receipts							
1003 GF Match							
1004 GF	100.0						
1005 GF/Program Receipts							
1037 GF/Mental Health							
Other Interagency Receipts							
TOTAL	**100.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**

Estimate of any current year (FY2009) cost: 0.0

POSITIONS

Full-time							
Part-time							
Temporary							

ANALYSIS: *(Attach a separate page if necessary)*

This bill would require the Alaska Energy Authority (AEA) to:
1- Establish a baseline energy index and energy efficiency data for prioritization of retrofits of state owned or controlled facilities.
2- Adopt regulations to establish methodology to be used in establishing the index.

AEA estimates it will cost $100.0 to complete this one-time capital project.

Prepared by: Linda MacMillan - AEA Project Accountant
Phone 907-771-3029
Division Alaska Energy Authority
Date/Time 3/6/09 3:30 PM
Approved by: Emil Notti, Commissioner
Date 3/9/2009
Department of Commerce, Community and Economic Development

(Revised 9/10/2008 OMB)

FISCAL NOTE

STATE OF ALASKA
2009 LEGISLATIVE SESSION

Fiscal Note Number:
Bill Version: **SB 121**
() Publish Date:

Identifier (file name): SB121-DOT-SPF-3-07-09
Title: Energy Efficiency Bldgs/Public Works
Sponsor: Senate Resources
Requester: Senate Resources

Dept. Affected: DOT&PF
RDU: Design Engineering & Construction
Component: Statewide Public Facilities
Component Number: 2882

Expenditures/Revenues (Thousands of Dollars)

Note: Amounts do not include inflation unless otherwise noted below.

	Appropriation Required	Information					
OPERATING EXPENDITURES	**FY 2010**	**FY 2010**	**FY 2011**	**FY 2012**	**FY 2013**	**FY 2014**	**FY 2015**
Personal Services	230.2	0.0	332.1	332.1	332.1	332.1	332.1
Travel	25.0	0.0	30.0	30.0	30.0	30.0	30.0
Contractual	0.0	0.0		0.0	0.0	0.0	0.0
Supplies	1.0	0.0	1.5	1.5	1.5	1.5	1.5
Equipment	5.0	0.0	2.5	0.0	0.0	5.0	0.0
Land & Structures	0.0	0.0		0.0	0.0	0.0	0.0
Grants & Claims	0.0	0.0		0.0	0.0	0.0	0.0
Miscellaneous	0.0	0.0		0.0	0.0	0.0	0.0
TOTAL OPERATING	**261.2**	**0.0**	**366.1**	**363.6**	**363.6**	**368.6**	**363.6**
CAPITAL EXPENDITURES							
CHANGE IN REVENUES ( )							

FUND SOURCE (Thousands of Dollars)

1002 Federal Receipts							
1003 GF Match							
1004 GF	261.2	0.0	366.1	363.6	363.6	368.6	363.6
1005 GF/Program Receipts							
1037 GF/Mental Health							
Other Interagency Receipts							
TOTAL	**261.2**	**0.0**	**366.1**	**363.6**	**363.6**	**368.6**	**363.6**

Estimate of any current year (FY2009) cost: $ 0.0

POSITIONS

Full-time	**2**	0	3	3	3	3	3
Part-time							
Temporary							

ANALYSIS: *(Attach a separate page if necessary)*

Case One: No GF appropriation for energy efficiency retrofits. Retrofits will be accomplished via energy savings performance contracts. The performance contracts are funded with loans which are paid back over time using money that would have been expended on the energy saved from implementing the energy savings measures, from the using agencies existing operating budget. No reduction in operating budgets will be seen until the loan has been repaid.

Two engineering positions required in year one to implement and administer the program, with a third position added in FY2011.

FY 2010 One Engineer/Architect II, Range 23, Anchorage; One Engineering Assistant II, Range 19, Anchorage

FY 2011 One Engineering Assistant II, Range 19, Fairbanks

Prepared by: Mary Siroky, Special Assistant/Legislative Liaison — Phone 465-4772
Division: Department of Transportation and Public Facilities — Date/Time 3/7/09 11:00 AM
Approved by: Nancy Slagle, Director Administrative Services — Date 3/7/2009
Department of Transportation and Public Facilities

(Revised 9/10/2008 OMB)

2984

FISCAL NOTE

STATE OF ALASKA
2009 LEGISLATIVE SESSION

Fiscal Note Number:
Bill Version: **SB 121**
() Publish Date:

Identifier (file name): SB121-DOT-SPF-3-07-09
Title: Energy Efficiency Bldgs/ Public Works
Sponsor: Senate Resources
Requester: Senate Resources

Dept. Affected: DOT&PF
RDU: Design, Engineering & Construction
Component: Statewide Public Facilities
Component Number: 2882

Expenditures/Revenues (Thousands of Dollars)

Note: Amounts do not include inflation unless otherwise noted below.

	Appropriation Required	Information					
OPERATING EXPENDITURE	**FY 2010**	**FY 2010**	**FY 2011**	**FY 2012**	**FY 2013**	**FY 2014**	**FY 2015**
Personal Services	230.2	0.0	460.4	460.4	460.4	460.4	460.4
Travel	25.0	0.0	40.0	40.0	40.0	40.0	40.0
Contractual							
Supplies	1.0	0.0	2.0	2.0	2.0	2.0	2.0
Equipment	7.5	0.0	2.5	0.0	0.0	5.0	0.0
Land & Structures							
Grants & Claims							
Miscellaneous							
TOTAL OPERATING	**263.7**	**0.0**	**504.9**	**502.4**	**502.4**	**507.4**	**502.4**
CAPITAL EXPENDITURES	**8,000.0**	**0.0**	**16,900.0**	**16,900.0**	**16,900.0**	**16,900.0**	**16,900.0**
CHANGE IN REVENUES (							

FUND SOURCE (Thousands of Dollars)

1002 Federal Receipts							
1003 GF Match							
1004 GF	8,263.7	0.0	17,404.9	17,402.4	17,402.4	17,407.4	17,402.4
1005 GF/Program Receipts							
1037 GF/Mental Health							
Other Interagency Receipts							
TOTAL	**8,263.7**	**0.0**	**17,404.9**	**17,402.4**	**17,402.4**	**17,407.4**	**17,402.4**

Estimate of any current year (FY2009) cost $ 0.0

POSITIONS

Full-time	**2**	0	4	4	4	4	4
Part-time							
Temporary							

ANALYSIS: *(Attach a separate page if necess*

Case Two: GF appropriation for energy efficiency retrofits. Retrofits will be accomplished via design and construction contracts. Two engineering positions required in year one to implement and administer the program, with two additional positions added in FY2011. Assumptions:

FY 2010 One Engineer/Architect II, Range 23, Anchorage; One Engineering Assistant II, Range 19, Anchorage
FY 2011 One Engineer/Architect I, Range 22, Anchorage; One Engineering Assistant II, Range 19, Fairbanks

8,000,000 square feet to be retrofitted, estimate only at this point based upon limited information on executive branch and court system buildings from the current list of state owned buildings from DOA Risk Management, estimating two thirds are heated. Does not include the University.

Prepared by: Mary Siroky, Special Assistant/Legislative Liaison — Phone 465-4772
Division: Department of Transportation and Public Facilities — Date/Time 3/7/09 11:00 AM
Approved by: Nancy Slagle, Director Administrative Services — Date 3/7/2009
Department of Transportation and Public Facilities

(Revised 9/10/2008 OMB)

ALASKA STATE LEGISLATURE

Senate Resources Committee

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SENATE RESOURCES COMMITTEE

SPONSOR STATEMENT

Senate Bill 121: "An Act relating to energy efficiency for public facilities With the intent of reducing state operating costs."

SB 121 will decrease the cost of operating state facilities by reducing the amount of energy consumed by public facilities over the next fifteen years.

This bill requires the Department of Transportation and Public Facilities to retrofit, where cost effective, all public facilities within 15 years of the completion of an energy use index database. Retrofitting numerous public facilities will save energy and energy costs but could be very expensive if it weren't for performance contracting. Performance contracting by an energy service company allows the state to retrofit many more buildings through a pay as you save system than could be funded annually. It's a win-win situation. No money is spent out of pocket, initial savings are paid to the energy service company for the retrofit, and within 15 years or less, cost savings from efficiency upgrades go directly to the state, saving public funds.

In order to prioritize energy retrofit projects, an energy use index database must be established to provide baseline data on the energy consumption of individual facilities. Once this data is all in one place, the state can identify which facilities consume the greatest amount of energy and are therefore most costly to operate, so that those facilities can be targeted for priority retrofitting.

This bill requires the Alaska Energy Authority to create an energy use index database and requires the Department of Transportation and Public Facilities to update the database every 10 years from the date of an individual retrofit or whenever there are substantial changes to a facility. If during an update, substantial inefficiencies are identified for a facility in the database, a new energy use audit and potential retrofitting of that facility would be arranged by the department.

In 2004, the Alaska Department of Transportation and Public Facilities executed a performance contract to retrofit 8 public buildings. Based on 2006-2007 utility rates, this contract has saved the state $365,991, significantly more than the contract guaranteed. Based on 2008 rates, this savings would actually be $557,096. Electricity usage was cut by 22%, natural gas by 15%, and fuel oil by 36 percent. If the state executed just 25 similar contracts, the state could save over $13 million (based on 2008 rates) in the first year.

Senate Bill 121:
Reducing State Operating Costs Through Energy Efficient Public Buildings

Proposal:

Decrease the cost of operating state facilities by reducing the amount of energy consumed by public buildings by 20 percent over the next fifteen years.

Background:

- Alaska faces some of the highest energy costs nationwide, and as the owner of nearly 1800 public facilities, the State of Alaska would benefit by taking steps to lower these operating costs.
- The easiest way for the state to reduce energy costs is to maximize energy efficiency of public facilities by installing energy savings measures that meet the most recently published International Energy Conservation Code (IECC) standards.
- The 2009 International Energy Conservation Code (IECC) provides facilities with 15% more efficiency than the 2006 code.
- Most public facilities in Alaska have not received energy efficiency upgrades and therefore do not meet the current International Conservation Code (IECC) standards.
- Beginning in 2004, The Department of Transportation and Public Facilities executed a performance contract with Siemens Building Technologies who has now audited and retrofitted 16 public facilities, in 2 contracts to improve energy efficiency.
- Performance contracts allow the state to retrofit many more buildings than could be funded annually through a pay as you save system. Initial savings are paid to an energy service company for the retrofit, and within 15 years or less, cost savings from the efficiency upgrades go directly to the state, saving public funds.
- The energy performance report from the first performance contract of 8 facilities shows that in the first year after receiving energy retrofits, the state saved $365,991 (using 2006-2007 rates). Using 2008 rates the savings would actually be $557,096.
- The efficiency measures that resulted in cost savings to the state cut electricity usage by 22%, natural gas by 15%, and fuel oil by 36%. Looking at these figures, the total reduction in energy usage for these 8 facilities in the first year was 24 percent.
- Prioritizing energy retrofit projects will allow the state to realize the greatest savings by providing for energy efficiency measures in the facilities which consume the greatest amount of energy and therefore cost the most to operate, prior to retrofitting buildings which consume less.
- To help the state identify which facilities consume the most energy and prioritize energy retrofit projects accordingly, an energy use index database containing energy use data for each public facility should be established and maintained using data from utility bills.
- By prioritizing retrofit projects and using performance contracts, the state can begin saving energy right away and save in operating costs for years to come.

CS for SB 121 – General Intent, Additions and Changes

"An act relating to energy efficiency for public facilities with the intent of reducing state operating costs"

This bill provides for the Alaska Energy Authority to establish an energy use index database so that the state can identify the amount of energy consumed by each public facility and better prioritize energy retrofit projects to help reduce state operating costs.

This bill requires the Department of Transportation and Public Facilities to retrofit, where cost effective, all public facilities within 15 years of the completion of the energy use index database.

This bill allows the department to use performance contracting with a qualified energy service company so that the state can achieve energy audits and efficiency upgrades through a "pay as you save" system, where the state is guaranteed a specific energy savings and is able to pay for the contract in 15 years or less, with savings earned through efficiency upgrades.

This bill requires the department to update the energy use index database with information from new utility bills every 10 years or whenever a substantial change has been made for a facility. If a substantial inefficiency is detected during database maintenance, the department shall perform an energy audit and possibly another retrofit.

Below are a few changes and additions offered in the Committee Substitute to SB 121.

Changes to the bill:
The Purpose has been changed to say that the amount of energy consumed should be reduced by 20 percent not later than 15 years after completion of the energy use index database.

The timeframe for completion of energy retrofit projects has changed from 10 years after the date of the act to 15 years from the date of completion of the energy use index database.

Maintenance and updates to the energy use index database will be made by the Department of Transportation and Public Facilities every 10 years and when there are substantial changes to a facility.

Additions to the bill:
Lighted facilities that are not heated shall be upgraded so that lighting is as efficient as possible while meeting federal guidelines.

If the department determines that a retrofit is not cost effective, the department may postpone the retrofit until it is determined to be cost effective or additional capital improvements are required.

All retrofits, new construction and deferred maintenance of state buildings shall be made in accordance with the most recently published version of the International Energy Conservation Code or the 90.1 standard of the American Society of Heating, Refrigerating and Air-Conditioning Engineers. The department may amend these standards to better address the climate needs throughout the state.

COLD CLIMATE HOUSING RESEARCH CENTER

CCHRC

Memo

Date: **March 9, 2009**

To: **Senate Resources Committee, State of Alaska**

From: **Dr. John N Davies, Research Director**

RE: **Support for SB 121**

As SB 121 addresses two of the key recommendations made in our report, *Alaska Energy Efficiency Program and Policy Recommendations,* we are in strong support of this bill.

The first recommendation was to establish an Energy Use Index for public buildings based on readily available utility bills and data about the size and use of each building. An energy use index is often as simple as energy used per square foot of heated floor space (BTU/sq. ft). Such an index gives the building owner a means of comparison with other similar buildings as to how the owner's building is performing. It also gives the state a means to prioritize retrofit work.

The second recommendation was "The Governor should direct each state agency to reduce energy consumption in its facilities by 20 percent from 2000 levels by 2020." We suggested that some sort of pay-as-you-save mechanism be used to fund the needed retrofits, either a revolving loan fund or to encourage the use of private energy service companies (ESCO). The funding mechanism uses some or all of the energy cost savings from the retrofit work to pay for financing the work.

CCHRC Internet Web Site: http://www.cchrc.org
PO Box 82489, Fairbanks, AK 99708 Phone: (907)457-3454 Fax: (907)457-3456

Alaska Energy Efficiency Program and Policy Recommendations

DRAFT

Final Report to
Cold Climate Housing Research Center
June 5, 2008

Project funded by:
Alaska Energy Authority
Alaska Housing Finance Corporation

information insights

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2990

7. The Alaska Housing Finance Corporation and Alaska Energy Authority should conduct an end-use survey of residential and commercial energy consumers.

AHFC and AEA should conduct a household survey to collect information about energy end-use and user behavior. Overall analysis should include survey data, AKWarm[10] data and utility data. The purpose of an end-use survey is to determine the specifics of residential energy consumption – how many people use electric hot water heaters versus gas; average age of refrigerators and industrial walk-in freezers in Alaska; the number of people and businesses that have switched to efficient lighting; and so on.

Baselines should be established by facility type and type of user.

- Quantify current energy use by
  - Residential – per household and type of user, i.e. multi-family versus single family
  - Commercial/public – square footage and type of user, i.e. hours per year of facility use; number of daily users

AHFC and AEA need to establish mechanisms for updating energy user data on an annual or biennial basis. Costs associated with these recommendations should be included in overall program administration.

The effect on homeowners and business owners of the recent run-up in energy prices (and in Juneau, the effect of temporary electrical transmission problems), has resulted in a variety of responses by state and local policy-makers. Additional information on end uses, updated periodically, would assist state and local policy-makers in choosing among policy options.

8. The Alaska Energy Authority should establish and report an Energy Use Index (EUI) for all public buildings.

The AEA should establish an energy use index for all public buildings, employing user and utility information. AEA should act as clearinghouse for EUIs, collecting and standardizing end-use information specific to Alaska. Energy use is usually then reported out in relation to square footage, type and hours of use, number of users, etc.

The Oregon Energy Trust has developed a simple and easy-to-use tool utilized by public schools in Oregon and Northern California based on the following ideas.

- A simple EUI can be established with 12 months energy use data (utility bills) and basic information about buildings use
- EUIs will help guide energy efficiency program funding to the highest users
- The EUI will serve the function of supplying basic baseline energy use information for public facilities

[10] AKWarm database housed at AHFC includes energy ratings on more than 25,000 households in Alaska. Information on energy used for home heating can be found for homes in parts of state the fuel source used for home heating is not used for other purposes.

We recommend the state contract for coordination and consolidation of EUI data; an estimated one-time cost of $50,000 would cover this effort. Set-up for such an endeavor would include choosing or developing a data gathering tool; working with Alaska DOT/PF to identify the contact person at each facility; contact and assistance to collect information; and consolidation of data. The state could choose to keep this project in-house but it is unlikely that costs would be reduced, they would just be less apparent.

2992

PERFORMANCE ASSURANCE REPORT - YEAR ONE
FOR
STATE OF ALASKA

Prepared for:

State of Alaska
Department of Transportation
DOT/PF Annex Building
2200 East 42nd Avenue
Anchorage, AK 99508
Attention: Mr. Joel St. Aubin

Prepared by:

Siemens Building Technologies, Inc.
22010 SE 51st St.
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(425) 507-4355

Principal Investigator:

Sandra Edwards, CEM, CDSM

February 7, 2008

EXECUTIVE SUMMARY

This document is the first annual Performance Assurance Report and compares the measured energy savings against the energy savings that were guaranteed by Siemens Building Technologies (Siemens) as part of a Performance Contract that was executed in 2004. As part of that contract, Siemens implemented Facility Improvement Measures (FIMs) at eight facilities which included: upgrades to the lighting systems and lighting controls, installation of low-flow water fixtures, installation of high efficient motors, modifications and expansion of the energy management systems, installation of office equipment machine load controllers, burner upgrades, conversion of CV to variable volume HW pumping upgrades, replacement of generator heaters, upgrades to the chiller plant cooling, the addition of oil tank heaters, installation of an exhaust fan for the electrical room and building envelope improvements.

Facility energy or water savings are determined by comparing the energy use before and after the installation of the FIM. The "before" case is called the baseline; the "after" case is referred to as the post-installation or performance period. Baseline adjustments are included to account for changes that affect energy use but that are not caused by the measures. Such adjustments may account for differences in weather and occupancy conditions between the baseline and performance periods.

In general,

Savings = Baseline Energy Use – Post Installation Energy Use ± Baseline Adjustments

The measured energy and water savings for the Facility Improvement Measures (FIM's) installed provide $365,991 in actual cost avoidance savings in the first annual year report.

The total guaranteed annual energy savings and the measured energy savings are summarized in Tables A & B below:

Table A

	Original Contract Guaranteed Annual Energy Savings	Reported Measured Savings (Year 1)
Electrical Consumption	2,211,605 (kWh)	2,881,786 (kWh)
Electrical Demand	322 (kW)	457 (kW)
Natural Gas	11,168 (Therms)	13,324 (Therms)
Fuel Oil	70,216 (Gal)	94,336 (Gal)
Water	2,409,000 (Gal)	2,923,000 (Gal)

The monetized annual energy savings based off of the original contract guarantee is reported in the table below:

Table B

	Original Annual Energy Savings (Monetized) *	Reported Monetized Savings (Year 1)**
Energy & Utility Savings	$265,329	**$353,393**
Operational Savings	$12,528	**$12,528**
Total	$277,857	**$365,991**

**Monetized savings based off of 2003-2005 base year utility rates*

***Reported Monetized savings based off of 2006-2007 1 year utility performance period.*

The water fixture operational savings were based upon the historical typical life of a fixture. The typical life of a water fixture is about 10 to 12 years. The water fixtures needing repair and replacement were evenly distributed. The age of the building and spot replacements were also taken into consideration to determine the failure rate of a given water fixture. Each year there is between 8-10% failure rate for a fixture.

Per the contract, the utility rate used for savings calculations will be based on the utility rate in effect for the predominant bill or the utility rate in effect for the corresponding period of the baseline period whichever is greater. The current rates will be designated the floor price. An escalation rate of 3.5% per annual period will be applied to the floor rates. The escalated floor rate will be compared to the utility rate in effect in each future annual period, and the greater of the two will be applied

INTRODUCTION

Siemens Building Technologies, Inc. (Siemens) is pleased to present the State of Alaska (State) with this first annual Performance Assurance Report for the operation of the Facility Improvement Measures (FIMs) that were installed as part of the Performance Contract in 2004 at the eight facilities listed on Table 1. This report documents and compares the measured energy savings against the energy savings that were guaranteed by Siemens.

Table 1
List of Buildings Included in Project

Dimond Courthouse	State Office Building
Alaska Office Building	Aviation Building
Court Plaza	DOT/PF Annex Building
Douglas Island Building	Public Safety Building

The FIMs that were implemented as part of this project include: upgrades to the lighting systems and lighting controls, installation of low-flow water fixtures, installation of high efficient motors, modifications and expansion of the energy management systems, installation of office equipment machine load controllers, burner upgrades, conversion of CV to variable volume HW pumping upgrades, replacement of generator heaters, upgrades to the chiller plant cooling, the addition of oil tank heaters, installation of an exhaust fan for the electrical room and building envelope improvements. The FIMs that were installed in each building are identified on Table 2.

BASE YEAR

The Base Year for this project is a rolling base year starting in July 2002 through June 2005, and the annual performance period is from September 1, 2006 through September 1, 2007. Utility data for the base year which represents the Baseline Energy Use is summarized in Table 4 with detailed utility data for the base year provided in Appendix N in back of the Utility Rate Information.

Table 4
Baseline Energy Use

7/2002-6/2005	Electric		Natural Gas	Fuel Oil	Water	Sewer
	Consumption	Demand	Consumption	Consumption	Consumption	Consumption
Building	(kWh)	(kW)	(therms)	(gal)	(gal)	(gal)
Dimond Courthouse	1,516,840	4,283	0	83,096	1,579,000	1,579,000
Alaska Office Building	790.182	0	0	29,879	565,000	565,000
Court Plaza	530,632	784	0	14,665	90,000	90,000
Douglas Island Building	625,005	1,541	0	15,977	940,000	940,000
State Office Building	6,456,818	17,569	0	113,397	1,681,000	1,681,000
Aviation Building	1,758,960	4,676	29,218	0	680,000	680,000
DOT/PF Annex Building	185,640	5,880	9,789	0	200,000	200,000
Public Safety Building	1,044,873	2,418	48,062	0	430,000	430,000
Total	12,908,950	31,849	87,069	257,014	6,165,000	6,165,000

GUARANTEED ENERGY SAVINGS

This section reviews the energy savings that were guaranteed by Siemens as part of this project. Table 5 provides the guaranteed reductions for electricity, natural gas Fuel oil, and domestic water for each FIM. The guaranteed cost avoidance savings are based upon 2003-2005 base year rates.

Table 5
Guaranteed Savings for each FIM

FIM#	Description	Electric Consumption (kWh)	Electric Demand (kW)	Natural Gas Consumption (therms)	Fuel Consumption (gal)	Water Consumption (kgal)	Baseyear Cost Savings ($)
1.00	Lighting Upgrades	1,277,391	322	-1,257	-2,109	0	$102,307
1.01	LightingControls	175,800	0	-10	-425	0	$9,073
2.00	WaterConservation		0	454	397	2,212	$25,089
3.00	Energy Efficient Motor Upgrades	21,812	0	0	0	0	$1,610
4.00	Energy Management/DDC Upgrades	669,911	0	12,096	68,323	0	$114,995
4.01	Office Equip. & Machine Load Controllers	25,500	0	0	0	0	$1,351
5.00	Upgrade Burners	0	0	0	2,184	0	$1,931
5.02	Convert CV to Variable HW Pumping	22,851	0	0	0	0	$1,376
5.03	Replace Generator Heaters	20,503	0	0	0	0	$1,236
5.06	Chiller Plant Cooling Upgrades	0	0	0	0	197	$2,053
5.08	Add Oil Tank Heaters	-455	0	0	0	0	$10,911
5.12	Install Exhaust for Electrical Room	24,900	0	0	0	0	$1,363
6.00	Building Envelope Improvements	33,394	0	-114	1,846	0	$4,562
	Totals	2,211,605	322	11,168	70,216	2,409	277,857

↑ savings guarantee

1. The guaranteed rate savings used in Table 5 are based upon 2003-2005 base year rates.

SUMMARY OF FINDINGS

The results of this Performance Assurance Report indicate that the State has had a very successful year in realizing the energy savings that were guaranteed by Siemens. Table 7 presents the utility savings that were measured during the first year of the agreement. The State achieved $365,991 in utility savings which is $88,134 more savings than anticipated. These savings are based upon (2006-2007) utility rates.

Table 7
Measured Savings for each FIM (Year 1)

FIM#	Description	Electric Consumption (kWh)	Electric Demand (kW)	Natural Gas Consumption (therms)	Fuel Consumption (gal)	Water Consumption (kgal)	Baseyear Cost Savings ($)
1.00	Lighting Upgrades	1,642,790	457	-1,621	-2,868	0	$134,944
1.01	LightingControls	249,007	0	-12	-602	0	$11,530
2.00	WaterConservation	25,998	0	732	641	2,704	$30,205
3.00	Energy Efficient Motor Upgrades	30,375	0	0	0	0	$2,908
4.00	Energy Management/DDC Upgrades	806,468	0	14,339	93,135	0	$151,984
4.01	Office Equip. & Machine Load Controllers	25,500	0	0	0	0	$1,327
5.00	Upgrade Burners	0	0	0	2,184	0	$3,324
5.02	Convert CV to Variable HW Pumping	22,851	0	0	0	0	$1,721
5.03	Replace Generator Heaters	20,503	0	0	0	0	$1,546
5.06	Chiller Plant Cooling Upgrades	0	0	0	0	219	$2,054
5.08	Add Oil Tank Heaters	0	0	0	0	0	$18,200
5.12	Install Exhaust for Electrical Room	24,900	0	0	0	0	$1,515
6.00	Building Envelope Improvements	33,394	0	-114	1846	0	$5,573
	Totals	2,881,786	457	13,324	94,336	2,923	$365,991

↑ savings at 2006-2007 rates

2999

Table 8 shows the associated cost avoidance savings for the first year with today's actual rates. The State achieved $557,096 in utility cost avoidance savings and this is based upon current year actual rate cost.

Table 8
Associated Cost Savings for each FIM and M&V Option – Actual

FIM #	Description	Measured Capacity (Option A)	Measured Consumption (Option B)	Main Meter Comparison (Option C)	Designated on Simulation or Calculation (Option D)	Total
1.00	Lighting Upgrades	$140,542	$0	$0	$0	140,542
1.01	LightingControls	$10,953	$0	$0	$0	10,953
2.00	WaterConservation	$33,258	$0	$0	$0	33,258
3.00	Energy Efficient Motor Upgrades	$2,908	$0	$0	$0	2,908
4.00	Energy Management/DDC Upgrades	$0	$328,827	$0	$0	328,827
4.01	Office Equip. & Machine Load Controllers	$0	$0	$0	$1,392	1,392
5.00	Upgrade Burners	$0	$0	$0	$6,465	6,465
5.02	Convert CV to Variable HW Pumping	$0	$0	$0	$1,805	1,805
5.03	Replace Generator Heaters	$0	$0	$0	$1,574	1,574
5.06	Chiller Plant Cooling Upgrades	$0	$0	$0	$2,095	2,095
5.08	Add Oil Tank Heaters	$18,200	$0	$0	$0	18,200
5.12	Install Exhaust for Electrical Room	$0	$0	$0	$1,925	1,925
6.00	Building Envelope Improvements	$0	$0	$0	$7,152	7,152
	Totals	$205,861	$328,827	$0	$22,408	$557,096

↑ savings at 2008 rates

3. The switch from #1 Oil to #2 Oil has had a tremendous impact on the current year cost avoidance with today's current fuel cost rate $/gals. During the base year the average cost $/gals for the #1 Oil was at $1.2558 compared to $1.1047 for the #2 Oil, and the extra cost for the use of #1 oil was $.1511. Considering the cost of #2 Oil is less expensive than the cost of #1 Oil, and with today's $ the cost of #1 Oil would have easily exceeded over $3.00 $/gals. The current cost of $/gals of #2 Oil in 2007 was $2.14 and in 2008 is now at $2.96 $/gals. This cost has more than doubled from the base year cost. The actual rates for 2008 were used in this table. The cost of fuel with today's $/gals rate of $2.96 is $275,680.

SB 143

SENATE COMMITTEE REPORT

DATE: 3/22/10

FURTHER: Finance

DATE TURNED IN TO OFFICE: _____

Resources Committee considered SENATE BILL NO. 143

SB 143 RAILBELT ENERGY & TRANSMISSION CORP.

"An Act establishing the Greater Railbelt Energy and Transmission Corporation and relating to the corporation; relating to transition, financial plan, and reporting requirements regarding planning for the initial business operations of the Greater Railbelt Energy and Transmission Corporation; relating to a report on legislation regarding the Regulatory Commission of Alaska and the Greater Railbelt Energy and Transmission Corporation; authorizing the Alaska Energy Authority to convey the Bradley Lake Hydroelectric Project and the Alaska Intertie to the Greater Railbelt Energy and Transmission Corporation; and providing for an effective date."

and recommends:

[ ] be **replaced** with [ ] **SCS** or [✓] **CS** SB 143 (RES)

[ ] adopt **previous** [ ] **SCS** or [ ] **CS** _____ (_____)

[ ] attached amendment(s)

[ ] adopt _____ Letter of Intent

[ ] further referral to _____ Committee

SENATE BILL:
[ ] Same Title
[✓] New Title

HOUSE BILL:
[ ] Same Title
[ ] Technical Title Change
[ ] New Title w/ SCR #_____

NEW FISCAL NOTE(S):

Department	Date	Fiscal	Indet.	Zero	FN#
DCCED		✓			

PREVIOUS FISCAL NOTE(S):

Department	Date	Fiscal	Indet.	Zero	FN#

[ ] **APPROPRIATION - no fiscal note**

SIGNATURES AND RECOMMENDATIONS:	PRINTED LAST NAME	DO PASS	DO NOT PASS	NO REC	AMEND
	Huggins			X	
	Stevens			X	
	French			✓	
CO-CHAIR:	Mcguire	✓			
CO-CHAIR:	Wielechowski	✓			

3002

26-GS1041\C
Bailey
4/1/10

CS FOR SENATE BILL NO. 143(RES)

IN THE LEGISLATURE OF THE STATE OF ALASKA

TWENTY-SIXTH LEGISLATURE - SECOND SESSION

BY THE SENATE RESOURCES COMMITTEE

Offered:
Referred:

Sponsor(s): SENATE RULES COMMITTEE BY REQUEST OF THE GOVERNOR

A BILL

FOR AN ACT ENTITLED

"An Act authorizing the organization of the Greater Railbelt Energy and Transmission Corporation; relating to energy and transmission corporations, and to the Alaska Energy Authority's contracting with energy and transmission corporations to operate a power project; and providing for an effective date."

BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF ALASKA:

*** Section 1.** The uncodified law of the State of Alaska is amended by adding a new section to read:

LEGISLATIVE INTENT. It is the intent of the legislature that an energy and transmission corporation authorized under this Act shall be regulated by the Regulatory Commission of Alaska. The legislature intends to review the regulation of energy and transmission corporations by the Regulatory Commission of Alaska five years after the formation of an energy and transmission corporation under this Act to evaluate whether continued regulation by the Regulatory Commission of Alaska is appropriate.

*** Sec. 2.** AS 42 is amended by adding a new chapter to read:

Chapter 50. Energy and Transmission Corporations.

Sec. 42.50.010. Energy and transmission corporations. (a) Four or more municipal or cooperative public utilities with electrically interconnected service territories may, if first authorized by law, organize an energy and transmission corporation

(1) to acquire, operate, or maintain power and transmission projects acquired or constructed as part of the former energy program for the state and owned by the Alaska Energy Authority under AS 44.83.396; and

(2) to plan for, recommend, coordinate, and otherwise address power generation and transmission for the electrically interconnected service territories as provided in this chapter.

(b) The purposes of the corporation are

(1) to ensure adequate, reliable, safe, and stable wholesale electric power to public utility members without undue discrimination, at the lowest reasonable long-term cost; and

(2) to be the primary recipient of state financial assistance provided to support the acquisition, construction, or development of generation and transmission assets and ancillary services and assets for the public utility members of the corporation.

(c) In furtherance of the purposes of the corporation, the corporation may plan for, recommend, coordinate, and otherwise address

(1) the adequacy of fuel supply, fuel storage, and fuel transportation resources required to meet the short-term and long-term electric power needs of the service territory of the corporation;

(2) the adequacy of generation and transmission assets to prudently meet local and regional short-term and long-term electric power and reliability needs of the areas electrically interconnected to the service territory of the corporation;

(3) generation reserves to meet planning and operational requirements;

(4) base load generation in all parts of the service territory of the corporation;

(5) generation and transmission power dispatch resources, including

the ability to connect dispatch resources of the public utility members;

(6) diversity in generation resources;

(7) renewable-energy-based generation resources;

(8) integration of renewable energy generation resources.

(d) The corporation shall operate on a nonprofit basis, offering its services based on uniform rates for like services under standard tariffs or contractual arrangements.

(e) The corporation has a separate and independent existence from the state. The corporation may not be considered the state, a state agency, an administrative unit of the executive branch of state government, a governmental unit of the state, a public corporation of the state, a municipal corporation, or a political subdivision of the state.

(f) The exercise by the corporation of the powers granted by this chapter is considered to be for a public purpose.

(g) The corporation is authorized to interconnect with and provide services to electric utilities other than public utility members on terms and conditions approved by the corporation's board of directors. The corporation may decline to interconnect with an electric utility or any other entity that fails to meet standards for interconnection adopted by the corporation.

Sec. 42.50.020. Board of directors. (a) The corporation shall be governed by a board of directors consisting of

(1) two directors from each public utility members, one of whom shall be the chief executive officer of the public utility member or the chief executive officer's designee and one of whom shall be an individual appointed by the governing body of the public utility member; and

(2) one public director appointed by the governor from a list of at least three persons submitted by the directors appointed under (a)(1) of this section; if the governor rejects an entire list, the directors appointed under (a)(1) of this section shall submit a new list that includes at least three persons who were not included on a previously rejected list.

(b) The term of a director representing a public utility member under (a)(1) of this section expires when the public utility member notifies the board that the

individual has been removed as a representative of the utility on the board.

(c) The term of the director appointed by the governor under (a)(2) of this section is four years. If a vacancy occurs, the governor shall appoint a director under (a)(2) of this section to serve the remaining term of the director. The governor may reappoint the director described in this subsection.

(d) The board may only remove a director for cause on two-thirds majority vote of the full board. The bylaws must provide a mechanism for a public utility member to appoint an alternative member if the chief executive officer of the utility is removed from the board.

(e) A majority of the directors on the board constitutes a quorum for the transaction of business and the exercise of the powers and duties of the board.

(f) The directors shall annually elect from among the directors on the board a chair and vice-chair and other board officers as may be provided in the bylaws.

(g) Directors may not receive a salary, but the corporation may pay directors a meeting fee, per diem, and travel expenses.

Sec. 42.50.030. Board meetings; exceptions. (a) A meeting of the board may be attended by members of the corporation, ratepayers, and the public. The bylaws must provide for participation of members and ratepayers at board meetings. Except when a voice vote is authorized, a vote shall be conducted in a manner that the members and ratepayers may know the vote of each director entitled to vote. The board may conduct a meeting by teleconference or similar communications equipment if the board gives reasonable notice of the meeting and if the members, ratepayers, and public are able to attend the meeting and hear the meeting. This subsection applies only to a meeting at which a quorum is present.

(b) The board may hold an executive session to discuss matters that come within the exceptions contained in (c) of this section on a majority vote of the board. Before holding an executive session, the board must first be convened as a regular or special meeting. A subject that is not mentioned in the motion calling for the executive session may not be considered at the executive session unless the subject is auxiliary to the main question. Formal action may not be taken during an executive session.

(c) The following matters may be discussed in an executive session:

(1) matters the knowledge of which would clearly have an adverse effect on the finances of the corporation;

(2) matters that tend to prejudice the reputation and character of a person; however, the person may request a public discussion;

(3) matters discussed with an attorney for the corporation, the knowledge of which could have an adverse effect on the legal position of the corporation;

(4) matters that are required by law to be confidential;

(5) matters pertaining to a plan, a program, or procedures for establishing, maintaining, or restoring security, or to a detailed description or evaluation of systems, facilities, or infrastructure of the corporation, but only to the extent that the discussion of the matter in open session

(A) could reasonably be expected to interfere with the implementation or enforcement of the security plan, program, or procedures;

(B) would disclose confidential guidelines for investigations or enforcement and the disclosure could reasonably be expected to risk circumvention of the law; or

(C) could reasonably be expected to endanger the life or physical safety of an individual or to present a real and substantial risk to the public health and welfare.

(d) The board shall give notice for all regular or special meetings of the board as provided in the bylaws.

Sec. 42.50.040. Officers and employees. (a) The board shall appoint a chief executive officer. The chief executive officer may not be a director and serves at the pleasure of the board.

(b) The board shall appoint officers as required by the bylaws and as the board determines to be necessary for the effective operation of the corporation.

(c) The chief executive officer may hire employees of the corporation as necessary for the efficient performance of the functions of the corporation. The board shall approve the range of compensation for employees. Employees of the corporation are not employees of the state and are not considered to be employees of a public

organization for the purposes of AS 39.

(d) An employee of the corporation may not be a director.

Sec. 42.50.050. Membership. (a) The members of the corporation are the public utility members and other entities that purchase services from the corporation that the board of directors approves to become members. The corporation may provide member benefits solely to the members of the corporation.

(b) An entity that meets the qualifications of a public utility member under this subsection shall become a public utility member of the corporation if approved by a two-thirds majority vote of the board. A public utility member

(1) shall be a municipal or cooperative electric utility with a designated electric distribution service territory, holding a certificate of public convenience and necessity issued by the Regulatory Commission of Alaska;

(2) shall be electrically interconnected to the service territory of the corporation; and

(3) may not be an affiliated electric utility.

(c) An affiliated electric utility may become a member of the corporation if approved by the board of directors.

(d) A member, including a public utility member, may withdraw from the corporation if the member

(1) pays or provides for the payment of all liabilities owed to the corporation;

(2) demonstrates that the withdrawal will not have adverse tax consequences to the corporation; and

(3) gives not less than six months' notice to the corporation.

(e) Withdrawal from the corporation does not affect a right or obligation in an agreement between a withdrawing public utility member and the corporation. The corporation shall hold equity contributed by a withdrawing public utility member to the corporation for the account of the withdrawing public utility member and refunded only in accordance with a long-range financial management plan adopted by the board.

(f) A public utility member may withdraw from being a public utility member

of the corporation but remain a member of the corporation if the public utility member

(1) demonstrates that the withdrawal will not have adverse tax consequences to the corporation; and

(2) gives not less than six months' notice to the corporation.

(g) When a public utility member gives a notice of withdrawal, the public utility member loses the right to have a director on the board.

Sec. 42.50.060. Articles of incorporation; change in location of principal office. (a) The articles of incorporation and amended articles of incorporation of a corporation must recite that they are executed under this chapter and must state

(1) the name of the corporation;

(2) the address of the principal office of the corporation;

(3) the names and the addresses of the incorporators;

(4) the names and addresses of the directors.

(b) The articles may contain any provisions consistent with this chapter that are considered necessary or advisable for the conduct of the business of the corporation. The articles shall be signed and acknowledged on behalf of each initial public utility member of the corporation. It is not necessary to recite in the articles of incorporation the purpose for which the corporation is organized or the corporate powers of the corporation.

(c) Articles of incorporation, and amended articles of incorporation, shall be submitted to the commissioner for filing. Upon a finding that the articles conform to the requirements of this chapter, and upon payment of the fees provided in AS 10.25.530, the commissioner shall file the articles in the records of the commissioner's office.

(d) A corporation may, upon authorization of its board of directors, change the location of its principal office by filing a certificate reciting the change of principal office, executed and acknowledged by its presiding officer under its seal, attested by the officer designated by the board, in the office of the commissioner.

Sec. 42.50.070. Bylaws. (a) The board shall adopt bylaws for the corporation for the governance and management of the affairs of the corporation. The board may alter, amend, or repeal the bylaws.

(b) The bylaws must be consistent with this chapter and the articles of incorporation.

(c) The bylaws must set out conditions that require the corporation to offer public utility members an opportunity to serve an industrial customer before the corporation may serve an industrial customer.

(d) The bylaws must include provisions governing financing arrangements under AS 42.50.150 that include obligations exceeding 12 months.

Sec. 42.50.080. Indemnification of directors, officers, and employees. The corporation shall indemnify directors, officers, and employees in a manner consistent with AS 10.06.490.

Sec. 42.50.090. General powers of the corporation. (a) To fulfill the purposes described in AS 42.50.010, the corporation may

(1) sue and be sued in its name;

(2) have perpetual existence;

(3) adopt and alter a corporate seal;

(4) participate with federal, state, and local governmental entities in formulating and implementing policies relating to electric power, and in planning for the development, construction, and operation of adequate electric power generation and transmission facilities for the service territory of the corporation;

(5) accept, by grant, sale, contract, operating agreement, or any other arrangement, assets from members of the corporation or other public or private entities, persons, or governments;

(6) engage in a program to support the efforts of the public utility members and affiliated electric utilities to enhance the development, efficiency, reliability, safety, and price stability of electric power in the service territory of the corporation;

(7) generate, manufacture, purchase, acquire, accumulate, transmit, meter, and dispatch wholesale electric power and ancillary services, and sell at wholesale, supply, and dispose of electric power to public utility members, members, affiliated electric utilities, and other entities;

(8) generate, manufacture, purchase, acquire, accumulate, transmit,

meter, and dispatch retail electric power and ancillary services to an industrial customer, and sell at retail, supply, and dispose of electric power to an industrial customer

(A) not located in the certificated service territory of a public utility providing electric service, under conditions established in the bylaws; or

(B) located in the certificated service territory of a public utility providing electric service if the public utility gives its written consent before the corporation enters an agreement to sell power to the industrial customer;

(9) procure fuel supplies, fuel storage capacity, and fuel transmission resources;

(10) construct, buy, lease, or otherwise acquire, equip, maintain, and operate, and sell, assign, convey, lease, mortgage, pledge, or otherwise dispose of or encumber land, buildings, structures, electric power lines or systems, dams, plants and equipment, and any other real or personal property, tangible or intangible, that is necessary, convenient, or appropriate to accomplish the corporation's purposes;

(11) buy, lease, use, or acquire franchises, rights, privileges, licenses, permits, and easements;

(12) sell, assign, convey, mortgage, pledge, exercise, or dispose of or encumber franchises, rights or privileges, licenses, permits, and easements;

(13) borrow money, contract indebtedness, issue evidences of indebtedness, and secure payment of indebtedness by mortgage, pledge, deed of trust, or other encumbrance on its real or personal property, assets, franchises, or revenue;

(14) construct, maintain, and operate electric transmission lines, along, upon, under, and across publicly owned land and public thoroughfares, including, without limitation, all roads, highways, streets, alleys, bridges, and causeways;

(15) exercise the power of eminent domain as a public utility under AS 42.05.631, except the corporation may not exercise the power of eminent domain to take an electric power generation or transmission asset from a public utility;

(16) acquire by purchase, lease, bequest, devise, gift, exchange, the satisfaction of debts, the foreclosure of mortgages, or otherwise, personal property, rights, rights-of-way, franchises, easements, and other interests in land, and acquire by

appropriation water rights that are located in the state, taking title to the property in the name of the corporation;

(17) hold, maintain, use, operate, improve, lease, exchange, donate, convey, alienate, encumber, or otherwise grant a security interest in, or authorize use or dispose of, land or personal property, subject to other provisions of this chapter;

(18) contract with and accept transfers, gifts, grants, or loans of funds or property from the United States or from the state or its political subdivisions, subject to other provisions of federal or state law or municipal ordinances;

(19) undertake and provide for the management, operation, maintenance, use, repair, renovation, and control of all of the property of the corporation;

(20) apply to the state, the United States, foreign countries, or other proper agencies for the permits, licenses, rights-of-way, or approvals necessary to construct, maintain, and operate electric power and related services, and obtain, hold, and reuse the licenses and permits in the same manner as other similar operators;

(21) enter into agreements with the state or a state agency or other instrumentality of the state;

(22) make all contracts necessary, convenient, or appropriate for the full exercise of its powers;

(23) conduct its business and exercise its powers inside or outside the state;

(24) develop operating standards applicable to all public utilities electrically interconnected to the service territory of the corporation;

(25) do or perform any other act and thing and have and exercise any other power that may be necessary, convenient, or appropriate to accomplish the corporation's purposes; and

(26) create subsidiary corporations.

(b) The corporation may not require its members to enter into power purchase agreements that restrict the ability of members to enter into bilateral power purchase or wheeling agreements among themselves, except as a condition for participation in specific new generation or transmission projects when the condition is reasonably

necessary in order for the corporation to finance the project.

Sec. 42.50.100. Public utility powers and regulation. The corporation shall have all of the powers and duties of a regulated electric public utility under AS 42.05, except that the corporation

(1) may not make retail sales of electric power except to an industrial customer under AS 42.50.090(a)(8);

(2) is not required to obtain a certificate under AS 42.05.221.

Sec. 42.50.110. Integrated resource plan. (a) The corporation shall adopt an integrated resource plan for use with a long-range fuel supply plan under AS 42.50.120 to determine the need for and selection of electric generation and transmission projects to ensure delivery of safe and reliable electric power to public utility members at the lowest reasonable long-term cost. The corporation shall evaluate and consider recommendations made in an applicable state energy plan or state integrated resource plan before in adopting and updating the plan. If the corporation's integrated resource plan deviates from other state energy or resource plans, the corporation's plan must include a report explaining the reasons for the deviation.

(b) The board shall establish a schedule for review of the integrated resource plan and update the plan at least once every five years.

(c) The corporation shall make the integrated resource plan available on the Internet to members, the governor, the legislature, and ratepayers.

Sec. 42.50.120. Long-range fuel supply plan. (a) The corporation shall adopt a long-range fuel supply plan to determine the need for and selection of fuel supplies to be used by electric generation projects to ensure delivery of safe, reliable, and sustainable electric power to public utility members at the lowest reasonable long-term cost. The corporation shall evaluate recommendations made in any applicable state energy plan or state integrated resource plan before adopting and updating the long-range fuel supply plan. If the corporation deviates from recommendations in a state plan, the adopted or updated long-range fuel supply plan shall include a report explaining the reasons for the deviation.

(b) The board shall establish a schedule for review of the long-range fuel

supply plan and update the plan at least once every five years.

(c) The corporation shall make the long-range fuel supply plan available on the Internet to members, the governor, the legislature, and ratepayers.

Sec. 42.50.130. Long-range capital improvement plan. (a) The corporation shall adopt a long-range capital improvement plan. The plan must describe how the corporation intends to accomplish the corporation's purposes and identify anticipated capital improvements planned during each of the following 10 years. The plan must be based on the principle of providing safe, reliable, and sustainable electric power to public utility members at the lowest reasonable long-term cost.

(b) The board shall establish a schedule for review of the long-range capital improvement plan and update the plan at least once every five years.

(c) The corporation shall make the long-range capital improvement plan available on the Internet to members, the governor, the legislature, and ratepayers.

Sec. 42.50.140. Long-range financial management plan. (a) The corporation shall adopt a long-range financial management plan. The plan must describe the manner in which the corporation intends to accomplish the corporation's purposes and the corporation's plans for acquisition, accumulation, and issuance of equity and debt for the next 10 years. The plan shall be based on the principle of providing safe, reliable, and sustainable electric power to public utility members at the lowest reasonable long-term cost.

(b) The board shall establish a schedule for review and update the long-range financial management plan at least once every five years.

(c) The corporation shall make the long-range financial management plan available on the Internet to members, the governor, the legislature, and ratepayers.

Sec. 42.50.150. Financing arrangements. (a) The corporation may

(1) use any financing arrangements permitted by law in achieving the purposes and objectives of the corporation; and

(2) develop financing arrangements for individual projects.

(b) The corporation may obtain assistance from state agencies with financing projects through direct grants, debt guarantees, granting of a moral obligation of the state to ensure payment of debt instruments, purchase of issued debt instruments, or

other financial methods appropriate to the projects or tasks.

Sec. 42.50.160. Fuel supplies. (a) The corporation may acquire long-term fuel supplies as required to ensure electric power generation facilities can operate without fuel-related interruption, including direct ownership of transportation and storage facilities as required to fulfill the purposes of the corporation under AS 42.50.010(b).

(b) The corporation may acquire long-term fuel supplies under this section in conjunction with other entities that are acquiring long-term fuel supplies for any lawful purpose in any lawful manner.

Sec. 42.50.170. Tax exemption. The real and personal property of the corporation and the assets, income, and receipts of the corporation are exempt from all taxes and assessments of the state or a political subdivision of the state, except that electricity sold at retail by the corporation is subject to the electric cooperative tax under AS 10.25.540 – 10.25.570.

Sec. 42.50.180. Reports and publications. The board shall publish an annual report on the Internet. The report must include financial statements audited by independent auditors, a discussion of the corporation's circumstances and operations during the period covered by the report, and any other information requested by the legislature. The board may publish other information or reports it considers appropriate.

Sec. 42.50.190. Right to examine books and records. (a) Except as provided in (c) of this section, members and ratepayers may, at a reasonable time and for any proper purpose, examine and make copies of the books and records of the corporation at the principal office of the corporation.

(b) The corporation may charge a requestor an amount equal to the actual cost of finding and duplicating documents requested under this section.

(c) The corporation may withhold books and records concerning the following subjects:

(1) records required to be kept confidential by law;

(2) personnel records, to the extent that the records are not required to be publicly disclosed by a state or federal agency;

(3) records that are proprietary, privileged, or a trade secret;

(4) records or information pertaining to a plan, a program, or procedures for establishing, maintaining, or restoring security, or to a detailed description or evaluation of systems, facilities, or infrastructure of the corporation, but only to the extent that the production of the records or information

(A) could reasonably be expected to interfere with the implementation or enforcement of the security plan, program, or procedures;

(B) would disclose confidential guidelines for investigations or enforcement and the disclosure could reasonably be expected to risk circumvention of the law; or

(C) could reasonably be expected to endanger the life or physical safety of an individual or to present a real and substantial risk to the public health and welfare; or

(5) specific matters that were prepared for or during an executive session of the board, and not subsequently made public by the corporation.

Sec. 42.50.200. Audits and examinations of corporation. The corporation shall be audited annually by an independent auditor. The board shall engage the auditor, who shall be responsible to the board. The corporation shall submit copies of each report of the auditor to the legislature and governor within 30 days after receipt of the report by the corporation.

Sec. 42.50.210. Dissolution, merger, consolidation, and disposition of assets. Without prior legislative approval, the corporation may not

(1) dissolve;

(2) merge or consolidate; or

(3) dispose of corporate assets other than in the ordinary course of business.

Sec. 42.50.220. Procedures for dispute resolution. The corporation shall establish a dispute resolution process in its bylaws. The dispute resolution process must include, at a minimum,

(1) a requirement that disputes be initially brought before the board for resolution;

(2) a requirement that the parties shall attempt to resolve a dispute that

is not resolved by the board through mediation;

(3) a requirement that the corporation and the disputing party shall attempt to resolve a dispute that is not resolved by the board and is not resolved through mediation through binding arbitration if allowed by the bylaws of the corporation; and

(4) if not resolved by the board, through mediation, or through binding arbitration, if allowed, a provision for resolution of the dispute through litigation in a court of competent jurisdiction.

Sec. 42.50.900. Definitions. In this chapter, unless the context otherwise requires,

(1) "affiliated electric utility" means an electric utility that is wholly owned by one or more public utility members and by or through which one or more public utility members obtain electric power or electric generation or transmission services;

(2) "board" means the board of directors of the corporation;

(3) "commissioner" means the commissioner of commerce, community, and economic development;

(4) "cooperative" means an entity organized under AS 10.25;

(5) "corporation" means an energy and transmission corporation organized under this chapter;

(6) "electrically interconnected" means interconnected at a minimum transmission level of 69 kilovolts;

(7) "electric power" means electric energy and capacity;

(8) "electric utility" means a public utility, as defined in AS 42.05.990 that furnishes electrical generation, transmission, or distribution service;

(9) "member" means a member of the corporation under AS 42.50.050, including public utility members;

(10) "public utility member" means a municipal or cooperative electric utility that has an electric distribution service territory, that holds a certificate of public convenience and necessity issued by the Regulatory Commission of Alaska, that is one of the electric utilities that organizes an energy and transmission corporation or that

becomes a public utility member of the corporation under AS 42.50.050(b), and that does not withdraw from being a member or public utility member under AS 42.50.050(d) or (e);

(11) "ratepayers" means the ratepayers of the public utility members of the corporation;

(12) "service territory of the corporation" means the combined service territories identified in the certificates of public convenience and necessity issued by the Regulatory Commission of Alaska for each of the public utility members of the corporation.

*** Sec. 3.** AS 44.83.396(c) is amended to read:

(c) The authority shall enter into a contract or lease under reasonable terms and conditions to permit the applicant utility to operate the power project when the applicant utility is the only wholesale power customer to be served directly by the power project**, or is a corporation organized under AS 42.50.010 and one or more public utility members of the corporation is a wholesale power customer to be served directly by the power project,** unless the authority determines **the** [A] utility **or corporation** making application for a contract or lease to operate a power project is not a qualified utility or is not capable of operating that power project efficiently and in a manner that is consistent with national standards for the industry and with agreements with bondholders.

*** Sec. 4.** The uncodified law of the State of Alaska is amended by adding a new section to read:

AUTHORIZATION TO FORM GREATER RAILBELT ENERGY AND TRANSMISSION CORPORATION. (a) Any combination of four or more of the following public utilities may organize the Greater Railbelt Energy and Transmission Corporation, as an energy and transmission corporation under AS 42.50:

(1) Homer Electric Association, Inc.;

(2) the City of Seward, Electric Utility Department;

(3) Chugach Electric Association, Inc.;

(4) the Municipality of Anchorage d/b/a Municipal Light and Power;

(5) Matanuska Electric Association, Inc.; and

(6) Golden Valley Electric Association, Inc.

(b) The corporation described in (a) of this section, if formed, shall conduct, under the direction of the Legislative Budget and Audit Committee, a management audit of the corporation to be commenced on June 30, 2013, 2016, and 2020. The management audit shall be conducted under methodologies and principles set out in volumes I (1988 ed.), II (1992 ed.) and III (1995 ed.) of the Management Audit Manual published by the National Association of Regulatory Utility Commissioners, Washington, D.C. The results of the management audit shall be transmitted to the Legislative Budget and Audit Committee 180 days after the commencement of the audit. This obligation to conduct a management audit shall be in addition to any audit obligation that may be required under an appropriation to the corporation.

(c) This section authorizes the organization of the Greater Railbelt Energy and Transmission Corporation, as required under AS 42.50.010(a), enacted by sec. 2 of this Act, if the conditions in sec. 5 of this Act are met.

*** Sec. 5.** The uncodified law of the State of Alaska is amended by adding a new section to read:

CONDITIONAL EFFECT. (a) Sections 2 and 3 of this Act take effect only if four or more of the listed public utilities deliver to the Alaska Energy Authority before 4:30 p.m. on July 30, 2010, a letter of intent in the form and substance acceptable to the Alaska Energy Authority, under which the listed public utility agrees to become a public utility member of the Greater Railbelt Energy and Transmission Corporation. Each listed public utility that meets the conditions described in this subsection shall, effective August 16, 2010, be a public utility member of the Greater Railbelt Energy and Transmission Corporation. The listed public utilities are as follows:

(1) Homer Electric Association, Inc.;

(2) the City of Seward, Electric Utility Department;

(3) Chugach Electric Association, Inc.;

(4) the Municipality of Anchorage d/b/a Municipal Light and Power;

(5) Matanuska Electric Association, Inc.;

(6) Golden Valley Electric Association, Inc.

(b) The executive director of the Alaska Energy Authority shall notify the lieutenant

governor and the revisor of statutes when any of the conditions described in (a) of this section are met.

(c) In this section, unless the context otherwise requires,

(1) "Alaska Energy Authority" means the authority created in AS 44.83.020;

(2) "Greater Railbelt Energy and Transmission Corporation" means the corporation organized as an energy and transmission corporation under AS 42.50, enacted by sec. 2 of this Act, as authorized by sec. 4 of this Act;

(3) "public utility member" has the meaning given in AS 42.50.900, enacted by sec. 2 of this Act.

*** Sec. 6.** If secs. 2 and 3 of this Act take effect under sec. 5(a) of this Act, they take effect August 16, 2010.

*** Sec. 7.** Sections 1, 4, and 5 of this Act take effect immediately under AS 01.10.070(c).

AMENDMENT

OFFERED IN SENATE RESOURCES BY SENATOR _____

TO: SB 143 (Work Draft 26-GS1041\S)

Page 7, line 30, following "corporation"

Insert "if approved by the board of directors"

Page 22, line 10, following "6,":

Insert "11, and 13"

Delete " and 11"

Page 22, line 27, following "6,":

Insert "11, and 13"

Delete " and 11"

Page 23, line 5, following "6,":

Insert "11, and 13"

Delete " and 11"

Page 23, line 9, following "*** Sec. 17.**:

Insert "Section 14"

Delete "Sections 13 and"

Page 23, line 9, following "Act"

Insert "takes"

Delete "take"

3021

LEGAL SERVICES

DIVISION OF LEGAL AND RESEARCH SERVICES
LEGISLATIVE AFFAIRS AGENCY
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Juneau, Alaska 99801-1182
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MEMORANDUM March 24, 2010

SUBJECT: Redraft of CSSB 143(ENE), generally applicable to organization of the Greater Railbelt Energy and Transmission Corporation (Work Order No. 26-GS1041\S)

TO: Senator Lesil McGuire
Co-Chair of the Senate Resources Committee

FROM: Jack Chenoweth
Assistant Revisor

The material added, amended, and deleted in your committee's previous "E" version to produce the "S" version that accompanies this memo is drawn from nine pages transmitted from your office. After consultation with Assistant Attorney General Brian Bjorkquist, I tried to address the effective date provisions as I understand the administration would like them to operate, but can't be sure whether I'm correct. Please check these provisions -- bill sections 15 - 17 -- carefully to make sure that they will operate rationally.

This measure really only makes sense if you have a sound grasp of the interrelationship of the effective date provisions and the corresponding contingencies.

1. The authorization (bill section 13) and conditional effect (bill section 14) are keystone provisions: under bill section 15, they are to be given immediate effect.

2. Under bill section 14(a) and bill section 14(c), all of the remaining substantive provisions are made conditionally effective, that is, they will take effect only after compliance with the significant bill section 14 condition:

a. If the condition of bill section 14 is met, then the principal operating provisions of the bill -- sections 3, 6, and 11 -- are to take effect: these carry a mid-August 2010 effective date.

b. Various provisions are amended or repealed at a later date: these provisions take effect in mid-August 2015.

You and the committee and the administration should verify that the handling of the effective dates conforms to expectations.

Look specifically at the interrelationship between the blanket exemption provided under proposed AS 42.05.711(q), added by bill section 5, and the various regulatory provisions added to AS 42.50.100(a) and (b) by bill sections 7 and 8. As set out, the provisions are arguably inconsistent as to the oversight of the proposed new corporation by the Regulatory Commission of Alaska. To the extent that they may be, you could easily cure any inconsistency by adding, at the beginning of the text of AS 42.05.711(q) (bill section 5), the words: "Except as otherwise provided in AS _____,".

*

With respect to my preparation of the draft from the notes and instructions that were provided, please note --

In AS 42.05.431(i), I substituted "may not" for "shall not" in the replacement language to be consistent with direction given in the Manual of Legislative Drafting (Manual at pp. 64 and 65, Uniform Rule 10, and AS 24.08.010).

I included the addition requested at the end of AS 42.50.050(c) (insert "under (a) of this section") but, in context, the change makes no sense. Should it say, instead, "approval under (a) of this section"?

I included the edits proposed for AS 42.50.050(f) but not at the places instructed because the instruction would have yielded an absurd outcome. Please review my handling.

The deletion of material at page 10, lines 24 - 26, of the previous "E" draft necessitated a renumbering of all paragraphs that follow paragraph (9).

The deletion of material at page 14, beginning at line 27, of the former "E" draft (all of former AS 42.50.160) and of material beginning at page 15, line 13 (all of former AS 42.50.180) necessitated a renumbering of the codified sections following through to the "definitions" section.

In former AS 42.50.170, now renumbered as AS 42.50.160, the requested deletion of subsection (b) necessitated a relettering of the next following subsections.

The material proposed to be added as bill section 8 of the material supplied appears in the accompanying draft as additions made in bill sections 9 and 10. To maintain the material consistent with its former sequence in the legislation, these sections are intercalated with codified section numbers of "AS 42.50.155" and "AS 42.50.165".

Questions? Please contact me.

JBC:ljw
10-213.ljw

Enclosure

26-GS1041\S
Chenoweth/Bailey
3/24/10

CS FOR SENATE BILL NO. 143( )

IN THE LEGISLATURE OF THE STATE OF ALASKA

TWENTY-SIXTH LEGISLATURE - SECOND SESSION

BY

Offered:
Referred:

Sponsor(s): SENATE RULES COMMITTEE BY REQUEST OF THE GOVERNOR

A BILL

FOR AN ACT ENTITLED

"An Act authorizing the organization of the Greater Railbelt Energy and Transmission Corporation; relating to energy and transmission corporations, to exemption of energy and transmission corporations from regulation by the Regulatory Commission of Alaska and municipalities, and to the Alaska Energy Authority's contracting with energy and transmission corporations to operate a power project; and providing for an effective date."

BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF ALASKA:

*** Section 1.** AS 29.35.070(a) is amended to read:

(a) The assembly acting for the area outside all cities in the borough and the council acting for the area in a city may regulate, fix, establish, and change the rates and charges imposed for a utility service provided to the municipality or its inhabitants by a utility that is not subject to regulation under AS 42.05 unless that utility is exempted from regulation under AS 42.05.711(a), (d) - (k), (o), [OR] (p), **or (q),** or is

exempted under regulations adopted under AS 42.05.810 from complying with all or part of AS 42.05.141 - 42.05.721.

*** Sec. 2.** AS 42.05.431(c) is amended to read:

(c) Notwithstanding (b) of this section,

(1) a wholesale agreement for the sale of power from a project licensed by the Federal Energy Regulatory Commission on or before January 1, 1987, and related contracts for the wheeling, storage, regeneration, or wholesale repurchase of power purchased under the agreement, entered into between the Alaska Energy Authority and one or more other public utilities or among the utilities after October 31, 1987, and before January 1, 1988, and amendments to the wholesale agreement or related contract, [AND] the wholesale agreement or related contract assigned by the Alaska Energy Authority to a joint action agency formed under AS 42.45.310 that purchases the project from the Alaska Energy Authority, **and a wholesale agreement for the sale of power from a project owned or operated by a corporation organized under AS 42.50, and related contracts for the wheeling, storage, regeneration, or wholesale repurchase of** electric **power purchased under the agreement, entered into between the corporation and one or more public utilities,** are not subject to review or approval by the commission until all long-term debt incurred for the project is retired, or, for a wholesale agreement or related contract assigned to a joint action agency formed under AS 42.45.310, until all long-term debt incurred to pay the purchase price to the Alaska Energy Authority is retired; and

(2) a wholesale agreement or related contract described in (1) of this subsection may contain a covenant for the public utility to establish, charge, and collect rates sufficient to meet its obligations under the contract; the rate covenant is valid and enforceable.

*** Sec. 3.** AS 42.05.431 is amended by adding a new subsection to read:

(i) When setting or reviewing rates for an energy and transmission corporation organized under AS 42.50.010, the commission may not disallow from a rate base or revenue requirement amounts necessary for the corporation to fund a cost reasonably anticipated to become a just and reasonable cost of producing and transmitting electric power, energy, or other services, including costs

I COULD APPLY TO GAS STORAGE

(1) for the repair, replacement, and retirement of a project owned or operated by the corporation; and

(2) incurred to permit the corporation to build reasonably necessary equity for future operations.

*** Sec. 4.** AS 42.05.711(*l*) is amended to read:

(*l*) A person, utility, joint action agency established under AS 42.45.310, or cooperative that is exempt from regulation under (a), (d) - (k), [OR] (o) **or (q),** of this section is not subject to regulation by a municipality under AS 29.35.060 and 29.35.070.

*** Sec. 5.** AS 42.05.711 is amended by adding a new subsection to read:

(q) A corporation organized under AS 42.50 is exempt from regulation under this chapter, including the requirement to obtain a certificate of public convenience and necessity under AS 42.05.221.

*** Sec. 6.** AS 42 is amended by adding a new chapter to read:

Chapter 50. Energy and Transmission Corporations.

Sec. 42.50.010. Energy and transmission corporations. (a) Four or more municipal or cooperative public utilities with electrically interconnected service territories may, if first authorized by law, organize an energy and transmission corporation

(1) to acquire, operate, or maintain power and transmission projects acquired or constructed as part of the former energy program for the state and owned by the Alaska Energy Authority under AS 44.83.396; and

(2) to plan for, recommend, coordinate, and otherwise address power generation and transmission for the electrically interconnected service territories as provided in this chapter.

(b) The purposes of the corporation are

(1) to ensure adequate, reliable, safe, and stable wholesale electric power to public utility members without undue discrimination, at the lowest reasonable long-term cost; and

(2) to be the primary recipient of state financial assistance provided to support the acquisition, construction, or development of generation and transmission

assets and ancillary services and assets for the public utility members of the corporation.

(c) In furtherance of the purposes of the corporation, the corporation may plan for, recommend, coordinate, and otherwise address

(1) the adequacy of fuel supply, fuel storage, and fuel transportation resources required to meet the short-term and long-term electric power needs of the service territory of the corporation;

(2) the adequacy of generation and transmission assets to prudently meet local and regional short-term and long-term electric power and reliability needs of the areas electrically interconnected to the service territory of the corporation:

(3) generation reserves to meet planning and operational requirements;

(4) base load generation in all parts of the service territory of the corporation;

(5) generation and transmission power dispatch resources, including the ability to connect dispatch resources of the public utility members;

(6) diversity in generation resources;

(7) renewable-energy-based generation resources;

(8) integration of renewable energy generation resources.

(d) The corporation shall operate on a nonprofit basis, offering its services based on uniform rates for like services under standard tariffs or contractual arrangements.

(e) The corporation has a separate and independent existence from the state. The corporation may not be considered the state, a state agency, an administrative unit of the executive branch of state government, a governmental unit of the state, a public corporation of the state, a municipal corporation, or a political subdivision of the state.

(f) The exercise by the corporation of the powers granted by this chapter is considered to be for a public purpose.

(g) The corporation is authorized to interconnect with and provide services to electric utilities other than public utility members on terms and conditions approved by the corporation's board of directors. The corporation may decline to interconnect with an electric utility or any other entity that fails to meet standards for

interconnection adopted by the corporation.

Sec. 42.50.020. Board of directors. (a) The corporation shall be governed by a board of directors consisting of

(1) two directors from each public utility members, one of whom shall be the chief executive officer of the public utility member or the chief executive officer's designee and one of whom shall be an individual appointed by the governing body of the public utility member; and

(2) one public director appointed by the governor from a list of at least three persons submitted by the directors appointed under (a)(1) of this section; if the governor rejects an entire list, the directors appointed under (a)(1) of this section shall submit a new list that includes at least three persons who were not included on a previously rejected list.

(b) The term of a director representing a public utility member under (a)(1) of this section expires when the public utility member notifies the board that the individual has been removed as a representative of the utility on the board.

(c) The term of the director appointed by the governor under (a)(2) of this section is four years. If a vacancy occurs, the governor shall appoint a director under (a)(2) of this section to serve the remaining term of the director. The governor may reappoint the director described in this subsection.

(d) The board may only remove a director for cause on two-thirds majority vote of the full board. The bylaws must provide a mechanism for a public utility member to appoint an alternative member if the chief executive officer of the utility is removed from the board.

(e) A majority of the directors on the board constitutes a quorum for the transaction of business and the exercise of the powers and duties of the board.

(f) The directors shall annually elect from among the directors on the board a chair and vice-chair and other board officers as may be provided in the bylaws.

(g) Directors may not receive a salary, but the corporation may pay directors a meeting fee, per diem, and travel expenses.

Sec. 42.50.030. Board meetings; exceptions. (a) A meeting of the board may be attended by members of the corporation, ratepayers, and the public. The bylaws

must provide for participation of members and ratepayers at board meetings. Except when a voice vote is authorized, a vote shall be conducted in a manner that the members and ratepayers may know the vote of each director entitled to vote. The board may conduct a meeting by teleconference or similar communications equipment if the board gives reasonable notice of the meeting and if the members, ratepayers, and public are able to attend the meeting and hear the meeting. This subsection applies only to a meeting at which a quorum is present.

(b) The board may hold an executive session to discuss matters that come within the exceptions contained in (c) of this section on a majority vote of the board. Before holding an executive session, the board must first be convened as a regular or special meeting. A subject that is not mentioned in the motion calling for the executive session may not be considered at the executive session unless the subject is auxiliary to the main question. Formal action may not be taken during an executive session.

(c) The following matters may be discussed in an executive session:

(1) matters the knowledge of which would clearly have an adverse effect on the finances of the corporation;

(2) matters that tend to prejudice the reputation and character of a person; however, the person may request a public discussion;

(3) matters discussed with an attorney for the corporation, the knowledge of which could have an adverse effect on the legal position of the corporation;

(4) matters that are required by law to be confidential;

(5) matters pertaining to a plan, a program, or procedures for establishing, maintaining, or restoring security, or to a detailed description or evaluation of systems, facilities, or infrastructure of the corporation, but only to the extent that the discussion of the matter in open session

(A) could reasonably be expected to interfere with the implementation or enforcement of the security plan, program, or procedures;

(B) would disclose confidential guidelines for investigations or enforcement and the disclosure could reasonably be expected to risk circumvention of the law; or

(C) could reasonably be expected to endanger the life or physical safety of an individual or to present a real and substantial risk to the public health and welfare.

(d) The board shall give notice for all regular or special meetings of the board as provided in the bylaws.

Sec. 42.50.040. Officers and employees. (a) The board shall appoint a chief executive officer. The chief executive officer may not be a director and serves at the pleasure of the board.

(b) The board shall appoint officers as required by the bylaws and as the board determines to be necessary for the effective operation of the corporation.

(c) The chief executive officer may hire employees of the corporation as necessary for the efficient performance of the functions of the corporation. The board shall approve the range of compensation for employees. Employees of the corporation are not employees of the state and are not considered to be employees of a public organization for the purposes of AS 39.

(d) An employee of the corporation may not be a director.

Sec. 42.50.050. Membership. (a) The members of the corporation are the public utility members and other entities that purchase services from the corporation that the board of directors approves to become members. The corporation may provide member benefits solely to the members of the corporation.

(b) An entity that meets the qualifications of a public utility member under this subsection shall become a public utility member of the corporation if approved by a two-thirds majority vote of the board. A public utility member

(1) shall be a municipal or cooperative electric utility with a designated electric distribution service territory, holding a certificate of public convenience and necessity issued by the Regulatory Commission of Alaska;

(2) shall be electrically interconnected to the service territory of the corporation; and

(3) may not be an affiliated electric utility.

(c) An affiliated electric utility may become a member of the corporation under (a) of this section.

(d) A member, including a public utility member, may withdraw from the corporation if the member

(1) pays or provides for the payment of all liabilities owed to the corporation;

(2) demonstrates that the withdrawal will not have adverse tax consequences to the corporation; and

(3) gives not less than six months' notice to the corporation.

(e) Withdrawal from the corporation does not affect a right or obligation in an agreement between a withdrawing public utility member and the corporation. The corporation shall hold equity contributed by a withdrawing public utility member to the corporation for the account of the withdrawing public utility member and refunded only in accordance with a long-range financial management plan adopted by the board.

(f) A public utility member may withdraw from being a public utility member of the corporation but remain a member of the corporation if the public utility member

(1) demonstrates that the withdrawal will not have adverse tax consequences to the corporation; and

(2) gives not less than six months' notice to the corporation.

(g) When a public utility member gives a notice of withdrawal, the public utility member loses the right to have a director on the board.

Sec. 42.50.060. Articles of incorporation; change in location of principal office. (a) The articles of incorporation, and amended articles of incorporation, of a corporation must recite that they are executed under this chapter and must state

(1) the name of the corporation;

(2) the address of the principal office of the corporation;

(3) the names and the addresses of the incorporators;

(4) the names and addresses of the directors.

(b) The articles may contain any provisions consistent with this chapter that are considered necessary or advisable for the conduct of the business of the corporation. The articles shall be signed and acknowledged on behalf of each initial public utility member of the corporation. It is not necessary to recite in the articles of

incorporation the purpose for which the corporation is organized or the corporate powers of the corporation.

(c) Articles of incorporation, and amended articles of incorporation, shall be submitted to the commissioner for filing. Upon a finding that the articles conform to the requirements of this chapter, and upon payment of the fees provided in AS 10.25.530, the commissioner shall file the articles in the records of the commissioner's office.

(d) A corporation may, upon authorization of its board of directors, change the location of its principal office by filing a certificate reciting the change of principal office, executed and acknowledged by its presiding officer under its seal, attested by the officer designated by the board, in the office of the commissioner.

Sec. 42.50.070. Bylaws. (a) The board shall adopt bylaws for the corporation for the governance and management of the affairs of the corporation. The board may alter, amend, or repeal the bylaws.

(b) The bylaws must be consistent with this chapter and the articles of incorporation.

(c) The bylaws must set out conditions that require the corporation to offer public utility members an opportunity to serve an industrial customer before the corporation may serve an industrial customer.

(d) The bylaws must include provisions governing financing arrangements under AS 42.50.150 that include obligations exceeding 12 months.

Sec. 42.50.080. Indemnification of directors, officers, and employees. The corporation shall indemnify directors, officers, and employees in a manner consistent with AS 10.06.490.

Sec. 42.50.090. General powers of the corporation. (a) The corporation may

(1) sue and be sued in its name;

(2) have perpetual existence;

(3) adopt and alter a corporate seal;

(4) participate with federal, state, and local governmental entities in formulating and implementing policies relating to electric power, and in planning for the development, construction, and operation of adequate electric power generation

and transmission facilities for the service territory of the corporation;

(5) accept, by grant, sale, contract, operating agreement, or any other arrangement, assets from members of the corporation or other public or private entities, persons, or governments;

(6) engage in a program to support the efforts of the public utility members and affiliated electric utilities to enhance the development, efficiency, reliability, safety, and price stability of electric power in the service territory of the corporation;

(7) generate, manufacture, purchase, acquire, accumulate, transmit, meter, and dispatch wholesale electric power and ancillary services, and sell at wholesale, supply, and dispose of electric power to public utility members, members, affiliated electric utilities, and other entities;

(8) generate, manufacture, purchase, acquire, accumulate, transmit, meter, and dispatch retail electric power and ancillary services to an industrial customer, and sell at retail, supply, and dispose of electric power to an industrial customer

(A) not located in the certificated service territory of a public utility providing electric service, under conditions established in the bylaws; or

(B) located in the certificated service territory of a public utility providing electric service if the public utility gives its written consent before the corporation enters an agreement to sell power to the industrial customer;

(9) procure fuel supplies, fuel storage capacity, and fuel transmission resources;

(10) construct, buy, lease, or otherwise acquire, equip, maintain, and operate, and sell, assign, convey, lease, mortgage, pledge, or otherwise dispose of or encumber land, buildings, structures, electric power lines or systems, dams, plants and equipment, and any other real or personal property, tangible or intangible, that is necessary, convenient, or appropriate to accomplish the corporation's purposes;

(11) buy, lease, use, or acquire franchises, rights, privileges, licenses, permits, and easements;

(12) sell, assign, convey, mortgage, pledge, exercise, or dispose of or

encumber franchises, rights or privileges, licenses, permits, and easements;

(13) borrow money, contract indebtedness, issue evidences of indebtedness, and secure payment of indebtedness by mortgage, pledge, deed of trust, or other encumbrance on its real or personal property, assets, franchises, or revenue;

(14) construct, maintain, and operate electric transmission lines, along, upon, under, and across publicly owned land and public thoroughfares, including, without limitation, all roads, highways, streets, alleys, bridges, and causeways;

(15) exercise the power of eminent domain as a public utility under AS 42.05.631, except the corporation may not exercise the power of eminent domain to take an electric power generation or transmission asset from a public utility;

(16) acquire by purchase, lease, bequest, devise, gift, exchange, the satisfaction of debts, the foreclosure of mortgages, or otherwise, personal property, rights, rights-of-way, franchises, easements, and other interests in land, and acquire by appropriation water rights that are located in the state, taking title to the property in the name of the corporation;

(17) hold, maintain, use, operate, improve, lease, exchange, donate, convey, alienate, encumber, or otherwise grant a security interest in, or authorize use or dispose of, land or personal property, subject to other provisions of this chapter;

(18) contract with and accept transfers, gifts, grants, or loans of funds or property from the United States or from the state or its political subdivisions, subject to other provisions of federal or state law or municipal ordinances;

(19) undertake and provide for the management, operation, maintenance, use, repair, renovation, and control of all of the property of the corporation;

(20) apply to the state, the United States, foreign countries, or other proper agencies for the permits, licenses, rights-of-way, or approvals necessary to construct, maintain, and operate electric power and related services, and obtain, hold, and reuse the licenses and permits in the same manner as other similar operators;

(21) enter into agreements with the state or a state agency or other instrumentality of the state;

(22) make all contracts necessary, convenient, or appropriate for the

full exercise of its powers;

(23) conduct its business and exercise its powers inside or outside the state;

(24) develop operating standards applicable to all public utilities electrically interconnected to the service territory of the corporation;

(25) do or perform any other act and thing and have and exercise any other power that may be necessary, convenient, or appropriate to accomplish the corporation's purposes; and

(26) create subsidiary corporations.

(b) The corporation may not require its members to enter into power purchase agreements that restrict the ability of members to enter into bilateral power purchase or wheeling agreements among themselves, except as a condition for participation in specific new generation or transmission projects when the condition is reasonably necessary in order for the corporation to finance the project.

Sec. 42.50.100. Public utility powers and regulation. The corporation shall have all of the powers and duties of a regulated electric public utility under AS 42.05, except that the corporation

(1) may not make retail sales of electric power except to an industrial customer under AS 42.50.090(a)(8);

(2) is not required to obtain a certificate under AS 42.05.221.

Sec. 42.50.110. Integrated resource plan. (a) The corporation shall adopt an integrated resource plan for use with a long-range fuel supply plan under AS 42.50.120 to determine the need for and selection of electric generation and transmission projects to ensure delivery of safe and reliable electric power to public utility members at the lowest reasonable long-term cost. The corporation shall evaluate and consider recommendations made in an applicable state energy plan or state integrated resource plan before in adopting and updating the plan. If the corporation's integrated resource plan deviates from other state energy or resource plans, the corporation's plan must include a report explaining the reasons for the deviation.

(b) The board shall establish a schedule for review of the integrated resource

plan and update the plan at least once every five years.

(c) The corporation shall make the integrated resource plan available on the Internet to members, the governor, the legislature, and ratepayers.

Sec. 42.50.120. Long-range fuel supply plan. (a) The corporation shall adopt a long-range fuel supply plan to determine the need for and selection of fuel supplies to be used by electric generation projects to ensure delivery of safe, reliable, and sustainable electric power to public utility members at the lowest reasonable long-term cost. The corporation shall evaluate recommendations made in any applicable state energy plan or state integrated resource plan before adopting and updating the long-range fuel supply plan. If the corporation deviates from recommendations in a state plan, the adopted or updated long-range fuel supply plan shall include a report explaining the reasons for the deviation.

(b) The board shall establish a schedule for review of the long-range fuel supply plan and update the plan at least once every five years.

(c) The corporation shall make the long-range fuel supply plan available on the Internet to members, the governor, the legislature, and ratepayers.

Sec. 42.50.130. Long-range capital improvement plan. (a) The corporation shall adopt a long-range capital improvement plan. The plan must describe how the corporation intends to accomplish the corporation's purposes and identify anticipated capital improvements planned during each of the following 10 years. The plan must be based on the principle of providing safe, reliable, and sustainable electric power to public utility members at the lowest reasonable long-term cost.

(b) The board shall establish a schedule for review of the long-range capital improvement plan and update the plan at least once every five years.

(c) The corporation shall make the long-range capital improvement plan available on the Internet to members, the governor, the legislature, and ratepayers.

Sec. 42.50.140. Long-range financial management plan. (a) The corporation shall adopt a long-range financial management plan. The plan must describe the manner in which the corporation intends to accomplish the corporation's purposes and the corporation's plans for acquisition, accumulation, and issuance of equity and debt for the next 10 years. The plan shall be based on the principle of providing safe,

reliable, and sustainable electric power to public utility members at the lowest reasonable long-term cost.

(b) The board shall establish a schedule for review and update the long-range financial management plan at least once every five years.

(c) The corporation shall make the long-range financial management plan available on the Internet to members, the governor, the legislature, and ratepayers.

Sec. 42.50.150. Financing arrangements. (a) The corporation may

(1) use any financing arrangements permitted by law in achieving the purposes and objectives of the corporation; and

(2) develop financing arrangements for individual projects.

(b) The corporation may obtain assistance from state agencies with financing projects through direct grants, debt guarantees, granting of a moral obligation of the state to ensure payment of debt instruments, purchase of issued debt instruments, or other financial methods appropriate to the projects or tasks.

Sec. 42.50.160. Fuel supplies. (a) The corporation may acquire long-term fuel supplies as required to ensure electric power generation facilities can operate without fuel-related interruption, including direct ownership of transportation and storage facilities as required to fulfill the purposes of the corporation under AS 42.50.010(b).

(b) The corporation may acquire long-term fuel supplies under this section in conjunction with other entities that are acquiring long-term fuel supplies for any lawful purpose in any lawful manner.

Sec. 42.50.170. Tax exemption. The real and personal property of the corporation and the assets, income, and receipts of the corporation are exempt from all taxes and assessments of the state or a political subdivision of the state, except that electricity sold at retail by the corporation is subject to the electric cooperative tax under AS 10.25.540 – 10.25.570.

Sec. 42.50.180. Reports and publications. The board shall publish an annual report on the Internet. The report must include financial statements audited by independent auditors, a discussion of the corporation's circumstances and operations during the period covered by the report, and any other information requested by the legislature. The board may publish other information or reports it considers

appropriate.

Sec. 42.50.190. Right to examine books and records. (a) Except as provided in (c) of this section, members and ratepayers may, at a reasonable time and for any proper purpose, examine and make copies of the books and records of the corporation at the principal office of the corporation.

(b) The corporation may charge a requestor an amount equal to the actual cost of finding and duplicating documents requested under this section.

(c) The corporation may withhold books and records concerning the following subjects:

(1) records required to be kept confidential by law;

(2) personnel records, to the extent that the records are not required to be publicly disclosed by a state or federal agency;

(3) records that are proprietary, privileged, or a trade secret;

(4) records or information pertaining to a plan, a program, or procedures for establishing, maintaining, or restoring security, or to a detailed description or evaluation of systems, facilities, or infrastructure of the corporation, but only to the extent that the production of the records or information

(A) could reasonably be expected to interfere with the implementation or enforcement of the security plan, program, or procedures;

(B) would disclose confidential guidelines for investigations or enforcement and the disclosure could reasonably be expected to risk circumvention of the law; or

(C) could reasonably be expected to endanger the life or physical safety of an individual or to present a real and substantial risk to the public health and welfare; or

(5) specific matters that were prepared for or during an executive session of the board, and not subsequently made public by the corporation.

Sec. 42.50.200. Audits and examinations of corporation. The corporation shall be audited annually by an independent auditor. The board shall engage the auditor, who shall be responsible to the board. The corporation shall submit copies of each report of the auditor to the legislature and governor within 30 days after receipt

of the report by the corporation.

Sec. 42.50.210. Dissolution, merger, consolidation, and disposition of assets. Without prior legislative approval, the corporation may not

(1) dissolve;

(2) merge or consolidate; or

(3) dispose of corporate assets other than in the ordinary course of business.

Sec. 42.50.220. Procedures for dispute resolution. The corporation shall establish a dispute resolution process in its bylaws. The dispute resolution process must include, at a minimum,

(1) a requirement that disputes be initially brought before the board for resolution;

(2) a requirement that the parties shall attempt to resolve a dispute that is not resolved by the board through mediation;

(3) a requirement that the corporation and the disputing party shall attempt to resolve a dispute that is not resolved by the board and is not resolved through mediation through binding arbitration if allowed by the bylaws of the corporation; and

(4) if not resolved by the board, through mediation, or through binding arbitration, if allowed, a provision for resolution of the dispute through litigation in a court of competent jurisdiction.

Sec. 42.50.900. Definitions. In this chapter, unless the context otherwise requires,

(1) "affiliated electric utility" means an electric utility that is wholly owned by one or more public utility members and by or through which one or more public utility members obtain electric power or electric generation or transmission services;

(2) "board" means the board of directors of the corporation;

(3) "commissioner" means the commissioner of commerce, community, and economic development;

(4) "cooperative" means an entity organized under AS 10.25;

(5) "corporation" means an energy and transmission corporation organized under this chapter;

(6) "electrically interconnected" means interconnected at a minimum transmission level of 69 kilovolts;

(7) "electric power" means electric energy and capacity;

(8) "electric utility" means a public utility, as defined in AS 42.05.990 that furnishes electrical generation, transmission, or distribution service;

(9) "member" means a member of the corporation under AS 42.50.050, including public utility members;

(10) "public utility member" means a municipal or cooperative electric utility that has an electric distribution service territory, that holds a certificate of public convenience and necessity issued by the Regulatory Commission of Alaska, that is one of the electric utilities that organizes an energy and transmission corporation or that becomes a public utility member of the corporation under AS 42.50.050(b), and that does not withdraw from being a member or public utility member under AS 42.50.050(d) or (e);

(11) "ratepayers" means the ratepayers of the public utility members of the corporation;

(12) "service territory of the corporation" means the combined service territories identified in the certificates of public convenience and necessity issued by the Regulatory Commission of Alaska for each of the public utility members of the corporation.

* **Sec. 7.** AS 42.50.100, as enacted by sec. 6 of this Act, is amended to read:

Sec. 42.50.100. Public utility powers and regulation. The corporation shall have all of the powers and duties of a regulated electric public utility under AS 42.05, except that the corporation

(1) may not make retail sales of electric power except to an industrial customer under AS 42.50.090(a)(8);

(2) is not required to obtain a certificate under AS 42.05.221;

(3) is exempt from payment of a regulatory cost charge under AS 42.05.254; and

(4) is exempt from rate regulation under AS 42.05.431.

* **Sec. 8.** AS 42.50.100, as enacted by sec. 6 of this Act, is amended by adding a new subsection to read:

(b) The corporation

(1) shall comply with the principles and requirements contained in AS 42.05.441 - 42.05.491 as if the corporation were a regulated public utility; and

(2) is subject to the jurisdiction of the Regulatory Commission of Alaska under AS 42.05.311 and 42.05.321 regarding joint use and interconnection of facilities.

* **Sec. 9.** AS 42.50, as enacted by sec. 6 of this Act, is amended by adding a new section to read:

Sec. 42.50.155. Administrative costs and other services. (a) The corporation may annually assess and collect a fee for just and reasonable administrative expenses from members of the corporation.

(b) The corporation may enter into contracts with members of the corporation for services rendered by the members to the corporation and for services provided to the members.

* **Sec. 10.** AS 42.50, as enacted by sec. 6 of this Act, is amended by adding a new section to read:

Sec. 42.50.165. Rates for electric power, energy, and services. (a) The corporation shall establish schedules of rates and charges for electric power, energy, and other services provided by the corporation, which become effective on adoption by the board of directors of the corporation using the procedures set out in (d) of this section.

(b) The rates and charges included in a schedule

(1) must comply with AS 42.50.100(b)(1);

(2) may be established for individual projects that are owned or operated by the corporation; however, the corporation may not grant an unreasonable preference or advantage to a customer or subject a customer to an unreasonable prejudice or disadvantage;

(3) may provide for uniform rates and charges in order to extend the

benefits of an integrated generation and transmission system and encourage the equitable distribution of the electric power, energy, and other services developed by the corporation;

(4) may not establish or maintain an unreasonable difference between localities or classes of service;

(5) must be based on the principle of the recovery of just and reasonable costs of producing and transmitting electric power, energy, or other services, including

(A) operation and maintenance costs;

(B) administrative expenses not assessed under AS 42.50.155;

(C) the amortization of the capital investment over a reasonable period of years;

(D) margins required by financial covenants contained in mortgages or other debt instruments of the corporation;

(6) must consider, and not duplicate recovery for, administrative expenses assessed under AS 42.50.155;

(7) may include amounts necessary to fund costs reasonably anticipated to become just and reasonable costs of producing and transmitting electric power, energy, or other services, including costs

(A) for the repair, replacement, and retirement of a project owned or operated by the corporation;

(B) to permit the corporation to build reasonably necessary equity for future operations.

(c) The corporation shall determine, after the conclusion of each fiscal year, the actual annual project costs for a project owned or operated by the corporation for the fiscal year, including

(1) the amounts used to fund anticipated costs under (b)(7) of this section;

(2) the annual payment obligation of each purchaser of the electric power, energy, or services for the fiscal year; and

(3) the amount of payment or refund required for each purchaser to

ensure that the total amount of payments received from each purchaser for the fiscal year is equal to that purchaser's actual annual payment obligation for that asset for that fiscal year; a payment or refund obligation must be paid or refunded as soon as practicable using a rate adjustment.

(d) The corporation shall use the following procedures to establish a schedule for rates and charges:

(1) notice of a proposed schedule of rates and charges must include a statement of the justifications and reasons supporting the new or amended schedule;

(2) the notice shall be published at a time and in a manner that will reasonably inform members and ratepayers of the proposed rates and charges and must state the deadline for timely filing of comments to the schedule;

(3) the deadline for submitting comments to a proposed schedule of rates and charges may not be less than 30 days after the date of the notice;

(4) the corporation shall conduct one or more hearings under procedural rules adopted by the board; the procedural rules must provide for the development of a record that includes all timely submitted comments related to the proposed rates and charges; the procedural rules must provide for the examination of evidence regarding just and reasonable costs at the hearing;

(5) the corporation may republish notice of proposed rates and charges in the schedules if the corporation proposes significantly different new or amended rates and charges following consideration of timely filed or submitted comments;

(6) the corporation shall make a final written decision establishing or amending the schedule of rates and charges based on the record; the decision must include a full and complete justification supporting the final rates and charges;

(7) the decision of the corporation becomes effective 90 days after the corporation issues notice of its final written decision;

(8) a member may appeal a final rate decision of the board under the dispute resolution process in AS 42.50.220; during the appeal process, the corporation may implement the new or amended rates and charges in the schedules on an interim and refundable basis if the board determines that the interests of the ratepayers can be reasonably protected;

(9) the corporation may establish other procedural rules consistent with this subsection to protect the interests of ratepayers.

*** Sec. 11.** AS 44.83.396(c) is amended to read:

(c) The authority shall enter into a contract or lease under reasonable terms and conditions to permit the applicant utility to operate the power project when the applicant utility is the only wholesale power customer to be served directly by the power project**, or is a corporation organized under AS 42.50.010 and one or more public utility members of the corporation is a wholesale power customer to be served directly by the power project,** unless the authority determines **the** [A] utility **or corporation** making application for a contract or lease to operate a power project is not a qualified utility or is not capable of operating that power project efficiently and in a manner that is consistent with national standards for the industry and with agreements with bondholders.

*** Sec. 12.** AS 42.05.431(i), enacted by sec. 3 of this Act, is repealed.

*** Sec. 13.** The uncodified law of the State of Alaska is amended by adding a new section to read:

AUTHORIZATION TO FORM GREATER RAILBELT ENERGY AND TRANSMISSION CORPORATION. (a) Any combination of four or more of the following public utilities may organize the Greater Railbelt Energy and Transmission Corporation, as an energy and transmission corporation under AS 42.50:

(1) Homer Electric Association, Inc.;

(2) the City of Seward, Electric Utility Department;

(3) Chugach Electric Association, Inc.;

(4) the Municipality of Anchorage d/b/a Municipal Light and Power;

(5) Matanuska Electric Association, Inc.; and

(6) Golden Valley Electric Association, Inc.

(b) This section is contingent on the obligation that the corporation shall conduct, under the direction of the Legislative Budget and Audit Committee, a management audit of the corporation to be commenced on June 30, 2013, 2016, and 2020. The management audit shall be conducted under methodologies and principles set out in volumes I (1988 ed.), II (1992 ed.) and III (1995 ed.) of the Management Audit Manual published by the National

Association of Regulatory Utility Commissioners, Washington, D.C. The results of the management audit shall be transmitted to the Legislative Budget and Audit Committee 180 days after the commencement of the audit. This obligation to conduct a management audit shall be in addition to any audit obligation that may be required under an appropriation to the corporation.

(c) This section authorizes the organization of the Greater Railbelt Energy and Transmission Corporation, as required under AS 42.50.010(a), enacted by sec. 6 of this Act.

*** Sec. 14.** The uncodified law of the State of Alaska is amended by adding a new section to read:

CONDITIONAL EFFECT. (a) Sections 3, 6, and 11 of this Act take effect only if four or more of the listed public utilities deliver to the Alaska Energy Authority before 4:30 p.m. on July 30, 2010, a letter of intent in the form and substance acceptable to the Alaska Energy Authority, under which the listed public utility agrees to become a public utility member of the Greater Railbelt Energy and Transmission Corporation. Each listed public utility that meets the conditions described in this subsection shall, effective August 16, 2010, be a public utility member of the Greater Railbelt Energy and Transmission Corporation. The listed public utilities are as follows:

(1) Homer Electric Association, Inc.;

(2) the City of Seward, Electric Utility Department;

(3) Chugach Electric Association, Inc.;

(4) the Municipality of Anchorage d/b/a Municipal Light and Power;

(5) Matanuska Electric Association, Inc.;

(6) Golden Valley Electric Association, Inc.

(b) The executive director of the Alaska Energy Authority shall notify the lieutenant governor and the revisor of statutes when any of the conditions described in (a) of this section are met.

(c) Sections 1, 2, 4, 5, 7 - 10, and 12 of this Act take effect only if secs. 3, 6, and 11 of this Act have taken effect.

(d) In this section, unless the context otherwise requires,

(1) "Alaska Energy Authority" means the authority created in AS 44.83.020;

(2) "Greater Railbelt Energy and Transmission Corporation" means the

corporation organized as an energy and transmission corporation under AS 42.50, enacted by sec. 6 of this Act, as authorized by sec. 13 of this Act;

(3) "public utility member" has the meaning given in AS 42.50.900, enacted by sec. 6 of this Act.

*** Sec. 15.** If secs. 3, 6, and 11 of this Act take effect under sec. 14(a) of this Act, they take effect August 16, 2010.

*** Sec. 16.** If secs. 1, 2, 4, 5, 7 - 10, and 12 of this Act take effect under sec. 14(c) of this Act, they take effect August 16, 2015.

*** Sec. 17.** Sections 13 and 14 of this Act take effect immediately under AS 01.10.070(c).

AMENDMENT

Submitted by Dept of Law

**This amendment will be incorporated into a new CS* VERSION "S"

TO: SB 143 (Work Draft 26-GS1041\E)

Page 1, line 4, following "**municipalities;**"

Insert "**relating to the Alaska Energy Authority contracting with energy and transmission corporations to operate a power project;**"

Page 2, line 25, following "commission":

Insert "shall not disallow from a rate base or revenue requirement amounts"

Delete "may not reject an amount"

Page 4, lines 19 - 22:

Delete all material.

Page 7, line 31, following "corporation":

Insert "under (a) of this section"

Page 8, line 15, following "member":

Insert "(1)"

Page 8, line 17, following "corporation":

Insert "; and (2)"

Delete "and if the public utility member"

Page 9, line 8, following "directors":

Delete "or its"

Page 9, line 9:

3047

Delete "members"

Page 9, line 16, following "and" through line 17:

Insert "the articles of incorporation"

Delete "other laws that apply to the corporation"

Page 10, line 24, following "resources":

Delete all material.

Page 10, line 25:

Delete "deposits"

Page 10, line 26:

Delete all material.

Page 12, line 18, following "**regulation.**"

Delete "(a)"

Page 12, line 23, following "AS 42.50.221":

Insert "."

Delete ";"

Page 12, line 24 through page 13, line 1:

Delete all material.

Page 14, line 27 - page 15, line 1:

Delete all material.

Page 15, line 4, following "ownership of":

Delete "fuel supply production,"

Page 15, lines 7 - 9:

Delete all material.

Page 15, line 13 through page 17, line 29:

Delete all material.

Page 20, following line 30:

Insert new bill sections to read:

" * **Sec. 7.** AS 42.50.100, enacted by section 6 of this Act, is amended to read:

Sec. 42.50.100. Public utility powers and regulation. **(a)** The corporation shall have all of the powers and duties of a regulated electric public utility under AS 42.05, except that the corporation:

(1) may not make retail sales of electric power except to an industrial customer under AS 42.50.100(8); [AND]

(2) is not required to obtain a certificate under AS 42.05.221**;**

(3) is exempt from payment of a regulatory cost charge under AS 42.05.254; and

(4) is exempt from rate regulation under AS 42.05.431.

(b) The corporation

(1) shall comply with the principles and requirements contained in AS 42.05.441 - AS 42.05.491 as if the corporation were a regulated public utility; and

(2) is subject to the jurisdiction of the Regulatory Commission of Alaska under AS 42.05.311 and AS 42.05.321 regarding joint use and interconnection of facilities.

* **Sec. 8.** AS 42.50, enacted by section 6 of this Act, is amended by adding new sections to read:

Sec. 42.50.160. Administrative Costs and Other Services. (a) The corporation may annually assess and collect a fee for just and reasonable administrative expenses from members of the corporation.

(b) The corporation may enter into contracts with members of the corporation for services rendered by the members to the corporation and for services provided to the members.

Sec. 42.50.180. Rates for Electric Power, Energy and Services. (a) The corporation shall establish schedules of rates and charges for electric power, energy, and other services provided by the corporation, which become effective upon adoption by the board of directors of the corporation using the procedures set out in (d) of this section.

(b) The rates and charges included in a schedule:

(1) must comply with AS 42.50.100(b)(1);

(2) may be established for individual projects which are owned or operated by the corporation; provided that the corporation may not, as to rates and charges, grant an unreasonable preference or advantage to any of its customers or subject a customer to an unreasonable prejudice or disadvantage;

(3) may provide for uniform rates and charges in order to extend the benefits of an integrated generation and transmission system and encourage the

equitable distribution of the electric power, energy, and other services developed by the corporation;

(4) may not establish or maintain an unreasonable difference between localities or classes of service;

(5) must be based on the principle of the recovery of just and reasonable costs of producing and transmitting electric power, energy or other services, including

(A) operation and maintenance costs;

(B) administrative expenses not assessed under AS 42.50.160;

(C) the amortization of the capital investment over a reasonable period of years;

(D) margins required by financial covenants contained in mortgages or other debt instruments of the corporation;

(6) must consider, and not duplicate recovery for, administrative expenses assessed under AS 42.50.160; and

(7) may include amounts necessary to fund costs reasonably anticipated to become just and reasonable costs of producing and transmitting electric power, energy or other services, including costs

(A) for the repair, replacement and retirement of a project owned or operated by the corporation;

(B) to permit the corporation to build reasonably necessary equity for future operations.

(c) The corporation shall determine after the conclusion of each fiscal year, the actual annual project costs for a project owned or operated by the corporation for that fiscal year, including

(1) the amounts used to fund anticipated costs under (b)(7) of this section;

(2) the annual payment obligation of each purchaser of the electric power, energy or services for that fiscal year; and

(3) the amount of payment or refund required for each purchaser to ensure that the total amount of payments received from each purchaser for the fiscal year is equal to that purchaser's actual annual payment obligation for that asset for that fiscal year; a payment or refund obligation must be paid or refunded as soon as practicable using a rate adjustment.

(d) The corporation must use the following procedures to establish a schedule for rates and charges:

(1) notice of a proposed schedule of rates and charges include a statement of the justifications and reasons supporting the new or amended schedule;

(2) the notice must be published at a time and in a manner that will reasonably inform members and ratepayers of the proposed rates and charges and must state deadline for timely filing comments to the schedule;

(3) the deadline for submitting comments to a proposed schedule of rates and charges may not be less than 30 days after the date of the notice;

(4) the corporation shall conduct one or more hearings under procedural rules adopted by the board; the procedural rules must provide for the development of a record that includes all timely submitted comments related to the proposed rates and charges; the procedural rules must provide for the examination of evidence regarding just and reasonable costs at the hearing;

(5) the corporation may republish notice of proposed rates and charges in the schedules if the corporation proposes significantly different new or amended rates and charges following consideration of timely filed or submitted comments;

(6) the corporation shall make a final written decision establishing or amending the schedule of rates and charges based on the record; the decision must include a full and complete justification supporting the final rates and charges;

(7) the decision of the corporation becomes effective 90 days after the corporation issues notice of its final written decision;

(8) a member may appeal a final rate decision of the board under the dispute resolution process in AS 42.50.240; during the appeal process, the corporation may implement the new or amended rates and charges in the schedules on an interim and refundable basis if the board determines that the interests of the ratepayers can be reasonably protected;

(9) the corporation may establish other procedural rules consistent with this subsection to protect the interests of ratepayers.

*** Sec. 9.** AS 44.83.396(c) is amended to read:

(c) The authority shall enter into a contract or lease under reasonable terms and conditions to permit the applicant utility to operate the power project when the applicant utility is the only wholesale power customer to be served directly by the power project**, or is a corporation organized under AS 42.50.010 and one or more public utility members of the corporation is a wholesale power customer to be served directly by the power project,** unless the authority determines **the** [A] utility **or corporation** making application for a contract or lease to operate a power project is not a qualified utility or is not capable of operating that power project efficiently and in a manner that is consistent with national standards for the industry and with agreements with bondholders."

Renumber the following bill sections accordingly.

Page 21, line 27, following "6,":

Insert "9, 11, and 14"

Delete "and 8"

Page 22, line 20, following "6,":

Insert "9, 11, and 14"

Delete "and 8"

Page 22, line 20, following "under sec.":

Insert "12"

Delete "9"

Page 22, line 22, following "5,":

Insert "7, 8 and 10"

Delete "and 8"

Page 22, line 23, following "sections":

Insert "13 and 14"

Delete "10 and 11"

PREVIOUS CS

* NEW CS HAS BEEN ORDERED THAT INCORPERATES THE ATTACHED AMENDMENT.

26-GS1041\E
Bailey
3/18/10

CS FOR SENATE BILL NO. 143(ENE)

IN THE LEGISLATURE OF THE STATE OF ALASKA

TWENTY-SIXTH LEGISLATURE - SECOND SESSION

BY THE SENATE SPECIAL COMMITTEE ON ENERGY

Offered:
Referred:

Sponsor(s): SENATE RULES COMMITTEE BY REQUEST OF THE GOVERNOR

A BILL

FOR AN ACT ENTITLED

"An Act relating to energy and transmission corporations; authorizing the organization of the Greater Railbelt Energy and Transmission Corporation; relating to exemption of energy and transmission corporations from regulation by the Regulatory Commission of Alaska and municipalities; and providing for an effective date."

BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF ALASKA:

*** Section 1.** AS 29.35.070(a) is amended to read:

(a) The assembly acting for the area outside all cities in the borough and the council acting for the area in a city may regulate, fix, establish, and change the rates and charges imposed for a utility service provided to the municipality or its inhabitants by a utility that is not subject to regulation under AS 42.05 unless that utility is exempted from regulation under AS 42.05.711(a), (d) - (k), (o), [OR] (p), **or (q),** or is exempted under regulations adopted under AS 42.05.810 from complying with all or part of AS 42.05.141 - 42.05.721.

*** Sec. 2.** AS 42.05.431(c) is amended to read:

(c) Notwithstanding (b) of this section,

(1) a wholesale agreement for the sale of power from a project licensed by the Federal Energy Regulatory Commission on or before January 1, 1987, and related contracts for the wheeling, storage, regeneration, or wholesale repurchase of power purchased under the agreement, entered into between the Alaska Energy Authority and one or more other public utilities or among the utilities after October 31, 1987, and before January 1, 1988, and amendments to the wholesale agreement or related contract, [AND] the wholesale agreement or related contract assigned by the Alaska Energy Authority to a joint action agency formed under AS 42.45.310 that purchases the project from the Alaska Energy Authority, **and a wholesale agreement for the sale of power from a project owned or operated by a corporation organized under AS 42.50, and related contracts for the wheeling, storage, regeneration, or wholesale repurchase of power purchased under the agreement, entered into between the corporation and one or more public utilities,** are not subject to review or approval by the commission until all long-term debt incurred for the project is retired, or, for a wholesale agreement or related contract assigned to a joint action agency formed under AS 42.45.310, until all long-term debt incurred to pay the purchase price to the Alaska Energy Authority is retired; and

(2) a wholesale agreement or related contract described in (1) of this subsection may contain a covenant for the public utility to establish, charge, and collect rates sufficient to meet its obligations under the contract; the rate covenant is valid and enforceable.

*** Sec. 3.** AS 42.05.431 is amended by adding a new subsection to read:

(i) When setting or reviewing rates for an energy and transmission corporation organized under AS 42.50.010, the commission may not reject an amount necessary for the corporation to fund a cost reasonably anticipated to become a just and reasonable cost of producing and transmitting electric power, energy, or other services, including costs

(1) for the repair, replacement, and retirement of a project owned or operated by the corporation; and

(2) incurred to permit the corporation to build reasonably necessary

equity for future operations.

* **Sec. 4.** AS 42.05.711(*l*) is amended to read:

(*l*) A person, utility, joint action agency established under AS 42.45.310, or cooperative that is exempt from regulation under (a), (d) - (k), [OR] (o) **or (q),** of this section is not subject to regulation by a municipality under AS 29.35.060 and 29.35.070.

* **Sec. 5.** AS 42.05.711 is amended by adding a new subsection to read:

(q) A corporation organized under AS 42.50 is exempt from regulation under this chapter, including the requirement to obtain a certificate of public convenience and necessity under AS 42.05.221.

* **Sec. 6.** AS 42 is amended by adding a new chapter to read:

Chapter 50. Energy and Transmission Corporations.

Sec. 42.50.010. Energy and transmission corporations. (a) Four or more municipal or cooperative public utilities with electrically interconnected service territories may, if first authorized by law, organize an energy and transmission corporation

(1) to acquire, operate, or maintain power and transmission projects acquired or constructed as part of the former energy program for the state and owned by the Alaska Energy Authority under AS 44.83.396; and

(2) to plan for, recommend, coordinate, and otherwise address power generation and transmission for the electrically interconnected service territories as provided in this chapter.

(b) The purposes of the corporation are

(1) to ensure adequate, reliable, safe, and stable wholesale electric power to public utility members without undue discrimination, at the lowest reasonable long-term cost; and

(2) to be the primary recipient of state financial assistance provided to support the acquisition, construction, or development of generation and transmission assets and ancillary services and assets for the public utility members of the corporation.

(c) In furtherance of the purposes of the corporation, the corporation may plan

for, recommend, coordinate, and otherwise address

(1) the adequacy of fuel supply, fuel storage, and fuel transportation resources required to meet the short-term and long-term electric power needs of the service territory of the corporation;

(2) the adequacy of generation and transmission assets to prudently meet local and regional short-term and long-term electric power and reliability needs of the areas electrically interconnected to the service territory of the corporation:

(3) generation reserves to meet planning and operational requirements;

(4) base load generation in all parts of the service territory of the corporation;

(5) generation and transmission power dispatch resources, including the ability to connect dispatch resources of the public utility members;

(6) diversity in generation resources;

(7) renewable-energy-based generation resources;

(8) integration of renewable energy generation resources.

(d) The corporation shall operate on a nonprofit basis, offering its services based on uniform rates for like services under standard tariffs or contractual arrangements.

(e) The corporation is exempt from the provisions of AS 10.15 (Alaska Cooperative Corporation Act), AS 10.20 (Alaska Nonprofit Corporation Act), and, except as provided under AS 42.50.060 and 42.50.190, AS 10.25 (Electric and Telephone Cooperative Act).

(f) The corporation has a separate and independent existence from the state. The corporation may not be considered the state, a state agency, an administrative unit of the executive branch of state government, a governmental unit of the state, a public corporation of the state, a municipal corporation, or a political subdivision of the state.

(g) The exercise by the corporation of the powers granted by this chapter is considered to be for a public purpose.

(h) The corporation is authorized to interconnect with and provide services to electric utilities other than public utility members on terms and conditions approved by the corporation's board of directors. The corporation may decline to interconnect

with an electric utility or any other entity that fails to meet standards for interconnection adopted by the corporation.

Sec. 42.50.020. Board of directors. (a) The corporation shall be governed by a board of directors consisting of

(1) two directors from each public utility members, one of whom shall be the chief executive officer of the public utility member or the chief executive officer's designee and one of whom shall be an individual appointed by the governing body of the public utility member; and

(2) one public director appointed by the governor from a list of at least three persons submitted by the directors appointed under (a)(1) of this section; if the governor rejects an entire list, the directors appointed under (a)(1) of this section shall submit a new list that includes at least three persons who were not included on a previously rejected list.

(b) The term of a director representing a public utility member under (a)(1) of this section expires when the public utility member notifies the board that the individual has been removed as a representative of the utility on the board.

(c) The term of the director appointed by the governor under (a)(2) of this section is four years. If a vacancy occurs, the governor shall appoint a director under (a)(2) of this section to serve the remaining term of the director. The governor may reappoint the director described in this subsection.

(d) The board may only remove a director for cause on two-thirds majority vote of the full board. The bylaws must provide a mechanism for a public utility member to appoint an alternative member if the chief executive officer of the utility is removed from the board.

(e) A majority of the directors on the board constitutes a quorum for the transaction of business and the exercise of the powers and duties of the board.

(f) The directors shall annually elect from among the directors on the board a chair and vice-chair and other board officers as may be provided in the bylaws.

(g) Directors may not receive a salary, but the corporation may pay directors a meeting fee, per diem, and travel expenses.

Sec. 42.50.030. Board meetings; exceptions. (a) A meeting of the board may

be attended by members of the corporation, ratepayers, and the public. The bylaws must provide for participation of members and ratepayers at board meetings. Except when a voice vote is authorized, a vote shall be conducted in a manner that the members and ratepayers may know the vote of each director entitled to vote. The board may conduct a meeting by teleconference or similar communications equipment if the board gives reasonable notice of the meeting and if the members, ratepayers, and public are able to attend the meeting and hear the meeting. This subsection applies only to a meeting at which a quorum is present.

(b) The board may hold an executive session to discuss matters that come within the exceptions contained in (c) of this section on a majority vote of the board. Before holding an executive session, the board must first be convened as a regular or special meeting. A subject that is not mentioned in the motion calling for the executive session may not be considered at the executive session unless the subject is auxiliary to the main question. Formal action may not be taken during an executive session.

(c) The following matters may be discussed in an executive session:

(1) matters the knowledge of which would clearly have an adverse effect on the finances of the corporation;

(2) matters that tend to prejudice the reputation and character of a person; however, the person may request a public discussion;

(3) matters discussed with an attorney for the corporation, the knowledge of which could have an adverse effect on the legal position of the corporation;

(4) matters that are required by law to be confidential;

(5) matters pertaining to a plan, a program, or procedures for establishing, maintaining, or restoring security, or to a detailed description or evaluation of systems, facilities, or infrastructure of the corporation, but only to the extent that the discussion of the matter in open session

(A) could reasonably be expected to interfere with the implementation or enforcement of the security plan, program, or procedures;

(B) would disclose confidential guidelines for investigations or enforcement and the disclosure could reasonably be expected to risk

circumvention of the law; or

(C) could reasonably be expected to endanger the life or physical safety of an individual or to present a real and substantial risk to the public health and welfare.

(d) The board shall give notice for all regular or special meetings of the board as provided in the bylaws.

Sec. 42.50.040. Officers and employees. (a) The board shall appoint a chief executive officer. The chief executive officer may not be a director and serves at the pleasure of the board.

(b) The board shall appoint officers as required by the bylaws and as the board determines to be necessary for the effective operation of the corporation.

(c) The chief executive officer may hire employees of the corporation as necessary for the efficient performance of the functions of the corporation. The board shall approve the range of compensation for employees. Employees of the corporation are not employees of the state and are not considered to be employees of a public organization for the purposes of AS 39.

(d) An employee of the corporation may not be a director.

Sec. 42.50.050. Membership. (a) The members of the corporation are the public utility members and other entities that purchase services from the corporation that the board of directors approves to become members. The corporation may provide member benefits solely to the members of the corporation.

(b) An entity that meets the qualifications of a public utility member under this subsection shall become a public utility member of the corporation if approved by a two-thirds majority vote of the board. A public utility member

(1) shall be a municipal or cooperative electric utility with a designated electric distribution service territory, holding a certificate of public convenience and necessity issued by the Regulatory Commission of Alaska;

(2) shall be electrically interconnected to the service territory of the corporation; and

(3) may not be an affiliated electric utility.

(c) An affiliated electric utility may become a member of the corporation.

(d) A member, including a public utility member, may withdraw from the corporation if the member

(1) pays or provides for the payment of all liabilities owed to the corporation;

(2) demonstrates that the withdrawal will not have adverse tax consequences to the corporation; and

(3) gives not less than six months' notice to the corporation.

(e) Withdrawal from the corporation does not affect a right or obligation in an agreement between a withdrawing public utility member and the corporation. The corporation shall hold equity contributed by a withdrawing public utility member to the corporation for the account of the withdrawing public utility member and refunded only in accordance with a long-range financial management plan adopted by the board.

(f) A public utility member may withdraw from being a public utility member of the corporation but remain a member of the corporation if the public utility member demonstrates that the withdrawal will not have adverse tax consequences to the corporation and if the public utility member gives not less than six months' notice to the corporation.

(g) When a public utility member gives a notice of withdrawal, the public utility member loses the right to have a director on the board.

Sec. 42.50.060. Articles of incorporation; change in location of principal office. (a) The articles of incorporation, and amended articles of incorporation, of a corporation must recite that they are executed under this chapter and must state

(1) the name of the corporation;

(2) the address of the principal office of the corporation;

(3) the names and the addresses of the incorporators;

(4) the names and addresses of the directors.

(b) The articles may contain any provisions consistent with this chapter that are considered necessary or advisable for the conduct of the business of the corporation. The articles shall be signed and acknowledged on behalf of each initial public utility member of the corporation. It is not necessary to recite in the articles of

incorporation the purpose for which the corporation is organized or the corporate powers of the corporation.

(c) Articles of incorporation, and amended articles of incorporation, shall be submitted to the commissioner for filing. Upon a finding that the articles conform to the requirements of this chapter, and upon payment of the fees provided in AS 10.25.530, the commissioner shall file the articles in the records of the commissioner's office.

(d) A corporation may, upon authorization of its board of directors or its members, change the location of its principal office by filing a certificate reciting the change of principal office, executed and acknowledged by its presiding officer under its seal, attested by the officer designated by the board, in the office of the commissioner.

Sec. 42.50.070. Bylaws. (a) The board shall adopt bylaws for the corporation for the governance and management of the affairs of the corporation. The board may alter, amend, or repeal the bylaws.

(b) The bylaws shall be consistent with this chapter and other laws that apply to the corporation.

(c) The bylaws must set out conditions that require the corporation to offer public utility members an opportunity to serve an industrial customer before the corporation may serve an industrial customer.

(d) The bylaws must include provisions governing financing arrangements under AS 42.50.150 that include obligations exceeding 12 months.

Sec. 42.50.080. Indemnification of directors, officers, and employees. The corporation shall indemnify directors, officers, and employees in a manner consistent with AS 10.06.490.

Sec. 42.50.090. General powers of the corporation. (a) The corporation may

(1) sue and be sued in its name;

(2) have perpetual existence;

(3) adopt and alter a corporate seal;

(4) participate with federal, state, and local governmental entities in formulating and implementing policies relating to electric power, and in planning for

the development, construction, and operation of adequate electric power generation and transmission facilities for the service territory of the corporation;

(5) accept, by grant, sale, contract, operating agreement, or any other arrangement, assets from members of the corporation or other public or private entities, persons, or governments;

(6) engage in a program to support the efforts of the public utility members and affiliated electric utilities to enhance the development, efficiency, reliability, safety, and price stability of electric power in the service territory of the corporation;

(7) generate, manufacture, purchase, acquire, accumulate, transmit, meter, and dispatch wholesale electric power and ancillary services, and sell at wholesale, supply, and dispose of electric power to public utility members, members, affiliated electric utilities, and other entities;

(8) generate, manufacture, purchase, acquire, accumulate, transmit, meter, and dispatch retail electric power and ancillary services to an industrial customer, and sell at retail, supply, and dispose of electric power to an industrial customer

(A) not located in the certificated service territory of a public utility providing electric service, under conditions established in the bylaws; or

(B) located in the certificated service territory of a public utility providing electric service if the public utility gives its written consent before the corporation enters an agreement to sell power to the industrial customer;

(9) procure fuel supplies, fuel storage capacity, and fuel transmission resources, including fuel in the ground or in other natural or man-made storage and deposits;

(10) own and operate facilities to find and extract fuel deposits;

(11) construct, buy, lease, or otherwise acquire, equip, maintain, and operate, and sell, assign, convey, lease, mortgage, pledge, or otherwise dispose of or encumber land, buildings, structures, electric power lines or systems, dams, plants and equipment, and any other real or personal property, tangible or intangible, that is necessary, convenient, or appropriate to accomplish the corporation's purposes;

(12) buy, lease, use, or acquire franchises, rights, privileges, licenses, permits, and easements;

(13) sell, assign, convey, mortgage, pledge, exercise, or dispose of or encumber franchises, rights or privileges, licenses, permits, and easements;

(14) borrow money, contract indebtedness, issue evidences of indebtedness, and secure payment of indebtedness by mortgage, pledge, deed of trust, or other encumbrance on its real or personal property, assets, franchises, or revenue;

(15) construct, maintain, and operate electric transmission lines, along, upon, under, and across publicly owned land and public thoroughfares, including, without limitation, all roads, highways, streets, alleys, bridges, and causeways;

(16) exercise the power of eminent domain as a public utility under AS 42.05.631, except the corporation may not exercise the power of eminent domain to take an electric power generation or transmission asset from a public utility;

(17) acquire by purchase, lease, bequest, devise, gift, exchange, the satisfaction of debts, the foreclosure of mortgages, or otherwise, personal property, rights, rights-of-way, franchises, easements, and other interests in land, and acquire by appropriation water rights that are located in the state, taking title to the property in the name of the corporation;

(18) hold, maintain, use, operate, improve, lease, exchange, donate, convey, alienate, encumber, or otherwise grant a security interest in, or authorize use or dispose of, land or personal property, subject to other provisions of this chapter;

(19) contract with and accept transfers, gifts, grants, or loans of funds or property from the United States or from the state or its political subdivisions, subject to other provisions of federal or state law or municipal ordinances;

(20) undertake and provide for the management, operation, maintenance, use, repair, renovation, and control of all of the property of the corporation;

(21) apply to the state, the United States, foreign countries, or other proper agencies for the permits, licenses, rights-of-way, or approvals necessary to construct, maintain, and operate electric power and related services, and obtain, hold, and reuse the licenses and permits in the same manner as other similar operators;

(22) enter into agreements with the state or a state agency or other instrumentality of the state;

(23) make all contracts necessary, convenient, or appropriate for the full exercise of its powers;

(24) conduct its business and exercise its powers inside or outside the state;

(25) develop operating standards applicable to all public utilities electrically interconnected to the service territory of the corporation;

(26) do or perform any other act and thing and have and exercise any other power that may be necessary, convenient, or appropriate to accomplish the corporation's purposes; and

(27) create subsidiary corporations.

(b) The corporation may not require its members to enter into power purchase agreements that restrict the ability of members to enter into bilateral power purchase or wheeling agreements among themselves, except as a condition for participation in specific new generation or transmission projects when the condition is reasonably necessary in order for the corporation to finance the project.

Sec. 42.50.100. Public utility powers and regulation. (a) The corporation shall have all of the powers and duties of a regulated electric public utility under AS 42.05, except that the corporation

(1) may not make retail sales of electric power except to an industrial customer under AS 42.50.090(a)(8);

(2) is not required to obtain a certificate under AS 42.05.221;

(3) is exempt from payment of a regulatory cost charge under AS 42.05.254; and

(4) is exempt from rate regulation under AS 42.05.431.

(b) The corporation

(1) shall comply with the principles and requirements contained in AS 42.05.441 - 42.05.491 as if the corporation were a regulated public utility; and

(2) is subject to the jurisdiction of the Regulatory Commission of Alaska under AS 42.05.311 and 42.05.321 regarding joint use and interconnection of

facilities.

Sec. 42.50.110. Integrated resource plan. (a) The corporation shall adopt an integrated resource plan for use with a long-range fuel supply plan under AS 42.50.120 to determine the need for and selection of electric generation and transmission projects to ensure delivery of safe and reliable electric power to public utility members at the lowest reasonable long-term cost. The corporation shall evaluate and consider recommendations made in an applicable state energy plan or state integrated resource plan before in adopting and updating the plan. If the corporation's integrated resource plan deviates from other state energy or resource plans, the corporation's plan must include a report explaining the reasons for the deviation.

(b) The board shall establish a schedule for review of the integrated resource plan and update the plan at least once every five years.

(c) The corporation shall make the integrated resource plan available on the Internet to members, the governor, the legislature, and ratepayers.

Sec. 42.50.120. Long-range fuel supply plan. (a) The corporation shall adopt a long-range fuel supply plan to determine the need for and selection of fuel supplies to be used by electric generation projects to ensure delivery of safe, reliable, and sustainable electric power to public utility members at the lowest reasonable long-term cost. The corporation shall evaluate recommendations made in any applicable state energy plan or state integrated resource plan before adopting and updating the long-range fuel supply plan. If the corporation deviates from recommendations in a state plan, the adopted or updated long-range fuel supply plan shall include a report explaining the reasons for the deviation.

(b) The board shall establish a schedule for review of the long-range fuel supply plan and update the plan at least once every five years.

(c) The corporation shall make the long-range fuel supply plan available on the Internet to members, the governor, the legislature, and ratepayers.

Sec. 42.50.130. Long-range capital improvement plan. (a) The corporation shall adopt a long-range capital improvement plan. The plan must describe how the corporation intends to accomplish the corporation's purposes and identify anticipated

capital improvements planned during each of the following 10 years. The plan must be based on the principle of providing safe, reliable, and sustainable electric power to public utility members at the lowest reasonable long-term cost.

(b) The board shall establish a schedule for review of the long-range capital improvement plan and update the plan at least once every five years.

(c) The corporation shall make the long-range capital improvement plan available on the Internet to members, the governor, the legislature, and ratepayers.

Sec. 42.50.140. Long-range financial management plan. (a) The corporation shall adopt a long-range financial management plan. The plan must describe the manner in which the corporation intends to accomplish the corporation's purposes and the corporation's plans for acquisition, accumulation, and issuance of equity and debt for the next 10 years. The plan shall be based on the principle of providing safe, reliable, and sustainable electric power to public utility members at the lowest reasonable long-term cost.

(b) The board shall establish a schedule for review and update the long-range financial management plan at least once every five years.

(c) The corporation shall make the long-range financial management plan available on the Internet to members, the governor, the legislature, and ratepayers.

Sec. 42.50.150. Financing arrangements. (a) The corporation may

(1) use any financing arrangements permitted by law in achieving the purposes and objectives of the corporation; and

(2) develop financing arrangements for individual projects.

(b) The corporation may obtain assistance from state agencies with financing projects through direct grants, debt guarantees, granting of a moral obligation of the state to ensure payment of debt instruments, purchase of issued debt instruments, or other financial methods appropriate to the projects or tasks.

Sec. 42.50.160. Administrative costs and other services. (a) The corporation may annually assess and collect a fee for just and reasonable administrative expenses from members of the corporation.

(b) The corporation may enter into contracts with members of the corporation for services rendered by the members to the corporation and for services provided to

the members.

Sec. 42.50.170. Fuel supplies. (a) The corporation may acquire long-term fuel supplies as required to ensure electric power generation facilities can operate without fuel-related interruption, including direct ownership of fuel supply production, transportation, and storage facilities as required to fulfill the purposes of the corporation under AS 42.50.010(b).

(b) The corporation is authorized to bid on interests in state land, including bids for oil and gas leases, and may not be required to post a deposit under AS 38.05.860.

(c) The corporation may acquire long-term fuel supplies under this section in conjunction with other entities that are acquiring long-term fuel supplies for any lawful purpose in any lawful manner.

Sec. 42.50.180. Rates for electric power, energy, and services. (a) The corporation shall establish schedules of rates and charges for electric power, energy, and other services provided by the corporation, which become effective on adoption by the board of directors of the corporation using the procedures set out in (d) of this section.

(b) The rates and charges included in a schedule

(1) must comply with AS 42.50.100(b);

(2) may be established for individual projects that are owned or operated by the corporation; however, the corporation may not grant an unreasonable preference or advantage to a customer or subject a customer to an unreasonable prejudice or disadvantage;

(3) may not establish or maintain an unreasonable difference between localities or classes of service;

(4) must be based on the principle of the recovery of just and reasonable costs of producing and transmitting electric power, energy, or other services, including

(A) operation and maintenance costs;

(B) administrative expenses not assessed under AS 42.50.160;

(C) the amortization of the capital investment over a reasonable

period of years;

(D) margins required by financial covenants contained in mortgages or other debt instruments of the corporation;

(5) must consider, and not duplicate recovery for, administrative expenses assessed under AS 42.50.160;

(6) may include amounts necessary to fund costs reasonably anticipated to become just and reasonable costs of producing and transmitting electric power, energy, or other services, including costs

(A) for the repair, replacement, and retirement of a project owned or operated by the corporation;

(B) to permit the corporation to build reasonably necessary equity for future operations;

(7) may provide for uniform rates and charges in order to extend the benefits of an integrated generation and transmission system and encourage the equitable distribution of the electric power, energy, and other services developed by the corporation; in the alternative, the corporation may adopt rates and charges for a service provided by a specific project owned or operated by the corporation that reflect differences in the cost of providing that service to a specific customer or group of customers.

(c) The corporation shall determine, after the conclusion of each fiscal year, the actual annual project costs for a project owned or operated by the corporation for the fiscal year, including

(1) the amounts used to fund anticipated costs under (b)(6) of this section;

(2) the annual payment obligation of each purchaser of the electric power, energy, or services for the fiscal year; and

(3) the amount of payment or refund required for each purchaser to ensure that the total amount of payments received from each purchaser for the fiscal year is equal to that purchaser's actual annual payment obligation for that asset for that fiscal year; a payment or refund obligation must be paid or refunded as soon as practicable using a rate adjustment.

(d) The corporation must use the following procedures to establish a schedule for rates and charges:

(1) notice of a proposed schedule of rates and charges must include a statement of the justifications and reasons supporting the new or amended schedule;

(2) the notice must be published at a time and in a manner that will reasonably inform members and ratepayers of the proposed rates and charges and must state the deadline for timely filing of comments to the schedule;

(3) the deadline for submitting comments to a proposed schedule of rates and charges may not be less than 30 days after the date of the notice;

(4) the corporation shall conduct one or more hearings under procedural rules adopted by the board; the procedural rules must provide for the development of a record that includes all timely submitted comments related to the proposed rates and charges; the procedural rules must provide for the examination of evidence regarding just and reasonable costs at the hearing;

(5) the corporation may republish notice of proposed rates and charges in the schedules if the corporation proposes significantly different new or amended rates and charges following consideration of timely filed or submitted comments;

(6) the corporation shall make a final written decision establishing or amending the schedule of rates and charges based on the record; the decision must include a full and complete justification supporting the final rates and charges;

(7) the decision of the corporation becomes effective 90 days after the corporation issues notice of its final written decision;

(8) a member may appeal a final rate decision of the board under the dispute resolution process in AS 42.50.240; during the appeal process, the corporation may implement the new or amended rates and charges in the schedules on an interim and refundable basis if the board determines that the interests of the ratepayers can be reasonably protected;

(9) the corporation may establish other procedural rules consistent with this subsection to protect the interests of ratepayers.

Sec. 42.50.190. Tax exemption. The real and personal property of the corporation and the assets, income, and receipts of the corporation are exempt from all

taxes and assessments of the state or a political subdivision of the state, except that electricity sold at retail by the corporation is subject to the electric cooperative tax under AS 10.25.540 – 10.25.570.

Sec. 42.50.200. Reports and publications. The board shall publish an annual report on the Internet. The report must include financial statements audited by independent auditors, a discussion of the corporation's circumstances and operations during the period covered by the report, and any other information requested by the legislature. The board may publish other information or reports it considers appropriate.

Sec. 42.50.210. Right to examine books and records. (a) Except as provided in (c) of this section, members and ratepayers may, at a reasonable time and for any proper purpose, examine and make copies of the books and records of the corporation at the principal office of the corporation.

(b) The corporation may charge a requestor an amount equal to the actual cost of finding and duplicating documents requested under this section.

(c) The corporation may withhold books and records concerning the following subjects:

(1) records required to be kept confidential by law;

(2) personnel records, to the extent that the records are not required to be publicly disclosed by a state or federal agency;

(3) records that are proprietary, privileged, or a trade secret;

(4) records or information pertaining to a plan, a program, or procedures for establishing, maintaining, or restoring security, or to a detailed description or evaluation of systems, facilities, or infrastructure of the corporation, but only to the extent that the production of the records or information

(A) could reasonably be expected to interfere with the implementation or enforcement of the security plan, program, or procedures;

(B) would disclose confidential guidelines for investigations or enforcement and the disclosure could reasonably be expected to risk circumvention of the law; or

(C) could reasonably be expected to endanger the life or

physical safety of an individual or to present a real and substantial risk to the public health and welfare; or

(5) specific matters that were prepared for or during an executive session of the board, and not subsequently made public by the corporation.

Sec. 42.50.220. Audits and examinations of corporation. The corporation shall be audited annually by an independent auditor. The board shall engage the auditor, who shall be responsible to the board. The corporation shall submit copies of each report of the auditor to the legislature and governor within 30 days after receipt of the report by the corporation.

Sec. 42.50.230. Dissolution, merger, consolidation, and disposition of assets. Without prior legislative approval, the corporation may not

(1) dissolve;

(2) merge or consolidate; or

(3) dispose of corporate assets other than in the ordinary course of business.

Sec. 42.50.240. Procedures for dispute resolution. The corporation shall establish a dispute resolution process in its bylaws. The dispute resolution process must include, at a minimum,

(1) a requirement that disputes be initially brought before the board for resolution;

(2) a requirement that the parties shall attempt to resolve a dispute that is not resolved by the board through mediation;

(3) a requirement that the corporation and the disputing party shall attempt to resolve a dispute that is not resolved by the board and is not resolved through mediation through binding arbitration if allowed by the bylaws of the corporation; and

(4) if not resolved by the board, through mediation, or through binding arbitration, if allowed, a provision for resolution of the dispute through litigation in a court of competent jurisdiction.

Sec. 42.50.900. Definitions. In this chapter, unless the context otherwise requires,

(1) "affiliated electric utility" means an electric utility that is wholly owned by one or more public utility members and by or through which one or more public utility members obtain electric power or electric generation or transmission services;

(2) "board" means the board of directors of the corporation;

(3) "commissioner" means the commissioner of commerce, community, and economic development;

(4) "cooperative" means an entity organized under AS 10.25;

(5) "corporation" means an energy and transmission corporation organized under this chapter;

(6) "electrically interconnected" means interconnected at a minimum transmission level of 69 kilovolts;

(7) "electric power" means electric energy and capacity;

(8) "electric utility" means a public utility, as defined in AS 42.05.990 that furnishes electrical generation, transmission, or distribution service;

(9) "member" means a member of the corporation under AS 42.50.050, including public utility members;

(10) "public utility member" means a municipal or cooperative electric utility that has an electric distribution service territory, that holds a certificate of public convenience and necessity issued by the Regulatory Commission of Alaska, that is one of the electric utilities that organizes an energy and transmission corporation or that becomes a public utility member of the corporation under AS 42.50.050(b), and that does not withdraw from being a member or public utility member under AS 42.50.050(d) or (e);

(11) "ratepayers" means the ratepayers of the public utility members of the corporation;

(12) "service territory of the corporation" means the combined service territories identified in the certificates of public convenience and necessity issued by the Regulatory Commission of Alaska for each of the public utility members of the corporation.

*** Sec. 7.** AS 42.05.431(i), enacted by sec. 3 of this Act, is repealed.

*** Sec. 8.** The uncodified law of the State of Alaska is amended by adding a new section to read:

AUTHORIZATION TO FORM GREATER RAILBELT ENERGY AND TRANSMISSION CORPORATION. (a) Any combination of four or more of the following public utilities may organize the Greater Railbelt Energy and Transmission Corporation, as an energy and transmission corporation under AS 42.50:

(1) Homer Electric Association, Inc.;

(2) the City of Seward, Electric Utility Department;

(3) Chugach Electric Association, Inc.;

(4) the Municipality of Anchorage d/b/a Municipal Light and Power;

(5) Matanuska Electric Association, Inc.; and

(6) Golden Valley Electric Association, Inc.

(b) This section is contingent on the obligation that the corporation shall conduct, under the direction of the Legislative Budget and Audit Committee, a management audit of the corporation to be commenced on June 30, 2013, 2016, and 2020. The management audit shall be conducted under methodologies and principles set out in volumes I (1988 ed.), II (1992 ed.) and III (1995 ed.) of the Management Audit Manual published by the National Association of Regulatory Utility Commissioners, Washington, D.C. The results of the management audit shall be transmitted to the Legislative Budget and Audit Committee 180 days after the commencement of the audit. This obligation to conduct a management audit shall be in addition to any audit obligation that may be required under an appropriation to the corporation.

(c) This section authorizes the organization of the Greater Railbelt Energy and Transmission Corporation, as required under AS 42.50.010(a), enacted by sec. 6 of this Act.

*** Sec. 9.** The uncodified law of the State of Alaska is amended by adding a new section to read:

CONDITIONAL EFFECT. (a) Sections 3, 6, and 8 of this Act take effect only if four or more of the listed public utilities deliver to the Alaska Energy Authority before 4:30 p.m. on July 30, 2010, a letter of intent in the form and substance acceptable to the Alaska Energy Authority, under which the listed public utility agrees to become a public utility member of the Greater Railbelt Energy and Transmission Corporation. Each listed public utility that

meets the conditions described in this subsection shall, effective August 16, 2010, be a public utility member of the Greater Railbelt Energy and Transmission Corporation. The listed public utilities are as follows:

(1) Homer Electric Association, Inc.;

(2) the City of Seward, Electric Utility Department;

(3) Chugach Electric Association, Inc.;

(4) the Municipality of Anchorage d/b/a Municipal Light and Power;

(5) Matanuska Electric Association, Inc.;

(6) Golden Valley Electric Association, Inc.

(b) The executive director of the Alaska Energy Authority shall notify the lieutenant governor and the revisor of statutes when any of the conditions described in (a) of this section are met.

(c) In this section, unless the context otherwise requires,

(1) "Alaska Energy Authority" means the authority created in AS 44.83.020;

(2) "Greater Railbelt Energy and Transmission Corporation" means the corporation organized as an energy and transmission corporation under AS 42.50, enacted by sec. 6 of this Act, as authorized by sec. 8 of this Act;

(3) "public utility member" has the meaning given in AS 42.50.900, enacted by sec. 6 of this Act.

*** Sec. 10.** If secs. 3, 6, and 8 of this Act take effect under sec. 9 of this Act, they take effect August 16, 2010.

*** Sec. 11.** Sections 1, 2, 4, 5, and 7 of this Act take effect August 16, 2015.

*** Sec. 12.** Except as provided in sections 10 and 11 of this Act, this Act takes effect immediately under AS 01.10.070(c).

LEGAL SERVICES

DIVISION OF LEGAL AND RESEARCH SERVICES
LEGISLATIVE AFFAIRS AGENCY
STATE OF ALASKA

(907) 465-3867 or 465-2450
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State Capitol
Juneau, Alaska 99801-1182
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MEMORANDUM March 18, 2010

SUBJECT: Greater Railbelt Energy and Transmission Corporation; drafting issues (CSSB 143(ENE), Work Order No. 26-GS1041\E)

TO: Senator Lesil McGuire
Chair of the Senate Special Committee on Energy
Attn: Mike Pawlowski

FROM: Dennis C. Bailey
Legislative Counsel

This memorandum accompanies the draft CS requested. Please review the new draft carefully to ensure that the editing has not changed your intent. Please note the following issues that arose during drafting.

Give attention to the effective dates particularly in sec. 11 of the bill. The sections cited are not subject to a contingency, only a delayed effective date, so we've eliminated contingency language. We have also consolidated all of the effective dates in secs. 10 - 12. In general, the effective dates need to be clarified. Using repeal language may be an additional option to consider.

AS 42.05.431(h)(1) and (2), bill section 3, use "cost" instead of "funding" for consistency with the leading paragraph.

AS 42.05.711(q), added by sec. 5, states that a corporation organized under AS 42.50 is exempt from regulation under AS 42.05. This does not seem consistent with AS 42.05.431(i), added by sec. 3 or AS 42.50.100(b)(2). AS 44.83.396, referred to in sec. 42.50.010, requires that projects acquired or constructed as part of the former energy program for Alaska are owned and administered by the Alaska Energy Authority. Should this section be cross referenced, or an exception placed in AS 44.83.396?

Sec. 42.50.010(c) states that the corporation shall operate on a not for profit basis, but sec. 42.50.010(d) disclaims the application of AS 10.20 (Alaska Nonprofit Corporations Act). Do you also intend to disclaim application of AS 10.06? If not, it may apply. In a similar vein, I expect that you are aware that "members" is not normally a term used in the context of a corporation.

In sec. 42.50.050(b), can the directors decline to approve a public utility member for any reason?

In sec. 42.50.050(c), is a vote required to allow an affiliated utility to become a member of the corporation?

Sec. 42.50.050(f) is confusing. Does it mean that a public utility member may withdraw but still be a member?

Under sec. 42.50.060(d), the members can authorize a change to the location of the principal office. Is this the only place where the membership acts in the place of the board? I suggest removing the reference to the member action in this subsection.

In sec. 42.50.070(b), the last sentence refers to other laws that apply. Does this mean other laws that apply to corporate bylaws? If other laws apply it is preferable to identify them by reference.

Sec. 42.50.180(b)(4)(B) seems to duplicate sec. 42.50.180(5). Can one or the other be removed?

Sec. 42.50.180(b)(7) is redundant and should be deleted.

In sec. 42.50.190, should the tax apply to electricity sold at retail by members, as well as the corporation?

Sec. 42.50.200 requires the board to publish its report, including audited financial statements on the Internet. Sec. 42.50.220 requires that the audit report be submitted to the legislature and governor within 30 days after receipt of the report by the corporation. While the provisions may not technically conflict, is a cross reference or clarification advisable?

Sec. 42.50.240(3) presents an ambiguity. Paragraph (3) states a mandatory requirement for dispute resolution, but permissively allows the bylaws to allow or not allow binding arbitration. Also, under sec. 42.50.240(4), if binding arbitration is required, litigation may be prohibited. I am not sure how to resolve these issues without further direction.

AS 42.50 may be subject to challenge as special legislation in violation of art. II, sec. 19 of the state constitution. Whether a measure amounts to local or special legislation, barred by the constitution is to be evaluated according to the test applied to nonsuspect classifications in equal protection cases. *State v. Lewis*, 559 P.2d 630, 643 (Alaska 1977) (upholding a three-way exchange of land, and the minerals it contained, among the State of Alaska, the United States, and a regional Native corporation); *Boucher v. Engstrom*, 528 P.2d 456, 463 (Alaska 1974) ("The classification must bear a reasonable and proper relationship to the purposes of the act and the problem sought to be remedied."). Thus, the court has said, when the legislature has singled out an area or group, it will examine the legislative goals and the means used to advance them [to] determine whether the legislation bears a "fair and substantial relationship" to legitimate purposes. If this

standard is satisfied, the bill will not be invalid because of incidental local or private advantages. Legislation need not operate evenly in all parts of the state to avoid being classified as local or special. *Lewis*, 559 P.2d at 643 (footnotes omitted).

DCB:ljw:plm
10-197.ljw

Enclosure

FISCAL NOTE

STATE OF ALASKA
2010 LEGISLATIVE SESSION

Fiscal Note Number:
Bill Version: **CS SB143 (RES)**
() Publish Date:

Identifier (file name): SB143CS(RES)-CED-AEA-3-22-10
Dept. Affected: DCCED
Title: Greater Railbelt Energy and Transmission Corporation
RDU: Alaska Energy Authority
Component: Statewide Project Development
Sponsor: Rules by Request of the Governor
Requester: Senate Resources Committee
Component Number: 2888

Expenditures/Revenues (Thousands of Dollars)

Note: Amounts do not include inflation unless otherwise noted below.

	Appropriation Required	Information					
OPERATING EXPENDITURES	**FY 2011**	**FY 2011**	**FY 2012**	**FY 2013**	**FY 2014**	**FY 2015**	**FY 2016**
Personal Services							
Travel							
Contractual	155.0		155.0	155.0			
Supplies							
Equipment							
Land & Structures							
Grants & Claims							
Miscellaneous							
TOTAL OPERATING	**155.0**	**0.0**	**155.0**	**155.0**	**0.0**	**0.0**	**0.0**
Capital Expenditures	**2,395.0**						
CHANGE IN REVENUES ()							

FUND SOURCE (Thousands of Dollars)

1002 Federal Receipts							
1003 GF Match							
1004 GF							
1005 GF/Program Receipts							
1037 GF/Mental Health							
1012 Railbelt Energy Fund	2,550.0		155.0	155.0			
TOTAL	**2,550.0**	**0.0**	**155.0**	**155.0**	**0.0**	**0.0**	**0.0**

Estimate of any current year (FY2010) cost:

POSITIONS

Full-time							
Part-time							
Temporary							

ANALYSIS: *(Attach a separate page if necessary)*

This bill creates the framework for a Greater Railbelt Energy and Transmission Corportation. The fiscal note assumes Alaska Energy Authority (AEA) project management staff time and AEA admin support to assist in the formation of the Greater Railbelt Energy and Transmission Corporation (GRETC), including $50,000 contractual costs for Department of Law assistance to AEA. AEA is to provide coordination of business development by providing project manager technical assistance, legal assistance and meeting space and coordination of meetings and document development. ($155.0 contractual costs)

Prepared by: Sara Fisher-Goad, Deputy Director-Operations
Phone 907-771-3012
Division: Alaska Energy Authority
Date/Time 3/24/10 12:00 AM
Approved by: Emil Notti, Commissioner
Date 3/24/2010
Commerce, Community and Economic Development

(Revised 11/6/2009 OMB)

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ANALYSIS CONTINUATION

$2,395 is made available for a 0% interest loan to GRETC develop the business structure of the new entity, contingent upon the delivery to AEA a letter of intent, in form and substance acceptable to AEA, from four or more of the railbelt utilities an agreement to become a member of GRETC.

The sum of $2,395,000 is appropriated from the Alaska railbelt energy fund (AS 37.05.520) to the Alaska Energy Authority, as a debt obligation recoverable from GRETC as a cost of the formation the GRETC business structure.

The debt obligation is repayable to the railbelt energy fund(AS 37.05.520), with interest at 0 percent, amortized over a term not to exceed 10 years, recoverable by the Alaska Energy Authority. Further terms and conditions of the debt obligation will be determined by AEA.

The estimated costs of the business formation are as follows:

Program management	173.0
Finalize business structure	608.0
Secure new facility	116.0
Develop Business P&P's	142.0
Complete operations transition planning	46.0
HR recruiting and planning	114.0
Develop IT infrastructure	203.0
Develop Business Systems	404.0
Training	77.0
Transition and cutover execution	58.0
IT software and hardware/office equipment	454.0
Total	**2395.0**

SB 143
Sectional Analysis

Section 1. (Page 1, line 10 – page 12, line 20) Section 1 creates and empowers the Greater Railbelt Energy and Transmission Corporation ("corporation") within AS 42.50. The corporation has the primary public purpose, and corporate powers, to provide Greater Railbelt electric utilities with adequate, reliable, safe, and stable wholesale electric power and transmission services, at the lowest feasible long-term cost. The corporation will plan for the financing, and acquisition or construction of electric power generation and transmission assets or services necessary to serve the Railbelt.

The corporation is similar in corporate form to the Commercial Fishing and Agriculture Bank (AS 44.81 – "CFAB"). Both are statutory corporations that are not public corporations of the state or otherwise agencies of state government. However, CFAB and the corporation differ in governance structure. CFAB is structured and operated as a cooperative corporation, and is governed by a board of directors with two directors appointed by the governor and the remaining five to seven directors elected by members. In contrast, the corporation is a non-profit corporation, governed by a board of directors composed of up to 12 persons selected by the Greater Railbelt electric utilities, and one public member appointed by the governor. Members of the corporation are the ratepayers of individual Greater Railbelt electric utilities, with member governance exercised, and member benefits received, solely through the member's electric utility. The Greater Railbelt electric utilities thereby collectively retain control over their future electric power generation and transmission needs, and can exercise that control through the corporation.

Specific sections of AS 42.50 within section 1 of the bill include:

AS 42.50.010. (Page 1, line 12 – page 2, line 23) Establishes the corporation as a non-profit corporation, and describes the purposes of the corporation, including to plan for and take actions necessary to provide the Railbelt with adequate, reliable, safe, and stable electric power at the lowest feasible cost. The section clarifies that the corporation is exempt from certain statutes applicable to other corporations. The section further clarifies that the corporation may not be considered to be or constitute the state, state government, or a political subdivision so that statutes applicable to such entities (*e.g.* the Executive Budget Act or the Procurement Code) will not apply to the corporation. Finally, the section declares that the exercise of powers by the corporation is considered to be for a public purpose, which will make the corporation more readily eligible for state financial assistance.

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AS 42.50.020. (Page 2 line 24 – page 3 line 17) Establishes provisions for the board of directors to govern the corporation. The governor will appoint one director, and each Greater Railbelt electric utilities will have two representative directors, for a total of up to 13 directors.

AS 42.50.030. (Page 3 line 18 – page 4 line 26) Establishes rules related to noticing and conducting meetings of the board of directors, including requiring public meetings, and establishing rules and criteria for executive sessions of the board.

AS 42.50.040. (Page 4 line 27 – page 5 line 7) Establishes provisions for the corporation to hire employees, including a chief executive officer. Declares that employees of the corporation are not employees of the state and are not considered to be employees of a public organization for purposes of the Public Employees' Retirement System of Alaska (AS 39.35).

AS 42.50.050. (Page 5 lines 8 - 12) Establishes that ratepayers of the individual Greater Railbelt electric utilities are the members of the corporation, and provides that members are represented by, and receive benefits solely through, their respective electric utility.

AS 42.50.060. (Page 5 lines 13 - 16) Authorizes the corporation's board to adopt bylaws, and requires that bylaws be consistent with AS 42.50 and other laws applicable to the corporation.

AS 42.50.070. (Page 5 lines 17 - 21) Authorizes the corporation to indemnify, or purchase insurance on behalf of, directors, officers and employees.

AS 42.50.100. (Page 5 line 22 – page 7 line 24) Authorizes the corporation to exercise enumerated general powers that will enable the corporation to fulfill its corporate purposes to plan for and take actions necessary to provide the Railbelt with adequate, reliable, safe, and stable electric power at the lowest feasible cost. These general powers include enabling the corporation to plan for, finance, construct or acquire electric power generation and transmission facilities or services, fuel supplies and fuel storage facilities, and other facilities necessary or convenient to accomplish the corporation's purposes. The corporation may work with the state regarding energy planning, and with the Greater Railbelt electric utilities regarding their energy needs. The corporation may exercise eminent domain to acquire necessary land interests using statutory authority available to electric utilities. And, the corporation may create subsidiary corporations, including non-profit subsidiary corporations under AS 10.20, if that creates better opportunities to finance, construct or acquire necessary facilities, assets or services.

AS 42.50.110. (Page 7 lines 25 – 30) Establishes that the corporation has all the powers and duties of a regulated electric utility, except the corporation is not required to obtain a certificate of public convenience and necessity, and the corporation may not make retail sales of electric power.

AS 42.50.120, AS 42.50.130, and AS 42.50.140. (Page 7 line 31 – page 9 line 5) Three sections, collectively, impose a framework for the corporation to plan for future electric power generation and transmission needs for the Greater Railbelt region service territory. **AS 42.50.120** imposes a duty on corporation to adopt, regularly review, and update an integrated resources plan. The corporation in this plan will analyze the anticipated future electric power needs of the Greater Railbelt electric utilities, and select electric generation and transmission projects that will best meet those future needs. **AS 42.50.130** imposes a duty on corporation to adopt, regularly review, and update a long-range capital improvement plan. The corporation in this plan, and building upon the integrated resources plan, will identify anticipated capital improvement projects and otherwise describe how the corporation intends to accomplish its corporate purposes over the following 10 years. **AS 42.50.140** imposes duty on corporation to adopt, regularly review, and update a long-range capital management plan. The corporation in this plan, and building upon both the integrated resources plan and the long-range capital improvement plan, will describe the corporation's plans for financing capital improvement projects and other fiscal needs over the following 10 years. Each of these sections also require the corporation to make these plans available on the Internet to Greater Railbelt electric utilities, members of the corporation, the governor, the legislature, and the public.

AS 42.50.150. (Page 9 lines 6 – 14) The state pledges to any lender to the corporation that the state will not limit or alter the rights of the corporation to fulfill terms of contracts, or impair remedies available to the lender. Without this pledge, concerns about the corporation repaying debt might arise, which might make lenders unwilling to provide debt financing to the corporation.

AS 42.50.160. (Page 9 line 15 – 21) Authorizes the corporation to acquire long-term fuel supplies to ensure electric power generation facilities can continue to operate without fuel related interruptions. The corporation may acquire fuel supplies in conjunction with other persons who acquire fuel for other purposes, including purposes unrelated to electric power. Cook Inlet gas supplies may not be plentiful in the future. The acquisition of fuel supplies in conjunction with other users of fuel may offer economic advantages to the corporation.

AS 42.50.170. (Page 9 line 22 - 24) Establishes that the corporation's real and personal property, assets, income, and receipts are exempt from state and local taxes and special assessments. This tax exemption is revenue neutral to state and local governments. The Greater Railbelt electric utilities are comprised of municipal and cooperative electric utilities. Municipal electric utilities do not pay taxes. Cooperative electric utilities are exempt from state and local taxes, and instead pay an electric cooperative tax on retail sales of electricity. Only Greater Railbelt electric utilities will sell electricity at retail because the corporation may not make retail electric power sales (AS 42.50.110(b)). Electric cooperatives will pay the electric cooperative tax on all electric power obtained from the corporation, so state and local governments will not lose tax revenues as a result of this tax exemption.

AS 42.50.200. (Page 9 line 25 – page 10 line 2) Obligates the corporation to publish an annual report, which report must include audited financial statements and other information requested by the legislature.

AS 42.50.210. (Page 10 lines 3 - 29) Establishes rights of Greater Railbelt electric utilities, members of the corporation, and the public to inspect books and records of the corporation, and describes books and records that the corporation may withhold from inspection.

AS 42.50.170. (Page 10 line 30 – page 11 line 22) Establishes provisions for audits and examinations of the corporation. The section authorizes the legislative auditor to cause the corporation to be audited, and establishes processes that will apply. The section also requires an annual audit of the corporation by an independent outside auditor.

AS 42.50.900. (Page 11 line 23 – page 12 line 20) Defines certain terms used in AS 42.50.

Sections 2-7, and section 12. (Page 12 lines 21 – 26, and page 17 line 13 – page 18 line 14) Sections 2 – 7, and 12 provide a mechanism to remove from participation in the corporation individual Greater Railbelt electric utilities that do not desire to participate in the corporation. To continue participation in the corporation, a Greater Railbelt electric utility must deliver to the Alaska Energy Authority by July 31, 2010, an acceptable letter of intent under which the utility commits to enter a phased commitment agreement among the Alaska Energy Authority, the corporation, and the utility. These sections, effectively, enable individual Greater Railbelt electric utilities to elect to opt out of the corporation.

Sections 2 - 7 of the bill (page 12 lines 21 – 26) repeal from the definition of "Greater Railbelt electric utilities" under AS 42.50.900(5), individually listed

Greater Railbelt electric utilities. For example, section 2 would repeal AS 42.50.900(5)(A) which lists "Homer Electric Association, Inc." within the definition of "Greater Railbelt electric utilities. Sections 3 – 7 would repeal other portions of AS 42.50.900(5) which list other electric utilities. If a utility is removed from the definition of "Greater Railbelt electric utilities, the utility would no longer be empowered to participate in the corporation. For example, removal of a utility from the definition would eliminate that utility's right to have two directors on the board (*see* AS 42.50.020(a)(1) – page 2 lines 26 - 29).

Subsection 12(a) (page 17 lines 13 – 28) makes the repeal of the individual portions of AS 42.50.900(5) effective if the respective individual utility does not deliver to the Alaska Energy Authority an adequate letter of intent. Subsection 12 (c) (page 17 line 31 – page 18 line 2) requires the executive director of the Alaska Energy Authority to notify the lieutenant governor and revisor of statutes if any of the conditions are met. Subsection 12(d) (page 18 lines 3 - 14) defines terms used in section 12 of the bill.

Section 8. (Page 12 line 27 – page 15 line 2) Section 8 establishes obligations on the corporation to organize and, jointly with the Alaska Energy Authority, develop by January 19, 2010 a transition and finance plan to enable the corporation to become an all requirements supplier of electric power and transmission services to Greater Railbelt electric utilities. The section recognizes the reality that no new entity can immediately fulfill the goals set for the corporation. Existing electric power generation and transmission assets and services owned and operated by Greater Railbelt electric utilities and the state must be integrated into the corporation, together with anticipated new assets and services. Only under a phased transition can the corporation acquire necessary assets and services to enable it to become the supplier of electric power generation and transmission services to Greater Railbelt electric utilities.

The finance plan will identify how any new assets, or upgrades to existing assets, can be financed. The corporation will also identify how best the State of Alaska can assist in this financing, whether it be through cash capitalization, credit, or both. Any assistance provided by the State will have to be approved by the Legislature. In the short term, this could amount to hundreds of millions of dollars. In the long term, it could exceed a billion dollars. The Energy Team at the Alaska Energy Authority will work with the corporation on this finance plan, while at the same time work with members of the Legislature to determine the optimum means to finance investments all across Alaska.

Under subsection 8(a) (page 12 line 29 – page 14 line 9), the corporation must organize and jointly with the Alaska Energy Authority, develop a transition and finance plan. The plan must include or address several components. The plan

must include a phased commitment agreement that identifies commitments by the state, corporation and utilities to enable the corporation to achieve its corporate purposes, and a commitment by utilities to obtain electric power and transmission services from the corporation. The plan must address financing for necessary new projects, and include provisions to ensure that the creation and transition not negatively effect the ability of the corporation and utilities to finance necessary Railbelt electric power generation and transmission assets and services. Such provisions include ensuring the repayment of existing and new debt. The plan must address the corporation's acquisition of assets. The plan may propose statutory changes to improve the ability of the corporation to achieve its purposes.

Under subsection 8(b) (page 14 lines 10 – 23), the corporation must annually report on progress towards implementing the transition and finance plan.

Subsection 8(c) (page 14 line 24 – page 15 line 2), defines certain terms used in section 8 of the bill.

Section 9. (Page 15 line 3 – page 16 line 7) Section 9 requires the corporation to report to the governor and legislature with proposed statutory changes regarding the scope of regulation by the Regulatory Commission of Alaska over the corporation.

Subsection 9(a) (page 15 lines 7 – 29) identifies principles that the corporation must include in its proposed legislation. Rates must be based upon the reasonable costs of the corporation, and be adequate to cover financing covenants. A single, system wide rate must be established for Greater Railbelt electric utilities that become all requirements purchasers. The scope of review by the Regulatory Commission of Alaska must be established, and a simplified process for determining rates and revenue requirements must be proposed.

Nothing in section 9 obligates the legislature to take any particular action in response to the legislation to be proposed by the corporation. If the legislature takes no further action regarding the scope of regulation by the Regulatory Commission of Alaska over the corporation, under AS 42.50.110 to be enacted in section 1 of the bill (page 7 lines 25 – 30), the corporation would remain subject to full regulation by the Regulatory Commission of Alaska, excepting that the corporation would not need to obtain a certificate of convenience and public necessity under AS 42.05.221.

Subsection 9(b) (page 15 line 30 – page 16 line 7) defines certain terms used in section 9 of the bill.

Section 10. (Page 16 line 8 – page 17 line 10) Section 10 authorizes the Alaska Energy Authority to convey the Bradley Lake Hydroelectric Project and the Alaska Intertie to the corporation.

Bradley Lake Hydroelectric Project is a storage hydro electric power project located near Homer, Alaska. The project has a peak capacity of 126 MW, with significant water storage held behind a rock fill dam. Bradley Lake is an important part of the Railbelt operating power portfolio, providing 5-10% of the annual Railbelt electric power needs at the lowest Railbelt wide generation cost. Under the power sales agreement, 100 percent of the project's capacity and energy has been sold to Railbelt utilities, including: Chugach Electric Association, Inc. (30.4%); Municipality of Anchorage d/b/a Municipal Light and Power Utility (25.9%); Golden Valley Electric Association, Inc. (16.9%); Matanuska Electric Association, Inc. (through Alaska Electric Generation and Transmission Cooperative, Inc.) (13.8%); Homer Electric Association, Inc. (through Alaska Electric and Energy Cooperative, Inc.) (12.0%); and City of Seward, Electric Utility Department (1.0%).

The Alaska Intertie is a 170 mile long electrical transmission line that stretches from Healy River to Willow, and under agreements authorizing the use of Matanuska Electric Association owned transmission lines, extends an additional approximately 25 miles to the Teeland Substation near Knik. An ongoing extension project will extend the Alaska Energy Authority owned line from Willow to the Chugach Electric Association transmission system. This extension will become a part of the project. The Alaska Intertie connects the southern Railbelt Utilities electrically with Golden Valley Electric Association that serves communities to the north of the Alaska Range. Designed to move power in both directions, the intertie has been used chiefly to convey inexpensive electrical energy produced by Chugach Electric and Municipal Light and Power northward to become a part of the GVEA energy portfolio. Recently, power flows have flowed from GVEA south to the Chugach system, when Chugach lacked access to sufficient natural gas to carry the Chugach system load.

Subsection 10(a) (page 16 lines 10 – 23) authorizes the conveyances and clarifies that the Alaska Energy Authority may take other actions before actual conveyances. The Alaska Energy Authority may contract to allow the corporation to operate and maintain the project. Such a contract would provide the corporation with some level of control over the assets prior to actual conveyance. The Alaska Energy Authority may also contract and agree to convey the projects in the future after bonds or debt are paid, refinanced, or defeased, or after approvals are obtained. This provision provides the same flexibility the corporation will require in planning for acquiring assets under the transition and finance plan to be developed in section 8 of the bill. The corporation will need to review and address

all contractual, regulatory, or other restrictions on the transfer of assets into the corporation. With respect to the Bradley Lake hydroelectric project, this will include review of covenants related to outstanding bonds, and transfer of the FERC license. The flexibility provided in subsection 10(a) and the transition and finance plan under section 8 may enable the corporation to integrate facilities and assets into corporation's operations without first obtaining ownership.

The conveyances of the Bradley Lake hydroelectric project and the Alaska Intertie will be subject to, and will not eliminate, existing contractual rights of various Greater Railbelt electric utilities. For example, the power generated by the Bradley Lake hydroelectric project is already sold to the utilities under a power sales agreement. The right to use the Alaska Intertie is subject to provisions of the Alaska Intertie Agreement. However, the Alaska Intertie Agreement is scheduled to terminate in October 2010, and has been subject of renegotiations between the Alaska Energy Authority and Greater Railbelt electric utilities that participate in the project. The Alaska Energy Authority anticipates that the parties will address as part of the transition and finance plan, whether negotiations with the utilities regarding the agreement should be completed by the corporation rather than the Alaska Energy Authority.

Subsection 10(b) (page 16 line 24 – page 17 line 10) defines certain terms used in section 10 of the bill.

Sections 11 and 12. (Page 17 line 11 – page 18 line 14) Sections 11 and 12 provide for the contingent repeal of section 10 of the bill which authorizes the Alaska Energy Authority to convey the Bradley Lake Hydroelectric Project and the Alaska Intertie to the corporation. That repeal will take effect if none of the Greater Railbelt electric utilities choose to participate in the corporation by delivering to the Alaska Energy Authority an acceptable letter of intent by July 31, 2010..

Section 11 (page 17 lines 11 – 12) repeals section 10 of the bill.

Subsection 12(b) (page 17 lines 29 – 30) makes section 11 take effect if none of the Greater Railbelt electric utilities deliver to the Alaska Energy Authority by July 31, 2010, an acceptable letter of intent under which the utility commits to enter a phased commitment agreement among the Alaska Energy Authority, the corporation, and the utility.

Subsection 12 (c) (page 17 in 31 – page 18 line 2) requires the executive director of the Alaska Energy Authority to notify the lieutenant governor and revisor of statutes if the conditions of subsection 12(b) are met.

Subsection 12(d) (page 18 lines 3 – 14) defines certain terms used in section 12 of the bill.

Section 13. (Page 18 line 15) Section 13 gives the bill an immediate effective date.

Greater Railbelt Energy and Transmission Corporation - GRETC

A New Not-for-profit Energy and Transmission Company

Senate Resources Committee

March 17th, 2010

How we got here

- REGA Study
- Business Case for a new Railbelt G&T Company

→

- GRETC Legislation: 2009
- Senate Bill 143
- House Bill 182

- Joint Electric Utility Board Meeting
- First of it's kind
- Letter to Governor
- Formation of Task Force

→

- GRETC Legislation: 2010
- Committee Substitute requested

Railbelt Integrated Resource Plan

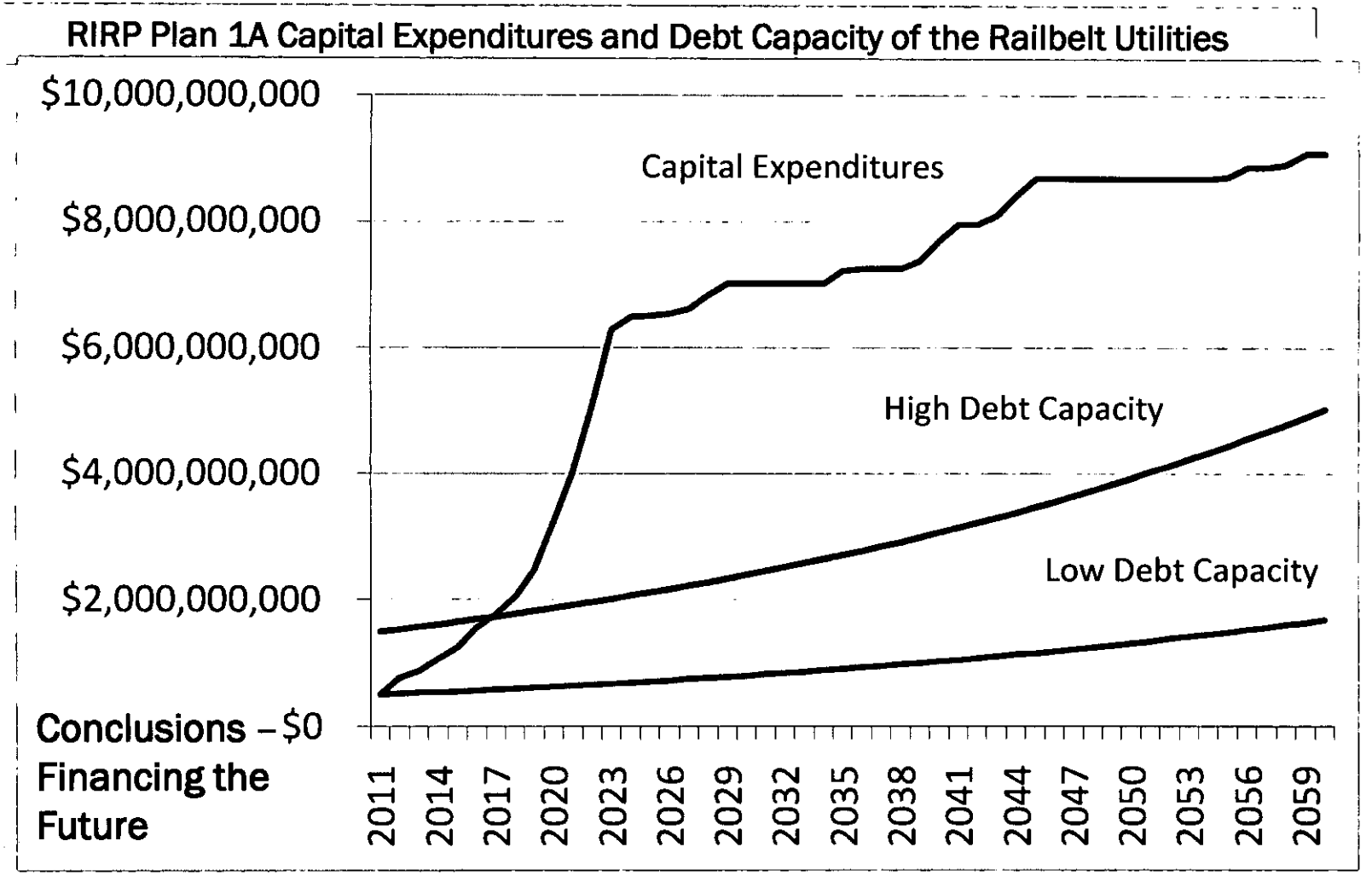
- Economically schedules what, when, and where to build G&T, based on available fuel and energy supplies
- 50-year time horizon

Goal for GRETC

Robust transmission
Diversified fuel supply
Least cost power rates
Spread risk
Financial assistance
Regional planning
Wise resource use
Respond to large load growth

GRETC = Greater Railbelt Energy and Transmission Company

A Comprehensive Plan for the Alaska Railbelt



Source: B&V RIRP report, Seattle Northwest Securities

A BRIEFING TO DESCRIBE THE CORPORATION

- *How is this new GRETC different from what was proposed in the 2009 legislature?*
- Topics for discussion to gain this understanding
  - 1. *Governance*
  - 2. *Powers of Corporation*
  - 3. *External Controls for Corporation Activities*
  - 4. *Initial Tasks for GRETC*

1. GOVERNANCE

- Private, not for profit statutory corporation, with board of directors
  - 2 board members from each Railbelt public Utility member
  - 1 public board member
- Each board member has equal vote
- Board required to designate a chief executive officer
- Employees of GRETC not State Employees
- All board processes public
- GRETC required to develop bylaws

1. GOVERNANCE – MEMBERSHIP IN GRETC

- Public Utility Members – Those Railbelt Utilities with Service Areas and retail customers, who are interconnected with the Railbelt Electrical Grid.
- Members – Other entities that purchase services from the corporation
- Membership requires 2/3 vote of board

2. POWERS OF CORPORATION

- Provide wholesale electric power to public utility members at lowest reasonable long-term cost
- Business purpose – acquisition, construction or development of generation and transmission assets, and ancillary services. Examples are
  - Procure fuel supplies
  - Develop operating standards for service territory of the corporation
  - Develop generation and transmission projects

2.POWERS OF CORPORATION – *DIFFERENCES FROM 2009 LEGISLATION*

- The new GRETC – in contrast to last year's bill
  - *Now a voluntary organization*
  - *Subgroups of utilities can develop G&T projects outside of GRETC, and still serve on the board and purchase services from GRETC.*
  - *Be the primary recipient of state financial aid*
  - *GRETC is not directed to become an all-requirements provider of wholesale power for the Railbelt –flexibility in approach to develop future Railbelt G&T infrastructure.*
  - *AEA Integrated Resource Plan provided as a resource to GRETC – requirement to follow removed.*
  - *Requires at least 4 Railbelt Utilities to join for formation.*

3. EXTERNAL CONTROLS

- Areas of Oversight
  - Consumer Protection
  - Financial Oversight
  - Effectiveness of Corporation
- Protections
  - RCA economic regulation for a 5 year sunset
  - Management audits at 3 year intervals for 10 years

4. INITIAL TASKS FOR GRETC – FORM THE COMPANY

- Form the Board of Directors
- Develop, consider and approve Corporate Bylaws
- Establish staffing plan
- Establish relationship with Alaska Energy Authority – support agreements
- Develop time line for critical actions – for GRETC to begin its business functions

4. INITIAL TASKS FOR GRETC – START THE WORK

- Identify task list for GRETC
  - Develop Integrated Resource Plan
    - State Sponsored Railbelt Integrated Resource Plan will be available for use by GRETC
  - Priority list of projects, business functions, and contractual agreements
  - Develop Capital Improvements Plan
- *Begin Critical Infrastructure capital projects*

- Questions?

The Alaska Intertie Electric Transmission Line

Description: The Alaska Intertie is a 170 mile long electrical transmission line that stretches from Willow to Healy River. The Intertie project includes several high voltage transformers, switching and access points at each end. This transmission link includes 3 facilities placed strategically in the Railbelt Grid, to provide system electrical stability. The project cost $124 million.

Also a part of the intertie operation, are ongoing agreements with Matanuska Electric Association to use MEA owned transmission lines to connect the intertie into the Chugach Electric Transmission System at the Teeland Substation, some 25 miles to the southern end of the intertie at Willow. An Alaska Intertie extension project is being pursued by the Alaska Energy Authority and Municipal Light and Power in an interagency agreement, to construct a section of transmission line that will extend AEA owned assets to the Chugach Electric Association transmission system. This extension will become a part of the project.

Background: The project was designed for high voltage operation at 345 kilovolts to handle expected Susitna power transmission needs. When the Susitna project was shelved, the need for movement of large amounts of power from the Talkeetna area both north and south because a potential future requirement, so the project was placed into operation at 138 kilovolts, and was configured to transmit up to 75 megawatts of power.

Because the project ran short of funds, arrangements were made with MEA to rent 20 miles of their 115 Kilovolt transmission system, and to build a 5 mile section from Teeland Substation on the Knik Road to a connection location within the MEA service area at Hollywood Road. The Railbelt Utilities in cooperation with the Alaska Energy Authority sought appropriations out of the Railbelt Energy Fund to complete the intertie in 2003. This extension project is presently being pursued by the AEA, in conjunction with two other intertie renovation projects, the Static VAR compensator upgrade and Tower 195 renovation. AEA is also reviewing with its contractor ML&P and with Chugach Electric Association where the southern terminus of the intertie should connect into the Chugach Electric Association system. This consideration is included in the regional integrated resource plan AEA is pursuing for the Railbelt.

Purpose: The Alaska Intertie connects the southern Railbelt Utilities electrically with Golden Valley Electric Association that serves communities to the north of the Alaska Range. Designed to move power in both directions, the intertie has been used chiefly to convey inexpensive electrical energy produced by Chugach Electric and Municipal Light and Power northward to become a part of the GVEA energy portfolio. Recently, power flows have flowed from GVEA south to the Chugach system, when Chugach lacked access to sufficient natural gas to carry the Chugach system load.

Sources of Funds: The intertie is owned outright by the Alaska Energy Authority, and has no debt associated with it. The Railbelt Utilities gain access to the project through an Intertie Agreement. As with Bradley, while AEA is the owner, the Railbelt Utilities through contract maintain and control the intertie. The agreement can only be changed with unanimous agreement from the Railbelt Utilities, but there is a termination clause that AEA has used to start a 4 year termination process, with the intent of negotiating a new agreement. This termination date is October 2010.

Operation of Facility: AEA contracts with ML&P and with GVEA to monitor and control the Intertie. Each operates a control center, and staff work cooperatively in the operation of the project. AEA contracts with Chugach, MEA and GVEA for maintenance of northern and southern legs of the project, and for maintenance of the three electrical stability (SVC) facilities.

The AEA project manager sits on the Intertie Operating Committee, which handles all technical and financial matters for the intertie project. The agreement specifies that the transmission rate be determined each year based on proposed schedules for use and annual budgets. At the end of the year, actual costs and power transmitted are used to true up costs. AEA receives no revenue from the project, and recovers only its program management costs from the annual budget.

Bradley Lake Hydroelectric Project

Description: Bradley is a storage hydro electric power project located near Homer, Alaska. With a peak capacity of 126 MW, and significant water storage held behind a rock fill dam, Bradley is an important part of the Railbelt operating power portfolio. Due to its remote location, the project has its own airstrip, boat dock, residential quarters, and utility system. The project is interconnected to the Homer Electric Association transmission system through 21 miles of dual 138KV transmission lines.

Background: The power generation potential of Bradley Lake was first studied by the U.S. Corps of Engineers and presented in a report dated March 1955. The project was authorized by Congress in 1962, but, despite its feasibility, federal funds were not available for its construction. The Alaska Energy Authority (then Alaska Power Authority) assumed responsibility for the project in 1982. Preliminary plans and field investigations started in 1982. In April 1984, the Authority submitted an application for license to the Federal Energy Regulatory Commission (FERC). The license to construct the project was issued on December 31, 1985. In December 1987, the Authority and the Railbelt utilities entered into a Power Sales Agreement to delineate responsibilities. Project was declared in commercial operation September 1, 1991. Bradley has been producing power for 16 years. In 2007, Bradley produced 392,000 MWh of power at a cost of approximately $.039 per kWh.

Purpose: The Bradley project provides 5-10% of the annual Railbelt electric power needs at the lowest Railbelt wide generation cost. Bradley is most important to the Railbelt electric system during the cold winter months, when demand for both electric power and gas for heat is at its highest. Utilities limited by available gas use Bradley power to meet the high electric demand.

Source of Funds: The project is owned by the Alaska Energy Authority, who has issued tax exempt bonds to finance a portion of cost of the project. The original cost was $328 million. The State of Alaska appropriated a portion of the construction funds to AEA's predecessor Alaska Power Authority, and the original principal on tax exempt revenue bonds was $165M. Since going into operation this initial principal has been paid down to a present amount of $113.69M. The bonds will be paid off in 2021. When bonds are paid off, payments are to continue to AEA for deposit into the Railbelt Energy Fund to refund the initial appropriations made to build the project.

Operation of Facility: All costs of operation that include payments to the bond holders and operations and maintenance costs are borne by the Railbelt Utilities and their Rate payers, who are signatories to the Bradley Lake Power Sales Agreement. Governance is through management committees populated by the Railbelt Utilities, with the AEA project manager also a member. Each year a new rate is calculated to offset actual costs of operation of the project. The Alaska Energy Authority has a small administrative fee associated with owning the asset and receiving rate payments and paying for the cost of operation. AEA provides a project manager to oversee the AEA involvement in the project.

- The agreement specifies an allocation of the Bradley Lake Power to Railbelt utilities, and through subsidiary agreements the utilities dispatch this power through the Railbelt grid to each utility.

- Under the power sales agreement, 100 percent of the project's capacity and energy has been sold to purchasers who are a part of the agreement:

    1. Chugach Electric Association, Inc. 30.4%
    2. Municipality of Anchorage 25.9%
    3. Alaska Electric and Energy Cooperative, Inc. [1] 25.8%

4.	Golden Valley Electric Association	16.9%
5.	City of Seward	1.0%

Note 1: AEG&T power flows as follows:
Homer Electric Association at (12.0%)
Matanuska Electric Association at (13.8%)

- AEA cannot unilaterally terminate the Bradley Power Sales agreement. The agreement could be changed, but only if all the Railbelt Utilities agreed. The term of the agreement is 50 years, or the date the revenue bond principal obligations are paid. Purchasers will have the ability to renegotiate the power sales agreement after bond obligations are retired.

CHUGACH

RESOLUTION

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WHEREAS, Chugach Electric Association, Inc. (Chugach) participated in the Alaska Energy Authority's Railbelt Electrical Grid Authority (REGA) study, published September 12, 2008, which identified significant economic benefits to Railbelt electric utilities from joint utility operations; and

WHEREAS, the formation of the Greater Railbelt Energy and Transmission Corporation (GRETC) is a way to unify Railbelt utilities; and

WHEREAS, the GRETC can provide regional generation and transmission (G&T) planning on behalf of Railbelt utilities; and

WHEREAS, the GRETC can secure adequate fuel supplies for existing and planned generation resources while concurrently developing and promoting renewable and alternative energy projects to diversify the generation portfolio; and

WHEREAS, the GRETC, with State financial assistance, can best meet the extensive capital investment needs for the expansion and modernization of the Railbelt's G&T infrastructure; and

WHEREAS, the stated purpose of GRETC is to provide all Railbelt utilities with access to reliable and affordable long-term wholesale power supplies.

NOW THEREFORE, BE IT RESOLVED, Chugach shall support House Bill No. 182, attached, enacting the establishment of the Greater Railbelt Energy and Transmission Corporation.

CERTIFICATION

I, Alex Gimarc, do hereby certify that I am the Secretary of Chugach Electric Association, Inc., an electric non-profit cooperative membership corporation organized and existing under the laws of the State of Alaska: that the foregoing is a complete and correct copy of a resolution adopted at a meeting of the Board of Directors of this corporation, duly and properly called and held on the 27th day of January, 2010; that a quorum was present at the meeting; that the resolution is set forth in the minutes of the meeting and has not been rescinded or modified.

IN WITNESS WHEREOF, I have hereunto subscribed my name and affixed the seal of this corporation the 27th day of January, 2010.

(Seal)

Alex Gimarc
Secretary

3108

Homer Electric Association, Inc.

Corporate Office
3977 Lake Street
Homer, Alaska 99603-7680
Phone (907) 235-8551
FAX (907) 235-3313

Central Peninsula Service Center
280 Airport Way
Kenai, Alaska 99611-5280
Phone (907) 283-5831
FAX (907) 283-7122

RESOLUTION 10-11
SUPPORTING DRAFT HOUSE BILL 182

WHEREAS, the Railbelt Utilities, working cooperatively with the Alaska Energy Authority have authored legislation in the form of draft House Bill 182 (January 21, 2010), for the purpose of establishing the Greater Railbelt Energy and Transmission Company (GRETC); and

WHEREAS, the GRETC is intended to ensure adequate, reliable, safe and stable wholesale electric power to public utility members on a non-discriminatory basis, at the lowest reasonable long-term cost; and to be the primary recipient of state financial assistance provided to support the acquisition, construction or development of generation and transmission assets, and ancillary services and assets, for the electric utility members of the corporation; and

WHEREAS, representatives of staff and Board of Directors of the Cooperative have participated in developing the legislation; and

WHEREAS, the Board of Directors is committed to continuing to work in good faith toward the development of an organization created to advance the above purposes;

NOW, THEREFORE;

BE IT RESOLVED that the Board of Directors of Homer Electric Association, Inc. hereby supports the passage of House Bill 182 in the form presented to the Board and commits the Cooperative to work in good faith to secure the benefits resulting from cooperative efforts with other Railbelt Utilities.

CERTIFICATION

I, David B. Thomas, do hereby certify that I am Secretary of Homer Electric Association, Inc., and that the foregoing resolution was adopted at a meeting of the Directors of Homer Electric Association, Inc., held on January 27, 2010, at which meeting a quorum was present.

David B. Thomas

David B. Thomas, Secretary

Submitted by: Chair of the Municipal
Light & Power Utility
Board of Directors
Date: January 27, 2010

ANCHORAGE, ALASKA
Resolution No. 2010- 01

A RESOLUTION OF THE ANCHORAGE MUNICIPAL LIGHT AND POWER UTILITY BOARD OF DIRECTORS REGARDING THE JOINT UTILITY TASK FORCE OMNIBUS REVISION TO HB 182 NOW SET TO BE FILED WITH THE ALASKA STATE LEGISLATURE

WHEREAS, the Anchorage Assembly and Mayor of Anchorage have by ordinance delegated to the ML&P Board the independent operation, management and oversight of the utility; and

WHEREAS, two representatives of the ML&P Board of Directors and senior members of management have participated with the Joint Utility Task Force in an effort to propose and acquire support of modifications to the original version of HB 182 introduced by the Alaska Energy Authority during the 2009 legislative session to create the Greater Railbelt Energy and Transmission Corporation (GRETC) necessary to address concerns ML&P and the Board had with the original proposed legislation, and

WHEREAS, changes have been made to the original version of HB 182 such that the Board of Directors and management are reasonably confident that the interests and rights of ML&P and its ratepayers are adequately provided for and protected by the JOINT UTILITY TASK FORCE OMNIBUS REVISION TO HB 182 (attached);

NOW THEREFORE, THE ML&P BOARD OF DIRECTORS RESOLVES THAT:

- The Board and management will continue to positively participate in discussions with the Joint Utility Task Force and in the legislative refinement of the JOINT UTILITY TASK FORCE OMNIBUS REVISION TO HB 182 and will respond to any proposed modification or amendments to this bill in a manner that tries to harmonize the interests of ML&P, its rate payers, and the Municipality of Anchorage with those of other Railbelt utilities.

- ML&P's position on this bill at this time should in no manner be construed as a decision or recommendation for ML&P to join, or not to join GRETC. That decision will be made once a bill is finalized and the form and content of a Letter of Intent with the Alaska Energy Authority has been established.

PASSED AND APPROVED by the ML&P Board of Directors this 27th day of January, 2010.

ATTEST:

Linda R. Davidovics
ML&P Utility Board Secretary

Ted R. Carlson, Chairman
ML&P Utility Board of Directors

Memorandum

To: City of Seward, City Council

CC: Phillip Oates, City Manager

From: John Foutz, Electric Utility Manager

Date: 1/28/2010

Re: Update on the GRETC Legislation

For the past four weeks the joint utility task force has been meeting in Anchorage to finalize the GRETC legislative bill. In the legislature this bill is known as HB182. All six railbelt utilities as well as members from various state agencies attended the four meetings.

The primary reason for the meetings was to finalize the language in HB182 that can be agreeable to all six utilities as well as some added language from the state. One of the primary concerns expressed by some of the utilities was a need for voluntary participation, while a concern of the states was some protection for financial obligations. At this time both criteria seem to be addressed adequately.

Some other concerns articulated by the utilities were:

1. Control of the new enterprise by the utilities.
2. No Regulation by the RCA.
3. The decision to include further utilities in the future should be left to the discretion of the utilities and not the state.
4. And assurances this course of action is following the same guidelines as the Bradley Lake Project model.

The state insisted that three items be included into this bill.

1. The new entity will be the primary recipient for state funds.
2. The organization have the ability to collect funds to help pay for depreciation of future projects.
3. The business will be charged with being the moderator for a standard of reliability and interconnectivity.

The essence of the document has support by the six utilities and the state; all that is required is the correct language. The task force is currently working on final language to present to the states legislative body, with a meeting on Thursday, January 21st and quite possibly another meeting during the week of January 25th – 30th.

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Agenda Statement

Meeting Date: November 24, 2009

To: Phillip Oates, City Manager

From: John Foutz, Electric Utility Manager

Agenda Item: Support Of The Greater Railbelt Energy And Transmission Corporation

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BACKGROUND & JUSTIFICATION: Leaders of Chugach Electric Association, Matanuska Electric Association and the City of Seward held a joint meeting on November 20, 2009 and moved forward in support of legislation to create the Greater Railbelt Energy and Transmission Corporation, or GRETC. The organizations outlined their vision in a resolution that noted many of the benefits the new organization would bring. These include joint planning, state-assisted financing, and utility technical expertise to operate and maintain projects.

The organizations note that the successful Bradley Lake hydroelectric project provides a model for GRETC activities. Bradley Lake is a state-owned, utility-operated project whose low-cost power is shared through power sales contracts with each of the six Railbelt electric utilities. The state provided the financing for Bradley Lake through a combination of grants and bonds, with the utilities covering the debt service in exchange for power from the project.

Legislation to create GRETC was introduced in both the House and Senate earlier this year, but the legislature adjourned with the bills still in the energy committees of the two bodies. Legislators and utilities have devoted a great deal of time to energy issues during the interim, and the GRETC bills will continue to receive attention when the legislature reconvenes in 2010.

The GRETC concept of a single Railbelt organization to provide generation and transmission services emerged from a study of how the region's grid works today and how it could best meet the needs of Alaskans in the future. The Railbelt Electrical Grid Authority study, completed in September 2008, was led by the Alaska Energy Authority with funding from the legislature. The REGA study identified an average annual present worth net savings of between $10.5 and $30.9 million which equates to between a 3.6% to 10.1% net savings for Railbelt consumers. In a related effort, the AEA is currently doing an integrated resource plan to determine how to meet the generation needs of the Railbelt for the next 50 years.

The Parnell administration, like the Palin administration before it, continues to support the GRETC legislation. The governor's senior energy advisors and AEA leadership have met repeatedly with Railbelt electric utilities to discuss the legislation and seek consensus on the issues.

A task force of the boards of all Railbelt electric utilities will continue their work on GRETC and related issues.

INTENT: The City of Seward will confirm their support for the GRETC concept.

CONSISTENCY CHECKLIST: Where applicable, this agenda statement is consistent with the Seward City Code, Charter, Comprehensive Plans, Land Use Plans, Strategic Plan and City Council Rules of Procedures or Other Plans or Policies:

FISCAL NOTE:
No known fiscal impact at this time.
Approved by Finance Department: Kristen Erchinger

ATTORNEY REVIEW: Yes_____ No____X___

RECOMMENDATION: The City Council pass resolution 2009-133, showing support for GRETC and encouraging additional Railbelt utilities to support the GRETC legislation.

Sponsored by: Oates

CITY OF SEWARD, ALASKA
RESOLUTION 2009-133

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF SEWARD, ALASKA, IN SUPPORT OF THE GREATER RAILBELT ENERGY AND TRANSMISSION CORPORATION

WHEREAS, Chugach Electric Association (CEA), Matanuska Electric Association (MEA) and the City of Seward (COS) jointly support the establishment of the Greater Railbelt Energy and Transmission Corporation (GRETC) and will collectively work with the Alaska Energy Authority (AEA) to incorporate proven business concepts into the current Legislation (HB182 and SB143) establishing GRETC; and

WHEREAS, the stated purpose of GRETC is to provide all Railbelt electric utilities with access to reliable, long-term, wholesale power supplies at stable prices; and

WHEREAS, to fulfill this purpose GRETC must acquire adequate fuel supplies for existing and planned generation resources while concurrently developing and promoting renewable and alternative generation and regional transmission projects that can diversify power supply resources; and

WHEREAS, GRETC will best succeed based upon a private/public partnership with a unified business structure that incorporates rational economic decision making, lowest financing costs and provides business continuity through technical competence, and corporate leadership; and

WHEREAS, the Railbelt electric grid has significant capital investment needs, and GRETC in cooperation with the Alaska Energy Authority (AEA) and state-assisted financing can provide the lowest cost financing and reduce the risk to individual utilities; and

WHEREAS, GRETC can provide regional generation and transmission planning for the benefit of all Railbelt utility customers through an Integrated Resource Plan (IRP) process and this process will support rational funding decisions for future generation and transmission projects; and

WHEREAS, through the GRETC planning process, all Railbelt utilities will benefit from increased reliability and over time GRETC will endeavor to provide equal reliability for all service territories within its jurisdiction; and

WHEREAS, the Bradley Lake hydroelectric project is one example of a project that has been successful based upon state-assisted financing through AEA and the combined strengths of the Railbelt electric utilities to manage and operate highly technical generation and transmission facilities; and

CITY OF SEWARD, ALASKA
RESOLUTION 2009-133

WHEREAS, AEA has completed the Alaska Railbelt Electrical Grid Authority (REGA) study (September 2008) the identified economic benefits of joint utility operations, but acknowledged the need for a transition period due to complexities of existing utility ownership and contractual arrangements; and therefore the following guidelines are suggested to allow for a successful transition to GRETC:

- Existing utility generation, transmission, and fuel assets may be cooperatively integrated into GRETC operation based upon a range of options (sale, lease, or other beneficial operating agreements) at the option of the utilities owning such assets,
- Utilities may participate through sales agreements with GRETC for desired services,
- Existing power sales agreements will not change except under terms mutually acceptable to all parties,
- During transition to GRETC, operation of the interconnected system may be governed by a single set of interconnection guidelines that will be jointly established by GRETC and the utilities,
- Power sales arrangements and ancillary services can be made available to participating utilities that need services which cannot be provided by GRETC initially and these services can be available through bilateral contract arrangements; and

WHEREAS, The Railbelt utilities have energy service needs that have not historically been undertaken by all utilities and GRETC can provide these services on a bundled or unbundled basis for the benefit of all. These services can include:

- Planning reserves
- Operating reserves
- Base load power
- Power dispatch
- Wind integration
- Acquisition of Independent Power Producer (IPP) Renewable resource projects (reduces coordination from six utilities to one)
- G&T project management
- Fuel supply aggregation, acquisition, storage and scheduling
- Grant application processing and management
- Other services as deemed appropriate by the GRETC board of directors; and

WHEREAS, GRETC will offer services based on uniform rates for like services and utilities will pay for services they receive under standard tariffs or contract arrangements; and

WHEREAS, GRETC will be regulated through the GRETC board of directors and under a state regulatory regime that will allow the best value for Railbelt customers; and

CITY OF SEWARD, ALASKA
RESOLUTION 2009-133

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF SEWARD, ALASKA that:

Section 1. The City of Seward, along with CEA and MEA, encourage Homer Electric Association (HEA), Municipal Light and Power (ML&P) and Golden Valley Electric Association (GVEA) to support and join GRETC; and

Section 2. The City of Seward, CEA and MEA jointly support the creation of GRETC using proven business concepts that will provide reliable, stable and affordable G&T services to our customers.

PASSED AND APPROVED by the City Council of the City of Seward, Alaska, this 24th day of November, 2009.

THE CITY OF SEWARD, ALASKA

Willard E. Dunham, Mayor

AYES: Valdatta, Bardarson, Smith, Keil, Shafer, Amberg, Dunham
NOES: None
ABSENT: None
ABSTAIN: None

ATTEST:

Jean Lewis, CMC
City Clerk

(City Seal)

Connie Owens

From: Susan K. Redlin [SKRedlin@gvea.com]
Sent: Thursday, January 28, 2010 11:15 AM
To: Connie Owens
Subject: RE: GRETC Resolutions (GVEA's support was through a motion)

Mr. Schikora gave an overview on the history of GRETC.

Mr. Schikora then moved to support the GRETC legislation substantially in the form as presented with a fourth Must Have being NO RCA Regulation of GRETC projects or purchasers of the output from those projects. Mr. Bergh seconded the motion. Following discussion, the motion carried.

From: Connie Owens [mailto:Connie_Owens@chugachelectric.com]
Sent: Thursday, January 28, 2010 10:56 AM
To: Susan K. Redlin
Subject: FW: GRETC Resolutions

Can you forward what your board passed to me?

From: Connie Owens
Sent: Wednesday, January 27, 2010 10:06 AM
To: 'Susan K. Redlin'; j Foutz; 'Pattie Worrell'; 'Gamble, Teresa'; 'Davidovics, Linda'
Subject: GRETC Resolutions

Can you please forward a copy of the resolution passed by your utility in regard to the GRETC Legislation today?

I understand ML&P doesn't meet until noon and our board meeting is tonight.

As soon as I get all of them, I will make sure that all of the utilities get copies. Thank you.

Connie Owens

From: Pattie Worrell [Pattie.Worrell@matanuska.com]
Sent: Wednesday, January 27, 2010 10:32 AM
To: Connie Owens
Subject: RE: GRETC Resolutions

Connie,

MEA's Board action was a motion that the Board support the Committee Substitute for House Bill 182 that creates the Greater Railbelt Energy and Transmission Corporation (GRETC). The motion carried unanimously January 25, 2010.

Pattie

From: Connie Owens [mailto:Connie_Owens@chugachelectric.com]
Sent: Wednesday, January 27, 2010 10:06 AM
To: 'Susan K. Redlin'; j Foutz; 'Pattie Worrell'; 'Gamble, Teresa'; 'Davidovics, Linda'
Subject: GRETC Resolutions

Can you please forward a copy of the resolution passed by your utility in regard to the GRETC Legislation today?

I understand ML&P doesn't meet until noon and our board meeting is tonight.

As soon as I get all of them, I will make sure that all of the utilities get copies. Thank you.

CHUGACH
POWERING ALASKA'S FUTURE

Homer Electric Association, Inc.

GVEA
Golden Valley Electric Association

MEA

MEP

CITY OF SEWARD ALASKA

April 9, 2009

Governor Sarah Palin
State Capitol, Third Floor
Juneau, Alaska 99801

Dear Governor Palin:

On behalf of our respective Railbelt electric utilities, we are writing to thank you for your efforts to bring us together for a serious consideration of the best way to meet the future generation and transmission needs of our organizations. We very much appreciate the resources you have committed to this process, beginning with the Railbelt Electrical Grid Authority (REGA) study and progressing through the development of the Greater Railbelt Energy and Transmission Corporation legislation. Your administration has done an outstanding job in leading this effort. We particularly appreciate the efforts of Mr. Joe Balash and Mr. Jim Strandberg for their individual commitments.

Your efforts led to a notable meeting. On April 7th, 2009, a joint meeting was held of the governing bodies of the six Railbelt electric utilities. We came together to discuss the legislation and how the joint G&T could benefit our individual utilities. What we discovered is that utilities generally agree on the G&T concept but have concerns on specific transition issues. The governing members were also concerned about the state's role and what commitment the state would have in providing financial assistance for development of generation and transmission infrastructure. It was this premise that drove the REGA study recommendations for a state authority. While we understand that a finance plan was part of the transition plan, its existence is paramount to choosing this G&T structure over other alternatives.

The utility governing bodies want to move this process forward and have agreed to form a governing body task force to learn more about the specific transition issues. We look forward to

working with the administration and are committed to dedicating the required resources to make this a success.

The task force should meet no later than May 8th, 2009 to begin the process. We invite the administration to meet with us to develop a work plan to address the various transition issues of concern. To fund these transition issues, we recommend the legislature appropriate approximately $1.5 million from the Railbelt Energy Fund to the Alaska Energy Authority.

Once again, thank you Governor Palin for your leadership on this issue. We very much appreciate your support as we investigate the best way to provide reliable, affordable electricity for Railbelt Alaskans.

Sincerely,

Wilfred Abbott, Chair
Anchorage Municipal Light & Power

Rebecca Logan, Chair
Chugach Electric Association

Bill Nordmark, Chair
Golden Valley Electric Association

Deborah Debnam, Chair
Homer Electric Association

Lois Lester, Chair
Matanuska Electric Association

Clark Corbridge, Mayor
City of Seward

For Clark Corbridge, Mayor.
By William Dunham Vice Mayor.
WILLIAM E. DUNHAM. VICE MAYOR.
CITY OF SEWARD.

SB 144

SENATE COMMITTEE REPORT
First Committee of Referral

DATE: 3/9/09

FURTHER: Finance

Date of 5-Day Notice: _____
(in accordance with Uniform Rule 23)

DATE TURNED
IN TO OFFICE: _____

Resources Committee considered SENATE BILL NO. 144

SB 144 MUSK OXEN PERMITS

"An Act relating to hunting permits and tag fees for musk oxen."

and recommends:

[ ] be **replaced** with [ ] **SCS** or [ ] **CS** _____ (_____)

[ ] adopt **previous** [ ] **SCS** or [ ] **CS** _____ (_____)

[ ] attached amendment(s)

[ ] adopt _____Letter of Intent

[ ] further referral to _____Committee

SENATE BILL:
[ ] Same Title
[ ] New Title

HOUSE BILL:
[ ] Same Title
[ ] Technical Title Change
[ ] New Title w/ SCR #_____

NEW FISCAL NOTE(S):

Department	Date	Fiscal	Indet.	Zero	FN#
ADF&G	03/05			✓	

PREVIOUS FISCAL NOTE(S):

Department	Date	Fiscal	Indet.	Zero	FN#

[ ] **APPROPRIATION - no fiscal note**

SIGNATURES AND RECOMMENDATIONS:	PRINTED LAST NAME	DO PASS	DO NOT PASS	NO REC	AMEND
	Huggins	✓			
	Ellis	✓			
	Stoltze			✓	
	French			✓	
CO-CHAIR:	McGuire	✓			
CO-CHAIR:	Wielechowski	✓			

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FISCAL NOTE

STATE OF ALASKA
2010 LEGISLATIVE SESSION

Fiscal Note Number:
Bill Version: **SB144**
() Publish Date:

Identifier (file name): SB144-DFG-DAS-03-05-10
Dept. Affected: ADF&G
Title: An Act relating to hunting permits and tag fees for musk oxen
RDU: Administration and Support
Component: Administrative Services
Sponsor: Senator Olson
Requester: Senate Resources
Component Number: 479

Expenditures/Revenues (Thousands of Dollars)

Note: Amounts do not include inflation unless otherwise noted below.

	Appropriation Required	Information					
OPERATING EXPENDITURES	**FY 2011**	**FY 2011**	**FY 2012**	**FY 2013**	**FY 2014**	**FY 2015**	**FY 2016**
Personal Services	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Travel	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Contractual	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Supplies	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Equipment	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Land & Structures	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Grants & Claims	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Miscellaneous	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL OPERATING	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
CAPITAL EXPENDITURES	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
CHANGE IN REVENUES ( )	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**

FUND SOURCE (Thousands of Dollars)

1002 Federal Receipts							
1003 GF Match							
1004 GF	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1005 GF/Program Receipts							
1037 GF/Mental Health							
Other Interagency Receipts							
TOTAL	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**

Estimate of any current year (FY2010) cost:

POSITIONS

Full-time	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Part-time	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Temporary	0.0	0.0	0.0	0.0	0.0	0.0	0.0

ANALYSIS: *(Attach a separate page if necessary)*

No fiscal impact to Department of Fish and Game

Prepared by: Jeff Hoover, Deputy Director — Phone 907-465-6077
Division: Administrative Services — Date/Time 3/5/10 12:00 PM
Approved by: Tom Lawson, Director of Administrative Services — Date 3/5/2010
Alaska Department of Fish and Game

(Revised 11/6/2009 OMB)

3123

ALASKA STATE LEGISLATURE

SENATOR DONALD C. OLSON

ALASKA
STATE CAPITOL
ROOM 514
JUNEAU, ALASKA 99801-1182

(907) 465-3707
FAX (907) 465-4821

Senate Bill 144 – Musk Oxen Permits & Tags

Version 26-LS0666/R, March 9, 2009
STAFF: Tim Benintendi, 465-4989

SPONSOR STATEMENT and SECTIONAL ANALYSIS

SPONSOR STATEMENT:

There are four Game Management Units in which musk oxen are found in Alaska; Unit 18 (Nunivak and Nelson Islands), Units 22 and 23 (Seward Peninsula and Northwest), and Unit 26 (Northeast). The musk oxen population in Alaska is currently estimated to be 4,400 animals, and annually, between 325 and 350 animals are available for harvest.

The primary objective of SB 144 is to allow issuance of a second permit for a musk ox hunt in a second Game Management Unit or hunt area within a unit, for resident hunters and subsistence hunters only; no out-of-state hunters qualify. If a harvester does not take an animal under the first permit, this would double the chance a hunter has to harvest the bag limit of one animal, either a bull or a cow. It would not allow for the taking of two animals.

Current statute provides for a limit of one musk ox permit for each hunter per calendar year. Musk oxen are the only game animals in the Arctic to which the one-permit restriction still applies. Under SB 144, the department could issue subsistence permits beyond a calendar year basis, to accommodate a season which straddles two calendar years (Example: a season which runs from August 1st to March 15th), because a "year" under this bill, is changed from a calendar year to a regulatory year, which is July 1st to June 30th.

Wildlife biologists and regulators within the Department of Fish and Game have determined that the health and size of the state's herd is well past the threshold for expanding opportunities for Alaskan hunters. State biologists

estimate that a nominal number of additional permits would be issued under the provisions of this bill, and perhaps 25 more animals would be harvested. If passed this legislative session, these new provisions would be in place for seasons beginning in August of this year.

In summary under SB 144, a qualified hunter would be allowed to obtain a second permit for another hunt area or Game Management Unit, if he or she did not successfully harvest a musk ox under conditions of their first permit.

SB 144 carries a ZERO fiscal note, and has the support of the department. Support from the hunting community in Northwest Alaska includes the Northern and Southern Norton Sound Advisory Committees, and the Seward Peninsula Musk Ox Cooperators' Group. We have discovered no opposition to this bill.

SECTIONAL ANALYSIS:

SECTION 1: Amends AS 16.05.340(a)(16) to allow the Board of Game to reduce or eliminate the fee, as well as the tag requirements, for a musk oxen hunt, and makes it applicable to all or a portion of a game management unit. Applying this to an open season has been eliminated. The objective is to have the statute for musk oxen read the same as for other game.

SECTION 2: Amends AS 16.05.346(a) by providing that the department shall issue permits to take musk oxen once the Board of Game has reduced or eliminated requirements for a resident tag and fee. This statute is further amended by providing that a resident may not be charged a fee for an application for a musk oxen permit under these circumstances.

SUPPORT FOR SB144

Brian Simpson
P.O. Box 61210
Fairbanks, AK 99706
907-452-3822
Email: noainc@mosquitonet.com

Senator Donald Olson
Email: Senator_Donny_Olson@legis.state.ak.us

03/20/09

Donny,

Thank you very much for your help this winter in convincing the ADF&G to continue issuing permits for the RX 104 registration musk ox permits to interested Alaskan hunters who traveled to Shishmaref to hunt ox.

There are three types of musk ox hunts in game unit 22E.

1) Federal permits available to local residents of unit 22E only, valid for hunting on federal lands only.

2) DX 097 (drawing permit) is available through the general permit drawing to all Alaska resident and non-resident hunters for 4 year old, or older (trophy) bull ox on state or private lands in game unit 22E only. There are currently 20 permits available for the draw each regulatory year (July 1st through June 30th).

Once issued (in July of each regulatory year), the hunter can hunt 4 year old, or older bull musk ox throughout the entire hunting season of August 1st through March 15th of the current regulatory year. If the hunter hunts the fall season (August 1st through December 31st) portion of that calendar year, he must have a valid hunting license and $500 resident/$1,100 non resident bull ox tag for that calendar year, and if unsuccesful, must purchase a new hunting license and bull ox tag for that portion (January 1st through March 15th) of the subsequent calendar year that the permit remains valid for.

The DX 097 permit is valid for one bull ox.

3) RX 104 (registration permit) is available to any Alaska resident statewide and is issued in Nome, Wales and Shishmaref. The hunter must obtain the permit in person at ADF&G office in Nome or the IRA office in Shishmaref upon presenting a valid hunting license. There is no cost for the permit or the tag. The season is open from August 1st through March 15th for bulls and January 1st through March 15th for cows unless the season is closed by emergency order if 31 cows or 50 oxen total are harvested before March 15th.

The horn tips (trophy destruction) must be cut on all oxen harvested with this permit before the horns can be removed from game unit 22.

The season has never been closed because of the ADF&G harvest goal of 50 oxen were taken to my knowledge in the history of this hunt. There are several key factors to the low level of harvest:

A) The local hunters are not very enthusiastic about ox hunting.
B) The area is very remote and expensive to travel to for non-local Alaska residents.
C) The trophy value is destroyed which further restricts interest in non-local hunters.

D) Winter weather and storms makes access from Nome by snow machine marginal and dangerous for most people not familiar with the country.

The ADF&G is trying to increase the harvest of oxen in sub-unit 22E for the health of the herds and providing greater hunting opportunity for the public. I have several ideas to propose to the Federal RAC and State BOG concerning regulatory proposals to address this issue, but they do not require legislative state statute changes to implement, if accepted.

The issue we ran into this winter commenced when the state BOG opened all game unit 22 to drawing and registration hunts, replacing Tier II hunting. Sub unit 22E has always been treated differently as the ox population vs. hunting interest dynamics are different than the remainder of game unit 22.

At some point in this process AS 16.05.346 was reviewed and the verbiage within the statute "a person is not eligible for more than one musk ox permit a year" was interpreted to mean that a person must obtain the RX 104 permit by December 31st to hunt the portion of the calendar year January 1st through March 15th.

This administrative regulation change was implemented with very poor public notification. It is in the hunting regulation booklet, although poorly indicated and no public notices were evident in Shishmaref as the community most affected by the change. The accepted procedure for all the years the hunt has been in place was for the hunter to go to the IRA office in Shishmaref and obtain the permit up until the close of the season.

I am not sure the best solution to this problem as I am not versed in law or administrative regulation.

I would like to see the following solution: AS 16.05.346 amended to define a year as "a person is not eligible for more than one musk ox permit per regulatory year July 1st through June 30th" and not a calendar year and that the ADF&G SHALL issue RX 104 permits until either the regulatory season closes or the harvest goal is met for that regulatory year, and not cease issuing permits December 31st.

I realize the ADF&G could take an administrative position to not issue permits after December 31st regardless of law changes and in that case I would like to see the ADF&G have to make the permits available online, other wise hunters will have to travel to Nome and Shishmaref twice to hunt the same animal.

I am enclosing the information for a state attorney who is knowledgeable in ADF&G issues and could be consulted to clarify the issue and interpretation of the law:

Mr. Kevin Saxby
1031 W 4th Ave #200
Anchorage, AK 99501
907-269-5100
Email: kevin.saxby@alaska.gov

Thank you again,
Brian Simpson

Current Status of Muskoxen in Alaska 1970-2009

Letty Hughes[1], Patricia Reynolds[2], Kimberlee Beckmen[1], Phillip Perry[1], Geoff Carroll[1], Steve Arthur[1]
[1]Alaska Dept. of Fish & Game, [2]US Fish & Wildlife Service, Arctic National Wildlife Refuge

Introduction

Muskoxen (*Ovibos moschatus*) were reintroduced to Alaska after disappearing in the late 1800s. The first establishment of muskoxen from Greenland to rural Alaska was Nunivak Island in 1936. The Nunivak population acted as a source of animals for future relocations on historic range between 1967-1981. The relocation of 300 animals created five populations throughout Alaska: Nunivak, Nelson Island, Northeastern, Northwestern, and Seward Peninsula (Figure 1). The successful establishment of muskoxen populations and current cooperative management efforts have resulted in range expansion, population growth, and stability, along with hunting and viewing opportunities.

Recent Range Expansion

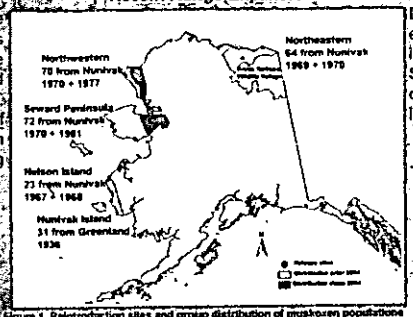

Figure 1. Reintroduction sites and group distribution of muskoxen populations

Harvest

Hunting of reintroduced muskoxen first occurred on Nunivak Island in 1975. Four of the five populations are open to harvest on an annual quota and permit basis (Table 1). In 2008, the Board of Game adopted regulations that allow Alaskans to harvest muskoxen on the Seward Peninsula with a registration permit (Gorn 2009). The new hunts were created from recommendations from local advisory committees and Seward Peninsula Muskox Cooperators, a stakeholder group established in 1994.

Table 1. Harvest of Muskoxen in Alaska

Population	Hunting Began	Average Annual Harvest Pre-1998	Average Annual Harvest 1998-2008	Available Harvest 2009	Hunt Structure 2009	Sex of Harvest	Available Harvest as % of population 2009
Nunivak Island	1975	58	81	85	•Drawing •Registration	•Bulls 1975-1976 •Cows & Bulls 1979-present	15
Nelson Island	1981	23	23	42	•Registration	•Cows & Bulls	8
Northeastern	1990	5	8	0	No Open Season	•Closed to harvest in 2006	0
Northwestern	1998	No Hunt	<3	6	•Tier II drawing	•Bulls 1999-present	1
Seward Peninsula	1995	13	78	187	•Tier I Registration •Drawing •Federal Permit	•Bulls 1995-2000 •Cows & Bulls 2000-present	7* *will be < 7% in 2010-2011 pending survey results

Population Growth

During the 74 years since 31 muskoxen were first established on Nunivak Island, populations have increased to over 4400 animals in Alaska (Table 2). The Seward Peninsula population is the state's largest, and continues to expand eastward (Figure 1) as the population increases (Figure 2).

Table 2. Current size of Alaska muskoxen populations

Population	Population Size	Date of Estimate	Status
Nunivak Island	667	Oct. 2009	•16% from 1947-1969 •Stable since 1970
Nelson Island	557	Jun. 2009	•22% from 1968-1981 •6% from 2004
Northeast	200-250*	Apr. 2008	•650 muskoxen by 1995 •Declined 60% 1998-2006 •Stable from 2006-2008
Northwest	324-424*	Jan. 2008	•6% from 1978-1998 •Stable from 1999-2008
Seward Peninsula	2688*	Mar. 2007	•14% from 1970-2000 •6% from 2000-2007
Total minimum Alaska population estimate	4486		* Incomplete 2009 survey; ** Dec. 2009; *** Minimum known animals confirmed

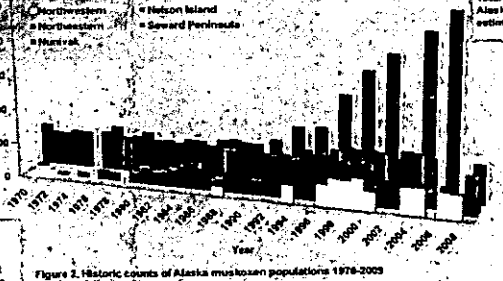

Figure 2. Historic counts of Alaska muskoxen populations 1970-2009

Table 3. Mortality type in Northeastern population 2007-2009

Mortality Type	Adults	Calves	Total
Bear Predation	16	36	52
Disease	2	2	4
Vehicle collision	3	0	3
Other non-predation	4	10	14
Total	25	48	73

Mortality and Disease Surveillance

Seward Peninsula
- Predation relatively low compared to Northeastern
- Chlamydia present (Gorn 2009)
- Low in copper
- Negative for iron, zinc, selenium (Gorn 2009)
- Composition surveys show 30 yearlings:100 cows since 2002 (Gorn 2009)

Northeastern
- Predation a significant mortality factor (Table 3)
- Mortalities from drowning and stranding on sea ice
- Chlamydia present (Lenart 2009)
- Copper deficient (Lenart 2009)
- Low calf recruitment and low calf:cow ratios (Lenart 2007)

Future Management

The reintroduction of muskoxen to Alaska continues to be successful. Population growth and range expansion provides opportunities for consumptive and non-consumptive uses of muskoxen. Continued investigation of population parameters and health assessments along with public input will enhance future management of Alaska muskoxen.

SB 150

FISCAL NOTE

STATE OF ALASKA
2009 LEGISLATIVE SESSION

Fiscal Note Number:
Bill Version: **SB150**
() Publish Date:

Identifier (file name): SB150-UA-03-25-09
Dept. Affected: University of Alaska
Title: An act establishing an emerging energy technology fund
RDU: University of Alaska Fairbanks
Component: Fairbanks Campus
Sponsor: Senator McGuire
Requester: Energy Committee
Component Number: 741

Expenditures/Revenues (Thousands of Dollars)

Note: Amounts do not include inflation unless otherwise noted below.

	Appropriation Required	Information					
OPERATING EXPENDITURES	**FY 2010**	**FY 2010**	**FY 2011**	**FY 2012**	**FY 2013**	**FY 2014**	**FY 2015**
Personal Services							
Travel							
Contractual							
Supplies							
Equipment							
Land & Structures							
Grants & Claims							
Miscellaneous							
TOTAL OPERATING	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
CAPITAL EXPENDITURES							
CHANGE IN REVENUES ( )							

FUND SOURCE (Thousands of Dollars)

1002 Federal Receipts							
1003 GF Match							
1004 GF							
1005 GF/Program Receipts							
1037 GF/Mental Health							
Other Interagency Receipts	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**

Estimate of any current year (FY2009) cost: 0.0

POSITIONS

Full-time	**0.0**						
Part-time							
Temporary							

ANALYSIS: *(Attach a separate page if necessary)*

The UA Alaska Center for Energy and Power (ACEP) will administer grant funds appropriated in to the "emerging energy technology fund." ACEP would provide services for an administrative fee similar to that used by the Denali Commission, 5%. Thus there would be no additional fiscal impact beyond what is appropriate into the fund. This would be a service fee charged on the amount of funding used on a project by project basis. At this time there is not an established amount to be appropriated for the fund. If there were $5 million in projects funded in a given year the service fee would total $250,000.

Prepared by: Alesia Kruckenberg
Phone 907-450-8426
Division: University of Alaska
Date/Time 03/25/2009 5:00pm
Approved by: Michelle Rizk
Date 03/25/2009 5:00pm
University of Alaska

(Revised 9/10/2008 OMB)

ANALYSIS CONTINUATION

The UA Alaska Center for Energy and Power will administer grant funds appropriated in to the "emerging energy technology fund." This will entail:

Selecting and calling an advisory group to;
- establish priorities and criteria which are consistent with the statute.
- evaluating and prioritizing grant proposals
- awarding grants
- evaluating results of projects completed.

Fiscal administration, accounting, and reporting on project status and overall accomplishment of the funds invested;
- distribute funds to successful grant proposals
- provide regular report to various constituents on project status
- account for and report on funds balance
- provide annual report on results achieved.

ACEP would provide these services for an administrative fee similar to that used by the Denali Commission, 5%. Thus there would be no additional fiscal impact beyond what is appropriate into the fund. This would be a service fee charged on the amount of funding used on project by project basis. At this time there is not an established amount to be appropriated for the fund. If there were $5 million in projects funded in a given year the service fee would total $250,000.

ACEP

The Case for Funding Applied Energy Research

There is no doubt that energy is (and should be) foremost in the minds of Alaskans. Most of the money flowing through the Alaska economy is from the oil resources on the North Slope, and our lives are connected in both positive and negative ways with the price of energy.

Alaska's rural communities have reached a crisis level in the escalating cost of energy. Along the Railbelt, traditional fossil fuel based resources used for power generation, such as Cook Inlet natural gas, are in decline. Production of oil from the North Slope is also in decline. This has led state policymakers at both the legislative and executive level to begin the process of developing a comprehensive energy plan for the state. Alaska has the financial means, available resources, and political willpower to become a leader in developing renewables, stranded energy resources, and difficult to extract fossil fuel resources, including the vast proven heavy oil resources on the North Slope. Alaska has already made significant strides in this direction. The Alaska renewable energy fund created under HB152 and administered by AEA is by far the largest and most aggressive fund of its type in the country. In addition, Governor Palin's stated target to achieve 50% renewable power generation by 2025 is also the most ambitious goal among the 50 states.

In order to fulfill the vision of Governor Palin and many others of truly becoming a leader in the energy field, Alaska must invest in three areas: energy projects, energy policy, and energy research. It is essential to develop a plan which incorporates a balanced approach between these key elements, and elements of which are being worked on at the legislative and executive levels of state government. In addition, the Alaska Energy Authority has already been tasked with managing the project component; however projects funded under the Alaska Renewable Energy Fund are explicitly limited to proven, existing technologies. AEA currently has no mandate or capability to engage in energy research, and the current legislation does not allow for funding of any emerging technologies. While this is appropriate under the goals for this funding, the lack of identified funding for applied energy R&D greatly limits Alaska's ability to successfully achieve a leadership role in the energy field. This is particularly crippling in a state with very different conditions than are found elsewhere in the U.S. in terms of environment, population density, and the isolated nature of the electrical generation and transmission system.

While basic research addresses mostly scientific questions (what are the basic rules of the universe), applied research is aimed at developing technologies for immediate use. This requires understanding of the basic underlying science, but centers on producing cost effective, reliable, and locally appropriate technologies. An important part of this research is independent third party testing and verification of technologies before these are deployed in remote sites. A funded applied energy research program through the

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State of Alaska could ensure a much greater success rate for projects in the field, including the 77 projects recently funded under the Alaska Renewable Energy Fund.

For example, the Alaska Center for Energy and Power is currently involved in programs to test and evaluate new battery systems, waste heat recovery devices and hydrokinetic turbines. The goal is to ensure manufacturer performance claims are accurate and that the devices perform as expected under harsh Alaskan conditions. In one case, a waste heat recovery device had received numerous international rewards and looked like a very viable candidate for improving efficiency from diesel engines. However, when researchers from ACEP travelled to a location where the unit was purportedly in operation, it was quickly apparent that the manufacturer performance claims were not being realized in the field and that this was not a technology that should be invested in at this time. ACEP was able to alert the Alaska Energy Authority to this fact and prevented unnecessary expenditure of state funds on what undoubtedly would have been a failed and frustrating project. A relatively small investment (a few days of research and phone calls, a few thousand dollars spent on travel) allowed a good decision about the investment of hundreds of thousands of dollars that would have been spent purchasing equipment from out of state suppliers.

Dollars spent on energy research can also be leveraged to bring additional federal dollars to Alaska. The Alaska Center for Energy and Power frequently submits proposals for federal funds under the U.S. Department of Energy, which generally required 20% cost share for projects. The lack of state funding to date for ACEP has greatly hampered the ability to bring in this federal funding. At this time, given the $13 Billion the Obama administration intends to commit to renewable energy research, tremendous opportunities exist for tapping federal funding, but much of this funding will still require some demonstration of program support at the state level. Every $1 of state funding can generate an additional $4 of investment from federal sources.

According to the National Science Foundation, Alaska currently ranks 46th among states in terms of funding spent on R&D, and has no significant mechanism for funding energy research at the state, regional, or local level. Despite tremendous expenditures proposed for developing natural gas resources, renewable energy, and immediate short-term relief for the high cost of energy, the state has been slow to see the need for investment in research. If Alaska is truly to become a leader in energy, it will be necessary to invest in energy research in addition to project development.

By funding research as a part of the state's overall investment in energy projects, Alaska has the opportunity to truly become a leader on the world stage in energy development in a manner which can provide stable, affordable energy throughout the state while simultaneously developing economic opportunities for its residents and its industries. It is only by taking a balanced approach between forward-thinking policy, investment in cost-effective projects, and investment in research to 'peer over the horizon' at emerging technologies which will provide future energy solutions that this goal can be realized.

Alaska Emerging Energy Technology Development Fund

Background Narrative

The United States is entering a new era. The Obama administration is now promising an economic stimulus package that will likely top $700 billion. Many of those dollars will replace and repair crumbling infrastructure. A significant portion of the money will fund energy infrastructure, including renewable energy projects, new transmission lines, and research and development of emerging energy technologies.

Renewable energy has become mainstream, and is no longer considered "alternative." Large-scale wind, geothermal and hydroelectric technologies are mature and cost competitive. Other technologies such as biomass, solar, and ocean power (tidal and wave) are in various states of commercialization. One of the goals of the upcoming federal spending will be to bring those technologies to maturity to help lessen our dependence on foreign oil. But since very little oil is used to generate electricity in the United States, America will need to find new ways to apply renewable-sourced electricity to both heating and transportation.

Today there are several companies around the world working to capture "first mover" advantage in the electric car industry. The Israeli company *Better Place* has recently been grabbing headlines with its plan to create a charging station infrastructure where a customer simply pulls into the station and swaps a depleted battery for a freshly charged one. Others see renewable-sourced hydrogen and fuel cells as part of our transportation future.

Alaska is already seeing consumers in communities like Sitka and Juneau switch from oil based heating to relatively inexpensive hydro-based electric heat. Residents of those communities are also exploring ways to use electricity for transportation. If a new large hydro facility is built to serve the Railbelt, Southcentral Alaskans will do the same. Wave and tidal based electricity presents enormous potential for Alaskan communities to generate excess electricity to be used for heating and transportation. Alaska is also seeing a growing use of wood biomass for central heating facilities that are decreasing the use of heating oil. Some of those same communities are also interested in the technology that gasifies wood to generate electricity.

Necessary innovations in battery storage, tidal and wave power technology, biomass gasification, and hydrogen generation, transportation and storage all require continued research and development. Breakthroughs in ways to capture and store carbon also need more R & D. Private industry is already engaged in such R & D, and is being supported by a number of state-based funds and small federal programs. However, with the federal government now on the verge of much larger investment in such technologies, it's a good bet that the states with existing emerging energy technology development programs will be first in line for federal grant money.

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Alaska's creation of the Renewable Energy Grant Fund in 2008 was a fundamental first step in the long process of decreasing Alaskans' dependence on volatile priced fossil fuels. Getting viable renewable energy projects in the ground is an essential long-term investment for many communities. But the Renewable Energy Grant Fund is only one component of an overall state renewable energy program.

Because of Alaska's unique remote communities and abundant renewable energy resources, our state has an excellent opportunity to become a world leader in renewable energy development. Unlike any other place in the nation, Alaska can demonstrate new technology *and save consumers money at the same time* because energy prices in rural communities are already so high. Demonstrating emerging technologies in rural Alaska could also lead to the state becoming a leading marketer of that expertise to the two billion people on the planet who do not yet have any electricity at all. However, the Renewable Energy Grant Fund was not designed or written to fund demonstration projects. In order for Alaska to be part of what many are calling the next industrial revolution in energy innovation, Alaska needs to create its own "Emerging Energy Technology Development Fund."

Such a Fund should encourage collaboration between Alaska institutions of higher learning and private industry, with a modest contribution of state money to capitalize and catalyze its creation. Because no state agency currently exists with the expertise to do so, the Fund should be administered by a newly created Alaska Energy Trust. The Trust should be a non-profit, non-governmental entity overseen by the Regulatory Commission of Alaska. This arrangement is similar to the one that established the very successful Energy Trust of Oregon. The Fund should provide both grants and loans to university researchers, non-profits, private industry and local governments to fund research and development, demonstration projects and market transformation of renewable and alternative energy technologies that have a high likelihood of becoming economically and technologically viable in the short term in a carbon constrained world. Equally important, the Fund should provide coordination and funding for targeted work force development and education programs that will train Alaska's next generation of construction workers, technicians, engineers and scientists that will guide us through the next century of energy innovation.

The Trust should be administered by a professional staff with oversight from an Advisory Committee that consists of nine representatives from state and federal agencies and private institutions that have expertise in emerging technologies. The methodology for funding projects should give the most weight to projects that create partnerships with Alaska entities, have matching funds and will lead to real benefits for the people of Alaska.

With the Governor's recent announcement that the goal of the State of Alaska shall be to obtain 50% of its electricity from renewable energy sources by the year 2025, the state has set an important target. Establishing an emerging energy technology development fund is a necessary and timely component of reaching that goal, stabilizing energy costs and diversifying Alaska's economy.

Establish an Emerging Energy Technology Fund

One of Three Priorities for Enhancing Alaska's Quality of Life and Protecting a Healthy Environment

The Need

The creation of the Renewable Energy Grant Fund in 2008 was a critical first step in the process of promoting a secure, clean energy future for Alaska. However, the Renewable Energy Fund is only one component of a renewable energy program and was not designed to fund developing technologies that are not yet fully commercialized like tidal, geothermal or battery storage. Because of Alaska's unique remote communities and abundant renewable energy resources, our state has an excellent opportunity to become a world leader in emerging renewable energy development. Unlike any other place in the nation, Alaska can demonstrate new technology *and save consumers money at the same time* because energy prices in rural communities are already so high. In order for Alaska to be part of what many are calling the next industrial revolution in energy innovation, Alaska needs to create its own "Emerging Energy Technology Development Fund." Establishing an Emerging Technology Fund is also necessary to help grow our cutting edge University programs and create a highly valued workforce.

With the Governor's recent announcement that the goal of the State of Alaska shall be to obtain 50% of its electricity from renewable energy sources by the year 2025, the state has set an important target. Establishing an emerging energy technology development fund is a necessary and timely component of reaching that goal, stabilizing energy costs and diversifying Alaska's economy. It could also favorably position Alaska to receive a larger portion of the upcoming $700 billion economic stimulus package. A significant portion of the federal money will fund energy infrastructure, including renewable energy projects, new transmission lines, and research and development of emerging energy technologies and those states with existing emerging technology development programs will be first in line for federal grant money.

The Proposal

The Alaska Conservation Alliance supports the creation of the Emerging Energy Technology Development Fund proposed by the Renewable Energy Alaska Project (REAP), a coalition of urban and rural Alaska utilities, businesses, conservation and consumer groups, and Alaska Natives. The Emerging Energy Technology Development Fund should help Alaska become a leader in research and implementation of technologies for battery storage, tidal and wave power, biomass gasification, and hydrogen generation, as well as transportation and storage of energy. The Fund should provide both grants and loans to university researchers, non-profits, private industry and local governments to fund research and development, demonstration projects and market transformation of renewable and alternative energy technologies that have a high likelihood of becoming economically and technologically viable in the short term. Equally important, the Fund should provide coordination and funding for targeted work force development and education programs that will train Alaska's next generation of construction workers, technicians, engineers and scientists that will guide us through the next century of energy innovation. After all, the $55 billion/year "clean energy" business is expected to at least quadruple worldwide by 2015.

The Benefits

- Develop commercially promising emerging energy technologies for use both in Alaska and in the world-wide market.
- Puts Alaska in prime position to tap into $700 billion Federal stimulus program.
- Alaska can demonstrate new technology and save rural energy consumers money.

Contact

- Kate Troll, Alaska Conservation Alliance, (907) 258-6174, kate@akvoice.org

2009 ACA Priority

Establish an Emerging Energy Technology Fund

SB 177

SENATE COMMITTEE REPORT
First Committee of Referral

DATE: 4/1/09

FURTHER: Finance

Date of 5-Day Notice: _____
(in accordance with Uniform Rule 23)

DATE TURNED
IN TO OFFICE: _____

Resources Committee considered SENATE BILL NO. 177

SB 177 NO REPEAL OF SPORT FISH GUIDE LICENSING

"An Act repealing the termination of licensing and regulation of sport fishing operators and sport fishing guides and licensing and registration of sport fishing vessels; and providing for an effective date."

and recommends:

[ ] be **replaced** with [ ] **SCS** or [√] **CS** SB 177 (RES)

[ ] adopt **previous** [ ] **SCS** or [ ] **CS** _____ (_____)

[ ] attached amendment(s)

[ ] adopt _____Letter of Intent

[ ] further referral to _____Committee

SENATE BILL:
[ ] Same Title
[√] New Title

HOUSE BILL:
[ ] Same Title
[ ] Technical Title Change
[ ] New Title w/ SCR #_____

NEW FISCAL NOTE(S):

Department	Date	Fiscal	Indet.	Zero	FN#
DF&G	04/03	✓			

PREVIOUS FISCAL NOTE(S):

Department	Date	Fiscal	Indet.	Zero	FN#

[ ] **APPROPRIATION - no fiscal note**

SIGNATURES AND RECOMMENDATIONS:	PRINTED LAST NAME	DO PASS	DO NOT PASS	NO REC	AMEND
	Higgins			X	
	Stevens			X	
	French			X	
	Wagoner				
CO-CHAIR:	McGuire	✓			
CO-CHAIR:	Wielechowski			X	

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FISCAL NOTE

STATE OF ALASKA
2009 LEGISLATIVE SESSION

Fiscal Note Number: 1
Bill Version: HB 143
(H) Publish Date: 3/12/09

Identifier (file name): HB143-DFG-SFD-02-27-09
Dept. Affected: ADF&G

Title: An act repealing the termination of the sport fish operator/guide/vessel program
RDU: Sport Fisheries
Component: Sport Fisheries

Sponsor: House Fisheries
Requester: House Fisheries
Component Number: 464

Expenditures/Revenues (Thousands of Dollars)

Note: Amounts do not include inflation unless otherwise noted below.

	Appropriation Required	Information					
OPERATING EXPENDITURES	**FY 2010**	**FY 2010**	**FY 2011**	**FY 2012**	**FY 2013**	**FY 2014**	**FY 2015**
Personal Services		344.5	344.5	344.5	344.5	344.5	344.5
Travel		10.0	10.0	10.0	10.0	10.0	10.0
Contractual		100.7	100.7	100.7	100.7	100.7	100.7
Supplies		7.0	7.0	7.0	7.0	7.0	7.0
Equipment							
Land & Structures							
Grants & Claims							
Miscellaneous							
TOTAL OPERATING	**0.0**	**462.2**	**462.2**	**462.2**	**462.2**	**462.2**	**462.2**
CAPITAL EXPENDITURES							
CHANGE IN REVENUES ( )							

FUND SOURCE (Thousands of Dollars)

1002 Federal Receipts							
1003 GF Match							
1004 GF							
1005 GF/Program Receipts							
1037 GF/Mental Health							
1024 Fish/Game		462.2	462.2	462.2	462.2	462.2	462.2
TOTAL	**0.0**	**462.2**	**462.2**	**462.2**	**462.2**	**462.2**	**462.2**

Estimate of any current year (FY2009) cost: 0.0

POSITIONS

Full-time							
Part-time							
Temporary							

ANALYSIS: *(Attach a separate page if necessary)*
The division has budgeted $462.2 in the FY10 Governor's budget to administer the Sport Fish operator/guide/vessel program. The program generates estimated Fish & Game Fund revenues of $256.0, with the balance covered by other Fish & Game Funds.

Prepared by: Charles O. Swanton, Director — Phone 465-6184
Division: Sport Fisheries — Date/Time 2/27/09, 8:00 am
Approved by: Tom Lawson, Director — Date 2/27/2009
Administrative Services

(Revised 9/10/2008 OMB)

3139

FISCAL NOTE

STATE OF ALASKA
2009 LEGISLATIVE SESSION

Fiscal Note Number: 1
Bill Version: CSHB 134(CRA)
(H) Publish Date: 2/18/09

Identifier (file name): HB134-DEC-WQ-02-13-09
Dept. Affected: Environ. Conservation
Title: Cruise Ship Wastewater Discharge Permits
RDU: Division of Water
Component: Water Quality
Sponsor: Representative Harris
Requester: House Community and Regional Affairs Committee
Component Number: 2062

Expenditures/Revenues (Thousands of Dollars)

Note: Amounts do not include inflation unless otherwise noted below.

	Appropriation Required	Information					
OPERATING EXPENDITURES	**FY 2010**	**FY 2010**	**FY 2011**	**FY 2012**	**FY 2013**	**FY 2014**	**FY 2015**
Personal Services							
Travel							
Contractual							
Supplies							
Equipment							
Land & Structures							
Grants & Claims							
Miscellaneous							
TOTAL OPERATING	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
CAPITAL EXPENDITURES							
CHANGE IN REVENUES ( )							

FUND SOURCE (Thousands of Dollars)

1002 Federal Receipts							
1003 GF Match							
1004 GF							
1005 GF/Program Receipts							
1037 GF/Mental Health							
Other Interagency Receipts							
TOTAL	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**

Estimate of any current year (FY2009) cost: 0.0

POSITIONS

Full-time							
Part-time							
Temporary							

ANALYSIS: *(Attach a separate page if necessary)*

HB 134 has no fiscal impact on the Department of Environmental Conservation.

Prepared by: Lynn J. Tomich Kent
Phone (907) 269-7599
Division: Water
Date/Time 2/13/09 3:00 PM
Approved by: Dan Easton
Date 2/13/2009
Deputy Commissioner

(Revised 9/10/2008 OMB)

April 3rd, 2009

Senator Kevin Meyer
26th Alaska legislature

RE: SUPPORT SB 177
SENATE RESOURCES COMMITTEE

Dear Senator Meyer,

The Petersburg Charter Boat Association (PCBA) represents 17 individual charter and lodge businesses operating 22 active vessels in the sportfishing industry. We have been an active association since 1991.

The original legislation authorizing the guide license and logbook program has been an extremely valuable tool in aiding the Alaska Department of Fish and Game and the State of Alaska , in the collection of data necessary to identify not only who the charter industry is but how they interact with other user groups. This information is important for the management of Alaska's resources and resource users, both sport and commercial.

PCBA supported the original bill and we fully support SB 177 complete with the associated fees necessary to fund this ongoing program.

Sincerely,

Stan Malcom
President
Petersburg Charter Boat Association

Note: sent via email to Senator_Kevin_Meyer@legis.state.ak.us
Cc: Christine_marasigan@legis.state.ak.us

ALASKA STATE LEGISLATURE

Interim:
716 West 4th Avenue
Anchorage, Alaska 99501-2133
Phone: (907) 269-0199
Fax (907) 269-0197
Senator_Kevin_Meyer@legis.state.ak.us

Session:
Alaska State Capitol
Juneau, Alaska 99801-1182
Phone: (907) 465-4945
Fax: (907) 465-3476
Toll Free: (866) 465-4945

SENATOR KEVIN MEYER
SENATE DISTRICT O

SPONSOR STATEMENT FOR SB 177

"An Act repealing the termination of licensing and regulation of sport fishing operators and sport fishing guides and licensing and registration of sport fishing vessels; and providing for an effective date."

SB 177 will ensure the continuation of Alaska's sport fish guide licensing and reporting program, which has proven beneficial to both the sport fishing industry and resource managers.

Legislation authorizing the program was passed in 2004 for a number of purposes. The Department of Fish & Game (ADF&G) sought more comprehensive and credible information on guide numbers and guiding activities. ADF&G also wanted to create basic standards for sport fish business operators and guides, including minimum liability insurance coverage, first aid certification, and in some cases U.S. Coast Guard vessel licensing.

Many stakeholders who were initially skeptical of these measures now acknowledge their role in advancing the guiding profession. This increased level of professionalism has helped raise the standing of the sport fish industry across the state.

Many also agree that data collected through the program is an important tool in ADF&G's mission to develop and sustain healthy sport fisheries. The data is of great value not only to the ADF&G's fisheries biologists but also to the Alaska Board of Fisheries, the International Pacific Halibut Commission, and the North Pacific Fishery Management Council.

Sport fish data collection also contributes to Alaska's exemption from the recently instituted National Saltwater Angler Registry. NOAA exempts states from this federal registry and data collection system if they have programs in place to provide angler information. Sport fishers would otherwise be required by 2011 to purchase a certificate of registration for $15 to $25.

Passing SB 177 will permit the ADF&G to continue to foster high standards in Alaska's sport fishing industry. It will also enable the ADF&G to continue collecting important data for management decisions benefitting both the state's fisheries resources and their stakeholders.

26-LS0832\A April 2, 2009

2009 Board Members

Richard Erkeneff
Board Chair
Owner – Kenai River Raven

Eldon Mulder
Vice Chair
President - The Mulder Company

Kevin Branson
Secretary and Treasurer
CPA - Thomas, Head & Greisen

Ron Rainey
Vice President
Ron's Alaska Lodge – Retired

Jim Golden
Vice President
Owner - The Sports Den

Ed Bryson
Vice President Field Operations
Alaska Communications Systems

Rik Bucy
General Manager
Tesoro Northstores – Retired

Bill Eckhardt
President
Alaska USA Federal Credit Union

Ben Ellis
Managing Director
Institute of the North

Mark Hamilton
President
University of Alaska

Reuben Hanke
Owner
Harry Gaines Kenai River Fishing

Bill MacKay
Senior Vice President
Alaska Airlines

Robert Penney
Owner
PENCO Properties

Darwin Peterson
Legislative Aide
Senator Stedman's Office

Karen Rey
Registered Nurse
ANS Territory Manager, Alaska

Gary Turner
Director
Kenai Peninsula College

KENAI RIVER SPORTFISHING
ASSOCIATION

April 3, 2009

Post-it™ brand fax transmittal memo 7671	# of pages ▸ 2
To Sen. Meyer	From K.R.S.A.
Co. AK Capitol	Co.
Dept.	Phone #
Fax # 907-465-3476	Fax #

Senator Kevin Meyer
Alaska State Capitol
Juneau, AK 99801

Re: SB 177

Dear Senator Kevin Meyer:

Kenai River Sportfishing Association (KRSA) is a 501(c) 3 charitable non-profit dedicated to fishery conservation on the Kenai River and in Alaska. Our programs focus on habitat conservation, fisheries management, research and education.

KRSA is in full support of SB 177, which would repeal the sunset of the sport fish guide licensing program through ADFG. We feel that the sport fish guide licensing program is an essential component of fisheries management that should continue without sunset. The program provides sport fish guides with minimum professional standards and gathers valuable information on the numbers of guides, clients, and harvest levels and patterns, which can be used in sound management of our recreational fisheries.

We support timely reporting requirements of log book information from guides, and the efforts of ADFG process such information into real-time data that then can be used in a timely manner by fisheries managers.

We would like to see implementation of an electronic based log book reporting system, which would remove the current bottleneck of having to enter the paper-based log book information into an electronic database management system. Access to and the ability to use data from the log books should mirror the timeframe of the weekly guide reporting requirements. Unfortunately at this time with the paper-based system that is not possible. This leaves fisheries managers in the position of having to use forecast or past trend data instead of real time data in their in-season decision making.

We support a fee structure that covers the full costs of the program, with the understanding that the goal of being able to provide real-time data from the

log books to fisheries managers is a priority for the department and gets implemented in a timely fashion.

In summary, KRSA supports the continuation of the sport fish guide licensing program as an essential component of responsible fisheries management. Thank you for the opportunity to provide comment on this issue.

Respectfully,

Dick Erkeneff, Board Chair
Kenai River Sportfishing Association

SEAGO
SouthEast Alaska Guides Organization

April 3, 2009

Senator Kevin Meyer
Capitol Building Room 101
Juneau, AK 99801

Re: Support for SB-177

Dear Senator Meyer:

The Southeast Alaska Guides Organization (SEAGO) represents 26 sport fishing guides and lodges throughout Southeast Alaska with more than 100 active vessels. Information provided to ADF&G for reporting and analysis under this legislation is of great value and continuation of this program is beneficial to multiple user groups.

This program is one of the best tools that ADF&G has to identify who is involved in the charter/lodge industry and provides important data used to establish levels of harvest, effort, identification of clients, as well as species targeted. The money collected is used for issuing licenses and for sport fishing logbook data collection and reporting expenses.

Our members support extension of the current law with the fees at their levels as originally passed in 2004.

Sincerely,

John Blair, Executive Director

Note: sent via email to: christine_marasigan@legis.state.ak.us

SEAGO • P.O. Box 422 • Sitka, Alaska 99835 • 907.947.2121
www.seagoalaska.org

SB

195

SENATE COMMITTEE REPORT
First Committee of Referral

DATE: 1/19/10

FURTHER:

Date of 5-Day Notice: _____
(in accordance with Uniform Rule 23)

DATE TURNED IN TO OFFICE: 02/08/10

Resources Committee considered SENATE BILL NO. 195

SB 195 MAKE GOLDSTREAM PUBLIC USE AREA PERMANENT

"An Act relating to the repeal of the establishment of the Goldstream Public Use Area."

and recommends:

[ ] be **replaced** with [ ] **SCS** or [ ] **CS** _____ (_____)

[ ] adopt **previous** [ ] **SCS** or [ ] **CS** _____ (_____)

[ ] attached amendment(s)

[ ] adopt _____Letter of Intent

[ ] further referral to _____Committee

SENATE BILL:
[ ] Same Title
[ ] New Title

HOUSE BILL:
[ ] Same Title
[ ] Technical Title Change
[ ] New Title w/ SCR #_____

NEW FISCAL NOTE(S):

Department	Date	Fiscal	Indet	Zero	FN#
DNR	02/04			✓	

PREVIOUS FISCAL NOTE(S):

Department	Date	Fiscal	Indet	Zero	FN#

[ ] **APPROPRIATION - no fiscal note**

SIGNATURES AND RECOMMENDATIONS:	PRINTED LAST NAME	DO PASS	DO NOT PASS	NO REC	AMEND
	STEVENS	X			
	STOLTZE			✓	
	WIELECHOWSKI	X			
	FRENCH	X			
	WAGONER	✓			
CO-CHAIR:	McGUIRE	✓			
CO-CHAIR:	HUGGINS	✓			

FISCAL NOTE

STATE OF ALASKA
2010 LEGISLATIVE SESSION

Fiscal Note Number:
Bill Version: **SB195**
() Publish Date:

Identifier (file name):SB195-DNR-TAD-02-04-2010
Dept. Affected: Natural Resources
Title: Make Goldstream Public Use Area Permanent
RDU: Resourse Development
Component: Title Acquisition and Defense
Sponsor: Sen. Thomas
Requester: Senate Resources
Component Number: 2459

Expenditures/Revenues (Thousands of Dollars)

Note: Amounts do not include inflation unless otherwise noted below.

	Appropriation Required	Information					
OPERATING EXPENDITURES	**FY 2011**	**FY 2011**	**FY 2012**	**FY 2013**	**FY 2014**	**FY 2015**	**FY 2016**
Personal Services							
Travel							
Contractual							
Supplies							
Equipment							
Land & Structures							
Grants & Claims							
Miscellaneous							
TOTAL OPERATING	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
CAPITAL EXPENDITURES							
CHANGE IN REVENUES ( )	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**

FUND SOURCE (Thousands of Dollars)

1002 Federal Receipts							
1003 GF Match							
1004 GF							
1005 GF/Program Receipts							
1037 GF/Mental Health							
Other Interagency Receipts							
TOTAL	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**

Estimate of any current year (FY2010) cost: 0.0

POSITIONS

Full-time							
Part-time							
Temporary							

ANALYSIS: *(Attach a separate page if necessary)*

DNR anticipates no need for additional funding under this proposed legislation.

Prepared by: Dick Mylius, Director — Phone 269-8600
Division: Mining, Land and Water — Date/Time February 4, 2010
Approved by: Tom Irwin, Commissioner — Date February 4, 2010
Natural Resources

ALASKA STATE LEGISLATURE

SENATOR JOE THOMAS

Senate Bill 195 – An Act relating to the repeal of the establishment of the Goldstream Public Use Area

Sponsor Statement

The Goldstream Public Use Area (GPUA) was created in 1990 by Senator Bettye Fahrenkamp and Representative Mike Davis in order to preserve the recreational opportunities, traditional uses and atmosphere of the local neighborhoods. The GPUA is set to sunset on July 1st, 2010 unless Senate Bill 195 is passed this session.

The GPUA encompasses a patchwork of nearly 2000 acres of state land bordered by Sheep Creek Road to the east, Goldstream Road to the north and the Steese Highway to the east. The GPUA is home to an ever-growing network of trials that connect users to the Chatanika River Valley, the White Mountains and the Fairbanks area, all from a central location close to Fairbanks' population base. The GPUA is passively managed by the state and the trails are maintained by volunteers at no cost to the taxpayers.

All uses are allowed in the area and the GPUA is utilized year round by a variety of outdoor enthusiasts and families.

The repeal of the GPUA's sunset clause is actively supported by the Alaska Outdoor Council, Alaska Dog Mushing Association, Alaska Miners Association, Nordic Ski Club of Fairbanks, Alaska Trapper's Association, Skijoring and Polk Association, Fairbanks Snow Travelers, Northern Area State Parks Advisory Board, Fairbanks North Star Borough Trails Advisory Board, Alaska Trails, Interior Trails Preservation Coalition, Interior Alaska Land Trust, Arctic Audubon Society, and the *Fairbanks Daily News-Miner.*

Additionally, nearly 100 individuals have written letters of support.

Senate Bill 195 receives broad support from the community and I urge you to support this important effort.

"This all makes for an ideal center for outdoor recreation, a sort of Central Park for the Goldstream neighborhoods. It deserves permanent designation."

-Fairbanks Daily News-Miner Editorial, December 25th, 2009

January – May: State Capitol – Juneau, Alaska 99801 – (907) 465-2327 – 1 (800) 336-7383 – Fax (907) 465-5241
June – December: 1292 Sadler Way Ste 203 – Fairbanks, Alaska 99701 – (907) 456-8161 – Fax (907) 456-8163
Senator.Joe.Thomas@legis.state.ak.us

Brief facts on Senate Bill 195

The Goldstream Public Use Area was created in 1990 by Sen. Bettye Fahrenkamp and Rep. Mike Davis and is set to sunset on July 1st, 2010:

The GPA is a patchwork of nearly 2000 acres of state land between the Steese Hwy to the east, Sheep Creek Rd to the west and south of Goldstream Rd to the north.

There is an expanding network of trails that can connect you from the Steese Hwy to Minto Flats and the Richardson Hwy to the White Mountains.

The Tanana Railroad Trail is the main trail within the GPUS and is a future section of the 100 Mile Loop Trail. Also, a proposed connector to the Skyline trail system is also in the works. A substantial maze of smaller trails is also maintained by volunteers.

All uses are statutorily allowed in the area:

Sec. 41.23.150 (c) ...the commissioner shall allow uses within the Goldstream Public Use Area, including but not limited to horseback riding, hiking, mining, all terrain vehicle driving, bicycling, dog sledding, cross-country skiing, skijoring, snowmachining, camping, and other traditional public uses of fish and wildlife populations such as fishing, hunting, trapping, viewing, and photographing of moose, trumpeter swan and other waterfowl, otter, beaver, mink, muskrat, and fox.

Impact on the state:

The state passively manages the GPUA and there are no financial costs incurred by this area. Its trails are maintained by volunteers throughout the year.

SB 195 is supported by:

Alaska Outdoor Council, Alaska Trapper's Association, Alaska Dog Musher's Association, Alaska Mining Association, Nordic Ski Club of Fairbanks, Skijoring and Polk Association, Northern Area State Parks Advisory Board, Fairbanks North Star Borough Trails Advisory Board, Alaska Trails, Interior Trails Preservation Coalition, Fairbanks Snow Travelers, Interior Alaska Land Trust, Arctic Audubon Society, and the Fairbanks Daily News-Miner

"This all makes for an ideal center for outdoor recreation, a sort of Central Park for the Goldstream neighborhoods. It deserves permanent designation."

-Fairbanks Daily News-Miner Editorial, December 25th, 2009

Letters of Support for Senate Bill 195

Alaska Outdoor Council

Alaska Dog Mushing Association

Alaska Miners Association,

Nordic Ski Club of Fairbanks

Alaska Trapper's Association

Skijoring and Polk Association

Fairbanks Snow Travelers

Northern Area State Parks Advisory Board

Fairbanks North Star Borough Trails Advisory Board

Alaska Trails

Interior Trails Preservation Coalition

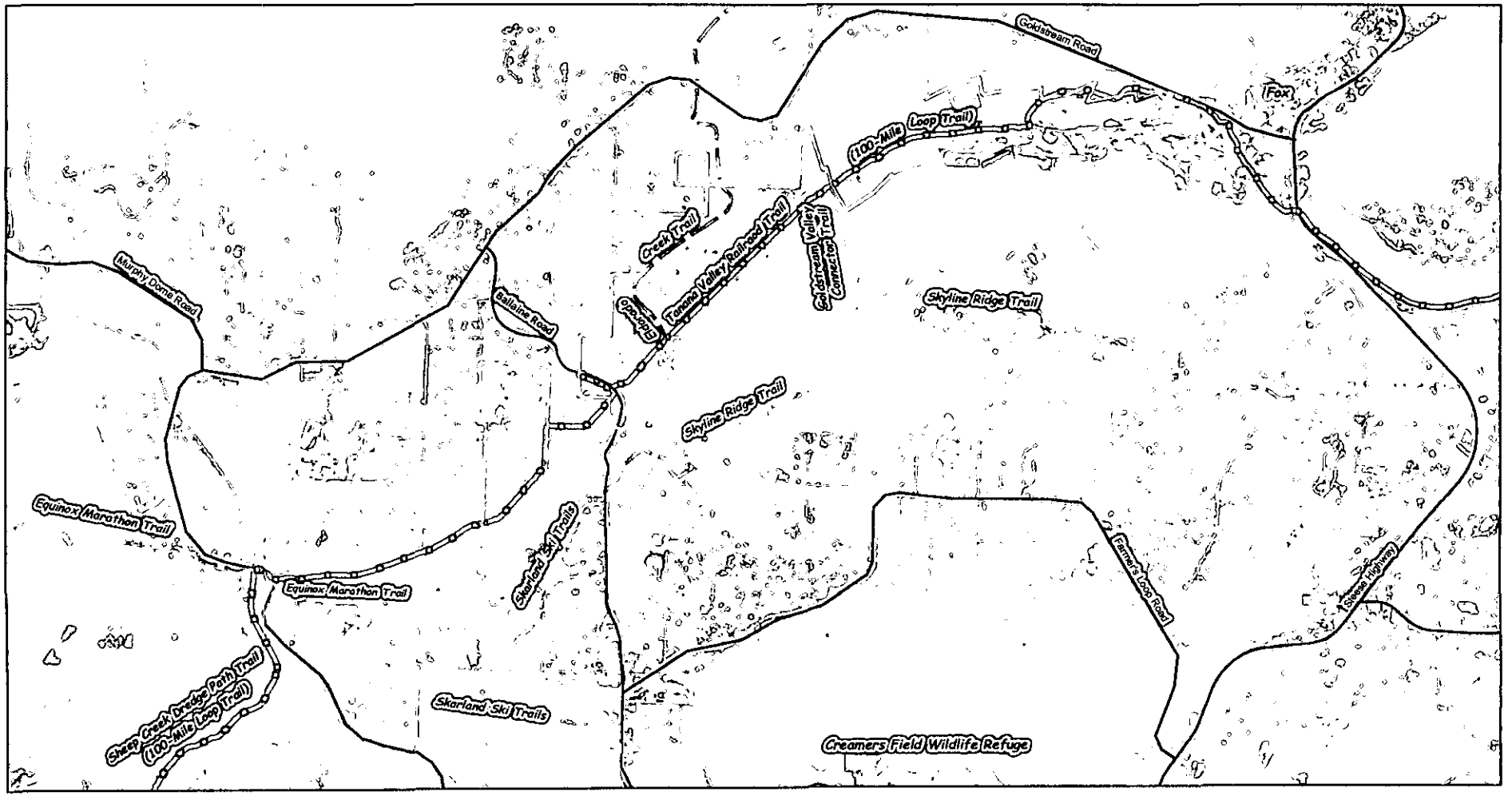
Interior Alaska Land Trust

Fairbanks North Star Borough

Fairbanks Daily News-Miner

"For the past 20 years, the state-owned portions of the lowlands have been held in that undeveloped condition by the Goldsteam Public Use Area, a popular, legislatively designated withdrawal. The withdrawal is about to expire, so the legislature needs to reaffirm it – permanently this time."

-Fairbanks Daily News-Miner Editorial, December 25th, 2009

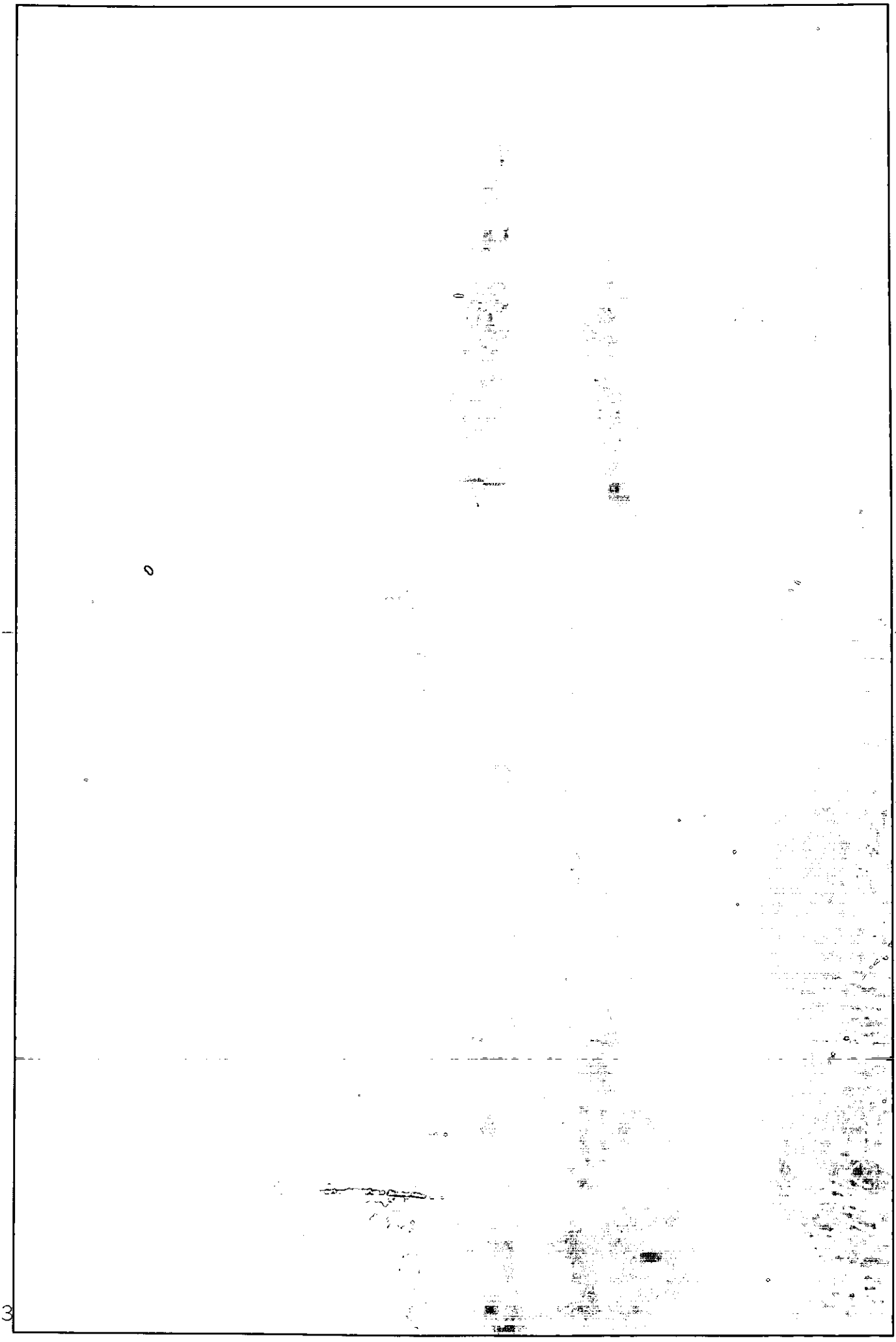


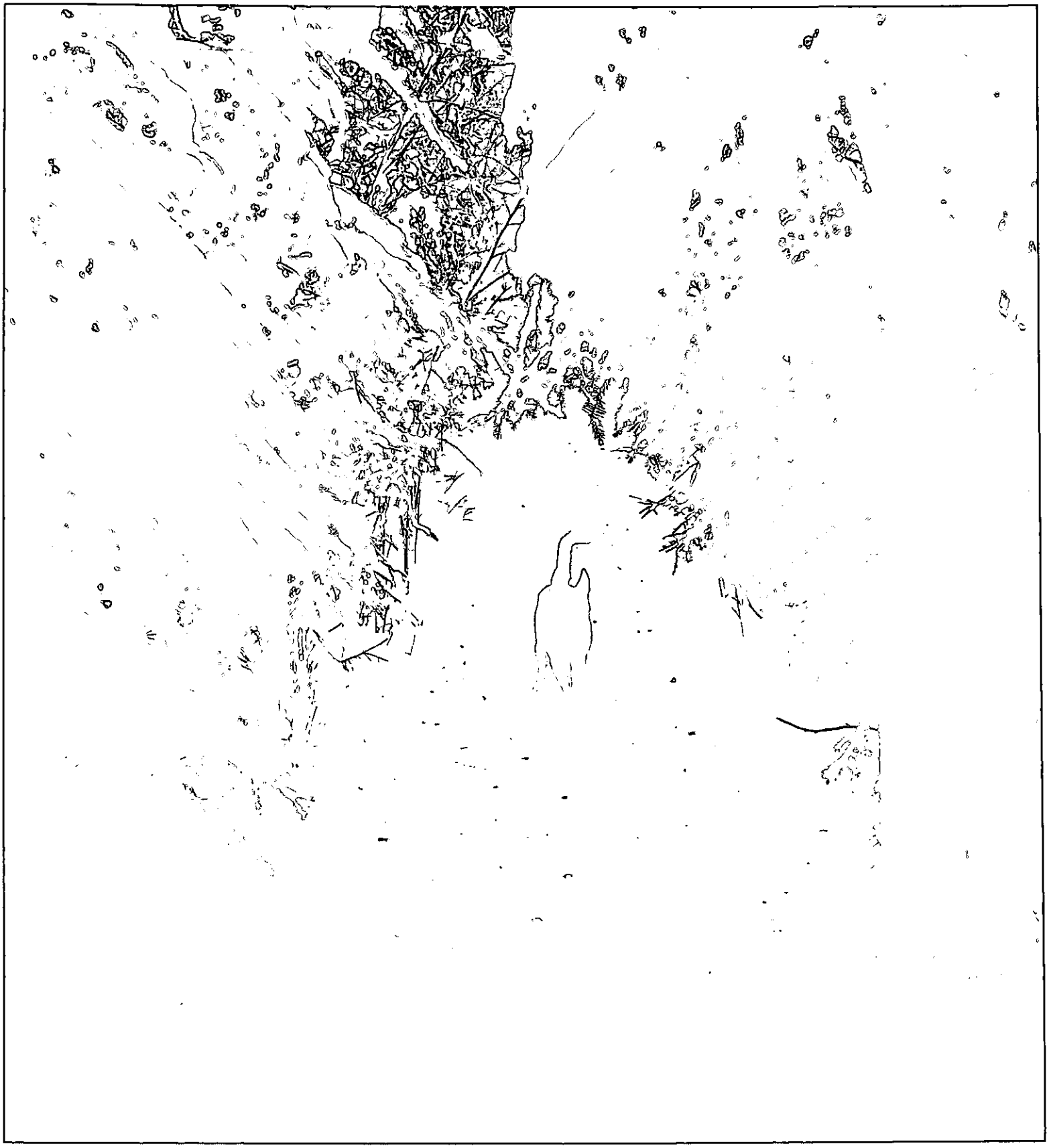
Goldstream Public Use Areas

Fairbanks North Star Borough
Department of Parks and Recreation

Scale: 1:48,985

FAIRBANKS NORTH STAR BOROUGH • PARKS & RECREATION •





Fairbanks North Star Borough
PO Box 71267, Fairbanks AK 99707 907-459-1300, 459-1102 fax
Office of the Mayor

January 12, 2010

Alaska State Legislature
% Senator Joe Thomas
1292 Sadler Way, Suite 308
Fairbanks Alaska, 99701

Re: Goldstream Public Use Area

Dear Members of the Alaska State Legislature:

The Goldstream Public Use Area, Alaska Statues 41.23.140-170, is an important asset to the Fairbanks North Star Borough community. Senator Joe Thomas is proposing a bill that would remove the "sunset" clause of July 1, 2010 from the Goldstream Public Use Area, AS 41.23.140, and preserving it in perpetuity. As recommended to me by the Borough Trails Advisory Commission and the Parks and Recreation Advisory Commission, I support this legislation.

For many years this area of approximately 2,000 acres has been used for a variety of summer and winter outdoor recreational activities. These activities range from motorized to non-motorized uses and include snow-machining, sled dog-mushing, skiing, skijoring, snowshoeing, hunting, hiking, trapping, berry picking, walking, and canoeing to name a few. With its proximity near a major urban area the Goldstream Public Use Area not only provides for these uses but also serves as a vital link to an ever expanding network of recreational trails, extending beyond the boundaries of the borough, and enjoyed by local and state-wide residents alike.

The outdoor recreational opportunities within the Goldstream Public Use Area provide significant economic and social value to the Borough, its residents, and visitors to our community. To lose this public use area would be a tremendous loss to our community. I urge your support of this important piece of legislation.

Sincerely,

Luke Hopkins, Mayor
Fairbanks North Star Borough

cc: Michael Cox, Director, FNSB Parks and Recreation
FNSB Trails Advisory Commission
FNSB Parks and Recreation Advisory Commission

Grier Hopkins

From: Melissa Rouge [melissarouge@yahoo.com]
Sent: Saturday, January 30, 2010 1:08 PM
To: Grier Hopkins
Subject: Goldstream valley

To whom it may concern,

I live in the Goldstream valley and routinely use the trails on both the East and West side of Ballaine road. I support making the Goldstream Public Use Area into a permanent public use area.
The loss of these trails would mean needing to relocate, with a kennel of sled dogs it is imperative to be able to run from home.

Sincerely,
Melissa Rouge

3157

Grier Hopkins

From: Tom McGrane [tom.mcgrane@gmail.com]
Sent: Saturday, January 30, 2010 12:55 PM
To: Grier Hopkins
Subject: Support for Goldstream Public Use Area

Please add my name as a supporter of making the Goldstream Public Use area protections permanent.

I'm the volunteer trails coordinator for the Alaska Dog Mushers Association in Fairbanks and help with issues concerning the 28 mile trail system located in and around Creamers Refuge between College Road and Farmers Loop Road.

These two trails systems, along with several others in the Fairbanks area, help make Fairbanks the mushing capital of the world and contribute significantly to the winter economy by supporting local businesses and bringing in out-of-town visitors.

As Fairbanks has grown, access to many trails has been lost due to new construction blocking unofficial trails. It's critical that key existing trails be protected from future encroachment. Fortunately, the Goldstream Public Use area is so wet that there are few alternative uses that are practical and continued multi-use recreational use is clearly the highest and best use.

Thanks.

Tom McGrane
879 Mushers Road
Fairbanks, AK 99712
tom.mcgrane@gmail.com

January 26, 2010

Dear Alaska State Legislature,

Our names are Susan Slifer and Cliff Moore. We live in the Goldstream Valley and support the Goldstream Public Use Area.

We believe the access and opportunities to outdoor recreation of all types that are available because of the Goldstream Public Use Area are essential to maintaining a strong quality of life for us and our entire community. This Public Use Area is home to a wide variety of uses, including hunting, dog mushing, motorized and non-motorized access, skiing and skijoring, boating, berry picking, trapping and many others. This array of allowable uses gives every Fairbanks resident and family a place, close to town, where they can enjoy the Alaskan great outdoors.

The Goldstream Public Use Area encompasses an ever growing number of established trails that are utilized year round by user groups of all kinds. The loss of this open space, access to trails and beautiful scenery would be a major loss to every resident of Fairbanks, no matter their lifestyle.

Thank you and we urge you to join us in supporting the continued existence of this important piece of legislation.

Sincerely,

Cliff Moore
Susan Slifer
2141 Penrose Lane
Fairbanks, AK

Grier Hopkins

From: Phyllis Morrow [pmorrow@alaska.edu]
Sent: Wednesday, January 27, 2010 10:17 AM
To: Grier Hopkins
Subject: Goldstream Public Use Area

Grier Hopkins
Office of Sen. Joe Thomas
Office: (907) 465-3802
Fax: (907) 465-5241
Grier Hopkins@legis.state.ak.us

Dear Alaska State Legislature,

My name is Phyllis Morrow and I support the Goldstream Public Use Area.

I believe the access and opportunities to outdoor recreation of all types that are available because of the Goldstream Public Use Area are essential to maintaining a strong quality of life for me and our entire community. This Public Use Area is home to a wide variety of uses, including hunting, dog mushing, motorized and non-motorized access, skiing and skijoring, boating, berry picking, trapping and many others. I use this area frequently -- to ski, walk, pick berries and watch birds. This array of allowable uses gives every Fairbanks resident and family a place, close to town, where they can enjoy the Alaskan great outdoors.

The Goldstream Public Use Area encompasses an ever growing number of established trails that are utilized year round by user groups of all kinds. The loss of this open space, access to trails and beautiful scenery would be a major loss to every resident of Fairbanks, no matter their lifestyle.

Thank you and I urge you to join me in supporting the continued existence of this important piece of legislation.

Sincerely,

Phyllis Morrow

Address:
1674 Red Fox Dr.
Fairbanks, AK 99709-6622

Grier Hopkins

From: John Lyle [kanakaukoa@gmail.com]
Sent: Tuesday, January 26, 2010 9:43 AM
To: Grier Hopkins
Subject: Goldstream Valley Public Use Area

Dear Senator Thomas,

I have been living in and using the Goldstream Public USe Area for 30 years now and want to thank you and encourage others to support this legislation which would benefit Fairbanksans and visitors for eternity. It's a win-win piece of legislation. I could go on and on about it's merits but in brief, want to thank you for sponsoring this. Please keep me informed as to how, where and when I can continue supporting support for this bill.

Best regards,

John and Susanne Lyle

3161

Grier Hopkins

From: Marjie Richards [marjierichards@gmail.com]
Sent: Tuesday, January 26, 2010 9:36 AM
To: Grier Hopkins
Subject: Re: Goldstream PUA

Dear Alaska State Legislature,

My name is Marjorie Richards and I use and support the Goldstream Public Use Area.

I believe the access and opportunities to outdoor recreation of all types that are available because of the Goldstream Public Use Area are essential to maintaining a strong quality of life for me and our entire community. This Public Use Area is home to a wide variety of uses, including hunting, dog mushing, motorized and non-motorized access, skiing and skijoring, boating, berry picking, trapping and many others. This array of allowable uses gives every Fairbanks resident and family a place, close to town, where we can enjoy the Alaskan great outdoors.

The Goldstream Public Use Area encompasses an ever growing number of established trails that are utilized year round by user groups of all kinds. The loss of this open space, access to trails and beautiful scenery would be a major loss to every resident of Fairbanks, no matter their lifestyle.

Thank you and I urge you to join me in supporting the continued existence of this important piece of legislation.

Sincerely,

Marjorie Richards
2046 Toboggan Lane
Fairbanks AK 99709

Grier Hopkins

From: Viereck Eleanor [tviereck@alaska.net]
Sent: Monday, January 25, 2010 5:36 PM
To: Grier Hopkins
Subject: Re: Goldstream

Dear Alaska State Legislature

My name is Eleanor Viereck and I support the Goldstream Public Use Area. The large area is an incredibly valuable asset to dog mushers who need long trail systems for training and recreation. I have used this area for fifty years for berry picking, skiing, biking, bird watching, and field trips when I teach ethnobotany and ecology courses or take young people on nature quests. I drive over to Goldstream valley from my home in Pearl Creek Valley to get a good look at a sky without light pollution in the winter dark. The land values in Pearl Creek valley (adjacent to Goldstream Valley) are enhanced by the existence of our ski trails. And as an ecologist I feel strongly about the importance of this undisturbed area as a resource for our long-term well-being, and even for our survival.

Thank you,

Eleanor G. Viereck, Ph.D.

Dear Alaska State Legislature,

My name is __Dan Pagel_____ and I support the Goldstream Public Use Area.

I believe the access and opportunities to outdoor recreation of all types that are available because of the Goldstream Public Use Area are essential to maintaining a strong quality of life for me and our entire community. This Public Use Area is home to a wide variety of uses, including hunting, dog mushing, motorized and non-motorized access, skiing and skijoring, boating, berry picking, trapping and many others. This array of allowable uses gives every Fairbanks resident and family a place, close to town, where they can enjoy the Alaskan great outdoors.

The Goldstream Public Use Area encompasses an ever growing number of established trails that are utilized year round by user groups of all kinds. The loss of this open space, access to trails and beautiful scenery would be a major loss to every resident of Fairbanks, no matter their lifestyle.

Thank you and I urge you to join me in supporting the continued existence of this important piece of legislation.

Sincerely,
Dan Pagel

Dear Alaska State Legislature,

My name is ____Mary Pagel_____ and I support the Goldstream Public Use Area.

I believe the access and opportunities to outdoor recreation of all types that are available because of the Goldstream Public Use Area are essential to maintaining a strong quality of life for me and our entire community. This Public Use Area is home to a wide variety of uses, including hunting, dog mushing, motorized and non-motorized access, skiing and skijoring, boating, berry picking, trapping and many others. This array of allowable uses gives every Fairbanks resident and family a place, close to town, where they can enjoy the Alaskan great outdoors.

The Goldstream Public Use Area encompasses an ever growing number of established trails that are utilized year round by user groups of all kinds. The loss of this open space, access to trails and beautiful scenery would be a major loss to every resident of Fairbanks, no matter their lifestyle.

In addition portions of this area are home to Sandhill Cranes, Canada Geese and a variety of other water fowl that return to nest every spring. Under the current designation this land provides a peaceful and safe landing place for these beautiful birds and should be preserved.

Thank you and I urge you to join me in supporting the continued existence of this important piece of legislation.

Sincerely,
Mary Kay Pagel

Grier Hopkins

From: Sen. Joe Thomas
Sent: Monday, January 25, 2010 7:42 AM
To: Grier Hopkins
Subject: FW: Goldstream Trails

-----Original Message-----
From: jreynolds@guru.uaf.edu [mailto:jreynolds@guru.uaf.edu]
Sent: Sunday, January 24, 2010 2:28 PM
To: Sen. Joe Thomas
Subject: Goldstream Trails

Senator Thomas,

I strongly support the effort to convert the Goldstream Public Use Area to permanent status.

I live in Goldstream Valley, on Pine Wood Road (top of Pandora), several miles from these trails, and I regularly use them in the winter for dog mushing and skiing. I personally contribute to maintenance of the trails by grooming some of them in winter (for dog mushing) using snowmachine and iron drag. I also occasionally enter the area in late summer for berry-picking.

The Goldstream Public Use Area is very important to the character of the area. My experience is that yes, people are able to share these trails for all types of recreational activities, because of the generally cooperative attitude of the users. This type of non-regulated, cooperative use is the type of thing Alaskans often say they want. I strongly support making the public-use status of the area permanent.

Thank you for your efforts.

Jennifer R. Reynolds

P.O. Box 83886
Fairbanks, AK 99708

3166

Alaska Outdoor Council

310 K Street, Suite 200
Anchorage, Alaska 99501
Phone: (907) 264-6645 Fax: (907) 264-6602
e-mail: aoc@alaskaoutdoorcouncil.org
web: www.alaskaoutdoorcouncil.org

December 16, 2009

Board of Directors

President
Bill Iverson
Soldotna

Southcentral 1st Vice Pres.
Randy Quincy
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Treasurer
Todd Clark
Anchorage

Secretary
Dave Ausman

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Fund Trustee
Byron Haley
Fairbanks

Executive Director
Rod Arno
Palmer

Dear Alaska State Legislature,

The Alaska Outdoor Council continues to supports the Goldstream Public Use Area because it is an important resource for the Fairbanks community. This area allows a wide variety of outdoor opportunities close to the hub of Fairbanks and has many established trails that get extensive use by many groups.

Sincerely yours,

Bill Iverson
President
Alaska Outdoor Council
"Protecting your Hunting, Trapping, Fishing and Access Rights"
Email: president@alaskaoutdoorcouncil.org

Alaska Dog Mushers Association

*PO Box 70662 * Fairbanks, Alaska 99707 * (907) 457-MUSH*
*adma@sleddog.org * www.sleddog.org*

December 16, 2009

Dear Alaska State Legislature,

The Alaska Dog Mushers Association supports the Goldstream Public Use Area.

We believe the access and opportunities to outdoor recreation of all types that are available because of the Goldstream Public Use Area are essential to maintaining a strong quality of life in our community. This Public Use Area is home to a wide variety of uses, including hunting, dog mushing, motorized and non-motorized access, skiing and skijoring, boating, berry picking, trapping and many others. This array of allowable uses gives every Fairbanks resident and family a place, close to town, where they can enjoy the Alaskan great outdoors.

The trails in the Goldstream Public Use Area are used extensively by mushers. Fairbanks is home to the best sled dog racing in the world and mushing brings millions of dollars to Fairbanks every year. Without access to trails like these, this would not be possible.

The Goldstream Public Use Area encompasses an ever growing number of established trails that are utilized year round by user groups of all kinds. The loss of this open space, access to trails and beautiful scenery would be a major loss to every resident of Fairbanks, no matter their lifestyle.

Thank you and I urge you to join us in supporting the continued existence of this important piece of legislation.

Sincerely,

Shannon Erhart

Shannon Erhart
President

NORDIC
SKI CLUB

FAIRBANKS

NORDIC SKI CLUB OF FAIRBANKS

Mailing Address:
PO Box 80111
Fairbanks, AK 99708-0111

Shipping Address:
1540 Hayes Avenue
Fairbanks, AK 99709

Office Phone: 474-4242
Birch Hill Weather: 457-4837
Junior Nordic: 457-4437
Racing Hotline: 457-4434
e-mail: nordic@nscfairbanks.org
Web: http://www.nscfairbanks.org

Dear Alaska State Legislature,

The Nordic Ski Club of Fairbanks supports the Goldstream Public Use Area and efforts maintain its current status.

We believe the access and opportunities to outdoor recreation of all types that are available because of the Goldstream Public Use Area are essential to maintaining a strong quality of life for our membership and our entire community. This Public Use Area is home to a wide variety of uses, including hunting, dog mushing, motorized and non-motorized access, skiing and skijoring, boating, berry picking, trapping and many others. This array of allowable uses gives every Fairbanks resident and family a place, close to town, where they can enjoy the Alaskan great outdoors.

The Goldstream Public Use Area encompasses an ever growing number of established trails that are utilized year round by user groups of all kinds, including our membership. The loss of this open space, access to trails and beautiful scenery would be a major loss to every resident of Fairbanks, no matter their lifestyle.

Thank you and we urge you to join us in supporting the continued existence the Goldstream Public Use Area by passing this important piece of legislation.

Sincerely,

Mike Ruckhaus
President

ALASKA SKIJORING AND PULK ASSOCIATION
INTERIOR ALASKA
P. O. Box 82843, Fairbanks, Alaska 99708-2843
Hotline: 907-457-5456, Website: http://www.sleddog.org/skijor

December 22, 2009

To: Alaska State Legislature

RE: Letter of Support for Goldstream Public Use Area

The Alaska Skijoring and Pulk Association (ASPA) is a nonprofit organization that promotes recreational and competitive skijoring in the Alaskan Interior. We host a variety of events each season, including how-to clinics, fun races, competitive races and trail tours. We have used the trails in the Goldstream Public Use Area for numerous events.

The ASPA Board supports the continuance of the Goldstream Public Use Area which encompasses an ever growing number of established trails that are utilized year round by user groups of all kinds. The loss of this open space, as well as access to trails and the beautiful scenery would be a major loss to every resident of Fairbanks, no matter their lifestyle or interests.

Thank you and we urge you to join us in supporting the continued existence of this important piece of legislation.

Sincerely,

Jamie Marschner
President, Alaska Skijoring and Pulk Association

Grier Hopkins

From: jody formon [jodyf_us@yahoo.com]
Sent: Monday, December 14, 2009 6:42 PM
To: Grier Hopkins

Dear Alaska State Legislature,
I am the president of the Fairbanks Snow Travelers. We support the Goldstream Public Use Area. We believe the access and opportunities to outdoor recreation of all types that are available because of the Goldstream Public Use Area are essential to maintaining a strong quality of life for us and our entire community. This Public Use Area is home to a wide variety of uses, including hunting, dog mushing, motorized and non-motorized access, boating, berry picking, trapping and many others. This array of allowable uses gives every Fairbanks resident and family a place, close to town, where they can enjoy the Alaskan great outdoors.
The Goldstream Public Use Area encompasses an ever growing number of established trails that are utilized year round by user groups of all kinds. The loss of this open space, access to trails and beautiful scenery would be a major loss to every resident of Fairbanks, no matter their lifestyle.
Thank you and I urge you to join me in supporting the continued existence of this important piece of legislation.
Sincerely,

Jody Formon
President
Fairbanks Snow Travelers

Alaska Trappers Association
PO Box 82177
Fairbanks, AK 99708

Senator Joe Thomas
1292 Sadler Way – Suite 308
Fairbanks, AK 99708

12/22/09

Dear Senator Thomas:

Please allow the Alaska Trappers Association to add their voice to those in support of the Goldstream Public Use Area (GPUA) and your proposed legislation which would preclude the "sunsetting" of the current law.

ATA is a statewide organization with several hundred members in the Fairbanks area. At the time of the original legislation establishing the GPUA, our group, along with many other outdoor users, supported Senator Fahrenkamp and Representative Davis in their efforts to protect this area. Our support for keeping the area insulated from development and open to a wide variety of outdoor activities has not diminished.

We feel that the multiple uses of this area, particularly when it comes to wildlife, is a model of cooperation. The trails system is important to untold local recreationists, including trappers. The area is heavily used for moose hunting (currently by bowhunting only) and has been the site of habitat improvement and enhancement projects by ADFG and ADNR.

We are grateful that trapping was one of the designated uses when the area was established. This use remains important. Having areas such as the GPUA in proximity to town is very helpful to new and younger trappers who cannot travel great distances.

We appreciate and support your efforts to rid the statute of the "sunset" clause.

Sincerely,

Randy Zarnke, President

Northern Area Alaska State Parks Citizen Advisory Board
3700 Airport Way Fairbanks, Alaska 99709-4609 (907) 451-2695

December 17, 2009

Senator Joe Thomas
1292 Sadler Way, Suite 314
Fairbanks, AK 99701

Dear Senator Thomas,

Thank you for having Grier attend the Legislative Briefing presented by the Citizen Advisory Board of the Northern Area State Parks on December 9th, 2009. The members of the Board appreciated the opportunity to share our pride in, and our hopes for, Alaska State Parks.

The goal of Alaska State Parks is to assure quality management of our park units. We have implemented a wide range of ways to provide quality service with the least cost to the state. Tools include privatization, partnerships, grants, volunteers, and user fees.

Unfortunately these tools haven't proven successful for the three popular sites in the Northern Area as well as the 66.5 million dollar Deferred Maintenance Back-log. We ask for your support in strengthening the park system for the use, enjoyment, and welfare of the people.

Thanks again for attending the briefing and supporting Alaska State Parks! We look forward to working with you on issues and opportunities facing our State Parks. Please feel free to contact us with any comments or questions. Thank you for your support of Alaska State Parks!

Respectfully,

Jamie Marschner, Chair
Northern Area Alaska State Parks Citizen Advisory Board

President
Geoffrey Orth
Fairbanks

Past President
Lindsay Winkler
Logan, UT

Secretary
Jillian Morrissey
Palmer

Treasurer
Malcolm McEwen
Fairbanks

Members at Large
Wayne Blessel
Kodiak

Dan Chagnon/
Karl Kassel
Fairbanks

Executive Director
Max Gruner
Anchorage

Alaska Trails
PO Box 100627
Anchorage, AK
99510
907-334-8049
office@alaska-trails.org
www.alaska-trails.org

December 17, 2009

Senator Joe Thomas,

RE: SUPPORT OF THE Goldstream Public Use Area

Sen. Thomas,

Alaska Trails greatly appreciates your efforts in helping to preserve the Goldstream Public Use Area. We hope the Legislature sees the wisdom in saving this very valuable resource in interior Alaska by keeping the public use area and eliminating the sunset clause.

The Goldstream Public Use Area has many points in its favor:

- It is used for a large variety of winter activities including snowmachining, mushing, Nordic skiing, ski-joring, running, walking, biking, and snowshoeing.
- Despite much of the public use area being boggy, it is still popular in summer and fall for berry picking, bird watching, and hunting.
- The main trail that traverses the public use area is integral to the 100-Mile Loop Trail, an important trail project of the Fairbanks North Star Borough.
- The area borders a parcel of land that the borough plans to turn into Skyline Ridge Park, a lightly managed park with an emphasis on trails. Trails already existing there connect to trails in the Goldstream Public Use Area.
- Winter tourism is growing in interior Alaska. A large component of that business is the easy availability of trails and the recreational opportunities they offer. Goldstream Valley offers one of the best wilderness trail experiences that can be had a few minutes from Fairbanks.
- Land in the public use area is mostly boggy. It is far more valuable as a public use area than it would ever be if it were developed.

Alaska Trails urges the Alaska State Legislature to support the Goldstream Public Use Area by continuing its existence without a sunset clause. This valuable resource needs to be protected.

Sincerely,

Max Gruner
Executive Director
Alaska Trails

INTERIOR TRAILS PRESERVATION

ITPC

Tuesday, December 15, 2009

Senator Joe Thomas,
1292 Sadler Way Ste 314
Fairbanks, AK 99701

Re: The Goldstream Public Use Area

Dear Sen. Thomas,

Thank you for taking up this very important issue. We strongly urge the state legislature to pass a law that would continue the Goldstream Public Use Area. This area is a highly popular and important part of winter recreation to interior Alaska for both residents and visitors. We were unaware of the sunset provision in the original law that created the public use area and were very concerned when we learned of it.

The nearly 2,000-acre PUA is heavily used by area residents and others. Goldstream Valley, of which this PUA is a critical part, is especially popular in the winter. The area has a network of trails used by mushers, snowmachiners, skijorers, winter bikers, skiers, runners, walkers, and snowshoers. The trails connect to other trails that lead to Fox, lower Goldstream Valley, El Dorado Creek Valley, O'Connor Creek Valley, and Skyline Ridge. The trails in the PUA can be accessed at several points including parking pullouts on Ballaine and Goldstream roads, Skyline Ridge trails, and subdivisions off Ballaine and Goldstream roads. This access and popularity make the PUA a very valuable resource.

Additionally, the main trails in the PUA make up a portion of the borough's 100-Mile Loop Trail, a trail concept that will connect existing trails to make a large circle around Fairbanks. The 100-Mile Loop Trail will greatly enhance the trail experience in Fairbanks. The trails through the Goldstream PUA are a critical part of that project. Trail connectivity is critical. Without it, trails can be unusable or even unsafe if trails must cross numerous roads. This is especially true for mushers, a significant portion of winter trail users here.

Yet another important aspect of the PUA, is its proximity to a planned borough park. The Fairbanks North Star Borough is working with the state Department of Natural Resources to assume ownership of a 400-acre parcel of land on Skyline Ridge that abuts the PUA. The borough intends to turn that parcel of land into a lightly managed park. The park and PUA would complement each other.

Much of the PUA is boggy during summer, yet it is still used by berry pickers, canoers,

ITPC
P.O. Box 74263, Fairbanks, AK 99707 Phone: (907) 458-7968

bird watchers, and hunters. The boggy land is ill-suited for development. However, experience has shown that with enough gravel people will build in all sorts of boggy land. That is why it is imperative that the PUA be protected. It is worth far more to the community as a public use area than if it were eventually sold and developed as sub-prime lots.

We ask that the PUA be continued without a sunset clause. We are confident that if given proper protections the Goldstream Public Use Area will be a valuable asset to the community for many years to come.

Sincerely,

Eric Troyer
Vice President
fbxtrails@gmail.com

Interior
Alaska
Land Trust

P.O. Box 84169
Fairbanks, AK 99708-4169
907-451-0737
interioraklandtrust@gmail.com
www.interioraklandtrust.org

BOARD RESOLUTION

RE: Removing sunset clause on the Goldstream Public Use Area designation

WHEREAS the legislation for the Goldstream Public Use Area (AS 41.23.140 - 41.23.170), a nearly two thousand acre patchwork of designated Alaska State land in the Goldstream Valley north of Fairbanks, is set to sunset on July 1, 2010, and

WHEREAS the Goldstream Public Use Area is used by dog mushers, runners, snow machiners, skiers, hunters, berry pickers, bird watchers, trappers and others for recreation, subsistence and other activities; and

WHEREAS the proximity of the Goldstream Public Use Area to the population of Fairbanks makes it especially valuable to families and outdoor enthusiasts of all levels; and

WHEREAS the Goldstream Public Use Area provides many other ecosystem services in its natural condition, including water filtering and storage capacity, wildlife habitat, and natural viewsheds; and

WHEREAS the Interior Alaska Land Trust owns 110 acres of conservation land adjacent to three parcels included in the Goldstream Public Use Area and has an interest in preserving the conservation values of the adjacent lands for its members and residents of the Fairbanks area; therefore

BE IT RESOLVED, that the Interior Alaska Land Trust supports legislation to remove the sunset clause from the legislation designating the Goldstream Public Use Area, and have that legislation stand until modified by vote of the legislature. The Interior Alaska Land Trust supports Senator Joe Thomas (D-Fairbanks) and any other legislators in their efforts to remove this sunset clause.

The Board of the Interior Alaska Land Trust unanimously voted to approve this resolution during a regularly scheduled monthly board meeting on 8 December 2009.

Signed _____
Roselynn Ressa, Board President

print

A central park: Goldstream public use area needs permanent designation

12.25.09 - 11:31 pm

A letter to the editor dated Nov. 23, 1959, from Jim Todd offered a hopeful vision for the Goldstream Valley, which lies just beyond the hills that form the northern horizon in Fairbanks.

Todd appealed to the territory's Bureau of Public Roads, or, rather, the "Bureau of Parallel Ruts," to divert some of its "superhighway"-building enthusiasm into a real road for Goldstream, where dozens of farmers were struggling in the mud.

"We beg your assistance, dear editor. Next year when these spendthrifts start blowing their measly millions, help them 'blow' a few thousand into roads into Goldstream Valley. Alaska's returns will be a thousandfold," Todd wrote.

The roads came to be, but Todd's vision did not. As a result, much of the valley bottom remains undeveloped. For the past 20 years, the state-owned portions of the lowlands have been held in that undeveloped condition by the Goldstream Public Use Area, a popular, legislatively designated withdrawal. The withdrawal is about to expire, so the Legislature needs to reaffirm it — permanently this time.

It was an accident both of Fairbanks' economic history and the swampy nature of the Goldstream Valley bottom that the area remained undisturbed. By the mid-1960s, the roads that Todd wanted were built. Sheep Creek Road was a modern, if still-unpaved, thoroughfare. Goldstream and Ballaine roads weren't far behind. The farmers didn't follow, though. Instead, the roads mostly brought homeowning commuters. Today, the evening view from the valley divide — whether at Happy Gap on Sheep Creek Road or the top of the big hill on Ballaine — reveals a constellation of house lights on the slopes to the north.

The valley bottom itself, where some of the farmers of Todd's day worked, remains empty in many places. Some of the land was never homesteaded because it was too wet or frozen. But the farmers also were undercut by the increasingly efficient road, rail, air and ocean connections to the Lower 48, which allowed importation of cheaper fresh food. So, aside from some large mining pits, Goldstream is more wooded today than it was in the 1950s and early 1960s.

The residential homeowners who replaced the farmers, however, have put the lowlands to use. The acreage has become a favorite year-round recreation area. The old Tanana Valley Railroad bed, along which ties and spikes sometimes still can be seen, provides a backbone trail through the area. The railroad intersects with a few roads and other trails from the homesteading era. Here and there, the old roads are sinking into lakes that began decades ago as drainage ditches, but they still work as winter routes. Ponds, swamps and creeks of various sizes are scattered throughout the area, containing the relatively rich variety of wildlife and vegetation that such areas support.

This all makes for an ideal center for outdoor recreation, a sort of Central Park for the Goldstream neighborhoods. It deserves a permanent designation.

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print

Groups work to preserve public use area in Goldstream Valley

by Tim Mowry / tmowry@newsminer.com
12.21.09 - 02:17 am

FAIRBANKS — For the past 10 years, Bonnie Borba has been able to run her sled dogs right out of her home on Snowhook Drive in the Goldstream Valley.

Her property, like many of her mushing neighbors, bumps right up next to the Goldstream Public Use Area, an almost-2,000-acre swamp along Goldstream Creek that transforms into a popular winter playground each winter for mushers, skiers, skijorers and snowmachiners in the Goldstream Valley.

"That's why we moved there," said Borba, a sprint musher. "Everybody on Snowhook Drive moved there for dog mushing purposes. We have access to the trails right from our house."

What Borba and others didn't know until recently is that there is a 20-year sunset clause on the Goldstream Public Use Area, which was created in 1990 by the Alaska Legislature as a result of a bill sponsored by Rep. Mike Davis and Sen. Bettye Fahrenkamp, both of Fairbanks. The area is set to lose its protected status this coming year.

"That'd be a real bummer if we lost it," Borba said. "I can't see anyone developing it. It's a swamp. Its best use is the uses it serves now."

Borba and her neighbors, along with several outdoor recreation groups, have sent letters to Sen. Joe Thomas, D-Fairbanks, asking him to keep the Goldstream Public Use Area the way it is in perpetuity. Thomas' district includes the Goldstream Valley.

Sen. Thomas agrees, which is why the second-year senator plans to introduce a bill this legislative session to drop the sunset clause and make the Goldstream Public Use Area permanent.

"The legislation will remove the sunset clause and the conversation will ensue from there," Thomas said. If somebody says, 'Well, that means in perpetuity' and we'll say, 'Yeah, that's what we want.' If people object, we work at it from there."

The public use area is a patchwork of land east and west of Ballaine Road along Goldstream Creek. The biggest chunk, and the one that gets the most use, extends east up Goldstream Valley from Ballaine Road. Over the years, an intricate trail network has been developed in the biggest portion of the area.

"Mushers, bicyclists, snowmachiners, skijorers, walkers, trappers, I've passed them all," Borba said.

The area is famous for its abundance of blueberries and attracts hordes of berry pickers in the summer.

Goldstream Valley resident Dick Bishop proposed the idea of a public use area to Rep. Mike Davis, his neighbor at the time, in the late 1980s as a way to preserve trail access on state land that was rapidly disappearing to residential development.

"My thought was that already for decades that area had been used by people for outdoor activities," Bishop said. "It seemed like it was important to the extent possible to get the remaining state lands which hadn't been put up for disposal in a category where those uses could continue."

The public use area concept has worked out fabulously, Bishop said. It's been a low-profile, high-use area with no bureaucracy involved. The area is maintained by users and the state hasn't been involved in any way except for its creation.

"There's been very few conflicts and very few problems," Bishop said. "It seems to me it's worked out real well."

It was Davis who reminded Bishop of the sunset clause last spring. Bishop in turn contacted Thomas' office.

Thomas in turn sent out a letter to multiple user groups soliciting support for the public use area, and his aide, Grier Hopkins, attended meetings with mushing, skijoring and snowmachine clubs, as well as outdoor and mining groups. So far, all Hopkins and Thomas have heard is support.

"We have not run into any opposition at all," Hopkins said, noting that even the Alaska Miners Association wrote a letter in support.

Peg Bowers, who lives a mile or so from the area, skis on the trails about twice a week during the winter.

"For me it's a place I can take my dog and let it run and I can ski at the same time," Bowers said shortly after a ski with her golden retriever, Andra, on Thursday.

Like many, Bowers knew about the Goldstream Public Use Area but she didn't know about the sunset clause. Hearing about it has spurred her to action. Bowers intends to write a letter to Thomas voicing her support for the public use area.

"I thought since it was a public use area it was going to be there forever," she said. "I'd be really sad to lose it. It's part of the joy of where we live."

With lots of support and no opposition, Thomas is hopeful his bill will make it

through the Legislature this session.

Contact staff writer Tim Mowry at 459-7587.

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Richard H. Bishop
1555 Gus's Grind
Fairbanks, AK 99709
907-455-6151
rmbishop@ptialaska.net

22 Dec 09

Senator Joe Thomas
Alaska State Legislature
1292 Sadler Way, Suite 308
Fairbanks, AK 99701

by fax - 2 pp. total

Dear Senator Thomas:

Thank you for proposing legislation to give the Goldstream Public Use Area permanent legal status by eliminating the sunset provision from state law. I strongly support this action.

I was very involved in the original Goldstream Public Use Area (GPUA) proposal in the late 1980's. As a Goldstream Valley resident, I was well aware of the area's many values. My family and I were regular users of the trails and wild areas for dog mushing, snow machining, hunting, bird watching camping, berry picking, and just enjoying the varied landscapes and water bodies. Several of our friends have trapped there in the past.

I knew that the Valley trails had been used by mushers, hunters, trappers, miners and others going back to the early 1900's. The old Tanana Valley Railroad grade, dating from the early 1900's, was and is the central east-west Valley trail. Well known sprint dog mushers Rosie Losonsky, Pete Machione, and others trained in the Valley, and it's a popular area for today's sprint, distance and recreational mushers, i.e. "Sunday Tail Waggers".

The trails run through the valley, with numerous connecting trails leading out of the area in all directions, so that in winter one can start in Goldstream Valley and go to most all of the outlying areas around Fairbanks and even to distant parts of Alaska.

In the late 1980's there was increased interest in sales of private and public lands for residential developments even on very poor lands for such use, including the Goldstream Valley lowlands, which are extensively underlain with permafrost. Important main and connector trails as well as numerous ponds, swamps, parts of creeks and good wildlife habitat occurred on the several large parcels of State lands in the Valley lowlands. If those lands were disposed of, much of the trail access could be blocked and other outdoor recreation such as hunting, trapping, wildlife viewing, etc., could be denied by private land owners. Some restriction had already occurred as former homesteads were broken up and pieces sold. People built cabins and larger homes on poor lands, often with complications following due to the extensive permafrost.

If the State lands followed the same pattern of use, important outdoor uses could be lost or restricted, and a lot of people could be disadvantaged by having unknowingly bought and built on unstable, wet, thaw-prone ground.

The situation prompted me and others to propose that all the State lands be kept in public ownership, and open to all the uses which had occurred there for decades.

Representative Mike Davis agreed to introduce legislation to establish the Goldstream Public Use Area. Senator Betty Fahrenkamp took an interest in it. Senator Arlys Sturgelewski, Chairman of the Rules Committee, was convinced of its merits by a brief field-road trip near Session end. Support developed and opposition faded as legislators learned that the most valuable assets of the State lands were the trails and wildlife habitat and the continued opportunities for public use.

Since its establishment, the GPUA has remained pretty much as it was at the beginning as far as the lands, waters, habitats and trails, although some trails have been blocked by nearby private ownership. My impression is that outdoor uses have generally increased as more Fairbanks area residents have found the trails and other opportunities are really convenient and enjoyable. But public uses do not seem to have become congested, perhaps due to the many miles of trails and large undeveloped areas. To the best of my knowledge there have been no serious conflicts among the various uses, even though, mercifully, there are no formal rules or management dictates in place specific to the GPUA. There has been very little impact on ground cover, trail condition, or habitat from public uses. Users of the GPUA seem to take pretty good care of it.

In my opinion, the Goldstream Public Use Area has proven to be a great public outdoor asset and it has not been an impediment to various human uses and developments in Goldstream Valley.

Thank you again for preparing legislation to maintain the Goldstream Public Use Area. I will strongly encourage the Interior delegation to support it, the Legislature to pass it, and the Governor to sign it.

Sincerely,

Dick Bishop

Richard H. Bishop

cc: Interior legislators
Commissioner Tom Irwin
Commissioner Denby Lloyd
Governor Sean Parnell

P.S. Merry Christmas
Happy New Year!

Dear Alaska State Legislature,

My name is ORVILLE HELMS and I support the Goldstream Public Use Area.

I believe the access and opportunities to outdoor recreation of all types that are available because of the Goldstream Public Use Area are essential to maintaining a strong quality of life for me and our entire community. This Public Use Area is home to a wide variety of uses, including hunting, dog mushing, motorized and non-motorized access, skiing and skijoring, boating, berry picking, trapping and many others. This array of allowable uses gives every Fairbanks resident and family a place, close to town, where they can enjoy the Alaskan great outdoors.

The Goldstream Public Use Area encompasses an ever growing number of established trails that are utilized year round by user groups of all kinds. The loss of this open space, access to trails and beautiful scenery would be a major loss to every resident of Fairbanks, no matter their lifestyle.

Thank you and I urge you to join me in supporting the continued existence of this important piece of legislation.

Sincerely, Orville Helms

Dear Alaska State Legislature,

My name is Victoria Foote and I support the Goldstream Public Use Area.

I believe the access and opportunities to outdoor recreation of all types that are available because of the Goldstream Public Use Area are essential to maintaining a strong quality of life for me and our entire community. This Public Use Area is home to a wide variety of uses, including hunting, dog mushing, motorized and non-motorized access, skiing and skijoring, boating, berry picking, trapping and many others. This array of allowable uses gives every Fairbanks resident and family a place, close to town, where they can enjoy the Alaskan great outdoors.

The Goldstream Public Use Area encompasses an ever growing number of established trails that are utilized year round by user groups of all kinds. The loss of this open space, access to trails and beautiful scenery would be a major loss to every resident of Fairbanks, no matter their lifestyle.

Thank you and I urge you to join me in supporting the continued existence of this important piece of legislation.

Sincerely,

V Foote

Dear Alaska State Legislature,

My name is Ian Olson and I support the Goldstream Public Use Area.

I believe the access and opportunities to outdoor recreation of all types that are available because of the Goldstream Public Use Area are essential to maintaining a strong quality of life for me and our entire community. This Public Use Area is home to a wide variety of uses, including hunting, dog mushing, motorized and non-motorized access, skiing and skijoring, boating, berry picking, trapping and many others. This array of allowable uses gives every Fairbanks resident and family a place, close to town, where they can enjoy the Alaskan great outdoors.

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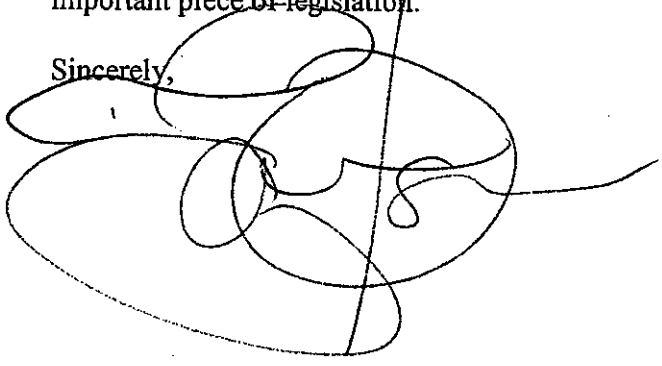
Thank you and I urge you to join me in supporting the continued existence of this important piece of legislation.

Sincerely,



Dear Alaska State Legislature,

My name is Mike Wenstrup and I support the Goldstream Public Use Area.

I believe the access and opportunities to outdoor recreation of all types that are available because of the Goldstream Public Use Area are essential to maintaining a strong quality of life for me and our entire community. This Public Use Area is home to a wide variety of uses, including hunting, dog mushing, motorized and non-motorized access, skiing and skijoring, boating, berry picking, trapping and many others. This array of allowable uses gives every Fairbanks resident and family a place, close to town, where they can enjoy the Alaskan great outdoors.

The Goldstream Public Use Area encompasses an ever growing number of established trails that are utilized year round by user groups of all kinds. The loss of this open space, access to trails and beautiful scenery would be a major loss to every resident of Fairbanks, no matter their lifestyle.

Thank you and I urge you to join me in supporting the continued existence of this important piece of legislation.

Sincerely,

12/15/07

Dear Alaska State Legislature,

My name is Janelle Berry and I support the Goldstream Public Use Area.

I believe the access and opportunities to outdoor recreation of all types that are available because of the Goldstream Public Use Area are essential to maintaining a strong quality of life for me and our entire community. This Public Use Area is home to a wide variety of uses, including hunting, dog mushing, motorized and non-motorized access, skiing and skijoring, boating, berry picking, trapping and many others. This array of allowable uses gives every Fairbanks resident and family a place, close to town, where they can enjoy the Alaskan great outdoors.

The Goldstream Public Use Area encompasses an ever growing number of established trails that are utilized year round by user groups of all kinds. The loss of this open space, access to trails and beautiful scenery would be a major loss to every resident of Fairbanks, no matter their lifestyle.

Thank you and I urge you to join me in supporting the continued existence of this important piece of legislation.

Sincerely,

Janelle Berry

Dear Alaska State Legislature, 12/16/09

My name is Tom Moyer and I support the Goldstream Public Use Area.

I believe the access and opportunities to outdoor recreation of all types that are available because of the Goldstream Public Use Area are essential to maintaining a strong quality of life for me and our entire community. This Public Use Area is home to a wide variety of uses, including hunting, dog mushing, motorized and non-motorized access, skiing and skijoring, boating, berry picking, trapping and many others. This array of allowable uses gives every Fairbanks resident and family a place, close to town, where they can enjoy the Alaskan great outdoors.

The Goldstream Public Use Area encompasses an ever growing number of established trails that are utilized year round by user groups of all kinds. The loss of this open space, access to trails and beautiful scenery would be a major loss to every resident of Fairbanks, no matter their lifestyle.

Thank you and I urge you to join me in supporting the continued existence of this important piece of legislation.

Sincerely,

Tom Moyer

Dear Alaska State Legislature,

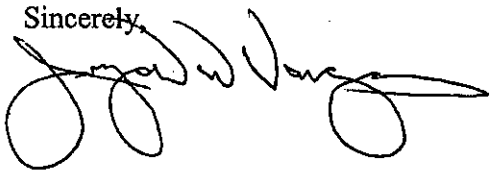
My name is JOE VARGAS and I support the Goldstream Public Use Area.

I believe the access and opportunities to outdoor recreation of all types that are available because of the Goldstream Public Use Area are essential to maintaining a strong quality of life for me and our entire community. This Public Use Area is home to a wide variety of uses, including hunting, dog mushing, motorized and non-motorized access, skiing and skijoring, boating, berry picking, trapping and many others. This array of allowable uses gives every Fairbanks resident and family a place, close to town, where they can enjoy the Alaskan great outdoors.

The Goldstream Public Use Area encompasses an ever growing number of established trails that are utilized year round by user groups of all kinds. The loss of this open space, access to trails and beautiful scenery would be a major loss to every resident of Fairbanks, no matter their lifestyle.

Thank you and I urge you to join me in supporting the continued existence of this important piece of legislation.

Sincerely,



Dear Alaska State Legislature,

My name is Peggy E and I support the Goldstream Public Use Area.

I believe the access and opportunities to outdoor recreation of all types that are available because of the Goldstream Public Use Area are essential to maintaining a strong quality of life for me and our entire community. This Public Use Area is home to a wide variety of uses, including hunting, dog mushing, motorized and non-motorized access, skiing and skijoring, boating, berry picking, trapping and many others. This array of allowable uses gives every Fairbanks resident and family a place, close to town, where they can enjoy the Alaskan great outdoors.

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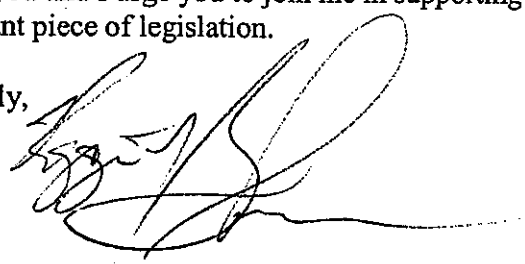
Sincerely,



Dear Alaska State Legislature,

My name is Grant Ackerman and I support the Goldstream Public Use Area.

I believe the access and opportunities to outdoor recreation of all types that are available because of the Goldstream Public Use Area are essential to maintaining a strong quality of life for me and our entire community. This Public Use Area is home to a wide variety of uses, including hunting, dog mushing, motorized and non-motorized access, skiing and skijoring, boating, berry picking, trapping and many others. This array of allowable uses gives every Fairbanks resident and family a place, close to town, where they can enjoy the Alaskan great outdoors.

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Thank you and I urge you to join me in supporting the continued existence of this important piece of legislation.

Sincerely,

Grant Ackerman

Dear Alaska State Legislature,

My name is Geoff Haberman and I support the Goldstream Public Use Area.

I believe the access and opportunities to outdoor recreation of all types that are available because of the Goldstream Public Use Area are essential to maintaining a strong quality of life for me and our entire community. This Public Use Area is home to a wide variety of uses, including hunting, dog mushing, motorized and non-motorized access, skiing and skijoring, boating, berry picking, trapping and many others. This array of allowable uses gives every Fairbanks resident and family a place, close to town, where they can enjoy the Alaskan great outdoors.

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Thank you and I urge you to join me in supporting the continued existence of this important piece of legislation.

Sincerely, Geoff Haberman

Dear Alaska State Legislature,

My name is Shannon Erhart and I support the Goldstream Public Use Area.

I believe the access and opportunities to outdoor recreation of all types that are available because of the Goldstream Public Use Area are essential to maintaining a strong quality of life for me and our entire community. This Public Use Area is home to a wide variety of uses, including hunting, dog mushing, motorized and non-motorized access, skiing and skijoring, boating, berry picking, trapping and many others. This array of allowable uses gives every Fairbanks resident and family a place, close to town, where they can enjoy the Alaskan great outdoors.

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Thank you and I urge you to join me in supporting the continued existence of this important piece of legislation.

Sincerely,

Shannon Erhart

Dear Alaska State Legislature,

My name is Hilary Schwaiger and I support the Goldstream Public Use Area.

I believe the access and opportunities to outdoor recreation of all types that are available because of the Goldstream Public Use Area are essential to maintaining a strong quality of life for me and our entire community. This Public Use Area is home to a wide variety of uses, including hunting, dog mushing, motorized and non-motorized access, skiing and skijoring, boating, berry picking, trapping and many others. This array of allowable uses gives every Fairbanks resident and family a place, close to town, where they can enjoy the Alaskan great outdoors.

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Thank you and I urge you to join me in supporting the continued existence of this important piece of legislation.

Sincerely,

Dear Alaska State Legislature,

My name is Ani Gjestson and I support the Goldstream Public Use Area.

I believe the access and opportunities to outdoor recreation of all types that are available because of the Goldstream Public Use Area are essential to maintaining a strong quality of life for me and our entire community. This Public Use Area is home to a wide variety of uses, including hunting, dog mushing, motorized and non-motorized access, skiing and skijoring, boating, berry picking, trapping and many others. This array of allowable uses gives every Fairbanks resident and family a place, close to town, where they can enjoy the Alaskan great outdoors.

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Thank you and I urge you to join me in supporting the continued existence of this important piece of legislation.

Sincerely,

Ani Gjestson

Dear Alaska State Legislature,

My name is Ed Arobio and I support the Goldstream Public Use Area.

I believe the access and opportunities to outdoor recreation of all types that are available because of the Goldstream Public Use Area are essential to maintaining a strong quality of life for me and our entire community. This Public Use Area is home to a wide variety of uses, including hunting, dog mushing, motorized and non-motorized access, skiing and skijoring, boating, berry picking, trapping and many others. This array of allowable uses gives every Fairbanks resident and family a place, close to town, where they can enjoy the Alaskan great outdoors.

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Thank you and I urge you to join me in supporting the continued existence of this important piece of legislation.

Sincerely,

Ed Arobio

Dear Alaska State Legislature,

My name is Jason Dunlap and I support the Goldstream Public Use Area.

I believe the access and opportunities to outdoor recreation of all types that are available because of the Goldstream Public Use Area are essential to maintaining a strong quality of life for me and our entire community. This Public Use Area is home to a wide variety of uses, including hunting, dog mushing, motorized and non-motorized access, skiing and skijoring, boating, berry picking, trapping and many others. This array of allowable uses gives every Fairbanks resident and family a place, close to town, where they can enjoy the Alaskan great outdoors.

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Thank you and I urge you to join me in supporting the continued existence of this important piece of legislation.

Sincerely,

Dear Alaska State Legislature,

My name is Jennifer Probst and I support the Goldstream Public Use Area.

I believe the access and opportunities to outdoor recreation of all types that are available because of the Goldstream Public Use Area are essential to maintaining a strong quality of life for me and our entire community. This Public Use Area is home to a wide variety of uses, including hunting, dog mushing, motorized and non-motorized access, skiing and skijoring, boating, berry picking, trapping and many others. This array of allowable uses gives every Fairbanks resident and family a place, close to town, where they can enjoy the Alaskan great outdoors.

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Thank you and I urge you to join me in supporting the continued existence of this important piece of legislation.

Sincerely,

Jennifer Probst

Dear Alaska State Legislature,

My name is PAUL L. GREGORY and I support the Goldstream Public Use Area.

I believe the access and opportunities to outdoor recreation of all types that are available because of the Goldstream Public Use Area are essential to maintaining a strong quality of life for me and our entire community. This Public Use Area is home to a wide variety of uses, including hunting, dog mushing, motorized and non-motorized access, skiing and skijoring, boating, berry picking, trapping and many others. This array of allowable uses gives every Fairbanks resident and family a place, close to town, where they can enjoy the Alaskan great outdoors.

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Thank you and I urge you to join me in supporting the continued existence of this important piece of legislation.

Sincerely,

Paul L. Gregory

P.O. Box 55501
NORTH POLE AK 99705
HOME 907-488-1597
CELL 907-687-8023

Dear Alaska State Legislature,

My name is Robert Tsigonis and I support the Goldstream Public Use Area.

I believe the access and opportunities to outdoor recreation of all types that are available because of the Goldstream Public Use Area are essential to maintaining a strong quality of life for me and our entire community. This Public Use Area is home to a wide variety of uses, including hunting, dog mushing, motorized and non-motorized access, skiing and skijoring, boating, berry picking, trapping and many others. This array of allowable uses gives every Fairbanks resident and family a place, close to town, where they can enjoy the Alaskan great outdoors.

The Goldstream Public Use Area encompasses an ever growing number of established trails that are utilized year round by user groups of all kinds. The loss of this open space, access to trails and beautiful scenery would be a major loss to every resident of Fairbanks, no matter their lifestyle. The Goldstream Public Use Area section in statute, 41.23, protects the subsurface resource interests in the area, guaranteeing potential development of our riches in the future.

Thank you and I urge you to join me in supporting the continued existence of this important piece of legislation.

Sincerely,

12/4/09

Dear Alaska State Legislature,

My name is Evan Daigneault and I support the Goldstream Public Use Area.

I believe the access and opportunities to outdoor recreation of all types that are available because of the Goldstream Public Use Area are essential to maintaining a strong quality of life for me and our entire community. This Public Use Area is home to a wide variety of uses, including hunting, dog mushing, motorized snowmachine and non-motorized access, boating, berry picking, trapping and many others. This array of allowable uses gives every Fairbanks resident and family a place, close to town, where they can enjoy the Alaskan great outdoors.

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Thank you and I urge you to join me in supporting the continued existence of this important piece of legislation.

Sincerely,

Evan Daigneault
867 Tarsier Drive
Fairbanks, AK 99712
Cell: 907-322-3235
Home: 907-474-4292

Dear Alaska State Legislature,

My name is Courtney Roberts and I support the Goldstream Public Use Area.

I believe the access and opportunities to outdoor recreation of all types that are available because of the Goldstream Public Use Area are essential to maintaining a strong quality of life for me and our entire community. This Public Use Area is home to a wide variety of uses, including hunting, dog mushing, motorized and non-motorized access, skiing and skijoring, boating, berry picking, trapping and many others. This array of allowable uses gives every Fairbanks resident and family a place, close to town, where they can enjoy the Alaskan great outdoors.

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Thank you and I urge you to join me in supporting the continued existence of this important piece of legislation.

Sincerely,

Dear Alaska State Legislature,

My name is DAVID WRIGHT and I support the Goldstream Public Use Area.

I believe the access and opportunities to outdoor recreation of all types that are available because of the Goldstream Public Use Area are essential to maintaining a strong quality of life for me and our entire community. This Public Use Area is home to a wide variety of uses, including hunting, dog mushing, motorized and non-motorized access, skiing and skijoring, boating, berry picking, trapping and many others. This array of allowable uses gives every Fairbanks resident and family a place, close to town, where they can enjoy the Alaskan great outdoors.

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Thank you and I urge you to join me in supporting the continued existence of this important piece of legislation.

Sincerely,

David G. Wright

Dear Alaska State Legislature,

My name is Don GRAY and I support the Goldstream Public Use Area.

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Thank you and I urge you to join me in supporting the continued existence of this important piece of legislation.

Sincerely,

Don Gray

399 Hillside Dr.

Fairbanks, AK

Dear Alaska State Legislature,

My name is James Lougsbury and I support the Goldstream Public Use Area.

I believe the access and opportunities to outdoor recreation of all types that are available because of the Goldstream Public Use Area are essential to maintaining a strong quality of life for me and our entire community. This Public Use Area is home to a wide variety of uses, including hunting, dog mushing, motorized and non-motorized access, skiing and skijoring, boating, berry picking, trapping and many others. This array of allowable uses gives every Fairbanks resident and family a place, close to town, where they can enjoy the Alaskan great outdoors.

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Thank you and I urge you to join me in supporting the continued existence of this important piece of legislation.

Sincerely,

James Lougsbury 12-04-09

Dear Alaska State Legislature,

My name is Fred Heflinger and I support the Goldstream Public Use Area.

I believe the access and opportunities to outdoor recreation of all types that are available because of the Goldstream Public Use Area are essential to maintaining a strong quality of life for me and our entire community. This Public Use Area is home to a wide variety of uses, including hunting, dog mushing, motorized and non-motorized access, skiing and skijoring, boating, berry picking, trapping and many others. This array of allowable uses gives every Fairbanks resident and family a place, close to town, where they can enjoy the Alaskan great outdoors.

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Thank you and I urge you to join me in supporting the continued existence of this important piece of legislation.

Sincerely,

Fred Heflinger

Dear Alaska State Legislature,

My name is KATHRYN G. ARLEN and I support the Goldstream Public Use Area.

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Thank you and I urge you to join me in supporting the continued existence of this important piece of legislation.

Sincerely,

Kathryn Grace Arlen B.A., M.A.

Dear Alaska State Legislature,

My name is Valerie Mundt and I support the Goldstream Public Use Area.

I believe the access and opportunities to outdoor recreation of all types that are available because of the Goldstream Public Use Area are essential to maintaining a strong quality of life for me and our entire community. This Public Use Area is home to a wide variety of uses, including hunting, dog mushing, motorized and non-motorized access, skiing and skijoring, boating, berry picking, trapping and many others. This array of allowable uses gives every Fairbanks resident and family a place, close to town, where they can enjoy the Alaskan great outdoors.

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Thank you and I urge you to join me in supporting the continued existence of this important piece of legislation.

Sincerely,

V. Mundt
PO Box 84608
Fairbanks, AK
99708

Dear Alaska State Legislature,

My name is Josh Morris and I support the Goldstream Public Use Area.

I believe the access and opportunities to outdoor recreation of all types that are available because of the Goldstream Public Use Area are essential to maintaining a strong quality of life for me and our entire community. This Public Use Area is home to a wide variety of uses, including hunting, dog mushing, motorized and non-motorized access, skiing and skijoring, boating, berry picking, trapping and many others. This array of allowable uses gives every Fairbanks resident and family a place, close to town, where they can enjoy the Alaskan great outdoors.

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Thank you and I urge you to join me in supporting the continued existence of this important piece of legislation.

Sincerely,

Josh Morris

1621 Wolverine Ln

Fbx, AK 99709

Dear Alaska State Legislature,

My name is Charlotte M. Davis and I support the Goldstream Public Use Area.

I believe the access and opportunities to outdoor recreation of all types that are available because of the Goldstream Public Use Area are essential to maintaining a strong quality of life for me and our entire community. This Public Use Area is home to a wide variety of uses, including hunting, dog mushing, motorized and non-motorized access, skiing and skijoring, boating, berry picking, trapping and many others. This array of allowable uses gives every Fairbanks resident and family a place, close to town, where they can enjoy the Alaskan great outdoors.

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Thank you and I urge you to join me in supporting the continued existence of this important piece of legislation.

Sincerely,

Charlotte M. Davis

Two Rivers, AK

Dear Alaska State Legislature,

My name is Laura Graham and I support the Goldstream Public Use Area.

I believe the access and opportunities to outdoor recreation of all types that are available because of the Goldstream Public Use Area are essential to maintaining a strong quality of life for me and our entire community. This Public Use Area is home to a wide variety of uses, including hunting, dog mushing, motorized and non-motorized access, skiing and skijoring, boating, berry picking, trapping and many others. This array of allowable uses gives every Fairbanks resident and family a place, close to town, where they can enjoy the Alaskan great outdoors.

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Thank you and I urge you to join me in supporting the continued existence of this important piece of legislation.

Sincerely,

Laura J. H

Dear Alaska State Legislature,

My name is PHYLLIS CHURCH and I support the Goldstream Public Use Area.

I believe the access and opportunities to outdoor recreation of all types that are available because of the Goldstream Public Use Area are essential to maintaining a strong quality of life for me and our entire community. This Public Use Area is home to a wide variety of uses, including hunting, dog mushing, motorized and non-motorized access, skiing and skijoring, boating, berry picking, trapping and many others. This array of allowable uses gives every Fairbanks resident and family a place, close to town, where they can enjoy the Alaskan great outdoors.

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Thank you and I urge you to join me in supporting the continued existence of this important piece of legislation.

Sincerely,

Phyllis Church

Dear Alaska State Legislature,

My name is Gerald RAESON and I support the Goldstream Public Use Area.

I believe the access and opportunities to outdoor recreation of all types that are available because of the Goldstream Public Use Area are essential to maintaining a strong quality of life for me and our entire community. This Public Use Area is home to a wide variety of uses, including hunting, dog mushing, motorized and non-motorized access, skiing and skijoring, boating, berry picking, trapping and many others. This array of allowable uses gives every Fairbanks resident and family a place, close to town, where they can enjoy the Alaskan great outdoors.

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Thank you and I urge you to join me in supporting the continued existence of this important piece of legislation.

Sincerely,

1912 Gilmore Trail
Fairbanks, AK 99712

Dear Alaska State Legislature,

My name is Brooks Ludwig and I support the Goldstream Public Use Area.

I believe the access and opportunities to outdoor recreation of all types that are available because of the Goldstream Public Use Area are essential to maintaining a strong quality of life for me and our entire community. This Public Use Area is home to a wide variety of uses, including hunting, dog mushing, motorized and non-motorized access, skiing and skijoring, boating, berry picking, trapping and many others. This array of allowable uses gives every Fairbanks resident and family a place, close to town, where they can enjoy the Alaskan great outdoors.

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Thank you and I urge you to join me in supporting the continued existence of this important piece of legislation.

Sincerely,

Brooks Ludwig
POB 82496
Fairbanks, AK. 99708
474-0333

Dear Alaska State Legislature,

My name is Linda DeFoliart and I support the Goldstream Public Use Area.

I believe the access and opportunities to outdoor recreation of all types that are available because of the Goldstream Public Use Area are essential to maintaining a strong quality of life for me and our entire community. This Public Use Area is home to a wide variety of uses, including hunting, dog mushing, motorized and non-motorized access, skiing and skijoring, boating, berry picking, trapping and many others. This array of allowable uses gives every Fairbanks resident and family a place, close to town, where they can enjoy the Alaskan great outdoors.

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Thank you and I urge you to join me in supporting the continued existence of this important piece of legislation.

Sincerely,

Linda DeFoliart

3908 Murphy Dome Rd.
Fairbanks, AK 99709
455.6928

Dear Alaska State Legislature,

My name is Dan Chagnon and I support the Goldstream Public Use Area.

I believe the access and opportunities to outdoor recreation of all types that are available because of the Goldstream Public Use Area are essential to maintaining a strong quality of life for me and our entire community. This Public Use Area is home to a wide variety of uses, including hunting, dog mushing, motorized and non-motorized access, skiing and skijoring, boating, berry picking, trapping and many others. This array of allowable uses gives every Fairbanks resident and family a place, close to town, where they can enjoy the Alaskan great outdoors.

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Thank you and I urge you to join me in supporting the continued existence of this important piece of legislation.

Sincerely,

Dan Chagnon

Dan Chagnon
2005 Carr Ave.
Fbks. AK 99709

Dear Alaska State Legislature,

My name is Bruce Jamieson and I support the Goldstream Public Use Area.

I believe the access and opportunities to outdoor recreation of all types that are available because of the Goldstream Public Use Area are essential to maintaining a strong quality of life for me and our entire community. This Public Use Area is home to a wide variety of uses, including hunting, dog mushing, motorized and non-motorized access, skiing and skijoring, boating, berry picking, trapping and many others. This array of allowable uses gives every Fairbanks resident and family a place, close to town, where they can enjoy the Alaskan great outdoors.

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Thank you and I urge you to join me in supporting the continued existence of this important piece of legislation.

Sincerely,

Bruce Jamieson

ph. 907-479-4673
email: bjamieson@acsalaska.net

Dear Alaska State Legislature,

My name is Patrick and I support the Goldstream Public Use Area.

I believe the access and opportunities to outdoor recreation of all types that are available because of the Goldstream Public Use Area are essential to maintaining a strong quality of life for me and our entire community. This Public Use Area is home to a wide variety of uses, including hunting, dog mushing, motorized and non-motorized access, skiing and skijoring, boating, berry picking, trapping and many others. This array of allowable uses gives every Fairbanks resident and family a place, close to town, where they can enjoy the Alaskan great outdoors.

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Thank you and I urge you to join me in supporting the continued existence of this important piece of legislation.

Sincerely,

Patrick Cotter
1070 Evergreen St.
Fairbanks, AK 99709

Dear Alaska State Legislature,

My name is Lissa Hughes and I support the Goldstream Public Use Area.

I believe the access and opportunities to outdoor recreation of all types that are available because of the Goldstream Public Use Area are essential to maintaining a strong quality of life for me and our entire community. This Public Use Area is home to a wide variety of uses, including hunting, dog mushing, motorized and non-motorized access, skiing and skijoring, boating, berry picking, trapping and many others. This array of allowable uses gives every Fairbanks resident and family a place, close to town, where they can enjoy the Alaskan great outdoors.

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Thank you and I urge you to join me in supporting the continued existence of this important piece of legislation.

Sincerely,

Lissa Hughes

Address:

2920 Portillo Pl.
Fairbanks, AK. 99709

Fairbanks Alaska
January 11, 2010

Dear Alaska State Legislature,

We the undersigned support the Goldstream Public Use Area.

We believe the access and opportunities to outdoor recreation of all types that are available because of the Goldstream Public Use Area are essential to maintaining a strong quality of life for me and our entire community. This Public Use Area is home to a wide variety of uses, including hunting, dog mushing, motorized and non-motorized access, skiing and skijoring, boating, berry picking, trapping and many others. This array of allowable uses gives every Fairbanks resident and family a place, close to town, where they can enjoy the Alaskan great outdoors.

The Goldstream Public Use Area encompasses an ever growing number of established trails that are utilized year round by user groups of all kinds. The loss of this open space, access to trails and beautiful scenery would be a major loss to every resident of Fairbanks, no matter their lifestyle.

Thank you and We urge you to join us in supporting the continued existence of this important piece of legislation.

Sincerely,

Name and address:

Keith Eg Keith Gehelmeyer
Susan M. Campbell
1042 Eldorado Rd
Fairbanks, AK. 99709

Larry Uffelman
282 HAY WAY
Fairbanks, AK 99709

Fairbanks Alaska
January 11, 2010

Dear Alaska State Legislature,

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Thank you and We urge you to join us in supporting the continued existence of this important piece of legislation.

Sincerely,

Name and address:

GARY NEWMAN 1083 ESRO, FAIRBANKS 99712

Ronald Kotyk 4001 Diane Rd Juneau 99801
Ronald Kotyk

PAULETTE WILLE 1220 CHENA RIDGE RD. FAIRBANKS 99709

Rikalie Musick 4231 Aspenwood Fbx 99709

Mary Shields 2699 Woodhaven FBX 99709.

Jackie Martin PO Box 195 Ester, AK 99725

Fairbanks Alaska
January 11, 2010

Dear Alaska State Legislature,

We the undersigned support the Goldstream Public Use Area.

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Thank you and We urge you to join us in supporting the continued existence of this important piece of legislation.

Sincerely,

Name and address:

Pam Webster Pam Webster POB 71692 Fbx 99709
Ronald A Yarnell Ron Yarnell p o box 81651 Fair. 99708
Alison York 1170 Sundance loop Fairbanks 99709
Janet Davey 3875 Geist Rd E113 Fairbanks 99709
Gail Mayo, 282 Hay Way, Fairbanks, 99709

Grier Hopkins

From: B. Gamble [brook.gamble@gmail.com]
Sent: Thursday, December 03, 2009 2:55 PM
To: Grier Hopkins
Subject: Re: Thank you for helping the Goldstream Valley

Dear Alaska State Legislature,

My name is __J. Brook Gamble_____ and I support the Goldstream Public Use Area.

I believe the access and opportunities to outdoor recreation of all types that are available because of the Goldstream Public Use Area are essential to maintaining a strong quality of life for me and our entire community. This Public Use Area is home to a wide variety of uses, including hunting, dog mushing, motorized and non-motorized access, skiing and skijoring, boating, berry picking, trapping and many others. This array of allowable uses gives every Fairbanks resident and family a place, close to town, where they can enjoy the Alaskan great outdoors.

The Goldstream Public Use Area encompasses an ever growing number of established trails that are utilized year round by user groups of all kinds. The loss of this open space, access to trails and beautiful scenery would be a major loss to every resident of Fairbanks, no matter their lifestyle.

Thank you and I urge you to join me in supporting the continued existence of this important piece of legislation.

Sincerely,

J. Brook Gamble
325 Yana Court
Fairbanks, AK 99709
(907) 456-3775

--
"Ten thousand flowers in spring, the moon in autumn, a cool breeze in summer, snow in winter: if your mind isn't clouded by unnecessary things, this is the best season of your life." -Wu men

Dear Alaska State Legislature,

My name is Sally Andersen and I support the Goldstream Public Use Area.

I believe the access and opportunities to outdoor recreation of all types that are available because of the Goldstream Public Use Area are essential to maintaining a strong quality of life for me and our entire community. This Public Use Area is home to a wide variety of uses, including hunting, dog mushing, motorized and non-motorized access, skiing and skijoring, boating, berry picking, trapping and many others. This array of allowable uses gives every Fairbanks resident and family a place, close to town, where they can enjoy the Alaskan great outdoors.

The Goldstream Public Use Area encompasses an ever growing number of established trails that are utilized year round by user groups of all kinds. The loss of this open space, access to trails and beautiful scenery would be a major loss to every resident of Fairbanks, no matter their lifestyle.

Thank you and I urge you to join me in supporting the continued existence of this important piece of legislation.

Sincerely,
Sally Andersen

Grier Hopkins

From: Elizabeth Green [bessie.bug@gmail.com]
Sent: Monday, December 07, 2009 10:24 AM
To: Grier Hopkins
Subject: Goldstream Public Use Area

Follow Up Flag: Follow up
Flag Status: Completed

Hello. I'm writing about the sunsetting of the provision to protect the Goldstream Public Use Area. As a frequent recreational user of the area, I really appreciate the tremendous opportunity we have to ski in the woods right outside our back door. Recreational opportunities like this are what make Fairbanks such a great place to live. I would like to encourage Sen. Thomas to work to extend the provision.

thanks,
elizabeth green markley

~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~

Bessie Green Markley
M.S. Candidate, Dept. of Biology and Wildlife Alaska Cooperative Fish and Wildlife Research Unit
201 Irving I
902 N. Koyukuk Drive
University of Alaska Fairbanks 99775
office: 907-474-1949 lab: 907-474-6740
http://mercury.bio.uaf.edu/~elizabeth_green/
~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~

Grier Hopkins

From: Laura Grage [lgrage@acsalaska.net]
Sent: Monday, December 07, 2009 9:49 AM
To: Grier Hopkins
Subject: Goldstream Valley...

Follow Up Flag: Follow up
Flag Status: Completed

Hi Mr. Hopkins,

I'm emailing you to let you know I received word of the sunset on the provision that protects the Goldstream Valley Recreation area in 2010. My husband and I were recently able to purchase land in Goldstream area in the neighborhood where we have rented for a long time. The primary reason that we wanted to remain permanently in this neighborhood off of Line Drive was because we can skijor from our front door into Goldstream Valley and beyond. We can also commute to work on our bikes or skis. These things are precious to us--not having to drive our old car around in the winter in order to get out with our dogs. We spent much of last winter building a house on our property and have thoroughly enjoyed to be able to transition into a more permanent status here, next to all these great trails!

Please pass this on to Senator Thomas, in hopes that he will consider extending or making this protected area a permanent feature here in Goldstream Valley!

Laura Grage

Dear Alaska State Legislature,

My name is _____ and I support the Goldstream Public Use Area.

I believe the access and opportunities to outdoor recreation of all types that are available because of the Goldstream Public Use Area are essential to maintaining a strong quality of life for me and our entire community. This Public Use Area is home to a wide variety of uses, including hunting, dog mushing, motorized and non-motorized access, skiing and skijoring, boating, berry picking, trapping and many others. This array of allowable uses gives every Fairbanks resident and family a place, close to town, where they can enjoy the Alaskan great outdoors.

The Goldstream Public Use Area encompasses an ever growing number of established trails that are utilized year round by user groups of all kinds. The loss of this open space, access to trails and beautiful scenery would be a major loss to every resident of Fairbanks, no matter their lifestyle.

Thank you and I urge you to join me in supporting the continued existence of this important piece of legislation.

Sincerely,

Eleanor K. Wirts

Mailing address: P.O. Box 750435 Fairbanks, Alaska 99775
Physical address: Mile 3 Chena Hot Springs Road, Fairbanks, Alaska

--
Eleanor K. Wirts M.Ed.
Northern Studies Graduate Student
606 D Gruening Building
University of Alaska Fairbanks
907-750-0208

Grier Hopkins

From: Lou Brown and Jon Miller [jonmiller@acsalaska.net]
Sent: Sunday, December 06, 2009 9:06 PM
To: Sen. Joe Thomas
Cc: Grier Hopkins; chenaflats@gmail.com
Subject: Goldstream Public Use Area

Follow Up Flag: Follow up
Flag Status: Completed

Dear Senator Thomas:

We are writing to express our support for the continued protection of the Goldstream Public Use Area and to urge you to pursue legislation to extend and enhance the conservation status of these properties. We frequently use Goldstream Valley for recreation, skiing, running and biking on the many trails that lace the valley, picking berries in the wetlands, and occasionally even canoeing the creek. These trails, the uncluttered landscape, and the wildlife that lives in the valley add immensely to our quality of life, and to that of our neighbors! Unfortunately, changing land ownership has resulted in the closure of a number of important trails over the past several years, and residential construction is encroaching on the valley wetlands.

At a minimum, we'd like to see existing Goldstream Valley Recreation Area parcels protected indefinitely. We would also like to see the area enlarged and made more continuous, as opportunity permits. On the west side of Ballaine Road the recreation area parcels are scattered along the valley with much private land interspersed, although most of this boggy area remains undeveloped and would serve the public better in the future as a recreational sanctuary than as a rag tag assemblage of subdivisions and rental cabins.

It is my understanding that DNR has been reluctant to acquire additional land to add to the Recreation area, even to the extent that they turned down land offered to them by the Interior Alaska Land Trust. Furthermore, when we spoke to DNR staff at the in Fairbanks office, they were barely aware of the existence of the Goldstream Public Use Area...let alone that it was their department's job to manage it! We feel that adding to the Recreation Area is golden opportunity that won't last long.

The Goldstream Valley Public Use Area is a much loved and well used public resource that adds character and a lovely backdrop to the area, even for residents who do not actively recreate here. As a recreation area, it offers a huge benefit to a wide range of outdoor enthusiasts who access the trail system from their own neighborhoods. Again, the western portion is less protected than would be optimal. We urge you to look into ways to protect and enlarge this excellent playground for the future.

Thank you,

Jon Miller and Lou (Linda) Brown
2630 Home Run
Fairbanks, AK 99709
479-5629

Grier Hopkins

From: Jessica Guritz [jlguritz@gmail.com]
Sent: Sunday, December 06, 2009 6:50 PM
To: Grier Hopkins
Subject: goldstream valley public use area

Follow Up Flag: Follow up
Flag Status: Completed

Dear Mr. Hopkins,

I recently found out that the public use area in the Goldstream Valley may lose its protected status. We cannot let this happen! This area is an integral part of who we are as a community, providing recreational opportunities to those who may not otherwise have such opportunities. It has been a blessing for the past several years to be able to walk out my back door and skijor for miles through this area whenever I wanted to. I know there are hundreds of other mushers, skiiers, and other recreational users of these trails that feel as strongly as I do that we must keep this area protected.

Sincerely,
Jessica Guritz

Grier Hopkins

From: Barbara O'Donnell [bodonnell@alaska.net]
Sent: Saturday, December 05, 2009 10:22 AM
To: Grier Hopkins
Subject: Goldstream Rec Area
Attachments: image001.jpg

Follow Up Flag: Follow up
Flag Status: Completed

Hello Grier,

Please forward my support for maintaining the Goldstream Recreaction Area to Senator Joe Thomas.

Having lived in this area for 30 years I have seen a lot of irresponsible and inappropriate development. This area is mostly a wetlands, drainage, and mining tailings subject to instability and permafrost. Traditional recreation is the best use of this area (multiple use trails, non-motorized access in the summer).

Senator Thomas is very reasonable and I trust he will work towards the highest level of permanent protection.

Thank you for your hard work on our behalf,

Barb O'Donnell
POB 325
Ester, AK 99725
479-0302

3231

Grier Hopkins

From: John Lyle [kanakaukoa@gmail.com]
Sent: Friday, December 04, 2009 11:52 AM
To: Grier Hopkins
Subject: Goldstream Valley Public Use Area

Dear Senator Thomas,
I have lived next to and used the Goldstream Public Use Area for 30 years and learn that it's protection may end in 2010. I also understand you may be submitting legislation which would make this area protected permanently. I support this idea 100%. I wish it would have happened 20 years ago. The area is not suited for development, however for multi-use all-year recreation, it's perfect. It's a resource that needs protection in a permanent way, so I can't encourage you strongly enough to do this. Thank you very much. I know I speak for all my neighbors who have used this area for years as well. Best regards, John and Susanne Lyle

Dear Alaska State Legislature,

My name is Jon Underwood and I support the Goldstream Public Use Area.

I believe the access and opportunities to outdoor recreation of all types that are available because of the Goldstream Public Use Area are essential to maintaining a strong quality of life for me and our entire community. This Public Use Area is home to a wide variety of uses, including hunting, dog mushing, motorized and non-motorized access, skiing and skijoring, boating, berry picking, trapping and many others. This array of allowable uses gives every Fairbanks resident and family a place, close to town, where they can enjoy the Alaskan great outdoors.

The Goldstream Public Use Area encompasses an ever growing number of established trails that are utilized year round by user groups of all kinds. The loss of this open space, access to trails and beautiful scenery would be a major loss to every resident of Fairbanks, no matter their lifestyle.

Thank you and I urge you to join me in supporting the continued existence of this important piece of legislation.

Sincerely,
Jon Underwood
1253 Salmonberry Lane
Fairbanks, AK

Grier Hopkins

From: Sarah Drew [sdrew@northstar.k12.ak.us]
Sent: Thursday, December 03, 2009 2:17 PM
To: Grier Hopkins
Subject: Goldstream Public Use Area

Follow Up Flag: Follow up
Flag Status: Completed

Hello Grier,

I just got notice about the Goldstream Public Use Area being in danger of losing protected status in 2010. PLEASE help us protect this unique ecosystem that is already in danger due to global warming issues. The land IS NOT suitable for development of any kind. The protected status it holds today is the most beneficial for all peoples who may visit the area, and all animals that inhabit the land. I may be wrong, but I do believe this piece is part of the 100 mile trail system that is suppose to be dedicated to public use.

I was involved with a huge rezone project in the borough that occurred this fall. My farm borders state land that was rezoned into public usage. I rezoned my farm from general usage to Rural Ag 10 to
protect it from over building and loss of fragile habitat. I am sure
that the group that worked so hard on this rezone will be contacting you to urge that the land remain protected.

PS Congratulations to your dad and you for a successful campaign. My son and I went twice to the polls to make sure the right candidate was elected. This was the first time my son got to vote (as he just turned 18 this summer). At first he did not think the election was important enough to vote, then he listened to the candidates and knew he had to go vote...we voted together in the same booth and we celebrated together once the race was won!

pss I still remember you in class at Ryan Middle School...smile.
Seems you are doing very well in life.

Sincerely,
Sarah Drew

Grier Hopkins

From: Lauren Attanas [lauren.attanas@gmail.com]
Sent: Thursday, December 03, 2009 1:48 PM
To: Grier Hopkins
Subject: Goldstream Public Use Area sunset...

Follow Up Flag: Follow up
Flag Status: Completed

Hi, Grier-

Recently, someone forwarded a little article about the impending sunset of the Public Use Area designation for the Goldstream Valley's trail system. As a frequent, year-round user of these trails, both for bird watching and skijoring, I'm concerned that these trails might loose protection in 2010. I support any efforts that Sen. Thomas and his staff make to permanently designate these trails as a Public Use Area. Please let me know how I can help.

Sincerely,

Lauren Attanas

Grier Hopkins

From: Joseph Rueter [jrueter@alaska.net]
Sent: Tuesday, December 01, 2009 10:54 PM
To: Grier Hopkins
Subject: Goldstream Trails

Follow Up Flag: Follow up
Flag Status: Completed

Hi Grier,

I am contacting you regarding the Goldstream Public use area. I use the area both East and West of Ballaine for hunting, berry picking, and skiing and ski jouring. It is Accessable to me via the new Sky Ridge Park on top of Ski Boot hill road. I live off of Grenac Road. One Idea that comes to mind is to sell the permant status as an adjoining plot of Rec. land to this new borough park.

Let me know what I can do to help preserve this area for recreation use.

Thanks,

Jose Rueter

Joseph Rueter
PO Box 83585
Fairbanks AK
99708
(907) 479-9101

Grier Hopkins

From: ben abbott [benabbo@gmail.com]
Sent: Tuesday, December 01, 2009 5:05 PM
To: Grier Hopkins
Subject: Support the Goldstream Trails Public Area

Follow Up Flag: Follow up
Flag Status: Completed

Hi I just wanted to write that I strongly support the Goldstream Trails public area that is potentially losing its protection in 2010. Trails are one of the biggest community assets Fairbanks has. They distinguish this city from any other 100,000 person sprawl anywhere else. Trails increase property value of the houses around them, improve community health by facilitating exercise and improving air quality by allowing non-motorized travel.

Please protect this area!

Thank you,

Ben Abbott
3590 Isberg Road
Fairbanks, AK 99709

Grier Hopkins

From: Jane Lanford [jane@usibelli.com]
Sent: Tuesday, December 01, 2009 3:41 PM
To: Grier Hopkins
Subject: Goldstream PUA

Follow Up Flag: Follow up
Flag Status: Completed

Sen. Thomas:
I have used the Goldstream Public Use Area, as defined below, for running and snowshoeing for several years, and I would like it to continue to be available for such uses. Maybe someday I'll get out there skiing and/or berry-picking also. Please consider me a supporter of your bill to keep the area available for public recreation.

Thank you,
Jane Lanford

The Goldstream Public Use Area, a nearly two thousand acre patchwork of designated recreation land in the Goldstream Valley north of Fairbanks, is set to sunset on July 1, 2010. This means the recreation area which encompasses a number of heavily used trails, hunting areas and berry picking opportunities extending from Cash Creek to the Steese Highway will dissolve and be removed from state statute.
The Goldstream Public Use Area is used avidly by dog mushers, runners, snow machiners, skiiers, hunters of all types, berry pickers, bird watchers and trappers to name a few. Its close proximity to the population of Fairbanks allows our families and outdoor enthusiasts of all levels an easy opportunity to enjoy our great outdoors.
Senator Joe Thomas (D-Fairbanks) will be introducing a bill to remove this sunset date and have the Public Use Area remain in perpetuity during the upcoming legislative session starting January 19, 2010. Because of the quickly approaching sunset date, time is of the essence and Senator Thomas must move this bill through the entire legislature in just 90 days. The most effective way to show legislators from across the state the importance of keeping this public use area intact is to show its wide spread support by those that use it.
If you recreate in this area, know somebody who does, or you just enjoy all that the Goldstream Valley's open space has to offer, please contact Senator Thomas' office and ask how you can help. He will have form letters for you to sign on to, a list of supporters and groups to lend your name to and will work with you to make it as easy as possible. Contact his staff, Grier Hopkins at grier.hopkins@legis.state.ak.us or (907)456-8161 to find out how you can help protect this integral part of our Fairbanks lifestyle.

Grier Hopkins

From: Sara Tabbert [sara@saratabbert.com]
Sent: Tuesday, December 01, 2009 2:51 PM
To: Grier Hopkins
Subject: Goldstream Valley

Follow Up Flag: Follow up
Flag Status: Completed

Please let me know what I can do to help extend the protection of this part of Goldstream Valley. My boyfriend and I own 90 acres adjacent to this part of Goldstream and we ski, skijor, winter bike, and berry pick all over the area. These trails are well used and very loved. On my way home today (a rare +30 December day in Fairbanks) there were all sorts of people parked at the main Ballaine road trailhead loading and unloading.

Tell me who to write to or call, and I'd be happy to do so.

Sincerely,
Sara Tabbert
907 479 0456
sara@saratabbert.com

3239

Grier Hopkins

From: Max Kaufman [amkaufman@alaska.edu]
Sent: Tuesday, December 01, 2009 1:41 PM
To: Grier Hopkins
Subject: Re: Goldstream Public Use area. letter of support.

Follow Up Flag: Follow up
Flag Status: Completed

Sen Joe Thomas,

I support the effort to extend or make permanent the current status of the Goldstream Public Use area. I live at 1039 Pika Road, uphill to the south of the area. I am a frequent winter user of the trail system in this area of Goldstream valley, east of Ballaine road. I would like to see the area maintain it's current status as a multi-use recreation area. It's too cold and the ground is mostly permafrost, so it's not good for any kind of housing or industrial development.

If any changes are made, I'd like to see restrictions on summertime use of 4 wheelers, which tear up the main trail in wet or boggy areas.

Sincerely,

Alexander Kaufman

Grier Hopkins

From: John Shook [john_shook@hotmail.com]
Sent: Tuesday, December 01, 2009 12:47 PM
To: Grier Hopkins
Subject: Goldstream Rec Area

Follow Up Flag: Follow up
Flag Status: Completed

I'd like to help protect the Goldstream Rec Area. I've lived in and recreated in the Goldstream area for more than a decade (ski, ski-joring, running, berry picking, biking, hunting, birding, and in the last year now commute on the winter trails).

Let me know how I can help support the initiative to preserve the area for recreational use.

Thanks, John

3241

Grier Hopkins

From: John Gaedeke [jgaedeke@gmail.com]
Sent: Tuesday, December 01, 2009 9:56 AM
To: Grier Hopkins
Subject: Goldstream Public Use Area Support

Follow Up Flag: Follow up
Flag Status: Completed

Please forward this to the appropriate authority, thank you.

I am in full support of extending the provision to protect the 2,000 acre Goldstream Public Use Area created in 1990. Fairbanks needs every square inch of recreational land it can provide for its citizens and this is a particularly useful area enjoyed by many in the Fairbanks North Star Borough.

Thank you for continuing this provision and serving the public good,

Sincerely,

John Gaedeke
235 Henrik Ct.
Fairbanks AK 99709

Dear Alaska State Legislature,

My name is Timothy D. Mortensen and I support the Goldstream Public Use Area.

I believe the access and opportunities to outdoor recreation of all types that are available because of the Goldstream Public Use Area are essential to maintaining a strong quality of life for me and our entire community. This Public Use Area is home to a wide variety of uses, including hunting, dog mushing, motorized and non-motorized access, boating, berry picking, trapping and many others. This array of allowable uses gives every Fairbanks resident and family a place, close to town, where they can enjoy the Alaskan great outdoors.

The Goldstream Public Use Area encompasses an ever growing number of established trails that are utilized year round by user groups of all kinds. The loss of this open space, access to trails and beautiful scenery would be a major loss to every resident of Fairbanks, no matter their lifestyle.

Thank you and I urge you to join me in supporting the continued existence of this important piece of legislation.

Sincerely,

Timothy D. Mortensen

Dear Alaska State Legislature,

My name is Dean Phillips and my family and I support the Goldstream Public Use Area.

I believe the access and opportunities to outdoor recreation of all types that are available because of the Goldstream Public Use Area are essential to maintaining a strong quality of life for me and our entire community. This Public Use Area is home to a wide variety of uses, including hunting, dog mushing, motorized and non-motorized access, boating, berry picking, trapping and many others. This array of allowable uses gives every Fairbanks resident and family a place, close to town, where they can enjoy the Alaskan great outdoors.

The Goldstream Public Use Area encompasses an ever growing number of established trails that are utilized year round by user groups of all kinds. The loss of this open space, access to trails and beautiful scenery would be a major loss to every resident of Fairbanks, no matter their lifestyle.

Thank you and I urge you to join me in supporting the continued existence of this important piece of legislation.

Sincerely,

Dean C. Phillips, Jr.
465 Bullion Dr.
Fairbanks, AK

Dear Alaska State Legislature,

My name is Michael A. Wilson and I support the Goldstream Public Use Area.

I believe the access and opportunities to outdoor recreation of all types that are available because of the Goldstream Public Use Area are essential to maintaining a strong quality of life for me and our entire community. This Public Use Area is home to a wide variety of uses, including hunting, dog mushing, motorized and non-motorized access, boating, berry picking, trapping and many others. This array of allowable uses gives every Fairbanks resident and family a place, close to town, where they can enjoy the Alaskan great outdoors.

The Goldstream Public Use Area encompasses an ever growing number of established trails that are utilized year round by user groups of all kinds. The loss of this open space, access to trails and beautiful scenery would be a major loss to every resident of Fairbanks, no matter their lifestyle.

Thank you and I urge you to join me in supporting the continued existence of this important piece of legislation.

Sincerely,

Michael A. Wilson

Grier Hopkins

From: James L. Davis [jrox@acsalaska.net]
Sent: Monday, January 11, 2010 8:07 PM
To: Grier Hopkins
Subject: Goldstream Public Use Area

To Senator Joe Thomas,

I would like to express my support for this use area. It has gone unmanaged for many years which makes it a quality area to frequent. It does not need rules and regulations for it to function well. Hopefully, there is no economic value to it but is invaluable for quality recreation.

Sincerely,

Roxie Davis

3246

Dear Alaska State Legislature,

My name is Carol Kaynor and I support the Goldstream Public Use Area. Please help us to protect this valuable resource.

The Goldstream Public Use Area is used for a host of summer and winter activities, including hunting, wildlife photography, motorized and non-motorized access, boating, berry picking, trapping, dog mushing, skijoring, snowmachining, and hiking. The area also provides important wildlife habitat. As most local Fairbanksans know, a pair of trumpeter swans often visits the pond next to Ballaine Road in the spring, and waterfowl are common all over the area. Moose browse on the willows, foxes hunt the ptarmigans. Blueberries grow rampant in the boggy fields north of the creek.

There is major community support for the public use area. A good example is the support shown to the Interior Alaska Land Trust several years ago when they endeavored to acquire the "Blueberry Preserves," a piece of property that lay in between two large blocks of state-owned land in the public use area. The land trust received a huge outpouring of community donations and in-kind support, enabling them to make that purchase.

As a dog musher and skijorer, access to protected trails is extremely important to me. When I moved to Snowhook Trail in 1996, I thought I had died and gone to heaven. Several friends and I bought property there specifically because the parcels bordered the Goldstream Public Use Area. My neighbors and I could run our sled dogs right from our yards, and we could access the extensive network of trails that wind through the public use area. I relocated to Snowhook from another area that had once had a beautiful but unprotected trail system, a trail system now crisscrossed with driveways.

My neighbor and running partner, Bonnie Borba, and I have spent many years maintaining about 10 miles of these trails in the public use area. We spend hours and hours brushing for safety and line of sight, removing stumps, and filling holes, as well as grooming after each snowfall. While grooming or running dogs, we've encountered dog mushers, skijorers, hikers, bicycle riders, four-wheelers, and snowmachiners. From personal experience, I can say that the portion of the public use area that we groom gets heavy and constant use in the winter. We know of many winter users who access the public use area not just from the pullout at Ballaine, but from the El Dorado Creek trail, Willow Run, and several other trails.

The Goldstream Public Use Area is an important and valuable asset to our community. Please support its continued existence.

Sincerely,

Carol Kaynor

Senator Joe Thomas
Alaska State Senate
Fairbanks, Alaska

Hi Joe,

We just want to weigh in on the Goldstream Recreation Area issue. As you know, we've been in this area since 1961 and have seen it evolve over the years. Although my wife and I were teaching in the Bush when Mike Travis was able to set the area aside as recreational, we were thankful that he was foresighted enough to do this. Now that it's coming up for renewal, Jennifer and I are heartily in support of your taking this issue seriously and pushing for a permanent recreational designation.

I couldn't count on all my fingers and toes ten times how much we and our friends from all over Fairbanks have used this area for recreation, whether for skiing or walking in winter or bird watching and walking in summer. I also included it on the Audubon birding and hiking map when I designed the map two years ago.

So, yes, we support your attempts to make this recreational area a permanent one for the Fairbanks North Star Borough. Go for it. Make it so, as Capt. Jacques Piccard said.

Sincerely,

Frank and Jennifer Keim
2220 Penrose Lane
Fairbanks, AK 99709
451-9308

Grier Hopkins

From: Sen. Joe Thomas
Sent: Thursday, December 31, 2009 10:31 AM
To: Grier Hopkins
Subject: FW: Goldstream Public Use Area

-----Original Message-----
From: Laurie Smith [mailto:laurie_smith@live.com]
Sent: Tuesday, December 22, 2009 4:54 PM
To: Sen. Joe Thomas
Subject: Goldstream Public Use Area

Dear Senator Thomas,
After reading the December 21, 2009 article in the Fairbanks Daily News-Miner, "Groups work to preserve public use area in Goldstream Valley," I decided to write you.
I live in Goldstream and use the trails in this public use area frequently. One thing that never ceases to amaze me about this trail network is that, despite the high traffic volume it sustains, it never seems to show the wear and tear of crowds. If someone is inconsiderate enough to litter, someone else who is a little more civic-minded seems to come along right behind them and clean it up. I've never had problems with vandalism, theft, or any other issue that tends to plague so many public-use areas in other places.
As a matter of fact, early this winter, a car had been abandoned at the pullout. After a few weeks, I became sick of looking at it. I contacted the Troopers who referred me to the Borough. The Borough referred me to Alaska DOT. I called a gentleman at DOT and left a voicemail describing the problem. That evening, as I went home, I saw that the car was gone. I was ecstatic that a response had come so quickly. I sent a grateful email to the gentleman at DOT.
A few days later, he called me to say that he was glad that the car was gone, but DOT hadn't done it.
I think that someone else who calls Goldstream home, who takes pride in our little piece of paradise, coincidentally got sick of looking at it the same day I did, towed it away, and ponied up the $60 to dump it legally.
This is only an anecdote, but it certainly lends credence to my idea that something as precious as this kind of a playground in our own back yards is worth taking care of, and it's obvious that the area is well-loved and well-stewarded by those who use it.
Goldstream is a wonderful community nestled into a great town, and much of the flavor of our community comes from the trail networks and the people who use them. Every morning, as I come into town and hit the crest of Ballaine and the flats stretch out in front of me, I think to myself how lucky I am to live in such a beautiful area. Every evening, as I come down the hill and pass the pullout for the Public Use Area, I think the same thing.
Your work to preserve this area for the use and enjoyment of everyone, in perpetuity, will be noted and appreciated by all who use this area. Even those who have never used the Public Use Area would surely miss it, once it's gone.
Thank you for reading this.
Sincerely,
Laurie Smith
PO Box 70611
Fairbanks, AK 99707

Grier Hopkins

From: shideler@acsalaska.net
Sent: Tuesday, December 29, 2009 9:41 AM
To: Grier Hopkins
Subject: Goldstream Public Use Area

Mr Hopkins:
I support Senator Thomas filing a bill to eliminate the "sunset clause" on the Goldstream Public Use Area. I am a 36-year resident of Goldstream Valley, and supported the initial legislation that was introduced by Representative Mike Davis. I have used the trails in the area since I moved here in 1974, and hunted and picked berries there. In fact, access to the trails and the rest of that area was one reason for my moving to Goldstream Valley. When I still had a dog team I probably used the trails at least 3 times a week for 17 years during the mushing season, and even now I'm out there at least once a week skiing, skijoring or just walking. I've watched as new houses have extended down into the valley from both the north and south sides, and have seen what happened to the trail system west of Ballaine Road where it used to be possible to access trails on both sides of Goldstream Creek. Although the mine has disrupted the original trails on the upper end, the miners have provided alternative access through their claims. However, this is voluntary on their part and I am sure that without the official designation for recreational use, we'd have lost a lot of the trail system to poorly planned development in the valley. This area supports a lot of recreational activity now, with virtually no infrastructure improvements. The only real change from 30 years ago is the Ballaine Road pullout, which has enhanced access to the area. So it seems to me that this has been a real benefit for the public at very little cost. I hope we can keep it that way.
Sincerely,

Richard Shideler
PO Box 81465
Fairbanks 99708

Grier Hopkins

From: Kathy Turco [kath@alaskas-spirit.com]
Sent: Monday, December 28, 2009 1:43 PM
To: Grier Hopkins
Subject: support of Goldstream Public Use Area-

Hello Grier,
This email is in support of a permanent status designation of the Goldstream Public Use Area: I have lived in the Goldstream Valley for over 21 years and know that the networks of trails have been extensively used over this period by myself along with many skiers, mushers, snow shoers, snowmachiners, bikers, runners, walkers, berry pickers, canoers, bird watchers, and more. I was just on the trails last week for an hour in the late afternoon, and at minus 20 I saw 4 pairs of walkers, 3 dog mushers, 3 snowmachiners, 1 skier with her dog and 2 runners- the area is very much a favorite public winter playground for people and their families. The Goldstream Public use area is a unique part of Fairbanks that many residents enjoy and want to keep a free access designation. Please use this email in any way you can to voice my support of this. This letter is also supported by Alaska's most legendary sprint sled dog racing Champion George Attla, who is living in the Goldstream Valley this winter while coaching a young person training a sprint team to race throughout the state. He also told me to mention that he feels Fairbanks is an exceptional community in its support of traditional winter sports, and why change a good thing. He told me to add his name with mine below.

Please contact me if you have any questions about this email.

Thank you for your time.

Kathy

Kathy Turco (& George Attla)
2825 Triplehorn Lane
Fairbanks, AK 99708
907-455-4286

3251

Grier Hopkins

From: Ann Farris [farris.ann@googlemail.com]
Sent: Tuesday, December 22, 2009 9:15 PM
To: Grier Hopkins
Subject: Goldstream PUA

Dear Alaska State Legislature,

My name is Ann Farris and I support the Goldstream Public Use Area. I've lived in Fairbanks for 16 years and find I utilize the Goldstream Public Use Area more and more each year. Please support legislation to maintain this area for public use.

I believe the access and opportunities to outdoor recreation of all types that are available because of the Goldstream Public Use Area are essential to maintaining a strong quality of life for our community. This Public Use Area is home to a wide variety of uses, including hunting, dog mushing, motorized and non-motorized access, skiing and skijoring, boating, berry picking, trapping and many others. This array of allowable uses gives every Fairbanks resident and family a place, close to town, where they can enjoy the Alaskan great outdoors.

The Goldstream Public Use Area encompasses an ever growing number of established trails that are utilized year round by user groups of all kinds. The loss of this open space, access to trails and beautiful scenery would be a major loss to every resident of Fairbanks, no matter their lifestyle.

Thank you for your continued support and protection of this area for public use.

Sincerely,
Ann Farris

Grier Hopkins

From: Heather Best [hbest25@yahoo.com]
Sent: Tuesday, December 22, 2009 4:36 PM
To: Grier Hopkins
Subject: Goldstream Public Use Area

Dear Alaska State Legislature,

My name is Heather Best and I support the Goldstream Public Use Area.

I believe the access and opportunities to outdoor recreation of all types that are available because of the Goldstream Public Use Area are essential to maintaining a strong quality of life for me and our entire community. This Public Use Area is home to a wide variety of uses, including hunting, dog mushing, motorized and non-motorized access, skiing and skijoring, boating, berry picking, trapping and many others. This array of allowable uses gives every Fairbanks resident and family a place, close to town, where they can enjoy the Alaskan great outdoors. And in all my years of use, I have not had one bad encounter with other types of users.

The Goldstream Public Use Area encompasses an ever growing number of established trails that are utilized year round by user groups of all kinds. The loss of this open space, access to trails and beautiful scenery would be a major loss to every resident of Fairbanks, no matter their lifestyle.

Thank you and I urge you to join me in supporting the continued existence of this important piece of legislation.

Sincerely,
Heather Best
Fairbanks, AK

Dear Alaska State Legislature,

My name is John Shook and I support the Goldstream Public Use Area.

I believe the access and opportunities to outdoor recreation of all types that are available because of the Goldstream Public Use Area are essential to maintaining a strong quality of life for me and our entire community. This Public Use Area is home to a wide variety of uses, including hunting, dog mushing, motorized and non-motorized access, skiing and skijoring, boating, berry picking, trapping and many others. This array of allowable uses gives every Fairbanks resident and family a place, close to town, where they can enjoy the Alaskan great outdoors.

The Goldstream Public Use Area encompasses an ever growing number of established trails that are utilized year round by user groups of all kinds. The loss of this open space, access to trails and beautiful scenery would be a major loss to every resident of Fairbanks, no matter their lifestyle.

Thank you and I urge you to join me in supporting the continued existence of this important piece of legislation.

Sincerely, John E. Shook

733 Dalton Trail
Fairbanks, AK 99709

Grier Hopkins

From: George Happ [gmhapp@gmail.com]
Sent: Saturday, December 19, 2009 5:52 PM
To: Grier Hopkins

Dear Alaska State Legislature,

My name is George Happ and I support the Goldstream Public Use Area.

I believe the access and opportunities to outdoor recreation of all types that are available because of the Goldstream Public Use Area are essential to maintaining a strong quality of life for me and our entire community. This Public Use Area is home to a wide variety of uses, including hunting, dog mushing, motorized and non-motorized access, skiing and skijoring, boating, berry picking, trapping and many others. I have helped groom the winter trails in teh public use are since 1995. This array of allowable uses gives every Fairbanks resident and family a place, close to town, where they can enjoy the Alaskan great outdoors.

The Goldstream Public Use Area encompasses an ever growing number of established trails that are utilized year round by user groups of all kinds. The loss of this open space, access to trails and beautiful scenery would be a major loss to every resident of Fairbanks, no matter their lifestyle.

Thank you and I urge you to join me in supporting the continued existence of this important piece of legislation.

Sincerely,

George Happ

1695 Snowhook Trail

99709

Grier Hopkins

From: christyyuncker happ [christy.yuncker.happ@gmail.com]
Sent: Saturday, December 19, 2009 5:50 PM
To: Grier Hopkins
Subject: Goldstream Public Use Area.

Dear Alaska State Legislature,

My name is Christy Happ and I support the Goldstream Public Use Area.

I believe the access and opportunities to outdoor recreation of all types that are available because of the Goldstream Public Use Area are essential to maintaining a strong quality of life for me and our entire community. This Public Use Area is home to a wide variety of uses, including hunting, dog mushing, motorized and non-motorized access, skiing and skijoring, boating, berry picking, trapping and many others. It ids an exceptional area for wildlife. At least three Sandhill crane pairs nest in the Public Use Area. This array of allowable uses gives every Fairbanks resident and family a place, close to town, where they can enjoy the Alaskan great outdoors.

The Goldstream Public Use Area encompasses an ever growing number of established trails that are utilized year round by user groups of all kinds. The loss of this open space, access to trails and beautiful scenery would be a major loss to every resident of Fairbanks, no matter their lifestyle.

Thank you and I urge you to join me in supporting the continued existence of this important piece of legislation.

Sincerely,
Christy

Dear Alaska State Legislature,

My name is MATT M and I support the Goldstream Public Use Area.

I believe the access and opportunities to outdoor recreation of all types that are available because of the Goldstream Public Use Area are essential to maintaining a strong quality of life for me and our entire community. This Public Use Area is home to a wide variety of uses, including hunting, dog mushing, motorized and non-motorized access, skiing and skijoring, boating, berry picking, trapping and many others. This array of allowable uses gives every Fairbanks resident and family a place, close to town, where they can enjoy the Alaskan great outdoors.

The Goldstream Public Use Area encompasses an ever growing number of established trails that are utilized year round by user groups of all kinds. The loss of this open space, access to trails and beautiful scenery would be a major loss to every resident of Fairbanks, no matter their lifestyle.

Thank you and I urge you to join me in supporting the continued existence of this important piece of legislation.

Sincerely,

Matt McClurg & the McCLURG FAMILY

JENNIFER, ABBY, LEVI, SETH

1185 GRENAC RD.

FAIRBANKS, AK 99709

Dear Alaska State Legislature,

My name is Lona and I support the Goldstream Public Use Area.

I believe the access and opportunities to outdoor recreation of all types that are available because of the Goldstream Public Use Area are essential to maintaining a strong quality of life for me and our entire community. This Public Use Area is home to a wide variety of uses, including hunting, dog mushing, motorized and non-motorized access, skiing and skijoring, boating, berry picking, trapping and many others. This array of allowable uses gives every Fairbanks resident and family a place, close to town, where they can enjoy the Alaskan great outdoors.

The Goldstream Public Use Area encompasses an ever growing number of established trails that are utilized year round by user groups of all kinds. The loss of this open space, access to trails and beautiful scenery would be a major loss to every resident of Fairbanks, no matter their lifestyle.

Thank you and I urge you to join me in supporting the continued existence of this important piece of legislation.

Sincerely,

Lona R. Boyarsky

Lona R. Boyarsky
1678 Amidon Dr.
Fairbanks, AK 99712

Grier Hopkins

From: kfranzen@att.net
Sent: Wednesday, December 16, 2009 12:06 PM
To: Grier Hopkins
Subject: Re: Goldstream Valley Public Use Area

Grier Hopkins
Office of Sen. Joe Thomas
Office: (907) 456-8161
Fax: (907) 456-8163

Dear Alaska State Legislature,

My name is Karin Franzen and I support the Goldstream Public Use Area.

I believe the access and opportunities to outdoor recreation of all types that are available because of the Goldstream Public Use Area are essential to maintaining a strong quality of life for me and our entire community. This Public Use Area is home to a wide variety of uses, including hunting, dog mushing, motorized and non-motorized access, skiing and skijoring, boating, berry picking, trapping and many others. This array of allowable uses gives every Fairbanks resident and family a place, close to town, where they can enjoy the Alaskan great outdoors.

The Goldstream Public Use Area encompasses an ever growing number of established trails that are utilized year round by user groups of all kinds. The loss of this open space, access to trails and beautiful scenery would be a major loss to every resident of Fairbanks, no matter their lifestyle.

Thank you and I urge you to join me in supporting the continued existence of this important piece of legislation.

Sincerely,
Karin FRanzen

Grier Hopkins

From: heather mcintyre [heathermc48@gmail.com]
Sent: Wednesday, December 16, 2009 10:10 AM
To: Grier Hopkins
Subject: Goldstream valley public use

Dear Alaska State Legislature,

My name is Heather McIntyre and I support the Goldstream Public Use Area.

I believe the access and opportunities to outdoor recreation of all types that are available because of the Goldstream Public Use Area are essential to maintaining a strong quality of life for me and our entire community. This Public Use Area is home to a wide variety of uses, including hunting, dog mushing, motorized and non-motorized access, skiing and skijoring, boating, berry picking, trapping and many others. This array of allowable uses gives every Fairbanks resident and family a place, close to town, where they can enjoy the Alaskan great outdoors.

The Goldstream Public Use Area encompasses an ever growing number of established trails that are utilized year round by user groups of all kinds. The loss of this open space, access to trails and beautiful scenery would be a major loss to every resident of Fairbanks, no matter their lifestyle.

Thank you and I urge you to join me in supporting the continued existence of this important piece of legislation.

Sincerely,
Heather McIntyre
800 Smythe Street
fairbanks AK 99709

Grier Hopkins

From: phyllis haggland [phaggland@yahoo.com]
Sent: Wednesday, December 16, 2009 9:24 AM
To: Grier Hopkins
Subject: Goldstream Public Use Area

Grier Hopkins
Office of Sen. Joe Thomas
Office: (907) 456-8161
Fax: (907) 456-8163

Dear Alaska State Legislature,

My name is Phyllis Haggland and I support the Goldstream Public Use Area.

I believe the access and opportunities to outdoor recreation of all types that are available because of the Goldstream Public Use Area are essential to maintaining a strong quality of life for me and our entire community. This Public Use Area is home to a wide variety of uses, including hunting, dog mushing, motorized and non-motorized access, skiing and skijoring, boating, berry picking, trapping and many others. This array of allowable uses gives every Fairbanks resident and family a place, close to town, where they can enjoy the Alaskan great outdoors.

The Goldstream Public Use Area encompasses an ever growing number of established trails that are utilized year round by user groups of all kinds. The loss of this open space, access to trails and beautiful scenery would be a major loss to every resident of Fairbanks, no matter their lifestyle.

Thank you and I urge you to join me in supporting the continued existence of this important piece of legislation.

Sincerely,
Phylllis Haggland
907-479-6737

Grier Hopkins

From: John and Kathleen Wright [wrights@acsalaska.net]
Sent: Tuesday, December 15, 2009 9:41 PM
To: Grier Hopkins
Subject: Continue Goldstream Public Use Area

Dear Alaska State Legislature,

I strongly support continuing the Goldstream Public Use Area.

The Goldstream Valley Public Use Area is a key to this northern portion of Fairbanks. The rural character of the area is dependent upon open space and the multi-use trails that have long been used within it. Like Creamer's Refuge on the edge of the city, the Goldstream Public Use Area helps preserve the traditionals of the community.

Please vote to extend this legislation that makes Fairbanks a wonderful place to live.

Sincerely,

John M and Kathleen K Wright

3262

Dear Alaska State Legislature,

My name is Davya Flaharty and I support the Goldstream Public Use Area.

I believe the access and opportunities to outdoor recreation of all types that are available because of the Goldstream Public Use Area are essential to maintaining a strong quality of life for me and our entire community. This Public Use Area is home to a wide variety of uses, including hunting, dog mushing, motorized and non-motorized access, skiing and skijoring, boating, berry picking (mmm blueberries!), trapping and many others. This array of allowable uses gives every Fairbanks resident and family a place, close to town, where they can enjoy the Alaskan great outdoors.

The Goldstream Public Use Area encompasses an ever growing number of established trails that are utilized year round by user groups of all kinds. The loss of this open space, access to trails and beautiful scenery would be a major loss to every resident of Fairbanks, no matter their lifestyle.

Thank you and I urge you to join me in supporting the continued existence of this important piece of legislation.

Sincerely,

Davya Flaharty

Dear Senator Thomas,

I am writing you to support the preservation of public lands in the Goldstream Valley as open space. As an avid trail user in this area and the author of "Outside in the Interior", I have extensive knowledge of the trails here. These trails are all multi-use trails, that is, they are utilized by snowmachiners, cross-country skiers, skate skiers, skijourers, people walking and talking their dogs for walks, berry pickers, wildlife enthusiasts and bicyclers. There are 4 main subregions of the Goldstream Valley - Cache Creek, Ace Lake, West Goldstream and East Goldstream. The latter two are divided by Ballaine Road. Numerous trails are contained within each subregion and many other trails and trail systems are adjacent to these areas. The West Goldstream area has already undergone significant development which has lead to the outright loss of some trails and the reduction of others. Currently, the trail systems are intact enough that they are somewhat still linked. Please do what you can to protect these well used and loved trails and open areas. Further, improvements, such as a tunnel connecting the East and West areas under Ballaine, should be investigated. Protection of these areas will be a great gift to future Fairbanksians. Please feel free to contact me if you have any questions or if I can be of assistance in this endevour. Thank you.

Kyle Joly
Fairbanks

Grier Hopkins

From: Henszey Family [henszey@acsalaska.net]
Sent: Monday, December 14, 2009 10:09 PM
To: Grier Hopkins
Subject: Support for Goldstream Public Use Area

Dear Alaska State Legislature,

We are Bob and Joann Henszey, and we support the Goldstream Public Use Area.

In addition to the form letter below, we support the Goldstream Public Use Area as a valuable green space asset already in place for the public's enjoyment. As one of the founding supporters for the Chena Flats Greenbelt Project at the base of Chena Rigde in Fairbanks (www.chenaflats.org), we know how difficult it is to purchase green space from private ownership so a traditional common use area can continue to be enjoyed by the public in the midst of a rapidly developing community. Chena Flats would have been much easier if our local government had the foresight to set this area of wetland bogs aside in the first place like the Goldstream Public Use Area.

We believe the access and opportunities to outdoor recreation of all types that are available because of the Goldstream Public Use Area are essential to maintaining a strong quality of life for our family and our entire community. This Public Use Area is home to a wide variety of uses, including hunting, dog mushing, motorized and non-motorized access, skiing and skijoring, boating, berry picking, trapping and many others. This array of allowable uses gives every Fairbanks resident and family a place, close to town, where they can enjoy the Alaskan great outdoors.

The Goldstream Public Use Area encompasses an ever growing number of established trails that are utilized year round by user groups of all kinds. The loss of this open space, access to trails and beautiful scenery would be a major loss to every resident of Fairbanks, no matter their lifestyle.

Thank you, and we urge you to join us in supporting the continued existence of this important piece of legislation.

Sincerely,
Bob and Joann Henszey

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The Henszeys
(Bob, Joann, Ryan, and Erin)
540 Tuxford Ct. Fairbanks, AK 99709

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Dear Alaska State Legislature,

My name is Bill Schneider and I support the Goldstream Public Use Area.

I believe the access and opportunities to outdoor recreation of all types that are available because of the Goldstream Public Use Area are essential to maintaining a strong quality of life for me and our entire community. This Public Use Area is home to a wide variety of uses, including hunting, dog mushing, motorized and non-motorized access, skiing and skijoring, boating, berry picking, trapping and many others. This array of allowable uses gives every Fairbanks resident and family a place, close to town, where they can enjoy the Alaskan great outdoors.

The Goldstream Public Use Area encompasses an ever growing number of established trails that are utilized year round by user groups of all kinds. The loss of this open space, access to trails and beautiful scenery would be a major loss to every resident of Fairbanks, no matter their lifestyle.

Thank you and I urge you to join me in supporting the continued existence of this important piece of legislation.

Sincerely,

Bill Schneider

Grier Hopkins

From: Karen Brewster [karen.brewster@alaska.edu]
Sent: Monday, December 14, 2009 4:32 PM
To: Grier Hopkins
Subject: Goldstream Public Use Area

Dear Alaska State Legislature,

My name is Karen Brewster and I am writing to express my support for the Goldstream Public Use Area in Fairbanks. I am a regular user of the trails in this area and believe it is critical that they remain open and available to full public access. Having this wide open undeveloped space and vast trail network in the heart of Fairbanks is a key part of what makes life in Fairbanks so wonderful. Studies have shown that living close to greenspace and having access to outdoor recreation opportunities create a better quality of life and make people happier and healthier.

I believe the access and opportunities to outdoor recreation of all types that are available because of the Goldstream Public Use Area are essential to maintaining a strong quality of life for me and our entire community. This Public Use Area is home to a wide variety of uses, including hunting, dog mushing, motorized and non-motorized access, skiing and skijoring, boating, berry picking, trapping and many others. This array of allowable uses gives every Fairbanks resident and family a place, close to town, where they can enjoy the Alaskan great outdoors.

The Goldstream Public Use Area encompasses an ever growing number of established trails that are utilized year round by user groups of all kinds. The loss of this open space, access to trails and beautiful scenery would be a major loss to every resident of Fairbanks, no matter their lifestyle. With the continued protection of this public use area, I would also like to see some minimal management to deal with conflicting uses and trail maintenance issues.

Thank you and I urge you to join me in supporting the continued existence of this important piece of legislation.

Sincerely,
Karen Brewster
1022 Prindle Court
Fairbanks, AK 99709
karen.brewster@alaska.edu

Grier Hopkins

From: Joan Hardesty [joan-kevin@gci.net]
Sent: Monday, December 14, 2009 1:53 PM
To: Grier Hopkins
Subject: In support of Goldstream Valley Public Use Area

Please forward / include with other letters of support - thank you, Joan Hardesty

****

Dear Alaska State Legislature,

My name is Joan Hardesty and I support the Goldstream Public Use Area.

I believe the access and opportunities to outdoor recreation of all types that are available because of the Goldstream Public Use Area are essential to maintaining a strong quality of life for me and our entire community. This Public Use Area is home to a wide variety of uses, including hunting, dog mushing, motorized and non-motorized access, skiing and skijoring, boating, berry picking, trapping and many others. This array of allowable uses gives every Fairbanks resident and family a place, close to town, where they can enjoy the Alaskan great outdoors. The dog trails I use for running my ♦sleddog♦ bird dogs extend into the Goldstream Public Use area. It would be a great loss to Goldstream Valley, and the community of Fairbanks, if the Goldstream Public Use Area were allowed to ♦disappear.♦ In March, there's no other place in the world I'd rather be than behind 2 floppy eared setters running for the joy of running.

The Goldstream Public Use Area encompasses an ever growing number of established trails that are utilized year round by user groups of all kinds. The loss of this open space, access to trails and beautiful scenery would be a major loss to every resident of Fairbanks, no matter their lifestyle.

Thank you and I urge you to join me in supporting the continued existence of this important piece of legislation.

Sincerely,
Joan Hardesty
1815 Snowhook Trail
Fairbanks, AK 99709
joan-kevin@gci.net

Grier Hopkins

From: Tom George [tgeorge@mosquitonet.com]
Sent: Monday, December 14, 2009 12:21 PM
To: Grier Hopkins
Subject: RE: Thank you for helping the Goldstream Valley

You got it! -Tom

Dear Alaska State Legislature,

My name is Tom George and I support the Goldstream Public Use Area.

I believe the access and opportunities to outdoor recreation of all types that are available because of the Goldstream Public Use Area are essential to maintaining a strong quality of life for me and our entire community. This Public Use Area is home to a wide variety of uses, including hunting, dog mushing, motorized and non-motorized access, skiing and skijoring, boating, berry picking, trapping and many others. This array of allowable uses gives every Fairbanks resident and family a place, close to town, where they can enjoy the Alaskan great outdoors.

The Goldstream Public Use Area encompasses an ever growing number of established trails that are utilized year round by user groups of all kinds. The loss of this open space, access to trails and beautiful scenery would be a major loss to every resident of Fairbanks, no matter their lifestyle.

Thank you and I urge you to join me in supporting the continued existence of this important piece of legislation.

Sincerely,

Tom George
PO Box 83750
Fairbanks, AK 99708

December 14, 2009

Dear Alaska State Legislature,

My name is Doug Braddock and I support removing the sunset date for the Goldstream Public Use Area (GPUA). I live near the GPUA and am a regular user of the trails in the area.

The Fairbanks North Star Borough is in the process of taking over ownership and management of Bender Mountain Park, located to the south of the GPUA. The trail systems within Bender Mountain Park and the GPUA are complementary and allow for many great multiple-use recreational opportunities.

For the above reason, I would like to see the Goldstream Public Use Area remain in existence without the need to periodically remove a sunset date.

Thank you and I urge you to join me in supporting the continued existence of this important piece of legislation.

Sincerely,

Doug Braddock
Fairbanks, Alaska
djbraddock@gmail.com
(907) 479-4071

Grier Hopkins

From: Gretchen Hundertmark [gretchenhund@yahoo.com]
Sent: Monday, December 14, 2009 11:11 AM
To: Grier Hopkins
Subject: Goldstream Valley Public Use Area

Dear Alaska State Legislature,

My name is Gretchen Hundertmark and I support the Goldstream Public Use Area.

I believe the access and opportunities to outdoor recreation of all types that are available because of the Goldstream Public Use Area are essential to maintaining a strong quality of life for me and our entire community. This Public Use Area is home to a wide variety of uses, including hunting, dog mushing, motorized and non-motorized access, skiing and skijoring, boating, berry picking, trapping and many others. This array of allowable uses gives every Fairbanks resident and family a place, close to town, where they can enjoy the Alaskan great outdoors.

The Goldstream Public Use Area encompasses an ever growing number of established trails that are utilized year round by user groups of all kinds. The loss of this open space, access to trails and beautiful scenery would be a major loss to every resident of Fairbanks, no matter their lifestyle.

Thank you and I urge you to join me in supporting the continued existence of this important piece of legislation.

Sincerely,

Gretchen Hundertmark
1962 Red Leaf Road
Fairbanks, AK 99709
907.456.2250

Grier Hopkins

From: jimbrader [jimbrader@mosquitonet.com]
Sent: Sunday, December 13, 2009 9:03 PM
To: Grier Hopkins
Subject: Goldstream Public Use Area

Dear Alaska State Legislature,

My name is Jim Brader and I support the Goldstream Public Use Area.

I have used this area for both winter and summer recreation for 19 years. I have used this area for hiking, hunting, berry picking, skiing, and snow shoeing. It is used by many other people for bird watching, snow machining, mountain biking, and dog mushing. I also own property in the area and access to the Goldstream Public Use Area is one of the reasons I bought the property. This area offers great outdoor recreation for all types of people and is very close to Fairbanks. The Goldstream Public Use Area encompasses an ever growing number of established trails that are utilized year round by user groups of all kinds. The loss of this open space, access to trails and beautiful scenery would be a major loss to every resident of Fairbanks, no matter their lifestyle.

I urge you to join me in supporting the continued existence of this important piece of legislation.

Sincerely,
Jim Brader
PO Box 74263
Fairbanks AK 99707

Grier Hopkins

From: Jorgenson [jorgenson@alaska.net]
Sent: Sunday, December 13, 2009 9:01 PM
To: Grier Hopkins
Subject: Goldstream

Dear Alaska State Legislature,

My name is Janet Jorgenson and I support the Goldstream Public Use Area.

My family and I live in Goldstream Valley and we have used the trails through the public use area in both winter and summer for the past 2 decades. Our house overlooks the valley and we love the view. This area is very important to us.

Sincerely, Janet Jorgenson

Grier Hopkins

From: Paul Reichardt [pbreichardt@alaska.edu]
Sent: Sunday, December 13, 2009 8:12 PM
To: Grier Hopkins
Subject: Fwd: Goldstream Valley Public Use Area

Dear Alaska State Legislature,

Our names are Paul and Cordelia (Terry) Reichardt and we support the Goldstream Public Use Area.

We believe the access and opportunities to outdoor recreation of all types that are available because of the Goldstream Public Use Area are essential to maintaining a strong quality of life for us and our entire community. We regularly ski in this area in winter (even today with the temperature at -15 degrees), and we pick berries there each summer. However, this Public Use Area is home to a wide variety of uses, including hunting, dog mushing, motorized and non-motorized access, skiing and skijoring, boating, berry picking, trapping and many others. This array of allowable uses gives every Fairbanks resident and family a place, close to town, where they can enjoy the Alaskan great outdoors.

The Goldstream Public Use Area encompasses an ever growing number of established trails that are utilized year round by user groups of all kinds. The loss of this open space, access to trails and beautiful scenery would be a major loss to every resident of Fairbanks, no matter their lifestyle.

Thank you and we urge you to join us in supporting the continued existence of this important area by passing the legislation that is necessary to keep it as a Public Use Area.

Sincerely,

Paul and Cordelia (Terry) Reichardt

Grier Hopkins

From: Grier Hopkins [grier.hopkins@gmail.com]
Sent: Sunday, December 13, 2009 6:35 PM
To: Grier Hopkins
Subject: Fwd: Goldstream Public Use Area

Begin forwarded message:

From: Karl Kassel <canoeak@acsalaska.net>
Date: December 13, 2009 6:27:09 PM AKST
To: Grier Hopkins <grier.hopkins@gmail.com>
Subject: Goldstream Public Use Area

Dear Alaska State Legislature,

My name is Karl Kassel and I support the Goldstream Public Use Area.

I believe the access and opportunities to outdoor recreation of all types that are available because of the Goldstream Public Use Area are essential to maintaining a strong quality of life for me and our entire community. This Public Use Area is home to a wide variety of uses, including hunting, dog mushing, motorized and non-motorized access, skiing and skijoring, boating, berry picking, trapping and many others. This array of allowable uses gives every Fairbanks resident and family a place, close to town, where they can enjoy the Alaskan great outdoors.

The Goldstream Public Use Area encompasses an ever growing number of established trails that are utilized year round by user groups of all kinds. The loss of this open space, access to trails and beautiful scenery would be a major loss to every resident of Fairbanks, no matter their lifestyle.

Thank you and I urge you to join me in supporting the continued existence of this important piece of legislation.

Sincerely,
Karl Kassel

1670 Willow Run Road
Fairbanks, AK 99709

907-455-6115

KELLEY HEGARTY & ASSOCIATES, L.L.C.

Community & Regional Planning Consultants
501 Prospectors Trail ✦ Fairbanks, Alaska 99712
planners@gci.net ✦ (907) 457-2400 ✦ fax 457-5200

December 11, 2009

Dear Alaska State Legislature,

I am writing today in support of the Goldstream Public Use Area.

I believe the access and opportunities to outdoor recreation of all types that are available because of the Goldstream Public Use Area are essential to maintaining a strong quality of life for me and our entire community. This Public Use Area is home to a wide variety of uses, including:

- hunting,
- dog mushing,
- motorized and non-motorized access,
- skiing and skijoring,
- boating,
- berry picking,
- trapping, and
- many others.

This array of allowable uses gives every Fairbanks resident and family a place, close to town, where they can enjoy the Alaskan great outdoors.

The Goldstream Public Use Area encompasses an ever growing number of established trails that are utilized year round by user groups of all kinds. The loss of this open space, access to trails and beautiful scenery would be a major loss to every resident of Fairbanks, no matter their lifestyle.

Thank you and I urge you to join me in supporting the continued existence of this important piece of legislation.

Sincerely,

Kelley Hegarty Lammers

Grier Hopkins

From: Bonnie Borba [borba@mosquitonet.com]
Sent: Saturday, December 12, 2009 9:01 PM
To: Grier Hopkins
Subject: Goldsteam Valley Public Use Area

Dear Alaska State Legislature,

My name is Bonnie Borba and I support the Goldstream Public Use Area.

I believe the access and opportunities to outdoor recreation of all types that are available because of the Goldstream Public Use Area are essential to maintaining a strong quality of life for me and our entire community. This Public Use Area is home to a wide variety of uses, including hunting, dog mushing, motorized and non-motorized access, skiing and skijoring, canoeing, berry picking, trapping and many others. This array of allowable uses gives every Fairbanks resident and family a place, close to town, where they can enjoy the Alaskan great outdoors.

The Goldstream Public Use Area encompasses an ever growing number of established trails that are utilized year round by user groups of all kinds. The loss of this open space, access to trails and beautiful scenery would be a major loss to every resident of Fairbanks, no matter their lifestyle.

Thank you and I urge you to join me in supporting the continued existence of this important piece of legislation.

Sincerely,

Bonnie Borba
1740 Snowhook Trail
Fairbanks, Alaska 99709

Dear Alaska State Legislature,

My name is Tim Obritschkewitsch, and I support the Goldstream Public Use Area.

I believe the access and opportunities to outdoor recreation of all types that are available because of the Goldstream Public Use Area are essential to maintaining a strong quality of life for me and our entire community. This Public Use Area is home to a wide variety of uses, including hunting, dog mushing, motorized and non-motorized access, skiing and skijoring, boating, berry picking, trapping and many others. This array of allowable uses gives every Fairbanks resident and family a place, close to town, where they can enjoy the Alaskan great outdoors.

The Goldstream Public Use Area encompasses an ever growing number of established trails that are utilized year round by user groups of all kinds. The loss of this open space, access to trails and beautiful scenery would be a major loss to every resident of Fairbanks, no matter their lifestyle.

Thank you and I urge you to join me in supporting the continued existence of this important piece of legislation.

Sincerely,

Tim Obritschkewitsch

Dear Alaska State Legislature,

My name is Bob Ritchie, a 35 year resident of the Goldstream Valley. I support the Goldstream Public Use Area.

I believe the access and opportunities to outdoor recreation of all types that are available because of the Goldstream Public Use Area are essential to maintaining a strong quality of life for me and our entire community. This Public Use Area is home to a wide variety of uses, including hunting, dog mushing, motorized and non-motorized access, skiing and skijoring, boating, berry picking, trapping and many others. This array of allowable uses gives every Fairbanks resident and family a place, close to town, where they can enjoy the Alaskan great outdoors.

The Goldstream Public Use Area encompasses an ever growing number of established trails that are utilized year round by user groups of all kinds. The loss of this open space, access to trails and beautiful scenery would be a major loss to every resident of Fairbanks, no matter their lifestyle. Importantly, it has more value for these pursuits than any commercial or residential uses (e.g., housing).

Thank you and I urge you to join me in supporting the continued existence of this important piece of legislation.

Sincerely,

Bob Ritchie
2671 Black Sheep Lane
Fairbanks, AK 99709

(907-479-2694)

Grier Hopkins

From: Amy Turner [amymarieturner@gmail.com]
Sent: Thursday, December 10, 2009 1:37 PM
To: Grier Hopkins
Subject: Goldstream PUA

Hello Grier,

I have included my personal letter below in support of the Goldstream Public Use Area.

Thank you!
Amy

Dear Alaska State Legislature,

As a resident of the Goldstream Valley, I put high value on the Goldstream Public Use Area and the many ways it allows for the recreation and enjoyment for all Fairbanksans. I urge you to continue to support the existence of Goldstream Public Use Area and keep this near town public use area open for us to continue to enjoy this beautiful area.

Sincerely,

Amy Turner

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* * * * * * * * * * * *
" The heart that breaks open can contain the whole universe." joanna macy

Grier Hopkins

From: Jon Holmgren [machine@alaska.com]
Sent: Thursday, December 10, 2009 10:38 AM
To: Grier Hopkins
Subject: Support for Goldstream Public Use area

Dear Alaska State Legislature,

My name is Jon Holmgren and I live in Goldstream Valley. I highly support the Goldstream Public use area. I spent 3 hours skiing through the upper section towards Fox on Sunday and would like to see this area remain like it is, a place for unstructured recreation. We don't want a Park with rules and regulations, just an open area to enjoy nature.
Thanks,
Jon

3281

Grier Hopkins

From: Don Logan [donald_logan@yahoo.com]
Sent: Wednesday, December 09, 2009 11:48 PM
To: Grier Hopkins
Subject: Re: post t-day

Grier Hopkins
Office of Sen. Joe Thomas
Office: (907) 456-8161
Fax: (907) 456-8163

Dear Alaska State Legislature,

My name is Don Logan and I support the Goldstream Public Use Area.

I believe the access and opportunities to outdoor recreation of all types that are available because of the Goldstream Public Use Area are essential to maintaining a strong quality of life for me and our entire community. This Public Use Area is home to a wide variety of uses, including hunting, dog mushing, motorized and non-motorized access, skiing and skijoring, boating, berry picking, trapping and many others. This array of allowable uses gives every Fairbanks resident and family a place, close to town, where they can enjoy the Alaskan great outdoors.

The Goldstream Public Use Area encompasses an ever growing number of established trails that are utilized year round by user groups of all kinds. The loss of this open space, access to trails and beautiful scenery would be a major loss to every resident of Fairbanks, no matter their lifestyle.

There are enough subdivisions in the Fairbanks area with room for more buildings. This is Fairbanks, and we value the remoteness of our home. If we build on all the available land, it will no longer be Fairbanks. The corner of New Steese and the Mitchell Expressway already looks much like parts of Anchorage or towns in the lower 48. While I like the convenience, I liked the raw land better. Some good bike trails are under that asphalt.

Thank you and I urge you to join me in supporting the continued existence of this important piece of legislation.

Sincerely,

Don Logan

Grier Hopkins

From: samd@gci.net on behalf of Martha Raynolds [mraynolds@gci.net]
Sent: Wednesday, December 09, 2009 10:31 PM
To: Grier Hopkins
Subject: Re: Thank you for helping the Goldstream Valley

Dear Alaska State Legislature,

My name is Martha Raynolds and I support the Goldstream Public Use Area.

I believe the access and opportunities to outdoor recreation of all types that are available because of the Goldstream Public Use Area are essential to maintaining a strong quality of life for me and our entire community. This Public Use Area is home to a wide variety of uses, including hunting, dog mushing, motorized and non-motorized access, skiing and skijoring, boating, berry picking, trapping and many others.
This array of allowable uses gives every Fairbanks resident and family a place, close to town, where they can enjoy the Alaskan great outdoors.

The Goldstream Public Use Area encompasses an ever growing number of established trails that are utilized year round by user groups of all kinds. The loss of this open space, access to trails and beautiful scenery would be a major loss to every resident of Fairbanks, no matter their lifestyle.

Thank you and I urge you to join me in supporting the continued existence of this important piece of legislation.

Sincerely,

Martha Raynolds

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Michael Whalen
PO Box 85033
Fairbanks, AK 99708

December 9, 2009

Dear Alaska State Legislature,

As a resident of the Goldstream Valley I wholeheartedly support the Goldstream Public Use Area.

I believe the access and opportunities for outdoor recreation of all types that are available because of the Goldstream Public Use Area are essential to maintaining a strong quality of life for myself and our entire community. This Public Use Area is home to a wide variety of activities, including hunting, dog mushing, motorized and non-motorized access, skiing and skijoring, boating, berry picking, trapping and many others. This array of allowable uses gives every Fairbanks resident and family a place, close to town, where they can enjoy the great Alaskan outdoors.

The Goldstream Public Use Area encompasses an ever growing number of established trails that are utilized year round by user groups of all kinds. The loss of this open space, access to trails and beautiful scenery would be a major loss to every resident of Fairbanks, no matter their lifestyle.

Thank you and I urge you to join me in supporting the continued existence of this important piece of legislation.

Sincerely,
Michael Whalen

Dear Alaska State Legislature,

My name is Brent Sass and I support the Goldstream Public Use Area.

I believe the access and opportunities to outdoor recreation of all types that are available because of the Goldstream Public Use Area are essential to maintaining a strong quality of life for me and our entire community. This Public Use Area is home to a wide variety of uses, including hunting, dog mushing, motorized and non-motorized access, skiing and skijoring, boating, berry picking, trapping and many others. This array of allowable uses gives every Fairbanks resident and family a place, close to town, where they can enjoy the Alaskan great outdoors.

The Goldstream Public Use Area encompasses an ever growing number of established trails that are utilized year round by user groups of all kinds. The loss of this open space, access to trails and beautiful scenery would be a major loss to every resident of Fairbanks, no matter their lifestyle.

Thank you and I urge you to join me in supporting the continued existence of this important piece of legislation.

Sincerely,

1105 Jure Road A Fairbanks AK 99709

<Goldstream PUA support letter.doc>

Brent Sass
Wild and Free Mushing
brent@wildandfreealaska.com
www.wildandfreealaska.com

"Pain is Inevitable Suffering is optional"

Dear Alaska State Legislature,

My name is Elizabeth Markley and I support the Goldstream Public Use Area.

I believe the access and opportunities to outdoor recreation of all types that are available because of the Goldstream Public Use Area are essential to maintaining a strong quality of life for me and our entire community. This Public Use Area is home to a wide variety of uses, including hunting, dog mushing, motorized and non-motorized access, skiing and skijoring, boating, berry picking, trapping and many others. I have spent many hours skiing, hiking, mushing, ski-joring, and berry picking in Goldstream. This array of allowable uses gives every Fairbanks resident and family a place, close to town, where they can enjoy the Alaskan great outdoors.

The Goldstream Public Use Area encompasses an ever growing number of established trails that are utilized year round by user groups of all kinds. The loss of this open space, access to trails and beautiful scenery would be a major loss to every resident of Fairbanks, no matter their lifestyle.

Thank you and I urge you to join me in supporting the continued existence of this important piece of legislation.

Sincerely,

Elizabeth Markley

Bessie Green Markley
M.S. Candidate, Dept. of Biology and Wildlife
Alaska Cooperative Fish and Wildlife Research Unit
201 Irving I
902 N. Koyukuk Drive
University of Alaska Fairbanks 99775
office: 907-474-1949 lab: 907-474-6740
http://mercury.bio.uaf.edu/~elizabeth_green/

Grier Hopkins

From: Aren Gunderson [arengunderson@gmail.com]
Sent: Tuesday, December 08, 2009 11:19 AM
To: Grier Hopkins
Subject: Re: Thank you for helping the Goldstream Valley

To Senator Joe Thomas, care of Grier Hopkins,

Dear Alaska State Legislature,

Our names are Aren and Jen Gunderson and we support the Goldstream Public Use Area.

We believe the access and opportunities to outdoor recreation of all types that are available because of the Goldstream Public Use Area are essential to maintaining a strong quality of life for us and our entire community. This Public Use Area is home to a wide variety of uses, including hunting, dog mushing, motorized and non-motorized access, skiing and skijoring, boating, berry picking, trapping and many others. This array of allowable uses gives every Fairbanks resident and family a place, close to town, where they can enjoy the Alaskan great outdoors.

The Goldstream Public Use Area encompasses an ever growing number of established trails that are utilized year round by user groups of all kinds. The loss of this open space, access to trails and beautiful scenery would be a major loss to every resident of Fairbanks, no matter their lifestyle. We use this trail system for skijoring and mushing our 5 dogs. We have introduced numerous individuals to skijoring and mushing on these trails and others in the Goldstream Valley. This trail system is unique in that it is so close to town and heavily used, yet maintained and regulated entirely by local residents through their mutual respect for the land and its users at no cost (that we am aware of) to the state or borough.

Thank you and we urge you to join us in supporting the continued existence of this important piece of legislation.

Sincerely,

Aren and Jen Gunderson

590 Mammoth Drive, Fairbanks, AK

Dear Alaska State Legislature,

My name is Jen Gunderson and I support the Goldstream Public Use Area.

I believe the access and opportunities to outdoor recreation of all types that are available because of the Goldstream Public Use Area are essential to maintaining a strong quality of life for me and our entire community. This Public Use Area is home to a wide variety of uses, including hunting, dog mushing, motorized and non-motorized access, skiing and skijoring, boating, berry picking, trapping and many others. This array of allowable uses gives every Fairbanks resident and family a place, close to town, where they can enjoy the Alaskan great outdoors.

The Goldstream Public Use Area encompasses an ever growing number of established trails that are utilized year round by user groups of all kinds. The loss of this open space, access to trails and beautiful scenery would be a major loss to every resident of Fairbanks, no matter their lifestyle.

Thank you and I urge you to join me in supporting the continued existence of this important piece of legislation.

Sincerely,

Jen and Aren Gunderson
590 Mammoth Drive
Fairbanks, AK 99709
Jen.gunder@gmail.com

Grier Hopkins

From: Kate Beattie [kbeattie@abrinc.com]
Sent: Tuesday, December 08, 2009 9:24 AM
To: Grier Hopkins
Subject: Thank you for helping the Goldstream Valley

Dear Alaska State Legislature,

My name is _Katherine Beattie_ and I support the Goldstream Public Use Area.

I believe the access and opportunities to outdoor recreation of all types that are available because of the Goldstream Public Use Area are essential to maintaining a strong quality of life for me and our entire community. This Public Use Area is home to a wide variety of uses, including hunting, dog mushing, motorized and non-motorized access, skiing and skijoring, boating, berry picking, trapping and many others. This array of allowable uses gives every Fairbanks resident and family a place, close to town, where they can enjoy the Alaskan great outdoors.

The Goldstream Public Use Area encompasses an ever growing number of established trails that are utilized year round by user groups of all kinds. The loss of this open space, access to trails and beautiful scenery would be a major loss to every resident of Fairbanks, no matter their lifestyle.

Thank you and I urge you to join me in supporting the continued existence of this important piece of legislation.

Sincerely,

Katherine Beattie

Grier Hopkins

From: kumi rattenbury [krattenbury@yahoo.com]
Sent: Tuesday, December 08, 2009 9:06 AM
To: Grier Hopkins
Subject: Goldstream Valley Public Use Area

Dear Alaska State Legislature,

My name is Kumi Rattenbury and I support the Goldstream Public Use Area.

I believe the access and opportunities to outdoor recreation of all types that are available because of the Goldstream Public Use Area are essential to maintaining a strong quality of life for me and our entire community. This Public Use Area is home to a wide variety of uses, including hunting, dog mushing, motorized and non-motorized access, skiing and skijoring, boating, berry picking, trapping and many others. My husband and I enjoy the trails to run our dog team, to skijor and to bike-jor as well (it's excellent in the winter!). This array of allowable uses gives every Fairbanks resident and family a place, close to town, where they can enjoy the Alaskan great outdoors.

The Goldstream Public Use Area encompasses an ever growing number of established trails that are utilized year round by user groups of all kinds. The loss of this open space, access to trails and beautiful scenery would be a major loss to every resident of Fairbanks, no matter their lifestyle.

Thank you and I urge you to join me in supporting the continued existence of this important piece of legislation.

Sincerely,

Kumi Rattenbury

1982 Eldovista Pkwy

Fairbanks, AK 99709

Grier Hopkins

From: Carolyn Parker [clparker@alaska.edu]
Sent: Monday, December 07, 2009 8:47 PM
To: Grier Hopkins
Subject: Re: Thank you for helping the Goldstream Valley

Dear Alaska State Legislature,

My name is Carolyn Parker and I support the Goldstream Public Use Area. I have lived in the Goldstream Valley area for almost 40 years and have used the area north of Ballaine Road (as well as a lot of the area downstream of Ballaine Road, following Goldstream Creek all the way to S of Murphy Dome, for skiing, ski-joring, snowmaching, bird watching and berry picking. Most of us realize that most of this area is totally unfit for subdivision efforts due to the saturated and permafrost rich soils, but its use for berry picking, wildlife habitat, and all forms of winter recreation is invaluable for those of us who live in the area. It is a 'green belt' we would certainly hate of see lost.

The Goldstream Public Use Area encompasses an ever growing number of established trails that are utilized year round by user groups of all kinds. The loss of this open space, access to trails and beautiful scenery would be a major loss to every resident of Fairbanks, no matter their lifestyle.

Thank you and I urge you to join me in supporting the continued existence of this important piece of legislation.

Sincerely,

Carolyn Parker

1698 Old John Trail
5 Mile Murphy Dome Road
455-4113

Dear Alaska State Legislature,

Barbara O'Donnell and Linda Bode support the Goldstream Public Use Area.

We believe the access and opportunities to outdoor recreation of all types that are available because of the Goldstream Public Use Area are essential to maintaining a strong quality of life for our entire community. This Public Use Area is home to a wide variety of uses, including hunting, dog mushing, motorized and non-motorized access, skiing and skijoring, boating, berry picking, trapping and many others. This array of allowable uses gives every Fairbanks resident and family a place, close to town, where they can enjoy the Alaskan great outdoors.

The Goldstream Public Use Area encompasses an ever growing number of established trails that are utilized year round by user groups of all kinds. The loss of this open space, access to trails and beautiful scenery would be a major loss to every resident of Fairbanks, no matter their lifestyle.

Thank you and we urge you to join me in supporting the continued existence of this important piece of legislation.

Sincerely,

Barbara O'Donnell
Linda Bode
POB 325
Ester, AK 99725
479-0302

Grier Hopkins

From: mareca guthrie [marecaguthrie@gmail.com]
Sent: Monday, December 07, 2009 6:36 PM
To: Grier Hopkins
Subject: Re: Thank you for helping the Goldstream Valley

Dear Alaska State Legislature,

My name is Mareca Guthrie and I support the Goldstream Public Use Area.

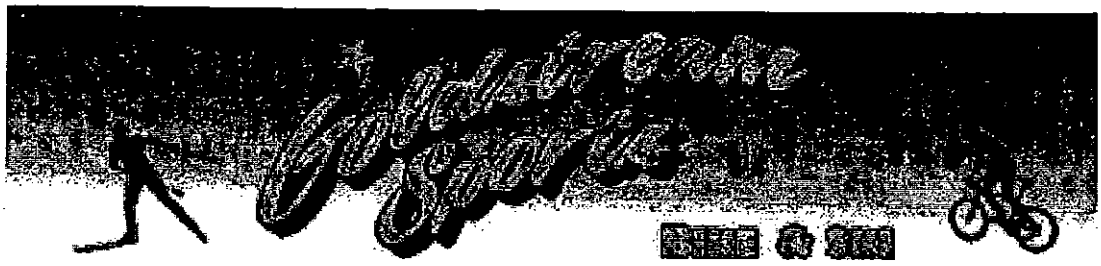
I believe the access and opportunities to outdoor recreation of all types that are available because of the Goldstream Public Use Area are essential to maintaining a strong quality of life for me and our entire community. This Public Use Area is home to a wide variety of uses, including hunting, dog mushing, motorized and non-motorized access, skiing and skijoring, boating, berry picking, trapping and many others. This array of allowable uses gives every Fairbanks resident and family a place, close to town, where they can enjoy the Alaskan great outdoors.

The Goldstream Public Use Area encompasses an ever growing number of established trails that are utilized year round by user groups of all kinds. The loss of this open space, access to trails and beautiful scenery would be a major loss to every resident of Fairbanks, no matter their lifestyle.

Thank you and I urge you to join me in supporting the continued existence of this important piece of legislation.

Sincerely,

Mareca Guthrie
2183 Nottingham Dr.
Fairbanks, AK 99709



Dear Alaska State Legislature,

My name is Joel Buth, owner of Goldstream Sports and I support the Goldstream Public Use Area.

I believe the access and opportunities to outdoor recreation of all types that are available because of the Goldstream Public Use Area are essential to maintaining a strong quality of life for me and our entire community. This Public Use Area is home to a wide variety of uses, including hunting, dog mushing, motorized and non-motorized access, skiing and skijoring, boating, berry picking, trapping and many others. This array of allowable uses gives every Fairbanks resident and family a place, close to town, where they can enjoy the Alaskan great outdoors.

The Goldstream Public Use Area encompasses an ever growing number of established trails that are utilized year round by user groups of all kinds. The loss of this open space, access to trails and beautiful scenery would be a major loss to every resident of Fairbanks, no matter their lifestyle.

Thank you and I urge you to join me in supporting the continued existence of this important piece of legislation.

Sincerely,

Joel Buth

711 Sheep Creek Rd
Fairbanks, AK 99709

Dear Alaska State Legislature,

My name is Amanda Byrd and I support the Goldstream Public Use Area.

I believe the access and opportunities to outdoor recreation of all types that are available because of the Goldstream Public Use Area are essential to maintaining a strong quality of life for me and our entire community. This Public Use Area is home to a wide variety of uses, including hunting, dog mushing, motorized and non-motorized access, skiing and skijoring, boating, berry picking, trapping and many others. This array of allowable uses gives every Fairbanks resident and family a place, close to town, where they can enjoy the Alaskan great outdoors.

The Goldstream Public Use Area encompasses an ever growing number of established trails that are utilized year round by user groups of all kinds. The loss of this open space, access to trails and beautiful scenery would be a major loss to every resident of Fairbanks, no matter their lifestyle.

Thank you and I urge you to join me in supporting the continued existence of this important piece of legislation.

Sincerely,

Amanda Byrd

PO Box 81644
Fairbanks, AK 99708

Dear Alaska State Legislature,

My name is Deborah C. Manning and I support the Goldstream Public Use Area.

I believe the access and opportunities to outdoor recreation of all types that are available because of the Goldstream Public Use Area are essential to maintaining a strong quality of life for me and our entire community. This Public Use Area is home to a wide variety of uses, including hunting, dog mushing, motorized and non-motorized access, skiing and skijoring, boating, berry picking, trapping and many others. This array of allowable uses gives every Fairbanks resident and family a place, close to town, where they can enjoy the Alaskan great outdoors.

The Goldstream Public Use Area encompasses an ever growing number of established trails that are utilized year round by user groups of all kinds. The loss of this open space, access to trails and beautiful scenery would be a major loss to every resident of Fairbanks, no matter their lifestyle.

Thank you and I urge you to join me in supporting the continued existence of this important piece of legislation.

Sincerely,

Tim A. Manning
Deborah Coccia Manning
debtim@acsalaska.net
907-456-6561

Grier Hopkins

From: Natalie M Monacci [nmonacci@yahoo.com]
Sent: Friday, December 04, 2009 10:08 AM
To: Grier Hopkins
Subject: Goldstream Valley

Dear Alaska State Legislature,

My name is Natalie Monacci and I support the Goldstream Public Use Area.

I believe the access and opportunities to outdoor recreation of all types that are available because of the Goldstream Public Use Area are essential to maintaining a strong quality of life for me and our entire community. This Public Use Area is home to a wide variety of uses, including hunting, dog mushing, motorized and non-motorized access, skiing and skijoring, boating, berry picking, trapping and many others. This array of allowable uses gives every Fairbanks resident and family a place, close to town, where they can enjoy the Alaskan great outdoors.

The Goldstream Public Use Area encompasses an ever growing number of established trails that are utilized year round by user groups of all kinds. The loss of this open space, access to trails and beautiful scenery would be a major loss to every resident of Fairbanks, no matter their lifestyle.

Thank you and I urge you to join me in supporting the continued existence of this important piece of legislation.

Sincerely,

Natalie Monacci

Fairbanks, AK

Dear Alaska State Legislature,

My name is Anthony Gasbarro and I support the Goldstream Public Use Area.

I believe the access and opportunities to outdoor recreation of all types that are available because of the Goldstream Public Use Area are essential to maintaining a strong quality of life for me and our entire community. This Public Use Area is home to a wide variety of uses, including hunting, dog mushing, motorized and non-motorized access, skiing and skijoring, boating, berry picking, trapping and many others. This array of allowable uses gives every Fairbanks resident and family a place, close to town, where they can enjoy the Alaskan great outdoors.

The Goldstream Public Use Area encompasses an ever growing number of established trails that are utilized year round by user groups of all kinds. The loss of this open space, access to trails and beautiful scenery would be a major loss to every resident of Fairbanks, no matter their lifestyle.

Thank you and I urge you to join me in supporting the continued existence of this important piece of legislation.

Sincerely,

Anthony Gasbarro

2687 Horsetail Trail

Fairbanks, AK 99709

Grier Hopkins

From: Tom Clark [aksnowbiker@gmail.com]
Sent: Friday, December 04, 2009 1:52 AM
To: Grier Hopkins
Subject: Re: Thank you for helping the Goldstream Valley

Dear Alaska State Legislature,

My name is Thomas M. Clark of Fairbanks, Alaska and I support the Goldstream Public Use Area.

I believe the access and opportunities to outdoor recreation of all types that are available because of the Goldstream Public Use Area are essential to maintaining a strong quality of life for me and our entire community. This Public Use Area is home to a wide variety of uses, including hunting, dog mushing, motorized and non-motorized access, skiing and skijoring, boating, berry picking, trapping and many others. This array of allowable uses gives every Fairbanks resident and family a place, close to town, where they can enjoy the Alaskan great outdoors.

The Goldstream Public Use Area encompasses an ever growing number of established trails that are utilized year round by user groups of all kinds. The loss of this open space, access to trails and beautiful scenery would be a major loss to every resident of Fairbanks, no matter their lifestyle.

Thank you and I urge you to join me in supporting the continued existence of this important piece of legislation.

Sincerely,
Tom Clark
PO Box 81134,
Fairbanks AK 99708

Dear Alaska State Legislature,

My name is Karen Moritz and I support the Goldstream Public Use Area.

I believe the access and opportunities to outdoor recreation of all types that are available because of the Goldstream Public Use Area are essential to maintaining a strong quality of life for me and our entire community. This Public Use Area is home to a wide variety of uses, including hunting, dog mushing, motorized and non-motorized access, skiing and skijoring, boating, berry picking, trapping and many others. This array of allowable uses gives every Fairbanks resident and family a place, close to town, where they can enjoy the Alaskan great outdoors.

The Goldstream Public Use Area encompasses an ever growing number of established trails that are utilized year round by user groups of all kinds. The loss of this open space, access to trails and beautiful scenery would be a major loss to every resident of Fairbanks, no matter their lifestyle.

Thank you and I urge you to join me in supporting the continued existence of this important piece of legislation.

Sincerely,
Karen Moritz
2390 Inclination Dr.
Fairbanks, AK 99709

Dear Alaska State Legislature,

My name is Michael Wald and I support the Goldstream Public Use Area.

I believe the access and opportunities to outdoor recreation of all types that are available because of the Goldstream Public Use Area are essential to maintaining a strong quality of life for me and our entire community. This Public Use Area is home to a wide variety of uses, including hunting, dog mushing, motorized and non-motorized access, skiing and skijoring, boating, berry picking, trapping and many others. This array of allowable uses gives every Fairbanks resident and family a place, close to town, where they can enjoy the Alaskan great outdoors.

The Goldstream Public Use Area encompasses an ever growing number of established trails that are utilized year round by user groups of all kinds. The loss of this open space, access to trails and beautiful scenery would be a major loss to every resident of Fairbanks, no matter their lifestyle.

Thank you and I urge you to join me in supporting the continued existence of this important piece of legislation.

Sincerely,

Michael Wald, Ester AK Dec 3 ,2009

Grier Hopkins

From: Susan Todd [sktodd@alaska.edu]
Sent: Thursday, December 03, 2009 5:46 PM
To: Grier Hopkins
Subject: Re: Thank you for helping the Goldstream Valley

Dear Alaska State Legislature,

My name is Susan Todd and I support the Goldstream Public Use Area.

I believe the access and opportunities to outdoor recreation of all types that are available because of the Goldstream Public Use Area are essential to maintaining a strong quality of life for me and our entire community. This Public Use Area is home to a wide variety of uses, including hunting, dog mushing, motorized and non-motorized access, skiing and skijoring, boating, berry picking, trapping and many others. This array of allowable uses gives every Fairbanks resident and family a place, close to town, where they can enjoy the Alaskan great outdoors.

The Goldstream Public Use Area encompasses an ever growing number of established trails that are utilized year round by user groups of all kinds. The loss of this open space, access to trails and beautiful scenery would be a major loss to every resident of Fairbanks, no matter their lifestyle.

Thank you and I urge you to join me in supporting the continued existence of this important piece of legislation.

Sincerely,

Susan Todd

3255 Edby Road
Fairbanks, Ak 99709
907-479-5642

--
Susan Todd
Assoc. Professor of Resource Planning
Dept. of Resources Management
349 O'Neill Bldg
University of Alaska Fairbanks
Fairbanks, AK 99775-7200
Phone 907-474-6930
Fax 907-474-6184

Dear Alaska State Legislature,

My name is Cathy Weeg and I support the Goldstream Public Use Area.

I believe the access and opportunities to outdoor recreation of all types that are available because of the Goldstream Public Use Area are essential to maintaining a strong quality of life for me and our entire community. This Public Use Area is home to a wide variety of uses, including hunting, dog mushing, motorized and non-motorized access, skiing and skijoring, boating, berry picking, trapping and many others. This array of allowable uses gives every Fairbanks resident and family a place, close to town, where they can enjoy the Alaskan great outdoors.

The Goldstream Public Use Area encompasses an ever growing number of established trails that are utilized year round by user groups of all kinds. The loss of this open space, access to trails and beautiful scenery would be a major loss to every resident of Fairbanks, no matter their lifestyle.

Thank you and I urge you to join me in supporting the continued existence of this important piece of legislation.

Sincerely,

Cathy Weeg

Dear Alaska State Legislature,

My name is Deb Lawton and I support the Goldstream Public Use Area.

I believe the access and opportunities to outdoor recreation of all types that are available because of the Goldstream Public Use Area are essential to maintaining a strong quality of life for me and our entire community. This Public Use Area is home to a wide variety of uses, including hunting, dog mushing, motorized and non-motorized access, skiing and skijoring, boating, berry picking, trapping and many others. This array of allowable uses gives every Fairbanks resident and family a place, close to town, where they can enjoy the Alaskan great outdoors.

The Goldstream Public Use Area encompasses an ever growing number of established trails that are utilized year round by user groups of all kinds. The loss of this open space, access to trails and beautiful scenery would be a major loss to every resident of Fairbanks, no matter their lifestyle.

Thank you and I urge you to join me in supporting the continued existence of this important piece of legislation.

Sincerely,

Deb Lawton

Dear Alaska State Legislature,

My name is Nicole and I support the Goldstream Public Use Area.

I believe the access and opportunities to outdoor recreation of all types that are available because of the Goldstream Public Use Area are essential to maintaining a strong quality of life for me and our entire community. This Public Use Area is home to a wide variety of uses, including hunting, dog mushing, motorized and non-motorized access, skiing and skijoring, boating, berry picking, trapping and many others. This array of allowable uses gives every Fairbanks resident and family a place, close to town, where they can enjoy the Alaskan great outdoors.

The Goldstream Public Use Area encompasses an ever growing number of established trails that are utilized year round by user groups of all kinds. The loss of this open space, access to trails and beautiful scenery would be a major loss to every resident of Fairbanks, no matter their lifestyle. Not only would this be a detriment to people, it would harm moose, owls, waterfowl, and many other animals that use this space.

Thank you and I urge you to join me in supporting the continued existence of this important piece of legislation.

Sincerely,

Nicole Smith
1370 Jones Road
Fairbanks, AK 99709

> Dear Alaska State Legislature,
>
>I support the Goldstream Public Use Area. I use it often for skijoring and berry picking, and it is a critical visual addition to my drives through that area.
>
> I believe the access and opportunities to outdoor recreation of all
> types that are available because of the Goldstream Public Use Area are
> essential to maintaining a strong quality of life for me and our
> entire community. This Public Use Area is home to a wide variety of
> uses, including hunting, dog mushing, motorized and non-motorized
> access, skiing and skijoring, boating, berry picking, trapping and many others.
> This array of allowable uses gives every Fairbanks resident and family
> a place, close to town, where they can enjoy the Alaskan great outdoors.
>
> The Goldstream Public Use Area encompasses an ever growing number of
> established trails that are utilized year round by user groups of all
> kinds. The loss of this open space, access to trails and beautiful
> scenery would be a major loss to every resident of Fairbanks, no
> matter their lifestyle.
>
> Thank you and I urge you to join me in supporting the continued
> existence of this important piece of legislation.
>
> Sincerely,
> Gail Davidson
> 3638 Rosie Creek Road
> Fairbanks, AK 99709
> 479-7127

December 3, 2009

Dear Alaska State Legislature,

My name is Jane Lanford, and I support the Goldstream Public Use Area. I have personally used the area off and on since 1994 for running and snowshoeing, both for training and in races. I keep meaning to get out there berry-picking and cross-country skiing, and I hope it stays available until I do. I also enjoy looking for, and often spotting, moose and other critters every time I drive through on Ballaine or other roads.

I believe the access and opportunities to outdoor recreation of all types that are available because of the Goldstream Public Use Area are essential to maintaining a strong quality of life for me and our entire community. This Public Use Area is home to a wide variety of uses, including hunting, dog mushing, motorized and non-motorized access, skiing and skijoring, boating, berry picking, trapping and many others. This array of allowable uses gives every Fairbanks resident and family a place, close to town, where they can enjoy the Alaskan great outdoors.

The Goldstream Public Use Area encompasses an ever growing number of established trails that are utilized year round by user groups of all kinds. The loss of this open space, access to trails and beautiful scenery would be a major loss to every resident of Fairbanks, no matter their lifestyle.

Thank you and I urge you to join me in supporting the continued existence of this important piece of legislation.

Sincerely,

Jane Lanford
5041 Vancouver Road
Fairbanks, AK 99709

My name is Robert Pristash 1745 Snowhook Trail , Fairbanks,Ak and I support the Goldstream Public Use Area.

I believe the access and opportunities to outdoor recreation of all types that are available because of the Goldstream Public Use Area are essential to maintaining a strong quality of life for me and our entire community. This Public Use Area is home to a wide variety of uses, including hunting, dog mushing, motorized and non-motorized access, skiing and skijoring, boating, berry picking, trapping and many others. This array of allowable uses gives every Fairbanks resident and family a place, close to town, where they can enjoy the Alaskan great outdoors.

The Goldstream Public Use Area encompasses an ever growing number of established trails that are utilized year round by user groups of all kinds. The loss of this open space, access to trails and beautiful scenery would be a major loss to every resident of Fairbanks, no matter their lifestyle.

Thank you and I urge you to join me in supporting the continued existence of this important piece of legislation.

Sincerely,

SB 203

SENATE COMMITTEE REPORT
First Committee of Referral

DATE: 1/19/10

FURTHER: Finance

Date of 5-Day Notice: _____
(in accordance with Uniform Rule 23)

DATE TURNED IN TO OFFICE: _____

Resources Committee considered SENATE BILL NO. 203

SB 203 COOK INLET GAS STORAGE FACILITIES

"An Act relating to a tax credit for a facility to store Cook Inlet gas for sale and delivery in the state; relating to an exemption from the oil and gas exploration, production, and pipeline transportation property tax for a facility that stores Cook Inlet gas for sale and delivery in the state; and providing for an effective date."

and recommends:

[X] be **replaced** with [ ] **SCS** or [X] **CS** SB 203/P (RES)

[ ] adopt **previous** [ ] **SCS** or [ ] **CS** _____ (_____)

[ ] attached amendment(s)

[ ] adopt _____ Letter of Intent

[ ] further referral to _____ Committee

SENATE BILL:
[ ] Same Title
[ ] New Title

HOUSE BILL:
[ ] Same Title
[ ] Technical Title Change
[ ] New Title w/ SCR #_____

NEW FISCAL NOTE(S):

Department	Date	Fiscal	Indet.	Zero	FN#
DNR	2-11-10			0	439

PREVIOUS FISCAL NOTE(S):

Department	Date	Fiscal	Indet.	Zero	FN#

[ ] **APPROPRIATION - no fiscal note**

SIGNATURES AND RECOMMENDATIONS:	PRINTED LAST NAME	DO PASS	DO NOT PASS	NO REC	AMEND
	Stevens			✓	
	McGuire	✓			
	French	✓			
CO-CHAIR:	Wielechowski	✓			
CO-CHAIR:					

26-LS1114\P
Bullock
2/4/10

CS FOR SENATE BILL NO. 203( )

IN THE LEGISLATURE OF THE STATE OF ALASKA

TWENTY-SIXTH LEGISLATURE - SECOND SESSION

BY

Offered:
Referred:

Sponsor(s): SENATORS FRENCH AND WIELECHOWSKI, Ellis

A BILL

FOR AN ACT ENTITLED

"An Act relating to the regulation of a gas storage facility by the Regulatory Commission of Alaska; relating to a tax credit for a facility to store Cook Inlet gas for sale and delivery in the state; relating to an exemption from the oil and gas exploration, production, and pipeline transportation property tax for a facility that stores Cook Inlet gas for sale and delivery in the state; and providing for an effective date."

BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF ALASKA:

*** Section 1.** AS 42.05.990(4) is amended to read:

(4) "public utility" or "utility" includes every corporation whether public, cooperative, or otherwise, company, individual, or association of individuals, their lessees, trustees, or receivers appointed by a court, that owns, operates, manages, or controls any plant, pipeline, or system for

(A) furnishing, by generation, transmission, or distribution, electrical service to the public for compensation;

(B) furnishing telecommunications service to the public for compensation;

(C) furnishing water, steam, or sewer service to the public for compensation;

(D) furnishing by transmission or distribution of natural or manufactured gas to the public for compensation;

(E) furnishing for distribution or by distribution petroleum or petroleum products to the public for compensation when the consumer has no alternative in the choice of supplier of a comparable product and service at an equal or lesser price;

(F) furnishing collection and disposal service of garbage, refuse, trash, or other waste material to the public for compensation;

(G) furnishing a tank, depleted reservoir, injection well for gas storage permitted under AS 31.05, or other structure in the state for the storage of gas that is designated to be sold and delivered in the state by a public utility providing the service described in (D) of this paragraph;

*** Sec. 2.** AS 43.20 is amended by adding a new section to article 1 to read:

Sec. 43.20.046. Cook Inlet gas storage facility tax credit. (a) A taxpayer that is an owner of a Cook Inlet gas storage facility may apply as a credit against the state tax liability that may be imposed on the taxpayer under this chapter, for a tax year beginning after December 31, 2009, 20 percent of the taxpayer's qualified capital investment in a Cook Inlet gas storage facility. The credit is subject to the terms and conditions of this section and is in addition to any other credit authorized to the taxpayer by this chapter.

(b) A qualified capital investment for the investment credit under (a) of this section is

(1) a cash expenditure or a payment due under a binding payment agreement entered into after December 31, 2009, and before January 1, 2013, made for the direct cost of purchasing, constructing, or otherwise acquiring an ownership interest in the real property or tangible personal property used in this state for a Cook Inlet gas storage facility; in this paragraph, "property" includes

(A) property that is placed in use under a capitalized lease or an operating lease; and

(B) machinery, appliances, supplies, and equipment directly related to the storage of gas produced from the Cook Inlet sedimentary basin and designated for sale and delivery in the state; and

(2) the cost of cushion gas acquired after December 31, 2009, and before January 1, 2013, that is required for a Cook Inlet gas storage facility to function.

(c) The credit for each tax year allowed under (a) of this section may not exceed 50 percent of the taxpayer's total tax liability under this chapter. An unused portion of the credit for the tax year

(1) may be carried forward into one or more of the following tax years, except that the unused credit from one tax year may not be carried forward for more than five following tax years;

(2) shall be applied to the taxpayer's tax liability under this chapter during the following tax year before allowance of a credit allowed under (a) of this section for that following tax year.

(d) To obtain the credit allowed by this section, the taxpayer has the burden of demonstrating compliance with the requirements of this section to entitle the taxpayer to the claim of and the amount of the credit. A credit may not be claimed before the gas storage facility is ready to receive gas for storage. To claim the credit, a person shall submit, on a form prescribed by the department, information that demonstrates that the taxpayer is eligible for the credit and evidence of the expenses that are the basis of the claim of the credit. A person

(1) required to file a return under this chapter shall submit the form claiming the credit with the taxpayer's return;

(2) not required to file a return under this chapter shall submit the form claiming the credit before May 1 of the year following the year in which the expenditure qualifying for the credit under this section is made.

(e) A taxpayer entitled to a credit under this section

(1) with prior written approval by the department, may convey, assign,

or transfer the credit to another taxpayer or business entity;

(2) forfeits the credit to which the taxpayer is entitled during the tax year and any carryover of it under (c) of this section, but does not forfeit the portion of the credit that accrued in a previous taxable year that may be carried over under (c) of this section, if the taxpayer

(A) disposes of the qualified capital investment;

(B) takes the qualified investment out of service; or

(C) fails to use the Cook Inlet gas storage facility primarily for the storage of gas for sale and delivery in the state.

(f) In this section,

(1) "Cook Inlet gas storage facility" means a tank, depleted reservoir, injection well for gas storage permitted under AS 31.05, or other structure in the state for the storage of gas that is produced from the Cook Inlet sedimentary basin and designated for sale and delivery in the state, and includes machinery, supplies, and equipment directly related to and necessary for filling and withdrawing gas from the structures holding the gas for storage in the facility;

(2) "Cook Inlet sedimentary basin" has the meaning given in AS 43.55.900;

(3) "cushion gas" means gas that is needed to pressurize the storage facility and that allows the storage facility to function.

* **Sec. 3.** AS 43.56.210(5) is amended to read:

(5) "taxable property"

(A) means real and tangible personal property used or committed by contract or other agreement for use within this state primarily in the exploration for, production of, or pipeline transportation of gas or unrefined oil (except for property used solely for the retail distribution or liquefaction of natural gas), or in the operation or maintenance of facilities used in the exploration for, production of, or pipeline transportation of gas or unrefined oil; "taxable property" includes

(i) machinery, appliances, supplies, and equipment;

(ii) drilling rigs, wells (whether producing or not),

gathering lines and transmission lines, pumping stations, compressor stations, power plants, topping plants, and processing units;

(iii) roads, tank farms, tanker terminals, docks and other port facilities, and air strips;

(iv) aircraft and motor vehicles owned by a person whose principal business in the state is the exploration for, production of, or pipeline transportation of gas or unrefined oil and whose operation of the aircraft or motor vehicle directly relates to the conduct of that business;

(v) maintenance equipment and facilities, and maintenance camps and other related facilities; and

(vi) communications facilities owned by a person whose principal business in the state is the exploration for, production of, or pipeline transportation of gas or unrefined oil and whose operation of the communications facilities directly relates to the conduct of that business;

(B) does not include

(i) permanent residences;

(ii) office buildings requiring substantial local government services;

(iii) oil and gas pipeline systems owned and operated by a public utility that is certificated under AS 42.05.221 and is regulated by the Regulatory Commission of Alaska;

(iv) aircraft and motor vehicles, except aircraft and motor vehicles taxable under (A)(iv) of this paragraph; [AND]

(v) communications facilities, except communications facilities taxable under (A)(vi) of this paragraph; **and**

(vi) notwithstanding (A) of this paragraph, a Cook Inlet gas storage facility, as that term is defined in AS 43.20.046;

*** Sec. 4.** This Act takes effect immediately under AS 01.10.070(c).

FISCAL NOTE

STATE OF ALASKA
2010 LEGISLATIVE SESSION

Fiscal Note Number:
Bill Version: **SB 203**
() Publish Date:

Identifier (file name): SB 203-DNR-O&G-02-05-10
Dept. Affected: Natural Resources
Title: Cook Inlet Gas Storage Facility Tax Credit
RDU: Resource Development
Component: Oil and Gas Development
Sponsor: Senators Wielechowski, French, Ellis
Requester: Senate Resources Committee
Component Number: 439

Expenditures/Revenues (Thousands of Dollars)

Note: Amounts do not include inflation unless otherwise noted below.

	Appropriation Required	Information					
OPERATING EXPENDITURES	**FY 2011**	**FY 2011**	**FY 2012**	**FY 2013**	**FY 2014**	**FY 2015**	**FY 2016**
Personal Services							
Travel							
Contractual							
Supplies							
Equipment							
Land & Structures							
Grants & Claims							
Miscellaneous							
TOTAL OPERATING	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
CAPITAL EXPENDITURES							
CHANGE IN REVENUES ( )							

FUND SOURCE (Thousands of Dollars)

1002 Federal Receipts							
1003 GF Match							
1004 GF							
1005 GF/Program Receipts							
1037 GF/Mental Health							
Other Interagency Receipts							
TOTAL	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**

Estimate of any current year (FY2010) cost:

POSITIONS

Full-time							
Part-time							
Temporary							

ANALYSIS: *(Attach a separate page if necessary)*

SB 203 amends AS 43.20 and adds a new section called the Cook Inlet gas storage facility tax credit. The bill would provide 20% of qualified capital investment of a Cook Inlet gas storage facility to receive a tax credit that does not exceed 50% within a tax credit year. This tax credit would: (1) be in addiiton to any other available credits authorized by this Chapter (2) may be conveyed, assigned or transferred to another taxpayer or business entity (3) appears to provide tax credit for any fees associated with the acquisition and maintenance of a gas storage lease or agreement (4) and includes the cost and royalties associated with "cushion gas".

There is no anticipated fiscal impact to the Division of Oil and Gas. The application of tax credits will have an indeterminant impact on the revenues acquired by the Division.

Prepared by: Kevin Banks, Director — Phone 269-8800
Division: Oil and Gas — Date/Time 2/5/10 5:00 PM
Approved by: Tom Irwin, Commissioner — Date 2/6/2010
Natural Resources

(Revised 11/6/2009 OMB)

3316

FISCAL NOTE

STATE OF ALASKA
2010 LEGISLATIVE SESSION

Fiscal Note Number:
Bill Version: **SB 203**
() Publish Date:

Identifier (file name): SB203-REV-TAX-02-05-10
Dept. Affected: Revenue
Title: Cook Inlet Gas Storage Facilities
RDU: Treasury and Taxation
Component: Tax Division
Sponsor: Senator French
Requester: (S) Resources
Component Number: 2476

Expenditures/Revenues (Thousands of Dollars)

Note: Amounts do not include inflation unless otherwise noted below.

	Appropriation Required	Information					
OPERATING EXPENDITURES	**FY 2011**	**FY 2011**	**FY 2012**	**FY 2013**	**FY 2014**	**FY 2015**	**FY 2016**
Personal Services							
Travel							
Contractual							
Supplies							
Equipment							
Land & Structures							
Grants & Claims							
Miscellaneous							
TOTAL OPERATING	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
CAPITAL EXPENDITURES							
CHANGE IN REVENUES ( )	***	***	***	***	***	***	***

FUND SOURCE (Thousands of Dollars)

1002 Federal Receipts							
1003 GF Match							
1004 GF							
1005 GF/Program Receipts							
1037 GF/Mental Health							
Other Interagency Receipts							
TOTAL	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**

Estimate of any current year (FY2010) cost:

POSITIONS

Full-time							
Part-time							
Temporary							

ANALYSIS: *(Attach a separate page if necessary)*

See Attached.

Prepared by: Johanna Bales, Deputy Director/Tim Harper, Economist III — Phone (907) 269-6628
Division: Tax Division — Date/Time 2/5/2010 5:50 p.m.
Approved by: Ginger Blaisdell, Director — Date 2-5-10; 8:55pm
Administrative Services Division

(Revised 11/6/2009 OMB)

FISCAL NOTE

STATE OF ALASKA
2010 LEGISLATIVE SESSION

BILL NO. SB 203

ANALYSIS CONTINUATION

Bill Language:

This bill provides a tax credit for the purchase, construction, or other acquisition of an ownership interest in a Cook Inlet (CI) gas storage facility. Capital expenditures qualifying for the credit include the acquisition of real and tangible personal property as well as cushion gas required for the facility to properly function. Only expenses incurred after December 31, 2009 and before January 1, 2013 would qualify for the credit. A taxpayer would be able to take a credit of 20% of its qualified capital investment against its Alaska corporate income tax (CIT). The taxpayer could offset no more than 50% of its total CIT liability in any given tax year. Any unused portion of the credit could be carried forward for five years. A taxpayer entitled to the credit could transfer the credit to another taxpayer.

This bill also would exempt a Cook Inlet gas storage facility from the oil and gas property tax.

Revenues:

Although it is difficult to determine the number of taxpayers who would take advantage of this tax credit, we do expect corporate income tax and oil and gas property tax revenues to decline. There are three existing gas storage facilities in the Cook Inlet region that would potentially qualify for the corporate income tax credit and oil and gas property tax exemption provided by this bill. Since this bill does not require the construction of new facilities, the sale of an existing facility would qualify for the credit. Taxpayers would most likely take steps to qualify these facilities for the associated tax credits.

Due to the complexity of the oil and gas property tax, it is difficult to determine what portion of existing property taxes would be exempt under this bill. However, we expect some portion of these existing facilities will qualify for the exemption and, therefore, state property taxes would decline. Because 43.56 allows a local municipality to receive property tax revenue on oil and gas property assessed by the state, the Kenai Peninsula Borough would also see a decline in their property tax as it relates to existing facilities and foregone revenues in the future for potential new facilities.

Reduction in corporate income tax and oil and gas property tax revenues are indeterminate at this time.

Expenditures:

The provisions of this bill would most likely require the hiring of additional state staff. It is not known at this time the number of position(s) that would be needed. Additional administrative work required of the Department would be dictated by the number of taxpayers who take advantage of the credit and the associated work required to validate those credits.

Alaska State Legislature

Senator Hollis French

SB 203 – Cook Inlet Gas Storage Facilities

Sponsor Statement

Senate Bill 203 creates economic incentives for companies in Cook Inlet to develop storage facilities for natural gas.

While natural gas supply in Cook Inlet is sufficient to supply southcentral Alaska with the energy it needs for the near future, the need to produce gas at a constant rate results in more gas than the system needs in the summer months and near-shortages when demand is far higher in the winter.

Recently, the Regulatory Commission of Alaska (RCA), the Municipality of Anchorage and local utility companies have all discussed the possibility of natural gas shortages for homes and businesses during peak winter use. Both Enstar and Chugach Electric Association indicated in a recent RCA hearing that gas shortages could occur as early as winter 2011-2012.

While incentives exist to encourage producers to explore for new supplies, there are no similar incentives for storage. According to studies and industry sources, development of an adequate storage system could cost companies $100 -- $200 million dollars.

Under SB 203 development costs for the creation of gas storage facilities or reservoirs will be eligible for a tax credit like those offered for development of new wells. Cushion gas, which would remain in storage wells to maintain pressure for efficient removal, would not be subject to taxation. The legislation would also exempt storage facilities and equipment from state property taxes.

Senator Hollis French

SB 203 SECTIONAL ANALYSIS

Section 1

Section 1 provides for a 20% tax credit on qualified gas storage facilities. Qualifying expenditures include; a payment for a lease, machinery, supplies, equipment, or the cost of cushion gas which pressurizes the well for efficient extraction. The gas must be designated for sale and delivery in Alaska. A qualifying purchase must be made between December 31, 2009 and January 1, 2013, and cannot exceed 50% of the total tax liability.

The section also outlines the process for applying for the tax credit, and defines "Cook Inlet gas storage facility," and "cushion gas."

Section 2

Section 2 exempts Cook Inlet gas storage facilities from state property taxes.

Senator Hollis French

CSSB 203\P Explanation of Changes

P. 2, line 13: Adds gas storage facilities to the definition of a "public utility" under the Alaska Public Utilities Regulatory Act.

P. 2, line 21: Inserted "direct cost" to definition of "a qualified capital investment." This narrows the costs to which a company would be allowed to apply the credit.

P. 3, line 9-10: Deleted "but shall be calculated before the application of any other credits allowed under this chapter." This was in conflict with other language in statute.

P. 3, line 20-21: Inserted "A credit may not be claimed before the gas storage facility is ready to receive gas for storage."

Petroleum news

Providing coverage of Alaska and northern Canada's oil and gas industry
September 2009

Vol. 14, No. 38 Week of September 20, 2009

What price CI gas?

RCA gleans views on breaking utility supply contract approval logjam

Alan Bailey

Petroleum News

While concerns rise about whether natural gas supplies from Alaska's Cook Inlet basin will be able to keep up with local utility demand, especially during the depths of the winter, a debate continues regarding whether Cook Inlet gas prices are too low to entice sufficient new gas exploration and development, or whether the Cook Inlet gas producers are crying wolf over the gas supply situation, to increase their profits by pushing gas prices up.

Since 2004 the Regulatory Commission of Alaska, in its role of regulating the utilities and protecting energy consumers from unnecessarily high energy prices, has rejected as too expensive every gas supply contract that Enstar Natural Gas Co., the main Southcentral Alaska gas utility, has negotiated with Cook Inlet gas producers. A recent supply agreement between power utility Chugach Electric Association and gas producer ConocoPhillips is the only utility gas supply contract that the commission has approved in that time.

But what is a reasonable price for Cook Inlet natural gas?

On Sept. 16 RCA convened a technical conference to seek views on how to provide regulatory oversight of gas pricing, to help change the regulatory process for gas supply contract approval from what has all too often become an expensive and time consuming minefield, possibly delaying new gas development, into more of a well-marked pathway.

Producer view

The major Cook Inlet gas producers declined to participate in the conference, citing anti-trust issues that might be raised by their involvement in discussions about how gas prices might be set. But a written statement by Marathon, one of those producers, reiterated an often expressed oil company view that supply contracts, including gas pricing arrangements, should be "freely and fairly" negotiated between the producers and the utilities, rather than be specified in some way by regulators.

"The regulators should regulate the regulated, not the gas market," Marathon said. And negotiations between the producers and the utilities need to recognize that producers are driven by the balance between risk and reward, in a situation where gas projects in Alaska compete for finite funding with other projects on a global basis, the company said.

But the isolated nature of the tiny Cook Inlet utility gas market and the lack of a spot market for Cook Inlet gas have made it impossible to determine a market-driven local gas price and have led gas contract negotiations into some creative ways of establishing contract prices.

A few decades ago, prior to the formation of dynamic national and global natural gas markets, negotiations between Southcentral utilities and the Cook Inlet gas producers led to long-term contract gas prices indexed to the price of oil. And, with a large glut of Cook Inlet gas, those prices were low relative to other part of the United States.

Changing market

Then in the early 2000s, as tightening Cook Inlet gas supplies started to draw people's attention to the need for more Cook Inlet gas exploration, and as a burgeoning North American and global trade in natural gas drove the establishment of many gas trading hubs, Cook

Inlet gas contract negotiations moved toward the indexing of Cook Inlet gas prices to gas markets elsewhere, in particular to the Henry Hub market in the Lower 48.

Indexing Cook Inlet gas prices to Lower 48 prices would enable Cook Inlet gas exploration to compete for capital with gas exploration projects elsewhere, the gas producers argued.

In 2001 RCA approved a Unocal gas supply contract with Enstar that used a Henry Hub index, and in 2004 the commission approved a similar contract between Enstar and the NorthStar Energy Group. However, the commission subsequently dropped its support for Henry Hub indexing, and for other proposed indices involving North American trading points at the demand or downstream end of gas transmission networks, saying that these markets did not model the market situation in the Cook Inlet and resulted in over-priced Cook Inlet gas.

The commission proposed instead a price index based on a basket of producer basin markets, an approach that the producers rejected for contracts with Enstar but which forms the basis of the pricing in the recently approved Chugach contract.

Market index?

Is the use of this form of market index appropriate as a benchmark for gas prices in Cook Inlet, the commissioners asked at the Sept. 16 conference? And should the commission specify a "safe harbor" range of prices that would be acceptable to the commission and guarantee contract approval?

Some conference participants cautioned about the difficulty of restraining prices within a narrow range, an approach that seems akin to price controls. And Dan Dieckgraeff, Enstar's manager of rates and regulatory affairs, argued the case for price mechanism flexibility, given the inevitable differences between different contract situations and the evolving nature of gas markets.

Trying to pick a pricing mechanism that works perfectly today is not useful for determining gas prices in the future, given that gas markets around the world are changing continuously, he said.

And Commissioner Janis Wilson commented that experience of linking Cook Inlet gas prices to Lower 48 market indices has in practice demonstrated how little connection there is between the market dynamics in the Lower 48 and the gas supply and demand situation in the Cook Inlet.

"Here we are with a (gas) surplus in the Lower 48, prices going way down, and we're facing gas shortages (in the Inlet)," Wilson said.

Another possible Cook Inlet gas price model discussed at the conference is a price cap indexed to the estimated price of imported LNG, imports that would form an obvious alternative to the Cook Inlet basin as a gas source.

And Aurora Gas, the one producer to participate in the conference, would like to see some percentage of the total gas demand set aside for bidding in an open spot market that would give small producers like Aurora market access, while also establishing a market gas price. However, utilities have expressed concern about this concept, because of utility needs for assured supplies from medium- to long-term contracts.

No cost data

One problem that the commission faces when it comes to assessing a reasonable gas-price level is the absence of information regarding the cost of Cook Inlet gas production, information that the gas producers are unwilling to divulge, said Commissioner Anthony Price.

"One emphasis in prior gas contracts is that there's more cost in the Cook Inlet, and yet there's no evidence put on the record of the cost in the Cook Inlet," Price said. "... There's nothing we can land on."

Dieckgraeff said that, although costs factor into gas producer decision making, in his experience it is gas prices that determine gas producer investment commitments. On the other hand, the cost of servicing the extreme swings in Alaska utility gas demand between summer and winter must be taken into account when comparing Alaska gas prices with those in the Lower 48, he said.

In fact, the commission is seeking views on whether it should allow seasonal price variation, or possibly gas producer cost add-ons for the

storage of gas for winter use, in approved gas supply contracts. The conference participants seemed to share a view that new gas storage in the Cook Inlet basin will prove to be a key factor in managing gas supplies for winter use, and that the necessary storage facilities will come at a cost. Storage facilities could also provide a gas market for small producers such as Aurora Gas, said Alan Dennis, royalty manager in Alaska's Division of Oil and Gas.

Price flexibility

However, as in models for the base pricing of gas, there needs to be flexibility from one contract to another in the way in which storage costs can be recovered, whether cost recovery comes from tiering the gas prices to different levels of delivery, or from a single, year-round "bundled" price. Dieckgraeff argued.

"One size fits all isn't the way we want to go here," he said.

RCA is also considering whether there may be value in legislative changes to state statutes, to specify how the commission should review utility gas supply contracts, perhaps with a specified pricing mechanism for the gas. These possibilities did not provoke any response from the conference participants, other than one comment that a statutory standard of the review for the contracts might be helpful in improving the review process.

Other topics discussed during the conference included the fact that the utilities in general support RCA pre-approval of their gas supply contracts, prior to tariff approval, as an essential means of eliminating the significant financial risk that would otherwise result from the possibility of the commission rejecting a contract after a tariff has gone into effect. Some conference participants also expressed concern that a too broad participation in utility tariff hearings, including the involvement of entities with unclear or inappropriate agendas, had in some cases unduly increased the length and cost of the hearings.

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Tax incentives proposed for gas storage

Alaska Sen. French unveils bill offering tax credits, property tax relief to encourage Cook Inlet facilities for holding natural gas

Wesley Loy

For Petroleum News

Alaska state Sen. Hollis French plans to introduce legislation to provide tax incentives for development of Cook Inlet natural gas storage capacity.

French, an Anchorage Democrat who sits on the Senate Resources Committee, said he's concerned about potential winter gas supply shortages for homes and businesses in Southcentral Alaska.

"Storage makes sense. It's like cutting an extra cord of wood in the summer to burn in the winter," French said in a Nov. 2 press release.

A problem with storage, however, is the considerable expense.

"According to studies and industry sources, development of an adequate storage system could cost companies $100-$200 million," the press release said.

French's five-page draft bill defines a Cook Inlet gas storage facility as a tank, a depleted reservoir, an injection well for gas storage, "or other structure in the state for the storage of gas that is produced from the Cook Inlet sedimentary basin and designated for sale and delivery in the state."

The bill has two major elements.

First, it offers a state corporate income tax credit. A company may apply as a credit against its tax liability "20 percent of the taxpayer's qualified capital investment in a Cook Inlet gas storage facility," the bill says.

It defines a qualified capital investment as a cash expenditure or contract struck between Dec. 31 of this year and Jan. 1, 2013, for development of a storage facility.

Another qualified capital investment is the cost of "cushion gas" necessary to pressurize the storage facility. This permanent inventory of cushion gas is a major initial cost factor for storage developers.

The credit could not exceed 50 percent of a company's total tax liability each year, the bill says.

The bill's second major element would exempt gas storage facilities and equipment from the state oil and gas property tax.

Storage already happening

While Cook Inlet gas fields are approaching depletion, the most pressing issue right now is deliverability — getting enough gas into the distribution grid during the coldest winter days to meet peak demand. Regulators, energy companies and elected officials have talked increasingly of the possible need for consumer conservation measures or even rolling power blackouts as early as this winter.

French, a former oil industry worker and Senate bipartisan majority member who's running against Republican Gov. Sean Parnell, has touted storage as a way to squirrel away summer gas production for use during winter.

The storage incentives are akin to state perks now in place to encourage exploratory drilling, French said.

But some storage efforts already are progressing without the benefit of the tax incentives he is proposing.

Chevron and Marathon have established three storage facilities in depleted reservoirs at the Swanson River, Pretty Creek and Kenai fields.

Enstar Natural Gas Co., the major gas utility for Southcentral Alaska, is working with Houston-based ANR Pipeline Co., a TransCanada Corp. subsidiary, on development of a new storage facility.

Aurora Gas also wants to develop a gas storage facility at its Nicolai Creek gas field.

French's bill will be considered once the Legislature opens its new session on Jan. 19.

Two types of tax incentives

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vol. 14, No. 34 Week of August 23, 2009

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Seeking CI gas storage

Enstar working with TransCanada subsidiary on Cook Inlet gas storage facility

By Alan Bailey

Petroleum News

Faced with a slowly increasing natural gas demand accompanied by steadily declining Cook Inlet gas deliverability, Enstar Natural Gas Co, the main gas utility in Southcentral Alaska, is working with Houston-based ANR Pipeline Co, a subsidiary of TransCanada, to establish a new Cook Inlet underground gas storage facility with an eventual capacity of up to 15 billion cubic feet, to alleviate a pending gas deliverability shortfall, John Lau, Enstar's director of transmission operations, told Petroleum News Aug. 17. The two companies plan to make a final decision by the end of this year on whether to proceed with construction of the facility, he said.

ANR would fund, build and operate the facility as a third-party operator, with Enstar and other utilities paying for storage space.

With Southcentral Alaska utility gas predominantly used for heating homes and business, gas demand in the cold of winter typically peaks at levels 10 times greater than the troughs in demand during the summer. And in the past this huge seasonal demand swing has been accommodated by full-service supply contracts, in which Cook Inlet gas producers take responsibility for upping the supply rates during the winter.

Years ago increasing gas delivery was simply a matter of opening up valves on gas wells, but now there isn't that excess deliverability, Lau said. Instead, the producers now need expensive infrastructure to accommodate the demand swings, he said.

No new contracts

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In addition, with 25 percent of its required gas supplies in 2011 not under contract, and no significant new gas supply contracts in the offing, Enstar is facing a supply crunch in about 16 months. And, since the Regulatory Commission of Alaska has rejected as too expensive all new gas supply contracts that Enstar has negotiated since 2001, Enstar anticipates that any new contracts that might fill the pending gas supply gap would involve constant rates of delivery year-round at constant pricing, an arrangement known in gas utility parlance as "flat gas."

"There's noone coming to us with contracts for us to take before the RCA anymore," Lau said. "So what we're looking at for contracts that we ... most likely will get in the future is that we're going to have to buy flat gas, or near flat gas."

The expected future introduction of these near constant delivery rate contracts will require Enstar to have access to a storage facility, to warehouse gas purchased in the summer for bolstering winter delivery. That storage need is the more pressing because of the possibility of the LNG export terminal on the Kenai Peninsula closing in 2011, when the current U.S. Department of Energy LNG export license expires — the LNG plant currently provides an invaluable service during severe cold weather by curtailing LNG production, to divert gas for utility use.

And even if gas from the North Slope starts flowing into Southcentral Alaska through a direct "bullet" pipeline from the slope, or through a spur line off a main North Slope gas line, Cook Inlet gas storage will be needed to enable a relatively constant flow of gas through the line year-round, to ensure viable pipeline operations, and to provide backup capacity for periods when the pipeline is shut-in.

Investigating options

Enstar has been investigating gas storage options for about three years and had proposed establishing its own storage facilities as part of the terms of two gas supply contracts that RCA rejected in 2008, Lau said. Subsequently, the utility has been considering options for storage that it now believes will be vital to the future of Southcentral utility gas supplies.

"Now we're looking at what we need in four years, six years, eight years," Lau said. "... The storage that's implemented here in the next couple of years, it'll be used in the Cook Inlet for decades to come."

And the gas producers will likely need to continue to operate their own storage facilities, to enable them to accommodate utility demand swings under the terms of some gas supply contracts, he said.

Although it would typically take about 36 months to permit, construct and fill a new underground storage facility, Enstar has asked ANR to work out how to make a new facility available to Enstar for the winter of 2011-2012, Lau said.

In fact, the coming winter of 2009-2010 could see a gas deliverability shortfall, if the weather becomes especially cold. But by 2011, under current supply arrangements, a shortfall will become certain, regardless of the weather, Lau said.

"We've identified dire consequences that will happen if we do not have gas

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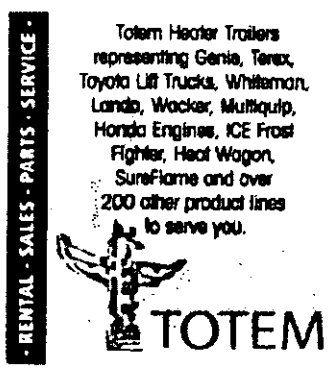


available out of storage in the winter of 2011-2012," he said.

Four issues

ANR has extensive experience of operating gas storage in the Lower 48 and believes that the 2011 deadline for bringing the new Cook Inlet storage into operation is feasible, Lau said. But the aggressive project timeline will involve spending the next six months resolving four crucially important issues.

First of all, the companies need certainty about whether the Regulatory Commission of Alaska would approve Enstar's tariff changes for factoring in the fees that Enstar will need to pay to ANR for storage usage — Enstar must be sure that it will be able to recover the storage costs from the gas supply rates that it charges its customers, Lau said.

"No private entity will spend any capital on putting together any process or storage, unless they're sure they can recover their costs," he said.

Secondly the companies need to make sure that it will be possible to obtain the use of a suitable storage reservoir, given that all Cook Inlet field reservoirs are currently controlled by gas producers. Four possible reservoirs are under consideration and discussions are in progress with the relevant producers about gas storage possibilities, Lau said.

All of the reservoirs being considered are currently producing gas, a situation preferable to converting a completely depleted reservoir for storage, given that the remaining field gas, occupying perhaps 20 to 30 percent of the field reservoir, can be purchased as "pad gas," gas that simply supports the underground gas pressure and which would otherwise have to be injected into the reservoir, Lau explained.

The purchase of this in-place pad gas from the field owners would form a significant part of the capital cost of the gas storage project, he said.

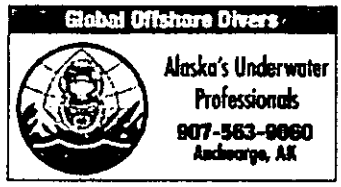
A third issue is ensuring that all of the permits required to build and operate the storage facility can be obtained, including environmental permits and state approval of a gas storage lease in the chosen field reservoir.

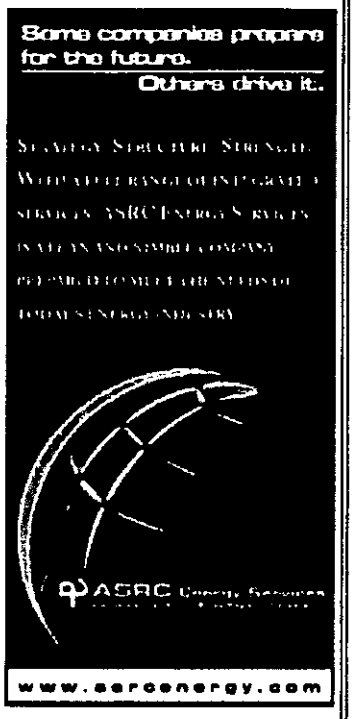
The fourth challenge being addressed in the coming six months is the development of a viable business plan that would work effectively for all of the companies involved in some way with the gas storage project, Lau said.

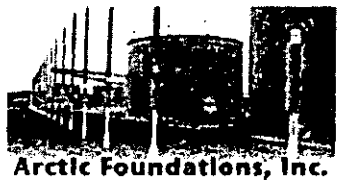
Supply uncertainty

In addition to these primary challenges, significant uncertainty about the sources of future Southcentral Alaska add complications to Enstar and ANR's gas storage plans — future gas supplies could come from new gas discoveries in the Cook Inlet basin, through some form of gas line connecting to the North Slope or from the import of LNG. In particular the import of LNG though the existing LNG export facility on the Kenai Peninsula — a scenario that, based on current trends, Enstar thinks could come into play around 2014, 2015 — would impact the optimum way in which to design the new storage facility.

In fact, Enstar has started evaluating what additions will be made to Cook Inlet gas reserves in the coming years, to try to pin down the time when will begin to be necessary to boost Cook Inlet gas supplies by importing gas from elsewhere.







In particular, the company wants to know how much of the reserve additions that the state has projected are certain rather than just being possible.

"When it comes to keeping customers warm we need 100 percent (certainty)," Lau said.

Enstar is also discussing with ConocoPhillips and Marathon, the owners of the LNG facility, the possibility of re-gasifying LNG, to support peak utility gas deliverability during severe winter cold. However, uncertainty regarding the renewal of the LNG export license in 2011 complicates that option — Enstar is seeking an opinion from the federal regulators on what the renewal decision is likely to be.

But the core question of establishing a new underground storage facility comes back to ensuring that utility gas continues to flow to consumers during the cold Alaska winter.

"It's not going to be cheap, but it's certain supply," Lau said.

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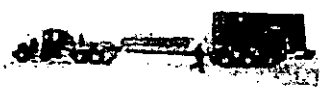

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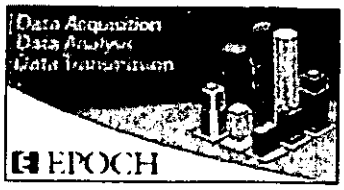

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Vol. 14, No. 33 **Week of August 16, 2009**

Providing coverage of Alaska and northern Canada's oil and gas industry

More gas storage needed

Zager says a variety of storage options required; scope for conservation

Alan Bailey

Petroleum News

With winter cold in Southcentral Alaska perhaps three months away, the season is fast approaching when a severe cold snap could push the required delivery rate of utility natural gas for heating and power generation up to and perhaps beyond the limits of feasible production from gas wells in the Cook Inlet basin. One possible solution to this gas deliverability crunch is the use of gas storage facilities, to store excess gas produced during the summer and then release that gas into the utility system during the winter when demand is high.

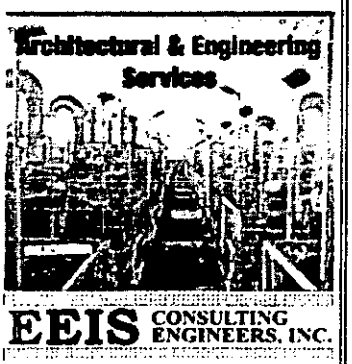
Three facilities

There are already three storage facilities successfully operating in depleted gas fields around Cook Inlet. Marathon operates one of these facilities in its Kenai gas field; Chevron operates two facilities, one in the Swanson River field on the Kenai Peninsula and one in the Pretty Creek field on the west side of the Cook Inlet. And Aurora Gas is proposing to establish an additional storage facility in its Nicolai Creek field south of Tyonek.

"At peak, when our storage is full, we can do in excess of 60 million cubic feet per day out of the combined (Chevron) systems," John Zager, Chevron's Alaska manager, told Petroleum News Aug. 4.

Both facilities can help support either the on-going high gas load of a typical winter or the peak load during particularly severe cold. However, Chevron tends to use Pretty Creek primarily to bolster the on-going winter load.

"We tend to turn that on and leave it on throughout the winter, whereas we tend to use Swanson more as a peaking field," Zager said.



Zager said that gas storage is critical to addressing the short to intermediate issues relating to the deliverability of utility gas. And a variety of different types of storage could address different delivery needs, such as continuous or needle peaking supply. In addition to the type of below-ground storage that has been implemented already, the above-ground storage of LNG would be especially suitable for needle peaking delivery of gas.

Not cheap

But none of the gas storage options is cheap.

"People want to talk about affordable gas, which is a great desire, but you need to look at security of supply too," Zager said.

Both Chevron and Marathon operate their storage facilities in support of their own operations, to ensure that they can meet their contracted gas supply obligations during the winter. But the storage supports long-term, full-service supply contracts, with constant gas pricing regardless of season variations in demand. This type of contract is disappearing, in part because it does not recognize the full cost of meeting winter demand, Zager said.

Instead, pricing will likely become more flexible, perhaps tiered to the gas demand level, thus opening possible gas storage roles for gas utilities, power utilities or perhaps third-partY gas storage operators.

"The market will find an answer, given the opportunity," Zager said. "Tiered pricing may work. There may also be a mechanism whereby a utility and the customers would pay a capacity charge, whether they use the gas or not."

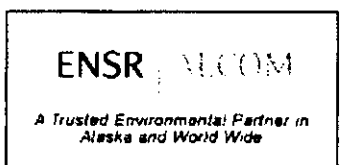
The concept of a capacity charge arises from the need to protect a gas storage operator from the risk of establishing and filling a storage facility, and then encountering a mild winter in which the storage is not needed — essentially the capacity charge would operate like an insurance premium, to ensure the availability of sufficient gas during exceptionally cold weather.

And then there is the risk associated with uncertainty in the future of the Cook Inlet gas market — in June Ethan Schutt, vice president for land and legal affairs for Cook Inlet Region Inc., a Native regional corporation with major land holdings around the Cook Inlet, told the Senate Resources Committee that CIRI had determined that the development of gas storage for third-party use in the Cook Inlet basin is very unattractive for private industry because of high development costs and high market uncertainty.

"Although the concept seems attractive and to serve a public purpose, the economics aren't worth the risk right now," Schutt said.

Technical challenges

However, aside from the commercial challenges of establishing a viable gas storage facility, anyone setting up an underground storage facility in the Cook Inlet basin faces some significant technical challenges. Whereas in the Lower 48 a company might construct an underground storage facility by using fossilized reef structures with large cavities, or by leaching salt from an underground salt dome to create a cavern that can be filled with gas, operators in the Cook Inlet basin have to use relatively poor reservoirs in muddy sandstones, Zager said.



"We in the Cook Inlet do not have what are considered good storage reservoirs," he said.

Producing gas too fast from a Cook Inlet sandstone reservoir runs the risk of sand production through the gas wells, while issues such as water encroachment in the reservoir need to be considered. There's also the risk of losing gas that's pumped into a less-than-optimum reservoir for storage.

"The first time you're filling that reservoir with gas, you're just hoping it comes back out again," Zager said.

And the need to use a depleted gas field for storage limits the number of underground storage facilities that can be brought into use, as well as determining the locations of gas storage sites and possibly introducing issues relating to joint ownership of field leases. The need to locate a storage facility at a place on the Cook Inlet pipeline system where stored gas can be delivered at sufficient rate through the pipelines further limits the availability of gas storage locations — many Chevron properties are offshore, where storage operation does not seem to make much sense, Zager said.

And no one is going to take the risk of trying to establish an underground facility in a location other than a depleted field.

"My theory would be if nature hasn't been able hold gas for a long period of time, I'm not going to bet on it," Zager said.

New gas

Zager also cautioned that, although gas storage can help with short-term gas deliverability issues, the storage does not actually create any new gas to bolster supplies. In the longer term gas from new Cook Inlet discoveries, from the North Slope or from LNG imports will have to come on line, he said.

And, in the short term, gas conservation, through measures such as turning down thermostats, using wood stoves and deferring activities with high power or gas consumption, could go a long way to overcoming the peak gas deliverability hurdle.

"If on a cold day you could shave demand by 10 percent, that would equate to a nice-sized gas field or an entire storage facility," Zager said.

And building a new storage facility, including permitting, and perhaps drilling a new well and installing compression, would likely take a couple of years.

"It's not like if we decided now, we can have anything ready for this winter, or probably even next winter," Zager said.

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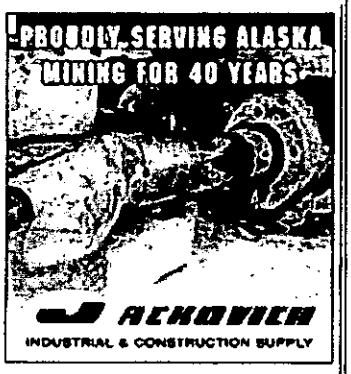

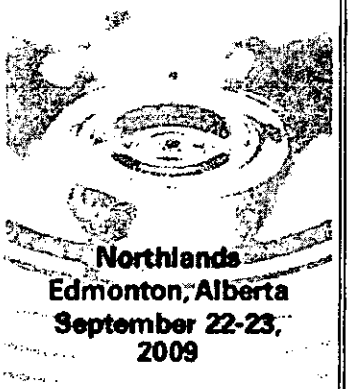

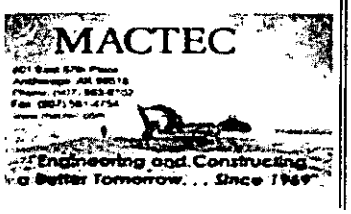

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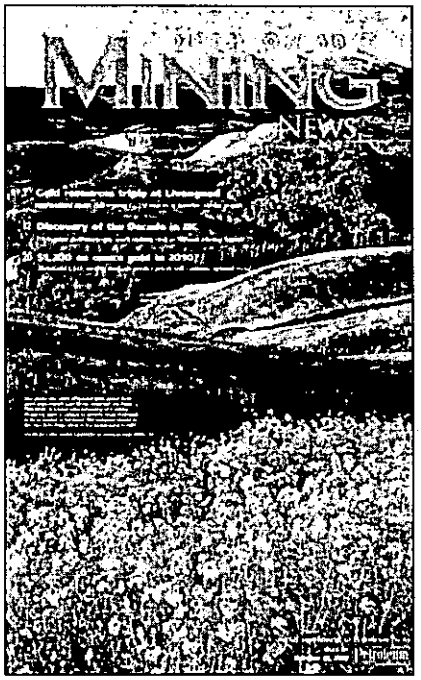
October Mining News inside



The October issue of North of 60 Mining News is enclosed

Alberta's leader in a deep hole

Alberta Premier Ed Stelmach is in a struggle for his political life.

Consider this:

- His Progressive Conservative party got relegated to third place in a recent election to fill a vacancy in the provincial legislature.
- Support for his governing party has tumbled to 30 percent from 54 percent three years ago, when he was chosen to succeed Ralph Klein, and his own performance as leader has close to a 60 percent disapproval rating.
- Klein, in what was widely seen as a poison dart, suggested Stelmach would need 70 percent support at the party's mandatory leadership review on Nov. 7 if Stelmach was to remain at the helm.
- Alberta's Auditor-General Fred Dunn warned the province could lose C$100 million in royalties this year because it allowed oil sands giants Suncor Energy and Syncrude Canada

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EXPLORATION & PRODUCTION

OK for Shell plan

MMS approves Beaufort Sea 2010 drilling if permitting requirements met

By ALAN BAILEY
Petroleum News

On Oct. 19 Shell passed another major milestone in its multiyear quest to start exploration drilling on Alaska's Arctic outer continental shelf, when the U.S. Minerals Management Service approved the company's new Beaufort Sea exploration plan, a plan involving the drilling of two exploration wells during the 2010 open water season using a single drillship, the Frontier Discoverer.

"The Minerals Management Service is committed to developing offshore energy resources responsibly," said MMS Director Liz Birnbaum. "Now that we have approved Shell's plan and reached this important milestone, we will continue to work with Shell to ensure that all activities are conducted in a safe and environmentally responsible manner."

And time is of the essence for completion of the permitting for both the Beaufort and Chukchi Seas: The company has said that it needs it to be in a position to make a go-or-no-go decision on the 2010 drilling at the start of that year, given the expense and effort involved in ramping up for any Arctic outer continental shelf drilling activity.

Plan approval is subject to Shell obtaining all required permits and authorizations, including

see SHELL page 23

EXPLORATION & PRODUCTION

Cosmo back on track

Pioneer plans more appraisal work at offshore Cook Inlet prospect this year

By KAY CASHMAN
Petroleum News

Work on the Cosmopolitan oil prospect in Southcentral Alaska's Cook Inlet basin has ramped back up, operator Pioneer Natural Resources told Petroleum News Oct. 20.

In January, Pioneer put plans to drill an appraisal well on hold until 2010 because of low oil prices, although Tadd Owens said the company would continue to investigate the feasibility of commercial oil production from Cosmopolitan, which was discovered in 1967 by Pennzoil.

Owens, Pioneer's director of government and public affairs, also said Pioneer was "well positioned to ramp back up when prices recover."

"Pioneer will conduct additional appraisal work at Cosmopolitan during the fourth quarter of this year and first quarter of 2010. The company plans to work over and flow test the Hansen 1A L1 well — originally drilled in 2007 — in order to gain additional reservoir information."
—Tadd Owens, Pioneer Natural Resources Alaska spokesman

In August, Pioneer said it would continue with just one drilling rig in Alaska in 2009 and 2010 — at its offshore North Slope Oooguruk oil field —

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LAND & LEASING

Massive OCS feedback

NOAA, Natives oppose much of 2010-15 leasing plan; drillers, lawmakers endorse

By WESLEY LOY
For Petroleum News

ALAN BAILEY
KEN SALAZAR

A key scientific agency is advising the Obama administration against oil and gas leasing in large portions of the nation's Outer Continental Shelf.

The National Oceanic and Atmospheric Administration recommends that Alaska's North Aleutian basin, which takes in rich Bristol Bay commercial fishing and subsistence gathering grounds, be crossed off the government's proposed 2010-15 leasing schedule.

And NOAA also says no leasing should occur in Alaska's remote Chukchi Sea pending further research into oil spill risk and Arctic cleanup capabilities.

NOAA's position was amid an extraordinary outpouring of public feedback the U.S. Minerals Management Service received by the Sept. 21 extended deadline to comment on the new offshore leasing plan, which would revise the current 2007-12 plan.

MMS, an Interior Department agency that regulates offshore oil and gas activity, said it received more than 450,000 comments on the plan, which the Bush administration released in its final days in office.

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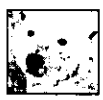
200,541 square-mile area includes much of the outer continental shelf, the barrier islands and land along the Beaufort Sea coast



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• NATURAL GAS

Mackenzie Gas Project mood on upswing on all sides

By GARY PARK
For Petroleum News

The key Canadian government and Imperial Oil leaders in the Mackenzie Gas Project are not even close to giving up on the scheme.

Environment Minister Jim Prentice said Oct. 14 the chances of a natural gas pipeline from Canada's Arctic have "never been closer" to success — a view strongly endorsed the next day by Imperial Chief Executive Officer Bruce March.

JIM PRENTICE

Prentice told the Calgary Herald's editorial board he is counting on the regulatory groundwork for the MGP to wrap up next spring.

March shares that view, saying the process is closer than ever to completion, although there is much work still to be done.

Despite an uncertain outlook for gas "those are the risks that all the developers and producers in the energy business know how to manage much easier than the risks" of the Joint Review Panel and other regulatory aspects of the MGP, he said.

"When we get to the point it is in our hands we will be thrilled," he said.

Prentice said he is confident the JRP, which is examining the socioeconomic and environmental aspects of the pipeline, will deliver its final report close to the December target date.

Assuming that happens, the National Energy Board should hear its final arguments in April, allowing the regulators to deliver their conclusions and recommendations to the federal cabinet.

Several years late

"As you know, (the JRP is) several years late," Prentice conceded. "But my understanding is that they should be able to get this done by the end of December.

"It's easy to be dismissive, but the truth is this has been a lot of work for many years and we've never been closer (in 40 years) to having the regulatory and environmental part finished."

Meanwhile, Imperial and its co-venturers (Shell Canada, ConocoPhillips Canada, ExxonMobil Canada and the Aboriginal Pipeline Group) have been working on a fiscal framework with the Canadian government.

Prentice said those talks are upbeat, despite the slump in gas prices.

"I get the sense the proponents continue to be committed to the project," he said.

Inuvik Mayor Derek Lindsay told the Calgary Herald that he was living in Inuvik when the first serious attempt to develop Arctic gas fell through in 1977.

"I don't want to see that happen again," he said. "It crippled this town for 10 years."

If and when a pipeline gets a green light, there will be more activity in Inuvik and in the Beaufort Sea. ●

• SAFETY & ENVIRONMENT

Uncertainty over Copenhagen talks

Prentice suggests financial crisis trumping environmental concerns; Obama administration looking at bilateral pacts with India, China a to break developed-developing country deadlock

By GARY PARK
For Petroleum News

Hopes for a global climate-change agreement are wilting in the buildup to December's United Nations-sponsored talks in Copenhagen, with the Canadian government suggesting that the financial crisis is trumping environmental concerns.

Environment Minister Jim Prentice said Oct. 14 he is far from sure an agreement will be reached in Denmark, not least because of the differences emerging between the United States and the European Union.

The Obama administration is also turning its energies to alternative bilateral pacts with India and China, with the intention of breathing fresh life into the deadlock between developing and economically advanced countries.

In a candid assessment, Prentice said "increasingly people are being realistic" about the chances for a full and complete agreement.

"There's probably too much work to be done in that time that is left," he said.

Prentice said it is likely that Copenhagen will achieve nothing more than "some agreed principles."

Whatever happens on the global stage, Prentice said Canada intends to roll out its own plans for reducing greenhouse gas emissions by 20 percent from 2006 levels by 2020.

If that happens, each Canadian province will have to carry its share of the load, which could involve more ambitious federal targets than Alberta is currently willing to introduce on its own, he suggested.

But Prentice said the road to Copenhagen has encountered the compelling argument that reducing poverty is a greater priority for less-wealthy countries than reducing GHGs.

Some expect greater certainty

Despite Prentice's less than optimistic forecast for Copenhagen, there are petroleum industry leaders who expect greater certainty on issues such as cap-and-trade systems and carbon capture and storage.

Peter Voser, the chief executive officer of Royal Dutch Shell, told a Calgary conference that society "needs real progress on climate policy frameworks that put a price on emissions and promote CCS and other clean energy technologies."

A spokesman for Environment Canada said the Canadian government remains committed to tabling a "full suite of specific policies (prior to the Denmark summit) covering all major sources of Canadian greenhouse gas emissions."

He conceded that federal plan will involve major revisions to the Canadian strategy released 18 months ago to cut GHGs by 20 percent by 2020 and 60 percent by 2050.

"The economic downturn and the renewed engagement by the new U.S. administration has required that we fine tune our approach to tackling climate change," he said.

The spokesman said there has been progress in talks between U.S. and Canadian officials seeking to harmonize climate

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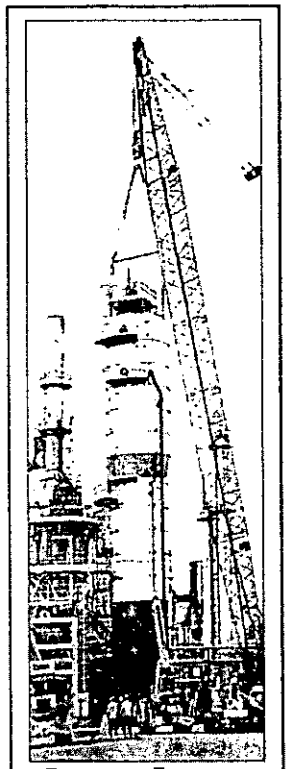

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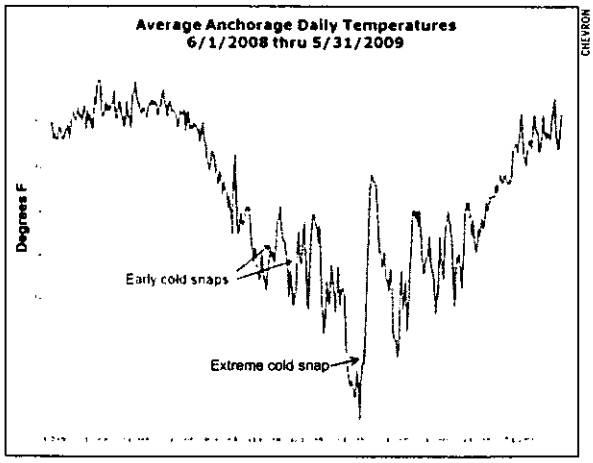

A graph of daily temperatures in Anchorage between June 2008 and May 2009 demonstrates the extreme fluctuations in temperature that typify a Southcentral Alaska winter. In this particular winter two cold snaps in October and November followed by an extreme cold spell in January nearly brought the Cook Inlet natural gas delivery system to its knees, especially when coupled with two gas compressor failures.

• NATURAL GAS

Are Cook Inlet gas supplies in crisis?

As winter approaches, Chevron manager presents facts, figures about natural gas supply and demand in Southcentral Alaska

By ALAN BAILEY
Petroleum News

Natural gas has flowed out of the Cook Inlet basin with apparent ease for around 40 years, in some ways the life blood of Southcentral Alaska, firing heater furnaces, fueling power stations and supporting significant industrial activity. But does recent talk about gas shortages in the basin signal the beginning of the end for Cook Inlet gas? Or is the region merely transitioning through a period when gas supplies come more into balance with demand, following years of excess gas resources?

At the Oct. 15 meeting of the Alaska Geological Society, Steve Wright, Chevron's Alaska development manager, presented his perspectives on the Cook Inlet gas situation. Wright, an experienced oil industry geologist, now oversees Chevron's Cook Inlet oil and gas development program.

Most of the Cook Inlet gas comes from oil and gas fields discovered during the heyday of oil exploration in the 1960s and 1970s. And, after many years of production, gas reserves — the volumes of gas confidently thought to exist in proven gas reservoirs — have declined by about 80 percent, from about 8 trillion cubic feet to about 1.5 tcf, Wright said.

"The Cook Inlet gas reserve base is now believed to be at its lowest point for 40 years," he said.

At the same time the gas deliverability — the rate at which gas can be produced and delivered to market — is also dropping.

"Total Cook Inlet gas deliverability has declined about 40 percent in the last three to four years," Wright said.

High investment

The declines in reserves and deliverability have come despite a high level of expenditure in Cook Inlet gas development in recent years, with something in excess of $500 million being invested in just the last two years, Wright said.

"Over the past two years alone there have been 29 gas development wells drilled in 11 different gas fields around the basin," he said.

Development activities have included six wells in the Grayling Gas Sands; three wells in the Beluga River field; two winter-drilled wells on the west side of Cook Inlet; two development wells and a compression project in the Ninilchik field; three development wells in the North Cook Inlet field; eight development and storage wells in the Kenai field; and two development wells in the Happy Valley field.

That development activity probably slowed the annual rate of the gas deliverability decline to between 10 and 15 percent; the natural decline rate would likely be 15 to 20 percent, were there to be no development intervention, Wright said.

Production data from the Alaska Oil and Gas Conservation Commission indi-

see GAS SUPPLIES page 5

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GAS SUPPLIES

cates that the deliverability decline has become especially pronounced in the last three years, mainly as a consequence of production declines from the four big legacy gas fields: Beluga River, North Cook Inlet, Grayling Gas Sands and Kenai. In fact, the Ninilchik field, a good-sized field that came on line in 2003 as a result of modern exploration, has actually been increasing its production, Wright said.

Faced with declining deliverability, Cook Inlet gas producers have developed three underground gas storage facilities, to warehouse summer-produced gas to help meet peak demand levels in the winter.

Grim picture

A chart of historic and forecast annual gas production, published by the Alaska Department of Natural Resources in December 2006 and sometimes referred to as the "gas cliff," paints a grim picture of future gas production expectations. According to this chart, after a huge ramp-up in Cook Inlet gas production in 1965 to 1970, production continued to climb for another 10 years before leveling off and remaining fairly constant until around 2006-07. Using future production estimates based on known gas reserves, DNR predicted that production would plunge precipitously in subsequent years.

But current estimates of gas production for 2009 indicate an overall production level considerably lower than the projected value on the 2006 DNR graph, Wright said.

"You might conclude that the DNR forecast was somewhat optimistic overall," he said.

And an Alaska Natural Gas Development Authority projection of gas supplies versus gas demand shows annual supply volumes dropping below total gas demand around 2012-13, Wright said.

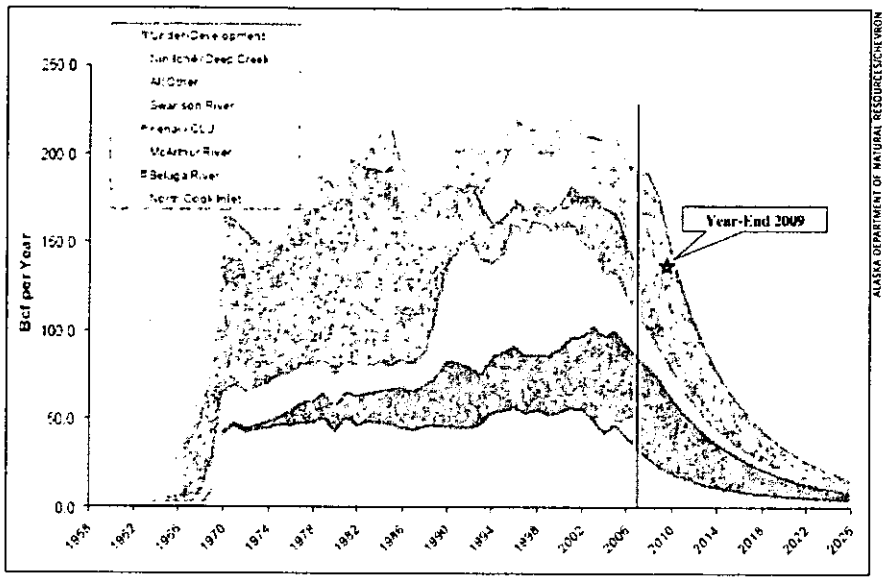
"After that point, total supply will not meet utility demand in the basin," he said.

Data presented to the Regulatory Commission of Alaska by Enstar Natural Gas Co., the main Southcentral Alaska gas utility, and by Chugach Electric Association, a major Southcentral electric utility, suggest shortfalls in utility gas supplies at around that same 2011-13 timeframe, Wright said.

Production figures from the LNG plant at Nikiski on the Kenai Peninsula also make sobering reading — the LNG plant was originally built to establish an export market for excess natural gas from the Cook Inlet basin.

According to data from ANGDA, in 2008 the LNG plant used on average about 180 million cubic feet per day of Cook Inlet gas, a gas volume that repre-

see **GAS SUPPLIES** *page 6*



ALASKA DEPARTMENT OF NATURAL RESOURCES/CHEVRON

A December 2006 Alaska Department of Natural Resources graph showing historic annual Cook Inlet natural gas production, and estimates of future production based on known gas reserves. A current estimate of total production for 2009 falls at a level below the 2006 DNR projection.

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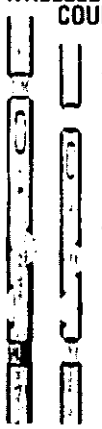
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GAS SUPPLIES

sented about 42 percent of the total amount of gas produced from the basin.

"Exports from the LNG plant have ramped down significantly this year, and the 2009 numbers may actually show those LNG volumes to be half of what they were in 2008," Wright said.

Urgent

Plots of projected daily gas deliverability versus daily gas demand show an even more urgent problem: Daily gas deliverability will likely fall below peak demand requirements during the cold of the winter, well before total annual gas production drops below annual gas needs.

With much of the utility gas being burned to heat buildings, daily temperatures in Southcentral Alaska form the key drivers behind gas consumption, Wright explained. And there is an obvious annual cycle of temperature changes between warm summers and cold winters, he said. But superimposed onto that broad cycle are chaotic day-to-day temperature fluctuations, fluctuations that become much more extreme during the winter than during the summer.

"That's obvious to all of us who live here and know that winter temperatures can vary by 30 or even 50 degrees over a couple of days," Wright said.

Those extreme temperature fluctuations, on top of an already heightened winter demand, place a huge stress on the gas deliverability system. And at no time has that stress become more apparent than in January 2009, when a series of events brought utility gas delivery to the brink of failure.

The problem started with two early winter cold snaps in October and November of 2008.

"The gas storage project operators at the three gas storage projects around the inlet had to start depleting the volumes that they had in the reservoirs very early, to meet the demand during these cold snaps," Wright said.

Levels halved

As a consequence, gas levels in the storage facilities had dropped to half of their start-of-winter levels by the end of 2008.

Then came an exceptional, extreme cold period in January, with day temperatures averaging around minus 8 F to minus 10 F, and night temperature bumping 20 below zero for 10 days to two weeks: The semidepleted storage facilities struggled to keep up with the extreme gas demand.

> *"Exports from the LNG plant have ramped down significantly this year, and the 2009 numbers may actually show those LNG volumes to be half of what they were in 2008."*
> **—Steve Wright, Chevron's Alaska development manager**

"The reservoir pressures in the storage reservoirs were about half of what they had been," Wright said. "They could only deliver, because of the dynamics of gas flow, about a quarter of what their total deliverability would have been at the start of the winter."

The failure of two gas compressors, the machines used to drive gas through the gas pipeline system, then completed what Wright characterized as a perfect storm for gas supplies.

Then, as gas pressures in the gas transportation system started to fall rapidly, oil company and utility personnel swung into action.

"The producers and utilities went into emergency response mode and worked together very effectively and we were able to head off a potential catastrophic situation by supporting one another, moving gas around the system ... and working together to deal with this problem," Wright said.

The various stakeholders in the gas supply system have since been reviewing what happened in this emergency, refining contingency plans to deal with any similar situations in the future.

"What we do know is that these types of temperature scenarios can't be avoided," Wright said. "This is reality. What we've got to do is put plans in place to deal with those kinds of scenario when they develop."

Solutions?

But what's to be done about the bigger picture of dwindling Cook Inlet gas supplies?

Natural gas exploration in the Cook Inlet basin is especially challenging, thanks to a high-cost environment, a dwindling support industry, long development lead times and difficult operational logistics.

And the results of exploration over the past 10 years don't look too encouraging.

According to AOGCC data, eight different operators drilled 15 exploration wells and eight coalbed methane appraisal wells during that time period, Wright said.

"So we obviously had a lot of companies looking for gas," Wright said. "A lot of different ideas, concepts being generated, plays developed and wells drilled to test those concepts."

Five of the 15 exploration wells were classified as discoveries, with just two of the discoveries — the Ninilchik and Happy Valley fields — being deemed commercial.

"That translates to a commercial success rate of somewhere between 10 and 15 percent," Wright said. "Success rates for exploration in the Lower 48 are typically 50 percent or higher these days."

Moreover, in addition to land access being limited by the closure to oil and gas development of regions such as the Kenai National Wildlife Refuge, all of the moderate- to large-sized geologic structures that typify the reservoir settings of the established gas fields have now been drilled and tested, Wright said. Seasonal access restrictions on the western Cook Inlet coast result in a need to stage equipment over the winter. And, offshore, the listing of the Cook Inlet beluga whale and the increasing difficulty in renewing water discharge permits are raising new challenges for oil and gas development.

Wright also cautioned that, although there are explorers who want to drill offshore using a jack-up rig, a realistic time frame to bring a new offshore gas field on line, taking into account exploration, field appraisal, engineering, platform construction and development drilling, would likely be 10 years.

And, although there may well be potential to find new Cook Inlet natural gas resources in stratigraphic traps, subtle traps formed by the juxtaposition of rock strata, rather than the big structural traps of the established gas fields, discovering those subtle traps would be a major challenge, given the limitations of Cook Inlet seismic data. Essentially, the ancient river channels that would have generated these traps are quite narrow and cannot be resolved in the existing seismic, Wright said.

Other options

Other options being considered to bring new natural gas resources into Southcentral Alaska include a direct "bullet line" from the North Slope, or a spur line from a future main North Slope gas line. But first gas from a bullet line would be unlikely to appear before 2018, and first gas from a spur line might not flow until 2023.

Another possibility would be to import foreign LNG through the LNG plant on the Kenai Peninsula, although negotiating an acceptable LNG supply contract for the small quantities of utility gas required in Alaska could prove challenging, Wright said. And then there are possible alternative energy sources such as hydropower, geothermal power and CIRI's recently announced underground coal gasification plant.

But with so much uncertainty about the future, finding solutions will take a concerted effort by everyone, Wright said.

"We firmly believe that the best way to solve problems is through public and industry awareness, and working jointly," Wright said. "... There's no single entity, not a single producer, not a utility, not the regulatory agencies, not the State of Alaska, that can solve this problem on its own." ●

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• NATURAL GAS

Village corporations seek pipeline help

Coalition controls 100 miles of gas line route along Alaska Highway, wants partner to help pursue jobs, training for megaproject

By WESLEY LOY
For Petroleum News

A coalition of Alaska Native village corporations is seeking help in pursuing employment and other opportunities should a natural gas pipeline be constructed through their region.

The four corporations are arrayed along the Alaska Highway between Delta Junction and the border with Canada.

The coalition includes the Dot Lake, Northway, Tetlin and Tanacross village corporations. They are united as Din e'h LLC. State records show the limited liability company was organized on June 16 of this year.

Din e'h translates to "the people" in the Athabascan language of the Upper Tanana River valley.

Din e'h published an advertisement in the Oct. 11 edition of the Anchorage Daily News saying the group was "seeking a partner experienced in large project construction to provide capability, capacity, and proven performance for a joint venture in gas pipeline bidding processes.

"The goal is to create jobs, train workers, and encourage long-term economic opportunities for the Alaska Native people of the Upper Tanana."

The group planned to talk with qualified firms at an Oct. 24 meeting in Anchorage.

Belinda Thomas, general manager for Din e'h, told Petroleum News in an Oct. 20 e-mail the group had attracted several midsized and large contenders for the work.

Din e'h is looking for "teaming partners" who have "a strong commitment to local capacity building," Thomas said.

According to the group's newspaper ad, the four villages together own the surface estate of about 100 miles of the gas pipeline route between Delta Junction and the Canadian border.

Competing gas line projects

The four Native village corporations are among many localities likely to seek jobs or other benefits should major energy companies succeed in building a multibillion-dollar pipeline to carry the North Slope's prodigious natural gas reserves to market.

The project has been a dream of Alaska economic development boosters for decades, but the extreme cost and complexity of the project coupled with weak gas prices have kept the project from happening.

Currently, two competing projects are in the planning stages, with both aiming to hold open seasons next year to test interest among producers for signing long-term contracts to ship gas through a pipeline.

Both projects would follow the Alaska Highway into Canada, passing through the Din e'h region.

One project, called Denali, involves partners ConocoPhillips and BP. Pipeline operator TransCanada and ExxonMobil are teaming on the other project. ●

continued from page 3

UNCERTAINTY

change policies to advance "our respective environmental and energy objectives."

Voser said Shell endorses a cap and trade system that is at the core of the American Clean Energy and Security Act passed narrowly in June by the U.S. House of Representatives, viewing that as the lowest-cost means of reducing carbon dioxide emissions.

If that bill is adopted by the Senate, now seen as unlikely before 2010, the U.S. would be committed to lowering GHG emissions by 17 percent from the 2005 level by 2020 and 83 percent by 2050.

Alberta government hasn't wavered

The Alberta government has never wavered from its position that it will not support any national approach that erodes investment in the province's energy projects, notably the oil sands — something Prime Minister Stephen Harper put high on his list when he agreed to work with President Barack Obama on a joint climate change pact.

Harper reinforced that line after a meeting with Obama in mid-September when he reminded "all our American friends that Canada is by far the largest supplier of energy to the United States."

"And we are determined to be a continental partner in dealing with the very linked problems of climate change and energy security."

However, the two leaders made no specific reference to the oil sands.

In a symbolic gesture, David Jacobson, the new U.S. ambassador to Canada, visited the oil sands on Oct. 14 in what was billed as an effort to help the Obama administration draft a policy on major sources of energy supply for the U.S.

He said officials in both countries recognize there must be a balance between the need for energy security and protecting the environment.

"I've learned a lot about the tremendous strides that have been taken over the last several years with respect to improving the environmental record in treating the oil sands," Jacobson told reporters in Calgary.

He echoed the suggestion by Prentice that a deal in Copenhagen is a long shot, noting that the U.S. health care debate has eclipsed work on energy legislation in Congress, meaning the chances of major energy policy decisions before the international conference are slim. ●

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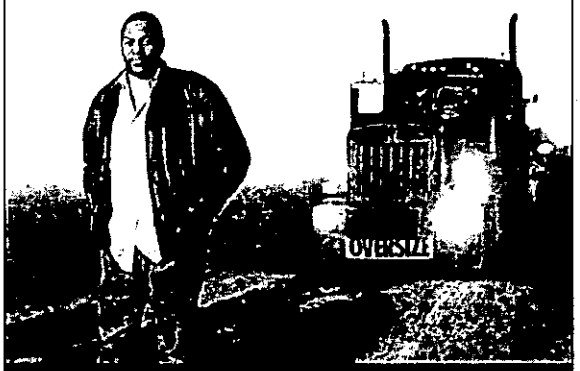

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• FINANCE & ECONOMY

Canadian trusts face 'brave new world'

NAL sets standard with 4 deals in recent months as it bulks up prior to joining corporate world once trusts lose tax-free shelters

By GARY PARK
For Petroleum News

NAL Oil & Gas Trust is rapidly becoming a leader among Canada's trusts as it settles on a future strategy with barely one year left before losing its tax-free status.

It struck an agreement Oct. 13 to take over Breaker Energy for C$403 million (including the assumption of C$93 million in net debt) — its fourth deal in recent months.

Launched six years ago by former executives of Alberta Energy Co. (a founding company of EnCana), NAL is moving into the midrange of Canadian oil and gas producers.

Assuming the Breaker transaction is concluded in early December, NAL expects to enter 2010 with production of 31,000 barrels of oil equivalent per day from properties in Alberta, British Columbia and Saskatchewan.

NAL's objective is to add "quality assets with upside opportunity through internal investment and acquisitions."
—NAL Oil & Gas Trust CEO Andrew Wiswell

It will have a proved-plus-probable reserve life index of 8.7 years from reserves of 96 million boe, undeveloped land of 550 acres and tax pools (or credits) of C$1.2 billion (including Breaker's contribution of C$270 million).

Breaker will contribute production of 6,700 boe per day (45 percent oil and gas liquids and the rest natural gas), 23 million boe of proved-plus-probable reserves and 140,000 net undeveloped acres.

Deal follows earlier buys

The deal follows NAL's acquisitions of Alberta Clipper for C$115 million and Spearpoint Energy for C$16 million, plus a joint venture to exploit central Alberta's Cardium oil play.

The trust will issue about 25 million trust units at C$12.54 each to finance the acquisition, which works out to C$5.96 a Breaker share, a 12 percent premium to the junior company's preceding 20-day average trading price.

On a production basis, NAL is paying about C$58,000 per flowing barrel and C$16.91 per barrel for reserves, compared with ATB Financial's estimated average of C$46,195 and C$12.93.

Kim Page, an analyst with Wellington West Capital Markets, said that given the valuation metrics there is unlikely to be a counterbid.

Breaker President Dan O'Neil said blending his company's assets with NAL's strong financial position "will allow the combined entity to high-grade its opportunities and fully develop and expand Breaker's potential."

Breaker has pinpointed about 400 (350 net) low-risk development prospects, including 190 horizontal resource-style locations on its land, with the prospect of adding 2,900 boe per day in central Alberta and long-term gas opportunities in northeastern British Columbia of 50-100 billion cubic feet of recoverable gas.

NAL Chief Executive Officer Andrew Wiswell said the inclusion of Breaker will be another significant step in repositioning to convert NAL from a trust to a corporation in 2011, when the Canadian government will put both sectors on the same tax footing.

He said NAL's objective is to add "quality assets with upside opportunity through internal investment and acquisitions."

Action on the M&A front has been quietly gathering speed this year as trusts have decided what route they will take in the post-2010 world.

No single solution

The decision making comes three years after Canada's Finance Minister Jim Flaherty dropped a bombshell on the sector to avert a stampede by corporations in all sectors to join trust ranks and take advantage of a tax loophole.

Now that the initial anger has faded, the bulk oil and gas trusts seem resigned to joining the corporate world, though some will delay their transition while they use tax pools to reduce their taxable income beyond Jan. 1, 2011.

Some apparently believe that it will make no difference if they continue as trusts and some have trimmed their monthly cash payouts in favor of increasing capital spending to strengthen their reserves and production.

The conclusion is that there is no single solution for trusts plotting their future direction. Sayer Energy Advisors has reported that trusts completed C$1.4 billion in unit issues in the first half of 2009, compared with a paltry C$218 million in the same period of 2008, raising the total from unit issues and debentures to C$2.1 billion.

Sayer said these moves could underscore M&A activity by trusts that want to expand their core operations before joining the corporate world in 2011.

In addition to NAL, the busiest acquisitors have been Penn West Energy Trust and Zargon Energy Trust.

Blackmont Capital said that comparing the "real-world valuation parameters" of the NAL-Breaker deal with current market valuations of some intermediate producers, "a couple of them appear to be overvalued."

More capital appreciation

One thought taking hold is that the next generation of trusts will lean more toward capital appreciation from their transition income-generating priority, which could benefit the struggling service sector if it results in increased exploration and development, with an emphasis on horizontal wells and multifracturing work.

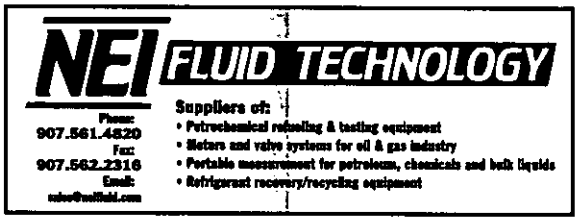
Meanwhile, Calgary-based investment dealer Peters & Co. has listed Pengrowth, Paramount Energy Trust and Peyto Energy Trust as relatively cheap takeover targets based on their expected 2010 cash flows per barrel of oil equivalent against their boe enterprise values.

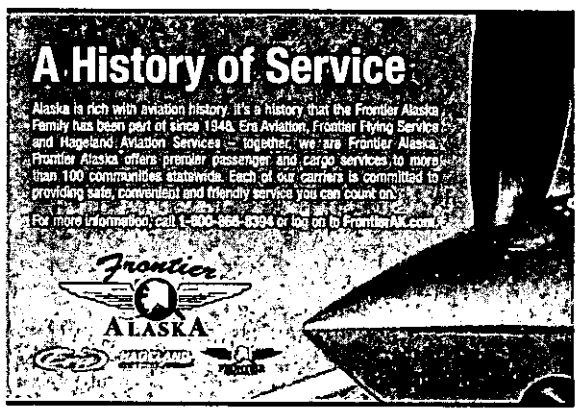
"From an acquirer's viewpoint, desirable entities possess above average cash-flow generating capabilities and below average current valuation levels," the firm said.

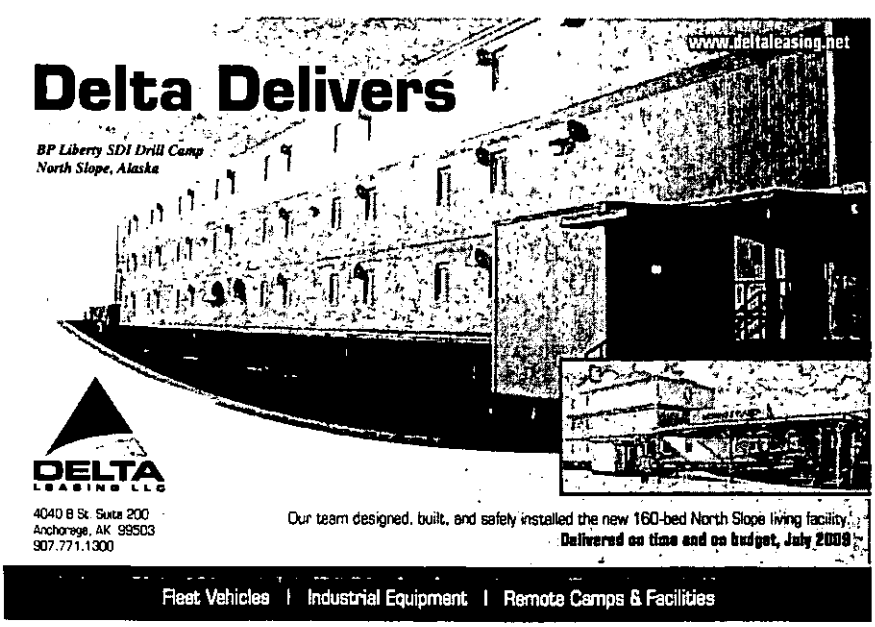
Blackmont Capital said that comparing the "real-world valuation parameters" of the NAL-Breaker deal with current market valuations of some intermediate producers, "a couple of them appear to be overvalued."

In particular, the firm identified Birchcliff Energy and Progress Energy Resources as "expensive on a flowing barrel basis," while Celtic Exploration and Progress "look expensive on a reserve basis."

However, Blackmont said it was "dangerous to draw conclusions based only on this one transaction" adding it would "not expect market valuations to vary too widely from what real-world purchasers are prepared to pay for assets." ●







ALTERNATIVE ENERGY

RCA to adopt net metering regulations

New regulations provide incentive for investment in renewable electric generation, allowing consumers to put power into utilities

By KRISTEN NELSON
Petroleum News

Renewable power generation may be coming to your neighborhood. And it may be built by your neighbor, thanks to proposed regulations that would require Alaska's largest utilities to allow hookups by such privately built generation to their power grids.

The Regulatory Commission of Alaska voted 4 to 1 on Oct. 14 to adopt regulations establishing net metering requirements for the state's largest electric utilities.

The vote ends a tussle between Alaska's electric utilities and proponents of net metering, who believe net metering will increase renewable energy development in the state, while utilities believe net metering will be a burden on other consumers.

Net metering allows a customer of an economically regulated utility to interconnect eligible onsite generation facilities with the electric utility's distribution system, the commission said in an Oct. 16 press release.

In 2008 RCA rejected net metering standards proposed by the Bush administration and began work on regulations targeted to Alaska, including workshops with participation by utilities and proponents of net metering.

The regulations commissioners approved are the result of work done since the Environmental Policy Act of 2005 created guidelines for net metering which state regulators were required to consider, but not to accept.

Alaska regulations

The new Alaska regulations apply to economically regulated electric utilities with total retail sales of 5 million kilowatt hours or more, which limits the RCA regulations to the state's largest electric utilities: Bethel Utilities Corp., TDX North Slope Generating, Alaska Power Co., Alaska Electric Light & Power, Homer Electric Association, Matanuska Electric Association, Municipal Light & Power, Chugach Electric Association and Golden Valley Electric Association, which sell from 39.1 million kilowatt hours (Bethel), to 1.349 billion kilowatt hours (Golden Valley Electric).

The affected utilities would be required to interconnect with eligible customer generation systems up to a systemwide total capacity of 1.5 percent of average retail demand. Eligible customer generation systems are limited to a total onsite capacity of 25 kilowatts.

Net metering customers would be billed for net consumption and receive bill credits when the customer's generation exceeds usage.

Technologies eligible for net metering generation are limited to solar photovoltaic, solar thermal, wind, biomass, hydroelectric, geothermal, hydrokinetic, ocean thermal, landfill gas and biogas energy. The commission may approve other sources that generally have similar environmental impact.

For and against

Summaries of comments on the proposed regulations by RCA staff highlighted some of the disputed issues between net metering proponents and the state's electric utilities.

Municipal Light & Power — one of two electric utilities serving the Anchorage area — told the commission it believed net metering would cause more harm than good while the Alaska Power Association, which represents major consumer-owned power utilities in the state, including ML&P, said that although the proposed regulations did not reflect its preferred position, they were a reasonable compromise between two extremes.

The Alaska Center for the Environment said net metering would reduce utility bills for participating consumers, while the APA said public benefits of net metering would be privately subsidized by non-net metering consumers rather than through typical public means such as grants, tax incentives or similar methods.

ML&P said net metering would cause generation to be built that is not cost effective, burdening ratepayers as a group with higher costs, and requiring ratepayers who do not own net metered generation to subsidize the small minority of ratepayers who will install net metered generation.

Golden Valley Electric Association concurred, telling the commission that net metering is in conflict with the cost-causer cost-payer principle, requiring nongenerating members to subsidize members installing small renewable generation and forcing the utility electrical system to act as a battery for renewable generating facilities.

What about smaller utilities?

In response to comments that the 5 million-kilowatt-hour limit would prevent smaller utilities from utilizing net metering, RCA staff said if a utility is too small to be covered by the RCA regulations it can enact its own net metering regulations.

"The regulations require certain larger utilities to enact net metering rules. Smaller utilities, or utilities that are outside of our authority to economically regulate, are exempted from the requirement and instead allowed to choose independently whether net metering makes sense for their system."

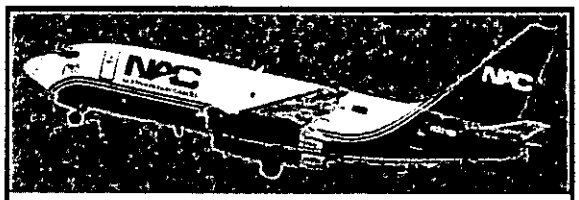
RCA staff said the limitations on net metering were imposed to protect the integrity of the systems:

"The Railbelt electric system, the largest interconnected 'grid' in Alaska is very small in comparison to the nationwide grid in the Lower 48 states and lacks a robust transmission and distribution network."

TDX Sand Point Generating is a case in point, the staff said, with retail sales for their last fiscal year 4.254 million kilowatt-hours, an average retail demand of 485 kilowatts per day.

With the proposed 1.5 percent of average retail demand limit, TDX Sand Point could have up to 7.3 kilowatts of installed on-site consumer renewable generation, less than half of the proposed 25 kilowatt per installation limit proposed in the regulations.

see NET METERING page 10



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GOVERNMENT

Senate passes bill with icebreaker funding

The full U.S. Senate has passed the 2010 Homeland Security Appropriations conference report that includes $32.5 million in funding for enhancements to U.S. icebreaker capability, Sen. Lisa Murkowski, R-Alaska, said Oct. 20. The bill, which also appropriates U.S. Coast Guard funding for fiscal year 2010, now goes to President Obama for his signature.

The United States currently has just two working icebreakers, the Healy and the Polar Sea, with a third icebreaker, the Polar Star, currently in caretaker status.

The United States currently has just two working icebreakers, the Healy and the Polar Sea, with a third ice breaker, the Polar Star, currently in caretaker status.

Funding from the conference report that the Senate has just passed would pay to finish refurbishment of the Polar Star, to reactivate this icebreaker and extend its service life. The conference report would also require the Coast Guard to investigate whether a new heavy polar icebreaker class vessel should be built, or whether money should be spent on extending the service lives of the existing icebreakers — the Polar Sea has a remaining service life of five years, Murkowski said.

"While reactivation of our second heavy icebreaker helps, the U.S. must begin to plan for the long term replacement or extension of our ice breaker fleet," Murkowski said. "These vessels are becoming increasingly important as access to the Arctic, and its resources, increases due to climate change and a reduction in summer sea ice. Activities such as energy development, tourism, marine transportation and shipping will increase and the Coast Guard must have the resources to respond. This funding is a good start."

—ALAN BAILEY

continued from page 9

NET METERING

Smaller utilities also have different operating parameters, staff said, and interconnecting small non-firm generation may create operational problems, with scenarios varying from utility to utility.

But, RCA staff said, nothing in the regulations prevents a rural community from implementing net metering.

Limit at 1.5 percent

There were a number of objections to a limitation in the regulations of 1.5 percent — that is, a utility may refuse to interconnect for new net metering if that connection would cause net metering to exceed 1.5 percent of the utility's average demand.

APA, Chugach Electric Association and ML&P all pointed out that 1.5 percent was the agreement reached at the commission's technical conference.

RCA staff said the proposed regulations allow a utility to approach the commission regarding increasing the cap to allow additional net metering beyond the 1.5 percent of average retail demand.

"Staff believes it is the intent of the commission to allow a controlled trial of net metering that will limit the potential rate increase for consumers who do not choose to net meter. This cap is an essential part of limiting that financial risk."

Utilities are required to publish annually the result of the 1.5 percent of average retail demand calculation and the total nameplate capacity of interconnected net metering consumers, which will allow the commission to monitor how quickly interconnection is occurring and revisit net metering regulations as required, RCA staff said.

Commercial generation not included

There were objections to the limit of 25 kilowatts on consumer generation and the staff said that limit was chosen so that smaller consumer generators would have the opportunity to participate.

"With a larger generator capacity and a limited system capacity for net metering, the smaller systems could be squeezed out," RCA staff said.

Larger corporate consumers did not participate in the process, staff said, indicating a lack of serious interest at this time.

There were a large number of comments arguing that excess generation should be valued at the full retail rate rather than the discounted avoided-cost rate.

RCA staff said the language was based on "the compromise reached by the net metering advocates and the utilities at the technical conference. To alter this section at this juncture would undermine the fragile agreement that was reached by the participants. The net metering rules contained herein are designed to limit the potential negative financial effects of net metering" on those consumers who do not participate in net metering.

"Staff concurs that this mutes the benefits of net metering for those who participate in the program. Both sides on this issue have strongly argued their positions but neither side has any real experience with net metering in Alaska. Staff believes that going forward with the substance of the proposed regulation is the best way to build experience in net metering. The rules can be revisited in the future as needed and with actual data."

There were a number of objections to language in the proposed regulations allowing utilities to petition the commission for special rates for net-metered consumers "if the utility can demonstrate an adverse material rate impact on utility consumers that do not participate in the net metering program."

RCA staff said utilities always have the right to petition the commission for changes in the rates they charge, and it "believes the proposed language offers a protection to net metering consumers by requiring the utility to demonstrate that the effect of net metering is both 'adverse' and 'material' to consumers that do not participate in net metering."

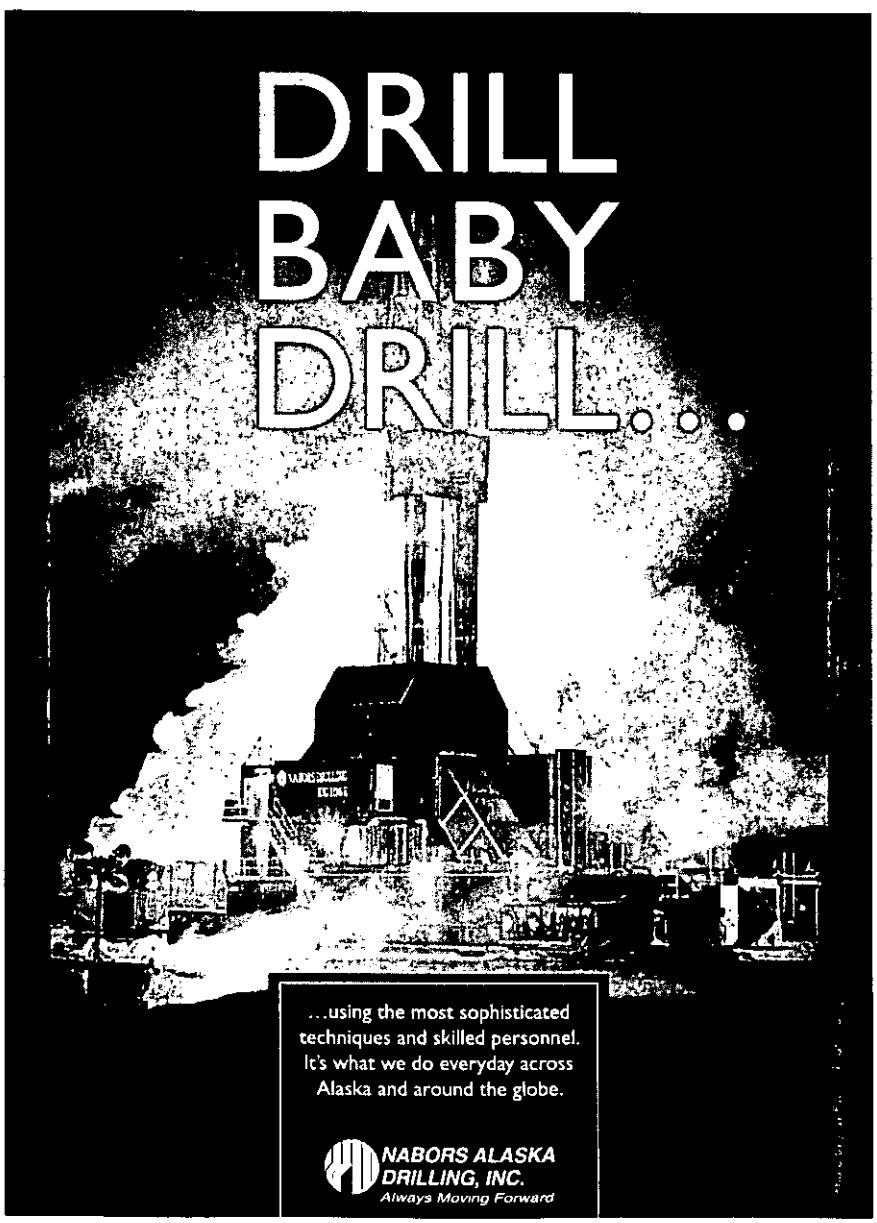
The commission will release an order adopting net metering regulations, which become official once reviewed by the attorney general and the lieutenant governor. ●

On the Web

See previous Petroleum News coverage:

"RCA rejects federal net metering rules," in Sept. 14, 2008, issue at www.petroleumnews.com/pnads/853433629.shtml

"RCA starts net metering discussions," in Oct. 26, 2008, issue at www.petroleumnews.com/pnads/419740526.shtml



• SAFETY & ENVIRONMENT

Canada backs carbon capture

Governments commit C$1.65B to 2 projects, claim they lead world in developing technology; others say industry should do cleanup

By GARY PARK
For Petroleum News

Canadian and Alberta taxpayers are starting to feel a rather large hand in their pockets as the two governments roll out plans for carbon capture and storage projects — their key technological initiative to remove greenhouse gas emissions from the atmosphere.

In early October, C$865 million in public money was pumped into Royal Dutch Shell's planned C$1.35 billion Quest project, with Chevron Canada and Marathon Canada as partners, to inject 1.1 million metric tons a year of carbon dioxide from the company's Edmonton-area heavy oil upgrader into underground storage, some of it for possible use in enhanced oil recovery.

STEPHEN HARPER

Less than a week later, the governments announced they would contribute C$781 million for a $1.4 billion CCS project. TransAlta plans to capture about 1 million metric tons a year from its coal-fired electricity plant in central Alberta.

These handouts are taking place amid mounting questions about whether largely untested CCS technology will achieve its hoped-for goals without causing a financial boondoggle.

Of the public share, Alberta will account for almost C$1.2 billion, drawn over 15 years from the C$2 billion it has earmarked to develop and test CCS technology.

'Clean energy superpower'

Prime Minister Stephen Harper said the TransAlta venture, with Capital Power and Paris-based Alstom as partners, meets the federal government's objectives of helping economic recovery and improving the environment.

"To keep Canada on the cutting edge, we are investing massively in scientific research and development. A major focus of these investments is our energy sector."

Harper said that in order for Canada to meet its goal of becoming an "energy superpower" it must be a "clean energy superpower."

Alberta Premier Ed Stelmach said the benefits of Project Pioneer will extend far beyond the TransAlta plant by offering "lessons on how other plants might be retrofitted here in Alberta and around the world."

The project was not on the original short list of three projects that Alberta tagged for its CCS money.

A spokesman for Greenpeace said governments should play no role in subsidizing CCS efforts by giant companies.

"Industry created this toxic mess and they should be fully and financially responsible for cleaning it up," said Mike Hudema.

He also described CCS as a "risky, expensive smokescreen," urging governments to invest more in renewable energy technology, such as wind and solar power, which he said will create more jobs over time.

Alberta Energy Minister Mel Knight defended the approach, arguing government must be a partner in developing CCS technology.

Federal Natural Resources Minister Lisa Raitt, who joined Knight at the Quest announcement, said: "We have to start somewhere. We start today. There are some hurdles to CCS, but the good news is the technology has already been technologically proven."

Reduction in emissions pledged

The Canadian government has pledged to reduce greenhouse gas emissions by 20 percent below 2006 levels by 2020.

Graham Boje, vice president of health safety and sustainable development with Shell's Canadian division, cautioned that, despite the financial backing, Quest has yet to receive corporate sanctioning.

He said the project has a "long way to go before it becomes a fully operational CCS project. We're still in the project development phase and the final investment decision depends on a range of factors."

Boje said it will take about two years to complete engineering, undergo public consultation and obtain regulatory approvals.

The Alberta government is still working on the two other projects that made its initial short list: the Alberta Carbon Trunk Line, a joint proposal by Enhance Energy and North West Upgrading to incorporate gasification, carbon dioxide capture transportation, enhanced oil recovery and storage, drawing on carbon dioxide from the Agrium fertilizer plant and the planned North West heavy oil upgrader; and an integrated gasification combined-cycle power generation plant proposed by Epcor Utilities and Enbridge at the Genesee site in central Alberta.

Coalbed methane recovery honored

The Alberta government derived some hope when an enhanced coalbed methane recovery project, led by the Alberta Research Council, landed an international award in London, England, earlier in October.

The recognition from the Carbon Sequestration Leadership Forum was for work completed last year involving the injection of carbon dioxide into deep, unmineable coal bed, displacing the underground methane with CO_2, reducing greenhouse gas emissions and improving the recovery of coalbed methane in the process.

Knight said the award established that the government-funded research council is a "global leader when it comes to contributing real solutions to address climate change."

The forum also endorsed a second Alberta project, co-led by ARC Resources and the research council, aiming to store carbon emissions from Alberta's industrial heartland region, north of Edmonton, in an underground reef formation, which is estimated to have the potential to handle 1 million metric tons a year of CO_2 by 2015 for more than 20 years. ●

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• SAFETY & ENVIRONMENT

F&W proposes polar bear critical habitat

200,541 square-mile area includes much of the outer continental shelf, the barrier islands and land along the Beaufort Sea coast

By ALAN BAILEY
Petroleum News

On Oct. 22 the U.S. Fish and Wildlife Service announced its proposed designation of critical habitat for the polar bear, following the May 2008 listing of the bears as threatened under the Endangered Species Act. The proposed habitat region encompasses a total area of 200,541 square miles of U.S. territory covering those areas of the Arctic Alaska offshore continental shelf where water depths are 300 meters (980 feet) or less in depth; barrier islands and spits along Alaska's northern coast; and polar bear, on-land denning habitat along the Beaufort Sea coast.

The onshore denning habitat consists of lands within about 20 miles of the northern coast of Alaska between the Canadian border and the Kavik River, and within about eight miles of the coast between the Kavik River and the city of Barrow.

The announcement of the proposed critical habitat designation triggers a 60-day public comment period.

But Strickland emphasized that federal agencies had already been conducting Endangered Species Act section 7 consultations for the polar bear, prior to the critical habitat designation, and that the recent U.S. Minerals Management Service approval of Shell's Beaufort Sea exploration plan had successfully gone through this consultation process.

"This administration is fully committed to the protection and recovery of the polar bear," said Interior Assistant Secretary for Fish, Wildlife and Parks, Tom Strickland. "Proposing critical habitat for this iconic species is one step in the right direction to help this species stave off extinction, recognizing that the greatest threat to the polar bear is the melting of Arctic sea ice caused by climate change. As we move forward with a comprehensive energy and climate strategy, we will continue to work to protect the polar bear and its fragile environment."

Fish and Wildlife has also proposed the prohibition of international trade in polar bears and their parts, Strickland said.

Thorough evaluation

Although the Endangered Species Act requires the Department of the Interior to, if possible, designate critical habitat at the time a species is listed under the act, Fish and Wildlife has not proposed the critical habitat designation until now because of the time that it has taken to conduct a thorough evaluation and peer review of its proposal, Fish and Wildlife said.

Under the terms of the Endangered Species Act, geographic areas designated as critical habitat contain features that the Department of the Interior considers essential for the conservation of a listed species and that may require special management or protection. And under section 7 of the act, federal agencies must ensure that any federally authorized activities are unlikely to jeopardize the continued existence of the species or to destroy or adversely modify the critical habitat.

Oil industry

The designated critical habitat area for the polar bear includes places where the oil industry is active: Fish and Wildlife will evaluate the economic impacts of the habitat designation, Strickland said.

But Strickland emphasized that federal agencies had already been conducting Endangered Species Act section 7 consultations for the polar bear, prior to the critical habitat designation, and that the recent U.S. Minerals Management Service approval of Shell's Beaufort Sea exploration plan had successfully gone through this consultation process. Onshore and offshore oil and gas activities have also already been subject to significant review and regulation under the Marine Mammals Protection Act.

"We believe that it will not be a significant additional burden on the industry ... but it does further heighten the importance of trying to minimize any kinds of activity in these critical areas that might adversely affect the bear," Strickland said of the proposed critical habitat designation.

Critical habitat receives an additional level of legal protection under section 7 of the Endangered Species Act, he said.

Fish and Wildlife has stepped up its funding efforts and is expanding its consultation capabilities, including the deployment of staff to the North Slope to support the development and implementation of community-based, polar bear-human interaction plans for the North Slope villages, said Sam Hamilton, director of the U.S. Fish and Wildlife Service.

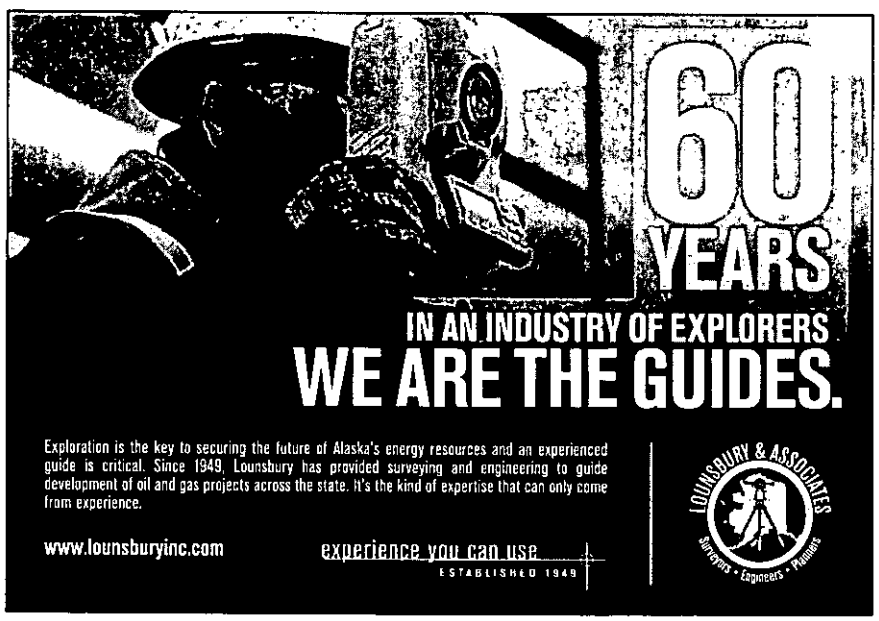
Sea ice

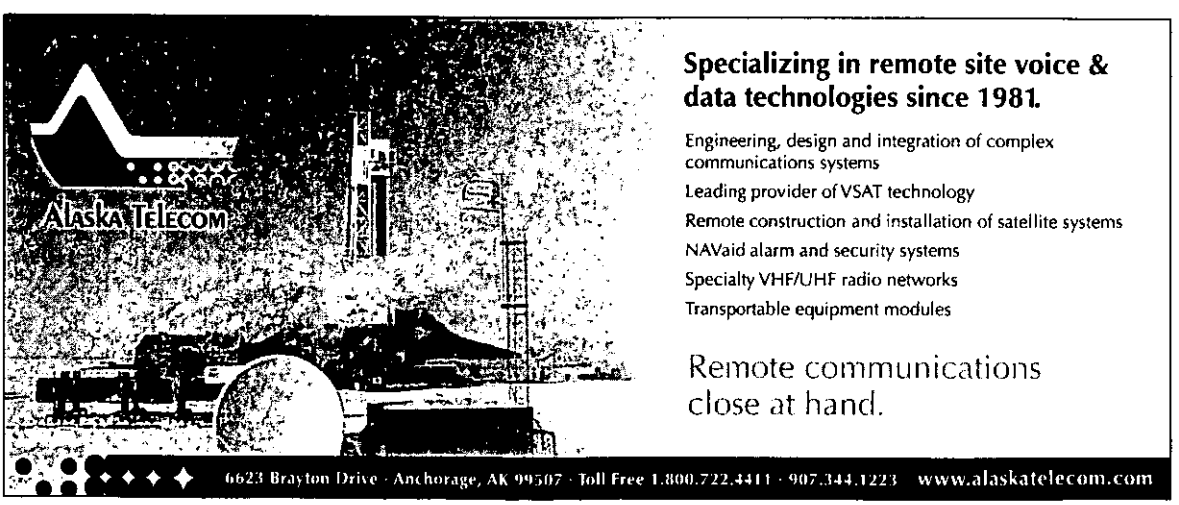
About 93 percent of the designated habitat area is occupied by winter sea ice, Strickland said.

"Through eons of time polar bears have evolved and adapted to life on the sea ice, and they depend on this area for resting, breeding, hunting and feeding," Hamilton said. "Polar bears require sea ice as a platform for hunting and feeding on seals; seasonal long-distance movements; travel to terrestrial maternal denning areas; resting and mating."

The majority of the U.S. polar bears remain on sea ice year round and prefer the shallow areas of the continental shelf, he said. And, according to Fish and Wildlife, most polar bear populations use onshore

see HABITAT page 19





● LAND & LEASING

B.C. lifts lid on new gas play

Government discloses 'sleeping dog' in Liard basin, west of Horn River, Montney plays; operators tight-lipped about plans, results

By GARY PARK
For Petroleum News

It's in a hush-hush mode right now, but E&P companies in British Columbia could be quietly extending the province's gas hot spot beyond the Montney and Horn River formations.

One of the first public hints came at a Northeast British Columbia Natural Gas Symposium in Calgary at the end of September, when a senior government official said the little-explored Liard basin — west of the Horn River shale gas basin and 65 miles northwest of Fort Nelson — is generating strong interest at monthly land auctions.

Vic Levson, executive director of the Resource Development and Geoscience Branch of the B.C. Energy Ministry, said the region is a "sleeping dog that has been lying quiet."

But bidders committed C$48.3 million in the first seven months of 2009 to secure exploration rights in the basin, compared with C$18.5 million for all of 2008, doubling the average price to C$1,500 per hectare.

However, he said the companies are "keeping a pretty low profile," although some of the operators are shifting their exploration efforts to unconventional from conventional prospects.

The players include two majors — Apache and EOG Resources — while three juniors (a partnership of Questerre Energy and Transeuro Energy and Stone Mountain Resources) have embarked on evaluation programs.

Levson said the government is hopeful that the early exploration is the start of a new trend.

He said the province believes the basin is a "good target ... we'd like to see more companies" take an interest in the area.

The lightly explored Beaver River area (incorporating the Liard basin and Fold Belt region) 100 miles northwest of Fort Nelson, has stirred interest among producers interested in evaluating and testing the potential of Mississippian-aged shales.

B.C. tops land sales

Otherwise, British Columbia, having topped Canada's provincial land sales for the first time in 2008, remains the frontrunner.

For the first nine months of the year, it generated C$330 million in successful bids, compared with C$247 million in Alberta and C$51 million in Saskatchewan.

That total was a starting C$3.5 billion behind the total for the same period last year, with British Columbia down about C$2 billion, Alberta off by C$715 million and Saskatchewan taking a C$797 million tumble, all paying the price for the industry-wide downturn.

British Columbia's per-hectare average price plunged to C$1,281 from C$3,820 in the first nine months of 2008; Alberta has edged up each quarter from C$119 to C$166 and C$257, but lags far behind the 2008 average of C$377; and Saskatchewan nosedived to C$297 from C$1,781.

There was no more hope for Alberta at its first October auction, which drew a mere C$21.9 million in successful bids and an average C$204 per hectare, compared with the C$38.7 million and C$329 per hectare at the comparable 2008 sale.

B.C. sees move to drilling

Otherwise, British Columbia is seeing the first signs that blockbuster land sales in 2007 and 2008 are being translated into drilling plans, although what is in store for the upcoming peak winter season has yet to be disclosed.

For the first nine months of 2009, the regulator has approved 532 new well licenses. Although that is down more than 30 percent from the same period of 2008, the September permits totaled 68, the most in any month since March and only 11 behind September 2008.

Alex Ferguson, commissioner of the B.C. Oil and Gas Commission, said the mood among operators is more positive than it was a few months ago, but until companies complete their budget plans the government is in a "blind spot."

Over the past seven years, the commission has approved 32 experimental schemes for shale gas formations, allowing ongoing research in drilling, completion and/or production technology.

For Horn River those in the experimental phase include majors such as Imperial Oil, EOG Resources Canada and Hunt Oil Company of Canada and smaller players such as Stone Mountain, Kodiak Bear Energy, Quicksilver Resources Canada and Storm Gas Resource.

EnCana has led the way in Horn River since 2001, listed as operator of 90 wells, 79 categorized as nonexperimental and five wells licensed as experimental, but not yet drilled, a commission report said.

It said that after completing its 2008 drilling program, EnCana reported average per well production rates of 5 million cubic feet per day, while the first wells of 2009 have posted flow rates of 9.5 million to 11 million cubic feet per day after 15 days.

The lightly explored Beaver River area (incorporating the Liard basin and Fold Belt region) 100 miles northwest of Fort Nelson, has stirred interest among producers interested in evaluating and testing the potential of Mississippian-aged shales. The commission said some promising results have already emerged from tests. ●

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OUR ARCTIC NEIGHBORS

Rosneft wants tax breaks for Arctic development

Russia needs to realistically assess the risks and costs of Arctic oil and gas development, Sergey Bogdanchikov, the president of state-owned oil company Rosneft, told the Murmansk International Economic Forum Oct. 15. Exploration drilling in the offshore Arctic can be done with far less certainty than drilling in traditional exploration areas in western Siberia, Bogdanchikov said. The cost of working in Arctic regions is also extremely high, he noted.

"Here we can already talk in quite concrete, specific terms, based on our development of the shelf off Sakhalin, and if you compare the figures from western Siberia, $30 to $50 to produce a ton of hydrocarbons, on the Far Eastern shelf we have about $300 and it will be at least $600 to $700 to produce a ton of hydrocarbons here on the Arctic shelf," Bogdanchikov said. "Companies have to be prepared for this and our government, of course, also has to be prepared for it. When it determines a tax policy for the offshore regions it can't be identical for the Caspian, the Sea of Azov, the Black Sea and the Arctic Shelf. We hope for mutual understanding with the government here.

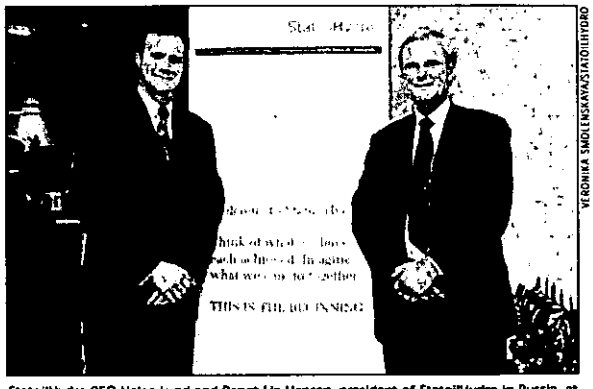
"We have to be honest above all with ourselves going into such a complex task as developing the Arctic shelf," Bogdanchikov said. "We are technologically backward here in the Russian Federation in virtually all the technology that is necessary."

At this point in Bogdanchikov's speech Alexei Miller, the CEO of Gazprom, Russia's other state-owned energy giant, interrupted to indicate that he agreed with the sentiment.

"We have to synchronize the following processes, the process of licensing on the shelf, the process of conducting geological exploration work and the process of preparing Russian industry, companies that are on both the regional and the national scale, in order to support these projects and to achieve the required production on time," Bogdanchikov said.

"When we're talking about investment of $250 to $300 billion, the question is whether this investment will go into Russian companies located in Russia or

see ROSNEFT page 16



VERONIKA SMOLENSKAYA/STATOILHYDRO

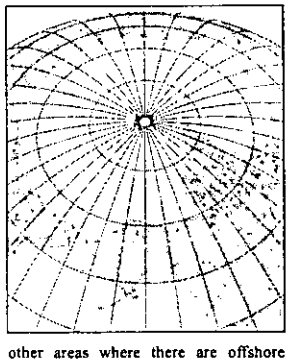
StatoilHydro CEO Helge Lund and Bengt Lie Hansen, president of StatoilHydro in Russia, at the signing of the Shtokman phase 1 agreement.

OUR ARCTIC NEIGHBORS

StatoilHydro ready for Shtokman collaboration

Norwegian company will use experience from Ormen Lange, Snohvit to develop subsea installations for Russian Barents Sea project

By SARAH HURST
For Petroleum News



Norway's StatoilHydro is gearing up for the "mother of all projects" — developing the Shtokman gas field in the Russian part of the Barents Sea — Bengt Lie Hansen, the company's president in Russia, said in a speech at the Murmansk International Economic Forum Oct. 15. StatoilHydro is a partner in phase one of Shtokman, with a 24 percent interest in the Shtokman Development company. Russia's Gazprom has a 51 percent interest and France's Total has the remaining 25 percent.

StatoilHydro was trying for 20 years to get involved in Shtokman before signing the phase-one agreement in February 2008, Hansen said.

"(Shtokman) I think will be the locomotive for developments in the Arctic," he said. "And I think that will not only have implications for the investing companies, it will have lots of implications for the Murmansk region, as we have seen in other areas where there are offshore developments, you see a lot of spinoff effects that you hardly are able to assess before you start out."

Shtokman will provide gas to Europe via the planned Nord Stream pipeline under the Baltic Sea, and to Atlantic mar-

see SHTOKMAN page 16

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SAFETY & ENVIRONMENT

No quick carbon fixes

Oil sands leader argues 'absolute' limits on oil sands' GHG would burden sector; Imperial boss says answers could take 100 years

By GARY PARK
For Petroleum News

Two leading players in the Alberta oil sands — the flashpoint of Canada's climate-change wrangling — have answered criticism that the sector is not doing enough to explain itself.

In the process, they got to grips with the range of challenges facing those seeking answers to greenhouse gas emissions.

Marcel Coutu, chief executive officer of Canadian Oil Sands Trust, which owns 36.7 percent of the giant Syncrude Canada operation, said oil sands producers should be allowed to raise GHGs, even if that means forcing other industrial sectors to shoulder a heavier share of meeting national climate change goals. Bruce March, chief executive officer of Imperial Oil, said it has taken 100 years to create the GHG problem and it will probably take another 100 years to meet growing global energy demand while dealing with climate change concerns.

Their comments came a month after Peter Voser, the new chief executive officer of Royal Dutch Shell, told a Calgary business summit that industry and governments have failed to promote the oil sands as a key answer to the energy needs of Asia and the wider world.

Arguing that oil sands opponents have done an effective job of trashing the resource, he called on industry and governments to play a more active role in promoting the oil sands and making a case for the future importance of unconventional oil.

New Alberta publicity campaign

The Alberta government has recently launched a three-year, C$25 million publicity campaign to counter some of the negative publicity from environmental groups who have labeled the oil sands as "dirty oil."

The Canadian Association of Petroleum Producers, whose member companies account for more than 90 percent of Canada's oil and natural gas production, has also admitted it is lagging in the battle for hearts and minds and has pledged to answer public concerns about the industry's environmental impact.

But Voser insists the oil sands could be taking a larger international role in energy markets by building pipelines to the British Columbia coast, opening up tanker routes to Asia-Pacific markets.

Speaking at the same Calgary conference, federal Environment Minister Jim Prentice agreed Canada needs to be more active in promoting its technological gains in energy production.

"Canada's role must be perceived as the most environmentally cautious producer of energy of all kinds, from green energy to hydrocarbons, in the world," he said.

Intensity-based limits proposed

But Coutu warned that if the oil sands face an absolute limit on their GHGs, regardless of increasing output, that would "put a very, very heavy burden on a business that is in a growth mode" and a key driver of the Canadian economy.

Rather that stifle oil sands output, the Canadian government should impose intensity-based limits, reducing per-barrel GHGs, leaving other industries to pick up the slack, he said.

Marcel Coutu, chief executive officer of Canadian Oil Sands Trust, which owns 36.7 percent of the giant Syncrude Canada operation, said oil sands producers should be allowed to raise GHGs, even if that means forcing other industrial sectors to shoulder a heavier share of meeting national climate change goals.

"What we have to do is prioritize what is most important to the economy and our quality of life," Coutu said. "At the end of the day I don't think there is a single element of our economy that is more important than energy."

He told the editorial board of The Globe and Mail that the vast majority of GHGs result from the consumption of energy by motor vehicles, airplanes and heating homes and commercial buildings — rather than the production phase.

He said the oil sands account for only 5 percent of Canada's total emissions, suggesting that figure should be measured from a global perspective.

Coutu said Canada's net export energy role should also be taken into account, because Canada could end up being saddled with the environmental costs of products that are used in other countries.

March, speaking to the Calgary Chamber of Commerce on Oct. 15, said the industry and governments must work on policies that allow energy to be developed from all available sources — such as wind, solar, nuclear, hydroelectric and geothermal power — not just oil and gas.

"We also require new transformative technologies such as second generation biofuels, which require long-term research investments, but will have the potential to effect change on a global scale," he said.

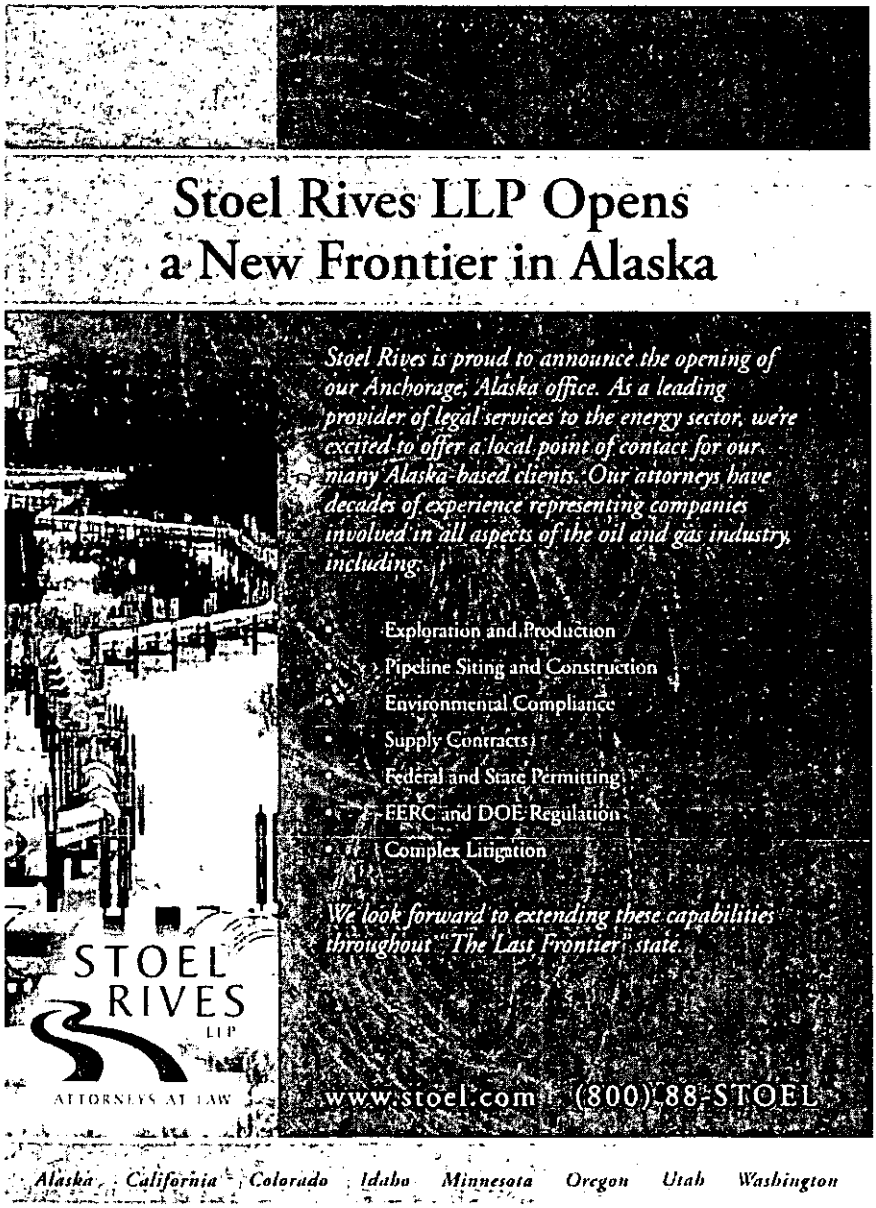
Exxon investing in algae

ExxonMobil, which owns 69.6 percent of Imperial, is planning to invest more than C$600 million in a venture to develop biofuels from algae in a research and development venture with Synthetic Genomics, a privately held company that is concentrating on gene-based research.

March said this effort, which could bolster the world's transportation fuel supply and eventually reduce GHGs, needs long-term planning horizons to deal with climate change.

GHGs have been "created for 100 years and I believe it will take at least

see CARBON FIXES page 16



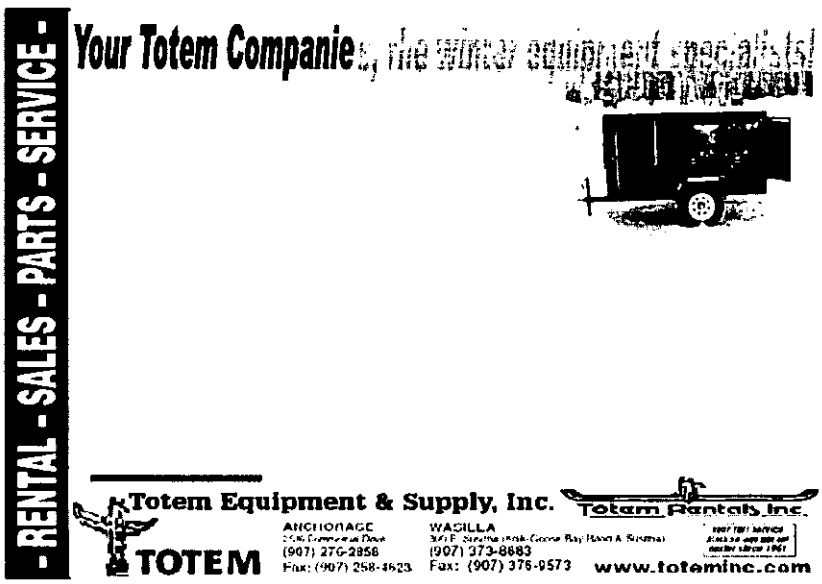
kets in the form of LNG, according to Hansen. StatoilHydro's experience developing the Ormen Lange gas field in the Norwegian Sea just south of the Arctic Circle and the Snohvit gas field in the Barents Sea will enable it to develop the subsea installations for Shtokman, he said.

"Tie these installations after they've been pre-drilled by floating units to the large floating unit, which will be the floating production ship, which will be disconnectable due to the harsh environment and the ice," Hansen said. "Bring the gas and the condensate onshore to Teriberka, a journey of about 600 kilometers (373 miles), for processing and ready for transportation as pipeline gas as well as LNG.

"StatoilHydro feels prepared for venturing north together and we think that we can bring three main elements to that table, called TPC," Hansen said. TPC stands for "technology enabler," "performing challenging development tasks" and "cooperation across borders." The company has been an architect in developing technology on the Norwegian continental shelf and its skills in that regard are highly relevant in Russia, Hansen explained.

"We have been able to carry out megaprojects within cost and schedule — complex projects," Hansen said. "We know that these ... have a tendency to experience cost overruns and schedule slippages, which of course has a detrimental effect on the viability of the project. So no one can guarantee, but I think we have to use the best experience and the best expertise we can get hold of.

"And my last comment is cooperation," Hansen said. "I think that is very important: We have been able to drive the cooperation between the authorities, the suppliers, the research facilities and the oil companies to obtain maximum value for everyone involved, and I think that is also some luggage that we would like to bring to Russia, which I think can create even better results in the future. So we are looking forward to be one of the partners in developing these fantastic possibilities that we can see in the Arctic." ●



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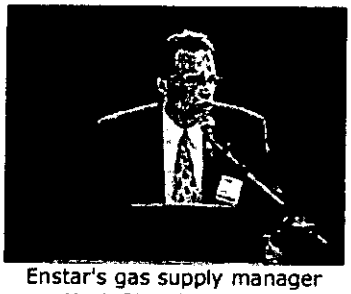
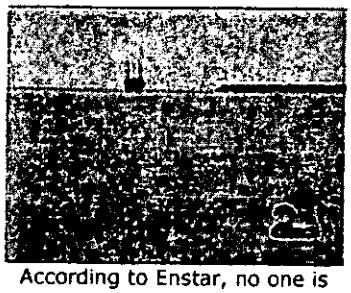
Enstar: Cook Inlet natural gas is rapidly diminishing



Enstar's gas supply manager Mark Slaughter (Mike Nederbrock/KTUU-DT)



According to Enstar, no one is sure exactly what is causing the depletion of reserves. (Mike Nederbrock/KTUU-DT)

by Lori Tipton
Wednesday, September 16, 2009

ANCHORAGE, Alaska -- The utility that uses Cook Inlet gas to help heat Southcentral Alaska says there is a steady depletion of gas reserves.

That was the topic of discussion Wednesday at the fifth annual Oil and Gas Congress meeting in Anchorage.

Enstar's gas supply manager, Mark Slaughter, says despite five new wells being drilled in the last year, research shows a considerable drop in the amount of gas in Cook Inlet.

In 2006, producers reported a rate of close to 150 million barrels per day, but as of last year they only reported about 50 million barrels per day.

According to Enstar, no one is sure exactly what is causing the depletion of reserves.

"There's a potential problem that's coming and we need to prepare for it, there's investments that need to be made, decisions that need to be made, and that date is coming," Slaughter said.

The U.S. Department of Energy has predicted local demand will outpace supply as early as 2014 -- producers are predicting it could happen by 2013.

Contact Lori Tipton at ltipton@ktuu.com

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Cook Inlet Natural Gas Reservoir & Storage

RFP Number 2008-0400-7351

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Alaska Natural Gas Development Authority

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In preparing this report, SAIC has relied on verbal and written information provided by secondary sources and interviews, including information provided by customer. Because the assessment consisted of evaluating a limited supply of information, SAIC may not have identified all potential items of concern and/or discrepancies and, therefore, SAIC warrants only that project activities under this contract have been performed within the parameters and scope communicated by the Alaska Department of Revenue and the Alaska Natural Gas Development Authority reflected in the contract. SAIC has made no independent investigations concerning the accuracy or completeness of the information relied upon.

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Executive Summary

The seasonal variation in South-central Alaska natural gas demand is large, about 1.75 times the yearly average demand on the peak demand day in the winter for total gas demand (utility natural gas for residential and commercial heating and electric utility use for power generation) and about 2.5 for utility gas only. Historically the swing in gas demand has been met by spare production capacity from the Cook Inlet gas fields. As Cook Inlet production capacity has declined, the capability of the existing gas fields has decreased to the point that gas storage has been developed by the operators to provide contracted quantities and to provide the peak capacity needed on the coldest days. On January 9, 2007 a record was set by ENSTAR that required that natural gas be diverted from the liquefied natural gas (LNG) plant to meet the peak requirement (ENSTAR 2007). In the future, unless additional natural gas resources are developed in the Cook Inlet basin, natural gas from other sources will have to be developed to meet the demand for natural gas. Options include a spur pipeline to bring North Slope natural gas to South-central Alaska or gas from interior basins (e.g., the Nenana Basin) or imported LNG. Other options to reduce the demand such as coal plants, wind farms, hydropower, geothermal, and tidal power opportunities in the Railbelt region may reduce the demand for natural gas for power generation but will not offset the need for natural gas for home and business heating unless customers convert home heating to electric heating.

The objective of this study is to identify potential locations for underground natural gas storage in the Cook Inlet region. Storage is anticipated to be essential to achieve the capacity and deliverability required to meet the regional need for load balancing, operational balancing, and efficient management of the spur line system supply.

The reservoir characteristics and the production infrastructure for the existing and potential gas storage reservoirs in the Cook Inlet provide the basis for the evaluation and determination of the most likely candidates for possible future underground storage. It is assumed that a spur pipeline connecting an Alaska Gas Pipeline transporting North Slope natural gas to markets outside Alaska with offtake points in Alaska will be operational in 2020. The storage volume and deliverability rate required to meet the anticipated natural gas demand for utility gas and electric power generation are estimated from historical production and demand data. The characteristics of an ideal underground natural gas storage facility (base-load and peaking-load gas storage facilities) are described as are the three existing underground Cook Inlet storage facilities and the characteristics of potential underground storage facilities in the Cook Inlet. Finally, the potential Cook Inlet storage fields and pools are compared to the ideal storage characteristics to arrive at a ranking of the potential gas storage reservoirs. A general description and estimate of the costs related to conversion of a gas production reservoir to a gas storage facility are presented.

Overview of Cook Inlet Reservoirs

The Cook Inlet area has been the subject of oil and gas exploration since the early 20th Century, and the initial commercial discovery was made in 1957 at the Swanson River oil field on the Kenai Peninsula. Over the next decade additional oil accumulations were discovered and developed. During the oil exploration and subsequently, 30 gas fields were discovered ranging in size from less than 1.0 billion cubic feet (Bcf) of gas to more than 2.3 trillion cubic feet (Tcf) of gas. There are currently 30 gas fields and 57 individual pools recognized by the Alaska Oil and Gas Conservation Commission.

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Storage Volume, Rate of Delivery Requirements and Estimates

A Railbelt natural gas demand forecast developed by ANGDA based on historical and projected demands for the use sectors is used for this assessment (ANGDA 2006). This demand forecast is for the entire Railbelt and includes regions of the state that will be served by an Alaska Natural Gas Pipeline from the North Slope and a spur pipeline to South-central Alaska. However, some of these regions will not be directly served by the spur pipeline; i.e., Fairbanks, North Pole, Delta Junction, Healy, Tok, Valdez).

The future of industrial use of natural gas in the Cook Inlet area will be determined by availability and price of natural gas for industrial purposes in the South-central Alaska. Agrium closed its nitrogen fertilizer operations due to a shortage of natural gas supply in Alaska's Cook Inlet basin. The balance of the historical industrial natural gas usage is for the ConocoPhillips/ Marathon LNG plant at Nikiski. The export license expires March 31, 2009. The plant owners have applied to the U.S. Department of Energy for a 2-year extension of this export license but the outcome of that assessment is not known at this time.

Continued industrial use of natural gas to provide an industrial base in South-central Alaska such as continued LNG operations and petrochemical industry will be determined by the availability and price of gas in the Cook Inlet from gas produced in the Cook Inlet or delivered through a spur pipeline from the North Slope (Thomas et al. 2004, Thomas et al. 2006, ANGDA 2006).

The minimum gas storage based on future estimated demand ranges from 11.1 Bcf in 2020 to 15.7 Bcf in 2040. Depending on the minimum gas storage required to meet demand in South-central Alaska is considered **too risky** because of the serious consequences of any shortfall that would cause a disruption in service in winter. There are currently **no alternative sources** of natural gas for heating and other essential services so a shortage causing a disruption of service to large portions of service area would be very costly and highly disruptive. Therefore, a safety factor of 1.5 was applied to arrive at the amount of gas storage required to meet seasonal swings in demand and possible longer-term disruptions that could result from equipment failures or pipeline breaks requiring several days to weeks to repair. Use of the 1.5 safety factor results in estimated gas storage capacity requirements of 16.7 Bcf in 2020 increasing to 23.5 Bcf in 2040. The selected gas storage reservoirs must be capable of providing the daily delivery rates during peak-demand season or multiple gas storage reservoirs or peaking reservoirs must be developed. Gas storage must also be able to deliver the incremental rates needed on the coldest highest demand days.

Although it is not possible to accurately predict the supply and demand situation that will exist in 2020, the estimated demand implies that a 300 MMcf/d spur pipeline will be needed in 2020. This assumes no new additional sources of gas from the Cook Inlet and no offsetting reduction in demand that could result from power generation from sources other than natural gas. This spur pipeline capacity will need to be expanded to 350 MMcf/d in 2030, 400 MMcf/d in 2035 and 450 MMcf/d in 2040 to meet the anticipated demand growth. Future industrial demand is not included in these capacity volumes.

The design withdrawal rates for base storage requirements range from 120 MMcf/d in 2020 to 169 MMcf/d in 2040. Unless the base storage reservoirs are capable of providing adequate deliverability through additional wells to meet the anticipated peak-day demands, peaking storage facilities may need to come on line between 2020 and 2025 and increase to a minimum deliverability rate of about 80 MMcf/d.

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Ranked Candidates for Base Load Storage

The ranking of potential future base load storage sites will be determined by the following considerations.

- Reservoir size near the ideal volume–excessive capacity may require large volumes of cushion gas in order to achieve optimum operating rates. Capacity significantly below the ideal would require high existing reservoir pressures to minimize cushion gas and maximize working gas. Excessive storage concerns may be offset by using a greater number of wells to keep withdrawal rates at required levels. Reservoir size less than the ideal volume will require multiple facilities, which may be an advantage, when taking disruptions into consideration.
- Deliverability of a reservoir is a function of the number of wells, reservoir pressure, and communication. In the scenario analyzed, the number of wells in each potential storage site is taken to be two times the number of wells utilized during that pools historically high production stage (Appendix A, Table A.2). It may be possible to achieve greater deliverability by drilling more infill wells and adding compression.
- Gas volume can be a very costly component of the storage economics. The amount of working gas is taken as a constant (20 Bcf) and the variable is the volume of cushion gas required, which is based largely on the reservoir pressure. Large low pressure reservoirs may require several 100 Bcf of gas to achieve the necessary pressure.
- Depletion prior to 2015 is preferred and prior to 2020 is a virtual necessity. This provides adequate time to plan and prepare the site for gas storage. Those that are depleted after 2020 would need to be deferred or some agreement with the lease holders/operators would need to be negotiated to use part or all the field/pool for storage.

The large Kenai Field pools and the Beluga River Undefined pool were excluded from the final list because they have very large reservoir size (capacity) and require excessive volumes of cushion gas, 146 to 179 Bcf (Appendix A, Table A.1) to achieve pressures equivalent to the ambient pipeline pressure.

The Beluga River Undefined pool is somewhat unique. It includes numerous pay sandstones (more than 40) in the Sterling and Beluga formations. These pays are cut by an unknown number of the wells, probably ranging from 2 or 3 per pay to perhaps as many as 10 per pay interval. Individual wells may penetrate and produce from as many as 50 pays. The volume of cushion gas required is nearly 650 Bcf (Appendix A, Table A.2). The issues regarding well integrity, communication between pay zones, and depletion status of individual sandstones indicate that using any of these horizons for storage is not feasible based on current knowledge. The operators continue to delineate and refine their understanding of the interrelations among pays, wells, and production. Hence, there may come a time when specific, depleted horizons are viable candidates for storage.

The rankings for the potential base load storage site candidates are shown in Table 1 and the locations are shown on Figure1. They are compared to the "Ideal Storage Pool" criteria.

The Swanson River Sterling pool is ranked as number one primarily because it has good-to-high deliverability, is expected to be depleted by 2020, and requires moderate amounts of cushion gas. The reservoir size is adequate but falls in the mid-range of the preferred size class, and expansion of storage capacity is limited to about 10 Bcf over the estimated requirement.

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Table 1. Ranked Candidates for Cook Inlet Base Load Storage

Rank	Pool	Reservoir Size (Bcf)	Deliverability[1] (MMcf/d)	Cushion Gas Required (Bcf)	Depletion Date (Year)
	IDEAL POOL	**25-50**	**120-169**	**0.0**	**2010-2015**
1	Swanson River/Sterling	39	60 (160)	9.0	2019
2	Beaver Creek/Beluga	92	61 (106)	16.0	2028
3	Ivan River	97	34 (65)	8.0	2019
4	Kenai/Sterling # 5.2	66	30 (36)	0.0	1981
5	Swanson River/Tyonek	28	29 (89)	6.0	2006
6	Beaver Creek/Sterling	140	33 (51)	24.0	1994

1. The number in the column is the 'adjusted" low deliverability, which is the value used to rank the candidate sites; the number in parenthesis is the "adjusted" high deliverability and can be achieved but is not sustainable for the entire demand season (Appendix A, Table A.2).

The Beaver Creek Beluga site has excellent reservoir size, the highest deliverability, but requires more cushion gas and is not expected to be depleted until 2028. These latter two factors prevent it from being ranked No. 1 and could drop it below the Ivan River pool.

The Ivan River pool is rated as the third choice due to the capacity and moderate volume of cushion gas required. The expected depletion date of 2019 is an additional plus. The primary negative factor is the relatively low deliverability of only 34 MMcf/d under the assumed development scenario.

The Kenai Sterling # 5.2 has been depleted since 1981 and has good-to-excellent reservoir size. The capacity is in excess of the requirements and no cushion gas is required to achieve ambient pipeline pressures. The chief problem is deliverability of only 30 MMcf/d using the one-to-one producing well scenario. There are suggestions that water encroachment has been detected, which may have the potential to reduce deliverability.

The Swanson River Tyonek pool is the smallest of the top six candidates at 28 Bcf, which is at the low end of the preferred size range. It requires a moderate amount of cushion gas, but has a projected deliverability in the one-to-one infill well case of only 29 MMcf/d.

The Beaver Creek Sterling pool is ranked No. 6 because of the problems with water encroachment, which requires a large volume of cushion gas and also reduces the deliverability. There is a large capacity for gas storage, and an early depletion date, but unfortunately that is due largely to the fact the pool watered out. The anticipated deliverability is about 33 MMcf/d.

The results of these evaluations indicate that there are viable potential future underground natural gas storage sites in the Cook Inlet gas fields that will meet the anticipated need for base load gas storage. However, among the leading candidates there are no true stand-alone reservoirs with regard to sustainable deliverability. Each of the candidate pools meets the capacity needs but under the proposed development none of them are capable of achieving the 120 to 169 MMcf/d design withdrawal rates (see Table 2.6 and Section 3.1).

Unless future detailed studies indicate otherwise, these pools in some combination should provide adequate storage for any reasonably forecast seasonal storage needs and achieve the deliverability needs for peak season demand. Under certain conditions, multiple base load storage facilities may negate the need for separate peak load storage, at least for the initial years of the pipelines existence.

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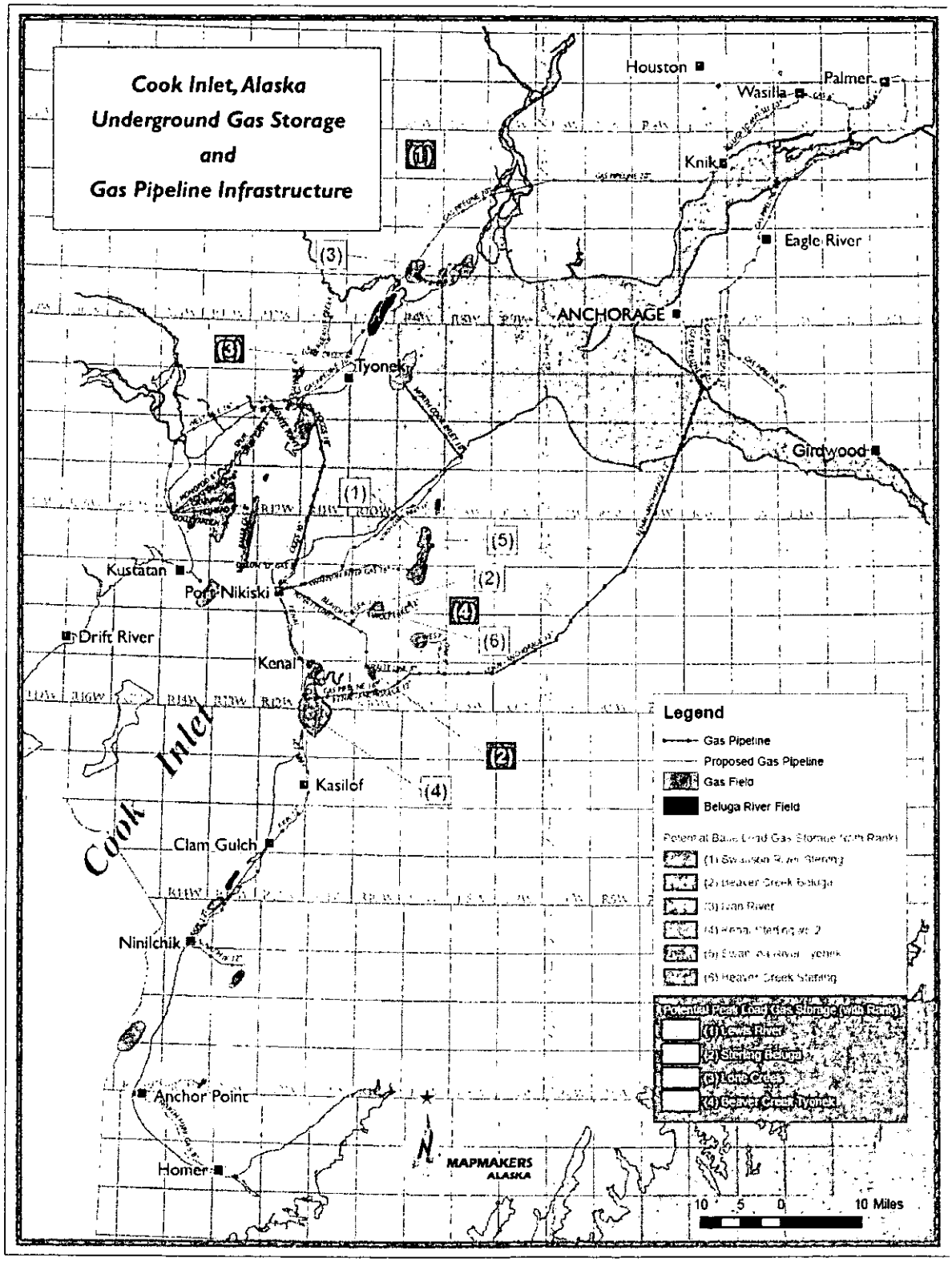
Figure 1. Cook Inlet Potential Underground Gas Storage Locations and Gas Pipeline Infrastructure



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Ranked Candidates for Potential Peak Load Storage Sites

The need for a separate peak load facility or facilities depends on the ultimate nature of the base load storage facilities. At this time the working scenario requires peak load storage for the short, very high demand periods resulting from conditions of extreme cold weather. Five pools were identified that would be candidates for potential peak load storage as shown in Table 2. The total storage capacity of these pools ranges from 6.2 Bcf to 15.1 Bcf (Appendix A, Table A.3). These pools are all on the pipeline system and are within 50 to 100 miles of the major consumers. Three key factors were utilized to rank or eliminate the pools: reservoir size, deliverability, and cushion gas requirements.

Table 2. Cook Inlet Ranked Peaking Load Storage Candidates

Rank	Pool	Reservoir Size (Bcf)	Cushion Gas Required (Bcf)	Deliverability[1] (MMcf/d)
1	Lewis River Undefined	14.3	1.6	130
2	Sterling Beluga Undefined	15.1	2.0	125+
3	Lone Creek Undefined	6.2	0	62
4	Beaver Creek Tyonek Undefined	6.3	0.5	58

1. 1% of the working gas volume (reservoir size minus cushion gas).

The existing Cook Inlet gas storage facilities have gas volumes of this size or smaller and average deliverability rates are about one percent of the total working gas. Based on these averages, maximum deliverability rates may range from a low of 58 MMcf/d for the Beaver Creek Tyonek undefined pool to a high of 131 MMcf/d for the Sterling Beluga Undefined pool. This assumes the reservoirs are filled to capacity and the cushion gas has been discounted.

Using the one percent of working gas volume (reservoir size minus cushion gas) as average daily deliverability, only two of the remaining pools are capable of achieving the 80 MMcf/d maximum anticipated peak gas requirements in 2040. The Lone Creek Undefined and the Beaver Creek Undefined pools are fall below the margin of 70 MMcf/d in 2025 for the assumed spur pipeline rates. Both the Lewis River and Sterling Beluga undefined pools have capability to achieve the desired deliverability in 2040 with potentials of approximately 125 to 130 MMcf/d each.

The Lone Creek and Lewis River sites are located on the west side of the Cook Inlet and could easily supply the electrical generation plant, while the Beaver Creek and Sterling Beluga sites are located on the east side and could be dedicated to the gas utilities.

The location and ranking of the potential peak load gas storage reservoirs/pools are shown in Figure 1.

Summary of Potential Cook Inlet Storage Sites

Six potential base load storage and four peak load storage sites are identified in the study. All the base load storage candidates are of sufficient size that, even with the anticipated cushion gas requirements of the various pools, they retain the capacity for the requisite volume of about 20 Bcf of working gas. At the calculated low sustainable deliverability rates none of them are gauged to have rates that are sufficient to serve as the sole storage facility and multiple storage pools are required. At the calculated high deliverability rates the Beaver Creek Beluga (120 MMcf/d) and the Swanson River Sterling (160 MMcf/d) can meet the demand, but not for sustained periods or for the duration of the high demand winter season.

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The four potential peak storage sites are equally distributed between the west and east sides of Cook Inlet and the Lewis River and Sterling Beluga undefined pools have the potential to meet any anticipated peak demand needs. The Lone Creek and Beaver Creek Tyonek, as a pair could also meet that demand.

Cost of Potential Storage Facilities

The total capital costs for a 20 Bcf working gas storage facility, requiring the purchase of 20 Bcf of cushion gas, drilling of four new wells at $7 million each, and capable of delivering a maximum rate of 100 MMcf/d are estimated to be $8.1 million/Bcf. This compares to values given in a study by the Federal Energy Regulatory Commission (FERC 2004) of $5 to $6 million/Bcf for a typical depleted natural gas reservoir storage field in the Lower 48. The costs will vary depending on the specific sites chosen. The average cost-of-service for 20 storage operator tariffs collected by FERC (2004) indicated a median cost-of-service of $0.64/Mcf. A determination of the regulatory framework that the spur pipeline and gas storage facilities in the Cook Inlet will need to be determined as well as site-specific requirements to provide an accurate estimate of the tariff. A cost-of service estimate is not included in this study.

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Acronyms and Abbreviations

ADNR ..... Alaska Department of Natural Resources
ADOG ..... Alaska Division of Oil and Gas
ANGDA ..... Alaska Natural Gas Development Authority
AOGCC ..... Alaska Oil and Gas Conservation Commission
Bcf ..... billion cubic feet of natural gas
DOE ..... U.S. Department of Energy
FERC ..... Federal Energy Regulatory Commission
LNG ..... liquefied natural gas
md ..... millidarcies
MD ..... Measured depth
MMcf ..... million cubic feet natural gas
MMcf/d ..... million cubic feet per day
NETL ..... National Energy Technology Laboratory
RCA ..... Regulatory Commission of Alaska
Tcf ..... trillion cubic feet of natural gas
TVDss ..... True Vertical Depth sub-sea

Storage Measures

Total capacity is the maximum volume of gas that can be stored in an underground storage facility and is determined by the physical characteristics of the reservoir.

Base gas (or cushion gas) is the volume of gas intended as permanent inventory in a storage reservoir to maintain adequate pressure and deliverability rates throughout the withdrawal season.

Working gas capacity is, by definition, total capacity minus base gas.

Working gas is the volume of gas in the reservoir above the designed level of the base gas. Working gas is that which is available to the marketplace.

Deliverability is a measure of the amount of gas that can be delivered (withdrawn) from a storage facility on a daily basis. Also referred to as the deliverability rate, withdrawal rate, or withdrawal capacity, deliverability is most often measured in terms of million cubic feet or dekatherms per day. The deliverability of a given storage facility is variable, and depends on factors such as the amount of gas in the reservoir at any particular time, the pressure within the reservoir, compression capability available to the reservoir, the configuration and capabilities of surface facilities associated with the reservoir, and other factors. In general, a facility's deliverability rate varies directly with the amount of base and working gas in the reservoir; it is at its highest when the reservoir is most full and declines as working gas is withdrawn.

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1 Introduction

The seasonal variation in South-central Alaska natural gas demand is large, about 1.75 times the yearly average demand on the peak demand day in the winter for total gas demand (utility natural gas for residential and commercial heating and electric utility use for power generation) and about 2.5 for utility gas only. Historically the swing in gas demand has been met by spare production capacity from the Cook Inlet gas fields. As Cook Inlet production capacity has declined, the capability of the existing gas fields and pools has decreased to the point that gas storage has been developed by the operators to provide contracted quantities and to provide the peak capacity needed on the coldest days. On January 9, 2007 a record was set by ENSTAR that required that natural gas be diverted from the liquefied natural gas (LNG) plant to meet the peak requirement (ENSTAR 2007). In the future, unless additional natural gas resources are developed in the Cook Inlet basin natural gas from other sources will have to be developed to meet the demand. Options include a spur pipeline to bring North Slope natural gas to South-central Alaska or gas from interior basins (e.g., the Nenana Basin) or imported LNG.

ANGDA is a major driving force to construct a pipeline to deliver North Slope gas into the Cook Inlet area to meet the energy needs of South-central Alaska. The need for a pipeline to bring natural gas to South-central Alaska is based on the declining natural gas reserves in the Cook Inlet from the currently developed fields. The critical nature of this need has been described in several recent reports and studies (Thomas et al. 2004, Thomas, et al. 2006, ANGDA 2006). The issues facing South-central Alaska future natural gas needs and sources were discussed in great detail by numerous presenters at the Alaska Oil and Gas Conservation Commission's (AOGCC) South Central Alaska Energy Forum held in Anchorage, Alaska, September 20-21, 2006.[1]

When a spur pipeline is used to deliver natural gas to South-central Alaska, it will be essential that the pipeline operate at a constant rate matching the nominated and contracted rate. This can be achieved by developing one or more of the depleted or nearly-depleted Cook Inlet gas reservoirs as gas storage facilities.

1.1 Objective

The objective of the project is to identify potential locations for underground natural gas storage in the Cook Inlet region. Storage is anticipated to be essential to meet storage capacity and deliverability required to meet the regional need for load balancing, operational balancing, and efficient management of the spur line system supply. The reservoir characteristics and the production infrastructure for the existing and potential gas storage reservoirs in the Cook Inlet provide the basis for the evaluation and determination of the most likely candidates for possible future underground storage.

1.2 Scope and approach

Section 2 of the report contains an analysis of the storage volume and deliverability rate required to meet the anticipated natural gas demand for utility gas for residential/commercial heating, and electric power generation. Section 3 contains a description of the characteristics of an ideal underground natural gas storage facility including base-load and peaking-load gas

[1] http://www.aogcc.alaska.gov/homeogc.shtml

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storage facilities. Section 4 contains a description of the three existing underground Cook Inlet storage facilities. Section 5 describes the characteristics of potential underground storage facilities in the Cook Inlet. In Section 6 the potential storage facilities are compared to the ideal storage characteristics to arrive at a ranking of the potential gas storage reservoirs. Section 7 includes a general description and estimate of the costs related to conversion of a gas production reservoir to a gas storage facility to provide a general guideline for the costs on a unit volume basis.

The data used to analyze Cook Inlet oil and gas reservoirs were obtained from the publicly available sources including the AOGCC, Alaska Department of Natural Resources (ADNR), and the Regulatory Commission of Alaska (RCA). Chevron and Marathon currently operate gas storage facilities in the Cook Inlet at Swanson River, Pretty Creek and Kenai River Sterling Pool #6. These operators were contacted and they all provided general overviews of their operations and experiences in operating gas storage reservoirs in the Cook Inlet.

1.3 Overview of Cook Inlet Petroleum Geology and Reservoirs

The effort to identify and evaluate potential Cook Inlet natural gas storage facilities is focused on the nearly depleted or depleted oil and gas reservoirs of the Cook Inlet Tertiary Basin. Prior to the discussion of the character and criteria required for Cook Inlet natural gas storage, it is informative to provide a very rudimentary over-view of the geological setting and petroleum geology of the Cook Inlet basin.

The Cook Inlet area has been the subject of oil and gas exploration since the early 20th Century, and the initial commercial discovery was made in 1957 at the Swanson River oil field on the Kenai Peninsula. Over the next decade additional oil accumulations were discovered and developed. During the oil exploration and subsequently, 30 gas fields were discovered ranging in size from less than 1.0 billion cubic feet (Bcf) of gas to more than 2.3 trillion cubic feet (Tcf) of gas (Thomas, et al. 2004, Table 2.5). The basin geological framework, character of the petroleum systems, the age, depositional framework, and distribution of hydrocarbons are discussed in considerable detail in Thomas, et al. (2004) and only a brief overview is provided here.

The entire Cook Inlet Tertiary section was deposited under non-marine conditions. The sub-aerial fans and a variety of fluvial channel systems constitute the reservoirs for the known, commercial oil and gas accumulations of the basin. The alluvial fan complexes provide thick, relatively continuous reservoirs and are best developed along the margins of the basin. The fluvial reservoirs have varying geometries and degrees of heterogeneity, depending upon the type of steam (braided, meandering, etc.) responsible for their formation. Consequently, these reservoirs have varying degrees of potential to serve as storage reservoirs depending on the nature of fluvial system and the degree to which they inter-finger with and migrate across the various overbank and flood plain facies (coals, mudstones, etc).

The Cook Inlet stratigraphic section (Figure 1.1) depicts both the Mesozoic and Cenozoic rocks of the Cook Inlet Basin and indicates the source intervals for oil and gas. The bulk of the gas is non-associated gas and is in no way related to the rocks or processes that generated the oil and associated gas. As can be seen from Figure 1.1 the oil is sourced thermogenically, from older Mesozoic rocks, and has accumulated in the lower portion of the Tertiary interval–in the West Foreland, Hemlock and lower Tyonek formations. Many of these oil-bearing reservoirs of the lower portion of the Tertiary section are of fan origin and hence thick and widespread in nature. This is especially true of the most important oil-bearing unit, the Hemlock Conglomerate.

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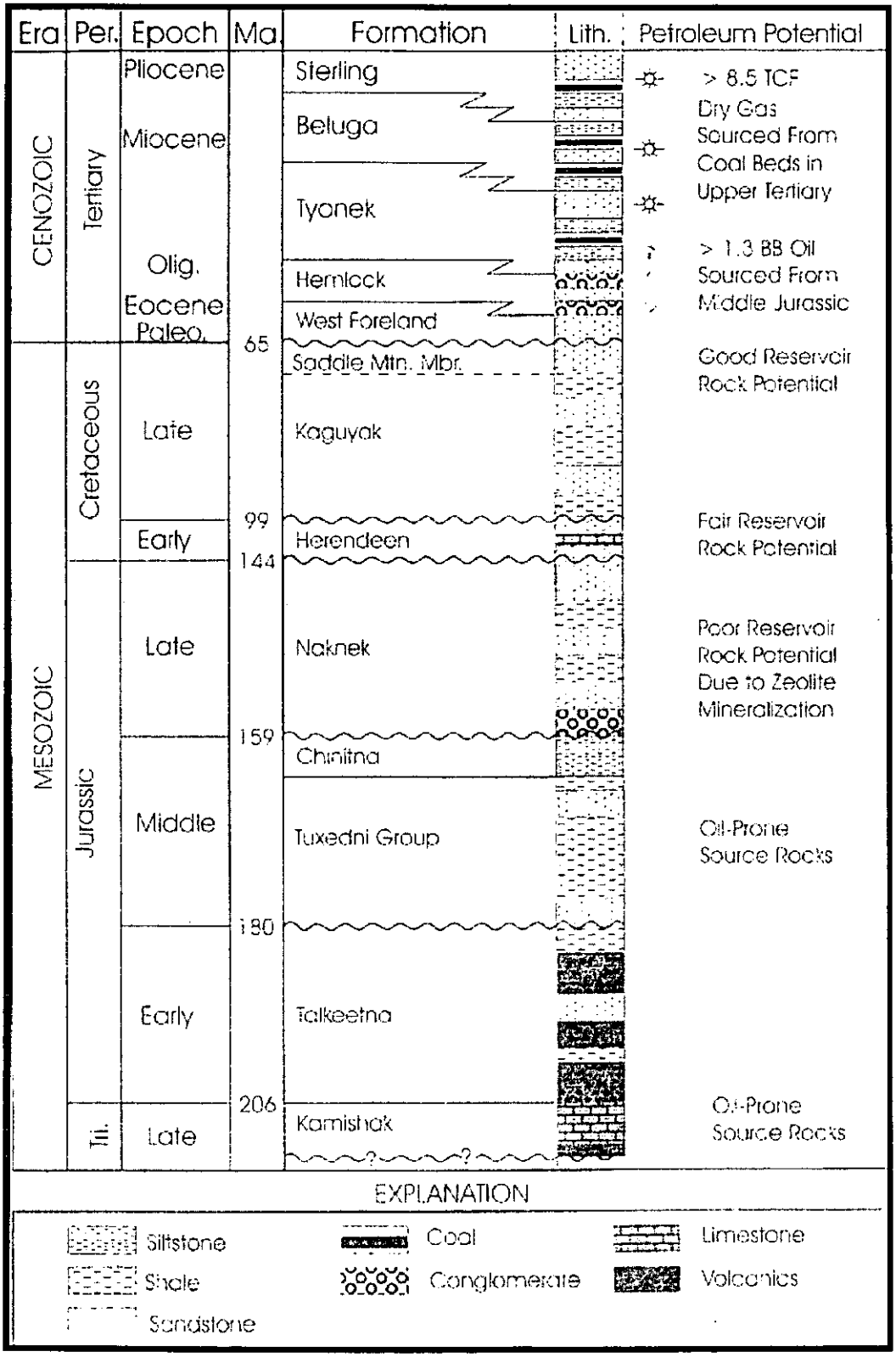
Figure 1.1. Cook Inlet Basin Alaska–Stratigraphic Column & Oil and Gas Reservoirs



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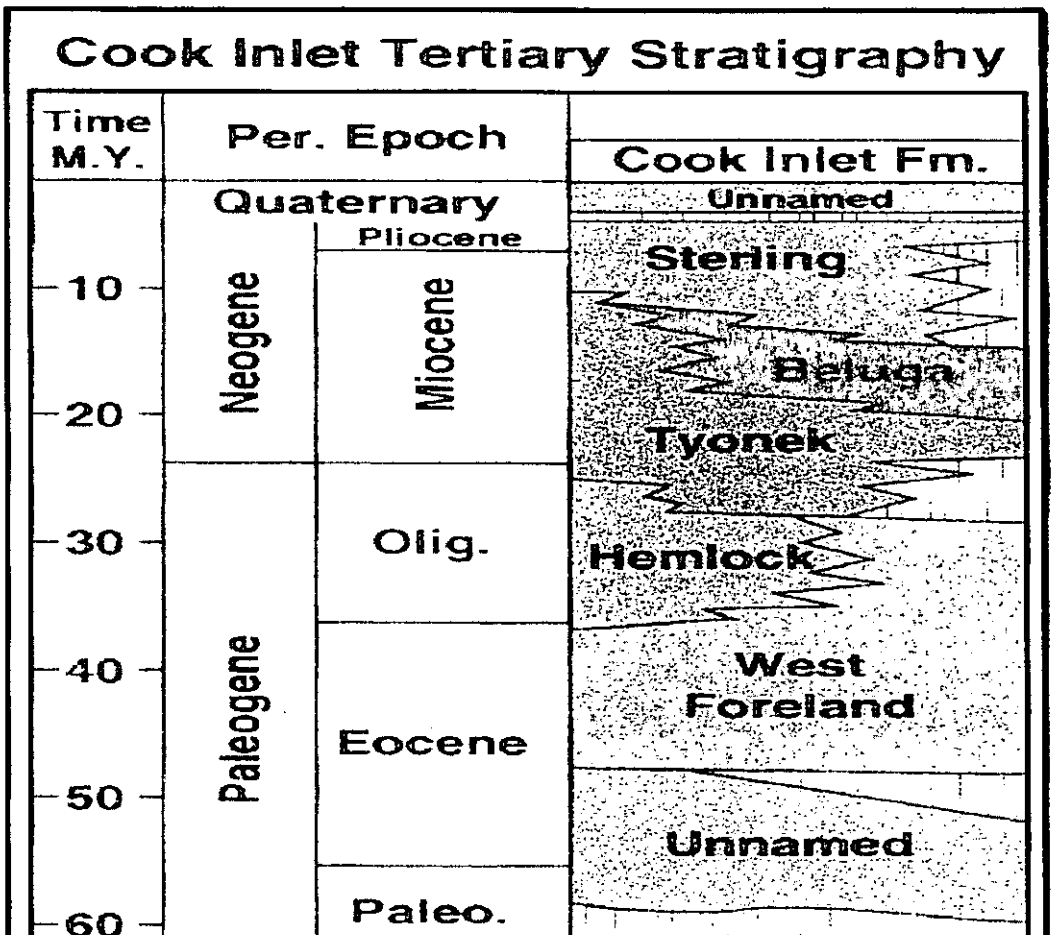
The non-associated gas was sourced biogenically, from the coals and coaly mudstones of the upper Tyonek, Beluga, and Sterling Formations. This gas has accumulated in reservoirs of the same age and system. These reservoirs are predominantly of fluvial origin, are more limited in distribution, and possess greater lateral heterogeneity. Figure 1.2 shows the stratigraphic and temporal relationships of the various formations of the Kenai Group (Swenson, R. F., 1997).

Figure 1.2 Cook Inlet Tertiary Section



There are currently 30 gas fields and 57 individual pools recognized by the Alaska Oil and Gas Conservation Commission (AOGCC 2006a). These Cook Inlet gas fields and pools, the cumulative production through 8/31/2007, and the remaining reserves estimates using a 10 MMcf/mon production cutoff for each pool are shown in Table 1.1. The reserves estimates were made using standard reservoir engineering material balance methodology (Slider 1983). The material balance data and the production rate versus pressure data for the field/pool are also used to estimate to estimate the amount of cushion gas required to return the pools to a pressure condition required to provide the required production rates. These estimated reserves total 1,102.4 Bcf in this analysis and do not include Probable/Under-development reserves. The ADNR Division of Oil and Gas (ADOG) 2007 Annual Report Table III.2 (ADNR 2007) lists gas reserves as 1,269.0 Bcf, without Probable/Under-development reserves, and 1,684.6 Bcf with

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Probable/Under-development reserves. These reserves and production forecasts are close enough to the same that the ADOG production forecast (Table III.9. ADNR 2007) is used as a basis for estimating the gas storage capacity and deliverability rate required for gas storage in the Cook Inlet and the individual pool assessments performed in this study were used for individual pool estimates for the year when production is expected to stop and to determine the volumes of cushion gas required and associated pressures and deliverability rates.

The bulk of the Cook Inlet pools are in sandstone deposited by the fluvial channel systems of the upper Tyonek, Beluga, and Sterling formations. The sandstones of the lower part of the Sterling Formation constitute the best gas reservoirs in the basin and reflect the development of a thick succession of superposed fluvial channel systems. Consequently, it can be predicted, that all other factors being equal, the Sterling fields and pools should rank high in the ultimate listing of potential natural gas storage facilities.

The gas pools of the area are typically defined in one of two ways; 1) named after a specific sandstone within a formation as the Kenai #5.1 or #6 pools in the Kenai gas field, or 2) termed undefined, meaning there are multiple productive zones through the section and are named after the field or formation in which they occur, as Beluga River Undefined (produces from interval throughout the Beluga and Sterling formations) and Beaver Creek Tyonek Undefined (produces from intervals throughout the Tyonek).

Thomas et al. (2004) present a table derived from AOGCC data (2003) that provides porosity and permeability data for the three primary gas-bearing formations. While the number of samples is small, these data indicate the relative quality of the units as storage targets. In the most attractive unit, Sterling Formation, this sampling yields a porosity range of 10 to 33 percent with an average of 28 percent, and the permeability ranges from 125 to 2000 md with an average of 579 md. The upper Tyonek Formation has a porosity range of 12 to 29 percent with an average of 20.7 percent, and the permeability range is 0.25 to 1600 md with an average of 312 md. The Beluga Formation is the least prospective interval having a porosity range of 10 to 28 percent, with an average of 21.7 percent, but the permeabilities are much lower, ranging from 0.1 to 300 md, with an average of only 75 md. As stated earlier, the Sterling Formation gas pools should provide the most attractive options for future natural gas storage facilities.

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Table 1.1. Cook Inlet Gas Fields and Pools (as of 08/31/2007)

Field	Pool	Cumulative (8/31/2007) (MMcf)	Remaining Reserves (10 MMcf/mon production cutoff)
Albert Kaloa	Undefined	2,933.1	1308.0
Beaver Creek	Beluga	60,379.6	22846.2
Beaver Creek	Sterling	125,952.9	0.0
Beaver Creek	Tyonek Undefined	5,498.4	0.0
Beluga River	Undefined	1,044,081.8	408665.2
Birch Hill	Undefined	65.3	0.0
Granite Pt	Undefined	872.8	0.0
Ivan River	Undefined	78,654.4	4666.0
Kasilof	Tyonek Undefined	1,868.2	398.4
Kenai	Beluga Undefined	0.1	0.0
Kenai	Sterling 3	332,329.2	5598.0
Kenai	Sterling 4	451,659.9	3892.8
Kenai	Sterling 5.1	484,638.7	0.0
Kenai	Sterling 5.2	44,031.6	0.0
Kenai	Sterling 6	530,063.8	12556.4
Kenai[1]	Sterling 6 Storage	488.5	N.A.
Kenai	Tyonek	187,060.5	8238.0
Kenai	Upper Tyonek Beluga	297,761.4	113899.6
Kenai C.L.U.	Beluga	64,121.5	37262.0
Kenai C.L.U.	Sterling Undefined	19,943.9	9538.4
Kenai C.L.U.	Tyonek D	1,399.4	0.0
Kenai C.L.U.	Upper Tyonek	71,898.7	8748.8
Kustatan	Undefined	311.4	0.0
Lewis River	Undefined	11,589.8	0.0
Lone Creek	Undefined	5,335.3	228.0
McArthur River[2]	Middle Kenai	1,066,396.2	111268.0
Middle Ground Shoal	Undefined	16,393.6	0.0
Moquawkie	Undefined	3,716.7	470.4
Nicolai Creek	Beluga Undefined	2,286.5	714.8
Nicolai Creek	North Undefined	1,123.2	0.0
Nicolai Creek	South Undefined	855.6	333.2
Ninilchik	Deep Undefined	8,767.0	15791.6
Ninilchik	Fc Tyonek Undefined	18,931.1	15714.8
Ninilchik	Go Tyonek Undefined	16,758.2	13870.8
Ninilchik	Pax Tyonek Undefined	1,319.8	2452.4
Ninilchik	Sd Tyonek Undefined	21,317.3	43967.6
North Cook Inlet[3]	Tertiary	1,763,222.1	231704.0
North Fork	Undefined	104.6	0.0
Pretty Creek	Undefined	9,402.2	0.0
Pretty Creek[1]	Beluga Storage	114.2	N.A.
Pretty Creek	Tyonek Undefined	3.0	0.0
Pioneer	Tyonek Undefined	3.0	0.0
Redoubt Shoal	Undefined	451.9	0.0
Redoubt Shoal	Tyonek Undefined	0.0	0.0
Sterling	Beluga Undefined	5,597.4	7911.2
Sterling	Sterling Undefined	3,699.9	0.0
Sterling	Tyonek Undefined	175.3	0.0
Stump Lake	Undefined	563.3	0.0
Swanson River	Beluga Undefined	1,018.4	1662.8
Swanson River	Sterling Undefined	30,248.2	4758.0
Swanson River[1]	Tyonek Undefined	18,347.1	N.A.
Three Mile Creek	Beluga Undefined	1,342.6	1586.0
Trading Bay	Undefined	5727.9	0.0
W Foreland	Tyonek Undefined 4.0	6,444.6	7289.6
W Foreland	Tyonek Undefined 4.2	2,839.1	3437.2
W Fork	Sterling A	1,230.8	0.0
W Fork	Sterling B	1,519.6	0.0
W Fork	Undefined	2,716.0	1649.6
Wolf Lake	Beluga-Tyonek Undefined	872.0	0.0

1. Current Gas Storage Fields/Pools
2. McArthur River Production Cutoff rate = 50 MMcf/mon
3. North Cook Inlet Production Cutoff rate = 100 MMcf/mon

2 Storage Volume and Rate of Delivery Requirements

The seasonal variation in South-central Alaska natural gas demand is large, about 1.75 times the yearly average demand on the peak demand day in the winter for total gas demand (utility natural gas for residential/commercial heating and electric utility gas for power generation) and about 2.5 for residential/commercial utility gas only. Historically the swing in gas demand has been met by spare production capacity from the Cook Inlet gas fields. When a spur pipeline is used to deliver natural gas to South-central Alaska, it will be essential that the pipeline operate at a constant rate matching the nominated and contracted rate. This can be achieved in the Cook Inlet by developing one or more of the depleted or nearly-depleted gas reservoirs as gas storage facilities. The basis for estimating the natural gas volumes and delivery rates from gas storage reservoirs needed to meet the seasonal fluctuations in natural gas demand throughout the year are described in this section.

2.1 South-central Alaska Demand Forecast

A Railbelt natural gas demand forecast developed by ANGDA based on historical and projected demands for the use sectors is used for this assessment (ANGDA 2006). This demand forecast is for the entire Railbelt and includes regions of the state that will be served by an Alaska Natural Gas Pipeline from the North Slope and a spur pipeline to South-central Alaska. However, some of these regions will not be directly served by the spur pipeline; i.e., Fairbanks, North Pole, Delta Junction, Healy, Tok, Valdez). The utilities and service areas are defined as shown in Table 2.1.

Table 2.1. Railbelt Gas and Electric Utilities and Service Areas (ANGDA 2006)

Electric Utility	Service Area
Anchorage Municipal Light & Power (AML&P)	**Central Anchorage**
Chugach Electric Association (Chugach)	Anchorage, Kenai Peninsula, Whittier, Tyonek
Homer Electric Association (HEA)	Homer, Soldotna, Seldovia, Kenai
Matanuska Electric Association (MEA)	Chugiak, Eagle River, Palmer, Wasilla, Talkeetna
Golden Valley Electric Association (GVEA)	Fairbanks, North Pole, Delta Junction, Healy
Seward Electric System (SES)	Seward
Copper Valley Electric Association (CVEA)	Copper River Basin, Valdez
Alaska Power Company (APC)	Tok, Dot Lake
Gas Distribution Utility	**Service Area**
ENSTAR	South-central Alaska/Anchorage Area
Fairbanks natural Gas (FNG)	Portion of Fairbanks
Independents and Direct	Anchorage area in addition to ENSTAR

The forecast is described in the ANGDA (2006) report in Section 4.2 Gas Demand and is shown in Table 2.2 and Figure 2.1. The natural gas used for electrical power generation by Railbelt power utilities are shown in columns B through G and the gas utilities are shown in columns H thought J. The 5-year industrial average represents the historical use by the LNG plant and the Agrium fertilizer plant. The estimate for the gas used for operation of the natural gas production and delivery system is shown in column L. Column M shows the total natural gas demand in trillions of BTUs (tBtu). Some of these demand components, APC-Tok, CVEA, and FNG, will not be connected to the anticipated spur pipeline but their impact is minor relative to other uncertainties in long-term demand forecasting and these demand components are not removed from this assessment.

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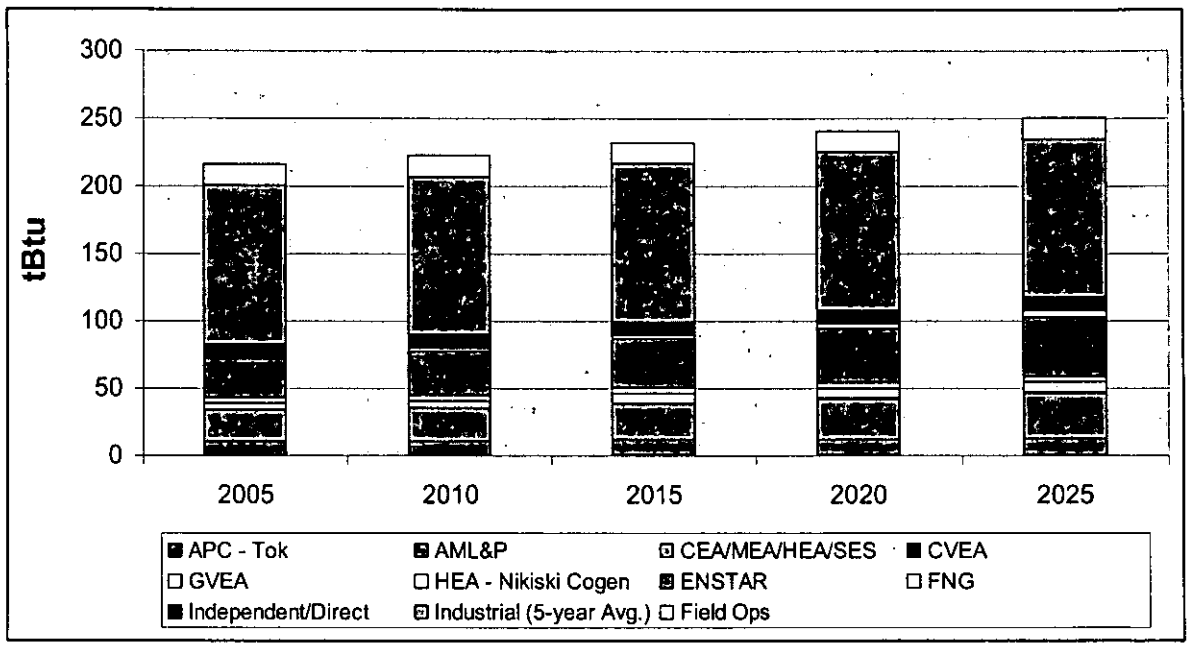
Table 2.2. Railbelt Natural Gas Demand (trillion Btu–tBtu)

A	B	C	D	E	F	G	H	I	J	K	L	M
Year	APC Tok	Anch. ML&P	CEA/ MEA/ HEA/ SES	CVEA	GVEA	HEA - Nikiski Cogen	ENSTAR	FNG	Indep/ Direct	Industrial (5-year Avg.)	Field Ops	Total tBtu
2005	0	10.5	23.5	0	5	4.1	29.0	0.9	10	117.7	15.4	216.1
2010	0	10.9	25.1	0	5	4.1	33.1	1.6	10	117.7	15.4	222.9
2015	0.4	11.4	27.1	0.3	7.5	4.1	36.2	2.2	10	117.7	15.4	232.3
2020	0.4	12.1	29.9	0.3	7.6	4.1	40.2	3.2	10	117.7	15.4	240.9
2025	0.4	12.7	33.5	0.4	7.7	4.1	44.2	4.6	10	117.7	15.4	250.7

Source: ANGDA

Figure 2.1. Railbelt Natural Gas Demand (Source: ANGDA)



2.1.1 Industrial Demand

The future of industrial use of natural gas in the Cook Inlet will be determined by availability and price of natural gas for industrial purposes in the South-central Alaska. Agrium announced in a September 25, 2007 statement that it was closing its nitrogen fertilizer operations at the end of September due to a shortage of natural gas supply in Alaska's Cook Inlet basin (PN 2007). The balance of the historical industrial natural gas usage is for the ConocoPhillips/Marathon LNG plant at Nikiski. The export license to continue operation of this facility expires March 31, 2009. The plant owners have applied to the U.S. Department of Energy for a 2-year extension of this export license but the outcome of that assessment is not known at this time.

Continued industrial use of natural gas to provide an industrial base in South-central Alaska such as continued LNG operations and petrochemical industry will be determined by the availability and price of gas in the Cook Inlet from gas produced in the Cook Inlet or delivered through a spur pipeline from the North Slope (Thomas et al. 2004, Thomas et al. 2006, ANGDA 2006).

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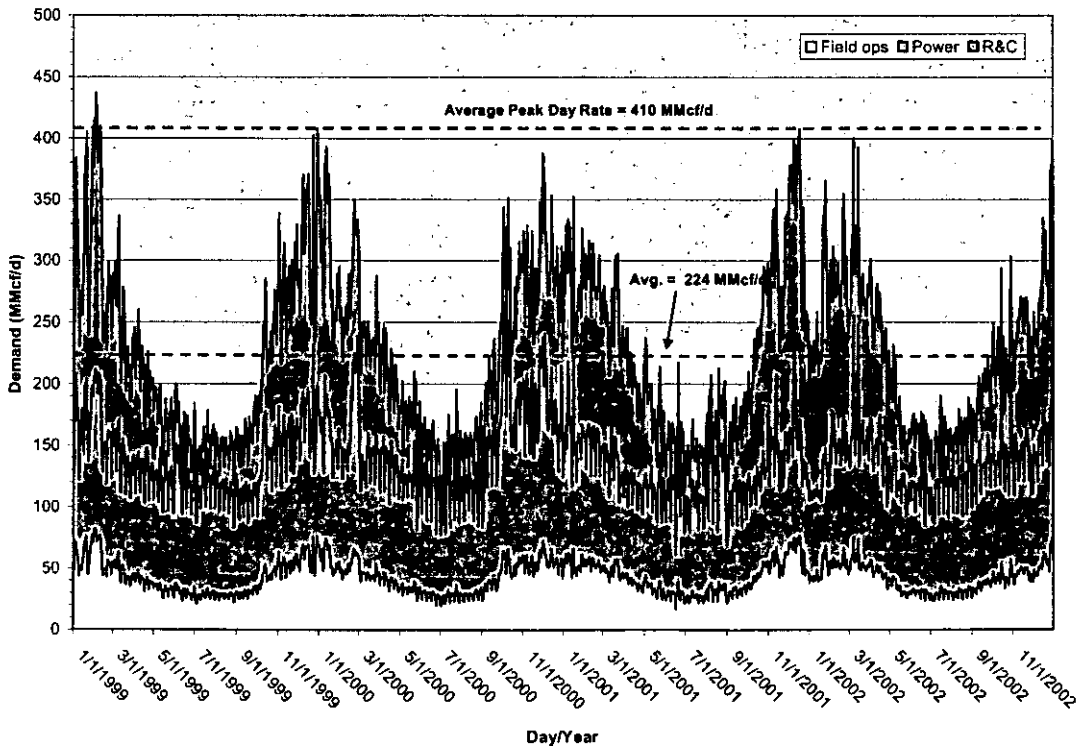
2.1.2 Seasonal Variations in Gas Demand

The seasonal fluctuation in gas demand is a function of ambient conditions and the balancing of available gas production, transmission, and end-user requirements of the South-central and Railbelt demand. Any industrial customers for natural gas from the spur pipeline will require a steady supply of natural gas and would be expected contract for constant delivery rates of gas and would not contribute to the seasonal fluctuations.

Historically, Cook Inlet gas fields have had adequate excess production capacity to meet seasonal demands. Ideally, the industrial users would not be called on to curtail industrial operations to meet peak-day demands from the gas utility and electric generation sectors. However, on January 6, 2007 natural gas was diverted from the LNG plant to meet a surge in demand due to cold weather (ENSTAR 2007). A properly designed spur pipeline and gas storage operation would alleviate the need for curtailing any future industrial operations.

The seasonal changes in demand that cause the need for gas storage are illustrated in Figure 2.2. Swings in utility gas demand (residential and commercial) are much larger than the power generation sector These data, which show daily demand for the 1999 to 2002 time period, are provided to illustrate the daily and seasonal demand swings and **should not be relied upon for decision purposes** because some of the data were generated by scaling to yearly average data from ADNR (2007). The natural gas from a spur pipeline that is not required to meet demand in the summer is available for injection into gas storage facilities for withdrawal to meet the shortfall in winter. This would allow a spur pipeline to be operated at a constant flow rate, which is highly desirable.

Figure 2.2. Illustrative South-central Alaska Daily Demand-1999-2002



Data sources: ENSTAR, AML&P and scaled to match yearly data by segment are reported by ADNR 2007, Table III.10, Division of Oil and Gas 2007 Report.

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2.1.3 Gas Demand Forecasts to 2040

Forecasts for the time period from 2020 to 2040 were developed by extending the forecast shown in Table 2.2 for electricity generation (Columns B to G), residential/commercial (columns H to J), and field operations Column L). Gas storage to make up for any short fall in spur pipeline delivery in these demand components is essential. Fro simplicity, utility gas is assumed to be 1000 Btu/Mcf, the results are shown in Table 2.3.

Table 2.3. Railbelt Natural Gas Demand to 2040 (1000 Btu/Mcf)

A	B	C	D	E	F	G	H
Year	Electric Utilities (Bcf/yr)	% increase Elec. Utilities	Gas Utilities (Res. and Commercial) (Bcf/yr)	% increase Gas Utilities	Field Ops (Bcf/yr)	Electric & Gas Utilities and Field Ops (Bcf/yr)	% increase Electric and gas Utilities and Field Ops
2005	43.1		39.9		15.4	98.4	
2010	45.1	4.64%	44.7	12.03%	15.4	105.2	6.91%
2015	50.8	12.64%	48.4	8.17%	15.4	114.6	8.89%
2020	54.4	7.09%	53.4	10.44%	15.4	123.2	7.55%
2025	58.8	8.09%	58.8	10.11%	15.4	133.0	7.95%
2030	63.5	8.00%	64.7	10.00%	15.4	143.6	7.96%
2035	68.6	8.00%	71.2	10.00%	15.4	155.1	8.04%
2040	74.1	8.00%	78.3	10.00%	15.4	167.7	8.12%

Source: SAIC based on ANGDA forecast (2006)

2.2 Storage Volumes and Rate of Delivery to Meet Seasonal Fluctuations

An analysis of Cook Inlet production history from 1990 to 2006 provides a long-term view of the year-to-year variation in production to meet total demand (industrial, residential/commercial, electricity production, and field operations and other) over a longer history. These data were normalized to the average monthly production rate of 15.9 Bcf/mon over this period and are shown in Figure 2.3. The volume of gas above the monthly average ranges from a high of 10.7 Bcf in the 1990-1991 winter season to a low of 5.2 Bcf in the 2000-2001 winter season. The average of the peak monthly production during this time period is 18.5 Bcf/mon. The difference between the average peak month and monthly average is 87 MMcf/d.

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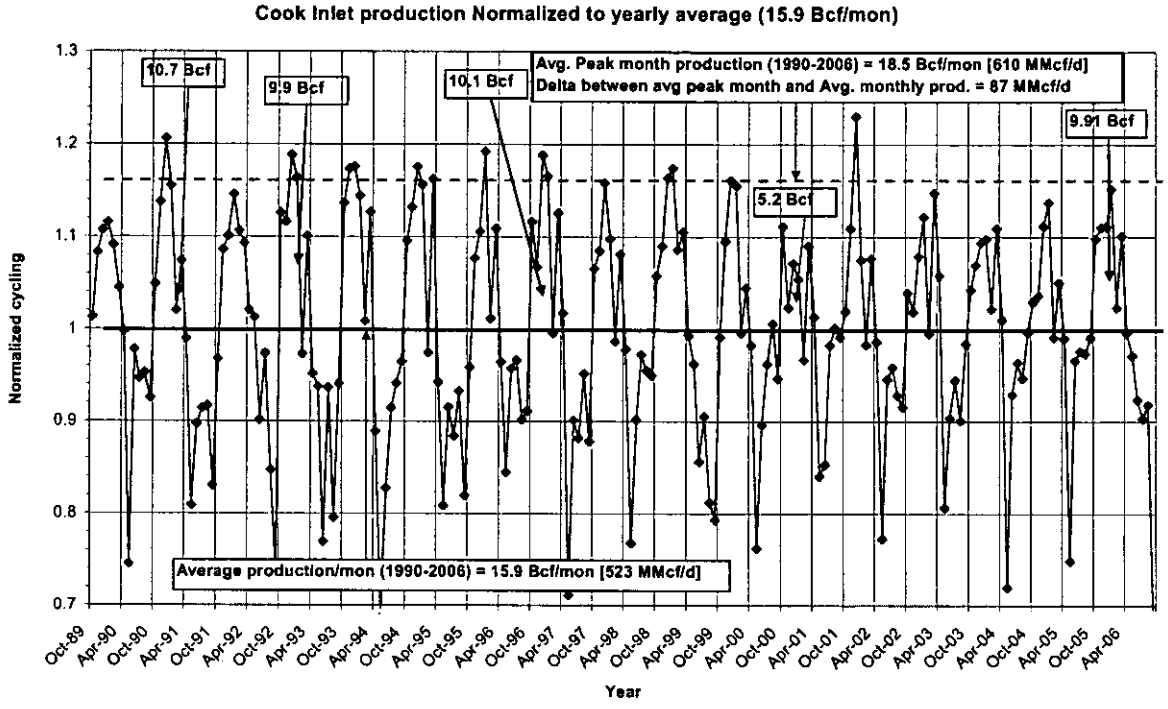
Figure 2.3. Normalized Cook Inlet Production (1990 to 2006)



2.2.1 Storage Volumes Based on Total Cook Inlet Production from 1990 to 2006

The average of gas for the peak-season months above the monthly average from 1990 to 2006 is 8.2 Bcf. In 2006 the volume was 9.6 Bcf. Using these volumes and the projected percentage increases in Table 2.2, Column H, the volume required for storage would range from 10.3 Bcf in 2020 to 14.0 Bcf in 2040 as shown in Table 2.4.

Table 2.4. Base Gas Storage Capacity Estimate from Historical Production

Year	Gas Storage Estimate (Bcf/yr)
2005	8.2
2010	8.8
2015	9.6
2020	10.3
2025	11.1
2030	12.0
2035	13.0
2040	14.0

2.2.2 Storage Volumes Based on Daily Gas Utility and Electric Utility Demand

Cook Inlet daily demand data are available from various sources for the Residential/Commercial and Electric Generation segments and have been complied for 2006 and forecasts developed through 2020 (Dunmire 2007). These data are shown in Figure 2.4. These demand volumes do not include the Fields Ops segment included in the Railbelt Demand included in Table 2.2.

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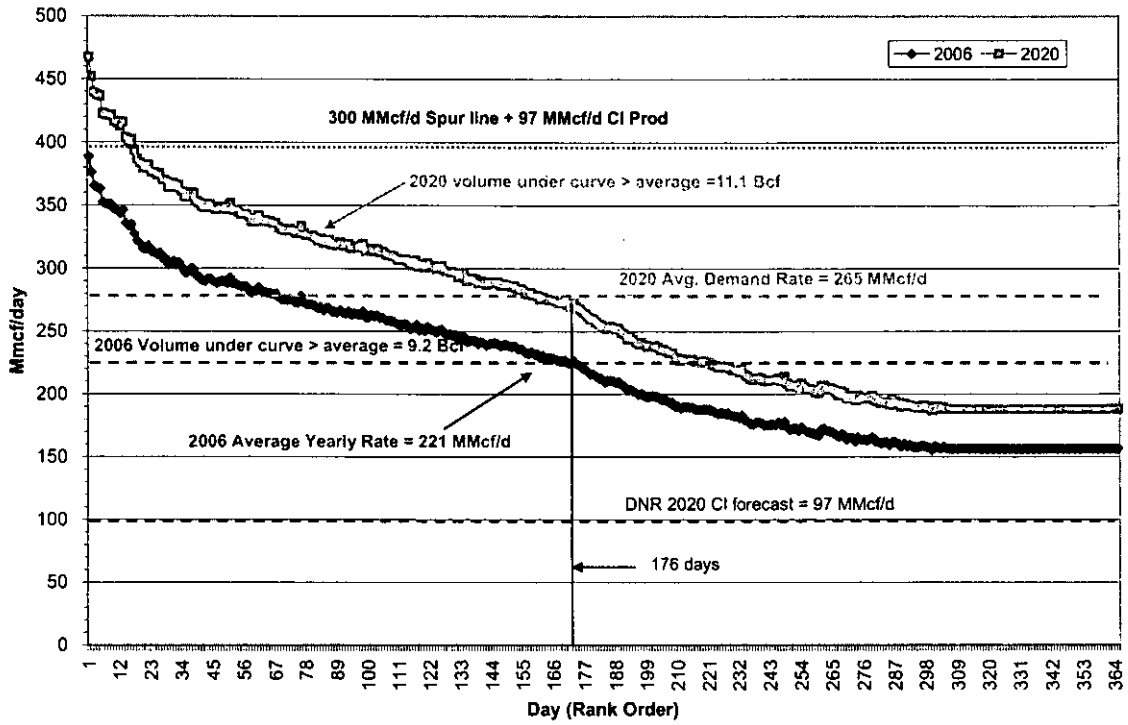
The volume of gas above the average demand to meet Residential/Commercial and Electricity Generation demand for 2006 is 9.2 Bcf and 11.1 Bcf for 2020.

Figure 2.4. South-central Alaska Natural Gas Demand (Gas Utility and Power Generation)



The data used to develop Figure 2.4 also provide the peak-day demand for these demand segments (Dunmire 2007). The gas storage estimates, the average daily demand rate, and peak daily demand rate to 2040 are estimated based on the 2020 estimates using the percentage increases from Table 2.3 Column C for Electric Utilities (power generation) and Column E for Gas Utility (residential/commercial). These estimates are shown in Table 2.5. These estimates are about 10% larger than the volumes shown in Table 2.4 that were based on total Cook Inlet production. Gas storage reservoirs must be capable of supplying the volumes and deliverability rates to meet demand above the average daily rate throughout the high-demand season of the year. The daily demand analysis indicates this is about 176 days per year.

Table 2.5. Base Storage Estimate from Daily Demand

Year	Gas Storage Estimate (Bcf/yr)	Avg. Daily Demand (MMcf/d)	Peak daily Demand (MMcf/d)
2006	9.2	221	389
2020	11.1	265	467
2025	12.1	290	511
2030	13.2	316	559
2035	14.4	344	611
2040	15.7	376	668

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The consequences to South-central Alaska utility gas customers of deliverability falling below demand for even one day in the winter makes it imperative that a safety factor be included in the planning for gas storage requirements. A longer disruption of several days or weeks resulting from events such as equipment failure or pipeline breaks is always a possibility. Hence, the base storage capacity is increased by 1.5 times the base gas storage estimate to provide a safety factor for evaluating potential gas storage reservoirs as shown in column C in Table 2.6. The gas storage volumes increase from 16.7 Bcf/yr in 2020 to 23.5 Bcf/yr in 2040. Table 2.6 also includes the average withdrawal rate for the base storage and the proposed design withdrawal rates of 1.9 times the average withdrawal rates, columns D and E, respectively.

Table 2.6. Base Gas Storage and Average Withdrawal Rates for Gas and Electric Utilities

A	B	C	D	E
Year	Gas Storage Estimate (Bcf/yr)	1.5 times Required Gas Storage (Bcf/yr)	Avg. Withdrawal Rate[1] (MMcf/d)	Design Withdrawal Rate[2] MMcf/d)
2006	9.2	--	--	--
2020	11.1	16.7	63.1	120
2025	12.1	18.2	68.9	131
2030	13.2	19.8	75.0	142
2035	14.4	21.6	81.8	155
2040	15.7	23.5	89.0	169

1. Average withdrawal rate = Required gas storage/176 days
2. The design withdrawal rates are 1.9 times the daily average withdrawal rates

It is essential that the spur pipeline and Cook Inlet production provide the **average daily demand** throughout the year and that gas storage or some other alternative source of gas be available to meet the daily demand above the average. The average daily demand must also include the volumes required for Field Ops to operate the natural gas supply system. Any Industrial demand would be in addition to the volumes presented in these tables. The minimum required throughput rate for a spur pipeline to meet this average requirement is shown in Table 2.7. However, a higher spur pipeline rate will be required in the first few years to provide gas to build cushion gas and working gas volumes required to meet the capacity and deliverability required.

Table 2.7. Minimum Spur Pipeline Rate to Meet Average Demand

Year	Average Daily Gas and Elec. Utility Demand (MMcf/d)	Average Daily Field Ops Demand (MMcf/d)[1]	Average Daily Demand (Gas and Elec. Utility & Field Ops) (MMcf/d)	Cook Inlet Production Forecast[2] (MMcf/d)	Spur Pipeline Rate Required for Average Daily Demand[3] (MMcf/d)
2006	221	42	263	--	--
2020	265	42	307	97	210
2025	290	42	332	52	280
2030	316	42	358	30	328
2035	344	42	386	17	369
2040	376	42	418	10	408

1. From Table 2.2.
2. ADNR 2007 Annual Report (Forecast extended to 2040 from 2036)
3. Spur pipeline rate = Average Daily Demand – Cook Inlet Production

Before a spur pipeline will be operational in 2020, South-central Alaska must have additional natural gas for power generation and residential/commercial use to meet the short fall from existing Cook Inlet reserves. This shortfall can be offset by successful Cook Inlet natural gas exploration; switching a portion of the power generation from natural gas to alternatives such as

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coal, wind, hydropower, or tidal power; import of LNG; or some combination of all of these options including energy efficiency and conservation measures. When a spur pipeline is available those options that have been put in place for the interim need will still be available. For example, if LNG import is part of the solution, it may need to be continued until gas storage has been built to a level to meet the winter season demand.

In addition, gas storage deliverability must be available to meet the peak-day demands. Gas storage reservoir characteristics, operational design, and costs will determine whether this can be accomplished by spare capacity from the base storage facility or if a peaking-load storage facility will be required to meet the demand.

Due to the necessity to nominate spur pipeline rates on a long-term basis and to build gas storage (cushion gas and working gas), it is assumed that the spur pipeline rate will initially be 300 MMcf/d. Because of the uncertainty of the alternatives, described above, that will have been put in place this assumption is only one possible scenario out of numerous possible scenarios. In addition, if there are industrial users for spur pipeline gas, the rate will need to be higher by that amount unless industrial users would be willing to be curtailed on high demand days.

The assumed initial rate of 300 MMcf/d would need to be increased in increments to meet growing demand and it is anticipated that the spur pipeline will be designed such that additional compression can be added to increase the throughput rate as needed. This also means that there must be opportunities to nominate higher off-take rates from the Alaska Gas Pipeline in the future as currently anticipated. The gas storage withdrawal rates needed for peak-day deliveries for the assumed spur pipeline rates of 300 MMcf/d in 2020 increasing to 450 MMcf/d by 2035 are shown in Table 2.8. These volumes would allow for a significant build up of gas storage of a full year's supply for Cook Inlet consumers or industrial use.

The peak-day demand shown in Table 2.6 has been increased by the average daily demand for the Field Ops demand segment (42 MMcf/d) for these calculations. The Field Ops demand will also vary on a daily basis throughout the year but volumes for that variation are not available.

Table 2.8. Gas Storage Deliverability Required for Peak-Day Rate

Year	Avg. Daily Demand (MMcf/d)	Estimated Peak day rate[1] (MMcf/d)	Cook Inlet Production Forecast[2] (MMcf/d)	Spur Pipeline Rates[3] (MMcf/d)	Gas Storage Withdrawal Rate Req'd for Peak Day[4] (MMcf/d)	Design Withdrawal Rate[5] (1.9 times Avg. Rate) (MMcf/d)	Max. rate reg'd from peaking storage[6] (MMcf/d)	Yrly Volume Available for Cushion and Working Gas[7] (Bcf/yr)
2006	263	–	–	–	–	–	–	–
2020	307	509	97	300	112	120	-8	33
2025	329	553	52	300	201	131	70	8
2030	352	601	30	350	221	142	79	10
2035	377	653	17	400	236	155	81	15
2040	404	710	10	450	250	169	81	20

1. Peak day rates from Table 2.5 are increased by 42 MMcf/d to include the Field Ops volumes.
2. ADNR 2007 Annual Report (Forecast extended to 2040)
3. Assumed Nominated Spur Pipeline rates
4. Gas Storage Withdrawal Rate reqd. for Peak Day = Est. Peak Day rate – Cook Inlet Production – Spur Pipeline Rate
5. From Table 2.6.
6. Max. Rate for Peaking Storage = Gas Storage Withdrawal Rate Reg'd on peak Day – Design Withdrawal Rate
7. Gas Volume available for Building Cushion & Working Gas Volumes = (Cook Inlet Prod. + Spur Pipeline Rate – Avg. Daily Demand)*365 days

2.3 Summary of Storage Volume and Rate of Delivery Estimates

Historical Cook Inlet production and seasonal demand data were both analyzed and indicate a similar gas storage requirement. The minimum gas storage based on future estimated demand

ranges from 11.1 Bcf in 2020 to 15.7 Bcf in 2040. Depending on the minimum gas storage required to meet demand in South-central Alaska is considered too risky because of the serious consequences of any shortfall because there are **no alternative sources** of gas for heating and other essential services totally dependent on natural gas at this point in time. Therefore, a safety factor of 1.5 was applied resulting in an estimated gas storage capacity of 16.7 Bcf in 2020 increasing to 23.5 Bcf in 2040. The spur pipeline must have a delivery rate high enough to build up the cushion gas and working gas required for the selected reservoir to meet the base storage requirement plus the 50% safety factor in volume and provide the daily delivery rates during peak-demand season.

Gas storage must also be able to deliver the incremental rates needed on the coldest days. Based on an assumed 300 MMcf/d spur pipeline in 2020, with expansion to 350 MMcf/d in 2030, 400 MMcf/d in 2035 and 450 MMcf/d in 2040, the incremental delivery from gas storage required to meet the peak-day demand estimates ranges from 112 MMcf/d in 2020 to 250 MMcf/d in 2040. The design withdrawal rates for base storage requirements range from 120 MMcf/d in 2020 to 169 MMcf/d in 2040. Unless the base storage reservoirs are capable of providing adequate deliverability through additional wells to meet the anticipated peak demands, peaking storage facilities may need to come on line between 2020 and 2025 and increase to a minimum deliverability rate of about 80 MMcf/d.

The potential gas storage reservoirs are described in the Section 3.

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3 Characteristics of Ideal Natural Gas Storage Facility

An ideal natural gas storage system is described that will meet the optimum base load and peaking load conditions for the Cook Inlet area. The characteristics of this storage system are based on gas volumes that are largely determined by an anticipated constant spur line capacity and seasonally variable usage volumes (residential, commercial, and industrial) in the Cook Inlet area. With these assumptions is place, both the ideal base load and peak load storage facilities are described within the constraints of the known geologic and engineering characteristics of the reservoir intervals of the Cook Inlet Tertiary section (Figure 1.1 and 1.2).

Ideal storage facilities are the products of a complementary interaction of geological, engineering, and logistical elements that are present within the Cook Inlet area. Essential parameters include proximity and connection to existing pipeline system(s), existing gas producing infrastructure, potential storage volume, reservoir geometry and heterogeneity, porosity, permeability, water saturation, water influx characteristics, access to potential storage site, and reservoir pressure/depth. The criteria necessary for the "ideal' storage facility or facilities are described below. The concept of a dual storage system requires that the base load and peak load storage sites/systems possess somewhat different characteristics.

3.1 Base Load Storage Facility Criteria

The base-load storage facility must be of sufficient size to accommodate the excess gas delivered during the low-demand summer months and have the characteristics that will facilitate the withdrawal of the gas during the winter season in quantities and at rates sufficient to meet the average expected demand. This storage facility is not intended or designed to meet the extreme volumes required for short periods during very high use days. The following criteria describe the ideal base-load storage reservoir for Cook Inlet.

- To meet the anticipated storage needs required to offset annual seasonal fluctuations in residential/commercial and power generation demand, at a proposed start-up date of 2020, the storage facility has a working gas capacity of 16.7 BCF (Table 2.8). The facility needs to be capable of expansion to 23.5 BCF or more by 2040, to satisfy the demands of a growing population. The storage system must be capable of delivering an average of 120 MMcf/d in 2020 and 169 MMcf/d in 2040.

  The storage volume discussed above represents only the working gas with a 150% safety factor and does not include the volume of cushion gas required. The cushion gas volume, depending on the reservoir conditions, may be zero to one, or more, times the working gas volume. Consequently, the target storage sites should be viewed as having a total storage capacity (cushion plus base load) of 25 to 50 Bcf gas-in-place.
- Trapped and capped with tank-like characteristics, distinct structure, and evidence of pressure depletion without support.
- Low to moderate water encroachment is preferred. Gas storage in a water-saturated sandstone may cause production problems if water is produced thereby decreasing gas flow rate and increasing water handling problems at the surface. Formation water may potentially trap gas when injection displaces it and then resaturates it during production operations (AOGCC 2005a).
- Gas field/pool near depletion but with enough residual gas to act as cushion gas and provide base-line pressure (≈ 1000 psi) at or near existing pipeline pressures, thus requiring little, if any, compression to get gas into distribution network.

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- All wells in good condition, including injectors, producers, and any plugged wells within the area of storage; the production infrastructure is in place.
- Storage site located on and with access to an existing pipeline, with sufficient capacity to deliver required volumes on demand. The pipeline must not have bottlenecks that can compromise its ability to meet demand.
- Storage reservoir porosity of 15 percent or more and permeability in the range of 400 to 1,000 md. These parameters provide sufficient volumes for storage and guarantee high production rates
- Good lateral reservoir continuity, adequate net pay thickness (50 ft or more), and high net to gross ratios in the storage formation (0.75 to 1.0), to facilitate injection, communication, and withdrawal.
- Access to storage site must be unencumbered, no operator or environmental/refuge issues.
- Proximal to market(s) – generation plants, distribution systems, etc.

These criteria describe a storage reservoir that is capable of holding enough natural gas to satisfy long term seasonal demand requirements, provide a buffer should a disruption in delivery from the spur pipeline occur, and guarantee a prolonged steady supply of natural gas for months without the need to cycle additional gas into the storage facility.

3.2 Peak Load Storage Criteria

If a peak load storage facility is required, it may be met two ways. It may be provided by a separate storage site that is designed to produce high volumes of gas for short intervals, a few days at a time. After this short period of high production the facility may be exhausted and require recharging in preparation for the next interval of high demand. Many of the characteristics of an ideal peak load storage facility are similar to that of base load storage but some important differences exist and are highlighted in the following listing.

- Storage capacity of **6 to 8 Bcf** and capability of producing 60 **MMcf/d** in 2020 with ability to increase to **80 MMcf/d** by 2040 (Table 2.8).
- Trapped and capped with tank-like characteristics, distinct structure, and evidence of pressure depletion without support.
- No water encroachment.
- Gas field/pool at or near depletion, but with pressures equal to or above those of the pipeline system – preferably a deep reservoir to assist with high pressure requirement.
- All wells in good condition as with the base-load case and production infrastructure is in place.
- Storage site with **access to high volume pipeline.**
- Porosities and permeabilities of 15 percent and 400 to 1000 md respectively
- Good lateral continuity and reservoir homogeneity and high net-to-gross ratio and adequate pay thickness (50 ft) as in the base load case.
- Access to storage site must be unencumbered.
- Proximal to markets/customers.

These criteria describe a relatively small, well-defined reservoir, which has an existing infrastructure capable of both compressing and injecting significant volumes of gas at high pressure over a period of one to two weeks and producing similar volumes over the same period of time.

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4 Characteristics of Existing Cook Inlet Underground Storage Facilities

There are currently three natural gas storage facilities in Cook Inlet. Two are operated by Chevron, Pretty Creek on the west side of Cook Inlet and Swanson River on the east side of the inlet as show in Figure 4.1. The third is operated by Marathon at the Kenai gas field on the east side of Cook Inlet. The operators of these facilities produce the gas and store it for times of high demand. This is unlike the situation that would exist if these facilities or other fields/pools operated by the Cook Inlet gas producers were to be utilized by the owners of North Slope natural gas delivered to the Cook Inlet area by a spur line. These third-party issues are beyond the scope of this study and will need to be evaluated by others at a later date.

4.1 Swanson River Natural Gas Storage Facility

The oldest natural gas storage facility in Cook Inlet is operated by Chevron at the Swanson River field (Figure 4.1). This storage facility was approved and the Storage Injection Order No. 2 was issued in 2001 (AOGCC 2001). The facility was later expanded to include a second reservoir (AOGCC 2005b). The facility stores dry gas from the Swanson River field and other Cook Inlet fields. The storage intervals are the 64-5 and 77-3 sandstones of the Tyonek Formation (AOGCC 2001, AOGCC 2005b, and Havelock 2006). The facility is situated on a major gas pipeline network, near the intended market. The facility has met all state requirements regarding integrity of wells, infrastructure, and stratigraphic isolation of the storage horizons and is located on a 16-inch gas pipeline (Figure 4.1)

The original storage interval was the Tyonek 64-5 sandstone, defined as the sandstone between measured depths of 6,375 ft and 6,443 ft in the SRU #43-28 well. The SRU #43-28 well has a gas/water contact at a measured depth of 6,390 ft, providing for a net pay of approximately 12 ft (AOGCC 2006). The calculated porosity ranges from 10 to 36 percent, water saturation from 51 to 55 percent, and the permeability ranges to several hundred millidarcies. The reported average values for porosity and permeability in the AOGCC 2004 Annual Report on pool statistics are 29 percent and 200 md respectively (AOGCC 2006a). While the injection orders do not provide a depositional environment for the Tyonek 64-5 sandstone, the description of the encasing sediments strongly suggest that the unit is the product of deposition by meandering streams.

The reservoir pressure as of December 4, 2004 was 2,850 psi. The estimated maximum daily injection volume is 10 MMcf/d and peak production is also 10 MMcf/d.

The second storage reservoir at Swanson River is the Tyonek 77-3 sandstone, which is defined as the sandstone found in the SCU #42A-05 well between 7,972 and 8,001 ft measured depth (MD). The Tyonek 77-3 interval was approved in 2005 (AOGCC 2005b). Based on core data this sandstone has an average net reservoir porosity of 28 percent (AOGCC 2005b), permeability ranges to several hundred millidarcies, and average water saturation is 50 percent. Gross sandstone thicknesses range from 25 to 40 ft based on well control. The reservoir sandstone is interpreted as a meandering stream deposit, which is laterally equivalent to flood plain mudstones and coals.

The original reservoir pressure within the 77-3 sandstone was 4,774 psi and the average injection pressure is 3,500 psi (AOGCC 2005b). The estimated maximum injection rate is expected to be 42 MMcf/d (AOGCC 2005b) and peak production rate is about 10 MMcf/d (Havelock 2006).

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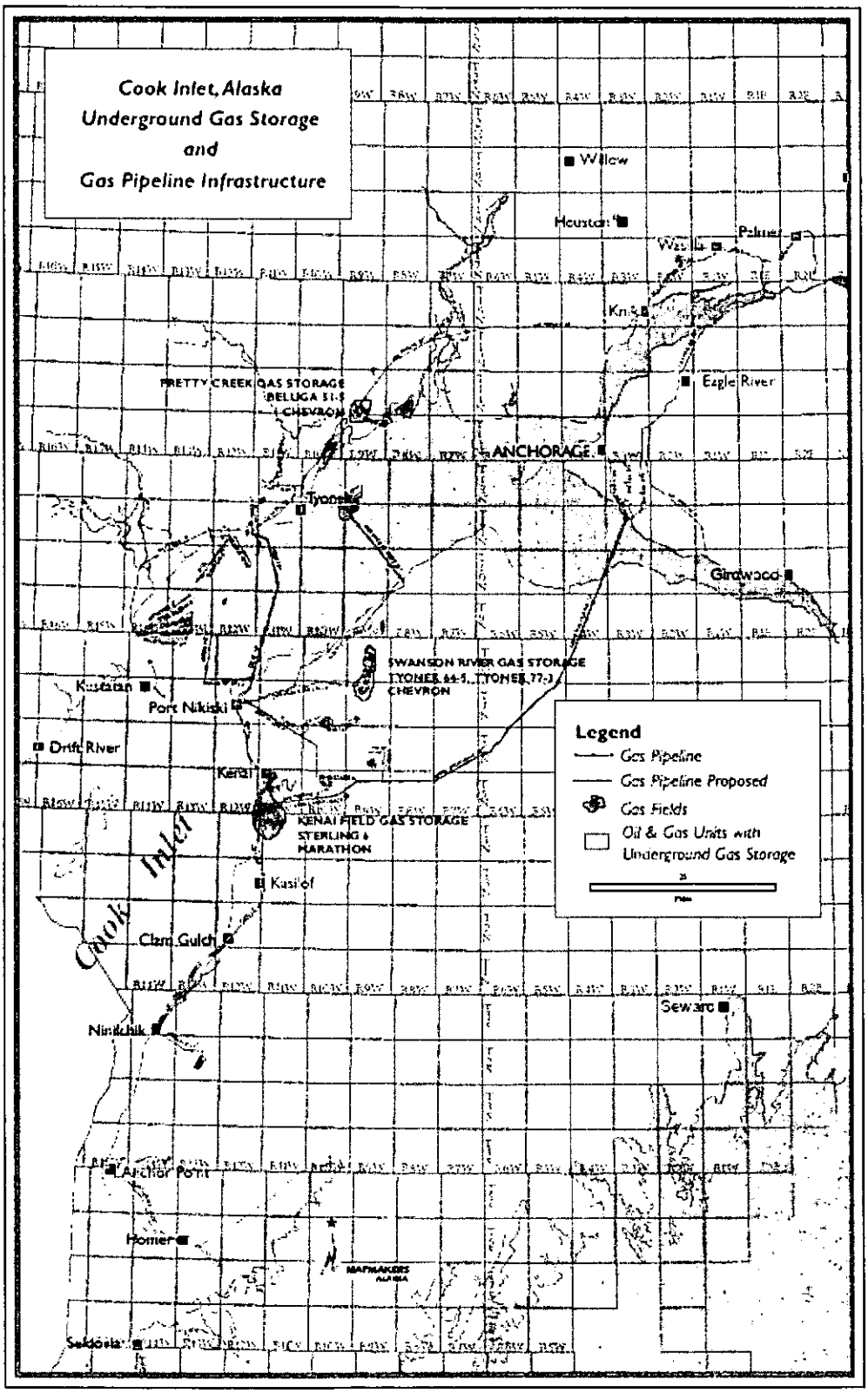
Figure 4.1. Cook Inlet Map of Existing Storage Locations



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The working gas capacity and deliverability of the two Tyonek storage reservoirs at Swanson River are provided by Havelock (2006) in his presentation to the South Central Alaska Energy Forum. The working gas capacity is 2.2 Bcf/yr. The total daily average deliverability is 7.4 MMcf/d, and total daily peak deliverability is 20.8 MMcf/d, from two wells, one producing from the 64-5 and the other from the 77-3 sandstone.

The operator, Chevron,[2] has provided an update on the Swanson River storage facility, which revises the deliverability of the facility. There are now four production wells in the storage facility, two in the Tyonek 64-5 reservoir and two in the Tyonek 77-3 reservoir. These wells are expected to be capable of peak deliverability rates of 60 to 70 MMcf/d from a total storage volume of ~ 30 Bcf.

4.2 Pretty Creek Natural Gas Storage Facility

Chevron has developed a second gas storage facility at Pretty Creek (Figure 4.1), designed as a periodic peak demand producer (AOGCC 2005a). The storage gas is predominantly from the Middle Kenai Gas Pool in the McArthur River field, but may also include some gas from other fields on the west side of the inlet. The Pretty Creek storage facility is connected to a major 20-inch gas pipeline (Figure 4.1) and is in close proximity to the electrical generation facility at Beluga. The facility has met all the state requirements regarding well integrity, infrastructure, and isolated nature of storage reservoir. The isolated nature of the reservoir was established by material balance analysis.

The storage interval is the Beluga 51-5 sandstone, which is defined as lying between 5,144 ft MD (-3,585 ft TVDss) and 5,173 ft MD (-3,605 TVDss) in the PCU #4 well. Data regarding the nature of the 51-5 sandstone is not included in Injection Order No. 4 (AOGCC 2005a) but Chevron (2007) supplied the following information. The net pay is 16 ft and the net-to-gross ratio is 0.80. Porosity ranges from 18 to 30 percent with an average of 28 percent and permeability is 132 md based on a pressure buildup in the storage sandstone. The water saturation is poorly known but estimated to be about 45 percent. The general depositional environment is described as stream sediments deposited in a low energy environment (AOGCC 2005a). The injection order further states that these Beluga sandstones "are commonly lenticular and often discontinuous over interwell distances."

The estimated original pressure was 1,674 psi at a true vertical depth (TVD) of 3,686 ft. The average wellhead injection pressure is 1,550 psi. The estimated maximum injection rate is 20 MMcf/d (AOGCC 2005a).

The facility is small with limited storage capacity and deliverability. Havelock (2006) places the working gas volume at only 0.70 Bcf/yr and the total daily peak delivery at 7.3 MMcf/d. Chevron[2] has provided revised numbers for the Pretty Creek Beluga 31-5 storage facility. The storage volume is given as ~ 2.0 Bcf and a peak delivery rate of 10 MMcf/d when the reservoir is full.

4.3 Kenai Natural Gas Storage Facility

The third natural gas storage facility in the Cook Inlet area is the most recently developed and the largest established to date. It is operated by Marathon at the Kenai gas field. The storage interval is the Sterling #6 pool (Figure 4.1). This facility has a much greater storage potential than the Pretty Creek and Swanson River facilities combined. Gas from the Kenai and Cannery

[2] Chevron – personally communication, December 2007.

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Loop fields are stored during the summer for withdrawal during the high demand months of the winter.

The facility is connected to a 12-inch gas pipeline that supplies Anchorage (Figure 4.1). It has met all state requirements regarding infrastructure, reservoir isolation, and performance. However, there is a necessary qualifier; the storage facility meets the requirements for well integrity at the limited operating pressures and volumes, mandated by the Alaska Oil and Gas Conservation Commission. Caution was dictated by the lack of cement bond logs, for some wells, that are typically used to determine isolation of the injection zone in all wells penetrating the confining layer (AOGCC 2006).

The gas is stored in two thick fluvial sandstones, the C-1 and C-2 sandstones of the Sterling #6 gas pool. The sandstones are comprised of friable to unconsolidated sandstone to clayey sandstone, with minor inter-bedded siltstone and coal (AOGCC 1969). These sandstones are defined in the KU 31-07X well. The C-1 sandstone occurs between 4,366 ft and 4,500 ft TVDss and the C-2 interval is between 4,530 ft and 4,569 ft TVDss. The two sandstones have a total of 110 ft of net pay (AOGCC 2006a) and a net-to-gross ratio of 0.64. The two sandstones are in pressure communication, have porosities that range from 4 to 16 percent, permeabilities that range from 400 to 1000 md, and original water saturations of about 32 percent.

The original reservoir pressure was 2,138 psi at a datum of 4,565 ft TVDss (AOGCC 1969) and the maximum pressure at which the Sterling #6 gas storage will operate is 300 psi (AOGCC 2006b). The storage unit is currently operating at less than 200 psi. A typical injection cycle will consist of 6 Bcf stored during the summer and produced during the winter.

Peak delivery rates vary widely at the Sterling Pool #6. Pool #6 working gas capacity is currently 6 Bcf/yr, but may be expanded to 11 Bcf/yr or more. The total gas-in-place is limited to 50 Bcf under the current lease (Havelock 2006). Prior to being designated a storage interval, the Sterling #6 pool had produced more than 523 Bcf and OGIP is modeled to have been at least 563 Bcf (AOGCC 2006b). Thus, the true potential of this pool as a storage facility has not been realized and at some time in the future it could potentially be expanded to provide storage for 100 Bcf or more.

4.4 Summary of Existing Natural Gas Storage

The three existing natural gas storage facilities in the Cook Inlet area provide seasonal storage for their operators, who store surplus production during the low-demand summer season to meet their obligations and the increased demand of the utilities during the winter. The gas stored is exclusively from the fields that they (Chevron and Marathon) own and operate. This will not be the situation, when and if, storage from a spur line is initiated. However, the characteristics of these facilities are probably very like those that will be developed for storage of spur line natural gas. Havelock (2006) provided a table that summarized the existing facilities and it is reproduced (*with modifications*) here to provide an overview of the current situation and to serve as an example of what the future gas storage pools may resemble.

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Table 4.1. Cook Inlet Gas Storage Deliverability (MMcf/d) (Havelock 2006) (*modified to include revisions for Swanson River and Pretty Creek as provided by Chevron;[3] numbers in parenthesis are from Chevron)*

Facility	Number of Wells	Peak Delivery/Well (Average) (MMcf/d)	February 2006 Rate (MMcf/d)	Historical Average Produced Volume (MMcf)	Total Daily Peak Delivery (MMcf)	Total Daily Average Delivery (MMcf)	Working Gas (Bcf/yr)
Swanson River (Tyonek 54-5 and 77-3)	2 *(4)*	10.4 *(~15 to 16)*	9.2	3.7	20.8 *(60 to 70)*	7.4	2.2
Kenai (Sterling Pool #6)	9	6.7	3.7	–	60.3	33.3	6.0
Pretty Creek (Beluga 31-5)	1	7.3 *(10)*	–	2.4	7.3 *(10)*	2.4	0.7
TOTAL	**12 (14)**				**88.4 (~135)**	**43.1**	**8.9**

[3] Chevron – personal communication, December 2007

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5 Characteristics of Potential Underground Storage Facilities in Cook Inlet

The objective is to identify and describe in detail the characteristics of depleted or soon to be depleted reservoirs that may be suitable for conversion to and use as future potential underground gas storage facilities in Cook Inlet

This task involves the identification, review, and evaluation of all gas fields or participating areas that may be depleted or otherwise abandoned by the time the spur line is built (10 years ±), to determine their suitability as base-load and/or peak-load gas storage facilities. Oil fields have been **excluded** and the effort is focused on the more conventional gas fields as potential storage facilities. The use of any of these gas fields/participating areas by a third party will likely depend on them no longer being economically viable as commercial gas fields.

In addition to the evaluation and characterization of the parameters listed under Tasks 2.1 and 2.2, the issue of ownership of the abandoned pore space and the ultimate responsibility for remediation and restoration of these fields may be factors that have to be considered in determining the viability of any site as a storage facility. These latter two components may have some bearing on the costs of operating some potential storage facilities.

5.1 Geological and Reservoir Engineering Characteristics of Potential Storage Facilities

The first step in evaluating Cook Inlet reservoirs as potential gas storage facilities was to eliminate the oil fields to avoid the issues related to duplication of facilities and the added costs of oil and water handling in these fields. As shown in Table 1.1, 30 gas fields and 57 gas pools have been discovered in the Cook Inlet Basin. The objective is to reduce this number to those that best meet the requirements and characteristics to function as a potential gas storage facility.

The elimination process began with the offshore gas fields (6 fields/6 pools), including the two large gas fields, McArthur River and North Cook Inlet fields. These were excluded because of the remoteness of the fields, difficult access, and limited space available to develop the gas handling and associated facilities. Next, those gas fields south of the Kenai gas field (4 fields and 8 pools) are considered to be too far removed from the major market/users and therefore are not included in the listing of fields that would be considered as potential future natural gas storage facilities. As a consequence of these two steps, the number of candidates was reduced to 20 fields and 43 pools. The bulk of the effort from this point onward was devoted to identification of primary candidates for base load storage.

The question of underground peak-load storage has two possible answers; either simply create larger base load facilities and add extra wells and increase the operating pressure or identify and develop smaller, high pressure high volume storage sites.

5.1.1 Potential Base Load Storage Facilities

After eliminating the oil fields, offshore gas fields and southern Kenai Peninsula gas fields, a high percentage of the remaining fields/pools are simply too small to provide adequate base load storage capacity for the winter heating and electrical generation needs of the area. Included in this category are fields like Albert Kaloa, Birch Hill, Lone Creek, and Lewis River, which have estimated ultimate recoveries (EUR) in the range of less than 1.0 Bcf to about 12.0 Bcf. To this point most of the culling of potential storage sites has not been based on geological

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and reservoir engineering criteria, but rather on location, type of native hydrocarbon, and size. There are a number of fields or pools that may have the requisite geological, engineering, and infrastructure characteristics to serve as future base load storage facilities for natural gas. These fields and pools will be the focus of this section of the report.

A total of six fields with 16 pools meet the initial set of requirements and are summarized in Table 5.1. This table provides information regarding the capacity to store cushion and working gas, reservoir parameters, and estimates of remaining reserves in 2020, the year reserves are expected to be depleted to the point of non-commerciality, and probability of reserves growth.

Table 5.1. Cook Inlet Gas Fields/Pools Geological and Engineering Characteristics

Field/pool (6/30 & 16/57)	Reservoir Volume[1] (Bcf)	Porosity[2] (%)	Perm.[3] (md)	Pay(n/g)[4] (Feet)	Pressure[5] (Psi)	Estimated reserves at 2020 (Bcf)[6]	Reserves[7] (Est. Yr. Depleted)	Reserves Growth[8] (high/mod/low/none)
Beaver Creek/ Sterling	140	30	2000	110 ft (0.88)	1100-2100	0	1994[9]	none
Beaver Creek/ Beluga	92	10	(25 ?) estimated	50 ft (1.00)	1943	2.0	2028	low
Beluga River/ Undefined	1,614	(S)31 (B)24	(S)50-199 (B)20-49	(S)107 ft (?) (B)106 ft (?)	(S)755 (B)942	73.6	2030[*]	high
Ivan River Undefined	97	20	1600	37 ft (0.39)	922	0	2019	low
Kenai/ Sterling #3	375	15	300-1000	88 ft (?)	175	0	2020	none
Kenai/ Sterling #4	506	15	300-1000	60 ft (?)	106	0	2016	none
Kenai/ Sterling #5.1	538	15	300-1000	113 ft (?)	310	0	1999[9]	none
Kenai/ Sterling #5.2	66	15	300-1000	53 ft (?)	1200	0	1981[9]	none
Kenai/ Sterling #6	603	4-16	400-1000	110 ft (0.64)	190	0	2019	none
Kenai/Upper Tyonek/Beluga	457	(25-29 ?) estimated	(25-250?) estimated	213 ft (?)	2311	19.9	2030[*]	mod
Kenai/ Tyonek	218	(25-29 ?) estimated	(5-500?) estimated	100' (?)	740	1.2	2027	mod
Cannery Loop/ Sterling	32	(15-20 ?) estimated	(300-1000) estimated	76' (?)	1012	0.4	2023	low
Cannery Loop/ Beluga	113	(10 ?) estimated	25	33' (0.6)	1627	3.6	2031	low
Cannery Loop/ Upper Tyonek	90	(25-29 ?) estimated	250	17' ().77)	651	0.3	2022	low
Swanson River/Sterling	39	28	200-250	10' (?)	1213	0	2019	low
Swanson River/Tyonek	28	25-29	5-500	13-40 (?)	2462	0	2006[9]	low

1. Reservoir Volume – Estimated Original Gas in Place Volume (OGIP).
2. Porosity – value either calculated or from cores; (?) indicates values estimated from equivalent producing intervals.
3. Permeability – value either calculated or from cores: (?) indicates values estimated from equivalent producing intervals.
4. Pay (n/g) – net pay in feet and (portion of sandstone-bearing interval that is net pay).
5. Pressure – current reservoir pressure.
6. Estimated reserves 2020 – reserves remaining to be recovered at assumed pipeline startup date.
7. Reserves (Estimated Year. Depleted) – year of last production from pool, now available for storage use.
8. Reserves Growth – probability that additional reserves will be attributed to the pool before 2020 and not included in estimated reserves 2020 column.
9. 10 MMcf/mon Production cutoff.

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The criteria (1) through (8) in Table 5.1 will be applied to the candidate pools to determine their suitability for conversion to storage facilities. Each pool was examined in respect to the criteria listed above and will ultimately be ranked in terms of how closely it approaches the ideal characteristics described in Section 3. These comparisons are summarized below.

Reservoir Storage Volume: Adequate reservoir volume is the first and foremost criterion in choosing a storage facility. Based on the demand assumptions of Section 2.0, fields with adequate pressures to minimize the quantity of cushion gas may qualify if their capacity exceeds the 16.7 Bcf required for working gas volume, including a 50 percent safety margin. Under those standards all 16 pools would have adequate capacity to meet the base load storage needs of the region in 2020, but two, the Swanson River Tyonek and the Cannery Loop Sterling (Table 5.1), may be marginal to store the 23.5 Bcf needed in 2040.

Given that cushion gas will be required and perhaps in volumes equal to or greater than the working gas volume, then any pool with less than 25 Bcf of total gas storage capacity would probably be inadequate to meet the demand level expected in 2040. If the maximum expected volume of cushion gas required were equal to or slightly greater than the working gas, a total gas capacity of at least 50 Bcf would be needed. Two pools fail to satisfy this demand, Swanson River Tyonek and Cannery Loop Sterling and would not be adequate as stand-alone storage facilities. Thus under the foreseen demand scenario, 14 of the pools of Table 5.1 would have the necessary total gas storage capacity, if large volumes of cushion gas are required. Several of these have very large capacity and may be very costly to adequately charge if selected.

Porosity: Five of the pools lack data regarding porosity of the producing interval. Ten of the other eleven pools (Table 5.1) have porosities that are 15 percent or greater. The sole exception is the Beaver Creek Beluga pool, which averages 10 percent. There are no reliable porosity data for the reservoirs in the other five pools; which include the Cannery Loop pools and the Kenai upper Tyonek/Beluga and Beluga pools Table 5.1. By comparison with pools developed within the same interval and in relative proximity the Cannery Loop Sterling pool can be assumed to have porosity of 15 percent or more, and the Cannery Loop Beluga pool probably has porosities in the 10 percent range. Using Tyonek porosities from the Swanson River Tyonek pool it is reasonable to anticipate that the Kenai upper Tyonek/Beluga, Kenai Tyonek, and Cannery Loop upper Tyonek pools have porosities that exceed 15 percent and may range as high as 25 percent. Therefore, at least 14 of the pools have porosity of 15 percent or greater.

Permeability: The ability to produce at high rates requires the reservoir/pool have high permeability. Twelve of the pools have permeability data (Table 5.1) and four lack this information. For these four pools, the probable permeability range can be approximated by comparison with pools developed in similar units in nearby pools. Of the twelve pools with permeability data, at least ten equal or exceed 250 md (Table 5.1) and should be capable of high production rates. An additional three pools, the Kenai Tyonek Kenai upper Tyonek/Beluga, and Cannery Loop Sterling should also have permeabilities in this range. Based on the reported permeabilities or by analog with reported permeability ranges in the Beaver Creek Beluga and Kenai Beluga can be expected to have permeabilities of less than 100 md.

Pay: Net pay thickness is available for all the pools and ranges from a low of 10 ft in the Swanson River Sterling pool to more than 200 ft in the Beluga River Undefined. The net-to-gross ratio ranges from1.0 (Beaver Creek Beluga pool) to 0.39 (Ivan River Undefined), but the gross intervals are unknown for ten of the pools (Table 5.1). A high net-to-gross ratio combined with a pay thickness of 40 ft more provides for an excellent injection/withdrawal scenario. Ten of the pools have net pay in excess of 40 ft and three of those (Beaver Creek Sterling, Beaver Creek Beluga, and Kenai Sterling #6) have net-to-gross ratios in excess of 0.5. However, since

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there is little direct data on the nature of the interbedding of non-reservoir facies and the general lack of gross interval thicknesses, this parameter was not directly considered in the ranking of sites.

Pressure: Current pressure in the sixteen pools ranges from a high of 2,462 psi in the Swanson River Tyonek pool to a low of 100 to psi in four of the five Kenai Sterling pools (Table 5.1). Reservoir pressures near or above pipeline pressures are preferred to avoid the need for compression to get the gas into the pipeline system during periods of rapid withdrawal. Ten to twelve of the pools have pressures approaching or exceeding that goal. Pressures of this magnitude also reduce or eliminate the need for large volumes of cushion gas.

Estimated Reserves at 2020 and Estimated Year Depleted: The volume of recoverable native gas expected to remain in the reservoir at start up of the spur line potentially has a direct bearing on the availability or suitability of that pool as a potential storage facility. The estimated deletion rates suggest that only two pools, the Beluga River Undefined and the Kenai upper Tyonek/Beluga will still have significant remaining reserves in 2020; thus, essentially all of the remaining fourteen pools are storage candidates on this basis. The estimated year depleted refers to the date at which the field or pool would be no longer capable of economic production and a major impediment to development as a storage site would have been removed.

Reserves Growth: The life of these fields or pools depends not only on the existing known recoverable reserves but also on the as-yet-undiscovered or undeveloped/delineated resources within the known limits of the producing "structure." Single or two sandstone pools, such as the Kenai Sterling #6 pool are defined so that it is very difficult to "discover" additional reserves, unless a local fault block is indicated. On the other hand, fields like the Beluga River do not have defined single sandstone pools and in the fluvially dominated environment under which the sandstones were deposited, a multitude of additional channel sandstones are without question awaiting the properly placed extension or "exploration" well. The same is true of the Kenai field as a whole. While the probability of finding additional reserves in the Kenai Sterling #5.1 or #5.2 pools is essentially zero, the probability of finding gas within as yet untapped sandstones, present within the mapped outlines of the Kenai gas field is moderate to high. As an example of this Table 5.1 shows no anticipated reserves growth for the Kenai Sterling pools but indicates a moderate probability of reserve additions in the upper Tyonek/Beluga and Tyonek pools.

The effect of reserve additions would be to delay or make more difficult the transformation of a producing gas field into a storage facility. Table 5.1 indicates that six pools are considered to have no future reserve additions and should still be strong candidates for conversion to storage, six have a low probability of reserves growth and thus are good candidates for future natural gas storage; two pools have a moderate probability for reserves growth and combined with their anticipated depletion dates (Table 5.1) would be more risky choices, and one field, the Beluga River field has a high probability of significant reserves growth and on this basis presents one of the greatest challenges for conversion to storage.

These factors plus the infrastructure characteristics, location, pipeline access and other non-reservoir factors are examined and compared to the ideal facility for the purposes of ranking storage candidates in Section 6.

5.1.2 Potential Peak Storage Facilities

The need for a peaking storage facility is uncertain at this time. It is possible that a base load storage facility could be developed with the required working gas capacity, pressure regime, and spare wells for increased production during periods of high demand and thus eliminate the requirement for a smaller high rate, short term storage facility (see Table 2.7). However, it is necessary and prudent to identify possible peak load storage sites, even if they are not required

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at the start up of the spur pipeline. The evaluation of peak storage sites is focused on smaller pools with high pressures and the reservoir parameters necessary for high production rates.

Table 1.1 identifies five pools with storage volumes of 6.2 to 15.1 Bcf, which is sufficient to meet the anticipated peak load requirements if large volumes of cushion gas are not required. These pools are presented in Table 5.2.

Table 5.2. Cook Inlet, Potential Peak Load Gas Storage Sites

Field/Pool	Reservoir Volume (Bcf)	Porosity (%)	Permeability (md)	Pay (n/g)	Current Pressure (psi)
Beaver Crk/Tyonek undefined	6.3	(25 ?) estimated	(5-500 ?) estimated	45 ft (??)	1,124
Lewis River/Undefined	14.3	22	45	85 (0.45)	1,687
Lone Creek/Undefined	6.2	19	100	??	475
Pretty Creek/Undefined	11.0	22	~120 estimated	60 (.67)	910
Sterling/Beluga Undefined	15.1	10	0.1	100 ft (??)	3,154

Table 5.2 includes most of the same data as Table 5.1 with the exception of the various reserve categories. The criteria for a peak load facility are presented in Section 3.0 and differ from those for the base load facility in three significant ways: 1) require smaller volumes, a capacity of 5 to 10 Bcf or so; 2) require high reservoir pressures (2.0 to 2.5 times ambient pipeline pressures) to assure high production rates, and 3) access to high volume pipeline.

Reservoir Storage Volume: The reservoir storage volume presented in Table 5.2 is the total gas capacity, which must be adequate to include any required cushion gas as well as working gas. As a consequence, the Beaver Creek Tyonek Undefined and the Lone Creek Undefined pools, at 6.3 and 6.2 Bcf, may have inadequate storage, if a significant volume of cushion gas is required to achieve the necessary pressure to assure high production rates. This is especially true of the Lone Creek Undefined pool, which has a current pressure of only 475 psi. On the sole basis of capacity, the Pretty Creek Undefined, Lewis River Undefined, and the Sterling Beluga Undefined pools appear to be capable of providing the storage volumes necessary for a stand-alone peak load facility.

Porosity and Permeability: Porosity values for three of the pools (Table 5.2) is approximately 20 percent, which is good to excellent. There are no published data for the Beaver Creek Tyonek Undefined pool, but by analogy with the Swanson River Tyonek Pool an average porosity of 25-29 percent can be expected. The porosity of the Sterling Beluga Undefined is low at 10 percent and further downgrades this candidate.

Permeability is low by most Cook Inlet standards in all five pools, but exceptionally low (0.1 md) in the Sterling Beluga Undefined pool. The Lone Creek and Pretty Creek pools (Table 5.2) have permeability in the 100 to 120 md range, which suggests that high reservoir pressures may be required to boost production rates for peak load conditions. The Lewis River Undefined pool has a permeability of 45 md, which would require even higher pressures than the Lone Creek and pretty Creek pools.

Pay: Good to excellent pay thickness is known to be present in four of the pools (Table 5.2). There is no reported pay thickness for the Lone Creek Undefined pool. The pay parameter does not eliminate any of the pools from consideration.

Pressure: Since the peak load storage facilities need to be able to produce large volumes for short periods, it is advantageous for the facilities to operate at relatively high pressures,

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definitely above the ambient pipeline pressure. The current reservoir pressure in these five pools spans a low of 475 psi in the Lone Creek Undefined pool to a maximum of 3,154 psi in the Sterling Beluga Undefined pool. Most of these pools will probably require a volume of cushion gas to attain an operating pressure sufficient to meet peak demand flow rates. The sole exception is the Sterling Beluga Undefined pool, which has high pressure at 3,154 psi; however, the reservoir has a permeability of only 0.1 md and on this basis is suspect as a viable storage candidate.

5.1.3 Summary of Future Natural Gas Storage Options

The options for potential future natural gas storage facilities have been addressed from both the base load and peak load perspectives and the preliminary listing consists of 16 base load candidates and five peak load possibilities. Based on geological and reservoir engineering criteria these choices have been evaluated in terms of suitability and are ranked in Section 6 with respect to their approximation to the ideal facility as described in Section 3. While several of these sites may not have the capacity, as stand alone facilities, to fulfill the storage requirements, it might be advantageous to have two smaller storage sites as opposed to one large facility.

5.2 Gas Storage Reservoir Conversion Design Criteria

The potential gas storage fields in the Cook Inlet as described above are partially depleted gas production reservoirs. The conversion of the gas production reservoirs to gas storage reservoirs should are expected to consist of the following steps:

- Gathering of geological and engineering information.
- Assessing the mechanical condition of wells.
- Determining additional surveys needed.
- Determining the working storage content of the reservoir.
- Determining the number of wells needed.

In order to find the working storage content of a reservoir, the range of pressures used must be selected. The upper pressure is set based upon the information available, particularly the mechanical condition of the wells. The pressure range also has much to do with the flow capacity of the wells.

5.2.1 Mechanical Condition

The mechanical condition of the wells and facilities will impact the technical and economic viability. First, it is necessary to gather information on the field, such as:

- Initial reservoir pressure
- Gas production versus reservoir pressure
- Reservoir temperature
- Gas composition, gravity
- Wells drilled, locations, depths
- Reservoir structure
- Degree of water drive
- Well flow capacity
- Mechanical condition of wells.

All wells drilled to the producing horizon must be located, checked by cement bond log, caliper logs, casing inspection logs, and made mechanically sound. Where poor bond exists, squeeze

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cementing is required. When the casing is corroded, a liner may be cemented in place or other recompletion techniques with a non-corrosive completion fluid in the annulus. Even wells classed as dry holes should be reopened, re-cemented, or cased as observation wells.

5.2.2 Storage Capacity

Gas production and bottomhole pressure data were examined for each pool in the Cook Inlet area. Plots of P/Z versus cumulative production volumes were constructed for each pool resulting in estimates of original-gas-in-place (OGIP). Example data are shown in Appendix A, Figure A. and A.2. It was assumed that most pools would recover about 90% of OGIP at shut-in conditions. The two OGIP values were compared to insure a reasonable volume was estimated. The only pool for which the two values were not close was the Beaver Creek Sterling; the depletion performance indicates significant water influx occurred. The Kenai Sterling 5.2 also shows this characteristic behavior to a lesser degree but no water production was reported.

5.2.3 Field Deliverability

For most of the gas producing history of the Cook Inlet, supply exceeded demand; therefore, few, if any, wells were produced at capacity. Production history does not reflect the true deliverability of a pool. State of Alaska production records were used to determine the average production performance of each pool on a volume per day per well during the life of the pool. These data were combined on a plot of the P/Z versus cumulative recovery discussed in Section 5.2.2 (Appendix A). A best fit line was drawn to smooth the data over time and reservoir pressure. As noted above, these resulting flow rates are believed to be restricted volumetric rates. The flow rates used in this evaluation were increased by 50% to account for restricted flow rates, possible rate increases resulting from stimulation treatments, and current drilling and completion technology that will be used for any new wells. Marathon reports in a recent report (PN 2007a) that the use of their new Excape completion technology allows completion and fracture stimulation of several zones simultaneously, which will decrease costs and increase well productivity. A more complete well by well examination would be required to determine the amount of rate increase possible.

5.2.4 Design of Well Capacity

When the storage capacity has been set and the character of the market is known, a maximum flow rate for the field at a given content of gas can be estimated. From the estimated production schedule for the reservoir and peak day requirements, the amount of gas in the reservoir and hence the reservoir pressure can be determined. From the field performance curve and the reservoir pressure, the flowing well pressure can be determined for the stated flow rate. These calculations will give the suction pressure to the compressor required to send the gas to market.

5.2.5 Number and location of wells

The addition of the deliverabilities of the wells in the depleted field is likely to give a field deliverability curve that falls short of maximum flow rate. The remedy is to drill more wells or increase the deliverability of the old wells. A structure map of the field with the deliverability of the wells marked on it will provide a good tool to find locations in the reservoir that will give the higher deliverability needed. When drilling takes place, flow tests should be performed to determine the cumulative deliverability so that enough wells can be completed to match the predicted deliverability curve. When there is a high deliverability in part of the field and low in another the tendency may be to drill all new wells in the high permeability area. Care should be taken of creating a pressure sink if a common header gathering system is used. Wells from the

high pressure, low permeability area will transfer the gas to low pressure area. Also to limit the surface piping gathering system, directional and horizontal wells should be considered.

5.2.6 Dehydration, Compression and Metering

Wellhead gas may pass directly to the gathering system without treatment, be heated, have alcohol injected into it or processed by a wellhead dehydration unit. Where central treating is performed, either solid absorbent or glycol absorption processes may be used. The solid adsorbents are more expensive to install, but easier to operate under overloaded, intermittent or short cycling conditions.

The compression requirement depends on the field operating pressure levels and market delivery pressure. Compression horsepower should be selected by an economic study of the number of wells, the field operating pressure level and the schedule of gas withdrawal in winter and need for injection in the summer.

Gas will be metered into and out of storage in American Gas Association standard meters to keep and accurate account of gas in the reservoir. Plant usage, gas losses while blowing of wells and even unaccounted for losses should be recorded.

5.2.7 Planned Observations

When converting a gas field to storage a long-term life is contemplated with a life cycle of over 30 years. The possibility that gas might find a way to leave the reservoir especially through mechanical imperfections should considered.

Gas analyses should be made of all natural gases in the vicinity of the depleted gas field to be converted to a storage field. These analyses may identify any gas found in water wells. A good guide or principle is that the water-filled confining zone above the caprock and in the gas zone on the edges of the field should be observed for both the absence of gas and the degree of pressure change.

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6 Comparison of Ideal Storage Facility to Available Options

The criteria and characteristics identified in Section 3.0 are used to compare the variously identified potential storage facilities to the ideal Cook Inlet underground gas storage facility and rank them based on the results of this comparison. The ranking reflects how these options meet the optimum conditions required to satisfy base load and peak load needs associated with gas supply and usage in the Cook Inlet region. Table 6.1 was developed to facilitate the ranking process for the base load storage options but not all the criteria presented in Table 5.1 were used to construct Table 6.1. Some criteria will require additional study at the time of final selection, such as well integrity, water encroachment issues, and legal obstacles to use of the site for gas storage. Issues like access to a pipeline, relative proximity to customers, and tank-like characteristics are generally equivalent in all the remaining candidates and are excluded from the ranking criteria. The parameters of porosity, permeability, net pay, and net-to-gross have been replaced by a deliverability factor (Appendix A), which is the average well production rate derived from P/Z calculations times the anticipated number of producing wells. Finally, the total gas volume required to bring the reservoir to ambient pipeline pressure was added to the ranking process. Appendices A and B provide the basis for this table. Appendix A summarizes the process and values used to establish per well rates and volume of gas required to achieve ambient pipeline pressures. Appendix B shows the scaling used for the ranking criteria, where a ranking of 1 is best.

The limited number of peak load options did not require that a comparable table be constructed for that ranking.

6.1 Ranking Potential Base Load Storage Candidate Sites

The ranking of the base load storage candidate sites is shown in Table 6.1. It is an intermediate step in the final recommendation and reflects the comparison of the quantifiable criteria of the candidate sites to the ideal storage site, which is presented as standard for comparison. Pools with less than the ideal volume of 25 to 50 Bcf are included for consideration, as there may be justification for two or more storage facilities, as insurance against a disruption at the storage site or to reduce the potential need for large volumes of cushion gas at one of the larger sites.

The component values considered to constitute the Ideal Storage Facility are shown in Table 6.1. Pools 11 through 16 of Table 6.1 have very large reservoir size (capacity) and, with the sole exception of the Kenai Tyonek pool, require excessive volumes of cushion gas, 146 to 179 Bcf (Appendix A, Table A.1) to achieve pressures equivalent to the ambient pipeline pressure. As a consequence, these large Kenai Field pools and the Beluga River Undefined pool have been excluded from further consideration.

The Beluga River Undefined pool is somewhat unique. It includes numerous pay sandstones (more than 40) in the Sterling and Beluga formations. These pays are cut by an unknown number of the wells, probably ranging from 2 or 3 per pay to perhaps as many as 10 per pay interval. Individual wells may penetrate and produce from as many as 50 pays. The volume of cushion gas required is nearly 650 Bcf (Appendix A, Table A.2). The issues regarding well integrity, communication between pay zones, and depletion status of individual sandstones indicate that using any of these horizons for storage is not feasible based on current knowledge. Given that the operators continue to delineate and refine their understanding of the interrelations among pays, wells, and production, there may come a time when specific, depleted horizons are viable candidates for storage.

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Table 6.1. Preliminary Comparison of Base Load Storage Options to the Ideal Storage Facility

Pool	Reservoir Size (Bcf)	Deliverability (MMcf/d)	Cushion Gas Volume (Bcf)	Depletion Date (Year)	Rank
IDEAL	**25-50**	**120-169**	**0.0**	**<2015**	
Swanson River/Sterling	1	2	1	2	**1**
Beaver Creek/Beluga	2	1	1	4	**2**
Swanson River/Tyonek	1	5	1	1	**3**
Beaver Creek/Sterling	3	4	1	1	**4**
Kenai/Sterling #5.2	2	5	1	1	**5**
Ivan River	2	4	2	2	**6**
Cannery Loop/Sterling	1	5	1	3	**7**
Cannery Loop/Upper Tyonek	2	5	1	3	**8**
Kenai/Sterling #5.1	5	1	5	1	**9**
Cannery Loop/Beluga	3	2	3	5	**10**
Kenai/Sterling #6	5	1	5	2	**11**
Kenai/Sterling #4	5	1	5	2	**12**
Kenai/Sterling #3	5	1	5	3	**13**
Kenai/Tyonek	5	3	3	4	**14**
Kenai/Upper Tyonek-Beluga	5	1	5	5	**15**
Beluga River/Undefined	5	1	5	5	**16**

Reservoir Size: All of the top ten pools have reservoir size that is equal to or greater than the ideal storage facility and meet the anticipated storage needs well into the middle of the 21st century. These are presented in Table 6.1. The two pools, the Cannery Loop Sterling and Swanson River Tyonek pools (Table 5.1 and Appendix B, Table B.1) have reservoir sizes that are at the lower end of the acceptable range and under some conditions may be too small to be stand-alone storage facilities but may provide secondary sites; however, they have the additional constraint in that they have limited deliverability (Appendix A, Table A.2). The other eight pools have sufficient reservoir size to qualify as stand-alone storage sites. Of these, the Kenai Sterling #5.1 pool has a reservoir size of nearly 500 Bcf (Table 5.1) and would require 178 Bcf of cushion gas to reach adequate reservoir pressure; thus, it is eliminated from further consideration on this basis. The results are that seven pools clearly meet the requirements for reservoir size and two additional pools may, but are definitely adequate as secondary pools.

Deliverability: The seven stand-alone and two smaller pools were examined from the aspect of deliverability. Deliverability is defined here as the calculated "adjusted" low average well rate times the number of wells expected to be producing from the storage facility (Appendix A, Table A.1). Table A.1 also shows the "adjusted" average high rate. The low rate was chosen, since it is the rate that must be sustainable as the storage facility is drawn down by production. For example, the Kenai Tyonek pool has been assigned a deliverability of 48 MMcf/d, but at high rates may deliver as much as 72 MMcf/d.

The Beaver Creek Beluga and Swanson River Sterling pools are expected to have deliverability rates of about 60 MMcf/d, and the Cannery Loop Beluga pool has the potential for over 50 MMcf/d. The Ivan River and Beaver Creek Sterling pools are expected to be capable of 30 to 40 MMcf/d, and the Kenai Sterling #5.2, and the Cannery Loop upper Tyonek are rated at 20 to

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30 MMcf/d. This reflects the order in which they would be ranked on deliverability. From the deliverability perspective, none of these pools appears to have adequate rates to be stand-alone facilities.

The smaller Cannery Loop Sterling and Swanson River Tyonek pools are rated at 20 to 30 MMcf/d; further diminishing their attractiveness as prospective storage sites.

Cushion Gas Volume Required: The volume of cushion gas required to achieve ambient pipeline pressures is an important consideration. In this evaluation the remaining seven stand-alone and two secondary candidates have cushion gas requirements ranging from zero, in the case of the Kenai Sterling #5.2 pool, to 43 Bcf in the Cannery Loop Beluga pool (Appendix A, Table A.1). This provides an additional measure of the relative value of the potential site, in terms of monetary savings related to gas purchases.

Depletion Date: The remaining candidate pools were next evaluated based on the anticipated depletion date, which is an important factor in this analysis. It is necessary that the potential site be available for storage by the time the spur pipeline is operational. In this scenario, that date has been assumed to be 2020. Many advocates hope to have the pipeline in operation at an earlier date – such as 2017. The assumption was made that a pool would need to be at or near the end of its commercial life before it was converted to storage. Based on this assumption, pools like the Cannery Loop Beluga and the Beaver Creek Beluga, which are not expected to be depleted until 2031 and 2028, respectively, would drop considerably in the ranking. Four of the seven larger pools (Table 6.1) are expected to be depleted by 2020 and would be potentially available for conversion to storage. The Cannery Loop Upper Tyonek pool depletion date is estimated to be about 2022.

Among the smaller pools the Swanson River Tyonek pool is also expected to be depleted by 2020 and would be a possible storage site, while the Cannery Loop Sterling is expected to be depleted about 2023.

The summation and discussion above constitutes the basis for the final list of recommended sites to be considered as potential future base load storage facilities. This listing will deviate in some details from that of Table 6.1 due to a more objective integration of timing, deliverability, and total gas volumes required to attain pipeline pressures. The foregoing discussions of Section 6.1 establish the rational for this approach.

6.1.1 Final Ranking

The ranking of potential future base load storage sites is strongly determined by the following considerations. The other criteria of Tables 5.1 and 6.1 do not vary significantly among the principal potential storage sites and were largely discounted in this final selection process.

- Reservoir size near the ideal volume–excessive capacity may require large volumes of cushion gas in order to achieve optimum operating rates, and capacity significantly below the ideal would require high existing reservoir pressures to minimize cushion gas and maximize working gas. Excessive storage concerns may be offset by using a greater number of wells to keep withdrawal rates at required levels. Reservoir size less than the ideal volume will require multiple facilities, which may be an advantage, when taking disruptions into consideration.
- The deliverability of a reservoir is a function of the number of wells and reservoir pressure and communication. In the scenario presented in the following discussions, the number of wells in each potential storage site is taken to be two times the number of wells utilized during that pools historically high production (Appendix A, Table A.2). It may be possible to achieve greater deliverability by drilling more infill wells.

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- Gas volume can be a very costly component of the storage issue. The amount of working gas is taken as a constant (20 Bcf) and the variable is the volume of cushion gas required, which is based largely on the reservoir pressure. Large low pressure reservoirs may require ten's to hundred's of Bcf's of gas to achieve the necessary pressure.
- Depletion prior to 2015 is preferred and prior to 2020 is a virtual necessity. This provides adequate time to plan and prepare the site for gas storage. Those that are depleted after 2020 would need to be deferred or some agreement with the lease holders/operators would need to be negotiated to use part of all the field/pool for storage.

Table 6.2 summarizes the rankings for the potential base load storage site candidates and compares them to the "Ideal Pool". The four criteria are listed with values extracted from Table 5.1 and Appendix A (Tables A.1 and A.2). Despite all efforts to base the decision on quantifiable, objective data, there remains an element of subjectivity in the selection process. Until detailed studies of the candidate pools are completed, the true strengths and weaknesses of these sites will be largely unknown. These ranked potential future base load storage sites are located on Figure 6.1.

Table 6.2. Ranked Candidates for Base Load Storage

Rank	Pool	Reservoir Size (Bcf)	Deliverability[1] (MMcf/d)	Cushion Gas Required (Bcf)	Depletion Date (Year)
	IDEAL POOL	**25-50**	**120-169**	**0.0**	**2010-2015**
1	Swanson River/Sterling	39	60 (160)	9.0	2019
2	Beaver Creek/Beluga	92	61 (106)	16.0	2028
3	Ivan River	97	34 (65)	8.0	2019
4	Kenai/Sterling # 5.2	66	30 (36)	0.0	1981
5	Swanson River/Tyonek	28	29 (89)	6.0	2006
6	Beaver Creek/Sterling	140	33 (51)	24.0	1994

1. The number in the column is the 'adjusted" low deliverability, which is the value used to rank the candidate sites, the number in parenthesis is the "adjusted" high deliverability and can be achieved but is not sustainable for the entire demand season (Table A.2).

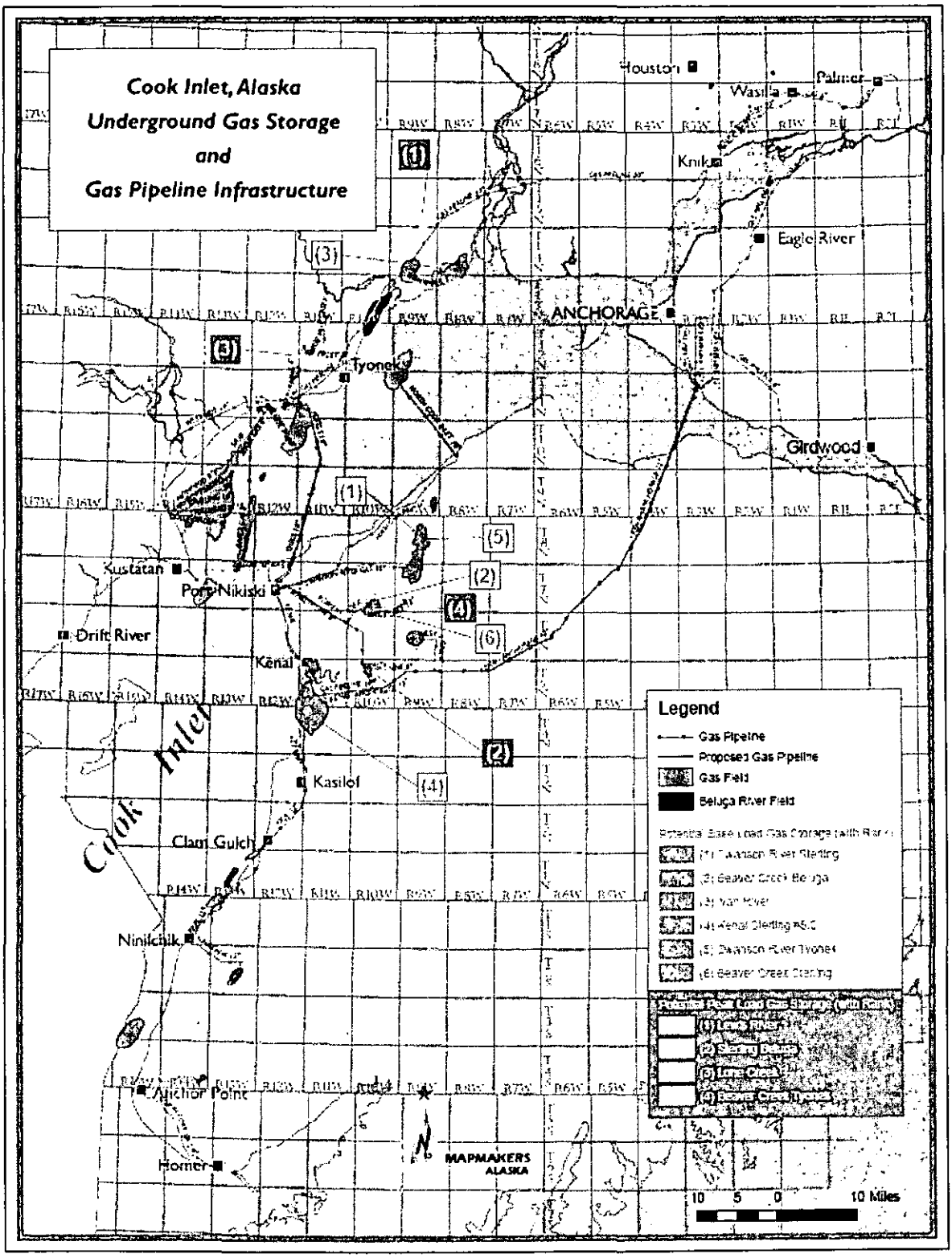
The Swanson River Sterling pool is ranked as number one primarily because it has good-to-high deliverability, is expected to be depleted by 2020 and requires moderate amounts of cushion gas. The reservoir size is adequate but falls in the mid-range of the preferred size class, and expansion of storage capacity is limited to about 10 Bcf.

The Beaver Creek Beluga site has excellent reservoir size, the highest deliverability, but requires more cushion gas and is not expected to be depleted until 2028. These latter two factors prevent it from being ranked No. 1 and could drop it below the Ivan River pool.

The Ivan River pool is rated as the third choice due to the capacity and moderate volume of cushion gas required. The expected depletion date of 2019 is an additional plus. The primary negative factor is the relatively low deliverability of only 34 MMcf/d.

The Kenai Sterling # 5.2 has been depleted since 1981 and has good-to-excellent reservoir size. The capacity is in excess of the requirements and no cushion gas is required to achieve ambient pipeline pressures. The chief problem is deliverability of only 30 MMcf/d using the one-to-one producing well scenario. There are suggestions that water encroachment has been detected, which may have the potential to reduce deliverability.

Figure 6.1. Cook Inlet Map of Storage Locations



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The Swanson River Tyonek pool is the smallest of the top six candidates at 28 Bcf, which is at the low end of the preferred size range. It requires a moderate amount of cushion gas, but has a projected deliverability in the one-to-one infill well case of only 29 MMcf/d.

The Beaver Creek Sterling pool is ranked No. 6 because of the problems with water encroachment, which requires a large volume of cushion gas and also reduces the deliverability. There is a large capacity for gas storage, and an early depletion date, but unfortunately that is due largely to the fact the pool watered out. The anticipated deliverability is about 33 MMcf/d.

The results of these evaluations indicate that there are viable potential future underground natural gas storage sites in the Cook Inlet gas fields. However, among the leading candidates there are no true stand-alone reservoirs with regard to sustainable deliverability. Each of the candidate pools meets the capacity needs but under the proposed development none of them are capable of achieving the 120 to 169 MMcf/d design withdrawal rates of Table 2.6 and Section 3.1.

The large pools, Kenai field pools and the Beluga River field, that were eliminated early in the evaluation process would have the deliverability required, if cushion gas volumes well in excess of 100 Bcf were injected (Appendix A, Table A.1). In fact, to establish ambient pipeline pressure, 648 Bcf of cushion gas would need to be injected into the Beluga River field (Appendix A, Table A.2) unless a zone or zones could be successfully isolated while maintaining active production operations. But, why shelve expensive cushion gas when the same volumes could be used as working gas in two or three smaller facilities, such as the Swanson River Sterling and others of Table 6.2? The use of two or more storage facilities also provides a safety measure in the case of a disruption at the storage facility. It would also be advantageous to have a facility located in both sides of the Cook Inlet for similar reasons.

Unless future detailed studies indicate otherwise, these pools in some combination should provide adequate storage for any reasonably forecast seasonal storage needs and achieve the deliverability needs for peak season demand. Under certain conditions, multiple base load storage facilities may negate the need for separate peak load storage, at least for the initial years of the pipelines existence.

6.2 Final Ranking Potential Peak Load Storage Candidate Sites

The need for a separate peak load facility or facilities depends on the ultimate nature of the base load storage facilities. At this time the working scenario requires peak load storage for the short, very high demand periods resulting from conditions of extreme cold weather. As identified in Section 5, there are five pools that would be candidates for potential peak load storage (Table 5.2) and the total storage capacity of these pools ranges from 6.2 Bcf to 15.1 Bcf (Appendix A, Table A.3). These pools are all on the pipeline system and are within 50 to 100 miles of the major consumers. Three key factors were utilized to rank or eliminate the pools. These are same factors used to develop the final rankings for the base load storage: reservoir size, deliverability, and cushion gas requirements.

The five identified pools/fields are of such a size that they meet the requirements of the peak load demand anticipated in 2020. In increasing order of total storage capacity they are (Appendix A, Table A.3):

- Lone Creek Undefined – 6.2 Bcf (requires zero cushion gas),
- Beaver Creek Tyonek Undefined – 6.3 Bcf (0.5 Bcf cushion gas),
- Pretty Creek Undefined – 11.0 Bcf (6.0 Bcf cushion gas),
- Lewis River Undefined – 14.3 Bcf (1.6 Bcf cushion gas),

- and Sterling Beluga Undefined – 15.1 Bcf (2.0 Bcf cushion gas).

The existing Cook Inlet gas storage facilities have gas volumes of this size or smaller and average deliverability rates are about one percent of the total working gas. Based on these averages, maximum deliverability rates may range from a low of 58 MMcf/d for the Beaver Creek Tyonek undefined pool to a high of 131 MMcf/d for the Sterling Beluga Undefined pool (Appendix A, Table A.3). This assumes the reservoirs are filled to capacity and the cushion gas has been discounted.

Based on minimization of cushion gas volume (Appendix A, Table A.3) the Pretty Creek Undefined pool would be eliminated, since nearly half the volume of gas in the pool would be unavailable for withdrawal.

Using the one percent of working gas volume (original gas in place minus cushion gas equals working gas) as average daily deliverability, the only two of the remaining pools are capable of achieving the 80 MMcf/d maximum anticipated peak gas requirements in 2040. The Lone Creek Undefined and the Beaver Creek Undefined pools are fall below the margin of 70 MMcf/d in 2025 for the assumed spur pipeline rates. Both the Lewis River and Sterling Beluga undefined pools have capability to achieve the desired deliverability in 2040 with potentials of approximately 125 to 130 MMcf/d each.

The ranking for peak load storage and reasons are given below, and their location and ranking are given in Figure 6.1.

1.) Lewis River Undefined: low cushion gas requirements, near power generation facility, and maximum potential deliverability of approximately 130 MMcf/d.

2.) Sterling Beluga Undefined: low cushion gas requirements, ready access to Anchorage area gas users, and maximum potential deliverability of 125+ MMcf/d.

3.) Lone Creek Undefined: falls short of the deliverability rate with a maximum rate of about 62 MMcf/d but requires no cushion gas and could provide a secondary peak storage facility.

4.) Beaver Creek Tyonek Undefined: falls short on deliverability rate at 58 MMcf/d but requires only 0.5 Bcf cushion gas and could provide a secondary peak storage facility.

The Lone Creek and Lewis River sites are located on the west side of the Cook Inlet and could easily supply the electrical generation plant, while the Beaver Creek and Sterling Beluga sites are located on the east side and could be dedicated to the gas utilities (Figure 6.1).

6.3 Summary of Potential Underground Natural Gas Storage Candidates

The evaluation has established the existence of six potential base load storage and four peak load storage sites. All the base load storage candidates are of sufficient size, that even with the anticipated cushion gas requirements of the various pools, they retain the capacity for the requisite volume of working gas. At the calculated low, sustainable deliverabilities none of them are gauged to have rates that are sufficient to serve as the sole storage facility and multiple storage units are required. At the calculated high deliverability rates the Beaver Creek Beluga (120 MMcf/d) and the Swanson River Sterling (160 MMcf/d) can meet the demand, but not for sustained periods or for the duration of the high demand winter season.

The four peak storage sites are equally distributed between the west and east sides of Cook Inlet and the Lewis River and Sterling Beluga undefined pools have the potential to meet any anticipated peak demand needs. The Lone Creek and Beaver Creek Tyonek, as a pair could also meet that demand.

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7 Costs of Potential Storage Facilities

The Federal Energy Regulatory Commission (FERC) published a report in 2004 describing the "Current State of and Issues Concerning Underground Natural Gas Storage" (FERC 2004) that describes the status and economics of underground storage in the U.S. Storage economics, storage development costs, and the value of storage as described. Storage development costs for a typical 2-cycle/yr depleted reservoir field can cost between $5 million and $6 million/Bcf of working gas capacity (FERC 2004). The costs are site-specific based on:

- the quality and variability of the geologic structure of the proposed site;
- the amount of compressive horsepower required;
- the type of surface facilities needed;
- the proximity to pipeline infrastructure; and
- permitting and environmental issues.

The FERC report (2004) reports that cost-of-service is frequently used to value services offered by regulated storage providers such as interstate pipeline companies. It allows for recovery of costs and a return on capital. The FERC review (2004) of 20 storage operator tariffs indicated a median cost-of-service of $0.64/Mcf. The economic evaluation of Cook Inlet gas storage is expected to be different, most likely higher cost, than Lower 48 gas storage because of the inability to purchase gas at low prices in the summer for storage and sell it at higher prices in the winter season and the more remote and higher cost environment in the Cook Inlet. A cost-of-service estimate is not included in the report.

Estimates for capital and operating costs associated with developing and operating potential Cook Inlet storage facilities are described below. These costs are generic and general at this stage of gas storage design and are intended as a basic guideline to identify the components and provide a reasonable estimate of the magnitude. The regulatory framework and the allowable rates of return have not been established for any regulated storage facilities in Alaska.

The factors influencing the cost of operating the storage facility includes such items as:

- Conditioning the reservoir to serve as a storage facility.
- Designing and developing the gas injection and withdrawal infrastructure including reconditioning of old wells and drilling and completing any new wells required to meet deliverability requirements.
- Construction or upgrades of a pipeline to connect the gas storage facility to the gas distribution system.
- Rentals or other fees to owner of pre-existing infrastructure.
- Costs (price/unit volume) associated with acquiring a gas storage lease and any fees associated with the injection of stored gas, docking (length of time stored), and withdrawal.
- Purchase cost of cushion gas and working gas.
- Operating and maintenance costs.

It is noted in the FERC report (2004) that the cost of purchasing cushion gas is one of the most expensive elements of a storage project. In addition, if there are remaining reserves in the field

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at the time of conversion, the value of those stranded reserves may need to be added to the costs or accounted for in the yearly production cycle.

The estimated cost data in Table 7.1 are for a 20 Bcf working gas storage facility requiring 20 Bcf of cushion gas, four new infill wells, and 100 MMcf/d of maximum deliverability to provide a general guideline for expected costs to construct a storage facility in the Cook Inlet. The total capital costs include the purchase of cushion gas. The costs will vary depending on the specific sites chosen. The operating costs needed for a cost-of-service calculation can be estimated as shown based on percentages of the capital cost on an annualized basis. These calculations are not included in this study.

Table 7.1. Estimated Cost of Construction of a 20 Bcf Gas Storage Facility

Expenditure item includes installation	Cost
Compressor 4000 hp	$8,000,000
Dehydration	$2,200,000
Piping and valves	$50,000
Instrumentation and controls including metering	$1,000,000
Civil, concrete etc	$1,750,000
Insulation and paint	$25,000
Electrical bulk material	$500,000
Engineering	$750,000
Make up wells @ $7MM	$28,000,000
20 Bcf cushion gas @ $6.00 Mcf	$120,000,000
Total Capital Costs	**$162,275,000**
Total Capital Costs ($millions/Bcf)	**$8.1 million/Bcf**

Operating cost
Fixed costs: Depreciation, interest taxes, insurance, etc. –41% of annualized capital costs
Direct costs: 3% of annualized capital costs

3405

8 References

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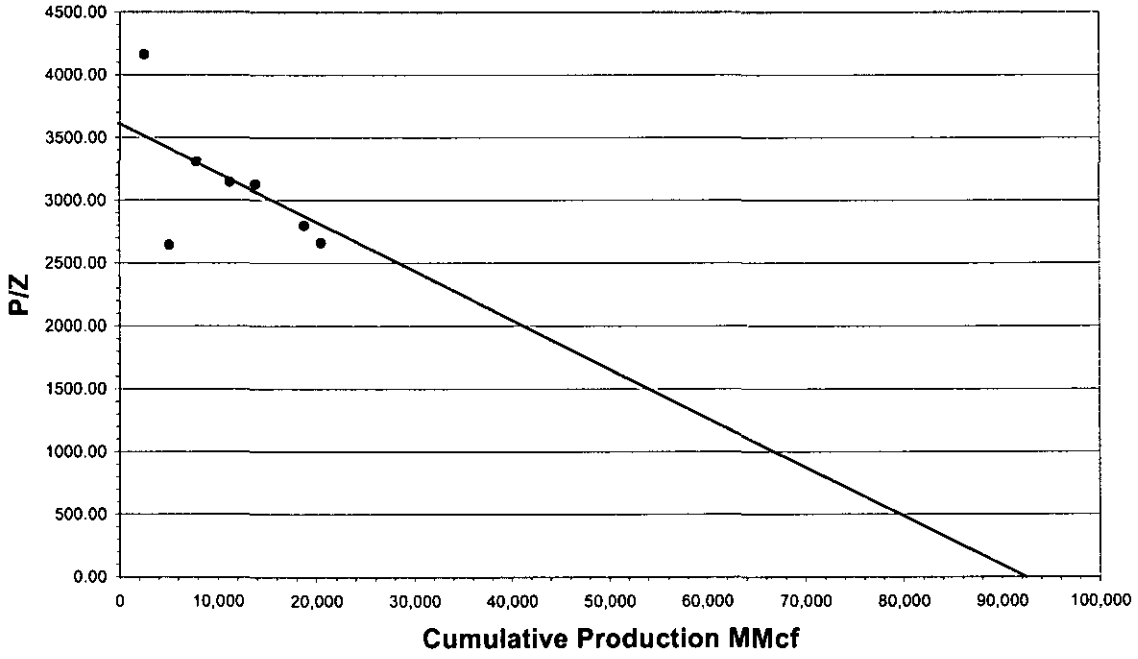
9 Attachments

Appendix A: Gas production and bottomhole pressure data were examined for each pool in the Cook Inlet area. Plots of P/Z versus cumulative production volumes were constructed for each pool resulting in estimates of original-gas-in-place (OGIP) as shown in Figure A.1 for the Beaver Creek Beluga Pool. It was assumed that most pools would recover about 90% of OGIP at shut-in conditions. The two OGIP values were compared to insure a reasonable volume was estimated. The only pool for which the two values were not close was the Beaver Creek Sterling and the depletion performance indicates significant water influx occurred. The Kenai Sterling 5.2 also shows this characteristic behavior to a lesser degree but no water production was reported.

Figure A.1. Beaver Creek Beluga Pool, P/Z versus Cumulative Production



For most of the gas producing history of the Cook Inlet, supply exceeded demand; therefore, few if any wells were produced at capacity. Therefore, production history does not reflect the true deliverability of a pool in the Cook Inlet. State of Alaska production records were used to determine the average production performance of each pool on a volume per day per well during the life of the pool. These data were combined on a plot of the P/Z versus production rate as shown in Figure A.2. A best fit line was drawn to smooth the data over time and reservoir pressure. The flow rates on a per well basis were estimated from these curves for the as a function of pressure. The low rate is determined at a P/Z of 1000 and the high rate at the P/Z with 20 Bcf of Working Gas added to the remaining reserves at 2020. The pressures and rates are shown for each pool in Table A.1.

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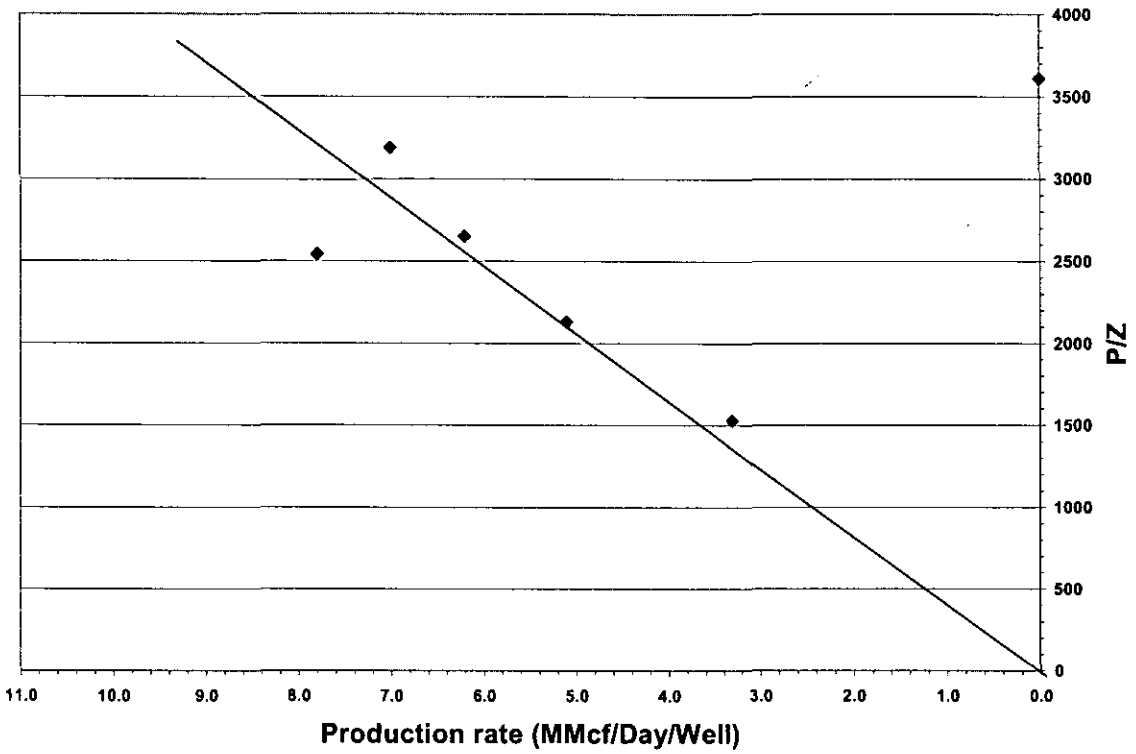
Figure A.2. Beaver Creek Beluga Pool P/Z versus Production Rate



The historical Cook Inlet flow rates are thought to be restricted in many cases; therefore the flow rates used in this evaluation were increased by 50% to account for restricted flow rates. Possible rate increases resulting from stimulation treatments and current drilling and completion technology used on any new wells as shown in Table A.1 (adjusted average well rates in the last two columns in the table). Marathon recently reported on the use of their Excape completion technology that allows completion and fracture stimulation of several zones simultaneously, which decrease costs and increases well productivity. A more complete well by well examination would be required to determine the amount of rate increase possible in any pool.

Table A.2 shows the Cook Inlet Pools as ranked in Section 6. The table includes the Total Gas Required to have 20 Bcf of working gas above a P/Z of 1000, the number of existing wells, and the number of wells and deliverability with 1-to-1 infill, ½-to-1 infill, and no infill.

Table A.3 contains evaluation data developed by the same methodology used for data in Table A.1 and A.2 for the potential peaking storage pools. None of these reservoirs are expected to have any remaining reserves in 2020. The maximum deliverability is taken to be 1% of the working gas volume.

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Table A.1. Cook Inlet Potential Base Storage Pools: Evaluation data

Field/ Pool/ Formation	OGIP (Bcf)	2020 Status		Cushion Gas Volume[1]	P/Z with 20 Bcf Working Gas Added	Total Gas Required (Bcf)	Estimated Well Rate		Adjusted Avg. per well rate (MMcf/d)	
		P/Z	Remaining Reserves				Avg. at High P/Z (MMcf/d)	Avg. at P/Z of 1000 (MMcf/d)	High	Low
Beaver Creek										
Beluga	92.4	325	2.5	16	1800	36	4.4	2.5	6.6	3.8
Sterling	140.0	1,250	0	24[2]	1700	44	8.5	5.5	12.7	8.2
Ivan River										
Undefined	97.0	650	0	8	1,950	28	5.4	2.8	8.1	4.2
Cannery Loop										
Beluga	113.1	270	4.4	43	1,350	63	6.2	5.4	9.3	6.8
Sterling	32.0	300	0.6	9	2,520	29	15.0	6.0	22.5	9.0
Upper Tyonek	89.6	275	0.5	8	2,200	28	7.3	3.0	16.0	4.5
Kenai										
Sterling 3	375.5	225	0	146	1,120	166	5.7	5.2	8.6	7.8
Sterling 4	506.2	200	0	160	1,100	180	5.0	4.6	7.5	6.9
Sterling 5.1	538.4	250	0	178	1,080	198	4.7	4.4	7.1	6.5
Sterling 5.2	65.7	1,300	0	0	1,570	20	6.0	5.0	9.0	7.5
Sterling6	603.0	250	0	179	1,080	199	4.8	4.5	7.2	6.8
Tyonek	218.0	225	1.4	27	1,220	47	6.0	4.0	9.0	6.0
Upper Tyonek	457.4	610	22.7	60	1,210	80	1.3	1.0	2.0	1.5
Swanson River										
Sterling	39.2	330	0	9	2,580	29	13.4	5.0	20.1	7.5
Tyonek	28.0	340	0	6	3,090	25	7.4	2.4	11.1	3.6
Beluga River										
Undefined	1,614	295	83.8	628	1,020	648	12.2	12.0	18.3	18.0

1. Volume of gas required to increase P/Z to 1000 psi. Includes estimated reserves remaining at 2020.
2. This increases pressure to about 1,500 psi, which results in water-free reservoir conditions.

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Table A.2. Cook Inlet Potential Base Storage Pools: Number of Wells and Estimated Deliverability Rates

Rank	Pool (Preliminary Ranking – Table 6.1)	Total Gas Required (Bcf)	Wells		Estimated Delivery Rates (MMcf/d)					
			Existing wells	Number wells with 1 to 1 infill	1 to 1 infill		½ to 1 infill		No infill	
					Max[2]	Min[2]	Max	Min	Max	Min
1	Swanson River/Sterling (1)	29	4	8	160	60	121	45	80	30
2	Beaver Creek/ Beluga (2)	36	8	16	106	61	79	46	53	30
3	Ivan River (6)	28	4	8	65	34	49	25	33	17
4	Kenai/Sterling # 5.2 (5)	20	2	4	36	30	27	23	18	15
5	Swanson River/Tyonek (3)	25	4	8	89	29	67	22	45	15
6	Beaver Creek/ Sterling (4)	44	4[1]	4	51	33	38	25	25	16
	Kenai/ Sterling # 5.1 (9)	198	14	28	199	182	149	137	100	91
	Kenai/ Sterling # 4 (12)	180	14	28	210	193	158	145	105	97
	Kenai/Tyonek (14)	47	4	8	72	48	54	36	36	24
	Cannery Loop/ Beluga (10)	63	4	8	74	54	56	41	37	27
	Cannery Loop/ Sterling (7)	29	1	2	46	18	--	--	23	9
	Cannery Loop/Upper Tyonek (8)	28	2	4	44	18	33	14	22	9
	Kenai Sterling 6 (11)	199	12	24	173	163	130	122	86	82
	Kenai Sterling 3 (13)	47	9	18	155	140	112	101	77	70
	Kenai Upper Tyonek (15)	80	23	26	92	69	69	52	46	35
	Beluga River Undefined (16)	648	17	34	622	612	467	459	311	306

1. Two wells that watered out early in field life cannot be used.
2. From Table A.1, Adjusted average per well rate.

Table A.3. Cook Inlet Potential Peaking Storage Pools: Evaluation Data

Field/Pool	OGIP (Bcf)	2020 P/Z	Cushion Gas (Bcf)	Working Gas (Bcf)	Max. Rate = 1% Working Gas ((MMcf/d)
Lewis River Undefined	14.3	650	1.6	12.7	127
Sterling Beluga Undefined	15.1	400	2	13.1	131
Lone Creek Undefined	6.2	60	0	6.2	62
Beaver Creek Tyonek Undefined	6.3	600	0.5	5.8	58
Pretty Creek Undefined	11	240	5	6.0	60

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APPENDIX B: Scaling criteria utilized to rank candidate gas pools as potential future base load gas storage facilities. These factors are used in constructing the various ranking tables of Sections 5 and 6. The specific criterion is shown with a range of values and the rank of 1 to 5, **with 1 being the best.**

Table B.1. Scaling Criteria to Rank Candidate Pools

CRITERION:	RANGE	RANKING	CRITERION:	RANGE	RANKING
Reservoir size	25-50 Bcf	1	Pay	>50'	1
	50-100 Bcf	2		40-50'	2
	100-150 Bcf	3		30-40'	3
	<25 Bcf	4		20-30'	4
	>150 Bcf	5		<20'	5
Depletion	<2015	1	Net-to-gross	0.8-1.0	1
	2015-2020	2		0.6-0.8	2
	2020-2025	3		0.4-0.6	3
	2025-2030	4		0.2-0.4	4
	>2030	5		<0.2	5
Proximity	<50 miles	1	Pressure	>2,000 psi	1
	50-75 miles	2		1,000-2,000 psi	2
	75-100 miles	3		500-1,000 psi	3
	100-125 miles	4		250-500 psi	4
	>125 miles	5		<250 psi	5
Porosity	>25 %	1	Cushion Gas Required	0-25 Bcf	1
	20-25 %	2		25-30 Bcf	2
	15-20 %	3		30-40 Bcf	3
	10-15 %	4		40-50 Bcf	4
	<10 %	5		>50 Bcf	5
Permeability	>1,000 md	1	Deliverability	>60 mmcf/d	1
	500-1,000 md	2		50-60 mmcf/d	2
	250-500 md	3		40-50 mmcf/d	3
	125-250 md	4		30-40 mmcf/d	4
	<125 md	5		< 30 mmcf/d	5

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SB

208

SENATE COMMITTEE REPORT
First Committee of Referral

DATE: 1/19/10

FURTHER: Finance

Date of 5-Day Notice: _____
(in accordance with Uniform Rule 23)

DATE TURNED
IN TO OFFICE: _____

Resources Committee considered SENATE BILL NO. 208

SB 208 DNR STUDY ON NATURAL GAS

"An Act requiring the Department of Natural Resources to evaluate current incentives and recommend additional incentives that would increase gas exploration, development, and production in the Cook Inlet sedimentary basin; and requiring the Department of Natural Resources to evaluate the means by which the department may explore for, purchase, and sell natural gas from newly proved gas reserves in the Cook Inlet sedimentary basin."

and recommends:

[ ] be **replaced** with [ ] **SCS** or [✓] **CS** SB 208 (RES)

[ ] adopt **previous** [ ] **SCS** or [ ] **CS** _____ (_____)

[ ] attached amendment(s)

[ ] adopt _____Letter of Intent

[ ] further referral to _____Committee

SENATE BILL:
[ ] Same Title
[ ] New Title

HOUSE BILL:
[ ] Same Title
[ ] Technical Title Change
[ ] New Title w/ SCR #_____

NEW FISCAL NOTE(S):

Department	Date	Fiscal	Indet.	Zero	FN#
DNR	02/05	✓			

PREVIOUS FISCAL NOTE(S):

Department	Date	Fiscal	Indet.	Zero	FN#

[ ] **APPROPRIATION - no fiscal note**

SIGNATURES AND RECOMMENDATIONS:	PRINTED LAST NAME	DO PASS	DO NOT PASS	NO REC	AMEND
	Huggins	✓			
	Stevens	X			
	French	✓			
CO-CHAIR:	McGuire	✓			
CO-CHAIR:	Wielechowski	✓			

26-LS1235\P
Bullock
2/8/10

CS FOR SENATE BILL NO. 208(RES)

IN THE LEGISLATURE OF THE STATE OF ALASKA

TWENTY-SIXTH LEGISLATURE - SECOND SESSION

BY THE SENATE RESOURCES COMMITTEE

Offered:
Referred:

Sponsor(s): SENATOR WIELECHOWSKI

A BILL

FOR AN ACT ENTITLED

"An Act requiring the Department of Natural Resources and the Department of Revenue to evaluate current incentives and recommend additional ways to increase gas exploration, development, and production in the Cook Inlet sedimentary basin; and providing for an effective date."

BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF ALASKA:

*** Section 1.** The uncodified law of the State of Alaska is amended by adding a new section to read:

SHORT TITLE. This Act may be known as the Cook Inlet Energy Incentive Act.

*** Sec. 2.** The uncodified law of the State of Alaska is amended by adding a new section to read:

LEGISLATIVE FINDINGS. The legislature finds that

(1) natural gas produced in the Cook Inlet area is used to generate nearly 90 percent of the electricity used in Southcentral Alaska and to heat approximately 130,000 homes and businesses; gas from the Cook Inlet area is vital to the economic well-being of

New Text Underlined [DELETED TEXT BRACKETED]

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Southcentral Alaska and has been the least expensive energy source available to more than half of the state's population for over three decades;

(2) for many years, there was far more gas in the Cook Inlet area than could be consumed by Alaskans, providing plentiful low-priced gas; however, in recent years, prices have risen dramatically as reserves in the Cook Inlet area are being depleted;

(3) as of January 2010, more than 7.75 trillion cubic feet of natural gas have been produced from the Cook Inlet area; original reserves of more than eight trillion cubic feet have been reduced by production to approximately one trillion cubic feet, with relatively few new proved reserves to replace the natural gas that has been produced in the past;

(4) new field exploration is required to augment remaining reserves and replace historic production; without successful discoveries of new natural gas reserves, natural gas reserves in the Cook Inlet area may be depleted within two decades, and yearly in-state demand may exceed supply within one decade;

(5) geologists estimate that there are trillions of cubic feet of undiscovered and technically recoverable gas in the Cook Inlet area;

(6) additional investment in developing natural gas reserves in existing fields in combination with exploration for new natural gas reserves will be necessary to ensure an adequate future supply of natural gas for Southcentral Alaska;

(7) aggressive investment in exploration and development is constrained by the small size of the in-state market, which prevents natural gas producers in the Cook Inlet area from selling the natural gas they discover within a reasonable period of time.

*** Sec. 3.** The uncodified law of the State of Alaska is amended by adding a new section to read:

STUDY AND REPORT RELATING TO INCENTIVES FOR INCREASING GAS PRODUCTION AND THE EXPLORATION FOR AND MARKETING OF GAS IN THE COOK INLET SEDIMENTARY BASIN BY THE DEPARTMENT OF NATURAL RESOURCES AND THE DEPARTMENT OF REVENUE. (a) The Department of Natural Resources, in consultation with the Department of Revenue, shall

(1) evaluate the effectiveness of incentives the state currently offers to increase exploration for, development of, and production of gas in the Cook Inlet sedimentary basin;

(2) identify, evaluate, and recommend additional incentives that may be enacted by the legislature to increase the exploration for, development of, and production of gas in the Cook Inlet sedimentary basin;

(3) determine the cost, feasibility, and a proposed organizational structure for a new state entity that would take a more active role in the exploration, development, and marketing of gas in the Cook Inlet sedimentary basin and other areas in the state that the commissioner of natural resources finds to have the greatest priority for development.

(b) The Department of Natural Resources and the Department of Revenue shall report the findings, conclusions, and recommendations on the subjects described in (a) of this section to the legislature before November 1, 2010.

(c) In this section,

(1) "Cook Inlet sedimentary basin" has the meaning given in regulations adopted to implement AS 38.05.180(f)(4);

(2) "proved gas reserves" means gas reserves within the definition of "proved oil and gas reserves" in 17 C.F.R. 210.4-10(a)(22) as that paragraph read on January 1, 2010.

*** Sec. 4.** This Act takes effect immediately under AS 01.10.070(c).

FISCAL NOTE

STATE OF ALASKA
2010 LEGISLATIVE SESSION

Fiscal Note Number: 1
Bill Version: CSSB 208(RES)
(S) Publish Date: 3/10/10

Identifier (file name): SB 208-DNR-O&G-02-04-10
Dept. Affected: Natural Resources
Title: Cook Inlet Gas Exploration Incentives
RDU: Resource Development
Component: Oil and Gas Development
Sponsor: Sen. Wielechowski
Requester: Senate Resources
Component Number: 439

Expenditures/Revenues (Thousands of Dollars)

Note: Amounts do not include inflation unless otherwise noted below.

	Appropriation Required	Information					
OPERATING EXPENDITURES	**FY 2011**	**FY 2011**	**FY 2012**	**FY 2013**	**FY 2014**	**FY 2015**	**FY 2016**
Personal Services							
Travel							
Contractual	**200.0**						
Supplies							
Equipment							
Land & Structures							
Grants & Claims							
Miscellaneous							
TOTAL OPERATING	**200.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
CAPITAL EXPENDITURES							
CHANGE IN REVENUES ( )							

FUND SOURCE (Thousands of Dollars)

1002 Federal Receipts							
1003 GF Match							
1004 GF	200.0						
1005 GF/Program Receipts							
1037 GF/Mental Health							
Other Interagency Receipts							
TOTAL	**200.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**

Estimate of any current year (FY2010) cost:

POSITIONS

Full-time							
Part-time							
Temporary							

ANALYSIS: *(Attach a separate page if necessary)*

SB 208 requires the Department of Natural resources to complete a report by November 1, 2010 for the legislature dealing with potential measures to encourage the investment needed to bring on undeveloped and unproven gas resources in the Cook Inlet.

It is estimated that $200,000 will be required for an outside consultant and legal advice. If the study must be completed by November 1, 2010, DNR will evaluate whether an existing contract with an outside consultant can be modified to include this work. It will be a challenge to complete a thoughtful and comprehensive study in such a short period of time.

Prepared by: Kevin Banks
Phone 269-8800
Division: Director
Date/Time 2/4/10 5:00 PM
Approved by: Tom Irwin
Date 2/5/2010
Natural Resources

(Revised 11/6/2009 OMB)

ALASKA STATE LEGISLATURE

SENATOR LESIL McGUIRE
SENATOR BILL WIELECHOWSKI
Co-Chairs, Senate Resources Committee

MEMORANDUM

Memorandum

To: Leg. Legal (Bullock)

From: Shalon Szymanski, Committee Aide
Senate Resources Committee

Date: March 9, 2010

Re: Final CS Request

Please create a FINAL Senate Resources CS for SB 208 mirroring work order number 26-LS1235\C.

If you have any questions or need further information, please feel free to contact me on my direct line, 465-4522

Thank you!

ALASKA STATE LEGISLATURE

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Senator_Bill_Wielechowski@legis.state.ak.us

Co-chair
Senate Resources Committee
Joint Armed Services Committee

Vice-chair, Judiciary Committee

Member, Energy Committee
Member, World Trade and Technology

SENATOR BILL WIELECHOWSKI

Sponsor Statement

CS for SB 208: Cook Inlet Energy Incentives Act

SB 208 tasks the Departments of Natural Resources and Revenue with evaluating existing incentives designed to promote more natural gas exploration and production in the Cook Inlet Basin and recommending additional strategies that might encourage greater levels of production. The departments would be required to complete this analysis and provide recommendations to the legislature by November 1, 2010, in time for legislative action in 2011.

For over three decades, Cook Inlet gas has been vital to the economic wellbeing of Southcentral Alaska. It is has been an affordable source of fuel for more than half of the state's population, heating more than 130,000 homes and businesses. In addition, it is has been used to generate approximately 90% of the electricity used in the region.

For many years, there was far more gas in Cook Inlet than could be consumed by Alaskans. Existing "proven" reserves of gas, however, have declined from more than 8 trillion cubic feet to just over 1 trillion, with relatively little replacement of what has been consumed or exported. Substantial exploration will be required to augment remaining reserves and maintain production levels necessary to meet the needs of the Railbelt. Without this, known reserves of gas within Cook Inlet may be depleted within two decades, and yearly instate demand may exceed supply within one decade. Investment both within existing fields and in prospective new areas will be required.

Fortunately geologists estimate there are trillions of cubic feet of undiscovered and technically recoverable gas in the Inlet. The challenge will be to encourage companies to invest in the Inlet and "prove up" these vast reserves, so that Alaskans will have access to this local, affordable supply of gas.

This bill tasks the Departments of Natural Resources and Revenue with the responsibility of identifying and evaluating new strategies to ensure that Alaskans have access to this gas. It sets an ambitious timeline for this analysis, mandating submission of recommendations to the legislature by November 2010.

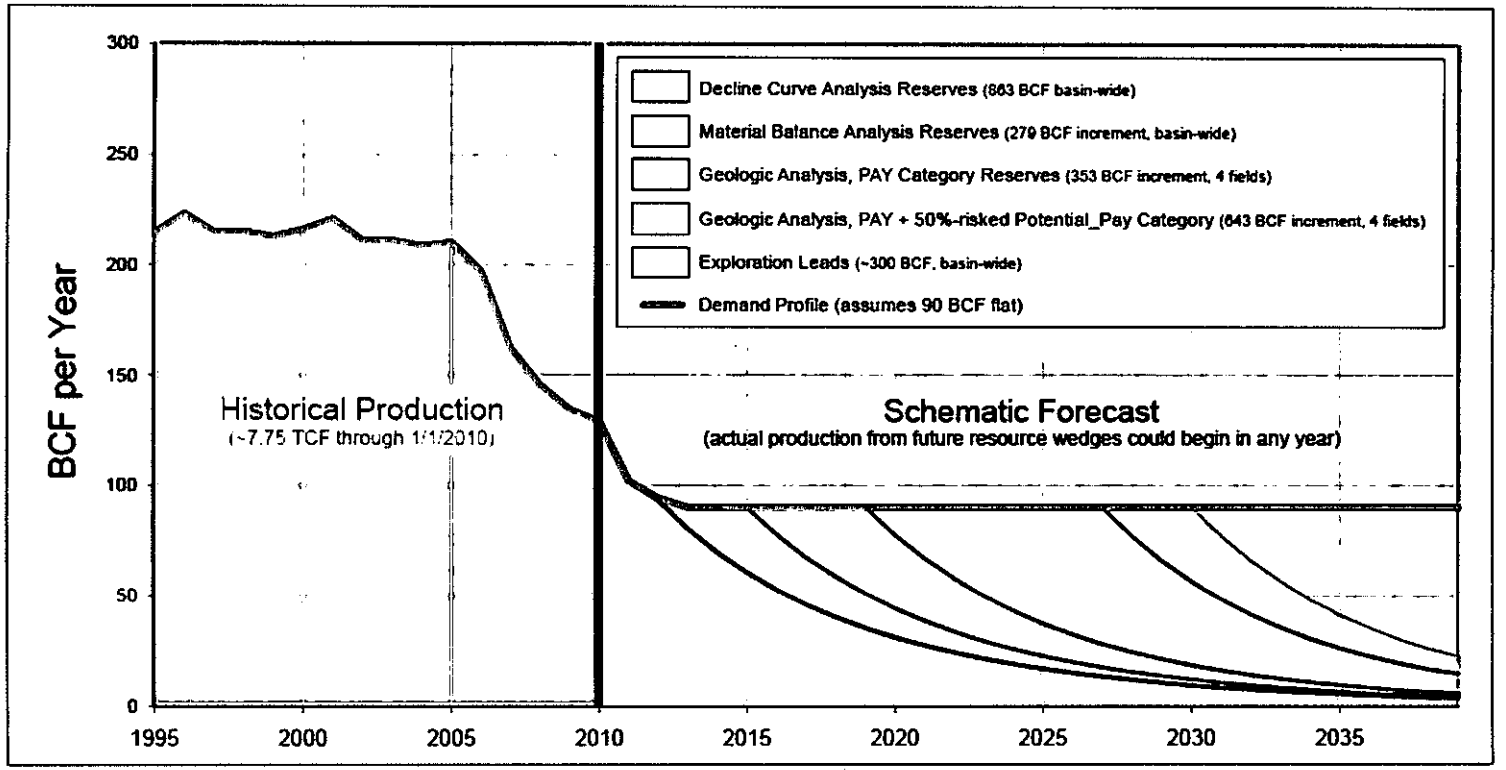

Figure 14. Hypothetical production forecast for the Cook Inlet basin showing increments of reserves and resources identified by engineering and geological analyses discussed in text. This schematic diagram assumes that near-term production will come from gas volumes documented by the most conservative estimation techniques. Successive wedges are introduced with progressively lower certainty regarding commerciality, volume, and timing of first production. Production from future resource wedges could begin in any year, resulting in a more complex forecast, and extending the production lifespan of previous wedges. On the other hand, we are unable to predict the commercial thresholds at which volumes from future wedges become economic to recover. Wedges show gas volume increments from basin-wide decline curve analyses (red), basin-wide material balance analyses (orange), deterministic geologic mapping of PAY (green), and 50 percent-risked Potential_Pay (yellow) in four large gas fields (Beluga River, North Cook Inlet, Ninilchik, and McArthur River Grayling gas sands). The last wedge (gray) is a more speculative estimate of aggregated gas volumes that may be recoverable from the exploration leads discussed in text.

See text for additional discussion.

Exerpt from: Hartz, J.D., Kremer, M.C., Krouskop, D.L., Silliphant, L.J., Houle, J.A., Anderson P.C., and LePain, D.L., 2009, Decker, P.L., ed., Preliminary engineering and geological evaluation of remaining Cook Inlet gas reserves: Alaska Division of Oil and Gas report, 37 p., available online at: http://www.dog.dnr.state.ak.us/oil/

State of Alaska
Department of Natural Resources
Division of Oil and Gas
and
Division of Geological & Geophysical Surveys

Sean Parnell, *Governor*
Tom Irwin, *Commissioner*
Kevin Banks, *Director*[1]
Robert Swenson, *Director*[2]

Preliminary Engineering and Geological Evaluation of Remaining Cook Inlet Gas Reserves

by

Jack D. Hartz[1], Meg C. Kremer[1], Don L. Krouskop[1], Laura J. Silliphant[1],
Julie A. Houle[1], Paul C. Anderson[1], and David L. LePain[2]

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December, 2009

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EXECUTIVE SUMMARY

Over the past year, there has been widespread concern over whether the existing system of natural gas production and delivery in the Cook Inlet basin can continue to meet the energy demands of south-central Alaska. Of most immediate concern is whether there may soon be shortfalls during brief spikes in peak gas demand brought about by severe winter weather. A thorough understanding of the problem requires consideration of at least two major sets of issues. The first set includes geologic and engineering details regarding how much gas remains to be recovered from Cook Inlet fields, and what steps are required to access it. The other is a complex set of commercial and infrastructure factors that determine the ability to provide gas to the end user. This report addresses geologic and engineering issues regarding gas reserves and resources. Issues regarding the economics of drilling additional wells, recompleting existing wells, optimizing infrastructure, and the ability to sell the gas into the Cook Inlet market are beyond the scope of this paper. Nevertheless, as is the case with most maturing gas provinces, the costs and financial risk associated with accessing and producing the additional reserves and potential reserves identified by this study will increase with time, likely contributing to increases in the price of gas.

Reservoir engineering and geological analyses were undertaken independently of one another to evaluate the volumes of gas remaining in existing fields. These analyses are preliminary, based on data currently available to the Division of Oil and Gas. All 28 of the currently producing Cook Inlet gas fields were evaluated by applying decline curve analysis and material balance engineering methods to publicly available production data obtained from the Alaska Oil and Gas Conservation Commission (AOGCC). Based on extrapolations of production trends, these engineering techniques were used to derive estimates of remaining proved and probable reserves.

Four of the gas fields judged from engineering analyses to have the greatest remaining potential were selected for further study via detailed geologic analyses: Beluga River, North Cook Inlet, Ninilchik, and the McArthur River Grayling gas sands. Development geology techniques yielded volumetric estimates of original gas-in-place and initial recoverable gas (estimated ultimate recovery) for these four large fields, drawing and preserving important distinctions between gas volumes in known pay intervals versus gas in potential pay intervals. Comparison of geologically based recoverable gas with cumulative production yielded estimates of the remaining recoverable gas in the four fields.

The independent engineering and geologic approaches pursued in this study allow the reporting of remaining gas volumes at varying levels of production certainty and readiness. The total proved, developed, producing (PDP) reserves remaining to be produced from all existing fields in the Cook Inlet is estimated at 863 BCF. This volume was identified by decline curve analyses and assumes sufficient investment to maintain existing wells. Additional probable reserves that would be recoverable by increasing investment in existing fields are estimated at 279 BCF. This volume is identified as the basin-wide difference in the results of material balance methods and decline curve analyses. Geologic evaluations of the Beluga River, North Cook Inlet, Ninilchik, and the McArthur River Grayling gas sands reservoirs indicate the potential for an additional increment of 353 BCF in high-confidence pay intervals, and another

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possible increment of 643 BCF (in the 50 percent-risked case) from lower-confidence pay intervals, both of which are arguably not in communication with existing wellbores, and thus cannot be estimated from the engineering methods. These incremental volumes are the difference, for these four gas fields, between the remaining recoverable gas estimated in geologically identified high-confidence pay and potential pay minus that estimated by material balance analyses.

These geologically identified volumes of known and potential nonproducing gas represent a significant energy resource, which if developed, have the potential to supply local demand well into the next decade. This forecast assumes that exports of gas from the basin will be curtailed during demand shortfalls, and cease altogether at the closure date of the current export license (March 31, 2011). It also assumes that no new significant demand will be developed until additional resources are discovered in new fields.

We also discuss higher-risk contingent resources that await confirmation and delineation in exploration prospects outside of producing areas where previous well penetrations suggest follow-up drilling may be warranted. Finally, we recognize, but have not attempted to quantify, potential undiscovered gas resources in unexplored areas or underexplored plays within the Cook Inlet basin. Significant work is underway by government and industry stakeholders to analyze this exploration potential, which could be an integral part of the region's energy portfolio well into the future. The findings of this study suggest there are a variety of short-, medium-, and long-term opportunities that have the potential to meet the energy demands of south-central Alaska over the next decade or more.

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INTRODUCTION

Purpose of This Study

South-central Alaska has relied on production from Cook Inlet gas fields to meet demand for electrical power generation, heating, and industrial use since commercial production began in the 1950s. Exports of liquefied natural gas (LNG) have been another significant sector of the region's gas market since 1969. A salient characteristic of south-central Alaska's natural gas demand profile is the pronounced seasonal fluctuation in fuel consumption for heating and power generation. In addition to the highly predictable difference between average summer usage and average winter usage, there are large, less predictable demand spikes during winter cold spells. Up to this point, producers have been able to meet spikes in consumer demand by incrementally adjusting production at the field and wellhead level. Curtailing industrial consumption, for example, closure of the Agrium US, Inc. fertilizer plant in Nikiski, has also played an important role in utility load management. More recently however, as an increasing number of Cook Inlet's fields show significant decline, concern has arisen over the producers' ability to provide sufficient gas to consumers during winter demand spikes, with some predicting shortfalls beginning in 2011-2013 (Petroleum News, 2009). This report summarizes the results of engineering and geologic analyses conducted within the Alaska Division of Oil and Gas (DOG) to better quantify remaining accessible reserves in the Cook Inlet's major gas fields, and to categorize these volumes relative to readiness and certainty of production. Many closely related economic and infrastructure considerations are outside the scope of these analyses.

As Cook Inlet gas (and oil) fields mature, it is prudent to re-evaluate the original gas-in-place (OGIP) and compare that against cumulative production in order to assess remaining reserves. Most oil and gas fields in Alaska have outperformed their initial estimates for original in-place hydrocarbons (for example, Blasko, 1974), so it is critical for resource managers to continually re-evaluate the reserves picture as new data and new technology is acquired. The purpose of this study is to examine and analyze the currently available engineering and geologic data to determine if enough gas is available to meet the anticipated demand for south-central Alaska for the next decade. The analysis assumes sufficient market opportunities will exist to drive appropriate investment in more complete field development operations, infrastructure debottle-necking and upgrades, and commercial alignment between unit partners. Both engineering and geologic methods were employed in the analysis of existing fields, and a complete description of the methodologies can be found in the body of this report. The results of this work will help determine how much gas remains in the Cook Inlet fields so that realistic development scenarios can be formulated. The economics of drilling additional wells, recompleting existing wells and the ability to economically transport and sell the gas into the Cook Inlet market are important commercial issues that were not addressed by this work.

Although new gas found through exploration activity outside of existing field areas will be an important part of the long term reserves outlook for the Cook Inlet, those resources can take years to identify and bring on line, so they may not affect the short-term development issues addressed in this study. Nevertheless, a brief discussion on exploration potential in the basin is included in this report, and the reader is encouraged to keep up-to-date on subsequent state and federal publications that will further address exploration potential.

Regional Geology

The Cook Inlet basin is part of a northeast-trending collisional forearc setting that extends approximately from Shelikof Straight in the southwest to the Wrangell Mountains in the northeast. The basin is bounded on the west and north by granitic batholiths and volcanoes of the Aleutian volcanic arc and Alaska Range, respectively, and on the east and south by the Chugach and Kenai Mountains, which represent the emergent portion of an enormous accretionary prism (Haeussler and others, 2000; Nokleberg and others, 1994). High-angle faults, including the Bruin Bay, Castle Mountain, and Capps Glacier faults, modified the west and north sides of the forearc basin (for example, Barnes and Cobb, 1966; Magoon and others, 1976). The Border Ranges fault lies near the eastern edge of the forearc basin (fig. 1; for example, Magoon and others, 1976; Bradley and others, 1999), but is locally overlapped by Cenozoic basin-filling strata.

Mesozoic strata, having a regional composite thickness of nearly 40,000 feet, represent the foundation upon which the Cenozoic forearc basin developed (Kirschner and Lyon, 1973; fig. 2). Mesozoic strata extend continuously at depth under Tertiary nonmarine deposits and are exposed along the up-turned western and eastern margins of the forearc basin (Fisher and Magoon, 1978; Magoon and Egbert, 1986). Tertiary nonmarine strata, which are up to 25,000 feet thick in the axial region of the basin (Boss and others, 1976), consist of a complex assemblage of alluvial fan, axial fluvial, and alluvial floodbasin depositional systems (Swenson, 2002). These Tertiary nonmarine strata are the primary oil and gas reservoirs in the basin.

The Tertiary stratigraphy of the basin is complex (fig. 2) and includes a basal unnamed unit of Paleocene to early Eocene age that is correlative to parts of the Wishbone, Chickaloon, and Arkose Ridge Formations in the Matanuska Valley segment of the basin (an older uplifted segment of the forearc basin according to Trop and Ridgway, 2007). The overlying stratigraphic units were assigned to the Kenai Group by Calderwood and Fackler (1972) and originally included, in ascending order, the West Foreland Formation, the Hemlock Conglomerate, the Tyonek Formation, the Beluga Formation, and the Sterling Formation. Boss and others (1976) subsequently restricted the Kenai Group to the Tyonek, Beluga, and Sterling Formations on the basis of interpreted unconformities between the West Foreland and Tyonek. They considered the Hemlock Conglomerate a member of the Tyonek Formation. The overlapping ages of these formations shown in figure 2 demonstrates the time-transgressive nature of the Tertiary stratigraphy (McGowen and others from Swenson, 2002). Limited outcrops around the perimeter of the basin demonstrate dramatic facies changes from basin axis to basin margin locations.

Large hydrocarbon traps were formed in the Tertiary nonmarine strata of the upper Cook Inlet when the thick succession of reservoir facies were deformed into a series of north-northeast-trending, discontinuous folds arranged in an en echelon pattern. Most fold structures formed by right lateral transpressional deformation on oblique-slip faults (Haeussler and others, 2000). Many of these faults extend into underlying Mesozoic age marine rocks. These structures are attributed to the ongoing collision between the Yakutat block in southeastern Alaska and inboard terranes across much of southern and central Alaska (Trop and Ridgway, 2007). This collision is resulting in the progressive collapse of the forearc basin from the northeast toward the southwest (analogous to a closing zipper; Trop and Ridgway, 2007). All producing oil and gas fields in upper Cook Inlet are asso-

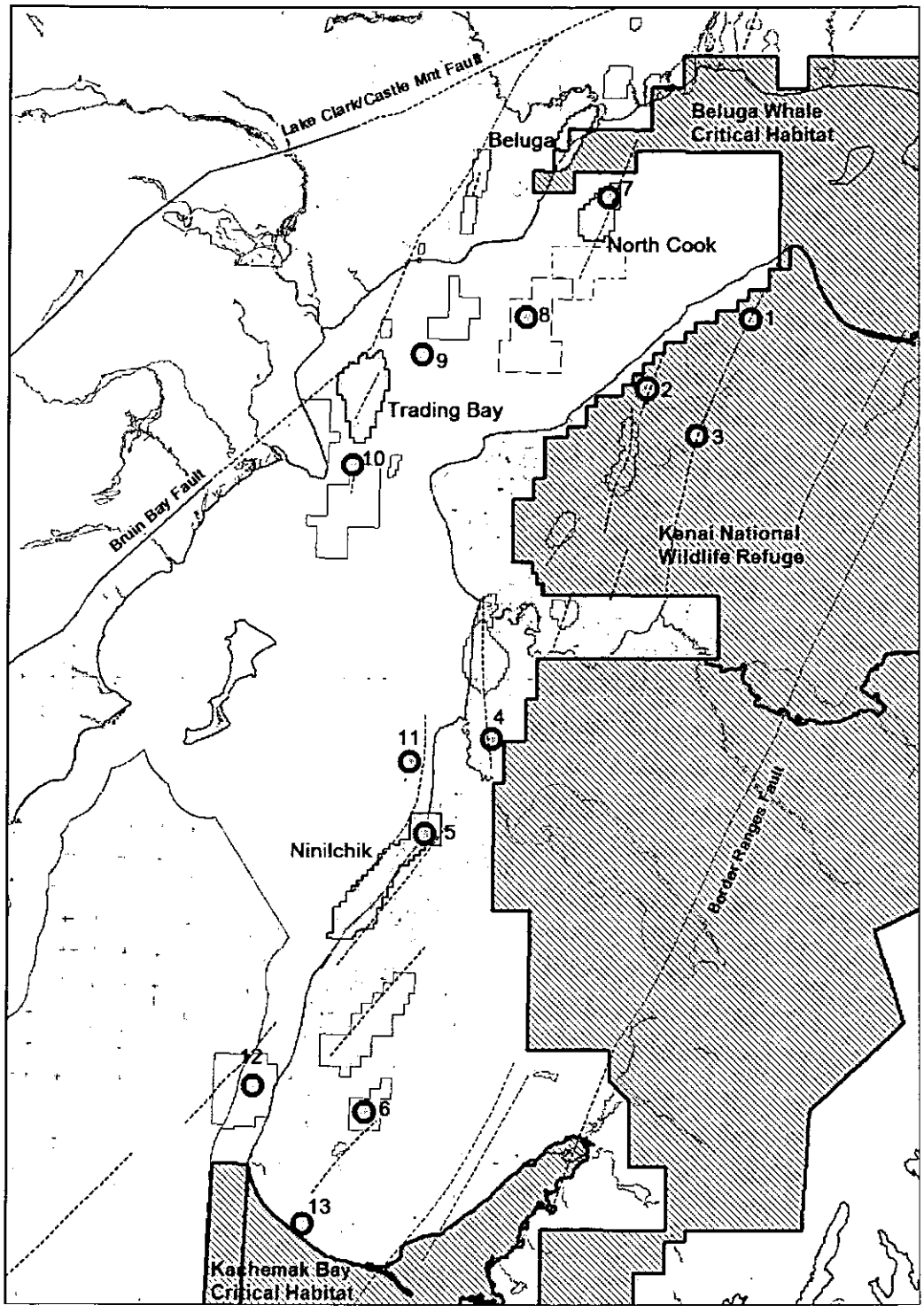


Figure 1. Location map of the central part of the Cook Inlet basin showing oil and gas producing units (the four major gas fields with geologic reserve estimates are highlighted with pink fill); major faults and fold axes; undeveloped exploration leads (numbered green dots); and areas with exploration access restrictions (green hachure).

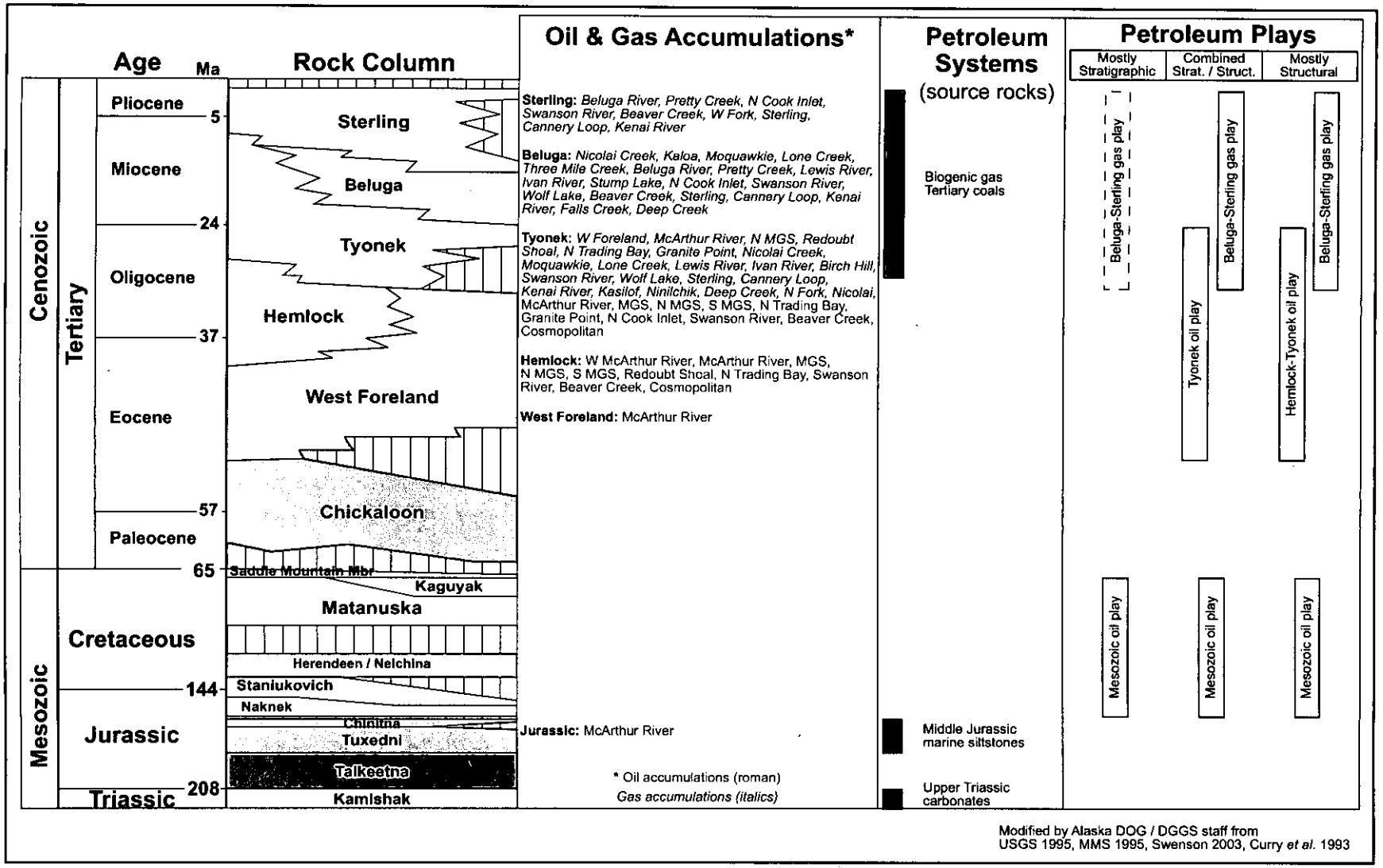


Figure 2. Chronostratigraphic and petroleum systems summary chart for the Cook Inlet basin

ciated with structural closures. Gas in most fields resulted from release of biogenic methane as thick coal-bearing successions were uplifted along fold structures.

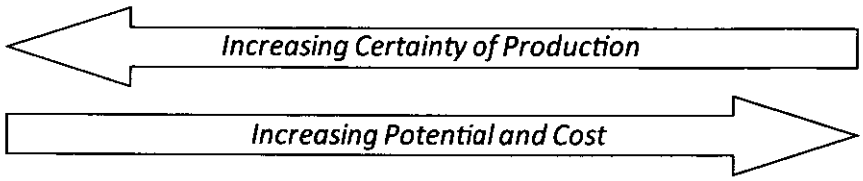
Cook Inlet Petroleum Systems

In order to understand how a natural resource can be optimally developed, it is important to understand its origin and history. The oil and gas produced from the Cook Inlet fields (fig. 1) come from two separate and distinct hydrocarbon systems. The oil, along with minor amounts of associated gas, was generated in deeply buried Mesozoic source rocks by thermogenic (temperature-driven) processes. Expelled from the source rock under high pressure, these buoyant hydrocarbons migrated upward along faults and permeable strata into trapping geometries in Hemlock and lower Tyonek sandstones of Tertiary age (fig. 2). More than 1.3 billion barrels of oil have been discovered and produced from these reservoirs since 1958.

The petroleum system that is the focus of this paper, and has become the recent focus of many south-central Alaskans, is a biogenic system that produced dry natural gas (methane). The generation, migration, and trapping of this resource are significantly different than that of the oil. The biogenic methane, which accounts for more than 90 percent (Claypool and others, 1980) of the nearly 7.75 trillion cubic feet (TCF) of historic gas production in Cook Inlet, was sourced from the widespread coals in the shallower part of the Tertiary section. Unlike thermogenic hydrocarbon generation, biogenic gas generation relies on bacteria that thrive only at relatively shallow burial depths where temperatures are less than about 80°C. Biogenic methane begins to form by decay of organic matter in the near surface environment. As deposition proceeds and bacterial methane continues to form, large quantities dissolve in the surrounding pore waters and remain adsorbed in coal beds. In the Cook Inlet basin, late-stage uplift lowered the pore fluid pressure and liberated the gas from solution in the coals, allowing it to migrate relatively short distances into fluvial sandstone reservoirs in the Tyonek, Beluga, and Sterling Formations. The complex geometries of these Tertiary reservoir sandstones, as well as the coal-to-sand migration pathways, provide both challenge and opportunity for field development. The same geologic complexity that makes it difficult to identify all potential reserves in a field also provides ubiquitous isolated reservoirs containing a significant amount of untapped gas potential.

PROCESS, DATA, AND COMPARISON OF ANALYTICAL TECHNIQUES

This report presents preliminary findings regarding forecast production, original gas-in-place, and estimated remaining reserves for Cook Inlet natural gas fields. We estimate remaining reserves at varying levels of production certainty using reservoir engineering and development geology methods (Table 1). The two approaches are very different, both conceptually and in analytical scope, and are discussed separately. It is important that multiple analytical methods are employed in analyzing complex fluvial systems like the Cook Inlet gas reservoirs because each method evaluates a slightly different portion of the reserves picture. Because they are based on extrapolations of historical production data, the engineering approaches are limited by the extent of field development that has occurred to date, and yield the more conservative estimates. The geologic analyses calculate larger reserve estimates because they assess the entire field, including upside potential from nonproducing intervals that may be capable of produc-



	Engineering Analyses		Geologic Analyses	
	Decline Curve Analysis	Material Balance	Geologic, PAY category only	Geologic, PAY + 50%-risked Potential_Pay
Sum 4 Fields	697	860	1,213	1,856
Sum Other Fields	166	282	not analyzed	not analyzed
Total	863	1,142	--	--

Notes: All values in BCF. Other fields are 24 remaining Cook Inlet producing gas fields (see Table 2).

Table 1. Comparison showing a range of estimated remaining gas reserves based on separate engineering and geologic analyses of four fields: Beluga River, North Cook Inlet, Ninilchik, and McArthur River (Grayling gas sands). These results suggest that geologic analyses identify gas reserves in pay and potential pay intervals that have not been fully developed, and therefore, cannot be represented in the engineering-based estimates.

ing. Throughout this report, we consistently present estimated gas volumes rounded to the single BCF to facilitate comparisons with values in the tables and appendices that represent calculated results. In reality, most of these estimates carry considerable uncertainty, and many could be rounded at lower levels of apparent precision for purposes of discussion outside of this text.

The engineering approaches are introduced first, followed by a discussion of the deterministic geologic approach. Two primary reservoir engineering methods, decline curve analysis and material balance analysis, were applied to 28 producing gas reservoirs to determine proved developed producing (PDP or 1P) reserves and probable (2P) reserves (Society of Petroleum Engineers and others, 2007).

Decline curve analysis (DCA) reflects only that gas that has been in communication with producing wellbores and has been produced relatively continuously over the life of the field. It cannot account for gas shut in early in field life, gas behind pipe and never perforated, nor gas between wells with large spacing. Additionally, estimates of original gas in place (OGIP) derived from material balance techniques (MB) represent only gas that has produced into a wellbore at some point during field life. The geological analysis calculates an OGIP for the entire structure and attempts to include potential untapped gas sands that were logged in the wellbore but never produced, marginal quality reservoirs that were not perforated at initial field development, or isolated reservoirs that lie between existing wellbores because well spacing is not sufficient to encounter them.

The engineering analyses relied on pub-

lic domain production and pressure data that producers report to the Alaska Oil and Gas Conservation Commission (AOGCC) on a monthly basis. Thus, in order to estimate deliverability, a daily rate must be calculated from the reported monthly values in order to predict short term demands. Decline curve analysis (DCA) was primarily used to forecast production and estimate remaining recoverable gas (RRG). Material balance methods were used to validate DCA estimates and determine OGIP and RRG. The future production rates and volumes have been compared to anticipated demand to predict gas availability in the Cook Inlet basin over the next decade.

The geologic analysis was limited to four of the five largest existing fields that are still being actively developed and that the engineering analyses indicate have the greatest share of future gas production potential. A deterministic geologic approach was used to identify pay and potential pay in the North Cook Inlet, Beluga River, Ninilchik, and the McArthur River (Grayling gas sands) fields. The geologic analysis utilized well log curves, drilling and completion history, pressure history, and production data to identify and map pay at the field scale as a basis for new calculations of original gas-in-place, initial recoverable reserves, and remaining reserves.

The Kenai gas field was not included in the geologic analyses because it is a federal unit and the State has limited well data and no seismic data over the field. We did conduct engineering analyses of the Kenai field because the production data are publicly available from the AOGCC. Of all the fields in the basin, the Kenai gas field has been subjected to the most aggressive second- and third-cycle development efforts to maximize recovery and access gas in tight reservoirs. As discussed later, the Kenai field is an excellent example of the late-life reserves growth that can be achieved with continuing development investment.

Table 1 organizes the gas reserve estimates of this study relative to readiness and certainty of production. In standardized reserves and resources nomenclature (for example, Society of Petroleum Engineers and others, 2007), our estimates derived from decline curve analysis can be considered proved reserves, whereas estimates identified from material balance represent probable reserves. The geologically derived estimates represent a mix of proved, probable, and possible reserves as well as some contingent resources. These analyses do not include economic filters, so it is not possible to draw a line between commercial reserves and subcommercial resources. Prospective resources, those remaining to be discovered, are discussed in less specific terms in the exploration potential section of this report. Estimates of exploration resources reflect a combination of in-house exploration experience, interpretation of publicly available geological and geophysical data, and resource assessments and other reports published by the U.S. Geological Survey and the U.S. Department of Energy.

RESERVOIR ENGINEERING ESTIMATES

Decline Curve Analysis

Decline curve analysis (DCA) is a standard petroleum engineering technique whereby current production trends are extrapolated into the future to estimate rates, and by integration, the remaining recoverable gas (RRG). As outlined above, DCA is based only on historically and currently producing gas that is in communication with the producing wellbores. By definition, DCA cannot measure gas reserves that exist in hydraulically isolated reservoir volumes (zones, sandbodies, or structural compartments) until that part of the reservoir is perforated for production

into the well. RRG in this context is only the developed gas left in the container. A reservoir DCA will change significantly during the period it is being developed. Early estimates will under-predict RRG if the reservoir is not fully developed (fig. 3).

The decline curve analysis is a relatively conservative look at future gas production because it represents a snapshot influenced by past events, and does not fully account for future events. Therefore, the forecast is a prediction of future performance assuming past trends will remain the same and all investment to support it will remain constant. Decline curves were based on monthly AOGCC production volumes or rates plotted on a logarithmic scale versus a linear time scale in months. The semi-log plot dampens minor data fluctuation and lends itself to a linear extrapolation referred to as exponential decline. The DCA portion of this work is based on the assumption that the reservoirs exhibit volumetric (tank-like) behavior. The linear decline extrapolation yields RRG by integration of the area under the line (fig. 3).

DCA recoveries were calculated on a well basis for the larger units where wells produce nearly continuously and on a pool, reservoir, or unit basis for every field that is active. There were several cases where decline appeared hyperbolic, which, on semi-log charts, plots as a curve in early to mid-life and becomes linear in late field life. Hyperbolic decline is often characteristic of low permeability reservoir rock, but it may be masked by water production, production at rates below capacity, and other well events. Another factor affecting decline is water influx from an underlying aquifer. If the aquifer is large compared to the gas reservoir, water influx will act to partially replace the gas produced from the pore space and sustain the reservoir pressure in the early to mid-life of the reservoir. A derivative effect is that as water influx into the wellbore increases, the pressure gradient increases, resulting in a steepening of the decline rate. Water influx in the Cook Inlet basin reservoirs is complicated by fluvial depositional systems that contain stratigraphically discontinuous layers of separate productive sands. Individual layers may not be in pressure communication and most likely have different gas-water contacts, especially in the Beluga and Tyonek sands. Production performance changes as water invades some intervals, effectively shutting off production and trapping gas, resulting in decreased overall recovery.

The DCA forecast of remaining proved, developed, producing gas in the 28 Cook Inlet fields amounted to a total of 863 BCF, with 697 BCF in just four fields (Beluga River, North Cook Inlet, Ninilchik, and the McArthur River Grayling gas sands). The DCA forecast rate represents an "annual average rate forecast" as depicted in figure 4. This estimate should be viewed as fairly conservative because of certain assumptions inherent in the technique. The forecast rate is usually conservative where wells and reservoirs do not produce at maximum capacity on an annual basis. This limitation applies to the Cook Inlet gas market, which is notable for its large demand swings between summer and winter. Thus, the daily or monthly production from the reservoir or individual well does not always represent its productive capacity. Daily production rates for gas wells are dictated by daily or monthly demand, volumes specified in production contracts, and LNG export volumes. In addition, the reservoir and wells often produce at surface pressure considerably higher than pipeline conditions (choked back). Under those conditions, DCA cannot accurately predict future production capability. Another difficulty is accurate representation of future investments and projects to sustain rates such as drilling wells, remedial activity, new perforations, well workovers, and

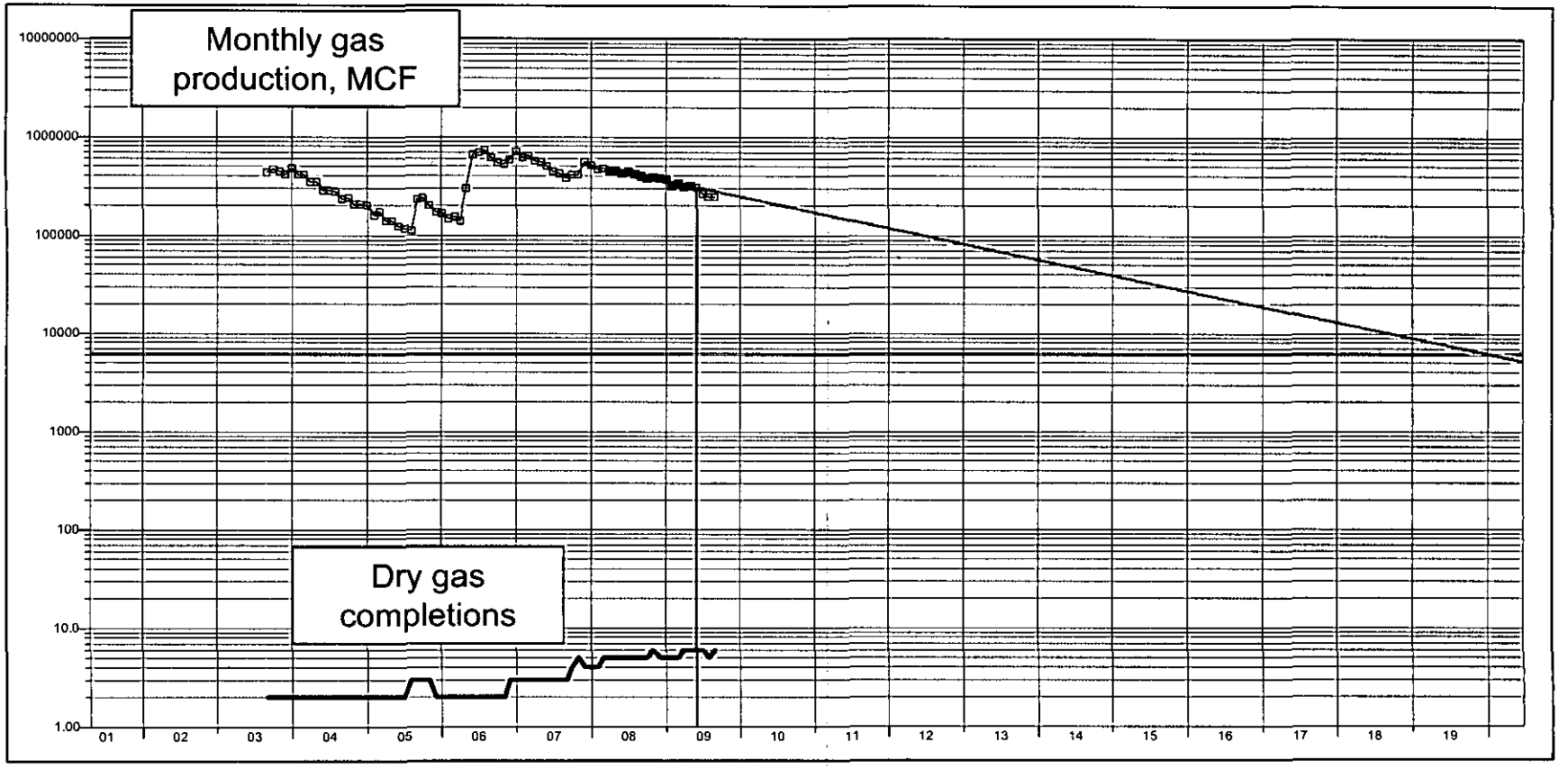


Figure 3. Typical decline plot; the Ninilchik GO Tyonek reservoir decline plot is illustrated. Horizontal axis is time (2001-2019); vertical axis is monthly production volume in thousands of cubic feet (MCF/month). Note the steep decrease from 2002 until mid 2004. As new wells are added (the lower red line on the chart) between 2004 and 2006, the production rate increased in a step fashion, then begins to decline again in 2007 to present. Some of the rate increase may be a result of perforation of new sands or stimulation of perforated sands. This chart is a good example of impacts of development activity early in the reservoir's life. When the reservoir is fully developed, it will follow the trend until depleted. Decline curve analyses are used to estimate remaining proved, developed, producing gas reserves.

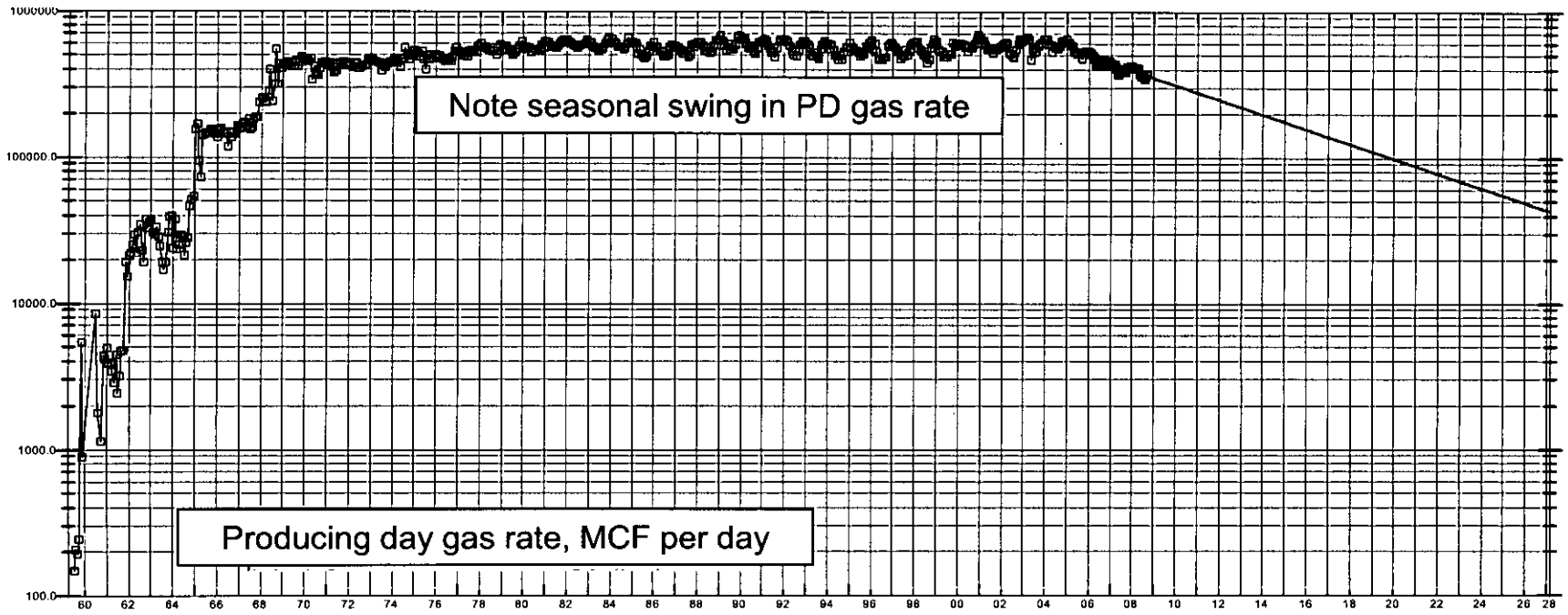


Figure 4. Decline curve projection based on data trend for production from all 28 Cook Inlet gas fields. Horizontal axis is time (1960-2028); vertical axis is producing day gas rate (MCF/day). Extrapolation line represents an annual average rate forecast, and does not illustrate seasonal fluctuation in demand.

additional compression. Figure 5 illustrates how DCA reserve estimates change after new wells are put on production. The initial rate forecast is considerably lower because it does not account for incremental production from the new completions.

If development investment does not continue in later field life, the decline trend will steepen because gas rate is dependent on regular maintenance or remediation. Changes in future economic conditions will influence gas availability affected by contract obligations, cost of maintenance, investment capital availability, and return on investment. Previous Cook Inlet rate forecasts have been subject to the same limitations.

Material Balance Analysis

Material Balance (MB) is a technique that uses the volumetric relationship between pressure, gas properties, and production to define OGIP and project remaining recoverable gas (RRG). A plot of reservoir pressure, P, divided by Z, the gas compressibility factor, yields a straight line that defines the volume of gas in the reservoir. Our MB analysis relies on reservoir pressure, reservoir characteristics, and gas production data from AOGCC databases. In most cases the linear trend can be extrapolated to zero pressure to determine the initial amount of gas in pressure communication throughout the reservoir, or OGIP. Note that material balance estimates account only for gas in pressure communication with producing wells, and cannot predict gas in isolated parts of the reservoir.

P/Z extrapolated to abandonment pressure will yield RRG for the reservoir sands that are in hydraulic (pressure) communication. A public domain spreadsheet program from Ryder Scott Company, L.P. was used to account for reservoir properties such as temperature, gas gravity, water saturation, gas composition, rock compressibility, and the Z factor for calculating P/Z based on periodic pressure measurements.

Figure 6 is an example of a typical P/Z MB plot. In this example, extrapolation to P/Z = 0 psia yields OGIP of 4.5 BCF and RRG, assuming abandonment P/Z=194 (~200 psia), is 4.2 BCF. The RRG is dependent on accurate knowledge of the abandonment pressure. Although we assumed an abandonment pressure of ~200 psia, the ultimate pressure for a given reservoir will be a function of operation costs, price of gas, and cost of compression. The surface production pressure is a function of reservoir pressure depletion and pipeline conditions. Wells in the Kenai gas field produce at surfaces pressure between 20 and 200 + psia, depending on pad location and the compressor configuration. Therefore, assuming a 200 psia abandonment pressure can underestimate RRG. In other fields in the basin the current surface producing pressure exceeds 800 to 1000 psia.

North Cook Inlet Unit (NCIU) and Beluga River Unit (BRU), had pressure data for each well going back 20-30 years. Most other pools had average pool pressures provided to AOGCC on a periodic basis. Even though the Sterling and Beluga Formations in the BRU are metered separately, the gas production is reported to AOGCC as a single commingled volume. Because gas production data for each formation are not available for the Beluga River Unit, the MB calculation is less reliable due to the uncertainty introduced by arbitrarily dividing the reported combined Beluga and Sterling Formations gas production back into two separate formations.

None of the reservoir P/Z plots showed evidence of active pressure support or water drive; however there is distinct evidence of water influx (fig. 7). Water influx steepens the

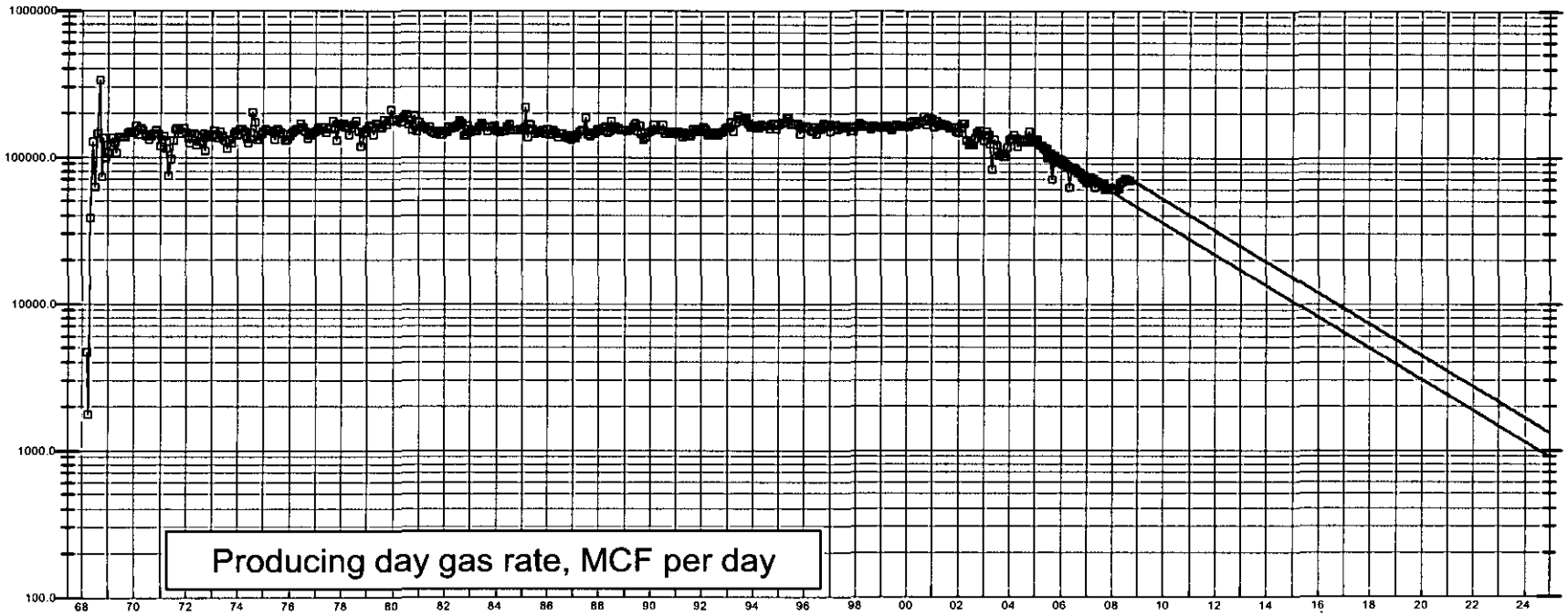


Figure 5. Example of decline curve analysis before and after new wells, North Cook Inlet Unit. Horizontal axis is time (1968-2025), vertical axis is monthly production volume in thousands of cubic feet (MCF). The well-established decline trend from 2004 to 2008 changes as new wells are added (green line versus red line trends). The remaining recoverable gas estimated from each trend will differ.

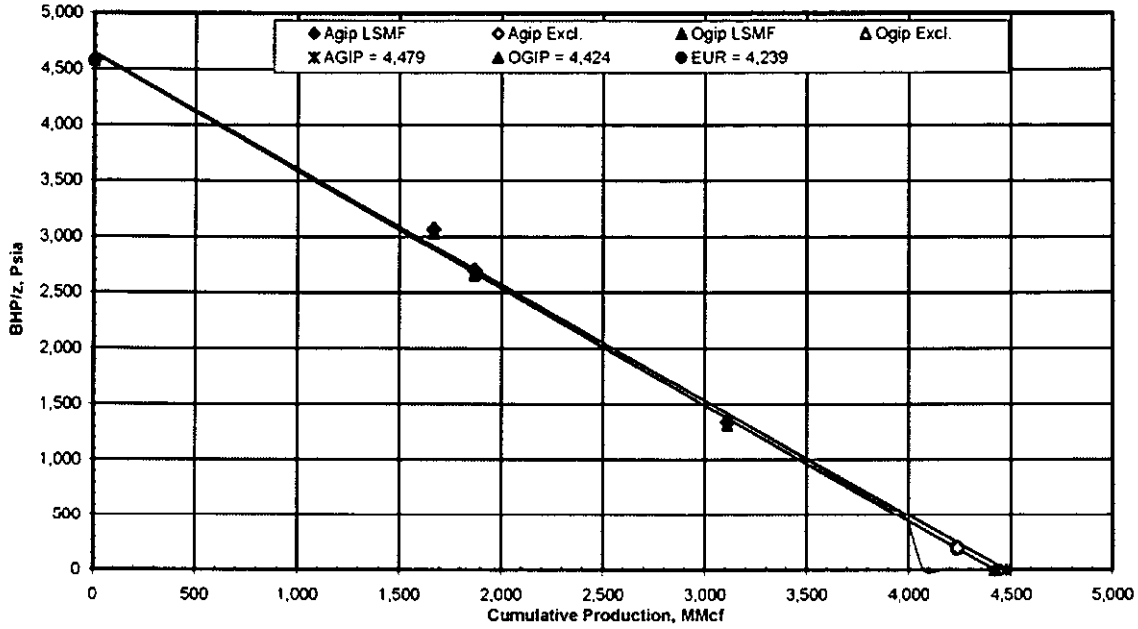


Figure 6. Typical P/Z plot. Vertical axis represents bottom hole pressure divided by Z, a dimensionless factor related to gas density, pressure, and temperature. The horizontal axis is cumulative gas volume produced at the time pressure is measured. Extrapolation of the trend will determine remaining recoverable gas and original gas in place at abandonment and 0 pressure respectively.

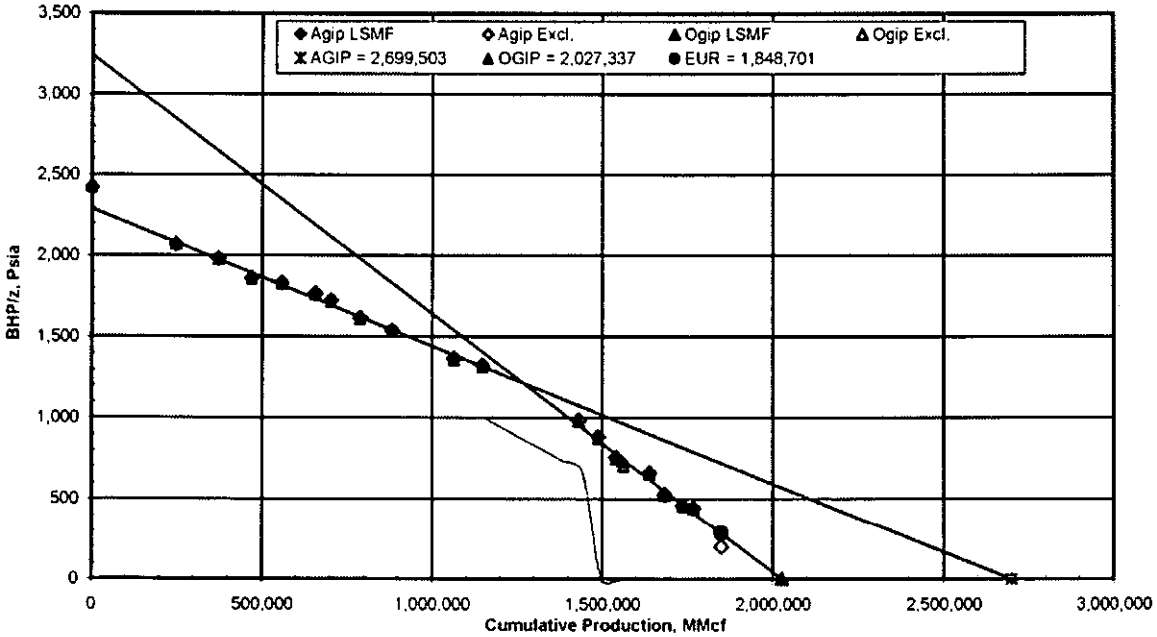


Figure 7. P/Z plot showing water influx and reservoir shrinkage. The initial trend (red line) shows a much higher in-place volume through production to about 1,300 BCF cumulative production. The later trend (green line) shows how water production has caused reservoir hydrocarbon volume to shrink by isolation of water dominated sand intervals or displacement of gas by water. Either way, the effect is reduction of hydrocarbon volume in communication within the reservoir.

slope of the linear P/Z trend. Water influx may trap gas or invade the reservoir space and replace gas, and in many cases, requires the invaded interval to be cemented off, isolating a portion of the reservoir and effectively shrinking the productive pore volume if not accessed by another well up-dip. In the example shown in figure 7, water influx has reduced the volume of gas producible at an assumed abandonment P/Z value of 200 psia by more than 600 BCF. Cases of this type were reviewed to ensure data accuracy and account for water impacts. Generally, the MB trend was either very clear, or it was unusable.

Another issue affecting the MB calculations is the validity and quality of the pressure data reported to AOGCC. The quality of pressure data depends on the type of reservoir and the method used to estimate or measure reservoir pressure. A good understanding of the common geological and engineering attributes of Cook Inlet fields, such as multi-formation pools, complex layering, discontinuous stratigraphic layers, and communication throughout the reservoirs is necessary to properly interpret the pressure data.

Some reservoirs had few points for P/Z analysis or the data were scattered, inconsistent, and subject to unstable measurement caused by insufficient shut-in time. In several cases, the P/Z results had to be disregarded because there was insufficient pressure data, no reasonable trend or the resulting RRG differed significantly from the decline analysis. There are several pools where P/Z showed less original gas-in-place than what had already been produced. Such discrepencies highlight the need for rigorous review and reiteration of MB calculations and further investigation of possible causes for questionable results. Comparison with other methods and inclusion of periphery data is also critical in order to come up with reasonable estimations.

The material balance and decline curve results were compared to look for significant inconsistencies. Analyses were reviewed and material balances or decline analyses for a given unit were repeated to account for obvious discrepancies. In some cases, the process of turning wells on and off over time creates the illusion that a pool's production is declining much slower (that is, the pool has more gas remaining) than shown by analyses of the individual wells in the pool. Although the seasonal swing is evident in a field-level production chart, it is often obscure when looking at charts for individual wells. This can be problematic for wells that do not have a long history trend and the winter to summer swing has a large influence on the decline in relation to the MB. In those cases, all available data were reviewed in order to determine which result should be used. In most instances it was possible to find trends that better suited the data or it was possible to see what caused the problem and come to a reasonable conclusion.

In many cases MB calculated significantly more gas than the DCA; we view this excess as potentially recoverable gas. Judgment and reservoir performance were required in reconciling differences between MB- and DCA-based estimates. In general, where production behavior is predictable and water influx is not an issue, the trends made sense and were used to estimate both remaining recoverable gas and additional potential.

Table 2 provides the results of the DCA forecast and the results of the MB calculations for 28 Cook Inlet gas fields. The difference between MB and DCA remaining recoverable reserves totals 279 BCF at 200 psia abandonment pressure. The difference increases by 120 BCF if estimated at 50 psia abandonment. Although abandonment pressure of 50 psia may be attainable in general, each reservoir must be evaluated for its cost-benefit at abandonment.

Field	Decline Forecast Production, BCF	Material Balance RRG - Decline, BCF	Material Balance or Decline EUR, BCF
Kenai	90	24	2,484
North Cook Inlet	145	47	2,011
Beluga River	377	96	1,622
McArthur River (Grayling gas sands)	113	20	1,509
Ninilchik	62	-	165
Beaver Creek	23	51	279
Kenai (Cannery Loop Unit)	27	18	218
Granite Point	7	2	141
Middle Ground Shoal	2	1	113
Ivan River	4	8	93
Trading Bay	1	-	89
Swanson River	1	-	61
Lewis River	1	9	23
Deep Creek	5	-	19
Stump lake	-	-	16
West Foreland	1	3	15
Sterling	1	-	14
Lone Creek	-	-	7
West Fork	-	-	6
Nicolai Creek	1	-	6
Moquawkie	0	-	4
Kasilof	-	1	4
West McArthur River	0	-	3
Albert Kaloa	-	-	3
Three Mile Creek	0	-	2
Redoubt Shoal	0	-	1
Wolf Lake	-	-	1
Kustatan	0	0	1
Total	863	279	8,910

Table 2. Decline forecast, additional potential remaining recoverable gas identified from material balance analysis, and estimated ultimate recovery for 28 Cook Inlet gas fields. Geologic volumetric analyses were prepared for the four large fields (shaded) at top of list.

The MB-DCA difference represents gas that is in communication with the current completions in a reservoir. Conceptually, MB estimates greater than DCA estimates suggest that the reservoir is not producing at its maximum capacity. Investment may be required to access the potential gas reserve additions in the form of well stimulations, installation of compression, re-drills, or other activities to improve reservoir performance.

Large Field Reserves Growth

We calculated a time series of estimated ultimate recovery (EUR) for the 28 gas fields by adding cumulative production to RRG at each interval. Tracking EUR over time is useful for observing the effect of development as a reservoir matures. Early EUR estimates are typically conservative and often increase as development progresses and more of the in-place gas resource moves to the producible reserves category. Progressive reservoir development is the rule in markets such as the Cook Inlet that can only absorb a fixed amount of gas per year. The four largest reservoirs (Kenai, Beluga River, North Cook Inlet, and the McArthur River Grayling gas sands) demonstrate this reserves growth in the EUR progression.

A review of past DCA forecasts and MB estimates (sources: DOG Annual Reports–1994, 1999, 2003, 2007, and 2009 internal estimates) showed significant growth in the last 10 years. Figure 8 is a chart showing the EUR at various stages of development since 1993. Comparison of EUR at various dates indicated reserves in three of the largest fields (Kenai, Beluga River and McArthur River Grayling gas sands reservoir) grew by more than 770 BCF; however the North Cook Inlet field appeared to decrease by about 360 BCF. It will be critical to further assess the reason for this decline. The reserves growth in all the other fields can be attributed to 42 new and redrilled wells during the period, and additional perforation and stimulation activity. The apparent decrease at North Cook Inlet may be caused by water influx and cementing off a number of intervals, effectively reducing the reservoir volume, but it is unclear with the currently available data. The EUR calculations demonstrate that even in mature fields such as Kenai, significant reserve growth is still possible after 30-40 years of production with diligent and systematic well work.

Deliverability at the Well and Reservoir Scale

In the following discussion, "deliverability" is used in the strict engineering sense of the term, which refers to the gas production capabilities of a well, or in some cases, production capabilities at the reservoir scale (for example, Lee, 2007, p. 840). This discussion does not address the much broader set of commercial and infrastructure factors that determine the ability of the entire Cook Inlet gas production and distribution network to provide gas to the end user. Determining deliverability at the well and reservoir scale is, nonetheless, a key part of predicting the overall system's ability to satisfy peak demand.

Past and present well or reservoir deliverability. One analysis method used to mitigate decline forecast shortcomings is accurate measurement and forecasting of daily well rates on a periodic basis. This can be done with real time data, or by converting monthly data to daily figures in order to calculate producing day (PD) well rate. The most accurate PD data are production rate measurements taken on a daily basis along with producing pressure and temperature. Unfortunately, the Division of Oil and Gas does not have daily data and can

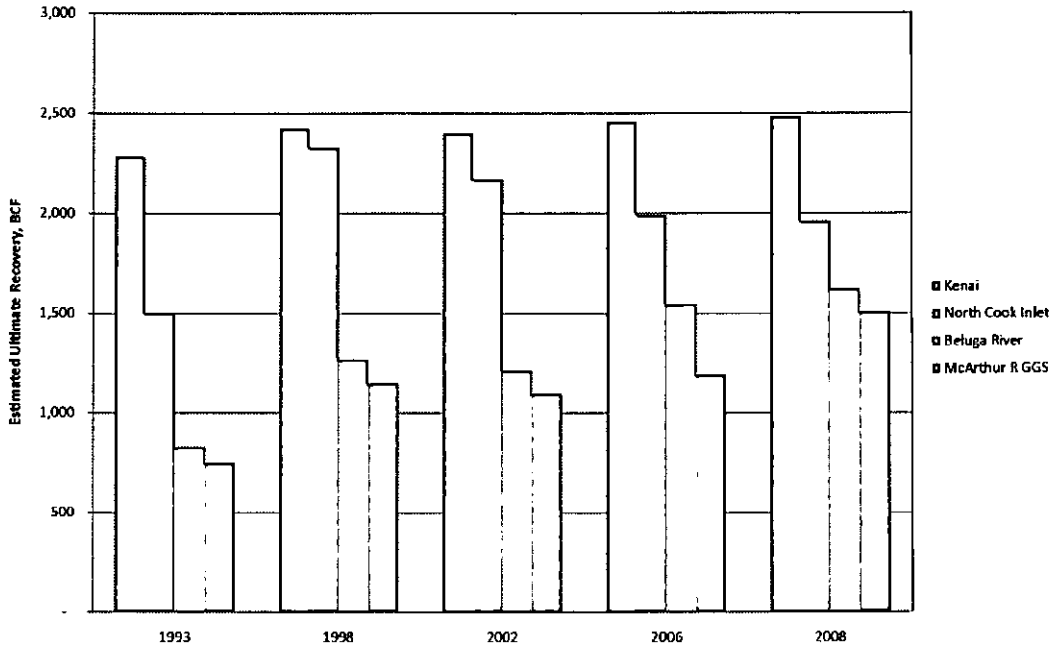


Figure 8. Reserves growth in Cook Inlet's largest gas fields, 1993-2008.

only estimate an average maximum daily rate on a monthly basis. The result is a smoothed rate profile that does not reflect the daily to weekly peaks and lows corresponding to short term demand swings.

Evaluating past well or reservoir deliverability estimates gives a hint of the relationship between average annual gas rate from DCA and peak PD gas rate from monthly volumes and producing day data. Calculations were based on a summation of producing day rates for each gas well by month (initially excluding storage production rate). A producing day rate derived from monthly data is still useful in estimating deliverability, but it smoothes through the extremes that would be evident in real time data. As an example, a well that produced 20, 10, and 5 MMCF/day for three days would average 11.7 MMCF/day over that period, which is some 40 percent below the actual peak. Given that limitation, there is still a significant swing between winter and summer PD rates when compared to annual average production rate. The peak PD rate has two components, the normal gas PD rate and the storage PD rate. Figure 9 compares the average annual rate to PD rates with and without storage from 1995 to present.

The ability to meet peak demand with real-time production has significantly diminished in the last decade because reservoir pressure has declined, water influx has increased, and not enough wells were drilled to replace reserves and maintain redundancy for peak rate capacity. Nevertheless, well workovers, additional wells, and compression have been slowly added in an attempt to meet the high-swing local demand. However, drilling high-cost wells and installing expensive new equipment to meet momentary demand spikes is economically challenging. As a result, gas storage in depleted reservoirs will become an important part of the deliverability portfolio that provides for peak capacity. In the past,

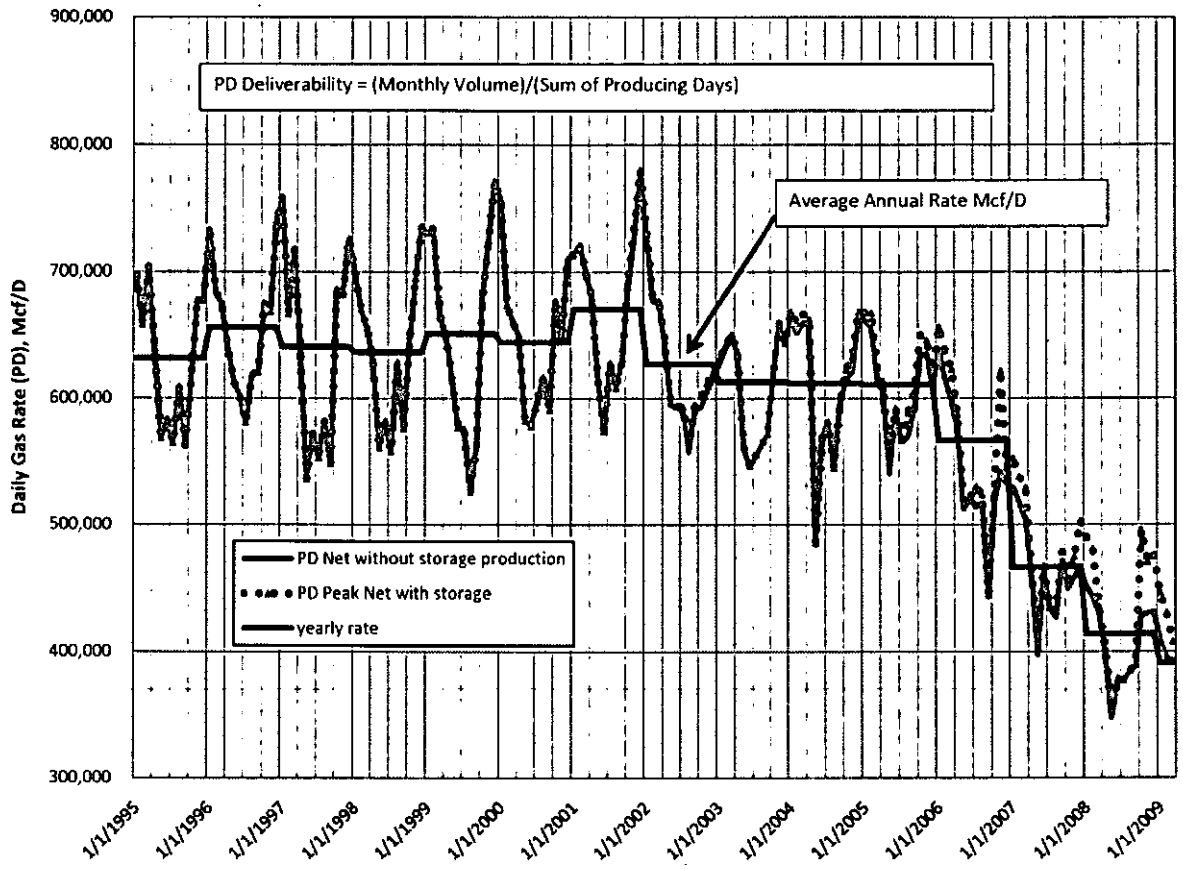


Figure 9. Producing day (PD) deliverability with and without storage, based on monthly volumes.

there was significant production capacity that lay idle during the summer months even with the fertilizer and LNG plants online. A strong seasonal swing is evident in the production histories of major fields such as BRU and NCIU, but it has diminished noticeably in recent years even though the fertilizer plant has been shut down and the LNG plant is not operating at maximum capacity. Field operators are now much closer to producing at or near apparent capacity year round. Like many other gas distribution systems, storage will emerge as a key feature necessary to meet peak demands during extreme weather periods.

As the annual production rate decreases, and producers store more gas during low demand periods, the ability to forecast excess capacity will become more complicated because storage rates are highly dependent on instantaneous demand and on the amount of gas in storage. Steps that could be taken toward meeting peak demand include adding new wells, investing in rate-sustaining work, stimulating productivity, adding compression to maintain production at lower reservoir pressures, and developing more storage capacity. All these options increase production costs and ultimately, the price needed for the commodity.

Predicting future well or reservoir deliverability. Extrapolation of maximum PD (producing day) rate data assumes that a well or reservoir can meet that maximum, at least on a periodic basis. The importance of a maximum

deliverability forecast is to estimate the ability to meet peak demand on those days when temperatures are very low and gas demand is very high. Figure 10 shows the method of estimating maximum PD rate for a pool by selecting peaks and forecasting into the future. This was done for each pool in the Cook Inlet basin then summed to provide a forecast.

Figure 11 shows the PD deliverability forecast results compared to average annual rate from DCA. The forecast peak PD deliverability is higher than average annual rate; however, peak deliverability can only be sustained for a relatively short period. The PD deliverability analysis can be done well-by-well or collectively on a reservoir basis. Regardless of method, the maximum PD rate forecast is only an estimate and may be influenced by the same events that affect decline curve analysis. This method yields a more representative estimate of future peak production rate (PD deliverability) than an annual average rate derived from decline curve analysis.

An additional challenge to predicting future deliverability is the complex geology. Cook Inlet's reservoirs are challenging to evaluate because of the discontinuous fluvial sand bodies, especially in the Beluga and Tyonek Formations. The Sterling Formation contains thicker sand packages that tend to be in pressure communication. In the Beluga and Tyonek reservoir section, new drilling has added deliverability and captured previously stranded gas reserves by a combination of in-fill drilling and adding perforations in existing wells. Clearly, more drilling and well work will be required to develop enough deliverability to meet peak demand swings in the coming years.

As a rule, the Cook Inlet reserves and annual production forecast have not really changed much from forecast to forecast. The major uncertainty lies within deliverability to meet daily and peak demand. To fully understand maiximum PD rate to meet daily and peak demand, more detailed and up-to-date production data is critical. The ability to analyze daily production numbers from all producing zones would indicate which wells and reservoirs are able to respond during demand spikes caused by extreme low temperatures.

GEOLOGICAL ESTIMATES

The geologic portion of this reserves study focused on four producing gas fields in Cook Inlet: Beluga River, North Cook Inlet, Ninilchik, and McArthur River (Grayling gas sands). A deterministic log- and grid-based approach was used to analyze and map pay and potential pay thickness for numerous producing horizons and to calculate original gas-in-place (OGIP) volumes within these fields. Publicly available production data from the AOGCC were used to determine recovery factors for these four fields. The recovery factor fraction was then multiplied by the mapped OGIP to calculate the geologic estimates of original reserves for each of the four fields. Subtracting the cumulative production from each field yielded our geologic estimates of remaining reserves. The following discussion details the process used in the geologic analyses conducted for this project.

Data Sources

Much of the data used in this evaluation is publicly available from the AOGCC. Confidential data the Division of Oil and Gas receives for Unit Plans of Development were also used to augment the AOGCC data set. Information from the geological literature regarding fluvial depositional systems in Cook Inlet and elsewhere helped inform sound well log correlations and was useful in petrophysi-

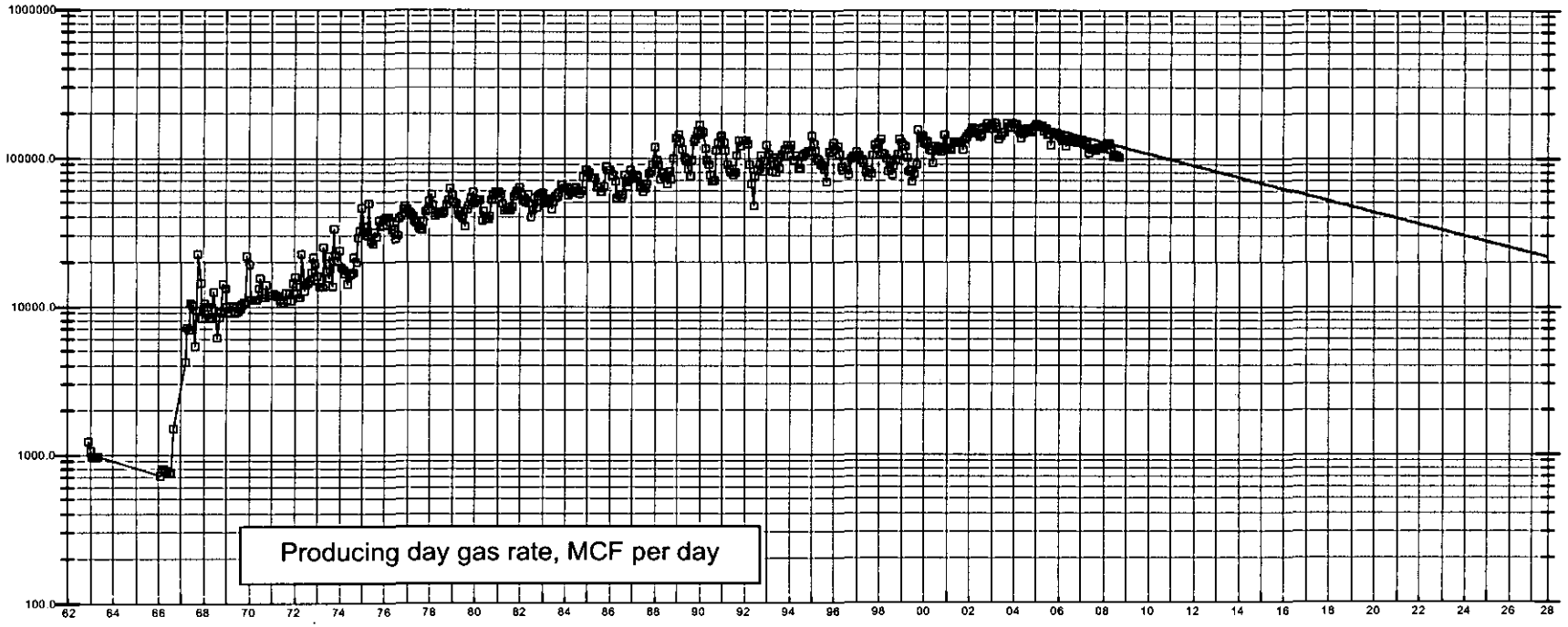


Figure 10. Example of peak deliverability forecast for a pool. Horizontal axis is time (1962-2028); vertical axis is producing day gas rate (MCF/day). Extrapolation is based on maximum PD rate only.

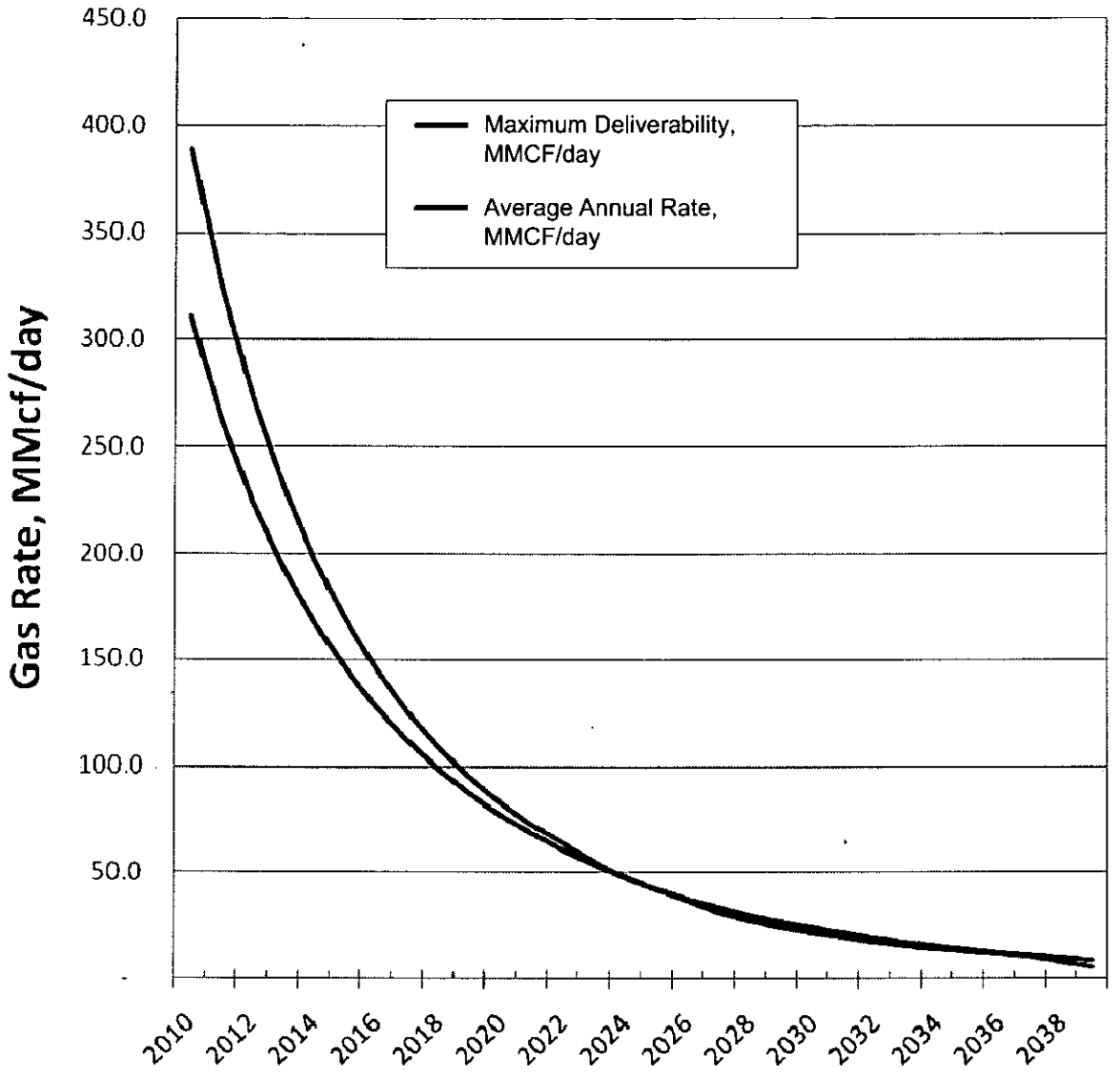


Figure 11. Peak maximum producing day deliverability compared to average annual rate from decline curve analysis.

cal interpretation (e.g., Bridge and Tye, 2000; Flores and Stricker, 1991; LePain and others, 2008).

The dataset collected and analyzed for this geologic evaluation consists of digital petrophysical well logs and directional well surveys; geologic formation tops; confidential and non-confidential structural surfaces (grids) and faults; details of well drill stem tests, perforations, reservoir and flowing pressures; gas compositional analyses; fluid contact depths; and core-based porosity, permeability, grain density, and saturation data.

Data Rendering

The data rendering process began with loading all the above data into databases used with our interpretation and mapping software

(Landmark GeoGraphix). Digital petrophysical well log data, directional well surveys, perforations, completion intervals, and drill stem test data were critical data sets that were interpreted together from the beginning stages. Most petrophysical well log suites in Cook Inlet wells contain data for spontaneous potential (SP), gamma ray, deep-, medium-, and shallow-measurement resistivity, and some combination of porosity logs such as density, neutron, and/or sonic transit time data.

After loading and interpreting the data mentioned above, criteria were established for identifying and flagging basic lithofacies (rock types). We flagged non-pay lithofacies (coal and shale) and focused attention on lithofacies that contain pay and potential pay (sandstone, argillaceous sandstone, and sandy siltstones). Coals were flagged as having a bulk density log response less than or equal to 1.9 g/cm^3 and a neutron porosity log response greater than 45 percent. Rare, very pure claystone intervals were selected to define a shale baseline on the SP log.

Pay Evaluation and Identification

We based our pay criteria on log character, mud log data, drill stem test data, and/or completion reports that identify sandstone intervals as having flowed gas with a rate that resulted in the sandstone being completed as a gas-producing interval. Two different categories were created in GeoGraphix using interval picks: PAY and Potential_Pay. These two interval picks were interpreted for each production zone (major subdivision of the reservoir formation, for example Sterling A) in all wells with a petrophysical well log suite (Figure 12). The breakout of zones varies from field to field, based on the variable characteristics of the Tyonek, Beluga, and Sterling reservoirs in different parts of the basin.

Intervals identified as PAY have the following characteristics:

a) Sandstone intervals that were completed after drilling and logging that either produced or are currently producing gas. These sandstones exhibit elevated deep resistivity relative to down-dip wet sandstones of the same producing horizon, as well as an SP shift off the shale baseline, plus sonic-neutron or neutron-density cross-over, or a decrease in sonic travel time (slower than the travel time in shales or wet sandstones).

b) Some unperforated sandstone intervals were identified as PAY if they could be reasonably correlated to sandstones perforated and producing in recent wells, or perforated as 'by-passed pay' in older wells that have been worked over.

c) Some unperforated sandstone intervals were identified as PAY if the log response was very similar to a perforated gas interval in the same well.

Potential_Pay was picked in intervals that have the following characteristics:

a) Sandstones that were perforated and flowed only minor gas; flowed minor gas with water during testing; thin sandstones comingled during a drill-stem-test; or stacked perforated intervals where gas was present and produced, but it was unclear which sandstones were productive. In most of these cases, gas production was accompanied by water that may have been coming from one or more of the producing horizons.

b) Sandstones in which indications of free gas (shows) on well logs are not as robust as in the PAY sandstones, but generally have elevated resistivity along with a lesser degree of gas response (cross-

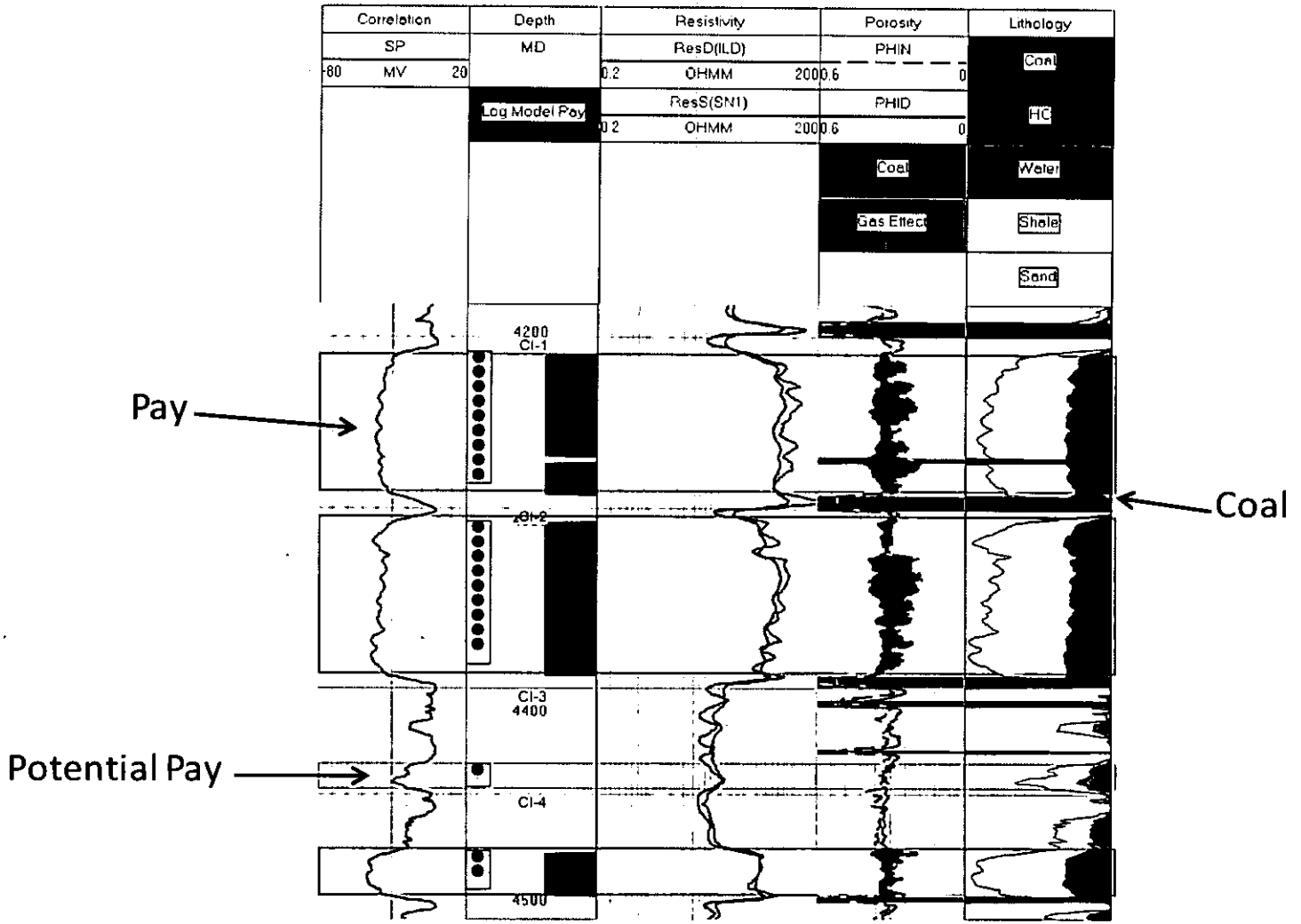


Figure 12. Well log example illustrating PAY (green) and Potential_Pay (yellow). Coal (black) is flagged as non-pay at right. Perforated intervals are shown in the depth track as black vertical dots. CI-1, CI-2, CI-3 and CI-4 are examples of zone picks in which Pay and Potential Pay were summed for each well. Petrophysical logs are noted in the log header. Depth is measured depth feet.

over or convergence) on sonic-neutron or neutron-density porosity log suites.

In addition to the PAY and Potential_Pay criteria described above, we gained information through preliminary petrophysical analysis of well log suites to calculate shale volume (Vsh), porosity, water and hydrocarbon saturations in the Beluga River, North Cook Inlet, Ninilchik, and McArthur River (Grayling gas sands) fields. Saturation analysis is highly dependent on the resistivity of the connate water (Rw) found in a sandstone interval. Given that Rw varies significantly across short distances in Cook Inlet sandstones, we did not rely on petrophysical analysis for this study. Rather, the log-based analyses helped to validate our PAY and Potential_Pay intervals identified using the criteria described above.

PAY category sandstones were color-coded green and Potential_Pay intervals were color-coded yellow on all log displays and well cross-sections. Figure 12 illustrates a typical example of the difference between the pay categories (compare the log responses in the thin, Potential_Pay sandstone at 4,430 feet measured depth relative to that in the PAY sandstone at 4,250 feet measured depth). Interbedded coals are flagged and colored black. All sandstones were evaluated and categorized as PAY, Potential_Pay, or non-pay (ignored). PAY in each well was summed in true vertical depth feet (TVD) for each zone. This cumulative sum, gross TVD feet of PAY, was stored by zone for each well as an attribute labeled PAY using the Zone Manager application in GeoGraphix. The same process was followed for summing gross TVD feet of Potential _Pay for each zone in each well.

Mapping Procedure

The digital mapping process was executed in GeoGraphix using gridding, contouring, and database tools of the GeoAtlas and Zone Manager applications. Thickness (isopach) grids of reservoir zones were made from well control by subtracting the depth of the tops of successive zones from each other and contouring them using a standard gridding algorithm (minimum curvature) to obtain gross zone thickness.

Subsea depth structure grids were prepared next, representing the top surface of each zone. This was accomplished by starting at the top of the reservoir interval and progressively subtracting the underlying isopach grid to generate the next deeper structure map. This process was continued downward throughout the zones of interest in each field. Each structure map generated this way was checked for accuracy by plotting it with zonal tops to assess surface accuracy.

Isopach grids of PAY and Potential_Pay were generated for each zone from the gross values stored in the system as described above, taking steps to limit these grids to the productive area of each zone. An example of the zonal data is shown in Table 3, representing the Beluga D zone at the Beluga River Unit. In order to limit the aerial distribution of PAY and Potential_Pay thickness grids, well logs and well history files were examined for evidence of gas-water contacts. Because numerous producing horizons do not have known gas-water contacts, the completion reports, drill stem test reports and gas mudlog readings were consulted to pick the lowest known gas (LKG) and highest known water (HKW) depths in TVD subsea for each zone. The differences between HKW and LKG depths are highly variable, sometimes differing by hundreds of feet. In most cases, we assumed an approximate gas-water contact at the midpoint depth between HKW and LKG, and clipped the Gross Pay and Gross Potential_Pay mapping grids for each zone at the intersection of the midpoint depth with the zone's top struc-

WELL NAME	OPERATOR	X	Y	MD	Isopach	Pay-TVD	PHID_PAY	Poten. PAY	PHID_Poten.PAY
BELUGA RIV UNIT - 232-04	CON-PHIL	1453670.71	2617713.76	3668.23	267	42.45		0.00	
BELUGA RIV UNIT - 14-19	SOCAL	1469252.37	2630676.94	4072.31	238	0.00		0.00	
BELUGA RIV UNIT - 212-25	CON-PHIL	1463881.80	2628088.88	3792.97	240	22.13		32.19	
BELUGA RIV UNIT - 233-27	CON-PHIL	1455964.58	2626745.47	3600.97	253	54.03		12.09	
BELUGA RIV UNIT - 212-35	CON-PHIL	1458547.40	2623360.19	3608.01	262	78.57		0.00	
BELUGA RIV UNIT - 244-04	CON-PHIL	1454192.95	2615830.39	3841.41	271	35.13	0.340	26.39	0.277
BELUGA RIV UNIT - 244-04A	SOCAL	1453475.72	2616177.84						
BELUGA RIV UNIT - 244-04PB1	PHILLIPS								
BELUGA RIV UNIT - 212-24	CON-PHIL	1463415.18	2633391.25	3762.68	258	45.53	0.299	31.87	0.342
BELUGA RIV UNIT - 241-34	CON-PHIL	1456544.42	2624038.94	3504.45	248	74.18	0.278	0.00	
BELUGA RIV UNIT - 224-13	CON-PHIL	1465607.22	2636369.71	3862.50	260	14.29	0.243	24.18	0.244
BELUGA RIV UNIT - 212-18	CON-PHIL	1468825.92	2638790.93	4009.47	256	21.98	0.254	19.78	0.281
BELUGA RIV UNIT - 221-23	CON-PHIL	1459932.22	2635193.02	3968.75	250	10.44	0.289	34.92	0.261
PRETTY CK UNIT - 1	UNOCAL	1476389.50	2640608.61	6146.56	238				
BELUGA RIV UNIT - 214-35	CON-PHIL	1458875.02	2619748.65	4608.98	277		0.285	37.26	
BELUGA RIV UNIT - 232-09	CON-PHIL	1453474.27	2612394.57	4724.05	263		0.371	25.87	
BELUGA RIV UNIT - 224-23	CON-PHIL	1460281.13	2631381.66	3713.11	254	46.14	0.371	32.41	0.248
BELUGA RIV UNIT - 232-26	CON-PHIL	1461058.61	2628988.30	4241.75	263	88.30	0.311	0.00	
BELUGA RIV UNIT - BRWD-1	CON-PHIL	1468564.59	2638657.81						
BELUGA RIV UNIT - 211-03	CON-PHIL	1455836.02	2619446.55	3637.35	272	18.97	0.284	38.44	0.331
BELUGA RIV UNIT - 224-34	CON-PHIL	1454658.34	2620478.62	3856.08	258	34.53	0.354	12.97	0.406
BELUGA RIV UNIT - 214-26	CON-PHIL	1459015.00	2626123.13	3685.74	258	50.81	0.350	0.00	
BELUGA RIV UNIT - 214-26PB1	CON-PHIL	1458268.00	2625840.43						
BELUGA RIV UNIT - 212-35T	CON-PHIL	1458158.88	2622934.28	3714.46	257	41.01	0.329	12.41	0.347
N BELUGA - 1	PELICAN HILL	1466801.82	2642345.87	4246.66	269	0.00		0.00	
SUM <None>	<None>	<None>	<None>		<None>	<None>	<None>	<None>	<None>
MAX		1476389.50	2642345.87	6146.56	277	88.30	0.371	38.44	0.406
MIN Null	Null	1453474.27	2612394.57	3504.45	238	0.00	0.243	0.00	0.244
Stnd Dev		6055.81	8840.30	573.68	11	26.35	0.042	14.95	0.055

BLUGD

Table 3. An example of zonal data for the Beluga D zone at Beluga River Unit. Zone picks were made by DNR staff. PAY and Potential_Pay were picked for each zone in each well according to criteria discussed in the text. If the well had a density porosity curve, the average density porosity was calculated within PAY and Potential_Pay intervals for that zone. Blanks appear in the table where necessary well logs were not available over the Beluga D zone.

ture surface. In reality, PAY and Potential_Pay are distributed throughout each zone, whereas in our model, they are assumed to be stacked at the top of the zone, just below the structural surface that was clipped with the approximate fluid contact. Figure 13 is an example of one zonal gross PAY map. Because there are hundreds of individual Sterling, Beluga and Tyonek Formation sandstones, it was not possible to structurally clip each individual pay interval with a LKG or HKW contact in the time frame allotted for this project.

Original Gas-in-Place and Initial Reserves

We used the following equations to calculate original gas-in-place in standard cubic feet:

$$OGIP = 43{,}560\ (\text{gross pay volume})\ (N{:}G)\ (1\text{-}Sw)\ (\emptyset) / Bgi,$$

and

$$Bgi = 0.02829\ (Z)\ (T) / (P)$$

where gross pay volume refers to the volume of gross Pay or Potential_Pay sandstone in acre-feet, N:G is the net-to-gross ratio within the gross Pay or Potential_Pay intervals, Sw is fractional water saturation, Ø is decimal porosity, Bgi is initial gas formation volume factor, Z is a gas compressibility factor, T is temperature in degrees Rankine, and P is pressure in psia. The density log was used to determine porosity. Porosity was averaged for the pay intervals by using the PAY interval as a discriminator curve and calculating the average density porosity in PAY for each zone. This value was then gridded using the same minimum curvature algorithm and grid increment as the PAY isopach. The average porosity and

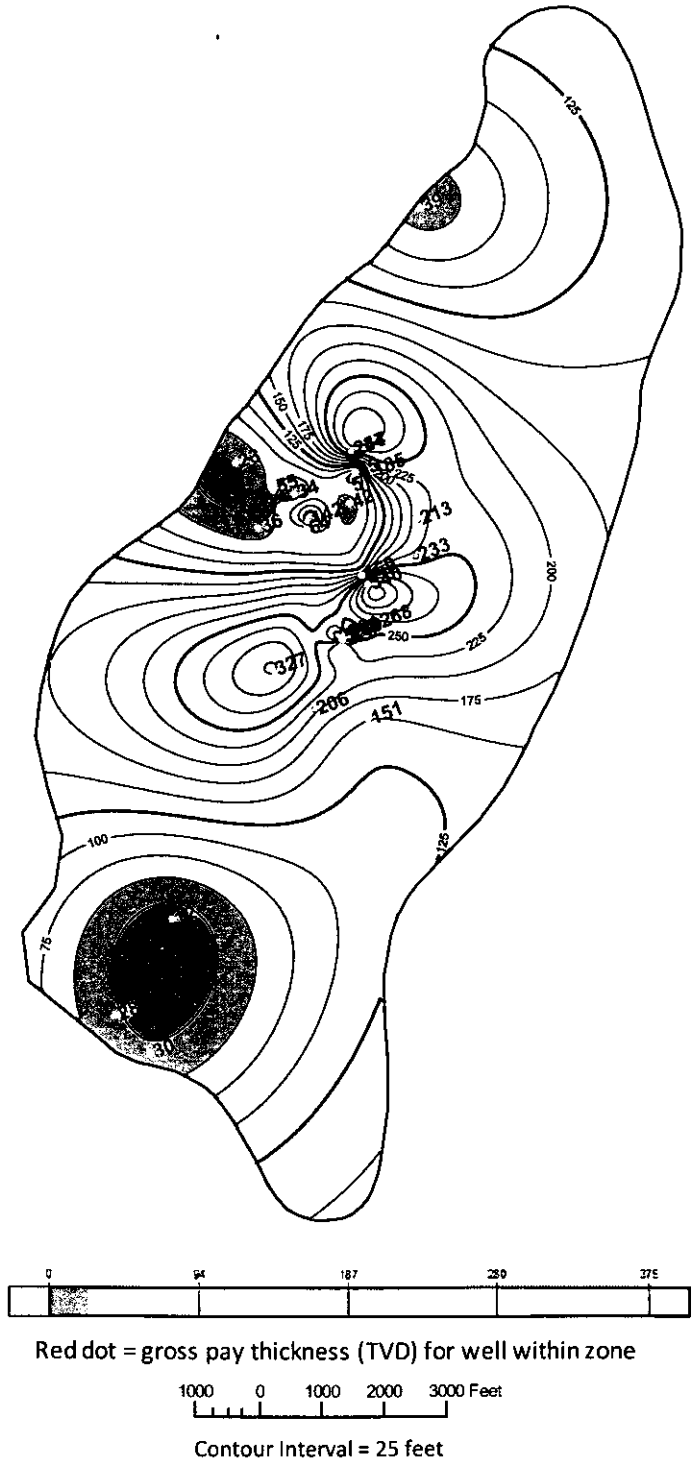


Figure 13. Example of zonal gross pay isopach map, McArthur River field Grayling gas sands.

pay isopach grids were multiplied together to create a grid of bulk pore volume contained in intervals considered as PAY. Further multiplication times the net-to-gross ratio yielded net pore volume. The same process was used to determine net pore volume in intervals counted as Potential_Pay.

Because of the inherent problems with determining water saturation in the Cook Inlet basin discussed above, we used water saturation values provided in the AOGCC annual pool reports. Reservoir pressure and the gas compressibility factor were all calculated on a zonal basis depending on temperature and subsea depth at the midpoint of the zone. There were no AOGCC pool reports for the Ninilchik Unit. For that field, we assumed 40 percent water saturation; this figure is likely pessimistic, which will lead to conservative gas reserve estimates.

Overall recovery factors were calculated for each of the four fields studied, based on production and test data. Because most individual sandstones within the Sterling and Beluga Formations have different recovery factors, a range of recovery factors is presented in Appendices 1-4. Recovery factors were decreased for zones with lower permeability based on downhole permeability measurements or calculated from porosity-permeability transforms. The recovery factors were then applied to the mapped original gas-in-place (OGIP) volumes to calculate initial recoverable gas in place (RGIP).

Table 4 presents one deterministic case of the geologically estimated reserves calculated for the four fields studied: Beluga River, Ninilchik, North Cook Inlet, and McArthur River Grayling gas sands. Values are reported in billions of cubic feet (BCF) of gas. Calculations are presented for the PAY, Potential_Pay (risked at 50 percent), and the sum of PAY + 50 percent-risked Potential_Pay in the first three columns. The next three columns present initial recoverable gas-in-place (RGIP) for those three categories. The next column lists the projected cumulative production through 12/31/2009 for each field, based on AOGCC data. The last two columns represent the calculated remaining reserves for the PAY and PAY + 50 percent-risked Potential_Pay categories, calculated by subtracting the cumulative production from the RGIP. Each column contains a total for the sum of the four fields. The sum of the reserves in the PAY category for the four fields is 1,213 BCF of gas. The sum of the reserves in the PAY + 50 percent-risked Potential_Pay is 1,856 BCF of gas. The chart demonstrates that a high percentage of remaining reserves calculated from geologicall techniques reside in the more certain PAY category and less in the Potential_Pay category. However, risking the Potential_Pay resources at 50 percent yields additional upside potential of 643 BCF.

Multiple deterministic cases could be considered. Appendices 1 through 4 present Potential_Pay calculations risked at 10 and 90 percent confidence levels.

EXPLORATION POTENTIAL OF COOK INLET BASIN

Leads – Discovered Undeveloped and Undiscovered Resources

Within the Cook Inlet region, there are several areas where publicly available geologic data, geophysical data, or reports indicate potential for discovered but undeveloped gas accumulations. A number of other areas are identified to have elevated prospectivity for undiscovered accumulations. This discussion briefly describes a list of exploration candidates or leads that have been actively pursued by industry in the past. The list discussed below is by no means comprehensive, nor all en-

Field	OGIP (BCF)			** RGIP = OGIP x RF (BCF)			Cumulative Production (BCF, projected through 12-31-09)	Remaining Reserves (BCF)	
	PAY only	50%-risked Potential_Pay only	Total, PAY + 50%-risked Potential_PAY	PAY only	50%-risked Potential_Pay only	Total, PAY + 50%-risked Potential_PAY		PAY only	Total, PAY + 50%-risked Potential_Pay
Beluga River	2,137	592	2,729	1,856	342	2,198	1,150	706	1,049
Ninilchik	182	167	349	164	117	280	104	60	177
North Cook Inlet	2,300	211	2,511	2,060	151	2,211	1,818	242	393
McArthur River	1,757	41	1,798	1,581	33	1,614	1,376	205	237
Totals	**6,376**	**1,011**	**7,386**	**5,661**	**643**	**6,304**	**4,448**	**1,213**	**1,856**

*** RGIP = initial recoverable gas-in-place = OGIP x Recovery Factor. Production and test data suggest a range in recovery factor within the Sterling and Beluga Formations*

Table 4. Geologic estimates of original gas-in-place, original recoverable gas, and year-end 2009 reserves remaining in four Cook Inlet gas fields.

compassing for the basin. These opportunities are grouped into onshore and offshore areas. It is important to note that there is a significant amount of ongoing work, in both the industry and government sectors, to identify exploration opportunities for future activity and reserves additions. The Division of Oil and Gas is currently collaborating with the Division of Geological & Geophysical Surveys in this effort in order to facilitate exploration for oil and gas in the next decade.

Onshore areas. It is estimated that identified potential candidates located onshore might yield between 40 and 120 BCF of recoverable gas (in aggregate). They are associated with identified anticlinal trends and most have at least one well that penetrates the lead, is adjacent to it, or can be projected along structural trend. The candidates described below are all located on the east side of Cook Inlet, and are listed from north to south (fig. 1).

1) Point Possession lead – lightly explored anticline trend within the within the Kenai National Wildlife Refuge, roughly along the same general trend as Sunrise lead.

2) Birch Hill structure - faulted anticline closure on-trend with Swanson River field. The reservoir is in the Tyonek Formation. Chevron is currently moving toward development.

3) Sunrise lead - lightly explored anticline trend. Marathon has acquired 2D seismic data, and has plans to drill in the winter of 2009-2010 on CIRI land within the Kenai National Wildlife Refuge.

4) Cohoe Unit – potential faulted trend down plunge from Kenai Field anticline. Potential reservoirs in the Beluga and Tyonek Formations.

5) North Ninilchik structure - faulted anticline closure down plunge from Ninilchik Unit. Potential reservoirs in the Beluga and Tyonek Formations.

6) Nikolaevsk unit - faulted anticline closure on-trend with North Fork field. Potential in the Tyonek Formation.

Offshore areas. The candidates identified below lie in state waters and it is estimated that they might yield between 100 and 400 BCF of gas (in aggregate). The majority of these candidates are associated with identified anticlinal trends and, as with the onshore plays, they have at least one well that penetrates the lead, is adjacent to it, or can be projected along structural trend. They are described generally from north to south (fig. 1).

7) North Cook Inlet Field – faulted struc-

tural nose north of the existing field. Potential reservoirs in the Beluga and Tyonek Formations.

8) Corsair (SRS) structure - faulted anticline closure. Potential reservoirs in the Sterling, Beluga and Tyonek Formations.

9) North of Middle Ground Shoal - faulted anticline trend. Potential reservoirs in the Beluga and Tyonek Formations.

10) North Redoubt - faulted structural nose up-dip from the Redoubt field. Potential reservoirs in the Sterling, Beluga and Tyonek Formations.

11) Kasilof structure – faulted anticline closure north of Ninilchik field. Potential reservoirs in the Beluga and Tyonek Formations.

12) Cosmopolitan structure - faulted anticline closure. Potential in shallow reservoirs in the Tyonek Formation.

13) South Diamond Gulch structure - faulted anticline trend within Kachemak Bay. Potential reservoirs in the Tyonek Formation.

Quantitative Assessments of Undiscovered Technically Recoverable Resources

Federal agencies are tasked with the lead responsibility for publishing estimates of undiscovered technically recoverable resources for all parts of the United States, including the Cook Inlet basin. The U.S. Geological Survey assesses the potential onshore and in state-managed waters, whereas the Minerals Management Service analyzes potential in federally-managed waters of the Outer Continental Shelf (OCS). In all cases, these agencies address the inherent uncertainty of such assessments by creating probability distributions that describe a wide range of possible values. A probabilistic estimate is best described by its mean value (expected case) accompanied by specific fractiles of its distribution, such as the F95 value (lowside case, with a 95% probability that the actual volume is greater) and the F5 value (upside case, with only a 5% chance that the actual volume is greater). The results of the most recent assessment encompassing the upper Cook Inlet producing region are presented in Table 5 (compiled from Gautier and others, 1996). These estimates will be updated in an ongoing USGS resource assessment specific to the Cook Inlet region, prepared in cooperation with the Alaska Division of Geological & Geophysical Surveys

Assessed Play and Undiscovered Resource	**Oil, MMSTB** (million stock tank barrels)			**Gas, BCF** (billion cubic feet)		
	F95	*Mean*	*F5*	*F95*	*Mean*	*F5*
Hemlock-Tyonek play Oil & Associated gas	43	647	1,337	43	647	1,337
Beluga-Sterling play NGL & Non-associated gas	0	0	0	42	738	1,923
Late Mesozoic oil play	Play was assigned a 9% chance of hosting at least one accumulation; resource volumes not quantitatively assessed.					

Table 5. Federal estimates of undiscovered technically recoverable conventional oil and gas resources of the upper Cook Inlet region (after Gautier and others, 1996).

and Alaska Division of Oil and Gas, with expected publication in late 2010.

A more recent study conducted on contract to the U.S. Department of Energy considered potential undiscovered resources using a different statistical approach as part of a larger study of natural gas supply and demand in the Cook Inlet region (Thomas and others, 2004). Noting that the distribution of field sizes within the basin does not conform to the expected lognormal state, this study estimated that there may be 13 to 17 trillion cubic feet of conventionally recoverable gas remaining to be discovered, largely in stratigraphic or combination structural traps.

Impediments to Future Exploration

There are several issues that may hamper future exploration, both in terms of further developing some of the areas with known potential described above, as well as making new discoveries in lightly explored areas. Some of the concerns are of a commercial nature, and others involve restrictions on surface access to prospective areas. Comprehensive exploration efforts in the Cook Inlet, like any area in the US, will require patience and diligence from all stakeholders in order to reduce exploration and operating costs, provide access to critical data, and provide access to surface acreage in areas of high resource potential, but sensitive wildlife habitat. All these issues must be addressed in a collaborative stakeholder effort if the Cook Inlet region is to maintain an economically and environmentally sound industry.

COMBINED ENGINEERING AND GEOLOGIC ANALYSES

The various engineering and geologic analyses of this study yield a wide range of estimated remaining reserves. Table 1 compares four different reserve estimates derived for the four fields emphasized in this study, based on 1) decline curve analysis, 2) material balance analysis, 3) the geologic estimate that includes only reserves in the PAY category, and 4) the geologic estimate that includes reserves of the PAY category plus 50 percent of the volume in the Potential_Pay category. Note that these analyses are not intended to represent any particular fractiles of a statistical distribution; for example, we do not consider them to represent F95-F50-F5 reserve values. The following discussion describes Table 1 in detail.

The most conservative estimate of reserves is based on decline curve analysis alone, which estimates a total of 697 BCF proved, developed, producing reserves remaining in the Beluga River, North Cook Inlet, Ninilchik, and McArthur River (Grayling gas sands) fields. Decline curve analysis also identifies 166 BCF of proved, developed, producing reserves remaining in the other 24 fields, for a basin-wide total of 863 BCF. Material balance analysis identifies an additional 163 BCF of probable reserves in just the four large fields, yielding a total of 860 BCF proved and probable reserves remaining there. In the other 24 fields, material balance estimates 116 BCF more than decline curve analysis, yielding 282 BCF of proved and probable reserves in those fields, and a basin-wide total of 1,142 BCF remaining proved and probable reserves.

The geologic volumetric evaluations, completely independent of the engineering techniques, yield larger reserve estimates for the four large fields. This is consistent with the probability that there is considerable gas remaining in these reservoirs that has not contributed to production, and therefore, cannot be captured by the engineering estimates. The geologic evaluation of existing well data in

the four fields indicates 1,213 BCF of gas reserves remaining to be produced from just the high-confidence PAY category. Subtracting the 860 BCF that material balance indicates is already in communication with producing wells yields an estimated 353 BCF of currently non-producing gas—the "redevelopment prize"—in those four reservoirs. When recoverable gas in the Potential_Pay category are risked at 50 percent and added to those in the PAY category, the estimated reserves remaining in the four fields increase to 1,856 BCF, adding an increment of 643 BCF in those fields.

Engineering and Geological Discussion

This study addresses the fundamental question: given the currently available engineering and geologic datasets, how much additional gas resource is available for second and third cycle redevelopment efforts in producing field areas? Combining these results with forecasted demand scenarios provides a timeline that suggests how long known reserves can supply local needs. It is important to note that this study does not address which development activities will be economically feasible in future market scenarios. Nevertheless, if one assumes appropriate market conditions will exist, then investment in more complete field development operations, infrastructure de-bottlenecking and upgrades, and appropriate commercial alignment between unit partners will occur and a significant portion of the remaining reserves identified in this study will be developed to meet local demand for at least the next decade.

Figure 14 presents a schematic production forecast for the basin that includes wedges of incremental reserves identified by the various methods discussed in this report. Construction and interpretation of this diagram is complicated by the fact that the engineering estimates reflect all 28 gas fields, whereas the additional reserves estimated by geologic analyses come only from the Beluga River, North Cook Inlet, Ninilchik, and McArthur River (Grayling gas sands) fields. This forecast assumes that production will not exceed demand, which is projected flat at 90 BCF/year. It should be stressed that the point of this schematic diagram is to illustrate the additional gas volumes estimated in various reserve and resource categories identified using multiple analytical methods, and to estimate how long those volumes may be able to meet demand. The actual timing of when gas from any one of those wedges will go on production is unknown, and certain to be more complicated than can be shown here.

The most conservative wedge in red represents future production of proved, developed, producing reserves (863 BCF) identified basin-wide by decline curve analysis alone. The orange wedge represents production of additional probable reserves (279 BCF) identified as the basin-wide difference between material balance and decline curve analyses. The green wedge corresponds to the incremental production that could be achieved in just the four large fields through aggressive development of technically recoverable gas in the PAY category that we argue is not reflected in the engineering analyses because it is not currently in communication with producing wellbores (353 BCF). The yellow wedge represents the additional untapped gas from the Potential_Pay category in those four fields, risked at 50 percent (643 BCF). Finally, the gray wedge illustrates speculative future production from contingent gas resources that await confirmation, delineation, and development (an aggregated volume estimated at 300 BCF from the exploration leads identified in this report). This illustrates the likelihood that investment in more complete development of the producing Cook Inlet gas fields could yield sufficient gas to meet projected demand for years to come.

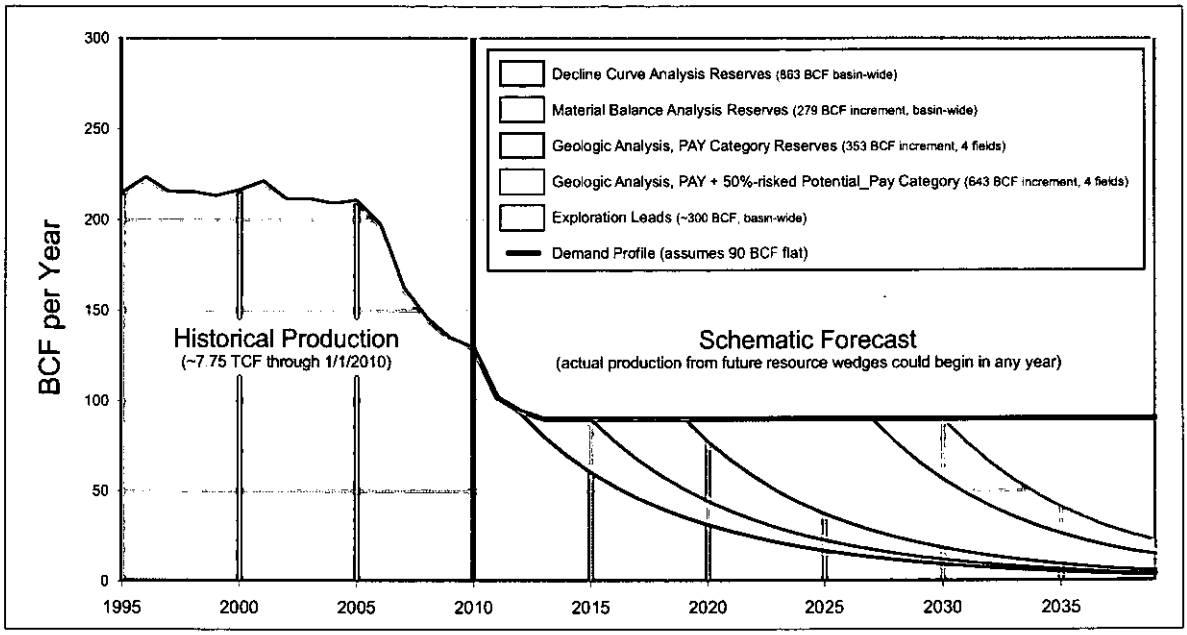


Figure 14. Hypothetical production forecast for the Cook Inlet basin showing increments of reserves and resources identified by engineering and geological analyses discussed in text. This schematic diagram assumes that near-term production will come from gas volumes documented by the most conservative estimation techniques. Successive wedges are introduced with progressively lower certainty regarding commerciality, volume, and timing of first production. Production from future resource wedges could begin in any year, resulting in a more complex forecast, and extending the production lifespan of previous wedges. On the other hand, we are unable to predict the commercial thresholds at which volumes from future wedges become economic to recover. Wedges show gas volume increments from basin-wide decline curve analyses (red), basin-wide material balance analyses (orange), deterministic geologic mapping of PAY (green), and 50 percent-risked Potential_Pay (yellow) in four large gas fields (Beluga River, North Cook Inlet, Ninilchik, and McArthur River Grayling gas sands). The last wedge (gray) is a more speculative estimate of aggregated gas volumes that may be recoverable from the exploration leads discussed in text. See text for additional discussion.

CONCLUSIONS

This report summarizes a multi-disciplinary effort to quantify remaining gas reserves in the Cook Inlet basin. Reserves have been categorized relative to readiness for and certainty of production to predict whether existing reserves are capable of meeting demand over the next decade. The following list describes important points regarding the analytical techniques employed and the findings derived from this effort.

1) Decline curve forecasts in demand-limited production situations do not always predict future rate. The rate derived from decline curve analysis represents an approximation of average annual rate.

2) Decline curve analysis (DCA) is a fair predictor of the remaining recoverable

gas (RRG) of currently producing reserves, but is limited by the underlying assumption that past performance will continue and well-related activity to sustain production will continue. Daily PD (producing day) rate deliverability based on monthly data gives a more accurate picture of peak rates from wells.

3) The best data for determining peak rates are real time data measured at the well level on a daily basis at actual demand conditions. These data are not publicly available for the fields assessed in this study.

4) Material balance (MB) methods are a good tool for predicting RRG and original gas-in-place, but only for pay intervals that are in communication with actively producing wellbores.

5) The quality of MB analyses is directly related to quality of pressure data, frequency of measurement, and accurate knowledge of the reservoirs.

6) Estimating gas maximum PD rates from proved, developed, producing (PDP) reserves is best accomplished using multiple analyses; DCA, MB, analysis of daily pressure, temperature, and production data, and maximum PD rate forecasting each play an important role. These methods could be combined in a systems model which includes pipeline parameters, field infrastructure, reservoir parameters, and economic parameters to help predict ability to meet demand under various conditions.

7) Geologic evaluation of the Beluga River, North Cook Inlet, Ninilchik, and McArthur River (Grayling gas sands) fields using interpretive pay identification and mapping techniques strongly suggests that these reservoirs contain significant additional technically recoverable gas reserves that have yet to be brought into communication with producing wellbores.

8) Geologic reserve estimates for the four fields may be conservative in some zones where, in the absence of other data, we assumed 40 percent water saturation. Reserves calculated in other zones may be either conservative or optimistic where we lacked definitive constraints on gas-water contacts with which to clip the aerial extent of the mapped PAY and Potential_Pay volumes. Improved reserve estimates would be possible by using effective porosity and calculated water saturations obtained through additional log analysis.

9) The highly productive Sterling Formation in the known fields is in decline. The remaining reserves base is primarily in the Beluga and Tyonek Formations, which in general do not have the high productivity rates of the Sterling Formation. The long term performance of wells targeting these gas sands is unknown.

Economic Considerations

The Cook Inlet gas market is isolated and relatively small when compared to other national and global markets. Gas deliverability is challenged during spikes in demand, which implies that it is difficult to make the investment necessary to meet short-duration, high-deliverability requirements. In order to engage in drilling and development projects in the Cook Inlet, local producers must internally justify doing so as an alternative to pursuing other projects worldwide. Therefore, economic viability of investment in reserves development to meet demand spikes must be

evaluated in the context of an isolated market in order to fully appreciate the supply and demand relationships. Development investment is clearly being made, but investment viability in short term deliverability projects may be challenged in some cases.

The results of this study suggest enough proved and probable gas reserves exist in Cook Inlet reservoirs to satisfy local demand well into, and possibly beyond the next decade. This forecast assumes that either a significant amount of gas is found by explorers to meet industrial use, or that the export of gas out of the basin will stop at the end of the current license period. It also assumes that no new significant market demand will arise until reserves can be developed to satisfy the entire market. The higher-risk contingent and prospective resources that await confirmation and delineation in exploration prospects have the potential to play a large role in the supply-demand scenarios of the future, but will require the availability of sufficient risk-capital.

Although infill drilling, perforating undeveloped sands, and targeting marginal reservoirs are effective ways to add reserves to replace production, these activities come at a relatively high price that will need to be absorbed into a small-volume market. These cost increases will likely put upward pressure on ultimate consumer pricing. It will be critical for all stakeholders to recognize the significant impediments that will hinder development of the remaining gas resource in the Cook Inlet basin, and work together to overcome them.

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APPENDICES 1-4

Supporting data and alternate cases of geologically estimated reserves and risked resources for four Cook Inlet gas fields.

Appendix 1. Original gas-in-place, recovery factors, initial recoverable gas, and remaining reserves, McArthur River field, Grayling gas sands (Trading Bay Unit)

McArthur River Field, Grayling gas sands (Trading Bay Unit)	OGIP (BCF)	Recovery Factor (RF)	RGIP = OGIP x RF (BCF)	Cumulative Production (BCF, projected through 12-31-09)	Remaining Reserves (BCF)
PAY (green)	1,757	0.90	1,581	1,376	205
Potential_Pay (yellow) (**unrisked**)	81	0.80	65		
Potential_Pay (**risked at 0.10**)	8	0.80	7		
Potential_Pay (**risked at 0.50**)	41	0.80	33		
Potential_Pay (**risked at 0.90**)	73	0.80	59		
Total Pay + (0.10 x Potential_Pay)	1,765		1,588	1,376	211
Total Pay + (0.50 x Potential_Pay)	1,798		1,614	1,376	237
Total Pay + (0.90 x Potential_Pay)	1,830		1,640	1,376	264

Appendix 2. Original gas-in-place, recovery factors, initial recoverable gas, and remaining reserves, Ninilchik Unit

Ninilchik Unit	OGIP (BCF)	Recovery Factor (RF)	RGIP = OGIP x RF (BCF)	Cumulative Production (BCF, projected through 12-31-09)	Remaining Reserves (BCF)
PAY (green)	182	0.90	164	104	60
Potential_Pay (yellow) **(unrisked)**	333	0.70	233		
Potential_Pay **(risked at 0.10)**	33	0.70	23		
Potential_Pay **(risked at 0.50)**	167	0.70	117		
Potential_Pay **(risked at 0.90)**	300	0.70	210		
Total Pay + (0.10 x Potential_Pay)	215		187	104	83
Total Pay + (0.50 x Potential_Pay)	349		280	104	177
Total Pay + (0.90 x Potential_Pay)	482		374	104	270

Appendix 3. Original gas-in-place, recovery factors, initial recoverable gas, and remaining reserves, Beluga River Unit

Beluga River Unit	OGIP (BCF)	Recovery Factor (RF)[1]	RGIP = OGIP x RF (BCF)	Cumulative Production (BCF, projected through 12-31-09)	Remaining Reserves (BCF)
PAY (green)	2,137	0.8-0.9	1,856	1,150	706
Potential_Pay (yellow) **(unrisked)**	1,185	0.5-0.7	685		
Potential_Pay **(risked at 0.10)**	118	0.5-0.7	68		
Potential_Pay **(risked at 0.50)**	592	0.5-0.7	342		
Potential_Pay **(risked at 0.90)**	1,066	0.5-0.7	616		
Total Pay + (0.10 x Potential_Pay)	2,255		1,924	1,150	775
Total Pay + (0.50 x Potential_Pay)	2,729		2,198	1,150	1,049
Total Pay + (0.90 x Potential_Pay)	3,203		2,472	1,150	1,323

[1] *Production and test data suggest a range in recovery factor within the Sterling and Beluga Formations*

Appendix 4. Original gas-in-place, recovery factors, initial recoverable gas, and remaining reserves, North Cook Inlet Unit

North Cook Inlet Unit	OGIP (BCF)	Recovery Factor (RF)[1]	RGIP = OGIP x RF (BCF)	Cumulative Production (BCF, projected through 12-31-09)	Remaining Reserves (BCF)
PAY (green)	2,300	0.85-0.9	2,060	1,818	242
Potential_Pay (yellow) **(unrisked)**	422	0.65-0.8	302		
Potential_Pay **(risked at 0.10)**	42	0.65-0.8	30		
Potential_Pay **(risked at 0.50)**	211	0.65-0.8	151		
Potential_Pay **(risked at 0.90)**	380	0.65-0.8	272		
Total Pay + (0.10 x Potential_Pay)	2,342		2,090	1,818	272
Total Pay + (0.50 x Potential_Pay)	2,511		2,211	1,818	393
Total Pay + (0.90 x Potential_Pay)	2,679		2,332	1,818	514

[1] *Production and test data suggest a range in recovery factor within the Sterling and Beluga Formations*

SB 220

SENATE COMMITTEE REPORT
First Committee of Referral

DATE: 1/19/10

FURTHER: Finance

Date of 5-Day Notice: _____
(in accordance with Uniform Rule 23)

DATE TURNED IN TO OFFICE: _____

Resources Committee considered SENATE BILL NO. 220

SB 220 ENERGY EFFICIENCY/ ALTERNATIVE ENERGY

"An Act declaring a state energy policy; relating to energy efficiency and alternative energy; establishing the energy efficiency grant fund, an emerging energy technology fund, a renewable energy production tax credit, and an energy use index; and relating to a fuel purchasing cooperative, to energy codes and efficiency standards, to energy conservation targets in public buildings, to a state agency energy use reduction plan, to the alternative energy revolving loan fund, and to the renewable energy grant fund."

and recommends:

[ ] be **replaced** with [ ] **SCS** or [✓] **CS** SB 220 (RES)

[ ] adopt **previous** [ ] **SCS** or [ ] **CS** _____ (_____)

[ ] attached amendment(s)

[ ] adopt _____ Letter of Intent

[ ] further referral to _____ Committee

SENATE BILL:
[ ] Same Title
[✓] New Title

HOUSE BILL:
[ ] Same Title
[ ] Technical Title Change
[ ] New Title w/ SCR #_____

NEW FISCAL NOTE(S):

Department	Date	Fiscal	Indet.	Zero	FN#
REV	03/07			✓	
DCCED	03/06	✓			
DEC	03/04			✓	
DOT & PF	03/05	✓			
DCCED	03/06	✓			
DHSS	03/05		✓		

[ ] **APPROPRIATION - no fiscal note**

PREVIOUS FISCAL NOTE(S):

Department	Date	Fiscal	Indet.	Zero	FN#

SIGNATURES AND RECOMMENDATIONS:	PRINTED LAST NAME	DO PASS	DO NOT PASS	NO REC	AMEND
	Huggins	✓			
	Stevens	✓			
	French	✓			
CO-CHAIR:	McGuire	✓			
CO-CHAIR:	Wielechowski	✓			

PASSED

26-LS1197\D.3
Kane
3/8/10

AMENDMENT #1

OFFERED IN THE SENATE BY SENATOR MCGUIRE

TO: CSSB 220(RES), Draft Version "D"

Page 16, line 31, following "$30,000,000":

Insert "for each project"

Page 17, line 16:

Insert a new paragraph to read:

"(3) "project" means a plant, works, system, or facility, together with related or necessary facilities and appurtenances, including a divided or undivided interest in or a right to the capacity of a power project or project, that is used or is useful for the purpose of renewable energy production;"

Renumber the following paragraph accordingly.

Page 30, following line 12:

Insert a new bill section to read:

"* **Sec. 51.** The uncodified law of the State of Alaska is amended by adding a new section to read:

EXHAUSTION OF UNUSED RENEWABLE ENERGY REFUNDABLE TAX CREDITS. Notwithstanding the repeal of AS 43.98.040 by sec. 43 of this Act, an unused portion of a tax credit acquired under AS 43.98.040, enacted by sec. 21 of this Act, may be carried forward until exhausted, except that the unused portion of the tax credit may not be carried forward to tax years beginning after December 31, 2023."

Renumber the following bill section accordingly.

PASSED

26-LS1197\D.2
Kane
3/8/10

AMENDMENT #2

OFFERED IN THE SENATE BY SENATOR MCGUIRE

TO: CSSB 220(RES), Draft Version "D"

Page 13, line 16, following "projects;":

Insert "(2) amounts deposited under (f) of this section;"

Renumber the following paragraph accordingly.

Page 13, line 22:

Delete "(f)"

Insert "(g)"

Page 14, line 1:

Delete "(f)"

Insert "(g)"

Page 14, line 8:

Delete "(f)"

Insert "(g)"

Page 14, following line 9:

Insert a new subsection to read:

"(f) As a condition of all grants awarded under this section, the authority shall require that the grantee pay to the authority a fair and reasonable return to the fund, as determined by the authority, from the revenue, economic value, or profits derived by the grantee from the grant project. The authority shall deposit the amounts received

under this subsection into the fund. To secure payment of sums owed to the authority under a grant agreement, the authority may own and take a security interest in patents, copyrights, and other intellectual property."

Reletter the following bill subsections accordingly.

Page 14, line 24:

Delete "(f)"

Insert "(g)"

Page 14, lines 27 - 28:

Delete "(f)(4), (f)(5), or (f)(6)"

Insert "(g)(4), (g)(5), or (g)(6)"

Page 14, line 30:

Delete "(f)(4), (f)(5), or (f)(6)"

Insert "(g)(4), (g)(5), or (g)(6)"

PASSED

26-LS1197\D.1
Kane
3/8/10

AMENDMENT #3

OFFERED IN THE SENATE BY SENATOR MCGUIRE

TO: CSSB 220(RES), Draft Version "D"

Page 20, line 27:

Delete "Alaska"

Insert "alternative"

Page 28, line 1:

Delete "AS 44.42.067(c)"

Insert "AS 44.42.067(d)"

26-LS1197\D
Kane
3/3/2010

CS FOR SENATE BILL NO. 220(RES)

IN THE LEGISLATURE OF THE STATE OF ALASKA

TWENTY-SIXTH LEGISLATURE - SECOND SESSION

BY THE SENATE RESOURCES COMMITTEE

Offered:
Referred:

Sponsor(s): SENATE RESOURCES COMMITTEE

A BILL

FOR AN ACT ENTITLED

"An Act declaring a state energy policy; relating to energy efficiency, energy conservation, and alternative energy; relating to an emerging energy technology fund and a renewable energy refundable tax credit; relating to a fuel purchasing cooperative, to the Alaska heating assistance program, to energy codes and efficiency standards, to a state agency energy use reduction program and to state energy use data, to the Southeast energy fund, to the alternative energy revolving loan fund, to nuclear energy production and facilities, to the definition of 'power project' or 'project' as it relates to rural and statewide energy programs and the Alaska Energy Authority, to the definition of 'alternative energy system,' and to the renewable energy grant fund; establishing an Alaska energy efficiency revolving loan fund; directing the Department of Transportation and Public Facilities to prepare a report on the feasibility of using compressed natural gas to power vehicles in the state, including vehicles owned or

operated by the state, and including in that study, if warranted, a pilot program proposal for powering some vehicles owned or operated by the state with compressed natural gas; authorizing and relating to the issuance of bonds by the Alaska Housing Finance Corporation; and relating to an energy report by the Office of the Governor."

BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF ALASKA:

*** Section 1.** The uncodified law of the State of Alaska is amended by adding a new section to read:

SHORT TITLE. This Act may be known as the Alaska Sustainable Energy Act.

*** Sec. 2.** The uncodified law of the State of Alaska is amended by adding a new section to read:

LEGISLATIVE POLICY. The legislature recognizes that the state's economic prosperity is dependent on available, reliable, and affordable residential, commercial, and industrial energy to supply the state's electric, heating, and transportation needs. The legislature further recognizes that energy efficiency, renewable energy, fossil fuels, and conservation will each play an important role in meeting the state's energy needs, which vary widely across the state's diverse geographic regions. In establishing a state energy policy, the legislature intends for the state to achieve a 10 percent increase in energy efficiency from 2010 levels by 2015 and a 15 percent increase in energy efficiency by 2020, after accounting for growth in population and economy. Therefore, it is the policy of the state to

(1) institute a comprehensive and coordinated approach to supporting energy efficiency and conservation by

(A) establishing statewide energy efficiency codes for new and renovated public buildings and by assisting local communities interested in adopting energy efficiency codes for new and renovated residential and commercial buildings;

(B) decreasing public building energy consumption through conservation measures and energy-efficient technologies; and

(C) educating state residents on the benefits of energy efficiency and conservation, including dissemination of information on state and federal programs that reward energy efficiency;

(2) encourage economic development by

(A) promoting the development of renewable energy resources, including geothermal, wind, solar, hydroelectric, hydrokinetic, tidal, and biomass energy with a goal of generating 50 percent of the state's electricity using renewable energy resources by 2020;

(B) promoting the development, transport, and efficient use of nonrenewable energy resources, including natural gas, coal, oil, nuclear energy, gas hydrates, and heavy oil, for use by Alaskans, for export, and as feedstock for value-added enterprises;

(C) working to identify and assist with development of the most cost-effective, long-term sources of energy for each community statewide;

(D) creating and maintaining a state fiscal regime that encourages private sector development of the state's energy resources;

(E) ensuring a reliable in-state gas supply for residents of the state;

(3) support energy research, education, and workforce development by investing in

(A) training and education programs that address energy conservation, efficiency, extraction, processing, and transportation, including programs that address workforce development and workforce transition; and

(B) applied energy research and development of emerging technologies, including university programs, to achieve reductions in state energy costs and stimulate industry investment in the state;

(4) coordinate governmental functions by

(A) actively collaborating with the private sector and local and federal agencies to achieve the state's energy goals and to meet emissions, renewable energy, and energy production targets; and

(B) reviewing and streamlining regulatory processes and balancing the economic costs of review with the level of review necessary to protect the public interest.

* **Sec. 3.** The uncodified law of the State of Alaska is amended by adding a new section to read:

PURPOSE. The purpose of AS 44.42.067, enacted by sec. 23 of this Act, is to reduce the amount of energy consumed by public facilities in use in 2010 by 15 percent by 2020, thereby reducing costs to the state and increasing jobs in energy efficiency industries.

*** Sec. 4.** AS 14.08.101 is amended to read:

Sec. 14.08.101. Powers. A regional school board may

(1) sue and be sued;

(2) contract with the department, the Bureau of Indian Affairs, or any other school district, agency, or regional board for the provision of services, facilities, supplies, or utilities;

(3) determine its own fiscal procedures, including but not limited to policies and procedures for the purchase of supplies and equipment; the regional school boards are exempt from AS 37.05 (Fiscal Procedures Act) and AS 36.30 (State Procurement Code);

(4) appoint, compensate, and otherwise control all school employees in accordance with this title; these employees are not subject to AS 39.25 (State Personnel Act);

(5) adopt regulations governing organization, policies, and procedures for the operation of the schools;

(6) establish, maintain, operate, discontinue, and combine schools subject to the approval of the commissioner;

(7) recommend to the department projects for construction, rehabilitation, and improvement of schools and education-related facilities as specified in AS 14.11.011(b), and plan, design, and construct the project when the responsibility for it is assumed under AS 14.11.020;

(8) by resolution adopted by a majority of all the members of the board and provided to the commissioner of the department, assume ownership of all land and buildings used in relation to the schools in the regional educational attendance area, as provided for in AS 14.08.151(b);

(9) provide housing for rental to teachers, by leasing existing housing from a local agency or individual, by entering into contractual arrangements with a local agency or individual to lease housing that will be constructed by the local agency

or individual for that purpose, or, without using for the purpose that portion of public school funding that consists of state aid provided under AS 14.17, by constructing or otherwise acquiring housing that is owned and managed by the regional educational attendance area for rental to teachers;

(10) employ a chief school administrator;

(11) **apply for and use the proceeds of a loan from the Alaska energy efficiency revolving loan fund (AS 18.56.855);**

(12) exercise those other functions that may be necessary for the proper performance of its responsibilities.

*** Sec. 5.** AS 18.45.020 is amended to read:

Sec. 18.45.020. United States licenses or permits required. A person may not manufacture, construct, produce, transfer, acquire, or possess a special nuclear material, by-product material, **special nuclear material facility, by-product material facility,** production facility, or utilization facility, or act as an operator of a production **facility** or utilization facility, wholly within the state without first obtaining a license or permit for the activity in which the person proposes to engage from the Nuclear Regulatory Commission if the commission requires a license or permit to be obtained by persons proposing to engage in the activities.

*** Sec. 6.** AS 18.45.025(a) is amended to read:

(a) A person may not construct a nuclear fuel production facility, **nuclear utilization facility,** utilization facility, reprocessing facility, or nuclear waste disposal facility in the state without first obtaining a permit from the Department of Environmental Conservation to construct the facility on land designated by the legislature under (b) of this section.

*** Sec. 7.** AS 18.45.025(b) is amended to read:

(b) The legislature shall designate by law the land in the state on which a nuclear fuel production **facility**, nuclear utilization **facility, utilization facility**, nuclear reprocessing **facility**, or nuclear waste disposal facility may be located. In designating the land in the state on which

(1) a nuclear utilization facility or utilization facility may be located, the legislature shall act in the interest of regulating the economics of

nuclear energy;

(2) a nuclear fuel production **facility**, [NUCLEAR UTILIZATION,] nuclear reprocessing **facility**, or nuclear waste disposal facility may be located, the legislature shall act to protect the public health and safety.

*** Sec. 8.** AS 18.45.025(c) is repealed and reenacted to read:

(c) The Department of Environmental Conservation shall adopt regulations governing the issuance of permits required by (a) of this section. However, a permit may not be issued until the municipality with jurisdiction over the proposed facility site has approved the permit.

*** Sec. 9.** AS 18.56.090 is amended by adding a new subsection to read:

(f) In furtherance of its corporate purpose, the corporation may, in cooperation with the Alaska Energy Authority, provide technical assistance to municipalities related to residential and commercial building energy codes and energy efficiency standards.

*** Sec. 10.** AS 18.56 is amended by adding a new section to read:

Sec. 18.56.855. Alaska energy efficiency revolving loan fund. (a) The Alaska energy efficiency revolving loan fund is established in the corporation to carry out the purposes of this section. The revolving loan fund consists of money or assets appropriated or transferred to the corporation for the revolving loan fund, including money and assets deposited in the revolving loan fund by the corporation and earnings on investments of money held in the revolving loan fund. The corporation may establish separate accounts in the fund. The corporation shall establish the interest rates, security provisions, and other terms of a loan made under this section taking into consideration the corporation's cost of funds and other factors the corporation considers appropriate.

(b) Money and other assets of the Alaska energy efficiency revolving loan fund may be used to

(1) make loans to regional educational attendance areas or to municipal governments, including subdivisions of municipal governments, or to the state for the purpose of financing energy efficiency improvements to buildings owned by regional educational attendance areas, by the state, or by municipalities in the state;

(2) secure bonds issued by the corporation to finance the loans described in (1) of this subsection;

(3) pay costs of administering the revolving loan fund; and

(4) pay the costs of administering and enforcing the terms of loans made by the corporation from the revolving loan fund.

(c) Before a regional educational attendance area, a municipal government, or a subdivision of a municipal government, may borrow money from the corporation under this section, the regional educational attendance area or the municipal government shall waive any sovereign immunity defense it may have available to it with respect to enforcement of the terms of the loan. A regional educational attendance area or a municipal government may waive sovereign immunity to comply with the requirement of this subsection. The state waives any sovereign immunity defense against enforcement of the terms of a loan made to the state under this section. A person or corporation having a claim under this section shall bring an action in a state court in Alaska that has jurisdiction over the claim.

(d) All regional educational attendance areas and municipal governments in the state are authorized to borrow from the corporation under this section. The corporation shall set out the terms of a loan to a regional educational attendance area in a loan agreement or similar document. At the discretion of the corporation, a borrowing by a regional educational attendance area or a municipal government under this section may be effected by use of a loan agreement or similar document evidencing and setting out the terms of the loan or by issuance of a bond by the municipal government to the corporation. Notwithstanding a charter provision requiring public sale by a regional educational attendance area or a municipality of its municipal bonds or other indebtedness, a regional educational attendance area or municipality may sell its bonds under this section to the corporation at a negotiated, private sale. At the discretion of the corporation, the bonds or other indebtedness of the municipality may be general obligations of the municipality or may be secured by an identified revenue source or by a combination of the full faith and credit of the municipality and an identified revenue source.

(e) Notwithstanding any other provision of law, to the extent that a department

or agency of the state is the custodian of money payable to a regional educational attendance area or to a municipality, at any time after written notice to the department or agency head from the corporation that the regional educational attendance area or municipality is in default on the payment of principal of or interest on municipal bonds or other indebtedness then held or owned by the corporation, or amounts due under an agreement between the corporation and a regional educational attendance area or a municipality, the department or agency shall withhold the payment of that money from that regional educational attendance area or municipality and pay over the money to the corporation for the purpose of paying the principal of and interest on the bonds or indebtedness. The notice must be given in each instance of default. If a notice is given under this subsection and under AS 44.85.170 and the default is continuing under this subsection and under AS 44.85.170, the department or agency shall make payment to the corporation and to the Alaska Municipal Bond Bank Authority on a pro rata basis, taking into consideration the principal amount of the respective default amounts.

(f) An authorized state officer may borrow from the corporation under this section for buildings owned by the state. The superintendent of a regional educational attendance area, at the direction of the regional educational attendance area school board, may borrow from the corporation under this section for buildings owned by the regional educational attendance area.

(g) In addition to other security that may be given with respect to a loan made under this section, the corporation may require a deed of trust on the building that is the subject of the energy efficiency loan and the real estate on which the building is located. A regional educational attendance area or a municipality may grant a deed of trust to the corporation as needed for this purpose. An authorized state officer may grant a deed of trust to the corporation as needed for this purpose.

(h) The corporation shall administer the Alaska energy efficiency revolving loan fund in accordance with regulations adopted by the corporation. The corporation may adopt regulations under AS 18.56.088 to carry out the purposes of this section.

(i) This section applies to home rule municipalities.

(j) In this section, "authorized state officer" means

(1) the commissioner of the department of the state for a building owned by the state;

(2) the executive director of a public corporation for a building owned by the public corporation;

(3) the legislative council for a building owned by the legislature;

(4) the administrative director of courts for a building owned by the judicial system;

(5) any other person designated in writing by a person listed in (1) - (4) of this subsection.

* **Sec. 11.** AS 35.10 is amended by adding a new section to article 1 to read:

Sec. 35.10.012. Alternative energy for public works. (a) For each public work subject to AS 35.10.010 - 35.10.080, the construction of which begins on or after January 1, 2011, the department shall consider using a nonfossil fuel fired alternative energy system for heat or electrical power if the department reasonably believes that an alternative energy system to supply heat or power is available that

(1) is comparably reliable to a fossil fuel fired system; and

(2) if used over the course of the life of the facility,

(A) will not cost more than a fossil fuel fired system to purchase, install, maintain, and operate; and

(B) will have less measurable adverse effect on the environment than a fossil fuel fired system.

(b) If the department determines that an alternative energy system described in (a) of this section is available and can be used as a primary or secondary source of heat or electrical power, as to a public work the construction of which under this chapter begins on or after January 1, 2011, the department shall construct the public work to accommodate or be compatible with the alternative energy system.

(c) In this section, "construction" does not include reconstruction, alteration, improvement, or major repair.

* **Sec. 12.** AS 36.30 is amended by adding a new section to read:

Sec. 36.30.323. Consideration of energy efficient equipment. When the Department of Administration enters into contracts to purchase equipment that uses

energy, it shall give consideration to the energy efficiency of the equipment where credible and objective information on efficiency levels is readily available.

* **Sec. 13.** AS 37.07.040 is amended to read:

Sec. 37.07.040. Office of management and budget. The Alaska office of management and budget shall

(1) assist the governor in meeting the requirements of AS 37.07.020, including the coordination and analysis of state agency goals and objectives, plans, and budget requests;

(2) prepare for submission to the governor an annually updated six-year capital improvements program and the proposed capital improvements budget for the coming fiscal year, the latter to include individual project justification with documentation of estimated project cost;

(3) develop procedures to produce the information needed for effective policy decision making, including procedures to provide for the dissemination of information about plans, programs, and budget requests to be included in the annual budget and opportunity for public review and comment during the period of budget preparation;

(4) assist state agencies in their statement of goals and objectives to achieve, among other things, the legislature's mission and desired results, preparation of plans, assessments of the extent to which missions and desired results have been achieved, budget requests, and reporting of program performance; all documents forwarded by the office to a state agency containing instructions for the preparation of program plans and budget requests and the reporting of program performance are public information after the date they are forwarded;

(5) administer its responsibilities under the program execution provisions of this chapter so that the policy decisions and budget determinations of the governor and the legislature are implemented;

(6) provide the legislative finance division with the budget information it may request;

(7) provide the legislative finance division with an advance copy of the governor's budget workbooks at least seven days before the legislature convenes in a

regular session;

(8) prepare the proposed capital improvements budget for the coming fiscal year evaluating both state and local requests from the standpoint of need, equity, and priorities of the jurisdiction; other factors such as project amounts, population, local financial match, federal funds being used for local match, municipality or unincorporated community acceptance of the facility, and all associated costs of the facility may be considered;

(9) for each department in the executive branch, report to the legislature by the 45th day of each regular session the amount of money appropriated to the department that is expected to lapse into the general fund at the end of the current fiscal year;

(10) establish and administer a state agency program performance management system involving planning, performance budgeting, performance measurement, and program evaluation; the office shall ensure that information generated under this system is useful for managing and improving the efficiency and effectiveness of agency operations;

(11) by January 15, list each lease-purchase agreement entered into by an agency during the immediately preceding fiscal year for the acquisition of equipment or other personal property, together with a description of the property acquired and financial details, including the purchase price, the term for payments, the amount of each payment, and the amount of interest or financing charges paid;

(12) work with state agencies to develop a standardized methodology to collect and store energy consumption and expense data.

*** Sec. 14.** AS 42.45.040 is repealed and reenacted to read:

Sec. 42.45.040. Southeast energy fund. (a) The Southeast energy fund is established as a separate fund. The fund consists of money appropriated to the fund by the legislature, including

(1) money transferred to it under former AS 42.45.050;

(2) gifts, bequests, contributions from other sources, and federal money; and

(3) interest earned on the fund balance.

(b) The fund is not a dedicated fund.

(c) The authority may make grants from the Southeast energy fund for power projects, repayment of loans, and payments on bonds

(1) for hydroelectric projects serving Southeast Alaska; or

(2) for other projects or programs designated by the legislature, to assist in meeting the energy needs of Southeast Alaska.

(d) An appropriation from the fund for a project described in (c) of this section lapses back into the fund if substantial, ongoing work on the project has not begun within five years after the effective date of the appropriation.

*** Sec. 15.** AS 42.45.045(d) is amended to read:

(d) The authority shall, in consultation with the advisory committee established under (i) of this section and the Department of Natural Resources,

(1) develop a methodology for determining the order of projects that may receive assistance, including separate requirements for grant eligibility, and adopt regulations identifying criteria to evaluate the benefit and feasibility of projects for which an applicant applies for support from the legislature, with the most weight being given to projects that serve any area in which the average cost of energy to each resident of the area exceeds the average cost to each resident of other areas of the state, and significant weight being given to a statewide balance of grant funds, [AND] to the amount of matching funds an applicant is able to make available **for a project, and to projects that are likely to have a financial benefit that exceeds the amount of grant funds received**;

(2) make recommendations to the legislature for renewable power production reimbursement grants; [AND]

(3) not later than 10 days after the first day of each regular legislative session, submit to the legislature a report summarizing and reviewing each grant application submitted under this section and a recommended priority for awarding grants**; and**

(4) require activity reports for each project funded at intervals determined by the authority.

*** Sec. 16.** AS 42.45.045 is amended by adding a new subsection to read:

(m) The authority shall enter into contracts or agreements with experts to assist in conducting an independent economic or financial analysis for each recommended application. The information shall be included in the report to the legislature required by (d) of this section.

*** Sec. 17.** AS 42.45 is amended by adding a new section to article 5 to read:

Sec. 42.45.260. Fuel purchasing cooperative. The authority shall facilitate the organization of a statewide fuel purchasing cooperative by contacting and providing technical assistance to potential participants in the cooperative, including local governments, utilities, school districts, state agencies, tribal governments, housing authorities, and other interested nonprofit entities.

*** Sec. 18.** AS 42.45 is amended by adding a new section to read:

Article 7A. Emerging Energy Technology Fund.

Sec. 42.45.375. Emerging energy technology fund. (a) The emerging energy technology fund is established. The fund consists of

(1) money appropriated to the fund by the legislature to provide grants for energy projects; and

(2) gifts, bequests, contributions from other sources, and federal money appropriated to the fund.

(b) The fund is not a dedicated fund.

(c) The fund shall be administered by the authority, but the authority may contract for the investment of money appropriated to the fund but not disbursed for a grant. The authority, in consultation with the advisory committee established under (f) of this section, may make grants from the fund to eligible applicants for

(1) research, development, or demonstration projects designed to

(A) test new energy technologies or methods of conserving energy; or

(B) improve an existing energy technology; and

(2) applied research projects that employ energy technology with a reasonable expectation that the technology will be commercially viable in not more than five years.

(d) In making grants under this section, the authority, in consultation with the

advisory committee established under (f) of this section, shall give priority to

(1) Alaska residents, associations, organizations, or institutions;

(2) projects that demonstrate partnership with the University of Alaska or another Alaska postsecondary institution; and

(3) projects supported by matching funds or in-kind partnerships.

(e) In administering the fund, the authority may enter into a contract or agreement with the University of Alaska to provide technical and economic analysis for the advisory committee established under (f) of this section and a review of the projects awarded grants.

(f) An advisory committee is established and consists of seven members. Each member of the committee shall have a degree in science or engineering, or equivalent professional experience, and at least two years of experience working in the state. Members of the committee shall be appointed by the governor to staggered three-year terms. The committee consists of one representative of each of the following groups:

(1) a business or organization engaged in the renewable energy sector;

(2) a business or organization engaged in the fossil fuel energy sector;

(3) the Alaska Power Association or an Alaska electric utility;

(4) the Denali Commission established under P.L. 105-277 and mentioned in a note at 42 U.S.C. 3121;

(5) the National Renewable Energy Laboratory;

(6) the Arctic Energy Office of the National Energy Technology Laboratory;

(7) the Alaska Industrial Development and Export Authority.

(g) A member of the advisory committee appointed under (f) of this section serves without compensation but is entitled to per diem and travel expenses as provided in AS 39.20.180.

(h) If a member of the advisory committee appointed under (f)(4), (f)(5), or (f)(6) is not available to serve as a member of the committee, the governor shall appoint a representative from a federal agency or department with a comparable mission or purpose to the agency listed in (f)(4), (f)(5), or (f)(6) to fill the position on the committee. If a representative from a federal agency or department is not available

to fill the position, the governor may appoint a member from a state agency or department.

(i) In this section,

(1) "eligible applicant" means

(A) an electric utility holding a certificate of public convenience and necessity under AS 42.05;

(B) an independent power producer;

(C) a local government, quasi-governmental entity, or other governmental entity, including a tribal council or housing authority;

(D) a business holding an Alaska business license; or

(E) a nonprofit organization.

(2) "energy technology" means technology that promotes, enhances, or expands the diversity of available energy supply sources or means of transmission, increases energy efficiency, or reduces negative energy-related environmental effects; "energy technology" includes technology related to renewable sources of energy, conservation of energy, enabling technologies, efficient and effective use of hydrocarbons, and integrated energy systems;

(3) "fund" means the emerging energy technology fund.

* **Sec. 19.** AS 42.45.990(4) is amended to read:

(4) "power project" or "project" means a plant, works, system, or facility, together with related or necessary facilities and appurtenances, including a divided or undivided interest in or a right to the capacity of a power project or project, that is used or is useful for the purpose of

(A) electrical or thermal energy production [OTHER THAN NUCLEAR ENERGY PRODUCTION];

(B) waste energy utilization and energy conservation; or

(C) transmission, purchase, sale, exchange, and interchange of electrical or thermal energy, including district heating or interties;

* **Sec. 20.** AS 43.20 is amended by adding a new section to read:

Sec. 43.20.046. Renewable energy credit. For purposes of calculating the tax payable under this chapter, a taxpayer shall apply as a credit against tax liability any

renewable energy refundable tax credits earned under AS 43.98.040.

*** Sec. 21.** AS 43.98 is amended by adding a new section to read:

Sec. 43.98.040. Renewable energy refundable tax credit. (a) A person that produces renewable energy may claim a renewable energy refundable tax credit in the amount of 15 percent of the retail rate charged by the person, as determined by the Regulatory Commission of Alaska for each kilowatt-hour of electricity produced from renewable energy.

(b) A person may claim a credit under this section in the first year the capital investment used to produce electricity from renewable energy is placed into service and for the four years following that year.

(c) A person may claim a credit under this section only for a capital investment

(1) to produce electricity from renewable energy that is placed into service on or after the effective date of this Act; or

(2) to expand production of electricity from renewable energy if the investment for production expansion is made on or after the effective date of this Act.

(d) A person

(1) shall use a credit under this section to offset taxes imposed under AS 43.20 (Alaska Net Income Tax Act); and

(2) may not calculate and apply the credit against the alternative minimum tax levied under the authority of AS 43.20.021(f).

(e) The department shall prescribe a form or format and adopt procedures to allow a person to claim a refundable credit under this section. The commissioner shall pay the amount of a tax credit under this section to a person who submits a form and follows procedures adopted under this subsection. A credit under this section shall be paid in the manner provided in AS 43.20.030(e) for the payment of refunds. Payments may not be made under the authority of this subsection without an appropriation for that purpose.

(f) A credit claimed under this section may not exceed 10 percent of the person's capital investment for the production of electricity from renewable energy or $30,000,000, whichever is less. In calculating a person's capital investment, a person

may not include any state or federal grant the person received for the capital investment.

(g) In this section,

(1) "capital investment" means an expenditure made

(A) for real property or tangible personal property used in this state in the production of electricity from renewable energy; and

(B) for an asset first placed in service for the production of electricity from renewable energy in the state during or before the tax year in which the credit is claimed; in this subparagraph, "placed in service for the production of electricity from renewable energy in the state" means that the first use of the capital investment is in this state; if the property on which the claim of the credit is based has been used outside the state in the tax year of acquisition and is brought to this state during that year or a subsequent year, the property does not qualify as a capital investment;

(2) "credit" means the renewable energy refundable tax credit authorized by this section;

(3) "renewable energy" means geothermal, solar, hydroelectric, wind, biomass, hydrokinetic or tidal, and wave energy.

* **Sec. 22.** AS 44.42.020(a) is amended to read:

(a) The department shall

(1) plan, design, construct, and maintain all state modes of transportation and transportation facilities and all docks, floats, breakwaters, buildings, and similar facilities;

(2) study existing transportation modes and facilities in the state to determine how they might be improved or whether they should continue to be maintained;

(3) study alternative means of improving transportation in the state with regard to the economic costs of each alternative and its environmental and social effects;

(4) develop a comprehensive, long-range, intermodal transportation plan for the state;

(5) study alternatives to existing modes of transportation in urban areas and develop plans to improve urban transportation;

(6) cooperate and coordinate with and enter into agreements with federal, state, and local government agencies and private organizations and persons in exercising its powers and duties;

(7) manage, operate, and maintain state transportation facilities and all docks, floats, breakwaters, and buildings, including all state highways, vessels, railroads, pipelines, airports, and aviation facilities;

(8) study alternative means of transportation in the state, considering the economic, social, and environmental effects of each alternative;

(9) coordinate and develop state and regional transportation systems, considering deletions, additions, and the absence of alterations;

(10) develop facility program plans for transportation and state buildings, docks, and breakwaters required to implement the duties set out in this section, including but not limited to functional performance criteria and schedules for completion;

(11) supervise and maintain all state automotive and mechanical equipment, aircraft, and vessels, except vessels and aircraft used by the Department of Fish and Game or the Department of Public Safety; for state vehicles maintained by the department, the department shall every five years evaluate the cost, efficiency, and commercial availability of alternative fuels for automotive purposes, and the purpose for which the vehicles are intended to be used, and convert **vehicles to use alternative fuels** or purchase **energy efficient** vehicles [TO USE ALTERNATIVE FUELS] whenever practicable; the department may participate in joint ventures with public or private partners that will foster the availability of alternative fuels for all automotive fuel consumers;

(12) supervise aeronautics inside the state, under AS 02.10;

(13) implement the safety and financial responsibility requirements for air carriers under AS 02.40;

(14) inspect weights and measures;

(15) at least every four years study alternatives available to finance

transportation systems in order to provide an adequate level of funding to sustain and improve the state's transportation system.

*** Sec. 23.** AS 44.42 is amended by adding a new section to read:

Sec. 44.42.067. Retrofits and new construction for energy efficiency; energy efficiency report. (a) Not later than January 1, 2020, the department shall work with other state agencies to retrofit at least 25 percent of all public facilities, starting with those it determines are the least energy efficient, if the department determines that retrofitting the public facilities will result in a net savings in energy costs to the state within 15 years after completion of the retrofits for a public facility and if funding for the retrofits is available.

(b) A retrofit or deferred maintenance of a public facility performed under this section, to the extent feasible, shall meet or exceed the most recently published edition of the ASHRAE/IESNA Standard 90.1, Energy Standard for Buildings Except for Low-Rise Residential Buildings, as published by the American Society of Heating, Refrigerating and Air-Conditioning Engineers.

(c) New construction of a public facility under this section shall meet or exceed the most recently published edition of the ASHRAE/IESNA Standard 90.1, Energy Standard for Buildings Except for Low-Rise Residential Buildings, as published by the American Society of Heating, Refrigerating and Air-Conditioning Engineers.

(d) Not later than January 1 of each year, the department, in consultation with the Department of Administration, shall submit a report to the legislature detailing the department's progress in meeting the requirements of this section to reduce state energy consumption and costs and carrying out the duties listed in AS 44.42.020 related to energy use. The department shall include in the report an analysis of the consumption and expense data recorded by the office of management and budget under AS 37.07.040, comparing energy consumption levels in each year with past years to determine if reductions are being achieved.

(e) In this section, "public facility" means a facility owned and controlled by the state for government or public use that is 10,000 square feet or more and is not a legislative building or court building.

* **Sec. 24.** AS 44.83.080 is amended by adding a new subsection to read:

(b) In furtherance of its corporate purpose, the authority shall annually plan and conduct, in cooperation with the Alaska Housing Finance Corporation, a public education campaign to promote energy efficiency and conservation.

* **Sec. 25.** AS 44.83.990(6) is amended to read:

(6) "power project" or "project" means a plant, works, system, or facility, together with related or necessary facilities and appurtenances, including a divided or undivided interest in or a right to the capacity of a power project or project, that is used or is useful for the purpose of

(A) electrical or thermal energy production [OTHER THAN NUCLEAR ENERGY PRODUCTION];

(B) waste energy utilization and energy conservation; or

(C) transmission, purchase, sale, exchange, and interchange of electrical or thermal energy, including district heating or interties;

* **Sec. 26.** AS 45.88.010(a) is amended to read:

(a) There is established in the Department of Commerce, Community, and Economic Development the alternative energy **conservation** revolving loan fund to carry out the purposes of AS 45.88.010 - 45.88.090. Loans made under AS 45.88.010 - 45.88.090 are to be used

(1) to develop means of energy production utilizing **one or more alternative energy systems; and**

(2) to purchase, construct, and install energy conservation improvements in commercial buildings [ENERGY SOURCES OTHER THAN FOSSIL OR NUCLEAR FUEL, INCLUDING, BUT NOT LIMITED TO, WINDMILLS, WATER AND SOLAR ENERGY DEVICES].

* **Sec. 27.** AS 45.88.010 is amended by adding a new subsection to read:

(e) The Alaska energy conservation revolving loan fund consists of

(1) money appropriated to the fund by the legislature;

(2) gifts, bequests, or contributions from other sources;

(3) principal and interest payments or other income earned on loans or investments in the fund; and

(4) money chargeable to principal or interest that is collected through liquidation by foreclosure or other processes on loans made under AS 45.88.010 - 45.88.090.

*** Sec. 28.** AS 45.88.020(a) is amended to read:

(a) The department may

(1) make loans for the purchase, construction, and installation**, in commercial buildings that are located in the state,** of

(A) alternative energy systems**; and**

(B) energy conservation improvements;

(2) adopt regulations necessary to carry out the provisions of AS 45.88.010 - 45.88.090, including regulations to establish reasonable fees for services provided and charges for collecting the fees;

(3) collect the fees and collection charges established under this subsection.

*** Sec. 29.** AS 45.88.025 is amended by adding a new section to read:

Sec. 45.88.025. Eligibility. To be eligible for a loan under AS 45.88.010 - 45.88.090, an applicant must

(1) physically reside in the state and maintain a domicile in the state during 12 consecutive months before the date of application for a loan and may not have

(A) declared or established residency in another state; or

(B) received residency or a benefit based on residency from another state;

(2) be at least 51 percent owned by individuals described in (1) of this section if the applicant is a corporation, joint venture, or partnership; or

(3) be a nonprofit organization under AS 10.20.

*** Sec. 30.** AS 45.88.030(a) is repealed and reenacted to read:

(a) A loan made under AS 45.88.010 - 45.88.090 may not exceed $50,000. If the requested loan amount exceeds $30,000, the applicant must deliver to the department a document from a financial institution stating that

(1) the applicant has been denied a loan for the same purpose; or

(2) the loan from the financial institution is contingent on the applicant also receiving a loan from the fund.

* **Sec. 31.** AS 45.88.030(e) is amended to read:

(e) The rate of interest for a loan **under AS 45.88.010 - 45.88.090 is the prime rate, as defined by AS 44.88.599, plus one percentage point, but may not be less than five percent a year** [FOR AN ALTERNATIVE ENERGY SYSTEM IS FIVE PERCENT FOR THE FIRST $15,000 OF THE LOAN AND 15 PERCENT FOR THE AMOUNT OF THE LOAN THAT EXCEEDS $15,000].

* **Sec. 32.** AS 45.88.030 is amended by adding a new subsection to read:

(f) A loan under AS 45.88.010 - 45.88.090 must be secured by a mortgage or other security instrument in the real property to be improved and a lien on the improvements financed with the loan.

* **Sec. 33.** AS 45.88.090(a) is amended to read:

(a) In AS 45.88.010 - 45.88.090,

(1) "alternative energy system"

(A) [(1)] means a source of thermal, mechanical or electrical energy **that** [WHICH] is not dependent on oil or gas or a nuclear fuel for the supply of energy for space heating and cooling, refrigeration and cold storage, electrical power, mechanical power, or the heating of water;

(B) [(2)] includes

(i) [(A)] an alternative energy property as defined by 26 U.S.C. 48(a)(3)(A) (Sec. 301, P.L. 95-618, Internal Revenue Code);

(ii) [(B)] a method of architectural design and construction which provides for the collection, storage, and use of direct radiation from the sun;

(iii) [(C)] a woodstove with a catalytic converter or a catalytic converter for a wood stove; [AND]

(iv) [(D)] a steam, hot water, or ducted hot air central heating system that uses wood or coal for fuel; **and**

(v) a high efficiency wood pellet stove;

(C) [(3)] does not include

(i) [(A)] a stove that uses only wood, coal, or oil for fuel; or

(ii) [(B)] a fireplace or fireplace insert;

(2) "commercial building"

(A) means a building that is intended to be used for commercial purposes;

(B) does not include

(i) a residential structure or mobile home that contains one to four family housing units; or

(ii) individual units of condominiums or cooperatives;

(3) "energy conservation improvement" means

(A) structural insulation;

(B) thermal windows and doors;

(C) a furnace replacement burner designed to achieve a reduction in the amount of fuel consumed as a result of increased combustion efficiency;

(D) a device for modifying flue openings designed to increase the efficiency of operation of the heating system;

(E) an electrical or mechanical furnace ignition system that replaces a gas pilot light;

(F) an automatic energy-saving setback thermostat;

(G) a meter that displays the cost of energy usage;

(H) caulking and weather stripping of doors and windows;

(I) insulating shades and shutters;

(J) air and water recuperators.

*** Sec. 34.** AS 46.11.900(1) is amended to read:

(1) "alternative energy system"

(A) means a source of thermal, mechanical, or electrical energy that is not dependent on oil or gas [OR A NUCLEAR FUEL] for the supply of energy for space heating and cooling, refrigeration and cold storage, electrical

power, mechanical power, or the heating of water;

(B) includes

(i) an alternative energy property as defined by 26 U.S.C. 48(a)(3)(A); and

(ii) a method of architectural design and construction that provides for the collection, storage, and use of direct radiation from the sun;

* **Sec. 35.** AS 47.25.621 is amended to read:

Sec. 47.25.621. Alaska <u>affordable</u> heating [ASSISTANCE] program. (a) The Alaska **<u>affordable</u>** heating [ASSISTANCE] program is established in the Department of Health and Social Services to provide expanded eligibility for Alaska residents for home heating assistance, to the extent funds are **<u>available in the Alaska affordable heating fund</u>** [APPROPRIATED BY THE LEGISLATURE FOR THAT PURPOSE].

(b) The **<u>Alaska affordable</u>** heating [ASSISTANCE] program established under this section is in addition to the federal low-income heating and energy assistance provided under 42 U.S.C. 8621 - 8629 (Low-Income Home Energy Assistance Act of 1981), as amended, and implementing regulations.

* **Sec. 36.** AS 47.25.621 is amended by adding a new subsection to read:

(c) The Alaska affordable heating fund is established as a separate fund to be managed by the Department of Revenue. The fund consists of appropriations made to it. Interest earned by the fund may be appropriated to it. The Department of Health and Social Services shall use money in the fund for Alaska affordable heating payments.

* **Sec. 37.** AS 47.25.622 is amended to read:

Sec. 47.25.622. Duties. The **<u>Department of Health and Social Services</u>** [DEPARTMENT] shall

(1) administer the Alaska **<u>affordable</u>** heating [ASSISTANCE] program provided under AS 47.25.621;

(2) adopt regulations under AS 44.62 (Administrative Procedure Act) to carry out the purpose of the program;

(3) coordinate payments among other heating assistance programs to

avoid duplication of payments.

* **Sec. 38.** AS 47.25.623 is amended to read:

Sec. 47.25.623. Eligibility; payment amount. An individual is eligible for home heating assistance payments under the Alaska **affordable** heating [ASSISTANCE] program if the individual

(1) is a resident of the state;

(2) is physically present and resides in a home in the state when the home heating costs are incurred;

(3) **for assistance calculated under (b) and (c) of this section, has gross household income not to exceed, as a percentage of the federal poverty guideline for Alaska set by the United States Department of Health and Human Services and revised under 42 U.S.C. 9902(2),**

(A) 225 percent for a determination to be made under (c)(1) - (3) of this section; and

(B) 250 percent for a determination to be made under (c)(4) of this section; and [HAS GROSS HOUSEHOLD INCOME ABOVE 150 PERCENT BUT THAT DOES NOT EXCEED 225 PERCENT OF THE FEDERAL POVERTY GUIDELINE FOR ALASKA SET BY THE UNITED STATES DEPARTMENT OF HEALTH AND HUMAN SERVICES AND REVISED UNDER 42 U.S.C. 9902(2);]

(4) meets other eligibility requirements specified in regulations adopted under AS 47.25.622.

* **Sec. 39.** AS 47.25.623 is amended by adding new subsections to read:

(b) The Department of Health and Social Services shall determine the number of points for each eligible individual based on the point formula used under 42 U.S.C. 8621 - 8629 (Low-Income Home Energy Assistance Act of 1981), as amended, and implementing regulations. Except as provided in (d) of this section, the amount of the Alaska affordable heating payment for an individual equals the base amount calculated under (c) of this section minus the amount the individual is eligible to receive under the federal low-income home energy assistance program under 42 U.S.C. 8621 - 8629, as amended, and implementing regulations.

(c) The Department of Health and Social Services shall calculate the base amount of the Alaska affordable heating payment for the individual based on points determined under (b) of this section and on the average price a barrel of Alaska North Slope crude oil for sale on the United States West Coast during September through February of the preceding fiscal year as follows:

(1) $130 a point when the average price is not more than $75 a barrel;

(2) $140 a point when the average price is more than $75 and not more than $100 a barrel;

(3) $150 a point when the average price is more than $100 and not more than $150 a barrel;

(4) $165 a point when the average price is more than $150 a barrel.

(d) Under the program authorized by AS 47.25.621 - 47.25.626, taking into consideration the gross household income rates established in (a) of this section and the base amounts to be calculated under (b) and (c) of this section,

(1) if insufficient money is appropriated to fully fund the Alaska affordable heating payments during the fiscal year, the department

(A) shall, for the duration of that fiscal year, suspend calculation and payment under (a)(3)(B) of this section and calculate and pay all eligible individuals under (a)(3)(A) of this section; and

(B) may, to the extent there is or may be an appropriation balance surplus to the amount required to make all payments under (A) of this paragraph, by regulation, establish at any time during the fiscal year a prospective pro rata reduction of the payment rates that the department will pay to eligible individuals under the program during that fiscal year qualifying under (a)(3)(B) of this section and, thereafter, may provide for prorated payments; and

(2) if the commissioner reasonably determines that the total of appropriations from all sources during the fiscal year may exceed the amount required to fully fund all applications for assistance for Alaska affordable heating payments, the commissioner may expend the amount of excess money, not to exceed the total amount of the appropriations, to carry out the purpose of AS 47.25.621 - 47.25.626;

under the authority of this paragraph, the commissioner shall distribute the estimated excess money pro rata among individuals receiving assistance under this section without regard to the limitations set out in the dollar value of the point formula expressed in (c)(1) - (4) of this section.

*** Sec. 40.** AS 47.25.626(a) is amended to read:

(a) The **Department of Health and Social Services** [DEPARTMENT] may develop a regional Alaska heating [ASSISTANCE] program for the administration of AS 47.25.621 - 47.25.626 to provide home heating assistance in a uniform and cost-effective manner in a region of this state if an Alaska Native organization is authorized to implement a federally approved tribal family assistance plan that includes that region and has been awarded a tribal energy assistance grant for a program that includes that region under 42 U.S.C. 8623(d).

*** Sec. 41.** AS 47.25.626(b) is amended to read:

(b) The department may award contracts to implement a program developed under (a) of this section. A contract authorized for delivery of home heating assistance under a regional Alaska heating [ASSISTANCE] program under this section is exempt from the competitive bid requirements of AS 36.30 (State Procurement Code). Subject to appropriation, a contract under this section must be in an amount that represents a fair and equitable share of the money appropriated for the Alaska **affordable** heating [ASSISTANCE] program under AS 47.25.621 - 47.25.626 to serve the state residents specified in (a) of this section. The authority provided under this section to contract is in addition to the authority to contract in AS 47.05.015 or other law.

*** Sec. 42.** AS 47.25.626(f) is amended to read:

(f) If the department establishes a regional Alaska heating [ASSISTANCE] program and awards a contract to provide home heating assistance under this section, a person applying for home heating assistance under AS 47.25.621 - 47.25.626 in the region of the state covered by the regional Alaska heating [ASSISTANCE] program may obtain home heating assistance from the department only through the organization designated by the department to serve the region.

*** Sec. 43.** AS 43.20.046, enacted by sec. 20 of this Act and AS 43.98.040, enacted by sec. 21 of this Act, are repealed January 1, 2018.

*** Sec. 44.** AS 44.42.067(c), enacted by sec. 23 of this Act, is repealed January 1, 2021.

*** Sec. 45.** AS 45.88.010(c), 45.88.030(c), 45.88.030(d), and 45.88.040(a) are repealed.

*** Sec. 46.** The uncodified law of the State of Alaska is amended by adding a new section to read:

OFFICE OF MANAGEMENT AND BUDGET. Not later than November 1, 2010, the Office of Management and Budget shall develop a standardized methodology to collect and store energy consumption and expense data as described in AS 37.07.040(12), as enacted by sec. 13 of this Act.

*** Sec. 47.** The uncodified law of the State of Alaska is amended by adding a new section to read:

DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES. Not later than one year after the effective date of this Act, the Department of Transportation and Public Facilities, in consultation with the Alaska Energy Authority, shall adopt and implement a systematic process for prioritizing the retrofitting of state facilities for a long-term increase in energy efficiency and reduction of energy costs.

*** Sec. 48.** The uncodified law of the State of Alaska is amended by adding a new section to read:

OFFICE OF THE GOVERNOR ENERGY REPORT. Not later than November 1, 2010, the governor shall submit a report to the legislature providing recommendations for how best to structure state energy programs and offices to increase the coordination and efficiency of the state's efforts.

*** Sec. 49.** The uncodified law of the State of Alaska is amended by adding a new section to read:

USE OF COMPRESSED NATURAL GAS TO POWER VEHICLES; PILOT PROGRAM; STUDY; PROPOSAL; REPORT. (a) The Department of Transportation and Public Facilities shall, under the authority of AS 44.42.020(a)(3), study the feasibility of using compressed natural gas to power vehicles in the state. The study must

(1) review existing government programs and incentives offered in Utah and other North American jurisdictions that promote the use of compressed natural gas to power vehicles;

(2) review and summarize relevant studies and investigations on existing

public policy incentives that encourage the use of compressed natural gas to power vehicles;

(3) evaluate the environmental benefits and technical merits of using compressed natural gas to power vehicles;

(4) consider the economic, environmental, and technological advantages and disadvantages of using and promoting the use of compressed natural gas to power vehicles in the state; and

(5) if warranted by the findings of the study, set out a proposal for a pilot program in the state to test the use of compressed natural gas to power vehicles owned or operated by the state; the proposal must

(A) recommend the most cost-effective and appropriate departments and geographic locations for a pilot program;

(B) detail how the pilot program, if successful, could be expanded to provide for increased use of compressed natural gas to power vehicles owned or operated by the state, as well as privately owned or operated vehicles;

(C) estimate the costs to the state of a pilot program in which the state would purchase vehicles powered by compressed natural gas or convert existing vehicles to be powered by compressed natural gas, including

(i) the costs of maintaining vehicles powered by compressed natural gas and training maintenance personnel;

(ii) the costs of adapting, or encouraging the adapting of, state vehicle fueling locations to provide compressed natural gas;

(iii) the costs of using compressed natural gas instead of diesel fuel or gasoline;

(iv) the costs of expanding the pilot program or developing additional pilot programs under (B) of this paragraph;

(v) other costs or savings that can be reasonably expected to accompany the pilot program.

(b) The Department of Transportation and Public Facilities shall prepare a report containing the results of the study under (a) of this section not later than December 1, 2010. The department shall notify the legislature when the report is available.

* **Sec. 50.** The uncodified law of the State of Alaska is amended by adding a new section to

read:

BOND AUTHORIZATION AND PROVISIONS. (a) In addition to the powers in AS 18.56.090, the Alaska Housing Finance Corporation may issue bonds in an amount not to exceed $250,000,000 to make loans from the energy efficiency revolving loan fund established by AS 18.56.855, enacted by sec. 10 of this Act, and to finance the purposes permitted by AS 18.56.855, enacted by sec. 10 of this Act. AS 18.56.110 - 18.56.190 and 18.56.855, enacted by sec. 10 of this Act, apply to bonds issued under this section, except that bonds issued under this section are not subject to, and may not be counted against, the bond issuance limitation set out in AS 18.56.110(g).

(b) The Alaska Housing Finance Corporation shall deposit the proceeds of bonds issued under (a) of this section in the Alaska energy efficiency revolving loan fund in accordance with AS 18.56.855, enacted by sec. 10 of this Act.

* **Sec. 51.** The uncodified law of the State of Alaska is amended by adding a new section to read:

REVISOR'S INSTRUCTIONS. (a) The revisor of statutes is instructed to change the heading of art. 6 of AS 18.56 from "Article 6. Energy Conservation" to "Article 6. Energy Efficiency and Conservation Programs.

(b) The revisor of statutes is instructed to change the heading of art. 1 of AS 45.88 from "Alternative Energy Revolving Loan Fund" to "Alternative Energy Conservation Revolving Loan Fund."

FISCAL NOTE

STATE OF ALASKA
2010 LEGISLATIVE SESSION

Fiscal Note Number: 1
Bill Version: CSSB 220(RES)
(S) Publish Date: 3/10/10

Identifier (file name): CSSB220(RES)-REV-TAX-03-07-10
Dept. Affected: Revenue
Title: Energy Efficiency / Alternative Energy
RDU: Taxation and Treasury
Component: Tax Division
Sponsor: (RES) Resources
Requester: Senate Resources Committee
Component Number: 2476

Expenditures/Revenues (Thousands of Dollars)

Note: Amounts do not include inflation unless otherwise noted below.

	Appropriation Required	Information					
OPERATING EXPENDITURES	**FY 2011**	**FY 2011**	**FY 2012**	**FY 2013**	**FY 2014**	**FY 2015**	**FY 2016**
Personal Services							
Travel							
Contractual							
Supplies							
Equipment							
Land & Structures							
Grants & Claims							
Miscellaneous							
TOTAL OPERATING	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
CAPITAL EXPENDITURES							
CHANGE IN REVENUES ( )	***	***	***	***	***	***	***

FUND SOURCE (Thousands of Dollars)

1002 Federal Receipts							
1003 GF Match							
1004 GF							
1005 GF/Program Receipts							
1037 GF/Mental Health							
Other Interagency Receipts							
TOTAL	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**

Estimate of any current year (FY2010) cost:

POSITIONS

Full-time							
Part-time							
Temporary							

ANALYSIS: *(Attach a separate page if necessary)*

See Attached.

Prepared by: Robynn Wilson, Corporate Income Tax Manager / Tim Harper, Economist III — Phone (907) 269-6634
Division: Tax Division — Date/Time 03-05-10; 4:35pm
Approved by: Ginger Blaisdell, Director — Date 03-07-10; 1:20pm
Administrative Services Division

(Revised 11/6/2009 OMB)

STATE OF ALASKA **BILL NO.** CSSB 220(RES)
2010 LEGISLATIVE SESSION

ANALYSIS CONTINUATION

Bill Language:

This fiscal note examines the changes in tax credit programs in the Department of Revenue and does not address the effects on other departments or public corporations.

This bill would create a refundable tax credit for electricity production from new or expanded renewable energy projects in the state. The amount of the credit is 15 percent of the retail rate of each kilowatt hour of electricity charged by the energy producer. The retail rate is determined by the Regulatory Commission of Alaska. The refundable credit is available in the year the date the capital investment used to produce renewable energy is placed into service, and the following four years. The tax credit would be applicable only to the Alaska Corporate Net Income Tax liabilities, but may not be taken against the alternative minimum tax. The credit cannot exceed 10% of the capital investment or $30,000,000, whichever is less. A person may not include state or federal grants as part of the capital investment.

For purposes of this bill, "renewable energy" means geothermal, solar, hydroelectric, wind, biomass, hydrokinetic or tidal, and wave energy.

The tax credit would apply to projects placed into service on or after the effective date of this Act. The tax credit provisions of the bill include a sunset date of January 1, 2018.

Revenues:

Revenues from this bill are indeterminate because we do not know the size or number of projects that would qualify for the credit. Also we do not know whether projects that qualify would choose to take the credit.

As an example, a 54-megawatt wind farm such as the Fire Island project near Anchorage could potentially be eligible for a $3 million annual credit refund. Over five years, the credit could amount to $15 million, but the 10% of capital costs limit would likely reduce the value of the credit. Any state or federal aid for the capital costs of the project would reduce the amount of the investment eligible for the credit refund.

Expenditures:

The provisions of this bill could be implemented with existing state resources. No additional personnel or resources would be needed, since the DOR is already performing these duties.

FISCAL NOTE

STATE OF ALASKA
2010 LEGISLATIVE SESSION

Fiscal Note Number: 2
Bill Version: CSSB 220(RES)
(S) Publish Date: 3/10/10

Identifier (file name): SB220CS(RES)-CED-AEA-3-5-10
Dept. Affected: DCCED
Title: Omnibus Energy Bill
RDU: 453
Component: Statewide Project Development
Sponsor: Senate Resources
Requester: Senate Resources
Component Number: 2888

Expenditures/Revenues (Thousands of Dollars)

Note: Amounts do not include inflation unless otherwise noted below.

	Appropriation Required	Information					
OPERATING EXPENDITURES	**FY 2011**	**FY 2011**	**FY 2012**	**FY 2013**	**FY 2014**	**FY 2015**	**FY 2016**
Personal Services							
Travel	70.2		20.2	20.2	20.2	20.2	20.2
Contractual	708.5		426.5	426.5	426.5	426.5	426.5
Supplies							
Equipment	10.0						
Land & Structures							
Grants & Claims							
Miscellaneous							
TOTAL OPERATING	**788.7**	**0.0**	**446.7**	**446.7**	**446.7**	**446.7**	**446.7**
CAPITAL EXPENDITURES							
CHANGE IN REVENUES ()							

FUND SOURCE (Thousands of Dollars)

1002 Federal Receipts							
1003 GF Match							
1004 GF	788.7		446.7	446.7	446.7	446.7	446.7
1005 GF/Program Receipts							
1037 GF/Mental Health							
Other Interagency Receipts							
TOTAL	**788.7**	**0.0**	**446.7**	**446.7**	**446.7**	**446.7**	**446.7**

Estimate of any current year (FY2010) cost:

POSITIONS (see AIDEA FN for details)

Full-time							
Part-time							
Temporary							

ANALYSIS: *(Attach a separate page if necessary)*

SB 220, titled the "Alaska Sustainable Energy Act," impacts the Alaska Energy Authority by

Section 14 - repealing and reenacting the purpose of the existing Southeast Energy Fund managed by the Alaska Energy Authority. From this fund AEA could award grants for hydroelectric projects serving Southeast Alaska or "for other projects or programs designated by the legislature, to assist in meeting the energy needs of Southeast Alaska." Currently the fund balance is zero. Depending on the capitalization, AEA would need to draft regulations and develop a process to administer grants including an allocation method for the various types of eligible projects which would bring additional expenses.

Prepared by: Sara Fisher-Goad, Deputy Director-Operations
Phone: 907-771-3012
Division: Alaska Energy Authority
Date/Time: 3/4/10 12:00 AM
Approved by: Emil Notti, Commissioner
Date: 3/6/2010
Commerce, Community and Economic Development

(Revised 11/6/2009 OMB)

STATE OF ALASKA
2010 LEGISLATIVE SESSION

BILL NO. CSSB 220(RES)

ANALYSIS CONTINUATION

Sections 15 and 16 - amending the Renewable Energy Fund grant recommendation program by a) requiring match to be verified by the applicant b) explicitly requiring significant weight be given to projects that are likely to have a financial benefit that exceeds the amount of the grant funds received c) requiring activity reports for each project d) requiring AEA to contract with an economist to prepare a written evaluation for each project recommended for funding. AEA does not anticipate increased costs with these changes.

Section 17 - requiring AEA to facilitate the organization of a statewide fuel purchasing cooperative. AEA would develop literature to assist organizations who are interested in forming a cooperative. We will hold meetings throughout Alaska to provide the necessary technical assistance. AEA will need to contract with an entity or person with fuel pricing and purchasing expertise and cooperative formation expertise. Approximate costs are **$50,000** (travel); **$200,000** (contractual - including 1 Range 12 AIDEA admin support - LT temp)

Section 18 - establishing the "Emerging Energy Technology Fund" and requiring the authority to administer the fund by making grants to eligible applicants. Cost Assumptions:
Approximately **$82,000** in one-time start up costs to develop program ciriteria, RFA process, review process, grant agreements, etc. (Contractual)
Approximately **$20,160** per year to cover Advisory Committee expenses (travel - assume $660 airfare x 120 perdiem x 7 members x quarterly meetings)
Approximately **$276,518** per year to cover contract for personal services with AIDEA
Positions required: 1 Range 22 for program/project management; 1 Range 15 for finance/grant administration; 1Range 12 for administrative support.(Contractual)
Approximately **$10,000** (Equipment) for new staff

Section 19 - changing the definition of a power project relative to the power project fund to include nuclear production. AEA's costs are zero because there are currently no projects of this type. However, in the event viable nuclear projects are identified, annual operating costs would increase by $365,000 for each nuclear power project that has to be managed; $165,000 for a project manager with technical nuclear knowledge and $200,000 for contractual advisory service in the field.

Section 24 - requiring AEA, in cooperation with AHFC, to plan and conduct an annual public education campaign to promote energy efficiency and conservation. The Alaska Energy Efficiency Program and Policy Recommendations published on June 12, 2008 recommended $1 million annual budget for education and outreach. The recommendation included approximately $800,000 per year for workshops for both commercial and residential, public speakers, media campaigns, labeling buildings with energy information, and approximately $200,000 for outreach. Currently, AEA is working on an outreach plan and has budgeted $150,000 of existing funds for the initial effort. **$150,000** of additional funds will enhance this effort.

FISCAL NOTE

STATE OF ALASKA
2010 LEGISLATIVE SESSION

Fiscal Note Number: 3
Bill Version: CSSB 220(RES)
(S) Publish Date: 3/10/10

Identifier (file name): SB220CS(RES)-DEC-CO-3-04-10
Title: Energy Efficiency / Alternative Energy
Sponsor: Senate Resources Committee
Requester: Senate Resources Committee

Dept. Affected: Environmental Conservation
RDU: Administration
Component: Office of the Commissioner
Component Number: 633

Expenditures/Revenues (Thousands of Dollars)

Note: Amounts do not include inflation unless otherwise noted below.

	Appropriation Required	Information					
OPERATING EXPENDITURES	**FY 2011**	**FY 2011**	**FY 2012**	**FY 2013**	**FY 2014**	**FY 2015**	**FY 2016**
Personal Services							
Travel							
Contractual							
Supplies							
Equipment							
Land & Structures							
Grants & Claims							
Miscellaneous							
TOTAL OPERATING	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
CAPITAL EXPENDITURES							
CHANGE IN REVENUES ( )							

FUND SOURCE (Thousands of Dollars)

1002 Federal Receipts							
1003 GF Match							
1004 GF							
1005 GF/Program Receipts							
1037 GF/Mental Health							
Other Interagency Receipts							
TOTAL	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**

Estimate of any current year (FY2010) cost: 0.0

POSITIONS

Full-time							
Part-time							
Temporary							

ANALYSIS: *(Attach a separate page if necessary)*

While section 6 and section 8 of the bill amends statutes which are to be implemented by the Department of Environmental Conservation, the amendments will have no additional fiscal impact. It should be noted, however, that there is currently no budget for implementing these statutes pertaining to permitting nuclear facility sites.

Prepared by: Marit Carlson-Van Dort — Phone 465-5871
Division: Office of the Commissioner — Date/Time 3/4/10 4:00 PM
Approved by: Larry Hartig — Date 3/4/2010
Commissioner

(Revised 11/6/2009 OMB)

FISCAL NOTE

STATE OF ALASKA
2010 LEGISLATIVE SESSION

Fiscal Note Number: 4
Bill Version: CSSB 220(RES)
(S) Publish Date: 3/10/10

Identifier (file name): CSSB220-DOT&PF-SPF-3-05-10
Title: Omnibus Energy
Sponsor: Senate Resources
Requester: Senate Resources

Dept. Affected: DOT&PF
RDU: Design, Engineering & Construction
Component: Statewide Public Facilities & Facilities Lease Component
Component Number: 2882, 2892

Expenditures/Revenues (Thousands of Dollars)

Note: Amounts do not include inflation unless otherwise noted below.

	Appropriation Required	Information					
OPERATING EXPENDITURES	**FY 2011**	**FY 2011**	**FY 2012**	**FY 2013**	**FY 2014**	**FY 2015**	**FY 2016**
Personal Services	228.5		228.5	228.5	228.5	228.5	228.5
Travel	20.0		20.0	20.0	20.0	20.0	20.0
Contractual	210.7		48.2	48.2	48.2	48.2	48.2
Supplies	34.0		3.0	3.0	3.0	3.0	3.0
Equipment							
Land & Structures							
Grants & Claims							
Miscellaneous							
TOTAL OPERATING	**493.2**	**0.0**	**299.7**	**299.7**	**299.7**	**299.7**	**299.7**
CAPITAL EXPENDITURES							
CHANGE IN REVENUES ( )							

FUND SOURCE (Thousands of Dollars)

1002 Federal Receipts							
1003 GF Match							
1004 GF	493.2		299.7	299.7	299.7	299.7	299.7
1005 GF/Program Receipts							
1037 GF/Mental Health							
Other Interagency Receipts							
TOTAL	**493.2**	**0.0**	**299.7**	**299.7**	**299.7**	**299.7**	**299.7**

Estimate of any current year (FY2010) cost:

POSITIONS

Full-time	**2.0**		2	2	2	2	2
Part-time							
Temporary							

ANALYSIS: *(Attach a separate page if necessary)*

DOT&PF will hire an Engineer/Architect II, and an Engineer/Architect I to oversee the retrofits of all public buildings and to manage the performance contracts under the revolving loan program. DOT&PF estimates that 4 public facilities, as defined in the bill, need to be retrofit annually to meet the goal of having 25% completed by 2020. Additionally these positions will conduct the alternate energy analysis required under section 11. The department will hire a consultant ($75.0 budgeted) to develop the systematic process for prioritizing the retrofitting of state facilities required to be adopted under section 47. A second and separate consultant ($90.0 budgeted) will study the feasibility of using compressed natural gas to power state vehicles and develop a pilot project with estimated costs by the required due date of December 2010. Supply costs in FY2011 include the cost of outfitting two positions with desks, computers, phones, fax, printers and general office supplies. The contractual costs include $33.7 for additional office space (component 2892) for the new positions. On going contractual costs include costs for copier, fax, phone, maintenance costs, core services costs and training and professional development.

Prepared by: Mary Siroky, Legislative Liaison — Phone 465-4772
Division: Department of Transportation and Public Facilities — Date/Time 3/05/10 3:00pm
Approved by: Frank Richards, Deputy Commissioner — Date 3/5/2010
Department of Transportation and Public Facilities

(Revised 11/6/2009 OMB)

FISCAL NOTE

STATE OF ALASKA
2010 LEGISLATIVE SESSION

Fiscal Note Number: 5
Bill Version: CSSB 220(RES)
(S) Publish Date: 3/10/10

Identifier (file name): SB220CS(RES)-CED-AIDEA-3-5-10
Title: Omnibus Energy Bill
Sponsor: Senate Resources
Requester: Senate Resources

Dept. Affected: DCCED
RDU: 125
Component: AIDEA operations
Component Number: 1234

Expenditures/Revenues (Thousands of Dollars)

Note: Amounts do not include inflation unless otherwise noted below.

	Appropriation Required	Information					
OPERATING EXPENDITURES	**FY 2011**	**FY 2011**	**FY 2012**	**FY 2013**	**FY 2014**	**FY 2015**	**FY 2016**
Personal Services	326.5		276.5	276.5	276.5	276.5	276.5
Travel							
Contractual							
Supplies							
Equipment							
Land & Structures							
Grants & Claims							
Miscellaneous							
TOTAL OPERATING	**326.5**	**0.0**	**276.5**	**276.5**	**276.5**	**276.5**	**276.5**
CAPITAL EXPENDITURES							
CHANGE IN REVENUES ()							

FUND SOURCE (Thousands of Dollars)

1002 Federal Receipts							
1003 GF Match							
1004 GF							
1005 GF/Program Receipts							
1037 GF/Mental Health							
Other Interagency Receipts	326.5		276.5	276.5	276.5	276.5	276.5
TOTAL	**326.5**	**0.0**	**276.5**	**276.5**	**276.5**	**276.5**	**276.5**

Estimate of any current year (FY2010) cost:

POSITIONS

Full-time	**3.0**		3	3	3	3	3
Part-time							
Temporary	1.0						

ANALYSIS: *(Attach a separate page if necessary)*

SB 220, titled the "Alaska Sustainable Energy Act," impacts the Alaska Industrial Development and Export Authority by increasing needed positions for Alaska Energy Authority requirements.

Section 17 - requiring AEA to facilitate the organization of a statewide fuel purchasing cooperative. AEA would develop literature to assist organizations who are interested in forming a cooperative. AEA's estimated costs include 1 Range 12 AIDEA admin support - LT temp- **$50,000**.

Prepared by: Sara Fisher-Goad, Deputy Director-Operations — Phone 907-771-3012
Division: Alaska Industrial Development and Export Authority — Date/Time 3/4/10 12:00 AM
Approved by: Emil Notti, Commissioner — Date 3/6/2010
Commerce, Community and Economic Development

(Revised 11/6/2009 OMB)

STATE OF ALASKA **BILL NO.** CSSB 220(RES)
2010 LEGISLATIVE SESSION

ANALYSIS CONTINUATION

Section 18 - establishing the "Emerging Energy Technology Fund" and requiring the authority to administer the fund by making grants to eligible applicants. Cost assumptions include:
Approximately **$276,518** per year to cover contract for personal services with AIDEA
Positions required: 1 Range 22 for program/project management; 1 Range 15 for finance/grant administration; 1Range 12 for administrative support.(Contractual)

FISCAL NOTE

STATE OF ALASKA
2010 LEGISLATIVE SESSION

Fiscal Note Number: 6
Bill Version: CSSB 220(RES)
(S) Publish Date: 3/10/10

Identifier (file name): SB220CS(RES)-DHSS-EA-03-05-10
Dept. Affected: Health & Social Services

Title: Energy Efficiency/Alternative Energy
RDU: Public Assistance
Component: Energy Assistance Program

Sponsor: Senate Resources

Requester: Senate Resources
Component Number: 226

Expenditures/Revenues (Thousands of Dollars)

Note: Amounts do not include inflation unless otherwise noted below.

	Appropriation Required	Information					
OPERATING EXPENDITURES	**FY 2011**	**FY 2011**	**FY 2012**	**FY 2013**	**FY 2014**	**FY 2015**	**FY 2016**
Personal Services							
Travel							
Contractual							
Supplies							
Equipment							
Land & Structures							
Grants & Claims							
Miscellaneous							
TOTAL OPERATING	**0.0**	**0.0**	*	*	*	*	*
CAPITAL EXPENDITURES							
CHANGE IN REVENUES (							

FUND SOURCE (Thousands of Dollars)

1002 Federal Receipts							
1003 GF Match							
1004 GF							
1005 GF/Program Receipts							
1037 GF/Mental Health							
Other Interagency Receipts							
TOTAL	**0.0**	**0.0**	*	*	*	*	*

Estimate of any current year (FY2010) cost:

POSITIONS

Full-time							
Part-time							
Temporary							

ANALYSIS: *(Attach a separate page if necessary)*

CSSB220 changes the name of the Alaska heating assistance program (AKHAP) to the Alaska affordable heating program (AAHP) and allows for an income eligibility limit of up to 250% of the federal poverty guidelines (FPG) when the average price of a barrel of North Slope Crude (NSC) between February and September of the preceding year exceeds $150 per barrel. The bill also fixes the dollar value of a Community Heating Point (CHP). CHP is the key factor in determining the amount of heating assistance payments and, under this bill, the dollar value assigned to the CHP is linked to the average price of a barrel of NSC. This legislation allows payments for households receiving federal assistance from LIHEAP to be supplemented by AAHP funds to ensure payments to lowest income households is based on the same dollar per CHP value used to determine payments for the Alaska affordable heating program. It also establishes the Alaska affordable heating fund (AAHF) in the Department of Revenue (DOR) to be used by the Department of Health and Social Services (DHSS) to provide heating assistance payments to eligible households.

continued on next page

Prepared by: Ellie Fitzjarrald, Director
Division: Public Assistance
Phone: 465-5847
Date/Time: 3/3/10 10:51 AM

Approved by: Alison Elgee, Assistant Commissioner
DHSS Finance & Management Services
Date: 3/5/2010

ANALYSIS CONTINUATION

Assumptions

The $5,000.0 in the governor's FY11 proposed budget for the Alaska heating assistance program is adequate to cover the initial benefit and administrative costs for the new Alaska affordable heating program. This would require an average price of a barrel of North Slope Crude oil (NSC) in the preceding year (Feb. - Sept. 2010) below $75, which triggers a CHP value of $130.

In general, AAHP will be administered and operated in the same manner as AKHAP.

A fair and equitable share of the appropriation for the Alaska affordable heating fund will be distributed to tribal organizations operating a regional affordable heating program.

Eligible households with incomes at or below 150% FPG may have their LIHEAP payment augmented with funds from the Alaska affordable heating fund.

For FY10, the state's share of the federal LIHEAP block grant only allows the state to provide awards based on a Community Heating Point (CHP) value of $115 per point to eligible households. It is assumed federal funding for FY11 and the per-point value assigned to a CHP will remain the same.

In FY11, it is estimated that the state and tribal affordable heating programs will serve 21,600 households. Approximately 19,000 will be recipient households of the LIHEAP program and 2,600 will only be beneficiaries of the affordable heating program. It is assumed that the average number of points for which a household below 150% FPG is eligible is 10. The average number of points for a household between 151% and 225% FPG is 5.

Benefit costs will increase in FY12 due to a projected caseload growth of 3%, with costs remaining relatively stable in out years if the average price of a barrel of NSC remains below $75. However, assessing program impacts is complicated by the uncertainty in estimating program participation. The cost of heating fuel for consumers increases as the value of NSC increases. Increased consumer costs are likely to increase demand for the program's services and benefits. This is expected to be most pronounced when the value of NSC exceeds $150 per barrel and the higher income limit is triggered. It is estimated that as many as 5,000 more households may be eligible when the income limit reaches 250% FPG.

Projections of Total Benefit Costs: The $5,000.0 currently in the governor's FY11 approved budget for the Alaska Heating Assistance Program will be used to cover benefit and administrative costs of the initial year of the Alaska Affordable Heating Program.
The total costs for benefits in FY11 are estimated to be $4,540.0 in state general funds as shown below.

LIHEAP (State and Tribal) households: $130-$115 = $15 x 10 CHP x 19,000 households =	$2,850.0
For AAHP (State and Tribal) households: $130 x 5 CHP x 2,600 households =	$1,690.0
	$4,540.0

Changing only the NSC sale price, the annual costs for benefits would be:
$6,570.0 when a barrel of NSC sells for $75 to $100 per barrel ($140 per CHP); and
$8,600.0 when a barrel of NSC sells for $100 to $150 per barrel ($150 per CHP).

When NSC exceeds $150 per barrel, the 250% income limit and the highest $/CHP value is triggered and as many as 5,000 additional households may become eligible for a total cost of $15,770.0 ($165 per CHP).

FISCAL NOTE

STATE OF ALASKA
2010 LEGISLATIVE SESSION

Fiscal Note Number: 7
Bill Version: CSSB 220(FIN)
(S) Publish Date: 4/10/10

Identifier (file name): SB220CS(FIN)-CED-AIDEA-4-9-10
Title: Omnibus Energy Bill
Sponsor: Senate Resources Committee
Requester: Senate Finance Committee

Dept. Affected: DCCED
RDU: AIDEA
Component: AIDEA operations
Component Number: 1234

Expenditures/Revenues (Thousands of Dollars)

Note: Amounts do not include inflation unless otherwise noted below.

	Appropriation Required	Information					
OPERATING EXPENDITURES	**FY 2011**	**FY 2011**	**FY 2012**	**FY 2013**	**FY 2014**	**FY 2015**	**FY 2016**
Personal Services	276.5		276.5	276.5	276.5	276.5	276.5
Travel							
Contractual							
Supplies							
Equipment							
Land & Structures							
Grants & Claims							
Miscellaneous							
TOTAL OPERATING	**276.5**	**0.0**	**276.5**	**276.5**	**276.5**	**276.5**	**276.5**
CAPITAL EXPENDITURES							
CHANGE IN REVENUES ()							

FUND SOURCE (Thousands of Dollars)

1002 Federal Receipts							
1003 GF Match							
1004 GF							
1005 GF/Program Receipts							
1037 GF/Mental Health							
Other Interagency Receipts	276.5		276.5	276.5	276.5	276.5	276.5
TOTAL	**276.5**	**0.0**	**276.5**	**276.5**	**276.5**	**276.5**	**276.5**

Estimate of any current year (FY2010) cost:

POSITIONS

Full-time	**3.0**		3	3	3	3	3
Part-time							
Temporary							

ANALYSIS: *(Attach a separate page if necessary)*

SB 220, titled the "Alaska Sustainable Energy Act," impacts the Alaska Industrial Development and Export Authority by increasing needed positions for Alaska Energy Authority requirements.

Section 12 - establishing the "Emerging Energy Technology Fund" and requiring the authority to administer the fund by making grants to eligible applicants. Cost assumptions include:

Approximately $276,518 per year to cover contract for personal services with AIDEA
Positions required: 1 Range 22 for program/project management; 1 Range 15 for finance/grant administration; 1Range 12 for administrative support.

Prepared by: Sara Fisher-Goad, Deputy Director-Operations — Phone 907-771-3012
Division: Alaska Industrial Development and Export Authority — Date/Time 4/9/10 12:00 AM
Approved by: Emil Notti, Commissioner — Date 4/9/2010
Commerce, Community and Economic Development

(Revised 11/6/2009 OMB)

3512

FISCAL NOTE

STATE OF ALASKA
2010 LEGISLATIVE SESSION

Fiscal Note Number: 8
Bill Version: CSSB 220(FIN)
(S) Publish Date: 4/10/10

Identifier (file name): SB220CS(FIN)-CED-AEA-4-9-10
Dept. Affected: DCCED
Title: Omnibus Energy Bill
RDU: Alaska Energy Authority
Component: Statewide Project Development
Sponsor: Senate Resources Committee
Requester: Senate Finance Committee
Component Number: 2888

Expenditures/Revenues (Thousands of Dollars)

Note: Amounts do not include inflation unless otherwise noted below.

	Appropriation Required	Information					
OPERATING EXPENDITURES	**FY 2011**	**FY 2011**	**FY 2012**	**FY 2013**	**FY 2014**	**FY 2015**	**FY 2016**
Personal Services							
Travel	21.8		20.2	20.2	20.2	20.2	20.2
Contractual	358.5		276.5	276.5	276.5	276.5	276.5
Supplies							
Equipment	10.0						
Land & Structures							
Grants & Claims							
Miscellaneous							
TOTAL OPERATING	**390.3**	**0.0**	**296.7**	**296.7**	**296.7**	**296.7**	**296.7**
CAPITAL EXPENDITURES							
CHANGE IN REVENUES ()							

FUND SOURCE (Thousands of Dollars)

1002 Federal Receipts							
1003 GF Match							
1004 GF	390.3		296.7	296.7	296.7	296.7	296.7
1005 GF/Program Receipts							
1037 GF/Mental Health							
Other Interagency Receipts							
TOTAL	**390.3**	**0.0**	**296.7**	**296.7**	**296.7**	**296.7**	**296.7**

Estimate of any current year (FY2010) cost:

POSITIONS (see AIDEA FN for details)

Full-time							
Part-time							
Temporary							

ANALYSIS: *(Attach a separate page if necessary)*

SB 220, titled the "Alaska Sustainable Energy Act," impacts the Alaska Energy Authority by:

Section 11 - repealing and reenacting the purpose of the existing Southeast Energy Fund managed by the Alaska Energy Authority. From this fund AEA could award grants to a municipality, a joint action agency, or a utility cooperative for power projects, repayment of loans, and payments on bonds for hydroelectric projects and electrical transmission lines or interties serving Southeast Alaska that are entirely owned by the grantee.

(Continued)

Prepared by: Sara Fisher-Goad, Deputy Director-Operations
Phone 907-771-3012
Division: Alaska Energy Authority
Date/Time 4/9/10 12:00 AM
Approved by: Emil Notti, Commissioner
Date 4/9/2010
Commerce, Community and Economic Development

STATE OF ALASKA
2010 LEGISLATIVE SESSION

BILL NO. CSSB 220(FIN)

ANALYSIS CONTINUATION

Currently the fund balance is zero. Depending on the capitalization, AEA would need to draft regulations and develop a process to administer grants including an allocation method for the various types of eligible projects which would bring additional expenses. Costs are unknown at this time.

Section 12 - establishing the "Emerging Energy Technology Fund" and requiring the authority to administer the fund by making grants to eligible applicants. Cost Assumptions:

Approximately **$82,000** in one-time start up costs to develop program ciriteria, RFA process, review process, grant agreements, etc. (Contractual)

Approximately **$21,840** per year to cover Advisory Committee expenses (travel - assume $660 airfare + 120 per diem x 7 members x 4 quarterly meetings)

Approximately **$276,518** per year to cover contract for personal services with AIDEA
Positions required: 1 Range 22 for program/project management; 1 Range 15 for finance/grant administration; 1Range 12 for administrative support.(Contractual)

Approximately **$10,000** (Equipment) for new staff

Section 13 - changing the definition of a power project relative to the power project fund to include nuclear production. AEA's costs are zero because there are currently no projects of this type. However, in the event viable nuclear projects are identified, annual operating costs would increase by $365,000 for each nuclear power project that has to be managed; $165,000 for a project manager with technical nuclear knowledge and $200,000 for contractual advisory service in the field.

FISCAL NOTE

STATE OF ALASKA
2010 LEGISLATIVE SESSION

Fiscal Note Number: 9
Bill Version: CSSB 220(FIN)
(S) Publish Date: 4/10/10

Identifier (file name): CSSB220(FIN)-REV-MBBA-04-09-10
Dept. Affected: Revenue
Title: ENERGY EFFICIENCY/ ALTERNATIVE ENERGY
RDU: AK Municipal Bond Bank Authority
Component: AMBBA Operations
Sponsor: Senate Resources Committee
Requester: Senate Finance Committee
Component Number: 108

Expenditures/Revenues (Thousands of Dollars)

Note: Amounts do not include inflation unless otherwise noted below.

	Appropriation Required	Information					
OPERATING EXPENDITURES	**FY 2011**	**FY 2011**	**FY 2012**	**FY 2013**	**FY 2014**	**FY 2015**	**FY 2016**
Personal Services							
Travel							
Contractual							
Supplies							
Equipment							
Land & Structures							
Grants & Claims							
Reserve Fund							
TOTAL OPERATING	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
CAPITAL EXPENDITURES							
CHANGE IN REVENUES ( )							

FUND SOURCE (Thousands of Dollars)

1002 Federal Receipts							
1003 GF Match							
1004 GF							
1005 GF/Program Receipts							
Charges for services							
Reserve Fund Earnings							
TOTAL	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**

Estimate of any current year (FY2010) cost: 0.0

POSITIONS

Full-time							
Part-time							
Temporary							

ANALYSIS: *(Attach a separate page if necessary)*

Seante Bill 220 requires that the Alaska Municipal Bond Bank Authority prepare a report annually. The AMBBA should be able to fulfill this requirement with no additional cost to operations.

Prepared by: Deven Mitchell, Debt Manager — Phone 465-3750
Division: Treasury — Date/Time 04-09-10; 6:52pm
Approved by: Ginger Blaisdell, Director — Date 04-09-10; 6:55pm
Administrative Services Division, Department of Revenue

(Revised 11/6/2009 OMB)

FISCAL NOTE

STATE OF ALASKA
2010 LEGISLATIVE SESSION

Fiscal Note Number: 10
Bill Version: CSSB 220(FIN)
(S) Publish Date: 4/10/10

Identifier (file name): CSSB220(FIN)-REV-AHFC-4-9-10
Dept. Affected: Revenue
Title: ENERGY EFFICIENCY/ ALTERNATIVE ENERGY
RDU: Alaska Housing Finance Corp.
Component: Operations
Sponsor: Senate Resources Committee
Requester: Senate Finance Committee
Component Number: 110

Expenditures/Revenues (Thousands of Dollars)

Note: Amounts do not include inflation unless otherwise noted below.

	Appropriation Required	Information					
OPERATING EXPENDITURES	**FY 2011**	**FY 2011**	**FY 2012**	**FY 2013**	**FY 2014**	**FY 2015**	**FY 2016**
Personal Services							
Travel							
Contractual							
Supplies							
Equipment							
Land & Structures							
Grants & Claims							
Miscellaneous							
TOTAL OPERATING	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
CAPITAL EXPENDITURES							
CHANGE IN REVENUES ( )							

FUND SOURCE (Thousands of Dollars)

1002 Federal Receipts							
1003 GF Match							
1004 GF							
1005 GF/Program Receipts							
1037 GF/Mental Health							
Other Interagency Receipts							
TOTAL	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**

Estimate of any current year (FY2010) cost:

POSITIONS

Full-time							
Part-time							
Temporary							

ANALYSIS: *(Attach a separate page if necessary)*

CS for Senate Bill 220(FIN) includes language that will set up an energy efficiency revolving loan fund and authorize the Alaska Housing Finance Corporation to sell up to $250 million in bonds to fund the program.

Costs associated with the issuance of these bonds are anticipated to be covered with annual operating budget authorizations. Operational costs for issuing and monitoring these bonds will be done with existing personnel and within the authorized operating budget for FY11 and beyond.

Prepared by: Bryan Butcher, Director, Governmental Relations/Public Affairs
Phone: 330-8445
Division: Alaska Housing Finance Corporation
Date/Time: 4/9/10 12:00 AM
Approved by: Ginger Blaisdell, Director
Date: 04-09-10; 6:42pm
Administrative Services Division, Department of Revenue

(Revised 11/6/2009 OMB)

FISCAL NOTE

STATE OF ALASKA
2010 LEGISLATIVE SESSION

Fiscal Note Number: 11
Bill Version: CSSB 220(FIN)
(S) Publish Date: 4/10/10

Identifier (file name): SB220CS(RES)-DOA-DGS-04-09-10
Title "An act declaring a state energy policy..."
Sponsor (S) RES
Requester (S) FIN

Dept. Affected: DOA
RDU Centralized Administrative Services
Component Purchasing
Component Number 81

Expenditures/Revenues (Thousands of Dollars)

Note: Amounts do not include inflation unless otherwise noted below.

	Appropriation Required	Information					
OPERATING EXPENDITURES	**FY 2011**	**FY 2011**	**FY 2012**	**FY 2013**	**FY 2014**	**FY 2015**	**FY 2016**
Personal Services							
Travel							
Contractual							
Supplies							
Equipment							
Land & Structures							
Grants & Claims							
Miscellaneous							
TOTAL OPERATING	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
CAPITAL EXPENDITURES							
CHANGE IN REVENUES ( )							

FUND SOURCE (Thousands of Dollars)

1002 Federal Receipts							
1003 GF Match							
1004 GF							
1005 GF/Program Receipts							
1037 GF/Mental Health							
Other Interagency Receipts							
TOTAL	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**

Estimate of any current year (FY2010) cost: _____

POSITIONS

Full-time							
Part-time							
Temporary							

ANALYSIS: *(Attach a separate page if necessary)*

This legislation will have no fiscal impact on the Department of Administration.

Prepared by: Vern Jones, Chief Procurement Officer — Phone 907-465-2250
Division General Services — Date/Time 4/9/10 5:00 PM
Approved by: Kevin Brooks, Deputy Commissioner — Date 4/9/2010
Department of Administration

(Revised 11/6/2009 OMB)

FISCAL NOTE

STATE OF ALASKA
2010 LEGISLATIVE SESSION

Fiscal Note Number: 12
Bill Version: CSSB 220(FIN)
(S) Publish Date: 4/10/10

Identifier: CSSB220(FIN)-DOT-SPF-4-10-10
Title: Omnibus Energy
Sponsor: Senate Resources
Requester: Senate Finance

Dept. Affected: DOT&PF
RDU: Design, Engineering & Construction
Component: Statewide Public Facilities
Component Number: 2882

Expenditures/Revenues (Thousands of Dollars)

Note: Amounts do not include inflation unless otherwise noted below.

	Appropriation Required	Information					
OPERATING EXPENDITURES	**FY 2011**	**FY 2011**	**FY 2012**	**FY 2013**	**FY 2014**	**FY 2015**	**FY 2016**
Personal Services	117.8		117.8	117.8	117.8	117.8	117.8
Travel	10.0		10.0	10.0	10.0	10.0	10.0
Contractual	96.0		6.0	6.0	6.0	6.0	6.0
Supplies	9.5		1.5	1.5	1.5	1.5	1.5
Equipment							
Land & Structures							
Grants & Claims							
Miscellaneous							
TOTAL OPERATING	**233.3**	**0.0**	**135.3**	**135.3**	**135.3**	**135.3**	**135.3**
CAPITAL EXPENDITURES							
CHANGE IN REVENUES ( )							

FUND SOURCE (Thousands of Dollars)

1002 Federal Receipts							
1003 GF Match							
1004 GF	233.3		135.3	135.3	135.3	135.3	135.3
1005 GF/Program Receipts							
1037 GF/Mental Health							
Other Interagency Receipts							
TOTAL	**233.3**	**0.0**	**135.3**	**135.3**	**135.3**	**135.3**	**135.3**

Estimate of any current year (FY2010) cost: _____

POSITIONS

Full-time	**1.0**		1	1	1	1	1
Part-time							
Temporary							

ANALYSIS: *(Attach a separate page if necessary)*

DOT&PF will hire an Engineer/Architect II to oversee the retrofits of public buildings done through the revolving loan program. This position will be the state's expert on energy audits, retrofits and performance contracting and will work closely with the Alaska Housing Finance Corporation on the Alaska Energy Efficiency Revolving Loan Program providing assistance with the development and management of performance contracts, reviewing loan applications and setting standards. The position will standardize the collection of energy consumption data and expenses for those state facilities owned and operated by DOT&PF.

A consultant ($90.0 budgeted) will study the feasibility of using compressed natural gas to power state vehicles and develop a pilot project with estimated costs by the required due date of January 2011. Supply costs in FY2011 include the cost of outfitting the new position with desk, computer, phone, and general office supplies. On going contractual costs include costs for copier, fax, phone, maintenance costs, core services costs and training and professional development.

Prepared by: Mary Siroky, Legislative Liaison — Phone 465-4772
Division: Department of Transportation and Public Facilities — Date/Time 4/10/10 10:00am
Approved by: Frank Richards, Deputy Commissioner — Date 4/10/2010
Department of Transportation and Public Facilities

(Revised 11/6/2009 OMB)

LEGAL SERVICES

DIVISION OF LEGAL AND RESEARCH SERVICES
LEGISLATIVE AFFAIRS AGENCY
STATE OF ALASKA

(907) 465-3867 or 465-2450
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State Capitol
Juneau, Alaska 99801-1182
Deliveries to: 129 6th St., Rm. 329

MEMORANDUM March 5, 2010

SUBJECT: Sectional summary of CSSB 220(RES) (Work Order No. 26-LS1197\D)

TO: Senator Lesil McGuire
Co-Chair of the Senate Resources Committee
Attn: Mike Pawlowski

FROM: Brian J. Kane BJK
Legislative Counsel

You have requested a sectional summary of Work Order No. 26-LS1197\D, a bill draft known as the Alaska Sustainable Energy Act.

Please note that a sectional summary of a bill is not an authoritative interpretation of a bill. The bill itself is the best statement of its contents.

Section 1 of the bill provides for the short title of the bill.

Sections 2 and 3 of the bill offer the legislative policy and purpose for certain sections of the bill.

Section 4 of the bill allows a regional school board to apply for and use the proceeds of a loan from the Alaska energy efficiency revolving loan fund.

Section 5 of the bill amends AS 18.45.020 to include the phrases "special nuclear material facility" and "by-product material facility" in order to cover more projects or activities in this section for which a license or permit may be needed from the Nuclear Regulatory Commission.

Section 6 of the bill adds the phrase "nuclear utilization facility" to AS 18.45.025(a) in order to conform with definitions listed in AS 18.45.900.

Section 7 of the bill amends AS 18.45.025(b) to state that when the legislature designates by law the land in the state on which a nuclear utilization facility or utilization facility may be located, it must act only in the interest of regulating the economics of nuclear energy.

Section 8 of the bill deletes a line of AS 18.45.025(c) that states that a permit may not be issued unless approved by the governor, leaving only a requirement for approval by the Department of Environmental Conservation and a municipality.

Section 9 of the bill provides the Alaska Housing Finance Corporation with the power to provide technical assistance to municipalities regarding energy codes and efficiency standards.

Section 10 of the bill creates an energy efficiency revolving loan fund in the Alaska Housing Finance Corporation for providing loans to regional attendance areas, municipalities, or the state for the purpose of financing energy efficiency improvements to buildings.

Section 11 of the bill tasks the Department of Transportation and Public Facilities with reviewing the option of using alternative energy when adopting plans and specifications for public works.

Section 12 of the bill provides that the state shall give consideration in procurements to purchasing energy efficient equipment.

Section 13 of the bill requires the Office of Management and Budget to work with state agencies to develop a standardized methodology to collect and store energy consumption and expense data.

Section 14 of the bill repeals and reenacts the Southeast Energy Fund to expand the options for money going into the fund and expands the projects for which the fund may be used.

Section 15 of the bill amends a provision of the renewable energy grant fund regarding the methodology for determining the order of projects to receive funding and requiring activity reports to be filed by grant recipients.

Section 16 of the bill amends the renewable energy fund statute by requiring the Alaska Energy Authority to hire an expert to conduct financial and economic analysis for each recommended grant application.

Section 17 of the bill tasks the Alaska Energy Authority with facilitating the organization of a statewide fuel purchasing cooperative.

Section 18 of the bill creates the emerging energy technology fund.

Section 19 of the bill amends the definition of "power project" or "project" in AS 42.45.990(4) to delete the exclusion of nuclear energy from the definition in relation to statewide and rural energy programs.

Section 20 of the bill adds the renewable energy production tax credit as an exception to a tax credit limitation set for corporations.

Section 21 of the bill establishes a renewable energy production tax credit.

Section 22 of the bill requires the Department of Transportation and Public Facilities to purchase energy efficient cars whenever practicable.

Section 23 of the bill tasks the Department of Transportation and Public Facilities with retrofitting 25 percent of all public facilities by 2020, making sure that deferred maintenance and new construction meet national standards for energy efficiency, and reporting to the legislature on the department's progress.

Section 24 of the bill requires the Alaska Energy Authority to annually plan and conduct, in cooperation with the Alaska Housing Finance Corporation, a public education campaign to promote energy efficiency and conservation.

Section 25 of the bill amends the definition of "power project" or "project" in AS 44.83.990(6) to delete the exclusion of nuclear energy from the definition in relation to the Alaska Energy Authority.

Sections 26 - 33 of the bill amend the alternative energy revolving loan fund by amending the funding sources and having the fund used only for commercial buildings.

Section 34 of the amendment amends the definition of "alternative energy system" in AS 46.11.900(1) to remove the exclusion of nuclear fuel as it relates to financing of energy efficient homes and buildings.

Sections 35 - 42 converts the Alaska heating assistance program into the Alaska affordable heating program and makes substantive and conforming changes to that program.

Section 43 of the bill repeals AS 43.20.046 and 43.98.040, which are the renewable energy production tax credit sections of the bill, on January 1, 2018.

Section 44 of the bill repeals AS 44.42.067(c) (retrofit and new construction for energy efficiency, added by bill section 23) on January 1, 2021.

Section 45 of the bill repeals AS 45.88.010(c), 45.88.030(c), 45.88.030(d), and 45.88.040(a).

Section 46 of the bill requires the Office of Management and Budget to work with state agencies to develop a standardized methodology to collect and store energy consumption and expense data no later than November 1, 2010.

Section 47 of the bill requires the Department of Transportation and Public Facilities, in consultation with the Alaska Energy Authority, to adopt and implement a systematic process for prioritizing the retrofitting of state facilities for a long-term increase in energy efficiency and reduction of energy costs.

Section 48 of the bill requires the Department of Transportation and Public Facilities to study the feasibility of using compressed natural gas to power vehicles in the state and develop a proposal for a pilot program if warranted by the study.

Section 50 of the bill authorizes the Alaska Housing Finance Corporation to issue bonds to support making loans from the energy efficiency revolving loan fund established by AS 18.56.855.

Section 51 of the bill directs the revisor of statutes to make two changes to article headings to conform with statutory changes.

BJK:plm
10-140.plm

ALASKA STATE LEGISLATURE

Senate Resources Committee

Senator Lesil McGuire, Co-Chair Senate Resources
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Phone (907) 465-2995
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sen.lesil.mcguire@legis.state.ak.us

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sen.bill.wielechowski@legis.state.ak.us

Fiscal Notes for SB 220: 26-LS1197\D

Department/RDU	Total	FTE	Part-Time	Notes
Health & Social Services	0	0	0	Currently funded in Gov budget. Potential increases in future when oil prices are high.
DOT/PF	493.2	2	0	Can be reduced $15.0 by changing effective date of CNG study.
Department of Administration	0	0	0	
DEC	0	0	0	
Department of Revenue	0	0	0	SB 220 establishes a refundable tax credit that could impact future revenues.[1]
DCCED: Alaska Energy Authority	788.7	0	0	
DCCED: AIDEA	*	3	0	326.5 (included in the AEA fiscal note)
Total:	1281.9	5		

[1] The refundable tax credit created by SB 220 is set to sunset by 2018. In order to qualify for the credit, an investment must produce energy before 2018. Documents from the Alaska Energy Authority state that a total of $970.9 million has been requested in the three rounds. With $125 million appropriated (and assuming no federal grants) the total obligation for these projects would be $84.59 million based on the 10% cap.

SB 220, version D: Overview

The *Alaska Sustainable Energy Act* includes a broad range of policy tools designed to attract investment in Alaska's energy sector and stimulate the economy. The programs in SB 220 fall into three basic categories: near-term, mid-term and long-term solutions. Following is a brief list of some of the programs in the *Alaska Sustainable Energy Act.*

Near Term Solutions: Plan and Assist

- **Refine the Alaska Heating Assistance Program**: SB 220 links this program to the price of oil to provide additional heating assistance to low-income Alaskans when the price of oil is high and the state enjoys significant surpluses. This program is a supplement to the federal Low-Income Heating Assistance Program (LIHEAP).

- **Prioritize Energy Efficiency Retrofits:** Just like a person's home, state buildings can be made more energy efficient. Currently, the State of Alaska alone (not counting schools) spends roughly $55 million per year on heating and lighting its buildings. Energy efficiency improvements can save 20% in energy costs which could translate to more than $10 million in savings per year. SB 220 requires the Department of Transportation and Public Facilities to prioritize which buildings to fix first.

- **Establish an Energy Efficiency Revolving Loan Fund**: Senate Bill 220 creates a revolving loan program to fund energy efficiency improvements in public buildings. School districts, municipalities and state government will have access to the funds needed to upgrade their facilities. Based on what we have seen from the State's *Weatherization* and *Home Energy Rebate* programs, this fund will foster 1,500 to 2,000 jobs in the construction industry in Alaska.

- **Coordinate and Consolidate State Energy Programs:** SB 220 asks the Governor to evaluate how best to coordinate the State's energy departments and programs in order to avoid duplication of efforts. The Governor is directed to provide a plan to the legislature by November of 2010.

- **Organize a Statewide Fuel Cooperative**: Many rural communities struggle with crippling fuel costs. SB 220 directs the Alaska Energy Authority to work with interested communities to establish a fuel coop that will facilitate bulk purchases, lowering costs especially for small communities.

Medium Term Solutions: Incentivize Investment

- **Renewable Energy Tax Credit:** Several states have passed renewable energy tax credits to encourage investment in renewable energy resources. SB 220 contains a renewable energy tax credit that would provide a refundable tax credit to investors in order to encourage private sector investment in Alaska's renewable energy sector.

- **Loans to Businesses for Energy Conservation Improvements**: Alaska already provides loan programs to households for energy improvements. SB 220 includes loans of up to $50,000 for businesses to enable investments in energy efficiency. This program will help primarily small businesses get access to the capital they need to make investments that will save money and encourage economic development.

Long Term Solutions: Innovate

- **Emerging Energy Technology Fund (EETF)**: With the high cost of energy in many of our communities, Alaska provides a unique opportunity for innovation. The *Alaska Sustainable Energy Act* would create a fund that would provide grants for testing energy technologies in Alaska. The EETF would foster innovation and enable Alaskans to develop solutions to our energy challenges in Alaska; creating high-tech jobs and spurring investment in our economy.

ALASKA STATE LEGISLATURE
Senate Resources Committee

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January 21, 2010

Senator Bert Stedman
Co-Chair Senate Finance Committee
State Capitol Room 516
Juneau AK, 99801

Senator Lyman Hoffman
Co-Chair Senate Finance Committee
State Capitol Room 518
Juneau AK, 99801

Dear Senator Stedman and Senator Hoffman,

When oil hit $147 a barrel in 2008, the State's coffers overflowed but individual Alaskans suffered the highest energy costs in the nation. These staggering costs did not drop along with the price of oil in 2009. Alaskans still pay 50% more for electricity than the average American and at least double the average price for heating fuel. As recently as this summer, the mean price for gasoline in 99 Alaska communities was $5.37 per gallon, with some communities paying up to $10/gallon. To make matters worse, these costs are growing relative to Alaskans' paychecks. In 2000, low-income households in remote, rural communities spent 16% of their income on energy. By 2008, this had grown to 47%. With all of our tremendous resources, Alaskans face natural gas shortages in Southcentral Alaska; businesses are closing their doors and laying off workers because of the price of energy; and some rural Alaskans are leaving their communities because they can't afford to heat their homes and keep their lights on.

Members of the Senate Resources and Energy Committees spent the interim hearing this story firsthand. In communities across the State, we listened to the urgent requests of Alaskans for help, and worked with them to identify solutions to the energy challenges that have plagued Alaska for years. The input we received was incorporated into a broad *Draft State Energy Policy and Program Recommendations*, document which was first released to the public in October of 2009. The public then weighed in again and offered additional comments on the draft proposal. After reviewing these comments we drafted SB 220, the Alaska Sustainable Energy Act, that offers long-term solutions to some of the energy challenges Alaskan face.

But legislation alone will not solve all of the pressing energy problems Alaskans face. Progress requires a commitment of funds to help Alaskan households, businesses and communities cut costs, use energy more efficiently, and develop new, renewable sources of energy. The legislature has committed substantial resources to energy issues over the past few years and we heard from Alaskans directly about the impact these expenditures have had on their lives. Below are a series of budget recommendations that builds on the legislature's previous work and which we believe will help provide Alaskans with more affordable and reliable energy over the long term. We ask that you give these recommendations serious consideration as the process of developing a budget for fiscal year 2011 proceeds.

- **$25 million for weatherization to reduce home energy costs**

  Weatherization is a proven way to reduce energy costs over the long-term. Annual household savings from weatherization average $526/year or $7,565 over the life of improvements. Nationally, the Department of Energy reports that weatherization saves the equivalent of 3 barrels of oil per dwelling per year or 60 barrels over 20 years. DOE reports that $1.83 is saved for every dollar spent on weatherization. The $200 million the state appropriated in 2008 for weatherization is likely to be fully encumbered by the end of FY'10. According to an AHFC report, more than 27,000 houses in Alaska still need to be weatherized; 1 in 5 rural homes and nearly 8,000 homes in Anchorage cannot maintain a comfortable room temperature; and more than 115,000 homes are "drafty."

- **$175,000 to help Alaskans learn how to lower their energy costs through a statewide public education campaign on energy efficiency**

  Alaskans stand to save millions by making their homes and businesses more energy efficient. An educational campaign can teach Alaskans simple ways to save energy and money, boosting family, community and state budgets. Local utilities can forecast anticipated energy savings and downsize infrastructure accordingly, and the state can minimize its investments in new and upgraded infrastructure. Energy efficiency and conservation is typically 50-75% cheaper than building new power plants or buying energy on the open market.

- **$100,000 to provide technical assistance to businesses to help them reduce their energy-related expenditures and improve profitability**

  This funding will enable the Alaska Energy Authority to help businesses reduce their energy consumption and improve their bottom lines. AEA plans to use federal stimulus funds to initiate a technical assistance program this fiscal year. This appropriation would enable their efforts to continue, assisting more businesses around the state.

- **$250,000 for energy-related job training**

  Using grant funds, the Alaska Vocational Technical Center currently trains power plant managers and bulk fuel operators to maintain reliable and efficient power plants, reducing operating costs in many communities across Alaska. AVTEC has purchased high efficiency generators and switchgear on which plant operators can be trained. However, with weakening federal support for the Denali Commission, funding is dwindling and these programs will need state support to continue.

- **$2 million to help Alaskans save money with energy efficient appliances**

  Several states provide rebates to homeowners who replace older energy-inefficient appliances (e.g., furnaces, refrigerators, and water heaters) with appliances that are substantially more efficient than federal standards. The Department of Energy reports that last year savings from Energy Star appliances were enough to power 10 million homes and avoid greenhouse gas emissions from 12 million cars. Consumers also saved an estimated $6 billion.

- **$25 million for the Renewable Energy Fund (above the Governor's proposed $25 million)**

  In 2008, the Legislature pledged $300 million in funding over a 5-year period to in-state renewable energy projects. The Renewable Energy Fund provides grants of up to $4 million dollars to eligible renewable energy projects for feasibility and reconnaissance studies, energy resource monitoring, and construction. Continuing to support the Renewable Energy Fund through FY2012 will allow the Legislature to fulfill its five-year pledge to help communities develop their renewable energy resources and transition off of traditional fossil fuels sources.

- **$8 million for rural power system upgrades (above the Governor's proposed $2 million) to reduce electrical costs in rural Alaska**

  In the last decade, the Alaska Energy Authority has upgraded about 35 rural power systems, resulting in an average increase in efficiency of 26%. These upgrades have saved these communities more than $1 million a year in fuel costs. About 25-30 community power systems still need to be upgraded. Since 2000, funding for these upgrades has come predominantly from the Denali Commission. However, the Commission's budget is in sharp decline and the state will have to step in if it wishes to assist the 25-30 communities still in severe need of upgrades.

- **$200,000 to provide technical assistance to operators of rural power systems to lower costs through improved system reliability and efficiency**

  The Alaska Energy Authority currently provides assistance to power system operators in more than 120 villages. The goal of this program is to enable local operators to become self-sufficient in running remote systems in an efficient and cost-effective manner.

- **$4 million to upgrade bulk fuel storage facilities (above the Governor's proposed $1 million) to lower fuel costs for families and businesses in rural Alaska and meet federal environmental codes**

  In the early 1990s, many rural communities faced the threat that they would no longer be allowed to take delivery of fuel in bulk quantities because of the condition of their bulk fuel storage tank farms. The Bulk Fuel Upgrade Program, which has been largely supported by the Denali Commission, provides funding for repairs to enable affected communities to continue to receive fuel. Sixty-four projects have been completed so far, 7 are underway, and 33 remain. Unfortunately funding from the Denali Commission is declining dramatically and the state will have to step in if this effort is to be completed.

- **$3 million in state matching funds to enable communities to qualify for roughly $9 million in federal public transportation funds**

  Community transportation systems help many Alaskans get to work, school, medical facilities, and other critical destinations. Alaska currently has 11 road-based community transit systems, and is 1 of only 3 states that do not invest any general funds in public transit operations. Local governments (e.g., the Mat-Su Borough and Kenai Peninsula Borough) are struggling to raise sufficient matching funds to secure federal funds and have had to leave federal funds on the table, undermining this energy-efficient form of transportation.

- **$3 million to replenish the Power Project Loan Fund (above the Governor's proposed $7 million)**

  The Power Project Fund provides loans to utilities, local governments and independent power producers for the development or upgrade of electric power facilities, including conservation, bulk fuel storage, and waste energy conservation. The loan term is related to the productive life of the project, but cannot exceed 50 years. Interest rates vary between tax-exempt rates at the high end and zero on the low end. Forty-seven loans for a total of $26 million are currently out, with only one past due. The Fund balance is running low and more funding is necessary to support legitimate, cost-saving requests from applicants.

- **$200 million for Long-Term Railbelt Energy Projects**

  A Regional Integrated Resource Plan was recently completed for the Railbelt to guide development of the region's power systems over the next 50 years. This report assesses the cost and feasibility of numerous power production alternatives and identifies huge expenditures that will be needed to maintain reliable and affordable energy for the region. Re-building the Railbelt Energy Fund incrementally will help prepare communities and the state for needed investments and enable near-term projects to proceed.

- **$10 million for Susitna, Chakachamna and Glacier Fork Hydro Projects**

  The Railbelt Integrated Resource Plan identified large hydro projects as a preferred energy source for the region. These funds would enable the AEA to carry out 1) needed geotechnical work, permitting, and initial conceptual design for the Susitna Hydro Project ($6 million), 2) feasibility and field studies related to the proposed Lake Chakachamna Hydro Project ($3 million) and 3) conceptual design and preliminary permitting for other hydroelectric projects ($1 million). This work will help the Administration and Legislature determine whether additional investment in and ultimate construction of each of these projects is advisable.

- **$3 million for the Emerging Energy Technology Fund**

  Currently there is little or no state funding available for research and development of new energy technologies. Although the state supports renewable energy development through the REF, projects are limited to proven "off the shelf" technologies. The proposed Emerging Energy Technology Fund would encourage innovation and exploration of new sources of renewable energy and match funds provided by the Denali Commission.

- **$10 million for the Southeast Energy Fund**

  An expanded and capitalized Southeast Energy Fund can assist in the construction of power generation projects in Southeast and completion of a regional electrical grid. Most communities in the region are not on hydro power and the majority still burn oil to generate electricity and heat. In addition, many of the hydroelectric facilities in Southeast are at or near capacity, severely limiting regional economic growth opportunities.

- **Support for Southeast Energy Planning** (in Governor's budget)

  A Regional Integrated Resource Plan (RIRP) for Southeast Alaska will help comprehensively assess regional needs, power production alternatives and their costs. The RIRP will build on the current Southeast Alaska Electrical Intertie system plan and create a rational approach to prioritizing state and local investment.

- **Fully fund the Power Cost Equalization Program**

  The Power Cost Equalization program is a critical foundation of Alaska's energy policy. Fully funding the PCE program will continue to provide desperately needed relief in communities suffering under the highest energy costs in the nation.

We fully appreciate the challenges you face on the Senate Finance Committee and diverse funding needs facing our State. We ask you to consider these items as you craft the operating, capital and supplemental budgets for fiscal year 2011 and plan ahead for fiscal year 2012.

Sincerely,

Senator Bill Wielechowski

Senator Lesil McGuire

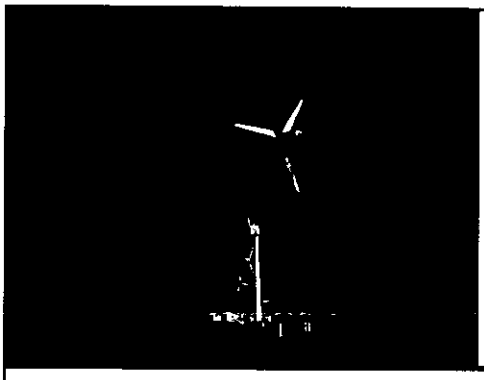
CC: Senator Dennis Egan
Senator Johnny Ellis
Senator Charlie Huggins
Senator Donny Olson
Senator Joe Thomas
Senator Gary Stevens
Governor Sean Parnell

Fact Sheet for the Renewable Energy Refundable Tax Credit

Senate Bill 220: 26-LS1197\D Sections 20 & 21

Prepared By: Michael Pawlowski, Aide Senator Lesil McGuire

Production tax credits have been used by the federal government and other states to encourage the development of electricity from renewable energy sources. Unlike grants or other incentives offered during the design and construction phases, production credits only accrue to a project when it begins generating electricity. This attribute makes production tax credits an attractive incentive mechanism. The *Alaska Sustainable Energy Act* (Senate Bill 220) offers a renewable energy refundable tax credit as policy alternative to encourage investment in renewable energy in Alaska. This fact sheet is intended to provide an explanation of how the refundable credit is calculated. The projects selected are for illustrative purposes only and do not represent actual projects. Data for the calculations were taken from potential projects identified in the *Alaska Energy Report* prepared by the Alaska Energy Authority and available online.



Example 1: A 5 MW Wind/Diesel Hybrid System

Capital Cost:	$23.5 million
Installed Capacity:	10%
Kilowatt-Hours/yr:	4,380,000
Cost KwH:	.63 cents
Grants:	$3.5 million Renewable Energy Fund $2 million Federal

Step 1: ***Calculate the base credit***: 15% of the electricity sold.

.63 cents x 4,380,000 kilowatt-hours/year = $2,759,400 in gross sales of electricity.

$2,759,400 per year x 15% credit rate = $413,910 annual refundable credit

Step 2: ***Calculate the total allowable credit***: 10% of CAPEX (excluding grants)

CAPEX: $23.5 million - $3.5 million REF - $2 million in federal = $18 million

Allowable CAPEX of $18 million x 10% = allowable cap of $1.8 million.

Step 3: ***In Practice:*** the credits are available for 5 years subject to the cap for CAPEX:

Base Credit: $413,910 over 5 years = $2,069,550 but maximum = $1.8 million

Year 1: $413,910 : Year 2: $413,910 : Year 3: $413,910 Year 4: $413,910

Year 5: **$144,360** ($1.8 million - $1,655,640 [$413,910 x 4])

Total Renewable Energy Refundable Tax Credit: **$1,800,000**

SB 228

SENATE COMMITTEE REPORT
First Committee of Referral

DATE: 1/19/10 FURTHER: Finance

Date of 5-Day Notice: _____
(in accordance with Uniform Rule 23)

DATE TURNED
IN TO OFFICE: _____

Resources Committee considered SENATE BILL NO. 228

SB 228 TAX INCENTIVES FOR GAS-TO-LIQUID

"An Act providing for an industrial incentive investment tax credit and including a gas- to-liquids facility as an eligible investment; and providing for a production tax limit on gas used as a raw material for producing liquids or petrochemicals from gas in the state."

and recommends:

[ ] be **replaced** with [ ] **SCS** or [✓] **CS** SB 228 (RES)

[ ] adopt **previous** [ ] **SCS** or [ ] **CS** _____ (_____)

[ ] attached amendment(s)

[ ] adopt _____Letter of Intent

[ ] further referral to _____Committee

SENATE BILL:
[ ] Same Title
[✓] New Title

HOUSE BILL:
[ ] Same Title
[ ] Technical Title Change
[ ] New Title w/ SCR #_____

NEW FISCAL NOTE(S):

Department	Date	Fiscal	Indet.	Zero	FN#
REV	02/06		✓		

PREVIOUS FISCAL NOTE(S):

Department	Date	Fiscal	Indet.	Zero	FN#

[ ] **APPROPRIATION - no fiscal note**

SIGNATURES AND RECOMMENDATIONS:	PRINTED LAST NAME	DO PASS	DO NOT PASS	NO REC	AMEND
	Huggins			✓	
	Stevens			✗	
					✓
	French			✓	
CO-CHAIR:	McGuire	✓			
CO-CHAIR:	Wielechowski	✓			

CS FOR SENATE BILL NO. 287(RES)

IN THE LEGISLATURE OF THE STATE OF ALASKA

TWENTY-SIXTH LEGISLATURE - SECOND SESSION

BY THE SENATE RESOURCES COMMITTEE

Offered:
Referred:

Sponsor(s): SENATORS MCGUIRE, Davis

A BILL

FOR AN ACT ENTITLED

"An Act amending the powers and duties of the Alaska Railroad Corporation related to the exercise of authority to purchase, transport, and sell natural gas produced on the North Slope for in-state use, and transferring exclusive and primary responsibility for the initiation and development of that project to that corporation; and providing for an effective date."

BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF ALASKA:

*** Section 1.** The uncodified law of the State of Alaska is amended by adding a new section to read:

LEGISLATIVE FINDINGS AND PURPOSE. (a) The legislature finds that

(1) by 2018, declining oil flow through the Trans Alaska Pipeline System will seriously diminish state revenue;

(2) Cook Inlet natural gas reserves are depleting at a rate that could cause significant short-term shortages for residential and commercial gas users in Southcentral

Alaska by 2013;

(3) a proposed natural gas pipeline to deliver North Slope gas reserves to the North American domestic gas pipeline grid at a connection in central Alberta will not produce revenue for the benefit of the state before 2020;

(4) the state's significant reserves of natural gas should be made available on a priority basis in the state to enhance employment opportunities, expand the state's economy, and supply a significant portion of community energy needs;

(5) the Alaska Natural Gas Development Authority is studying a pipeline spur, aggregating in-state demand for natural gas, and facilitating delivery of natural gas and natural gas liquids to Alaskans; and

(6) in light of competing demands for future uses of the state's North Slope natural gas reserves, an aggressive effort involving planning, permitting, and coordination of information sharing, of necessary agreements and commitments, and commercial negotiations among interested parties is necessary for completion of construction of an in-state natural gas pipeline that will provide significant direct benefit to the people of the state at the earliest possible date.

(b) It is the purpose of this Act

(1) to give general direction to the Alaska Railroad Corporation, an agency that enjoys express authority to acquire, construct, improve, maintain, equip, and operate a natural gas pipeline and related facilities for the transportation of natural gas recovered from the North Slope without regard to whether the facilities are or will be owned in whole or in part by the corporation or located on land owned by the corporation, to plan and develop construction of a high pressure in-state natural gas pipeline of appropriate diameter between Alaska's North Slope and Cook Inlet sufficient to provide for the distribution of natural gas for residential and commercial purposes at locations along the pipeline route; and

(2) to advance to the point of project sanction an in-state natural gas pipeline that will provide significant direct benefit to the people of the state at the earliest possible date.

*** Sec. 2.** AS 42.40.460 is amended by adding a new subsection to read:

(l) The provisions of AS 42.40.560(d) prevail over the provisions of this section for the purpose of development of the North Slope natural gas pipeline project

described in that section.

* **Sec. 3.** AS 42.40.560 is amended to read:

Sec. 42.40.560. North Slope natural gas pipeline. The corporation may provide [FINANCING] for the acquisition, construction, improvement, maintenance, equipping, and operation of a natural gas pipeline and related facilities**, and for the financing of the pipeline project and related facilities,** for the transportation of natural gas recovered from the North Slope of this state without regard to whether the facilities are or will be owned in whole or in part by the corporation or located on land owned by the corporation. **The authority provided by this section is limited to the project popularly identified as the Stand-Alone Pipeline Project, or Stand-Alone Project, that**

(1) proposes to develop a gas pipeline system to transport natural gas, and possibly additional natural gas liquids to markets in the Anchorage bowl area, and the Kenai Peninsula, and to additional customers along the transportation route;

(2) contemplates the commercial development of two primary sources of natural gas, the Prudhoe Bay Central Gas Facility and the Gubik gas field located in the northern foothills of the Brooks Range, and allows for use of gas from either or both of those gas sources or from any other source of natural gas;

(3) projects a pipeline system routing generally along the state's existing transportation corridors between the North Slope and Southcentral Alaska, starting from each potential gas source location, making its way to the Trans Alaska Pipeline System and Dalton Highway corridor, generally paralleling that corridor from the North Slope to the vicinity of Livengood, north of Fairbanks, and continuing to the Cook Inlet area, using one of two routes that are the existing transportation corridors between Fairbanks and Cook Inlet: the Parks Highway and the Richardson and Glenn Highways; and

(4) is compatible but not competitive with the project described in and authorized by AS 41.41 or the project described in and authorized by AS 43.90.

* **Sec. 4.** AS 42.40.560 is amended by adding new subsections to read:

(b) In the exercise of its authority under (a) of this section for a North Slope natural gas pipeline project, the corporation shall

(1) establish, maintain, and operate a subsidiary of the corporation to perform the work described in this section;

(2) aggressively pursue the acquisition of all necessary federal permits and authorizations essential for the development and operation of the project;

(3) provide monthly reports to the presiding officers of each house of the legislature and to the governor on the corporation's activities relating to the project;

(4) initiate a cost study for construction of a gas-to-liquids facility; in the exercise of its authority under this paragraph, the corporation may arrange for essential engineering and design work; and

(5) initiate efforts to identify and develop in-state markets for the natural gas to be delivered by the project and, to the extent necessary to ensure the long-term feasibility of the project, work to identify and develop overseas markets for the gas.

(c) Subject to AS 36.30.015(e), the board may provide that all or any portion of the project described in this section shall be subject to competitive sealed bid or competitive sealed proposal procedures.

(d) To fulfill its obligations under this section, the corporation shall identify all or a portion of a proposed natural gas pipeline transportation corridor:

(1) to the maximum extent possible consistent with ensuring the long-term feasibility of the project, the corporation shall make reasonable efforts to locate the proposed corridor between Fairbanks and the Kenai Peninsula on its land;

(2) notwithstanding any contrary provision of law, the Department of Natural Resources shall grant the corporation a right-of-way lease under AS 38.35 for the transportation corridor identified under (1) of this subsection if

(A) the corporation submits a complete right-of-way lease application under AS 38.35.050;

(B) the lease application is made the subject of notice and other

reasonable and appropriate publication requirements under AS 38.35.070; and

(C) the corporation agrees to be bound by the right-of-way lease covenants set out in AS 38.35.120;

(3) notwithstanding any contrary provision of law, a right-of-way lease granted under (2) of this subsection is subject to AS 38.05, except that the best interest findings requirements of AS 38.05 do not apply to a lease made under this subsection.

*** Sec. 5.** The uncodified law of the State of Alaska is amended by adding a new section to read:

ALASKA RAILROAD CORPORATION: TRANSITIONAL PROVISIONS AFFECTING OBLIGATIONS UNDER AS 42.40.560. (a) Subject to (c) of this section, in discharging its obligations under AS 42.40.560(b)(2), enacted by sec. 4 of this Act, the Alaska Railroad Corporation shall

(1) initiate permit and acquisition applications in accordance with the federal permit schedule that was provided to the legislature by the Office of the Governor on or about December 15, 2009;

(2) seek letters of intent from buyers and sellers of natural gas to ship gas using the facilities of the project and, from information obtained, by February 15, 2011, define the project parameters that would allow the project to be commercially viable;

(3) seek letters of interest from private pipeline construction and operating companies to develop the project; the work under this paragraph should be initiated between November 15, 2010, and shall be completed by March 15, 2011;

(4) prepare and submit to the governor and the presiding officer of each house of the legislature, by December 15, 2010, any initial legislation necessary to advance the project;

(5) identify or define and submit to the legislature, not later than January 15, 2011, the corporation's estimates of any long-lead time cost items or work tasks to achieve an early start-up for the project;

(6) prepare a final bankable feasibility document; the work under this paragraph should be initiated by July 1, 2011, and shall be completed by June 30, 2012; and

(7) unless otherwise provided in the monthly report required by AS 42.40.560(b)(3), enacted by sec. 4 of this Act, prepare and submit a report at each of the

dates set out in (1) - (6) of this subsection to the governor, the speaker of the house of representatives, and the president of the senate.

(b) The parties having responsibility for contracts, permit and acquisition applications, and studies in progress on the effective date of this Act entered into by the Office of the Governor or a state agency shall transfer those obligations and initiatives to the Alaska Railroad Corporation. Transfer of those obligations and initiatives may not be unreasonably delayed.

(c) The corporation shall cease its activities under this section and AS 42.40.560, as amended by secs. 3 and 4 of this Act, if the corporation receives a communication that

(1) the governor, after setting out with particularity the reasons that support the decision, has entered a finding that

(A) an agreement has been entered into that will result in construction of the project described in AS 43.90;

(B) construction of the project described in this section would prevent initiation and completion of the project described in AS 43.90; or

(C) other circumstances warrant cessation of activities under this section and AS 42.40.560;

(2) the legislature expresses its approval of the finding of the governor made under (1) of this subsection by concurrent resolution.

*** Sec. 6.** This Act takes effect July 1, 2010.

ADOPTED
03/18/10

26-LS1324\P
Bullock
3/17/10

CS FOR SENATE BILL NO. 228( )

IN THE LEGISLATURE OF THE STATE OF ALASKA

TWENTY-SIXTH LEGISLATURE - SECOND SESSION

BY

Offered:
Referred:

Sponsor(s): SENATORS MCGUIRE, Wielechowski, Ellis

A BILL

FOR AN ACT ENTITLED

"An Act providing for a tax credit for investment in a facility that produces liquids from gas, coal, or biomass; and providing for a production tax limit on gas used in the state as a raw material for producing liquids or petrochemicals from gas."

BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF ALASKA:

*** Section 1.** AS 43.20 is amended by adding a new section to article 1 to read:

Sec. 43.20.046. Special investment tax credit to produce liquids from gas, coal, or biomass. (a) Subject to (b) of this section, for purposes of calculating eligible taxes, the taxpayer may apply as a credit against eligible taxes the following percentage on only the first $1,000,000,000 of investment in the state for each taxable year after December 31, 2010, for a facility that produces liquids from gas, coal, or biomass: (1) 100 percent on the first $50,000,000 of investment; (2) 80 percent on investment over $50,000,000 but not exceeding $100,000,000; (3) 70 percent on investment over $100,000,000 but not exceeding $150,000,000; (4) 60 percent on investment over $150,000,000 but not exceeding $200,000,000; and (5) 40 percent on

investment over $200,000,000 but not exceeding $1,000,000,000. A credit may not be allowed under this subsection for leased property. The credit under this subsection may not exceed $475,000,000 for a single facility.

(b) A taxpayer may not claim an investment tax credit under (a) of this section unless the facility that produces liquids from gas, coal, or biomass or the mining project began operation and production after December 31, 2010. A facility for producing liquids from gas, coal, or biomass or a mining project is considered to have begun operation and production when the first liquids from gas, coal, or biomass or the first minerals are produced that are ultimately either sold or transferred for further processing or ultimate use.

(c) The investment tax credit for a taxable year allowed by (a) of this section may not exceed 60 percent of the eligible tax liability. Any unused portion of the investment tax credit may be carried forward.

(d) A tax credit under this section may not be claimed for investments made after December 31, 2020.

(e) In this section,

(1) "biomass" has the meaning given in 26 U.S.C. 45K(c)(3) (Internal Revenue Code);

(2) "facility for producing liquids" means the integrated plant, facilities, and equipment used for producing liquids from natural gas, coal, or biomass;

(3) "liquids" means a product stream of commercial quality that is a mixture of hydrocarbon molecules, each of which has between five and 20 carbon atoms with attached hydrogen atoms, none of which contain oxygen or other elements.

*** Sec. 2.** AS 43.55.900(24) is amended to read:

(24) "used in the state" means delivered for consumption as fuel in the state, including as fuel consumed to generate electricity **or used as fuel or feedstock in a manufacturing process creating an end product in the state, regardless of the final disposition of the manufactured end product**.

*** Sec. 3.** AS 43.55.900 is amended by adding a new paragraph to read:

(25) "manufacturing process" means the process of forming a valuable compound by chemically converting gas or components of gas or chemically

combining gas or components of gas with other substances; "manufacturing process" does not include gas processing, gas treatment, dehydration, fractionation, compression, or liquefaction.

ALASKA STATE LEGISLATURE

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Senate Committee on World Trade, Technology and Innovations

Co-Chair
Senate Resources Committee

Member
Senate Judiciary Committee

SENATOR LESIL MCGUIRE

Summary of Changes to SB 228 in CSSB 228, Version 26-LS1324\S

The following changes were made to SB 228 (26-LS1324\R) *Tax Incentives for Gas to Liquids* in order to include coal-to-liquids or biomass-to-liquids in the list of eligible facilities for the proposed investment tax credit as originally intended by the sponsor, and to correct an error in the original version related to provisions in the federal income tax code.

Changes to Section 1:

From: (26-LS1324\R) Section 1: Page 1, line 11-12: "for a gas-to-liquids facility:"

To: (26-LS1324\S) Section 1: Page 1, line 10-11: "for a **facility that produces liquids from gas, coal or biomass**:"

In the version of SB 228 that was introduced (26-LS1324\R), a facility had to be a "gas-to-liquids" facility in order to qualify for the proposed credits. While either coal (CTL) or biomass (BTL) must first be converted to a synthetic gas before they can be converted to a liquid, Legislative Legal Services recommended expanded language to ensure that a CTL/BTL facility qualified as the sponsor originally intended.

Changes to Section 1-6

Sections 1-6 have been consolidated into a single section in the S version and established as a separate "Special industrial incentive tax credit" under a new section in AS 43.20; the Alaska Net Income Tax Act. The change was made because of the linkage to 26 U.S.C 38 (Internal Revenue Code) in section 1 of the R version. 26 U.S.C. 38 was changed and the proposed facilities would not qualify under the current federal code.

Since the State adopts by reference the federal code in Alaska's Net Income Tax Act, the creation of a separate section was necessary in order to provide the desired incentive. It is important to note that as currently drafted, the S version provides a substantially greater credit than originally proposed in the R version. Separate provisions of Article 20 limit deductions to 18% of any federal credit. As drafted, the S version does not contain this limit.

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Member
Senate Judiciary Committee
Joint Armed Services Committee

Senator.Lesil.McGuire@legis.state.ak.us

Sponsor Statement for Senate Bill 228: Tax Incentives for Gas-to-Liquids

Fischer-Tropsch is a chemical process through which synthesized gas is converted into a liquid hydrocarbon. The liquid hydrocarbons created through a Fischer-Tropsch process are a synthetic crude oil or synthetic diesel fuel that are both significantly cleaner burning than traditional oil or even ultra-low sulfur diesel, and command a premium in the market. The synthesized gas required by the process can be created from a wide variety of resources, ranging from wood and biomass to coal or natural gas. The technology is therefore often described as either a: BTL (biomass-to-liquids), CTL (coal-to-liquids), GTL (gas-to-liquids) or XTL ("X" resource-to-liquids) process.

Alaska has prolific coal, biomass and natural gas reserves that could provide the resources necessary for a robust XTL industry. When coupled with the growth in worldwide demand for the cleaner synthetic crude oils and clean diesels created through the Fischer-Tropsch processes, XTL technology presents an important opportunity for Alaska. XTL is a value-added, labor intensive process that can provide thousands of high-paying jobs in the State.

However, XTL facilities are capital intensive investments that often require billions of dollars and hundreds of thousands of man hours to construct. This is why Senate Bill 228 provides a corporate income tax credit for the construction of an XTL facility in Alaska. SB 228 allows a company to claim a credit against their future corporate income taxes based on a declining percentage of the first billion dollars of investment they make in Alaska. The amount of tax credits they may claim in any given year is limited to 60% of their tax liability, which ensures Alaska will have the revenue to provide this incentive.

SB 228 also clarifies that gas used in Alaska for value added industries like GTLs or petrochemicals receives the same tax treatment as gas used to generate electricity or heat Alaskans homes.

South Africa has been producing diesel from coal and natural gas for generations. Through XTL technology they have created an extensive value-added industry that is a foundation for their economy. The purpose of SB 228 is to open Alaska to these promising technologies and attract the investment necessary to establish a vibrant, value-added economy in Alaska.

LEGAL SERVICES

DIVISION OF LEGAL AND RESEARCH SERVICES
LEGISLATIVE AFFAIRS AGENCY
STATE OF ALASKA

(907) 465-3867 or 465-2450
FAX (907) 465-2029
Mail Stop 3101

State Capitol
Juneau, Alaska 99801-1182
Deliveries to: 129 6th St., Rm. 329

MEMORANDUM January 28, 2010

SUBJECT: Sectional Summary for SB 228 (Work Order No. 26-LS1324\R)

TO: Senator Lesil McGuire
Attn: Mike Pawlowski

FROM: Donald M. Bullock Jr.
Legislative Counsel

You have requested a sectional summary of the above-described bill.

As a preliminary matter, note that a sectional summary of a bill should not be considered an authoritative interpretation of the bill and the bill itself is the best statement of its contents. If you would like an interpretation of the bill as it may apply to a particular set of circumstances, please advise.

Section 1. Amends AS 43.20.042(a) to authorize a tax credit on the first $1,000,000 of qualified investment during a taxable year for a gas-to-liquids facility. The credit is applicable to investments made after December 31, 2010.

Section 2. Amends AS 43.20.042(b) to increase the amount of qualified investment for exploration, drilling of wells, development, or mining of certain minerals and other natural deposits that is eligible for a tax credit, to $1,000,000 for each taxable year. The credit is applicable to investments made after December 31, 2010.

Section 3. Amends AS 4320.042(c) to make the credits in secs. 1 and 2 only applicable to a gas-to-liquids facility or mining project that began operation and production after December 31, 2010. Describes when a gas-to-liquids or mining project is considered to have begun operation and production.

Section 4. Amends AS 43.20.042(f) by updating the reference to an Internal Revenue Code provision for carrying forward the investment tax credit. Provides that the credit may not be carried forward to a tax year beginning after December 31, 2025.

Section 5. Amends AS 43.20.042(g) by stating that investments made after December 31, 2020 are not eligible for the credit under AS 43.20.042, except as provided in AS 43.20.042(f).

Section 6. Repeals and reenacts AS 43.20.042(h) and includes definitions for term used in AS 43.20.042.

Section 7. Amends the definition of "used in the state" in AS 43.55.900(24). The definition is relevant to particular tax limits in AS 43.55 (Oil and Gas Production Tax and Oil Surcharge).

DMB:plm
10-041.plm

ALASKA STATE LEGISLATURE

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Member
Senate Judiciary Committee
Joint Armed Services Committee

Senator.Lesil.McGuire@legis.state.ak.us

SB 228 Backup Materials Table of Contents

1. *Reaching New Energy Frontiers Through Competitive GTL Technology*. Sasol Corporation
2. *Issues in Focus; Bringing Alaska North Slope Natural Gas to Market*. U.S. Energy Information Administration, 2009 Annual Energy Outlook
    a. *Bringing Alaska North Slope Natural Gas to Market*. Unedited White Paper for 2009 Annual Energy Outlook
3. *Beluga Coal-Gasification Feasibility Study*. U.S. Department of Energy/National Energy Technology Laboratory
4. *Alaska West Cook Inlet Coal to Liquids Project*. State of Alaska, AIDEA power point.
5. *Advanced Coal Technology: Wyoming Coal to Liquids Technology and State Incentives*. Legislative Research Services

Additional information will be available electronically.

FISCAL NOTE

STATE OF ALASKA
2010 LEGISLATIVE SESSION

Fiscal Note Number: 1
Bill Version: CSSB 228(RES)
(S) Publish Date: 3/23/10

Identifier (file name): SB228-REV-TAX-02-06-10
Title: Tax Incentives for Gas-to-Liquid
Sponsor: Senator McGuire
Requester: (S) Resources

Dept. Affected: Revenue
RDU: Taxation and Treasury
Component: Tax Division
Component Number: 2476

Expenditures/Revenues (Thousands of Dollars)

Note: Amounts do not include inflation unless otherwise noted below.

	Appropriation Required	Information					
OPERATING EXPENDITURES	**FY 2011**	**FY 2011**	**FY 2012**	**FY 2013**	**FY 2014**	**FY 2015**	**FY 2016**
Personal Services							
Travel							
Contractual							
Supplies							
Equipment							
Land & Structures							
Grants & Claims							
Miscellaneous							
TOTAL OPERATING	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
CAPITAL EXPENDITURES							
CHANGE IN REVENUES ( )	**0.0**	**0.0**	***	***	***	***	***

FUND SOURCE (Thousands of Dollars)

1002 Federal Receipts							
1003 GF Match							
1004 GF							
1005 GF/Program Receipts							
1037 GF/Mental Health							
Other Interagency Receipts							
TOTAL	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**

Estimate of any current year (FY2010) cost:

POSITIONS

Full-time							
Part-time							
Temporary							

ANALYSIS: *(Attach a separate page if necessary)*

Changes in revenue are indeterminate. See attached analysis.

Prepared by: Johanna Bales, Deputy Director — Phone (907) 269-6628
Division: Tax Division — Date/Time 2-5-10; 6:44pm
Approved by: Ginger Blaisdell, Director — Date 2-6-10; 1:36pm
Administration Services Division

(Revised 11/6/2009 OMB)

3549

STATE OF ALASKA
2010 LEGISLATIVE SESSION

BILL NO. CSSB 228(RES)

ANALYSIS CONTINUATION

Bill Language:

This bill will allow an incentive tax credit for investment in a facility constructed to produce liquids from gas, coal, or biomass against a taxpayer's corporate income tax (CIT) liability. The credit would be 100 percent on the first $50 million of investment; 80 percent on the second $50 million of investment; 70 percent on the third $50 million of investment; 60 percent on the fourth $50 million of investment; and 40 percent of investment over $200 million but not more than $1 billion.

A taxpayer could only claim the credit on a project which begins operation and production after December 31, 2010 and on investments made after December 31, 2010 and before January 1, 2021 . The maximum credit that a taxpayer could claim for its investment in such a facility would be $475 million. However, the credit could not offset more than 60 percent of a taxpayer's CIT liability in any given tax year and any unused credit could be carried forward through tax years prior to January 1, 2026 (15 years). The first tax credits that could be claimed under the provisions of this bill would be in fiscal year 2012.

For Example: The State currently receives about $600 million a year in corporate income tax from our oil and gas taxpayers. If 10 taxpayers pay, an average of $60 million a year each, and two of those taxpayers build a GTL plant, the maximum credit they can claim is $475 million. That credit is limited to 60% of their current tax liability. So, if their tax liability increased to say $70 million due to sales from the facility, they could tax a maximum credit of $42 million each year for up to 15 years or until the full $475 million credit has been taken. Based on two taxpayers doing this, the effect would be $84 million in reduced corporate income tax for approximately 11.5 tax years.

Additionally, Section 7 of this bill would amend the definition of gas used in state to include gas used as raw material for producing liquids or petrochemicals.

Revenues:

Corporate income tax revenue would decline as a result of this bill by as much as $475 million per facility. However, since a taxpayer could not offset more than 60 percent of its current CIT liability in any given year, the decline in revenue would be limited each year as recoupment of the investment would be spread over several tax years. It is difficult to determine how many taxpayers would take advantage of this tax credit and invest in constructing a facility of this type in Alaska. Therefore, total affect on corporate income tax revenue as a result of this bill is indeterminate.

The provision in Section 7 of this bill would broaden the production tax treatment provided in AS 43.55.011(o) to include gas manufactured or otherwise converted to liquids or petrochemicals. The tax impact of this provision is also indeterminate for several reasons, including the uncertainty as to whether companies will take advantage of the provision, and if so, the magnitude of the project to be undertaken, the amount of gas to be committed, the price of the gas, and other factors.

Expenditures:

The provisions of this bill would most likely require the hiring of additional audit staff. It is not known at this time the number of position(s) that would be needed. Additional administrative work required of the Department would be dictated by the number of taxpayers who take advantage of the credit and the associated work required to validate those credits.

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reaching new energy frontiers

through competitive GTL technology

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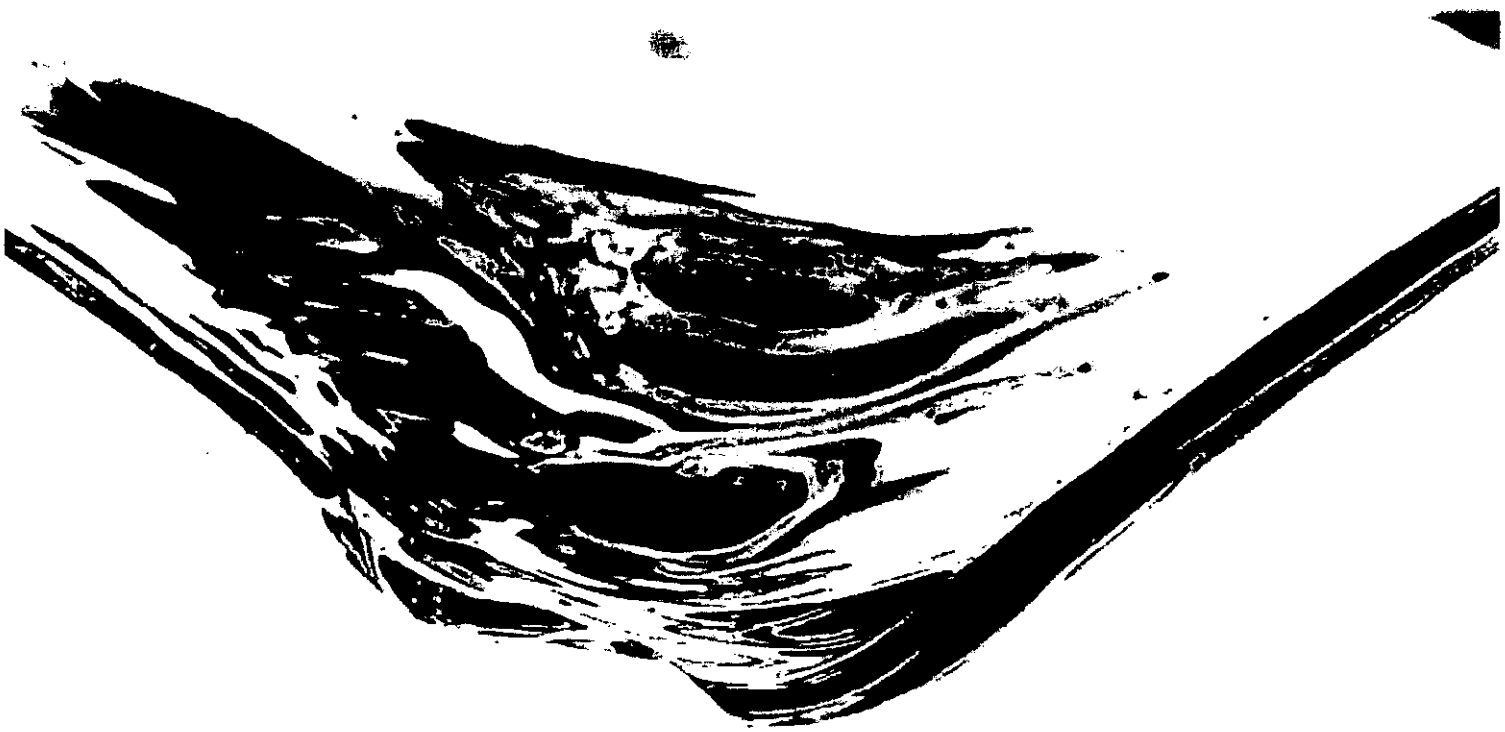
Sasol's integrated gas-to-liquids (GTL) solution offers significant economic, strategic and environmental benefits for many of the world's gas-rich countries. This proven technology – based on many years of focused research and development in Fischer-Tropsch synthesis technology in South Africa – presents an opportunity for gas-rich countries to diversify and expand their national energy sectors, while also substantially reducing the undesirable emissions produced by burning conventional diesel fuels.



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sasol at a glance

Leading the way through Fischer-Tropsch technology

Sasol is an integrated oil and gas company with substantial chemical interests. Based in South Africa and operating worldwide, the company is listed on the New York Stock Exchange and the JSE stock exchange in Johannesburg, South Africa. Sasol is the leading provider of liquid fuels in South Africa and a major international producer of chemicals. It uses proprietary Fischer-Tropsch technologies to commercially produce synthetic fuels and chemicals from low-grade coal and natural gas.

Sasol has more than 50 years of proven commercial experience in producing synthetic fuels. Gas-to-liquids (GTL) technology is a step within the proven coal-to-liquids (CTL) technology that Sasol has perfected in South Africa. In fact, today, Sasol is world-renowned for operating the only world-scale coal-based synthetic fuel manufacturing facility in Secunda, south-east of Johannesburg. The Secunda plant produces 160 000 barrels a day (b/d) of fuel from coal.

Sasol manufactures more than 200 fuel and chemical products that are sold worldwide. In South Africa, Sasol also operates coal mines to provide feedstock for its synthetic fuels plants.

Sasol produces crude oil off the coast of Gabon, refines imported crude oil into liquid fuels in South Africa and retails liquid fuels and lubricants through a growing network of Sasol convenience centres and Exel service stations. Its liquid fuels interests also include wholesaling in South Africa and overland exports to several sub-Saharan African countries.

Sasol produces natural gas in Mozambique for supply to customers and as feedstock for some of its fuel and chemical production in South Africa. The company commissioned its first international joint-venture GTL plant in Qatar in 2006 and a second GTL plant is under construction in Nigeria for planned commissioning in 2009. These GTL ventures incorporate the proprietary Sasol Slurry Phase Distillate™ process.

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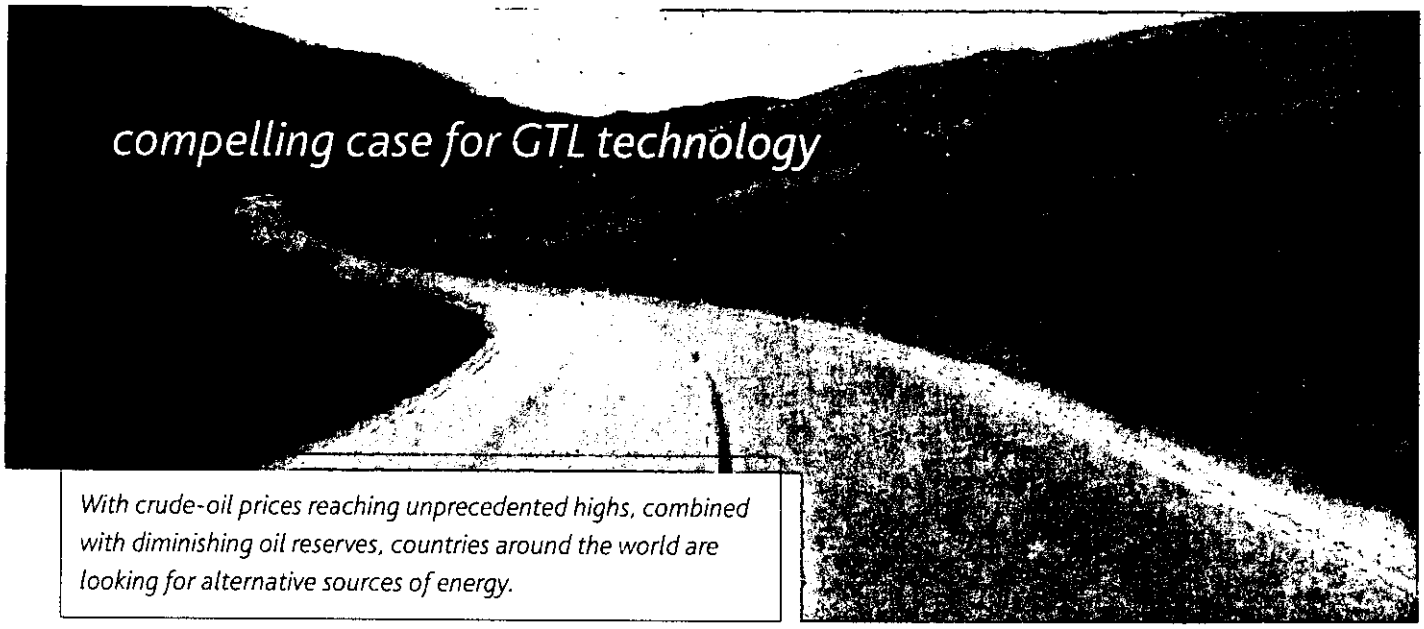

compelling case for GTL technology

With crude-oil prices reaching unprecedented highs, combined with diminishing oil reserves, countries around the world are looking for alternative sources of energy.

Rising to global energy challenges

The case for investing in gas-to-liquids (GTL) fuel-production technology has become increasingly compelling. GTL technology offers an exciting opportunity for stakeholders to:

- *monetise underutilised natural gas resources;*
- *diversify economies and create new employment opportunities;*
- *reduce dependence on crude oil;*
- *counter geopolitical risks;*
- *use cleaner fuels and reduce emissions to the atmosphere; and*
- *manage dieselisation - the rapid growth in diesel-powered vehicles compared with their petrol-powered (gasoline) counterparts.*

With crude-oil prices reaching unprecedented highs (exceeding US$70,00 a barrel during May 2006), combined with diminishing oil reserves, countries around the world are looking for alternative sources of energy. Many are turning to gas. The world has abundant gas reserves, with an estimated 50% substantially underutilised.

Today, Sasol is providing its proven GTL technology to gas-producing countries like Qatar and Nigeria, allowing them to convert some of their gas reserves into a low-sulphur, low-aromatics form of synthetic diesel, GTL diesel. Backed by five decades of operational experience, as well as comprehensive research and development in Fischer-Tropsch process technology, Sasol has developed, and is marketing worldwide, its unique GTL technology, the Sasol Slurry Phase Distillate™ process.

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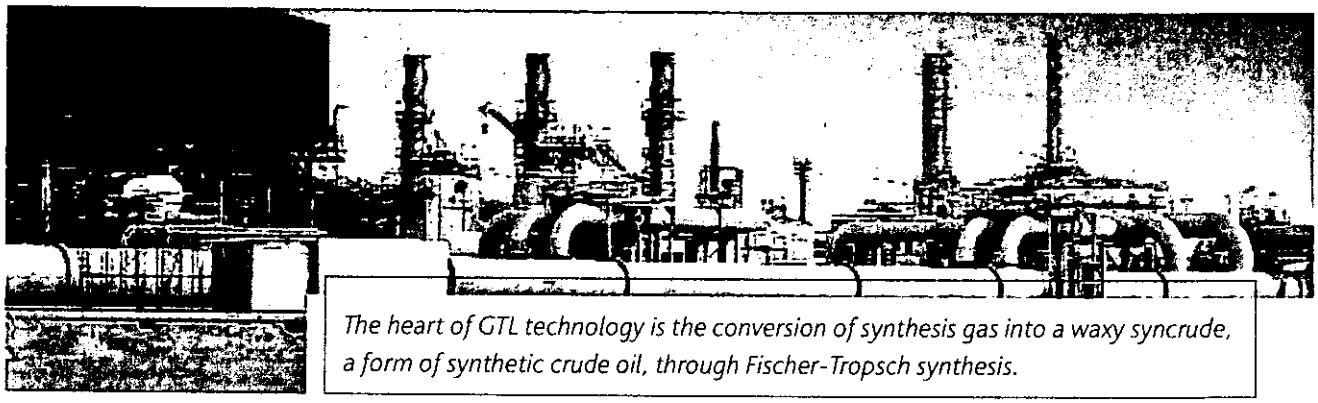
understanding GTL technology



The heart of GTL technology is the conversion of synthesis gas into a waxy syncrude, a form of synthetic crude oil, through Fischer-Tropsch synthesis.

Turning gas into cleaner diesel

GTL technology comprises proven chemical processing technologies to convert natural gas into liquid fuels and related petrochemicals.

The heart of GTL technology is the conversion of synthesis gas into a waxy syncrude, a form of synthetic crude oil, through Fischer-Tropsch synthesis. Synthesis gas – or syngas – is a blend of hydrogen and carbon monoxide that can be used as the building block for producing more-complex molecules, such as those needed to make high-quality GTL diesel.

In the case of the Sasol Slurry Phase Distillate™ (Sasol SPD™) process, Sasol uses its proprietary low-temperature Slurry Phase Fischer-Tropsch technology to convert natural gas into GTL diesel, GTL naphtha and some liquefied petroleum gas (LPG). *(See page eight).*

Naphtha – a mixture of light hydrocarbons – is used as a feedstock for producing certain chemicals. GTL naphtha is ideal as a feedstock for producing ethylene. It is also ideal for fuel-cell applications.

LPG comprises gaseous hydrocarbons or petroleum gases such as propane, butane and pentane that are pressurised in liquefied form and used for heating.

The Fischer-Tropsch process – incorporated into both GTL technology and coal-to-liquids (CTL) technology – was first developed during the 1920s and has been advanced by Sasol in South Africa since the 1950s. Sasol's original Fischer-Tropsch research and development was focused on improving CTL technology.

During the 1980s, Sasol's focus began to include GTL technology. From this commitment, the group's unique GTL technology was born: the Sasol SPD™ process.

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abundant gas reserves

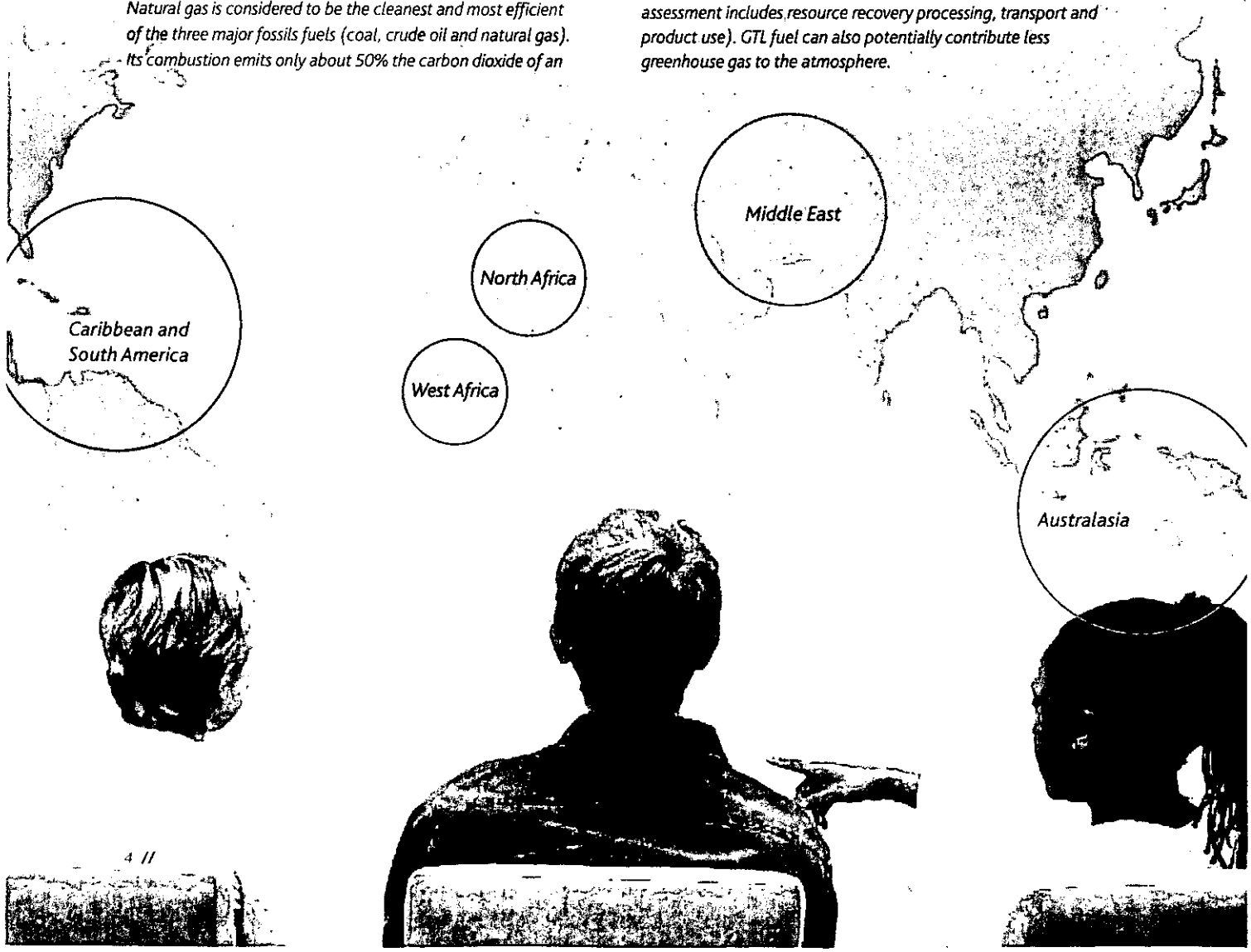
Providing an important new gas-monetisation solution

GTL plants are ideally suited for gas-rich countries, especially where the reserves are underutilised or where large amounts of associated gas are flared during commercial oil production.

The world has abundant reserves of natural gas: about 175-trillion cubic metres – an oil equivalent of at least 1 000-billion barrels. Major underutilised reserves are found in Russia, Iran, Qatar, other parts of the Middle East, parts of North America and Australia. Countries looking to eliminate the flaring of associated natural gas, like Nigeria, also present ideal opportunities for GTL.

Natural gas is considered to be the cleanest and most efficient of the three major fossils fuels (coal, crude oil and natural gas). Its combustion emits only about 50% the carbon dioxide of an equivalent amount of combusted coal. On the strength of this, along with its abundance, natural gas has in recent years become increasingly attractive as a hydrocarbon energy source for developed and emerging economies around the world.

Independent comparative studies recently conducted between traditional crude-oil refining and GTL technologies came to the same conclusion: volatile organic compounds, which contribute to smog, acidifying emissions like sulphur oxides and nitrogen oxides, as well as particulate emissions and waste are all drastically reduced in favour of the GTL product life cycle. (A full-product life-cycle assessment includes resource recovery processing, transport and product use). GTL fuel can also potentially contribute less greenhouse gas to the atmosphere.



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dieselisation and the changing energy paradigm

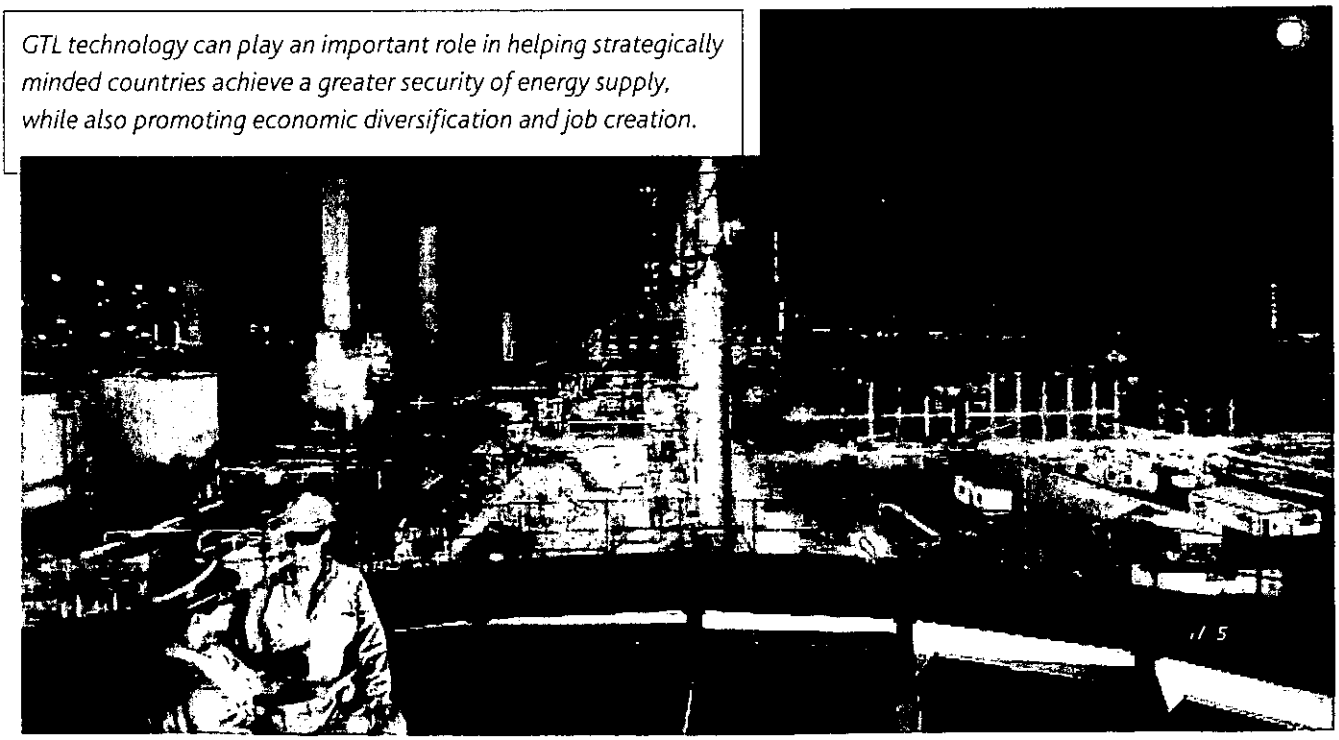
Bringing a smart solution to rapid dieselisation

GTL diesel offers a potentially far-reaching solution for the world's changing energy paradigm, most notably because of the dramatic rise in diesel consumption in both developed and emerging economies.

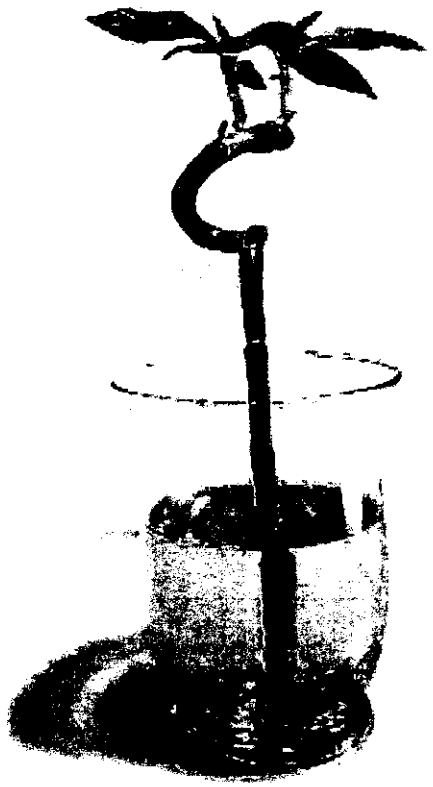
With crude-oil prices escalating, GTL technology plays an important role in helping strategically minded countries achieve a greater security of energy supply, while also promoting economic diversification and job creation.

The case for GTL technology is further strengthened by the growing demand from consumers, environmentalists, governments and automotive producers for cleaner, higher-performing fuels. Diesel is far more energy efficient than petrol and contributes to the drive to reduce carbon dioxide emissions in the transportation sector.

GTL technology can play an important role in helping strategically minded countries achieve a greater security of energy supply, while also promoting economic diversification and job creation.



benefits of GTL products



GTL diesel is positioned as a clean, premium product or as a blend stock to enhance the quality of conventional diesels.

Offering a cleaner, better-performing diesel

GTL diesel is of significant higher quality than diesel derived from crude oil. GTL diesel has a high cetane number (at least 70 compared with a 45 to 55 rating of most diesels), low sulphur (less than five parts per million), low aromatics (less than 1%), and good cold flow characteristics, which can be optimised to suit specific applications.

GTL diesel is positioned as a clean, premium product or as a blend stock to enhance the quality of conventional diesels.

Best of all, GTL diesel can be used in all modern diesel engines. Its high-quality properties result in reduced noise and other performance benefits. The high cetane number and very low levels of sulphur and aromatics ensure a more efficient and cleaner-burning combustion environment. This leads to a substantial reduction in engine wear and exhaust emissions.

Significantly, too, GTL diesel is compatible with established fuel distribution infrastructures. It can therefore be distributed by ship, road tanker or rail tanker without transport operators having to undertake new investments to modify their equipment. It can also be used with both current and envisaged future engine and exhaust technologies. Compression-ignition vehicles using GTL diesel do not need to undergo any engine or exhaust system modifications.

GTL ventures offer other benefits. A high-quality GTL naphtha is also produced in the Fischer-Tropsch process. With a high content of paraffins and very low contents of sulphur, naphthenes and aromatics, it is ideal as cracker feedstock to produce ethylene for the plastics industries (mostly for producing polyethylene and polyvinyl chloride).

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sasol's role in promoting GTL

Promoting optimum competitiveness

Since the mid-1990s, Sasol has focused on developing GTL ventures internationally with world-renowned partners.

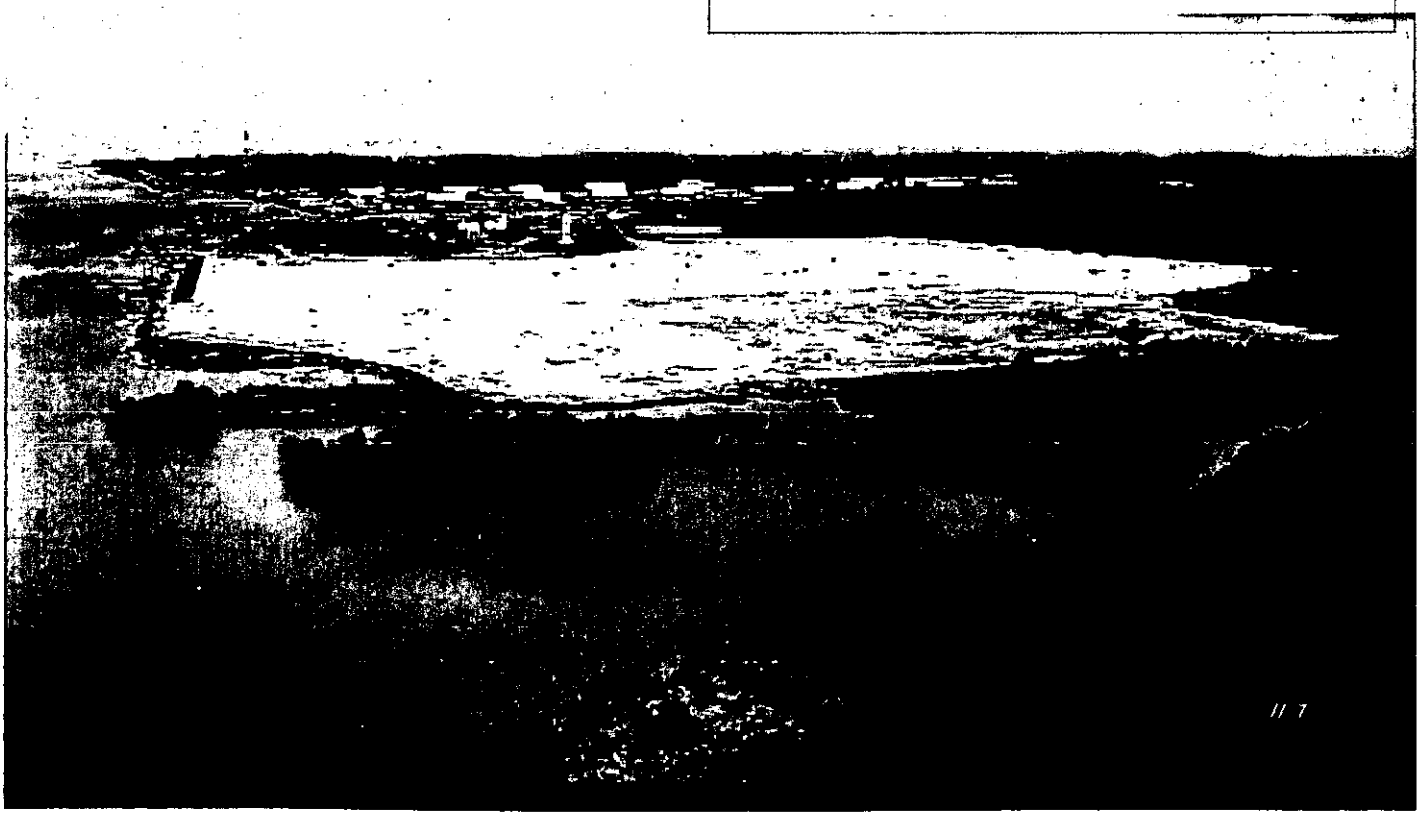
Sasol formed a joint venture with Chevron of the USA, Sasol Chevron, to develop sustainable GTL projects, as well as market and distribute GTL products worldwide.

Such partnerships make good business sense. Besides creating greater synergy in areas such as technology, plant design and plant operations, GTL partnerships also enable large capital investments. GTL ventures, such as the ORYX plant in Qatar, require at least US$1-billion to develop.

In Qatar, Sasol has partnered with the state oil company, Qatar Petroleum, while in Nigeria it has, through Sasol Chevron, entered into a venture with the National Nigerian Petroleum Company and Chevron Nigeria Limited.

Sasol offers gas-rich countries a proven gas-beneficiation technology that can be used to monetise underutilised gas reserves. Sasol also offers extensive operating experience, having brought on stream its first Fischer-Tropsch-based CTL venture in 1955. Since then, Sasol has undertaken extensive research and development in Fischer-Tropsch synthesis technology and patented several processes and specialised catalysts.

Sasol offers countries such as Nigeria extensive operating experience.



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sasol Slurry Phase Distillate ™ process

Converting natural gas into high-quality diesel

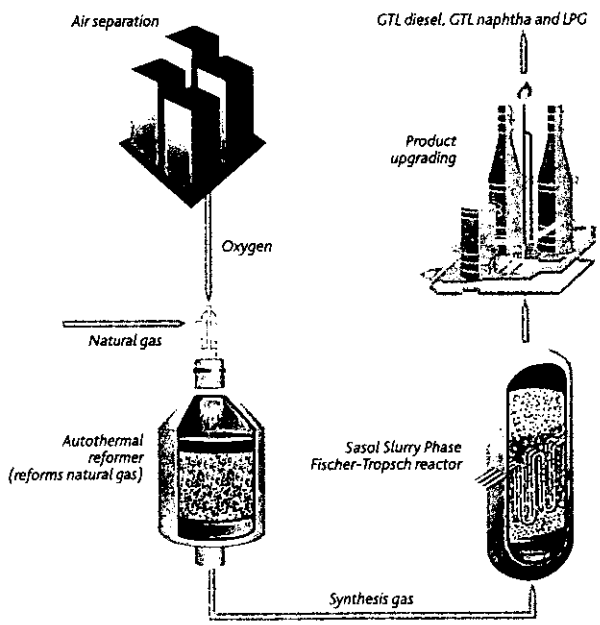
The fully integrated, three-step Sasol Slurry Phase Distillate ™ (Sasol SPD ™) process dates back to the 1980s when Sasol developed its low-temperature Slurry Phase Fischer-Tropsch reactor at Sasolburg. Combined with a proprietary iron- or cobalt-based catalyst, this technology allows for the creation of chemicals and liquid fuels from either coal or gas.

The first Sasol SPD™ process step is gas reforming. Here, natural gas reacts with oxygen and steam over a catalyst to produce synthesis gas (syngas). To achieve this, Sasol and its global GTL partners use Haldor Topsøe's proven autothermal reforming technology.

The second process step entails Fischer-Tropsch synthesis through which syngas is converted into longer-chain or waxy hydrocarbons in the reactor. Syngas is fed to the bottom of the reactor where it is distributed into a slurry consisting of liquid wax and particles of Sasol's proprietary advanced cobalt catalyst. As the gas bubbles up through the slurry, it diffuses into the catalyst and is converted into waxy syncrude.

The long-chain wax product is then separated from the slurry containing the catalyst particles in a proprietary Sasol process. The lighter, more volatile fractions leave in a gas stream from the top of the reactor. The gas stream is cooled to recover the hydrocarbons that have a lower molecule weight (the lighter cuts), as well as some quantities of water.

The hydrocarbon streams are then sent to the product-upgrading unit for the third step, which uses Chevron Isocracking™ technology. This step produces the final GTL diesel, GTL naphtha and LPG.



Sasol Slurry Phase Distillate ™ process

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leading the way in Qatar and Nigeria

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Sasol's first two GTL projects

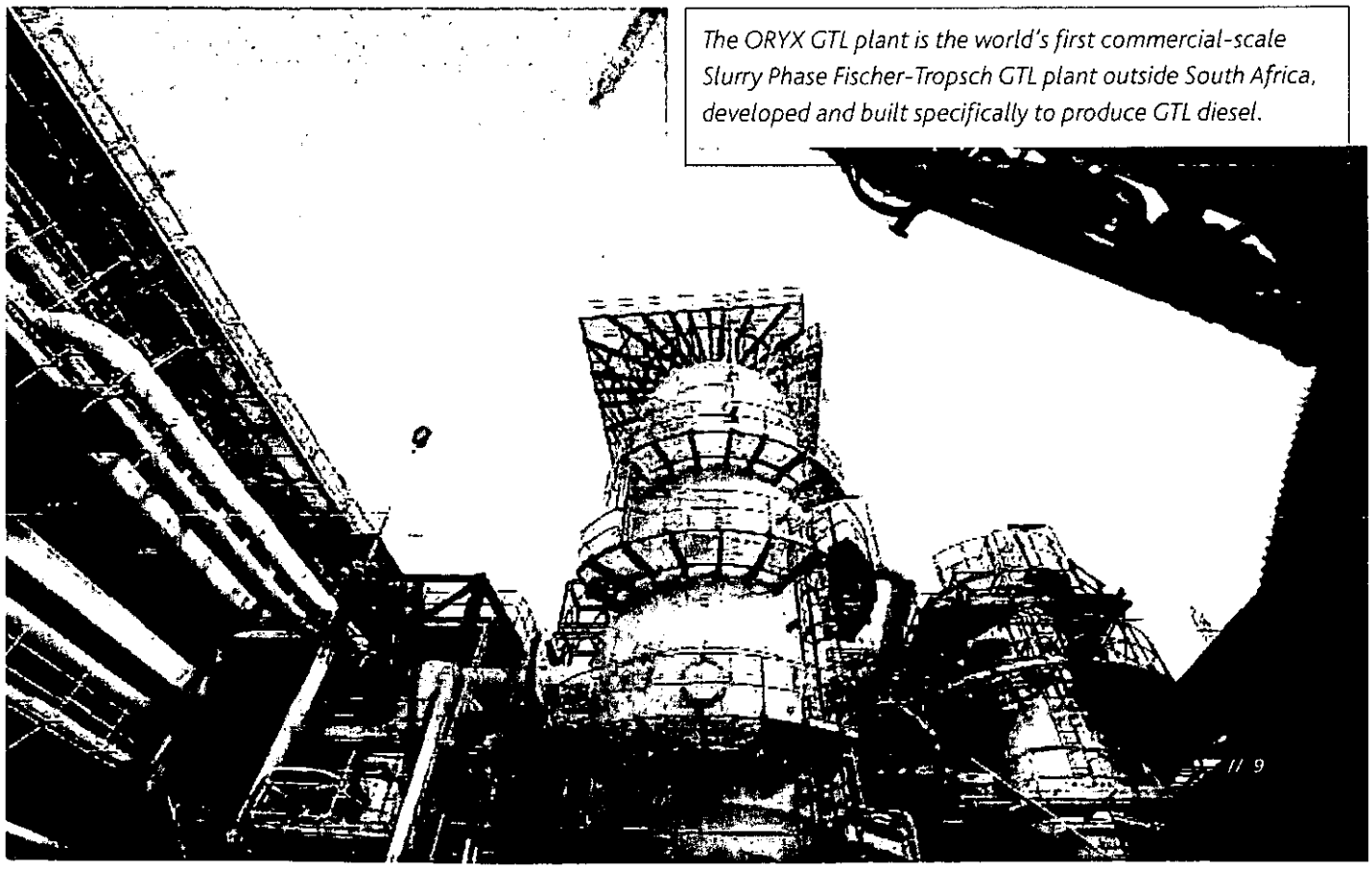
Sasol inaugurated its first GTL project, the ORYX GTL venture, at Ras Laffan on the north-eastern seaboard of Qatar, in partnership with Qatar Petroleum, in June 2006.

The engineering, procurement and construction contract for this project commenced in early 2003. Developed at a cost of about US$1-billion, the 34 000 b/d ORYX GTL plant uses the Sasol SPD™ process.

The ORYX GTL plant is the world's first commercial-scale Slurry Phase Fischer-Tropsch GTL plant outside South Africa, developed and built specifically to produce GTL diesel and, to a lesser extent, GTL naphtha and LPG. It will produce about eight-million barrels a year of GTL diesel as a fuel to be used either neat or as blend stock.

To complement the ORYX project, Sasol and Sasol Chevron are working with the National Nigerian Petroleum Corporation and Chevron Nigeria Limited to develop another 34 000 b/d GTL project, the EGTL plant at Escravos in the Niger Delta. Construction work commenced in 2006 and the plant is expected to go into production in 2009. It will also use the Sasol SPD™ process to produce GTL diesel, GTL naphtha and some LPG.

Sasol is engaged in exploratory discussions with other gas-rich countries with a view to developing additional GTL plants.



The ORYX GTL plant is the world's first commercial-scale Slurry Phase Fischer-Tropsch GTL plant outside South Africa, developed and built specifically to produce GTL diesel.

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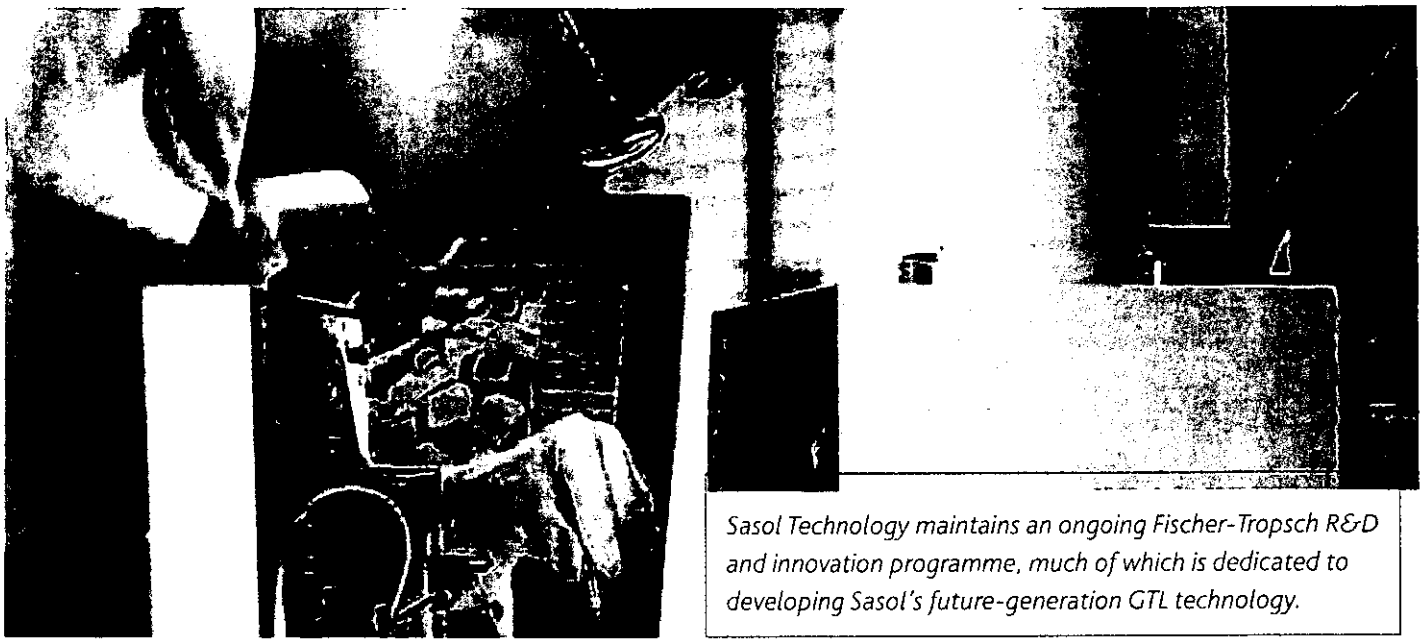
technological development and support



Sasol Technology maintains an ongoing Fischer-Tropsch R&D and innovation programme, much of which is dedicated to developing Sasol's future-generation GTL technology.

Partnering to sustain a culture of innovation

Sasol has long been an enthusiastic champion of its Fischer-Tropsch technology, having invested substantial funds and intellectual capital to advance this technology.

Sasol Technology maintains an ongoing Fischer-Tropsch R&D and innovation programme, much of which is dedicated to developing Sasol's future-generation GTL technology. Its research – covering specifics such as iron- and cobalt-based catalysis and Fischer-Tropsch reactor design – is focused on opportunities to enhance the performance of Sasol's GTL process, while also lowering capital costs, increasing process flexibility and improving eco-efficiency.

To strengthen its Fischer-Tropsch R&D, Sasol operates two complementary research groups at St Andrews University in Scotland and Twente University in the Netherlands. The group also maintains technology partnerships with other major technology players, including Chevron for Isocracking™ and Haldor Topsøe for reforming.

At De Meern, near Utrecht in the Netherlands, Sasol has partnered with the US-based catalyst producer, Engelhard, to commercialise and operate a unique chemical plant devoted to producing Sasol's advanced cobalt catalyst now being used in the ORYX GTL plant.

Sasol Technology maintains other beneficial partnerships, some of which are focused on Sasol's GTL fuel technology. Sasol has been working with original equipment manufacturers, including Caterpillar, Citroën, DaimlerChrysler, Peugeot and Volkswagen. It is also collaborating with Engelhard, Johnson Matthey and other catalyst producers to evaluate the effects of new-generation Sasol diesel and petrol on automotive catalysts.

Sasol also maintains close links with reputable research and testing organisations in Europe and the USA, including the Southwest Research Institute at San Antonio, Texas. These collaborators have been closely involved in testing the technical and environmental characteristics of the GTL diesel produced through the Sasol SPD™ process.

In addition, Sasol has an alliance with the Ishikawajima-Harima Heavy Industries (IHI) engineering consortium in Japan for the fabrication of the specialised Slurry Phase Fischer-Tropsch reactors used in the Sasol SPD™ process. IHI fabricated the two reactors for the ORYX GTL plant and is fabricating another two for the EGTL project.

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GTL glossary

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associated gas: *natural gas found with crude oil in an underground geological formation.*

autothermal reformer: *a type of catalytic partial-oxidation reactor in which the endothermic heat needed for chemical reforming is provided by combustion reactions of oxygen in the feed.*

beneficiation: *a process used to increase the value of a material or chemical.*

blend stock: *an ultra-low-sulphur diesel that is blended with a conventional diesel to reduce the latter's sulphur content on a parts-per-million basis.*

catalyst: *usually a metal or metallic compound that enables a reaction to occur between two or more chemicals that would not otherwise react – or to promote the speed and efficiency of a reaction between these chemicals.*

cetane (hexadecane, $C_{16}H_{34}$): *a colourless, liquid, straight-chain paraffin (alkane) used to standardise the knock rating of diesel.*

chain: *chemically, pertaining to a line of atoms of the same type in a molecule. A chain can be open (straight-chained or branch-chained) or closed (ringed).*

cold-start ignition: *the ability to start a vehicle's engine in cold conditions, usually at temperatures of below freezing.*

distillation: *boiling or re-evaporating a liquid and then recondensing it and collecting the vapour.*

hydrocarbons: *a general term for organic compounds containing only, or primarily, carbon and hydrogen molecules.*

Isocracking™: *proprietary Chevron technology used to selectively crack long-chain waxy molecules to produce the mildly isomerised middle-distillate products of GTL diesel, kerosene and GTL naphtha.*

life-cycle assessment: *a process of formally identifying and understanding the flow of energy and materials through a manufacturing system, commencing from a raw material in the ground, through processing and product manufacture, and ending with post-consumer product disposal.*

linear: *pertaining to organic chemicals with a straight-chain molecular structure, rather than branched chains.*

liquefied petroleum gas (LPG): *gaseous hydrocarbons such as propane, butane and pentane pressurised in liquefied form and used for heating.*

methane (CH_4): *a colourless, odourless gas that combusts easily and produces a pale, slightly luminous flame; it is the main constituent of natural gas and can undergo chemical reforming to produce syngas.*

naphtha: *a generic term for a flammable, light distillate or hydrocarbons feedstock, or a mixture of light hydrocarbons, used for gas or petrochemicals manufacture.*

paraffins (alkanes): *saturated aliphatic hydrocarbons of the generic formula CnH_{2n+2} found in natural gas and crude oil. They are indifferent to oxidising agents, hence the Latin-derived name of paraffin meaning "little allied". The names of specific paraffins end with an -ane suffix and include methane, ethane, propane, butane, pentane, heptane and octane. The first four, methane to butane, are gases, the higher numbers are liquids and those above $C_{16}H_{34}$ are waxy solids.*

particulates: *microscopic air-borne material, such as sand, ash or dust, from either natural occurrences, such as volcanoes and dust storms, or industrial activities, such as coal burning.*

reactor: *an enclosed vessel inside which a predetermined and controlled chemical reaction occurs as part of a chemical manufacturing process.*

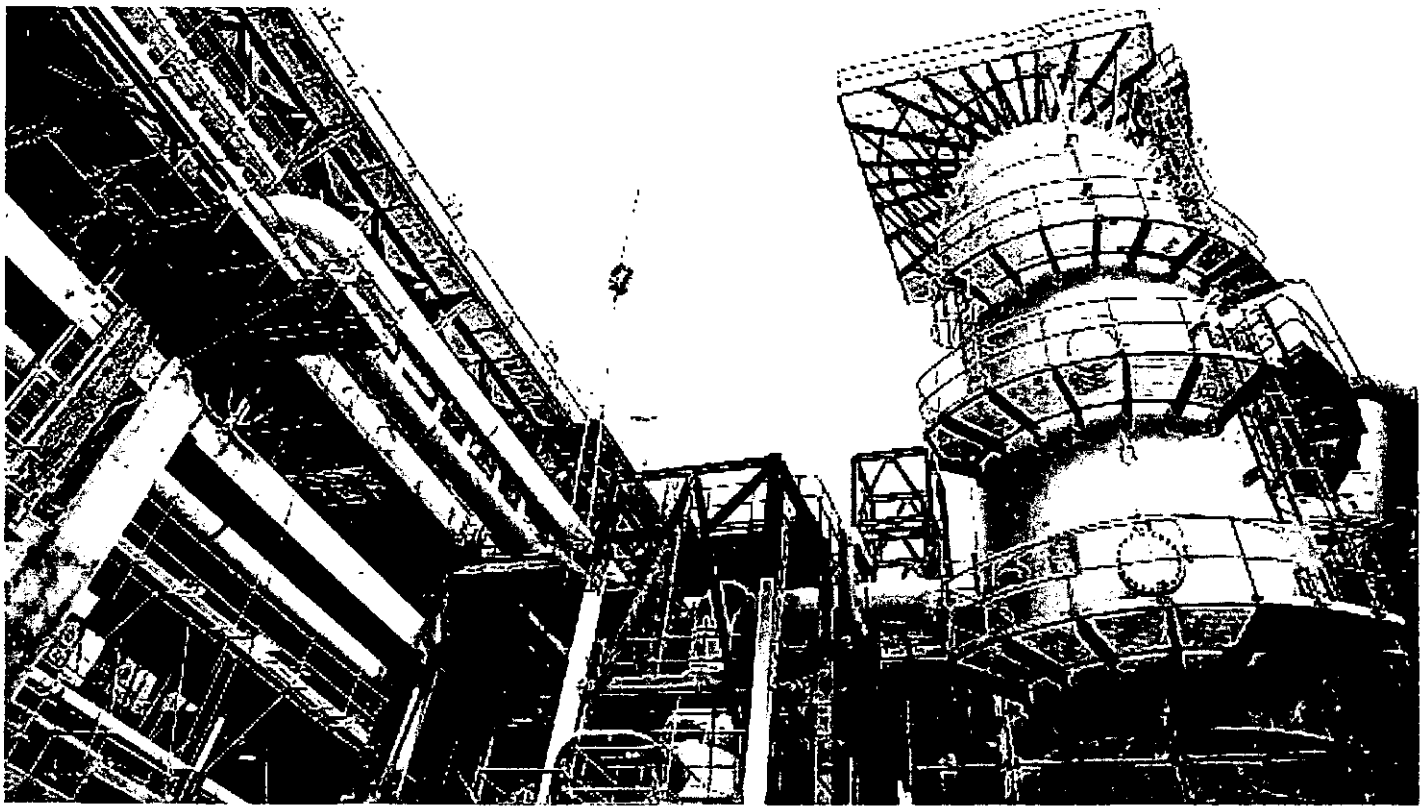
reforming: *the conversion of straight-chain paraffins into branch-chained ones through cracking or catalytic reaction.*

slurry: *a liquid containing an appreciable amount of suspended solids.*

synthesis: *the formation of more-complex chemical compounds or molecules from simpler compounds or molecules.*

synthesis gas (syngas): *a carbon monoxide-hydrogen mixture used as a petrochemicals feedstock for synthesis and normally derived from the partial oxidation, or catalytic reaction with steam, of methane, which can be derived through natural gas reforming or coal gasification.*

contacts



For more information on Sasol's GTL technology and strategy, please contact ***Anne Buchanan****, communications manager of Sasol Synfuels International*

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disclaimer

Forward-looking statements

In this publication we make certain statements that are not historical facts and relate to analyses and other information based on forecasts of future results and estimates of amounts not yet determinable, relating, among other things, to volume growth, increases in market share, total shareholder return and cost reductions. These are forward-looking statements as defined in the US Private Securities Litigation Reform Act of 1995. Words such as "believe", "anticipate", "expect", "intend", "seek", "will", "plan", "could", "may", "endeavour" and "project" and similar expressions are intended to identify such forward-looking statements, but are not the exclusive means of identifying such statements. Forward-looking statements involve inherent risks and uncertainties and, if one or more of these risks materialise, or should underlying assumptions prove incorrect, actual results may be very different from those anticipated.

The factors that could cause our actual results to differ materially from such forward-looking statements are discussed more fully in our most recent annual report under the Securities Exchange Act of 1934 on Form 20-F filed on October 26 2005 and in other filings with the United States Securities and Exchange Commission (SEC).

Such forward-looking statements apply only as of the date on which they are made, and we do not undertake any obligation to update or revise any of them, whether as a result of new information, future events or otherwise.

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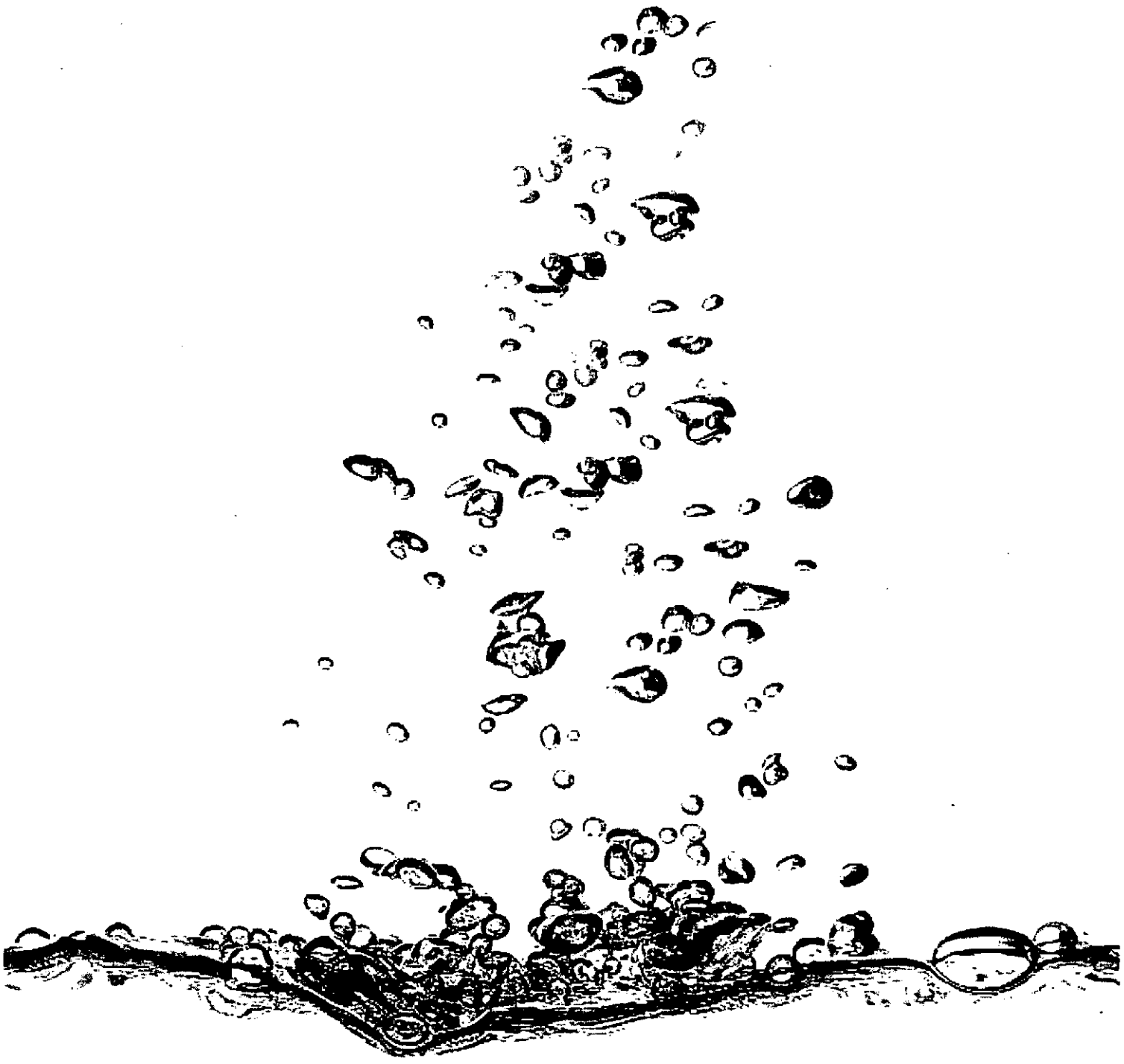
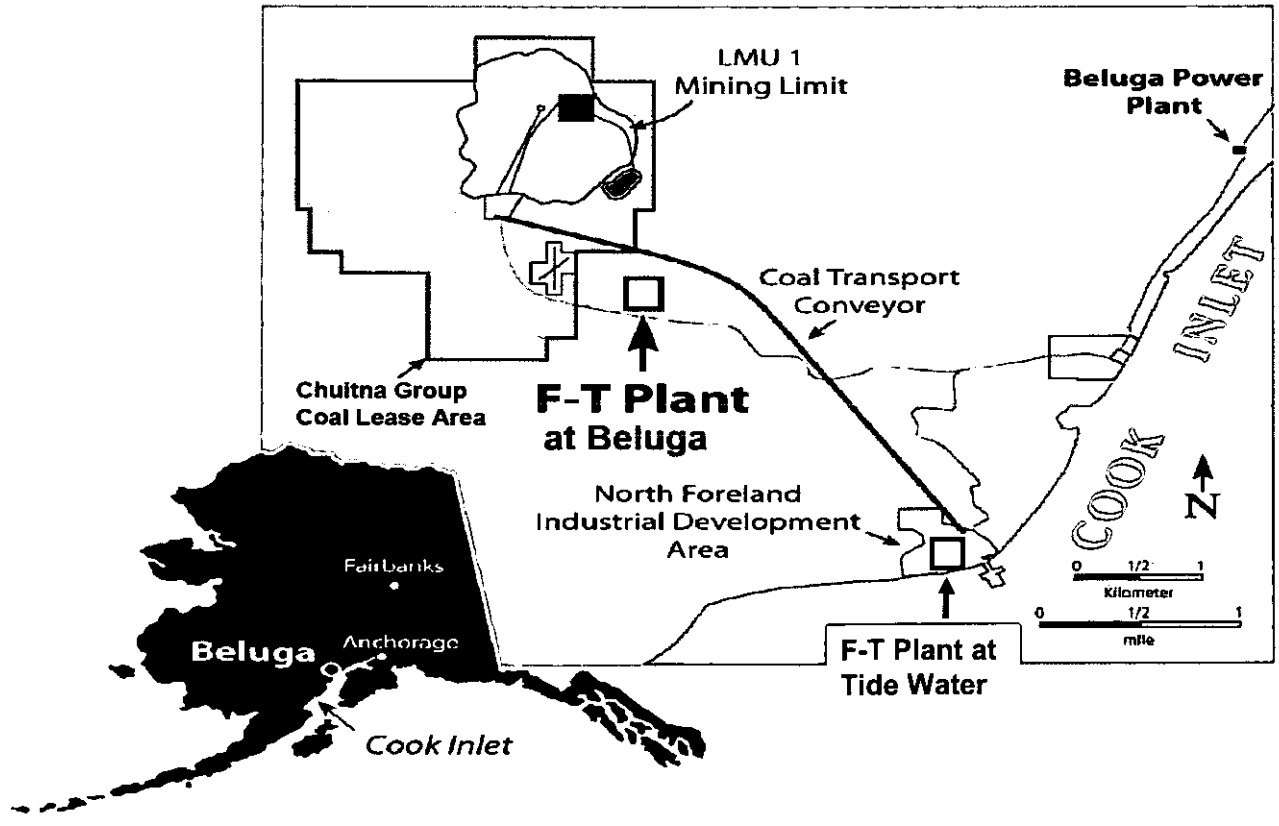


ALASKA WEST COOK INLET
Coal To Liquids Project

80,000 bbl/d Coal To Liquids "Beluga CTL Plant"
(Mine Mouth or Tide Water)



ALASKA BELUGA CTL PROJECT – THE RIGHT CHOICE...✓

- ☑ REASONABLE RATE OF RETURN FOR EQUITY OWNERS;
- ☑ Beluga CTL plant and coal reserves next to the tide water;
- ☑ The Beluga coal field has 50+ years of supply;
- ☑ CO_2 sequestering available through local depleted gas fields;
- ☑ CO_2 enhanced oil recovery in local reservoirs – 150 to 300 million barrels;
- ☑ Local electric market needs 350 to 450 MW of new power;
- ☑ 12 miles from electric grid serving 85% of Alaska's electric load;
- ☑ 10 miles from natural gas transmission system delivering 500 mmcf/d;
- ☑ Almost half of Alaska's population lives within 65 miles of CTL site;
- ☑ 80% of the engineering, design, fabrication, construction and operating companies serving Alaska's North Slope and Cook Inlet oil and gas industry are located within 45 miles of the proposed CTL site;

ADDITIONAL POINTS THAT WILL FAVOR AN ALASKA CTL PLANT

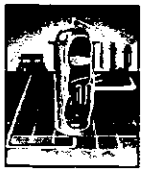
- ☑ 30 miles from Drift River oil export terminal - 500,000 bbl tankers;
- ☑ 20 miles from an existing
  - ☑ 70,000 bbl/d crude oil refinery - Tesoro
  - ☑ A 1.5 million ton/yr fertilizer plant – Agrium
  - ☑ A 1 million barrel tank farm with import/export dock and a products pipeline to the Anchorage fuels market;
- ☑ The Port of Anchorage 45 miles from CTL plant site;
- ☑ The State of Alaska has received a Federal Grant to build a bridge across the inlet from Anchorage to the west side of the Cook Inlet;
- ☑ The State of Alaska has obtained right of way & is looking at building a road and extending the Alaska Rail Road down the west side of the Cook Inlet to aid in commercial development;
- ☑ Alaska Rail Road could potentially provide tax free revenue bonds to aid in financing;
- ☑ Weather conditions similar to Chicago – not the arctic;
- ☑ The Alaska CTL site is a short tanker trip to one of the highest price fuel markets

WHAT DOES A BELUGA CTL PROJECT REPRESENT FOR ALASKANS?

- A $5 Billion World Class CTL Plant
- 1,300 Permanent Jobs
  - Over 5,000 during construction
- 2 Billion Barrels of Transport Fuels
  - Equivalent to a 6 billion bbl oil field
- 6 TCF of Natural Gas
  - Energy Equivalent in waste heat recovery
- 350 + Million Barrels of EOR Crude Oil
  - $1.75 billion in State Royalty money
- 380 MW of Low Cost Waste Heat Electricity
  - $900 million in rate payer savings over 15 years
  - Near Zero CO_2 Emission Electricity
- State and Local Tax Revenue
  - $1 billion in local tax revenue over 20 years
- Western Cook Inlet Land Development
- Over 16 Million ton/yr of Coal Production
- Manufacture of Value Added Products in Alaska

CONVERTING PROVEN WEST COOK INLET BELUGA COAL RESERVES INTO

"PROVEN"
TRANSPORTATION FUELS
&
PETROCHEMICAL FEED STOCKS

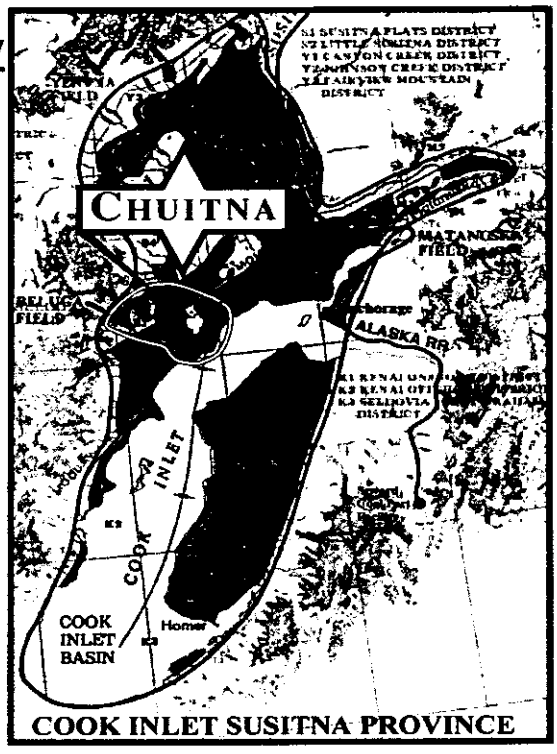


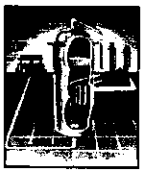
COOK INLET/SUSITNA COAL PROVINCE

Resource & Reserve Summary

million tons of coal – billion of barrels of equivalent liquids

Coal Resource	M-tons	B-bbls
° Hypothetical Resource	64,230	96
° Identified Resource	10,550	15.6
• Measured Resource	1,300	2.0
• Chuitna Measured Reserve	1,000	1.5
° Chuitna Proven Reserves	700	1.05
° Barrick Reserves	600	1.0





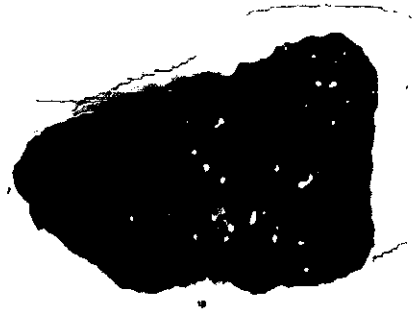
COAL TO LIQUIDS

F-T DIESEL

BILLIONS OF TONS OF COAL

EQUALS

BILLIONS OF BARRELS

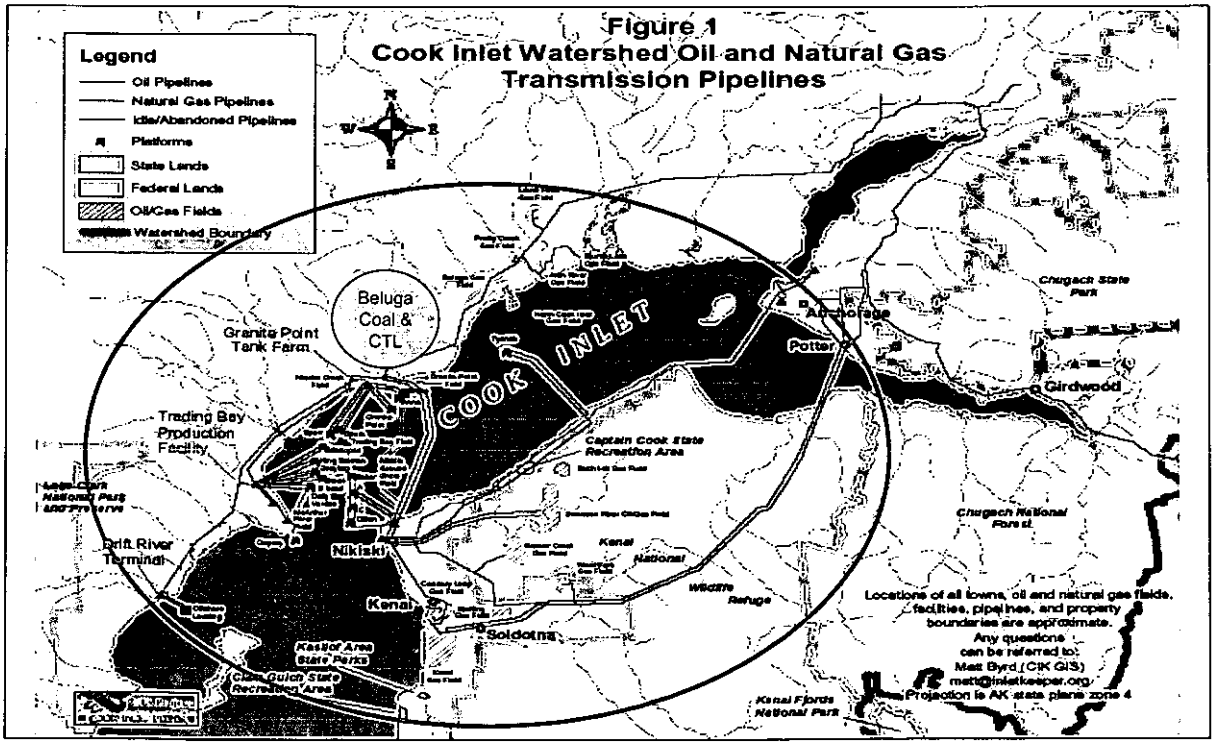


WHAT DOES 1.3 BILLION TONS OF WEST COOK INLET COAL REPRESENT

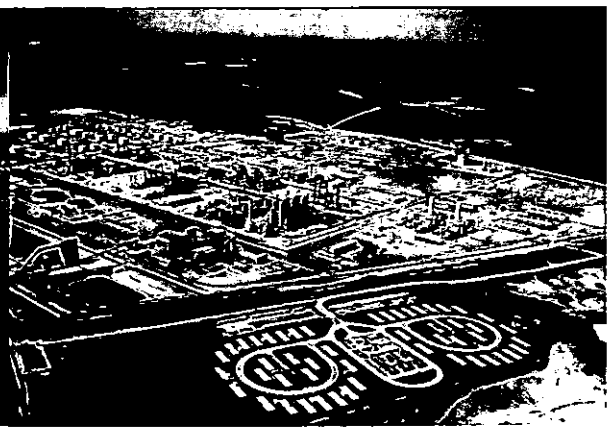
- 2 BILLION BARRELS OF FUELS
  - The SASOL F-T process will turn 1 ton of West Cook Inlet coal into 1.5 barrels of product
  - 1.5 barrels x 1.3 billion = 2 billion barrels of fuels
- 2 Billion of "RECOVERABLE" barrels
  - 2 Billion barrels of recoverable crude is the equivalent of a 6 Billion barrel oil find

Note: the F-T conversion process depends upon the quality of the coal, (ie. the carbon content)
Assume that 3 to 4 tons of Alaska coal will produce 1 ton of F-T fuels. 1 ton of F-T fuels is approximately 326 gallons.
326 gallons is equal to 7.76 barrels thus 1 ton of Alaska coal could produce 2 to 2.6 barrels of finished fuels.

COOK INLET OIL & GAS FACILITIES



South African Secunda 150,000 BPD Coal to Liquids (CTL)



South African Mossgas 47,000 BPD Gas to Liquids (GTL)

Shell Bintulu 15,000 BPD Gas to Liquids (GTL)

THE F-T PROCESS IS COMMERCIAL

260,000 bbl/d already proven and operational in South Africa & Malaysia

500,000 bbl/d coming soon to Qatar

300,000+ bbl/d coming soon to China

A CTL/BTL PLANT PRODUCES FISCHER-TROPSCH (F-T) TRANSPORT FUELS AND PETROCHEMICAL FEEDSTOCKS SOME OF THE CLEANEST FUELS IN THE WORLD

BUT WHAT IS THE F-T PROCESS?

The Fischer-Tropsch Synthesis

$$2\,CO(g) + H_2(g) \rightarrow (-CH_2-)_n(l) + CO_2(g) + H_2O$$

Okay, don't let the chemistry scare you!

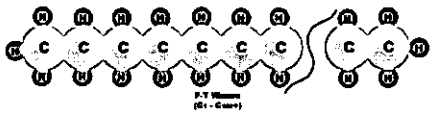
Let's take a look.....

Three Steps in GTL/CTL/BTL Refining to make F-T Fuels

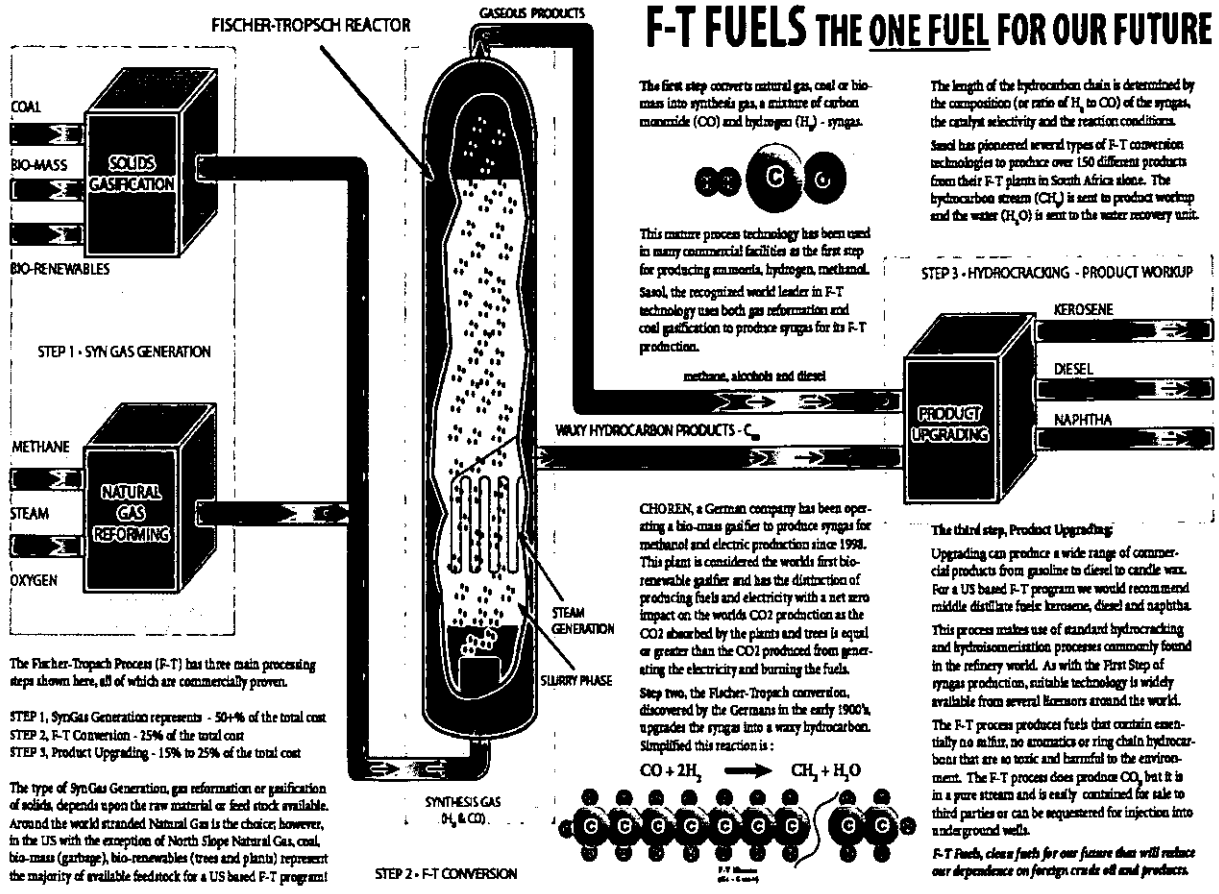
GTL/CTL/BTL Processes use 3 distinct steps to convert a gas or solid into synthetic transport fuels:

- Step 1 - Syn-Gas generation (H_2 & CO)

- Step 2 - The F-T reaction (paraffin wax)



- Step 3 - Product upgrading
  - Kerosene – Diesel – Gasoline - Jet Fuel - Naphtha



F-T FUELS THE ONE FUEL FOR OUR FUTURE

The first step converts natural gas, coal or bio-mass into synthesis gas, a mixture of carbon monoxide (CO) and hydrogen (H_2) - syngas.

This mature process technology has been used in many commercial facilities as the first step for producing ammonia, hydrogen, methanol.

Sasol, the recognized world leader in F-T technology uses both gas reformation and coal gasification to produce syngas for its F-T production.

CHOREN, a German company has been operating a bio-mass gasifier to produce syngas for methanol and electric production since 1998. This plant is considered the worlds first bio-renewable gasifier and has the distinction of producing fuels and electricity with a net zero impact on the worlds CO2 production as the CO2 absorbed by the plants and trees is equal or greater than the CO2 produced from generating the electricity and burning the fuels.

Step two, the Fischer-Tropach conversion, discovered by the Germans in the early 1900's, upgrades the syngas into a waxy hydrocarbon. Simplified this reaction is :

The length of the hydrocarbon chain is determined by the composition (or ratio of H_2 to CO) of the syngas, the catalyst selectivity and the reaction conditions.

Sasol has pioneered several types of F-T conversion technologies to produce over 150 different products from their F-T plants in South Africa alone. The hydrocarbon stream (CH_2) is sent to product workup and the water (H_2O) is sent to the water recovery unit.

The third step, Product Upgrading:

Upgrading can produce a wide range of commercial products from gasoline to diesel to candle wax. For a US based F-T program we would recommend middle distillate fuels: kerosene, diesel and naphtha.

This process makes use of standard hydrocracking and hydroisomerization processes commonly found in the refinery world. As with the First Step of syngas production, suitable technology is widely available from several licensors around the world.

The F-T process produces fuels that contain essentially no sulfur, no aromatics or ring chain hydrocarbons that are so toxic and harmful to the environment. The F-T process does produce CO_2 but it is in a pure stream and is easily contained for sale to third parties or can be sequestered for injection into underground wells.

F-T Fuels, clean fuels for our future that will reduce our dependence on foreign crude oil and products.

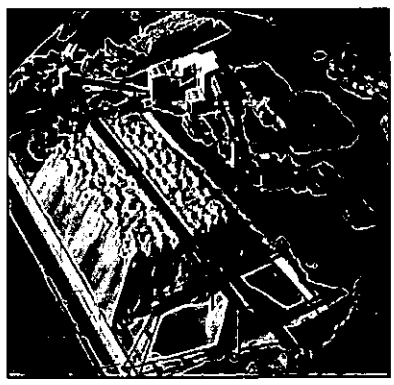
The Fischer-Tropach Process (F-T) has three main processing steps shown here, all of which are commercially proven.

STEP 1, SynGas Generation represents - 50+% of the total cost
STEP 2, F-T Conversion - 25% of the total cost
STEP 3, Product Upgrading - 15% to 25% of the total cost

The type of SynGas Generation, gas reformation or gasification of solids, depends upon the raw material or feed stock available. Around the world stranded Natural Gas is the choice; however, in the US with the exception of North Slope Natural Gas, coal, bio-mass (garbage), bio-renewables (trees and plants) represent the majority of available feedstock for a US based F-T program!

DIFFERENT DOMESTIC NATURAL RESOURCES –THE SAME END FUEL

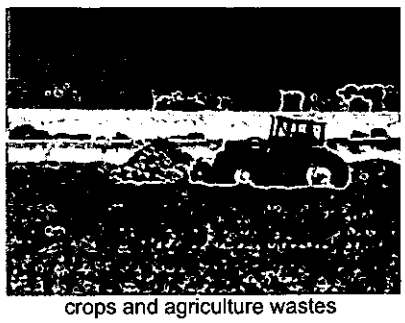
wood - forests - plantations



wood – residue / waste

MSW – garbage - treated human waste

coal



crops and agriculture wastes

identical fuel from all resources

SYNTHETIC DIESEL

F-T DIESEL
AS CLEAN AS CNG

U.S. EPA* APPROVED

NON-TOXIC

ZERO SULFUR

ZERO AROMATICS

70 + CETANE

PM10 ≤ CNG

*EPA Water Docket, EB 57 located at 401 M Street SW Washington DC, 20460 Reference Docket No. W-98-26 in UNOCAL data file 4.A.a.3, Vol 13

WHAT DOES A BELUGA CTL PROJECT NEED TO BE SUCCESSFUL?

- **ATTRACT ONE OF THE WORLDS F-T TECHNOLOGIES TO ALASKA**
  - THERE ARE AT LEAST TWO F-T TECHNOLOGY OWNERS IN THE WORLD CAPABLE OF DESIGNING AND BUILDING A COMMERCIAL SCALE CTL PLANT!
    - **BOTH SASOL AND SHELL ARE BUILDING GTL PLANTS IN QATAR, 3 CTL PLANTS IN CHINA AND 1 IN AUSTRALIA**
    - **BOTH MAY BE PEOPLE CONSTRAINED TO PARTICIPATE IN MORE THAN 1 OR 2 ADDITIONAL CTL PROJECTS**
- ALASKA MUST BE COMPETITIVE WITH OTHER CTL/GTL PROJECTS ACROSS THE WORLD – (NEED *AS GOOD OR BETTER RETURN's*)
  - **(China, Australia, Indonesia, Iran, Qatar, South America)**
- ALASKA MUST BE BETTER THAN OTHER POTENTIAL CTL PROJECTS IN COAL RICH STATES IN THE LOWER 48
  - **Montana, Wyoming, Ohio, North Dakota, Illinois, Indiana, New Mexico, Arizona, Texas, Utah**
- IF ALASKA DOESN'T BUILD THE FIRST CTL PLANT IN THE US, IT MAY HAVE TO WAIT 10 TO 20 YEARS FOR THE NEXT OPPORTUNITY

WHAT DOES THE ALASKA BELUGA CTL PROJECT NEED?

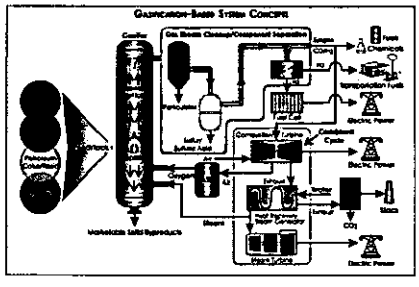
- THERE IS NO QUESTION THAT AT TODAY'S CRUDE OIL PRICES CTL IS ECONOMIC - HOWEVER
- BANKS DON'T LEND MONEY ON $50 CRUDE OIL PRICES
- S&P REQUIRES 1.5 TIMES DEBT COVERAGE AT $28 CRUDE OIL
- THE CURRENT 50¢/GALLON ENERGY CREDIT IN THE TRANSPORTATION BILL - HR-3 IS AN ANSWER - BUT
  - REQUIRES RENEWAL EVERY 5 YEARS
- EXTENDING (GUARANTEEING) THE TERM OF THE F-T ENERGY CREDIT IS ONE SOLUTION
  - Senate Bill 3325 (Coal to Liquids Fuel Promotion Act of 2006)

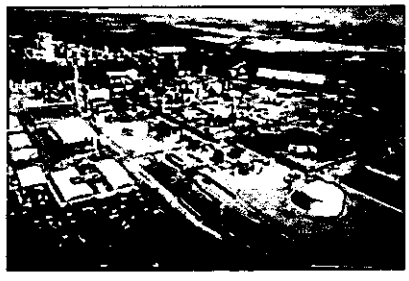
MORE THAN JUST A CTL PROJECT

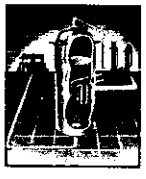
HUNDREDS OF VALUE ADDED BUSINESSES ARE POSSIBLE

VALUE ADDED INDUSTRIES

- The Sasol CTL plants in South Africa produce over 150 different value added products from effluent streams.
- The North Dakota Gasification plant uses the Lurgi process to convert 6 million tons per year of lignite coal to syngas and liquids. The average daily production at Great Plains is about 160 million cubic feet of high quality pipe line natural gas.
- Many by-products are also produced at the plant, including: ammonium sulfate, anhydrous ammonia, carbon dioxide, dephenolized cresylic acid, krypton and xenon gases, liquid nitrogen, naphtha, phenol, and methanol.







SYN-GAS ECONOMICS

THE MARKET FOR SYN-GAS PRODUCTS IN ALASKA IS VERY LIMITED

IT CAN NOT SUPPORT A LARGE SCALE COMMERCIAL GASIFICATION COMPLEX!

Export is the only option

F-T Diesel - world market unlimited

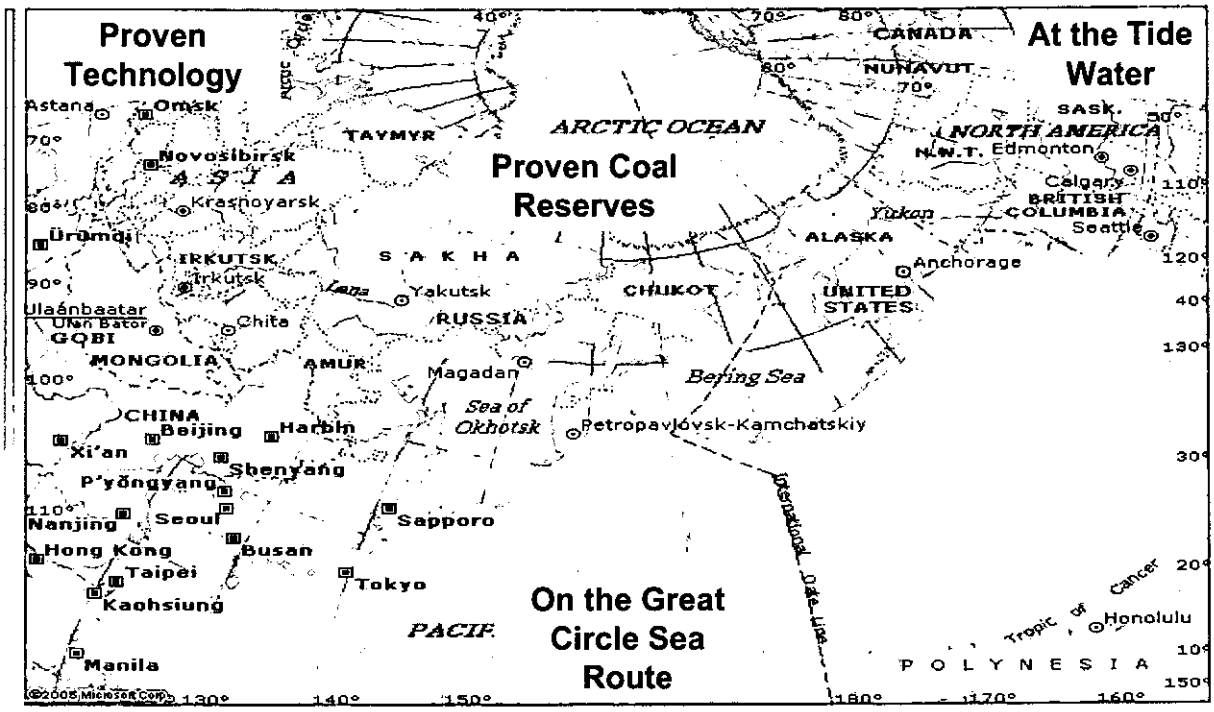
- 16 million barrels per day and growing (245 billion gallons per year)

California Diesel Market

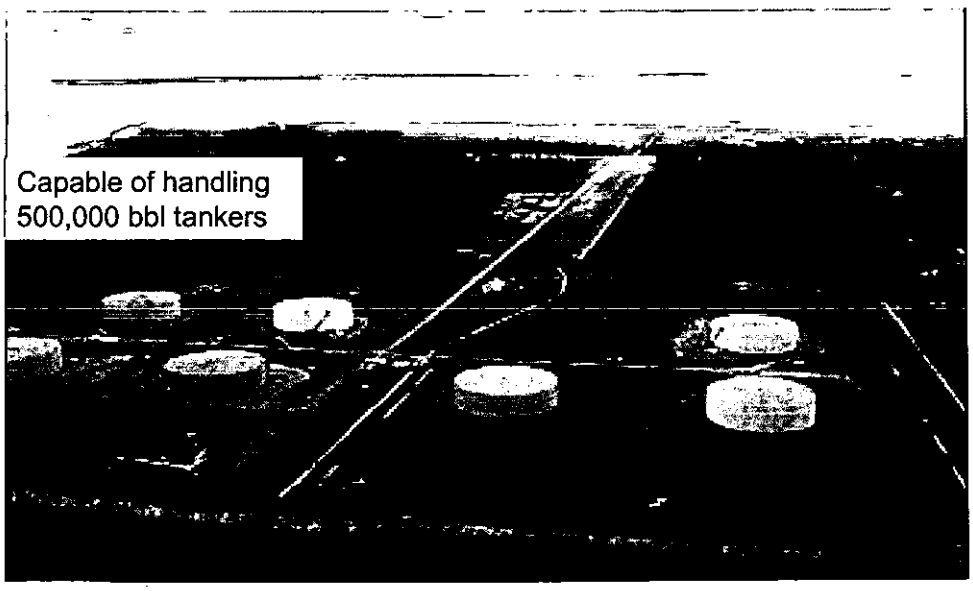
- 420,000 barrels per day and growing (17 million gallons per day)

US WEST COAST THE PRIMARY MARKET FOR ALASKA CTL PRODUCTS

BELUGA CTL PROJECT
NEAR AN EXISTING DEEP WATER EXPORT TERMINAL



DRIFT RIVER EXPORT TERMINAL
COOK INLET, ALASKA



F-T FUEL TECHNOLOGY IS PROVEN BUT IS IT ECONOMIC ?

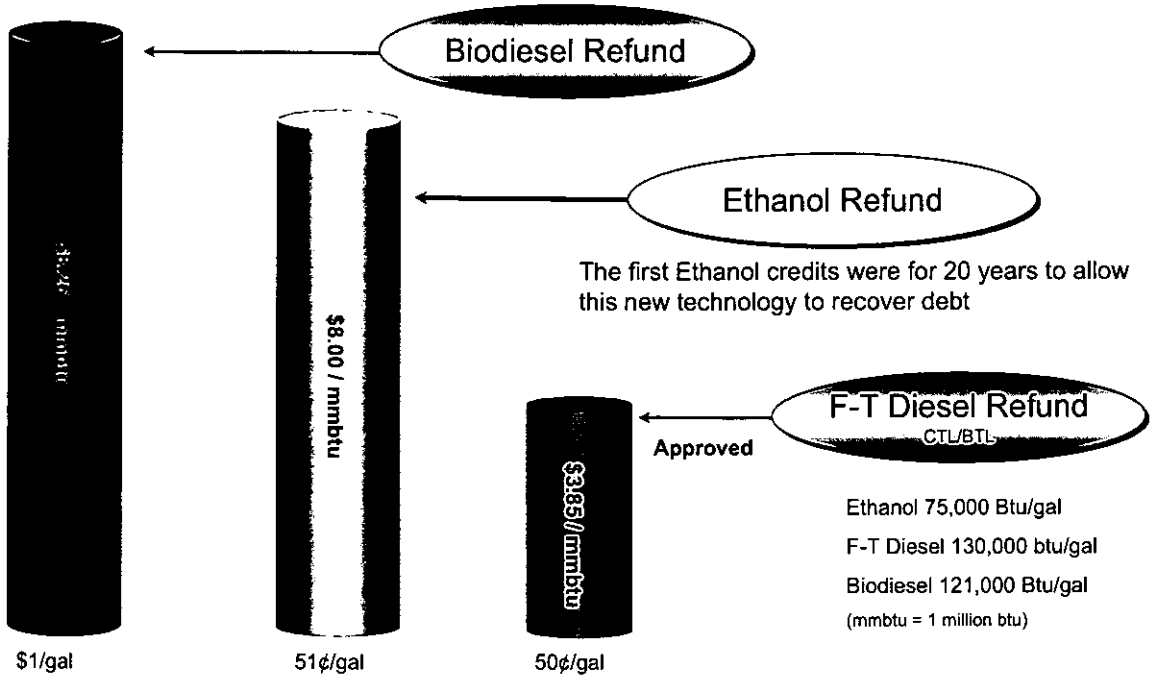
- Over 40 billion gallons of F-T fuels sold to date from BTL CTL and GTL plants around the world – It is proven !
- Over 500,000 bbl/d of new GTL plants under construction or planed for Middle East alone – it is commercial !
- At today's price of crude oil – they are economic !
- Commercial Banks don't lend money on today's crude oil price for projects

FISCHER-TROPSCH SUPPORT

COMPARED TO OTHER "ALTERNATIVE FUELS" IN THE US TODAY

Energy Credits for F-T Diesel (CTL - BTL)
On a $/million btu basis vs Biodiesel & Ethanol

(At the Federal level only)

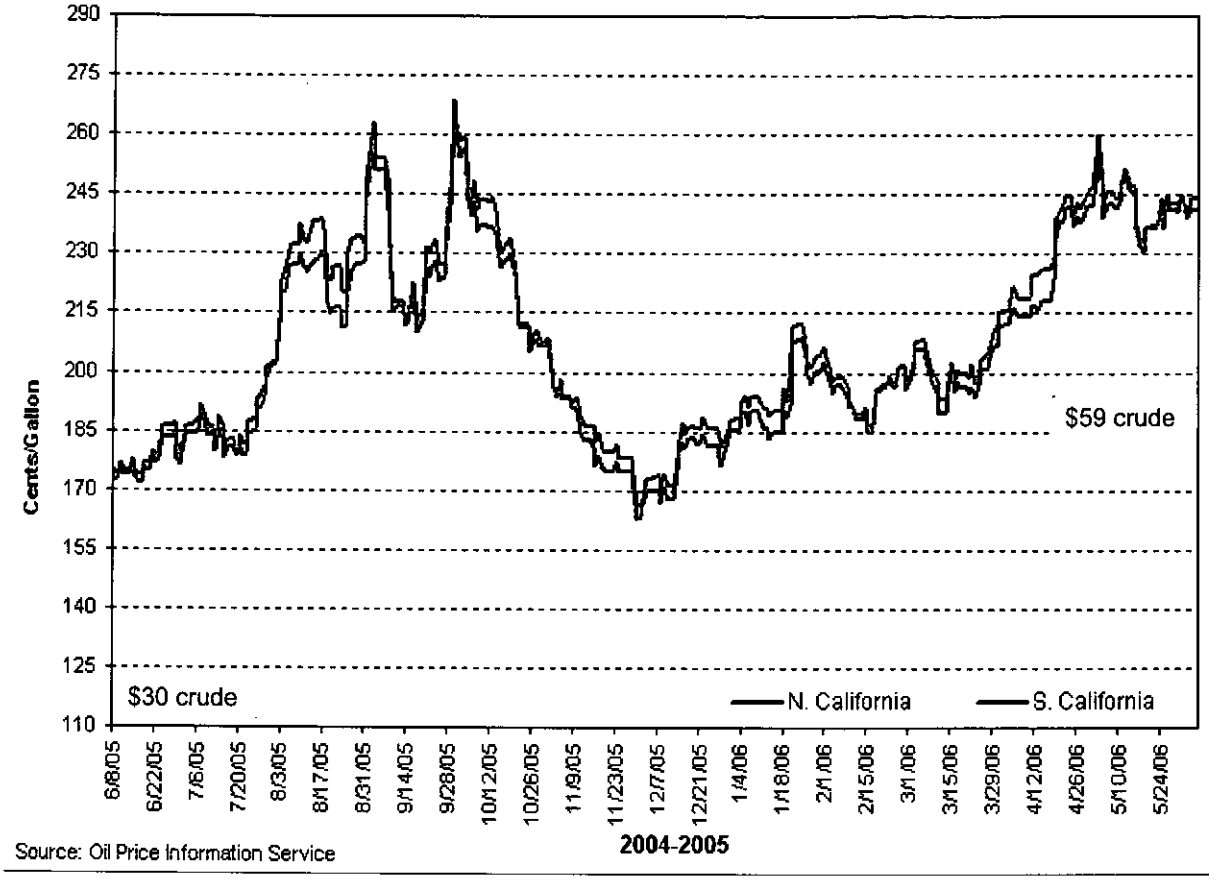


Energy Credits that F-T Diesel receives is less than half the Tax Credit of Biodiesel & Ethanol on a $/million btu basis

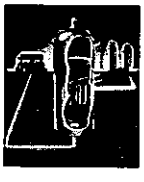
CURRENT FEDERAL SUPPORT FOR THE BELUGA CTL PROJECT

$500 + MILLION / YEAR

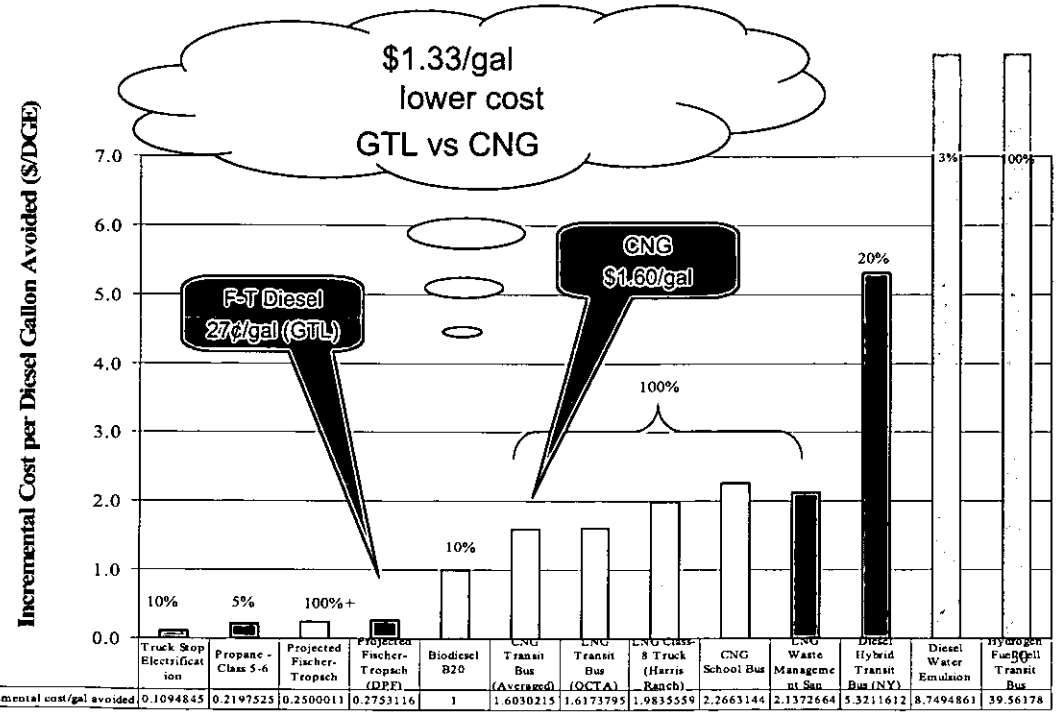
CARB Diesel Fuel Average Rack Prices
(As of 6/5/06)



Source: Oil Price Information Service



California Energy Commission "Cost of Fuel Options Study" for diesel vehicles



Bringing Alaska North Slope Natural Gas to Market

At least three alternatives have been proposed over the years for bringing sizable volumes of natural gas from Alaska's remote North Slope to market in the lower 48 States: a pipeline interconnecting with the existing pipeline system in central Alberta, Canada; a gas-to-liquids (GTL) plant on the North Slope; and a large liquefied natural gas (LNG) export facility at Valdez, Alaska. NEMS explicitly models the pipeline and GTL options [66]. The "what if" LNG option is not modeled in NEMS.

This comparison analyzes the economics of the three project options, based on the oil and natural gas price projections in the *AEO2009* reference, high oil price, and low oil price cases. The most important factors in the comparison include expected construction lead times, capital costs, and operating costs. Others include lower 48 natural gas prices, world crude oil and petroleum product prices, interest rates, and Federal and State regulation of leasing, royalty, and production tax rates. Each option also presents unique technological challenges.

Natural Gas Resources and Production Costs

Natural gas exists either in oil reservoirs as associated-dissolved (AD) natural gas or in gas-only reservoirs as nonassociated (NA) natural gas. Of the 35.4 trillion cubic feet of AD gas reserves discovered on the Central North Slope in conjunction with existing oil fields, 93 percent is located in four fields: Prudhoe Bay (23 trillion cubic feet), Point Thomson (8 trillion cubic feet), Lisburne (1 trillion cubic feet), and Kuparak (1 trillion cubic feet) [67]. Together, those resources (a total of 35.4 trillion cubic feet of AD natural gas reserves) are sufficient to provide 4 billion cubic feet of natural gas per day for a period of 24 years, at an expected average cost of $1.21 per thousand cubic feet (2007 dollars) [68]. The cost estimate is relatively low, because an extensive North Slope infrastructure has been built and paid for with revenues from oil production, and because there is considerably less exploration, development, and production risk associated with known deposits of AD natural gas.

Although additional AD natural gas might be discovered offshore or in the Arctic National Wildlife Refuge (ANWR), most of the "second tier" discoveries in areas to the west and south of the Central North Slope are expected to consist of NA natural gas in gas-only reservoirs. Production costs for gas-only reservoirs are expected to be considerably higher than those for AD natural gas, because they are in remote locations. In addition, the full costs of their development will have to be paid for with revenues from the natural gas generated at the wellhead.

For the first tier of North Slope NA natural gas (29.2 trillion cubic feet) production costs are expected to average $7.91 per thousand cubic feet (2007 dollars). For the second tier, production costs are expected to average $11.03 per thousand cubic feet. Because the cost of producing NA natural gas is substantially greater than the cost of producing AD natural gas, this analysis uses the lower production costs for AD natural gas to evaluate the economic merits of the three facility options examined.

Facility Cost Assumptions

Of the three facility options, the costs associated with an Alaska gas pipeline are reasonably well defined, because they are based on the November 2007 pipeline proposals submitted to the State of Alaska by ConocoPhillips and TransCanada Pipelines, in compliance with the requirements of the Alaska Gasline Inducement Act (AGIA). Costs associated with GTL and LNG facilities are more speculative, based on the costs of similar facilities elsewhere in the world, adjusted for the remote Alaska location and for recent worldwide increases in construction costs (Table 11).

Other key assumptions for all the options analyzed include natural gas feedstock requirements, natural gas heating values, characteristics of the operations, State and Federal income tax rates, and the time required for planning, obtaining required permits, and constructing the facilities. Key assumptions that are unique to each option include the following: for the Alaska pipeline option, the tariff rate for the existing pipeline from Alberta to Chicago and the spot price for natural gas in Chicago; for the LNG facility option, capital and operating costs, including the cost of building a pipeline from the North Slope to

Table 11. Assumptions for comparison of three Alaska North Slope natural gas facility options

Assumption	Pipeline option	LNG option	GTL option
Natural gas conversion efficiency (percent)	*94*	*80*	*60*
Capital costs (billion 2007 dollars)	*27.6*	*33.9*	*57.5*
Operating costs (million 2007dollars per year)	*263.0*	*392.9*	*894.3*

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liquefaction and storage facilities in Valdez, and the value of LNG delivered in Asia and Valdez; and for the GTL facility option, the time required to conduct tests to determine whether the Trans Alaska Pipeline System (TAPS) should be operated in batch or commingled mode with GTL, the production level and mix of product, the oil pipeline tariff and tanker rates to U.S. West Coast refiners, and the price of GTL products relative crude oil prices. The costs of testing and possibly converting TAPS into a batching crude/product pipeline are not included for the GTL option.

Discussion

To compare the economics of the three options, an internal rate of return (IRR) was calculated for each alternative, based on the projected average price of light, low-sulfur crude oil and the projected average price of natural gas on the Henry Hub spot market in the *AEO2009* reference, high oil price, and low oil price cases for the 2011-2020 and 2021-2030 periods (Table 12). The IRR calculations (Figures 20 and 21) assume that the average prices for the period in which a facility begins operation will persist throughout the 20-year economic life of the facility. Projected crude oil prices show considerably more variation across the cases and time periods than do Henry Hub natural gas prices, affecting the relative economics of the three options. In 2030, in the low and high oil price cases, crude oil prices are $50 and $200 per barrel, respectively, and natural gas prices are $8.70 and $9.62 per million Btu, respectively (all prices in 2007 dollars).

The *AEO2009* projections show wide variations in oil prices, which are set outside the NEMS framework to reflect a range of potential future price paths. For natural gas prices, variations across the cases are smaller, reflecting the feedbacks in NEMS that equilibrate supply, demand, and prices in the natural gas market model. Natural gas price increases are held in check by declines in demand (especially in the electric power sector) and increases in natural gas drilling, reserves, and production capacity. Similarly, natural gas price declines are held in check by increases in demand and decreases in drilling, reserves, and production capacity. Natural gas prices are also restrained because only a small portion of the natural gas resource base is projected to be consumed through 2030, and the marginal cost of natural gas supply increases slowly.

Table 12. Average crude oil and natural gas prices in three cases, 2011-2020 and 2021-2030

	2011-2020	2021-2030
Oil price (2007 dollars per barrel)		
Reference	*107.32*	*123.26*
High oil price	*154.24*	*193.25*
Low oil price	*51.61*	*50.31*
Natural gas price (2007 dollars per million Btu)		
Reference	*7.04*	*8.21*
High oil price	*7.52*	*8.50*
Low oil price	*6.24*	*7.88*

As indicated in Figures 20 and 21, IRRs for the pipeline option are sensitive to natural gas price levels, whereas IRRs for the GTL and LNG options are more sensitive to crude oil prices. Consequently, from 2021 through 2030, IRRs for the pipeline option vary by 15 to 17 percent across the three price cases, whereas those for the GTL and LNG options vary by 4 to 24 percent and 7 to 27 percent, respectively. On that basis, the pipeline option would be considerably less

Figure 20. Average internal rates of return for three Alaska North Slope natural gas facility options in three cases, 2011-2020 (percent)

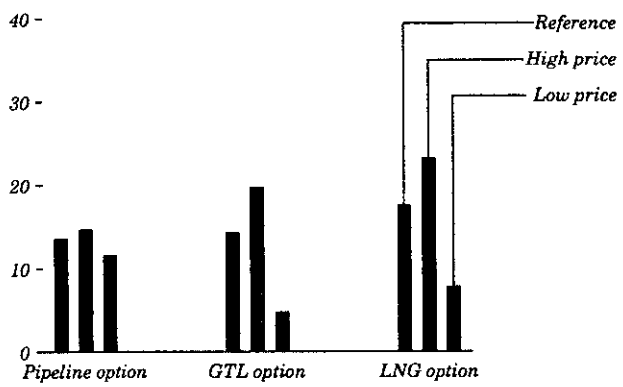
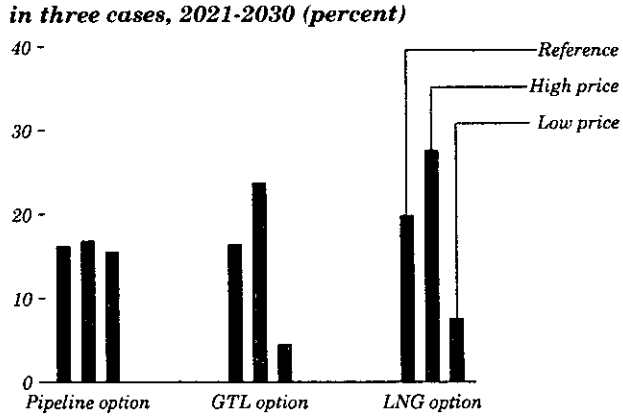


Figure 21. Average internal rates of return for three Alaska North Slope natural gas facility options in three cases, 2021-2030 (percent)



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risky than either the GTL or LNG option. Also, the pipeline would involve significantly less engineering, construction, and operation risk than either of the other options.

The potential viability of an Alaska natural gas pipeline is bolstered by the fact that British Petroleum (BP), ConocoPhillips (CP), and TransCanada Pipelines already have committed to building a pipeline. All three have extensive experience in building and financing large-scale energy projects, and both BP and CP have access to substantial portions of the less expensive North Slope AD natural gas reserves. Given that institutional support, along with the prospect for adequate rates of return, the natural gas pipeline option appears to have the greatest likelihood of being built.

Because the GTL option does not include the cost of testing and adapting the existing TAPS oil pipeline to GTL products—which would require third-party cooperation and likely cost reimbursement—the GTL rates of return are overstated. In addition, the GTL results include considerable uncertainty with regard to capital and operating costs and future environmental constraints on GTL plants. Prospects for Alaska GTL facilities are further clouded by the current absence of project sponsors.

Of the three options, an LNG export facility shows the highest rates of return in the reference and high price cases; however, it shows low rates of return in the low price case. The project risk associated with the LNG option is considerably less than that for the GTL option but greater than for the pipeline option. The LNG option is further undermined by the fact that there are large reserves of stranded natural gas elsewhere in the world that have a significant competitive advantage both because of their proximity to large consumer markets and because they would not require construction of an 800-mile supply pipeline. Although there is definite interest in the LNG export option in Alaska, current advocates of the project have not yet secured letters of intent from potential buyers to purchase the LNG, nor do they have ownership of low-cost AD reserves, extensive experience in the management of large-scale projects, or strong financial backing. Finally, if oil shale deposits in the rest of the world turn out to be as rich in natural gas as those in the United States, worldwide demand for LNG could be reduced considerably from the levels that were expected just a few years ago.

Other Issues

The analysis described here focused primarily on the relative economics and risks associated with each of three options for a facility to bring natural gas from Alaska's North Slope to market. There are, in addition, a number of other issues that could be important in determining which facility option could proceed to construction and operation, three of which are described briefly below.

Resolving ownership issues for the Point Thomson natural gas condensate field lease. The State of Alaska has revoked the Point Thomson lease from the original leaseholders. Point Thomson holds approximately 8 trillion cubic feet of recoverable natural gas reserves, and without that supply, the existing North Slope AD reserves would be insufficient to supply a natural gas pipeline over a 20-year lifetime. The 35.4 trillion cubic feet of existing AD natural gas reserves on the Central North Slope includes Point Thomson's 8 trillion cubic feet, and without those reserves only 27.4 trillion cubic feet of North Slope gas reserves would be available, providing just 18.8 years of supply for a 4 billion cubic feet per day facility. As long as the ownership issue of the Point Thomson lease remains unresolved, the possibility of pursuing construction of any of the three options is diminished.

Obtaining permits for an Alaska natural gas pipeline in Canada. The pipeline option could encounter significant permitting issues in Canada, similar to those that have already been encountered by the Mackenzie Delta gas pipeline, whose construction has been significantly delayed as the result of a failure to secure necessary permits. Because there have been no filings for Canadian permits by any Alaska gas pipeline sponsor, the severity of this potential problem cannot be determined.

Exporting Alaska LNG to foreign consumers. Some parties in the United States have called for a halt to current exports of LNG from Alaska to overseas markets. If Alaska were prohibited from exporting LNG to overseas consumers, the financial risk associated with any new Alaska LNG facility would increase significantly, because the financial viability of an LNG facility would be tied solely to lower 48 natural gas prices, which are projected to be considerably lower than overseas natural gas prices.

Shipping GTL products through TAPS. The joint ownership structure of TAPS could prevent a

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minority owner from using the pipeline to ship GTL from the North Slope south to Valdez and on to market.

Conclusion

The *AEO2009* price cases project greater variance in oil prices than in natural gas prices. If those cases provide a reasonable reflection of potential future outcomes, then the pipeline option in this analysis would be exposed to less financial risk than the GTL and LNG options. Additionally, it is the only option that already has the commitment of energy companies capable of financing and constructing such a large, capital-intensive energy facility. The balance of the factors evaluated here points to an Alaska natural gas pipeline as being the most likely choice for bringing North Slope natural gas to market.

Endnotes

66. The GTL option is represented in NEMS in the form of facilities with capacities of 34,000 barrel per day that can be added incrementally when oil and petroleum product prices are sufficiently high to make their operation profitable.
67. Alaska Department of Natural Resources, Division of Oil and Gas, *Alaska Oil and Gas Report 2007* (Anchorage, AK, July 2007), Table III.1, p.-2, web site www.dog.dnr.state.ak.us/oil/products/publications/annual/report.htm.
68. K.W. Sherwood and J.D. Craig, *Prospects for Development of Alaska Natural Gas: A Review as of January 2001* (Anchorage, AK: U.S. Department of Interior, Minerals Management Service, Resource Evaluation Office), Chapters 4 and 5, web site www.mms.gov/alaska/re/natgas/akngas2.pdf. Resource recovery costs were updated for this analysis, to reflect the escalation of drilling costs over time.

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Bringing Alaska North Slope Natural Gas to Market

Introduction

At least three alternatives have been proposed over the years for bringing sizeable volumes of remote Alaska North Slope natural gas to market. This discussion analyzes those alternatives, namely (1) a gas pipeline interconnecting with the existing pipeline system in central Alberta Canada, (2) a gas-to-liquids (GTL) plant on the North Slope, and (3) a large liquefied natural gas (LNG) export facility at Valdez, Alaska.

The National Energy Modeling System (NEMS), which produces the energy projections published in the *Annual Energy Outlook*, explicitly models the pipeline and GTL options.[1] This article presents an additional 'what if' option and analyzes potential economic value of each of the three alternatives under the oil and natural gas price projections in the reference, high, and low oil price cases of the *Annual Energy Outlook*.

This comparison analyzes the economics of the three project options looking at their expected construction lead times, and capital and operating costs of each option. Considerable uncertainties exists, however, regarding these costs and lead times and with respect to future lower 48 natural gas prices, world crude oil and petroleum product prices, interest rates, and Federal and State regulation of leasing, royalty, and production tax rates. Each facility also presents unique technological challenges, further adding to the uncertainty.

To ensure consistent treatment across the alternatives, one common assumption is that each facility would be based on a North Slope natural gas production level of 4 billion cubic feet (Bcf) per day and that each facility type has a minimum economic lifetime of 20 years. A 20-year facility life, relying on 4 Bcf per day, requires a total dedication of 29.2 trillion cubic feet (Tcf) of North Slope natural gas reserves.

Alaska North Slope Natural Gas Resources and Production Costs

Natural gas exists either in oil reservoirs as associated-dissolved (AD) natural gas or in gas-only reservoirs as non-associated (NA) natural gas. Of the 35.4 Tcf of AD gas reserves discovered on the Central North Slope in conjunction with existing oil fields, 93 percent is located in 4 fields: Prudhoe Bay (23 Tcf), Point Thomson (8 Tcf), Lisburne (1 Tcf), and Kuparak (1 Tcf).[2] These 35.4 Tcf of AD gas reserves are sufficient to serve a 4 Bcf facility for 24 years.

Producing the existing 35.4 Tcf of AD gas reserves is expected to cost an average of $1.21 per thousand cubic feet (Mcf) (2007 dollars).[3] This relatively low AD production

[1] NEMS represents the GTL option in the form of 34,000 barrel per day facilities that can be added incrementally when oil and petroleum product prices are sufficiently high to make these facilities profitable relative to the technological and market risks facing GTL.

[2] Source for ANS associated-dissolved gas reserves: Alaska Department of Natural Resource, *Alaska Oil and Gas Report*, July 2007, Table III.1, page 3-2.

[3] U.S. Department of Interior, Minerals Management Service, "Prospects for Development of Alaska Natural Gas: A Review as of January 2001," Resource Evaluation Office, Anchorage, Alaska, Chapters 4 and 5. NA gas costs reflect exploration and development drilling, completion, and production costs at a

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cost is because an extensive North Slope infrastructure has been built and paid for by oil production, and because there is considerably less exploration, development, and production risk associated with these known AD gas deposits.

Although additional AD natural gas might be discovered offshore or in the Arctic National Wildlife Refuge (ANWR), most of the North Slope natural gas expected to be discovered west and south of the Central North Slope is NA gas in gas-only reservoirs. The cost of producing these gas-only reservoirs is expected to be considerably higher than AD gas because of their remote location and because the full cost of development must be paid for by the natural gas revenues generated at the wellhead. The first tier of North Slope NA gas (29.2 Tcf) is expected to cost $7.91 per Mcf (2007 dollars) to produce, while the second tier of NA gas is expected to cost $11.03 per Mcf.[4] Because the NA natural gas production cost is substantially greater than the estimated AD gas production cost, this analysis will focus on the relative economic merits of the three facility options only in the context of the less expensive AD gas.

Facility Cost Assumptions

Of the three facility options, the costs associated with an Alaska gas pipeline are well defined, based on the November 2007 pipeline proposals submitted in compliance with the Alaska Gasline Inducement Act (AGIA) requirements by ConocoPhillips and TransCanada Pipelines to the State of Alaska. Costs associated with gas-to-liquids and liquefaction facilities are more speculative, and are based on similar facilities found elsewhere in the world, adjusted for the remote Alaska location and for recent world-wide construction cost increases (Table 1).

Table 1
Alaska North Slope Facility Costs and Operating Parameter Assumptions
(Costs are in 2007 dollars)

	Gas Pipeline to Alberta	LNG Export Facility	GTL Facility
Gas Conversion Efficiency 1/	94%	80%	60%
Capital Costs (Billion dollars) 2/	$27.6	$33.9	$57.5
Operating Costs (Million $ per year) 3/	$263.0	$392.9	$894.3

1/ LNG facility efficiency does not include any LNG tanker losses while in transit; pipeline efficiency based on AGIA averages; LNG and GTL losses based on levels cited in technical literature Source: Bipin Patel, Foster Wheeler Energy Limited, "Gas Monetisation: A Techno-Economic Comparison of Gas-To-Liquid and LNG," 2005.

2/ Each option's capital cost includes $6.5 billion in capital costs to pay for gas gathering and treatment facilities. Gathering and treatment costs based on ConnocoPhilips AGIA proposal costs. LNG capital costs based on liquefaction plant estimates provided by Robert Baron, a DOE/Fossil Energy consultant, and

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reasonable rate of return, but do not include gas gathering and processing costs, which are included in the capital and operating costs of each of the three facilities. The AD gas costs represent the cost of pumping the natural gas out of the reservoir to the surface, periodically reworking the wells, and drilling some infill wells, plus a reasonable rate of return for these activities, but do not include gathering and processing costs.

[4] Ibid. Each tier of 29.2 Tcf is based on the gas requirements of a 4 Bcf per day facility operating over a 20-year economic life.

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prorated AGIA gas pipeline costs based on the mileage from the North Slope to Valdez, and escalated by 20% to reflect the cost of building over the Alaska Range mountains in a seismically active zone. GTL North Slope capital cost based on $110,000 per daily stream barrel as per the Petroleum News article, "Legislators told GTL a no-go for ANS gas," March 11, 2007.
3/ Operating costs include labor, maintenance, administrative overhead, etc. but do not include natural gas feedstock costs. Pipeline operating costs are based on EIA's NGTDM model values. LNG operating costs are based on study by Robert Baron, consultant for DOE/FE Study of LNG and GTL costs, 2006. GTL operating costs are based on EIA's INGM model.

Other key assumptions for each facility type include:

- All Facility Types:
  - The natural gas feedstock requirement is 4 Bcf per day,
  - The natural gas heating value is 1,099 Btus per cubic foot[5],
  - In the first year of operation, a project produces at 50 percent of capacity at 60 percent of annual operating cost, and
  - The State and Federal income tax rates collectively are 38 percent.

- Alaska Gas Pipeline:
  - The Alberta to Chicago gas pipeline tariff rate is $0.70/MMBtu (2007 dollars)[6],
  - Chicago spot natural gas prices are approximately $0.10/MMBtu less than Henry Hub spot prices[7], and
  - The pipeline takes 9 years to plan, permit, and construct, with most of the construction costs incurred during the last 4 years.

- LNG Facility:
  - Capital and operating costs include the cost of building a gas pipeline from the North Slope to the liquefaction and storage facilities in Valdez, but do not include the cost of tankers to ship LNG to customers,
  - LNG delivered in Asia is valued at 85 percent of the low-sulfur, light crude oil price,[8]
  - The LNG at Valdez is valued at 85 percent of the delivered LNG price to account for LNG shipping costs, and
  - The LNG facility, including the gas pipeline from the North Slope to Valdez, takes 5 years to plan, permit, and construct.

- GTL Facility:
  - GTL facility costs do not include any costs to test and possibly convert the Trans Alaska Pipeline System (TAPS) into a batching crude/product pipeline[9],

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[5] Average of ConnocoPhilips and TransCanada AGIA application.
[6] Current value contained in NGTDM module.
[7] Based on historical average natural gas price differential between Alberta and Chicago.
[8] Source: Alaska Gasline Port Authority, "Application for the All-Alaska Gas Line Project," submitted on November 30, 2007 to the State of Alaska as a project submission for the Alaska Gasline Inducement Act, Fairbanks, Alaska, pages 158 to 164.
[9] Testing and conversion costs are unknown at the present time; no study proposals have been made.

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- Prior to construction of a GTL facility, 3 years would be required to conduct tests to determine whether TAPS should be operated in batch or commingled mode with GTLs[10],
- Produces about 460,000 barrels per day of petroleum products of which 30 percent is naphtha and 70 percent is distillate (diesel)[11],
- A $4.87/bbl oil pipeline tariff rate[12] and a $3.50/bbl tanker rate[13] to U.S. West Coast refiners are assumed for GTL petroleum products,
- GTL products are collectively priced at 120 percent of the West Texas Intermediate crude oil price[14], and
- The GTL facility takes 5 years to plan, permit, and construct due to a harsh site environment and difficult logistics.

Discussion

To compare the economic attractiveness of each of the three options, internal rates of return (IRR) were calculated for each alternative, based on the average projected prices of light, low-sulfur crude oil and Henry Hub spot natural gas (Table 2) for the *AEO 2009* reference, high oil price, and low oil price cases during two periods spanning 2011 through 2020 and 2021 through 2030 (Figure 1). These IRR calculations assumed that the average price over each time period persists during the entire 20-year economic life of the facility. Projected crude oil prices show considerably more variation across the cases and time periods than do Henry Hub gas prices and can flow through to project outcomes. In 2030, crude oil prices range from $50 dollars per barrel (2007 dollars) in the low oil price case to $200 per barrel in the high oil price case, while gas prices range from $8.70 per million Btu to $9.62 per million Btu across the same oil price cases.

Table 2
Average Projected Crude Oil and Natural Gas Prices
For Periods Spanning 2011-2020 and 2021-2030
By *Annual Energy Outlook 2009* Oil Price Case

		2011-2020	2021-2030
Light, Low-Sulfur Crude Oil Price	Reference Case	$107.32	$123.26
(Dollars Per Barrel)	High Oil Price Case	$154.24	$193.25
	Low Oil Price Case	$51.61	$50.31
Henry Hub Spot Natural Gas Price	Reference Case	$7.04	$8.21
(Dollars per Million Btu)	High Oil Price Case	$7.52	$8.50
	Low Oil Price Case	$6.24	$7.88

The AEO2009 oil price projections show a large variation in oil prices, which are set outside of the NEMS framework to reflect the full range of potential future oil prices. In contrast to oil, a smaller variation in natural gas prices is projected across all the NEMS

[10] Source: University of Alaska Fairbanks, "Operational Challenges in Gas-to-Liquid (GTL) Transportation Through Trans Alaska Pipeline System (TAPS)," March 2007, page xii.
[11] Source: Alaska Natural Gas Development Authority, "Alaska Natural Gas Needs and Market Assessment: 2008 Update of the Industrial Sector," June 2008, page 1.
[12] FERC No. 13 tariff rate for TAPS effective January 1, 2008.
[13] Transportation rate contained in the NEMS Petroleum Marketing Module.
[14] Based on historical averages.

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cases, including the oil price cases. The smaller variation in natural gas prices results from the NEMS natural gas market feedbacks that equilibrate supply, demand, and price.

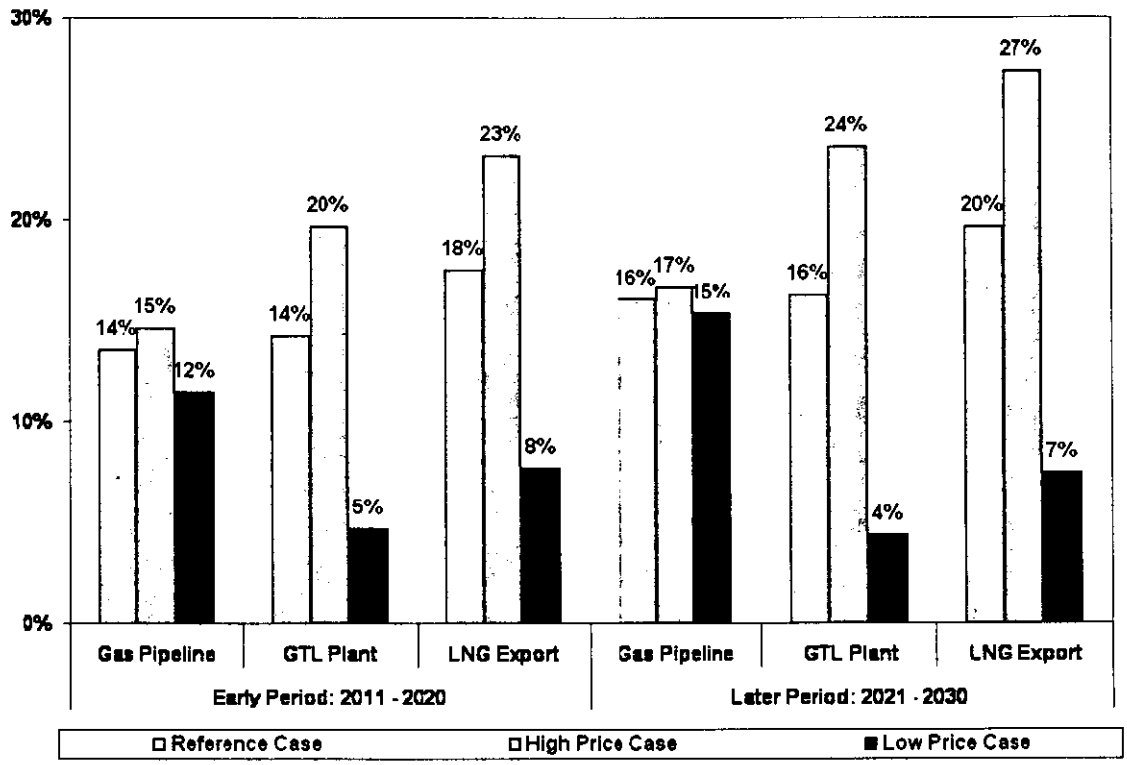
Within NEMS, natural gas price increases are held in check by declining natural gas demand (especially within the electric power sector) and by increasing natural gas drilling, reserves, and productive capacity. Similarly, natural gas price declines are held in check by an increasing gas demand and by decreasing gas drilling, reserves, and productivity capacity. Natural gas prices are also restrained by the fact that only a the small proportion of the gas resource base is consumed through 2030 and that the marginal cost of gas supply increases slowly in the initial portion of the gas supply curve.

Gas pipeline IRR results are sensitive to gas prices while GTL and LNG IRR results are sensitive to crude oil prices (Figure 1). During the 2021 through 2030 period, the small variability in projected gas prices results in pipeline rates of return ranging between 15 and 17 percent, while the large variability in projected oil prices results in GTL and LNG rates of return ranging between 4 to 24 percent and 7 to 27 percent, respectively. If the projected range in oil and gas prices is a reasonable expectation of potential future outcomes, then the gas pipeline option is considerably less risky than either the GTL or the LNG option. The gas pipeline also has significantly less engineering, construction, and operation risk than either of the other options.

The viability of an Alaska gas pipeline is bolstered by the fact that British Petroleum (BP), ConocoPhillips (CP), and TransCanada Pipelines have each committed to building a gas pipeline. These parties have extensive experience in building and financing large scale energy projects, while BP and CP have access to a substantial portion of the less expensive North Slope AD gas reserves. Given the institutional support and the prospect for adequate rates of return, a gas pipeline presently has the greatest likelihood of being built.

Because the GTL option does not include the cost of testing and adapting the existing TAPS oil pipeline to GTL products which would require third-party cooperation and likely cost reimbursement, the GTL rates of return are overstated. GTL results are also burdened by considerable uncertainty regarding capital and operating costs and any future environmental constraints that might be imposed on such plants. Prospects for Alaska GTL facilities are further hindered by the absence of project sponsors at the present time.

Figure 1
2011 – 2020 and 2021 - 230 Average Internal Rates of Return
For the Three North Slope Alaska Facility Options
Using North Slope Associated-Dissolved Wellhead Natural Gas Feedstock
For the *Annual Energy Outlook 2009* Oil Price Cases



Of the three facility options, an LNG export facility presents the best rates of return in the reference and high oil price cases. However, this option earns low rates of return in the low oil price case. The project risk associated with the LNG export option is considerably less than for GTL but greater than for the pipeline.

The financial viability of an Alaska North Slope LNG export option is further undermined by the fact that there are large stranded gas reserves elsewhere in the world that enjoy a significant competitive advantage both by their proximity to large consumer markets and by not being burdened with having to build an 800-mile Arctic supply pipeline. These stranded foreign gas reserves would be developed for LNG export at a significantly lower cost than those located in the Alaska North Slope, thereby making the potential future demand for Alaska North Slope LNG much more speculative and uncertain.

Even though there is a definite interest in the LNG export option in Alaska, the current project advocates have neither secured letters of intent from potential buyers to purchase LNG nor do they have (1) ownership of the low-cost AD gas reserves, (2) extensive large-scale project management experience, or (3) strong financial backing.

Other Issues

This analysis focused primarily on the relative economics and risks associated with each North Slope facility option. However, there are a number of non-economic issues that could hinder or preclude the construction of these facilities. The most significant of these issues include:

- Revocation of the Point Thomson gas-condensate field lease. The State of Alaska has revoked the Point Thomson lease from the original leaseholders. Point Thomson holds approximately 8 trillion cubic feet of recoverable gas reserves. Absent the availability of the Pt. Thomas gas, the existing North Slope AD gas reserves are insufficient to supply a gas pipeline over a 20-year lifetime.[15] As long as the ownership issue of the Point Thomson lease remains unresolved, the possibility of pursuing construction of any of the three options is unlikely.
- Obtaining permits for an Alaska gas pipeline in Canada. The gas pipeline option could encounter significant permitting issues in Canada, similar to those that have already been encountered by the Mackenzie Delta gas pipeline, whose construction has been significantly delayed as a result of being unable to secure all necessary permits. Because there have been no filings for Canadian permits by any Alaska gas pipeline sponsor, the severity of this potential problem is indeterminate at this time.
- Exporting Alaska LNG to foreign consumers. Some parties within the United States have called for a halt to the current LNG exports from Alaska to overseas markets. If Alaska were prohibited from exporting LNG to overseas consumers, then the financial risk associated with any new Alaska LNG facility would increase significantly because the financial viability of an LNG facility would be tied to lower 48 natural gas prices, which are projected to be considerably lower than overseas natural gas prices.
- Shipping GTL products through the TransAlaska oil pipeline system (TAPS). The joint ownership structure of TAPS could prevent a minority owner from utilizing TAPS for shipping petroleum liquids from their GTL plant on the North Slope southward to Valdez for movement to PADD 5 or elsewhere.

Conclusions

The AEO2009 oil price cases project greater variation in oil prices than in natural gas prices. If these scenarios are a reasonable reflection of potential future outcomes, then the natural gas pipeline would be exposed to less financial risk than the GTL and LNG facilities. The gas pipeline also has significantly lower engineering, construction, and operation risk than the GTL and LNG facilities. Finally, only the gas pipeline has the commitment of energy companies that are capable of financing and constructing such a large, capital-intensive energy facility. So the balance of the factors evaluated among the

[15] The 35.4 Tcf of existing natural gas reserves includes Pt. Thomson's 8 Tcf. Without the Pt. Thomson gas reserves, only 27.4 Tcf of North Slope gas reserves would be available for only 18.8 years for a 4 Bcf per day facility.

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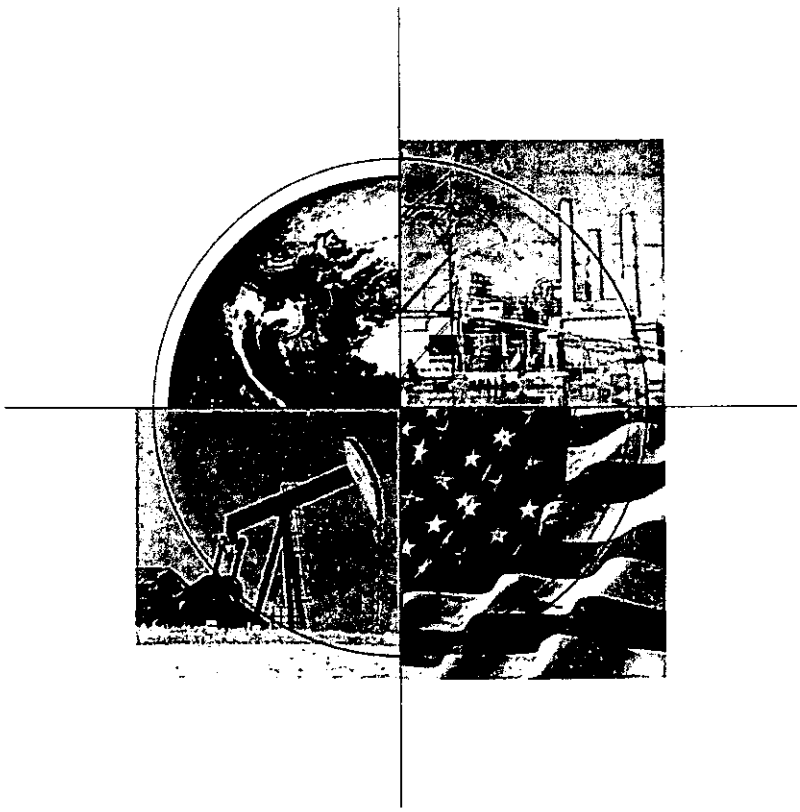
Beluga Coal Gasification Feasibility Study

DOE/NETL-2006/1248



Phase I Final Report

July 2006

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Beluga Coal Gasification Feasibility Study

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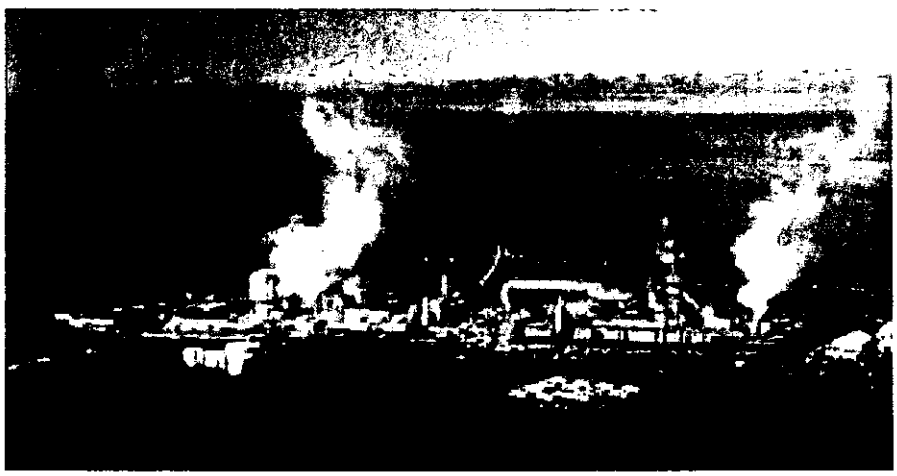

Agrium Kenai Nitrogen Operations Plant
Nikiski, Alaska

The Agrium fertilizer plant has been experiencing shortages of natural gas for feedstock and winter shutdowns have occurred. This study focused on evaluating the feasibility of the gasification of Beluga coal, shipped from the Chuitna Mine located across the Cook Inlet, to produce synthetic gas to be used by Agrium. The coal gasification facility would be located at the Agrium site.

BELUGA COAL GASIFICATION FEASIBILITY STUDY

Executive Summary

The objective of the Beluga Coal Gasification Feasibility Study was to determine the economic feasibility of developing and siting a coal-based integrated gasification combined-cycle (IGCC) plant in the Cook Inlet region of Alaska for the co-production of electric power and marketable by-products. The by-products, which may include synthesis gas, Fischer-Tropsch (F-T) liquids, fertilizers such as ammonia and urea, alcohols, hydrogen, nitrogen and carbon dioxide, would be manufactured for local use or for sale in domestic and foreign markets.

This report for Phase 1 summarizes the investigation of an IGCC system for a specific industrial setting on the Cook Inlet, the Agrium U.S. Inc. ("Agrium") fertilizer plant in Nikiski, Alaska. Faced with an increase in natural gas price and a decrease in supply, the Agrium is investigating alternatives to gas as feed stock for their plant. This study considered all aspects of the installation and infrastructure, including: coal supply and cost, coal transport costs, delivery routes, feedstock production for fertilizer manufacture, plant steam and power, carbon dioxide (CO_2) uses, markets for possible additional products, and environmental permit requirements.

Phase 2 of the project was initially planned to entail a generalized assessment of locating an IGCC plant at an alternative location in the Cook Inlet region, with plant size and design based on local and export markets for the suite of potential products. The Cook Inlet-specific Phase 1 results, reported here, provided insight and information that led to the conclusion that the second study should be for an F-T plant sited at the Usibelli Coal Mine near Healy, Alaska.

This Phase 1 case study is for a very specific IGCC system tailored to fit the chemical and energy needs of the fertilizer manufacturing plant. It demonstrates the flexibility of IGCC for a variety of fuel feedstocks depending on plant location and fuel availability, as well as the available variety of gas separation, gas cleanup, and power and steam generation technologies to fit specific site needs.

Background

Natural gas production from the major Cook Inlet fields is declining and known reserves are not sufficient to meet current demand beyond 2012. South Central Alaska natural gas prices have already risen and even in the best scenario, this upward trend will continue. The critical question is where South Central Alaska's future energy supplies will come from and at what price. Because of the declining natural gas supplies, the Agrium plant is scheduled to shut down in the fall of 2006.

The Cook Inlet/Susitna Basin coal fields contain 1.4 billion short tons of measured reserves (10.5 billion short tons of identified reserves). The measured reserves are equivalent to 21.4 trillion cubic feet of natural gas or 3.7 billion barrels of North Slope crude oil on a Btu content basis. This resource is the last undeveloped coal field in the United States that is on tidewater open to year-round shipping. It could be used for electric power production, export, converted to high value products, or a combination of these.

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There is renewed interest in the Beluga coal field, part of the Cook Inlet/Susitna Basin, to meet industrial and power requirements in the region. The increasing population in the area will require additional electric power generation. New developments, such as the Pebble Project, a proposed gold-copper mine, will also require additional power. Beluga coal, however, will potentially compete with other energy sources. For example, a spur line to transport North Slope gas is currently being investigated. There is a need, therefore, to technically and economically evaluate the Beluga coal option on a similar timeline. Having a completed study available will provide a base case for making project selections.

Faced with the increasing cost and reduced availability of natural gas, Agrium, which owns and operates a fertilizer plant at Nikiski on the Cook Inlet, is investigating the use of coal feedstock as a replacement for natural gas. The Agrium "Blue Sky Project" will assess the value of coal gasification in this specific industrial setting. Their concept includes gasification and a separate power plant, but is not an IGCC design.

The sections below summarize the study's assumptions, project scope and results, key findings, conclusions/recommendations, and plans for Phase 2.

Project Scope and Results

In this investigation, two plant configurations were considered for comparison. Case 1 is a system designed entirely as an IGCC. The IGCC plant would satisfy the Agrium facility's entire feedstock and electric power needs. Because of the size of available components, the final design will have the capacity to produce excess electrical power that can be sold to the local grid.

The Case 2 design retains the gasification trains from Case 1 to produce the fertilizer feedstocks, but replaces the combined-cycle equipment with a conventional fluidized bed combustion system to produce steam for the plant and for power production.

The results of the investigation are summarized below under major topic areas.

Coal & Limestone – Beluga coal from an undeveloped mine approximately 30 miles across the Cook Inlet from Agrium's plant is likely the most economic source of coal for the Cook Inlet region. The proven reserves are more than sufficient to supply the plant for the life of the project. Developers are actively pursuing permitting for the Chuitna Mine and plan to begin exporting to Pacific Rim countries by 2010. A second option is to transport coal from the currently operating Usibelli Coal Mine near Healy, AK. Both mines would produce sub-bituminous coal with nearly identical properties. Usibelli coal must be shipped by rail to either Anchorage or Seward. The final leg of the delivery chain for Chuitna or Usibelli coal is a barge trip across the Cook Inlet. The provisions of the Jones Act require that all shipping between U.S. ports must be on U.S. made, owned, and manned vessels. The Chuitna coal could be delivered to the Agrium plant at $1.84 to $1.99/MMBtu ($31.00.98 to $33.51/tonne); Usibelli coal could be delivered at $1.96 to $2.11/MMBtu ($33.10 to $35.63/tonne).

Limestone will be required in the design Case 2. The Alaska Lime Company mine near Cantwell could supply limestone to Agrium for an estimated $115/tonne, in sufficient quantity to meet plant demands.

Value Added Products – The demand for the coal gasification by-products of the Beluga Coal Gasification Project have been investigated as part of this evaluation. The areas considered include international, domestic, regional and local markets. Typical gasification products and by-products assessed in Phase 1 include elemental sulfur, sulfuric acid, slag (as an aggregate or

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replacement), carbon dioxide (CO_2), and Fischer-Tropsch diesel. The Phase 1 plant design does not include provisions for products other than fertilizer; however, the Phase 2 plant will be designed to produce Fischer-Tropsch fuels and other products. In Phase 2 the F-T analysis will be expanded. Phase 2 by-products may include nitrogen, carbon dioxide (for other than enhanced oil recovery), argon, and secondary value added by-products (naphtha, kerosene, etc.).

Carbon Dioxide – A coal gasification plant at the Agrium site would produce a significant quantity of CO_2. The carbon to hydrogen ratio for coal is much higher than for natural gas. Therefore, a coal gasification plant sized to meet the hydrogen requirements of fertilizer production produces more CO_2 than a plant fed with natural gas. The current natural gas fed plant emits about 114 MMscfd of CO_2 in both concentrated AGR (acid gas removal) and dilute flue gas streams. A gasification plant, of a size to produce an equivalent amount of hydrogen (the current study's Case 1 design) will emit about 280 MMscfd of CO_2. Of that 280 MMscfd, 91 MMscfd will be in a concentrated CO_2 gas stream from the acid gas processing section and 189 MMscfd will be in the form of dilute flue gas from the gas turbine stack. The desirability of developing a plant of this nature may hinge in part on the disposal or beneficial use of this CO_2. For that reason, this study assessed the potential of CO_2 for use in enhanced oil recovery (EOR) and for sequestration in underground reservoirs. There are more than a dozen reservoirs in the five major fields of Cook Inlet, within a 20-mile radius of the Agrium plant, that pass the screening criteria for miscible CO_2 floods.

- Using the average range of incremental increase in production (8 to 11%) via CO_2 flooding, the five major Cook Inlet oil fields have the potential to produce an incremental 290 to 400 million barrels of oil (MMbo). Using only the five major reservoirs and a 25% of cumulative production estimate, the incremental production would be approximately 300 MMbo.
- Screening level economics performed for the McArthur River field, the largest field in the Cook Inlet, suggest that an economic CO_2 flooding program in Cook Inlet's oil fields might be possible at oil prices greater than $35 to $40 per barrel, with the cost of CO_2 ranging from $0.50/Mcf to $1.20/Mcf. After the EOR assessment was completed, a preliminary economic analysis showed that the capital equipment cost for capturing and handling the CO2 was not economically feasible, thus the CO2 capture segment of the Case 1 and 2 designs was drooped and it was assumes that the gas would be vented. Refined analyses may show ways of using the CO2 for EOR that are feasible.
- The results of a successful flooding program could extend the life of the oil fields for 20 or more years and yield as much incremental oil as has been produced from these fields in the last quarter century.

Natural Gas Market – Agrium currently relies on scarce Cook Inlet natural gas as the chief feedstock for manufacturing fertilizer. Switching to synthesis gas from coal will increase the amount of natural gas available for other uses such as home heating and electric power generation in the Cook Inlet area. The impact on natural gas demand by eliminating Agrium as a natural gas customer was evaluated in another DOE/RDS study ("*Gas Needs and Market Assessment - Alaskan Spur Pipeline Project*" Contract No. DE-AM26-04NT41817, Task 211.01.06, completed in June, 2006). In that assessment, it was assumed that unless low cost natural gas is obtained the fertilizer plant will suspend operations in the fall of 2006. If the Agrium plant converts to coal as feedstock, effectively removing it from the regional gas market,

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no effect on that assessment was found, because conversion to coal will have the same effect as a plant shut-down.

Electric Power Market – The impact of Agrium switching from natural gas to coal would have a small impact on the local power market. The most effective design of the gasification system includes electrical generation capacity sufficient to completely power the Agrium facility and provide 70 MW of power for sale to the grid. Under the current grid configuration and markets, the impact of this increment on local power generation and transmission needs would be minimal. The grid infrastructure could handle the power without significant upgrades and the market would be able to absorb it. Incremental revenue from the 70 MW of power capacity would be about $45.94/MWh in 2010.

Gasification Plant Design – The coal gasification plant investigated in this study is designed to provide Agrium's Kenai Nitrogen Operations (KNO) plant with the following suite of required products:

- 282 million standard cubic feet per day (MMSCFD) of hydrogen at 400 psig and of suitable quality for ammonia production.
- Stoichiometric quantity of nitrogen (approximately 100 MMSCFD) at 400 psig and 99.99% purity.
- 1,500,000 lb/hr steam at 1500 psig and a minimum temperature of 825°F.
- 300,000 lb/hr steam at 600 psig and 625°F.
- 5,000 TPD CO_2 suitable for urea production (25 psig)
- Electric power to satisfy the auxiliary power requirements for the gasification plant and the KNO facility, to make the entire facility electric power independent.

In addition to the products provided from the IGCC plant to the fertilizer plant, the fertilizer plant will return 1,200,000 lb/hr of high-pressure condensate at 1200 psig and 450°F to the IGCC facility.

Phase 1 assessed two alternative design configurations for meeting the KNO requirements:

Case 1: Process the syngas from the gasification plant to supply required hydrogen and nitrogen to the KNO ammonia synthesis loop compressor and produce sufficient steam and power for internal KNO consumption. This case employs a gas turbine for power production.

Case 2: Process the syngas from the gasification plant to supply required hydrogen and nitrogen to the KNO ammonia synthesis loop compressor, but do not produce power from a gas turbine. Rather, it would employ a fluidized bed coal combustion power plant to independently produce the required power and steam for the KNO facility.

Six gasification technologies were considered for this study, and the ConocoPhillips E-Gas technology was ultimately selected. The criteria considered included commercial status, ability to gasify the proposed feedstock, type of solid waste produced, oxygen/coal ratio, modular capacity of the gasifier, syngas composition, operating pressure and other byproduct potential.

Preliminary results from Case 1 indicated that the syngas availability from the gasification plant could be improved by replacing the 7FA gas turbine combined cycle with a CFB coal-fired boiler. Initial analysis also indicated that capital cost savings could be realized through this

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change in plant configuration. However, to produce sufficient steam and power to satisfy KNO operations, the CFB boiler and associated steam turbine would have to be larger and less efficient, resulting in a higher capital cost per unit of output. Table ES.1 summarizes the performance characteristics and capital costs for Case 1 and Case 2.

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Table ES.1 Case-by-Case Comparison of Performance and Capital Costs

	Case 1	Case 2
Power Production		
Gas Turbine	197 MW GE 7FA	N/A
Steam Turbine	36 MW	156 MW
Syngas Expander	N/A	16 MW
Net Plant Power	70 MW[1]	12 MW
Coal Feed		
To Gasifiers	11,700 TPD	10,680 TPD
To CFB Boiler	N/A	1,800 TPD
Overall Plant Efficiency, HHV[2]	54.8%	48.4%
Condenser Duty	270 MMBtu/hr	729 MMBtu/hr
Capital Cost Area ($1,000's)		
Gasification Island	$569,500	$567,900
Gas Cleanup	$261,600	$263,900
Gas Turbine and HRSG	$153,000	N/A
CFB Boiler	N/A	$254,700
Syngas Expander-Generator	N/A	$8,100
Steam Turbine-Generator	$12,600	$47,200
Cooling Water System	$9,400	$19,800
Feedwater System	$8,000	$26,100
Balance of Plant	$625,900	$682,300
Total Plant Cost	$1,640,000	$1,870,000

Financial Analysis

Financial analyses for both cases were performed using the Power Systems Financial Model Version 5.0 (developed by Nexant for DOE) and the case-specific design and project cost estimates. The Power Systems Financial Model has been used in numerous gasification studies, and is now the NETL standard for IGCC systems analysis. The key results desired from the analysis were the project return on equity investment, discounted cash flow, and identification of

[1] The Case 1 design will provide a Net Plant Power of 81 MW. However, due to the potential sale price for power at various levels, the economic analyses assumed 70 MW of power available for sale to the grid.

[2] In this case, Overall Plant Efficiency equals the power generated plus chemical value of the hydrogen generated divided by the thermal input to the plant. It does not take into account the efficiency of the down-stream process in which the hydrogen is used.

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key model sensitivities. The amounts of hydrogen, nitrogen, CO_2, power, and steam exported to the Agrium facility were held constant. Table ES.2 shows the key model input differences and financial results for each case.

Table ES.2 Financial Cost Summary

	Case 1	Case 2
Plant EPC[3] Cost ($MM)[4]	1312	1498
Power Export to Grid (MW)	70	12
ROI (%)	11.1	6.0
Payback Year (2011 Start)	12 yrs.	20 yrs.

Case 1 clearly possesses superior financial potential relative to Case 2. While both cases produce enough raw materials necessary for ammonia and urea production at the Agrium facility, Case 2 is more expensive, produces less export power, and requires slightly more coal feed. Removal of the gas turbine from Case 1 and replacement in Case 2 with a CFB and a larger steam turbine to supply the necessary feedstocks to the Agrium plant does not appear to be economically justified.

Sensitivity analyses were performed on all model inputs in both cases. The items found to have the greatest impact on the financial results are the plant system availability, EPC cost, ammonia/urea prices, and delivered coal cost. None of the other model inputs impacted the ROI by more than 3 percentage points for the range of variables tested. Events that increase product prices and/or reduce capital or delivered coal costs will have a large positive influence on the project economics. The equity ROI remained positive after examining a wide range of potential conditions for EPC cost, availability, and coal price. For these inputs, the model results should be considered robust for this stage of the project analysis.

Because of the very wide range of potential values, the model input with the largest potential impact on project economics is the ammonia/urea price. In the last eight years, ammonia prices have ranged between $100 and $275/metric ton, with considerable volatility. Since this project has an estimated 30-year project life, the sensitivity analysis examined this entire price range. At ammonia prices at or below ~$150/metric ton, the project will have difficulty producing positive equity returns. None of the other financial model inputs impacted the results as strongly over the range of possible inputs considered. While this is not an issue that is unique to the development of a gasification facility at the Agrium site, it should have the greatest focus when making future capital investment decisions at the site.

The CO_2 produced from the proposed gasification plant has potential economic value for enhanced oil recovery operations in the region. An initial value of $0.50/MSCF of carbon dioxide was used after discussions with local oil and gas producers. Designing the plant to

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[3] Engineering, Procurement, and Construction

[4] This value is the same as the "Total Plant Cost" from Table ES.1 less the 25% contingency

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capture and sell the CO_2 under those conditions yielded an IRR that was ~1 percentage point lower than the final Case 1 design. A sensitivity analysis on carbon dioxide showed that a value of nearly $1.00/MSCF would be necessary to make the increased capital expenditure a break-even proposition with Case 1. Since it was estimated that this value is higher than what could be obtained in the Alaskan market, equipment for carbon dioxide capture and storage was removed from the base case designs.

Environmental Issues – Construction and operation of an IGCC facility at the existing Agrium Kenai Plant would require a number of federal, state and borough environmental permits. Environmental issues pertaining to air emissions, water supply, wastewater discharges, management of solid and hazardous wastes, and marine ecological impacts would need to be addressed in the project planning and design process to ensure compliance with existing regulatory requirements. In addition, one or more of the federal agencies with permitting jurisdiction could require an Environmental Assessment or an Environmental Impact Statement in accordance with the National Environmental Policy Act (42 U.S.C. § 4321 et seq.).

Phase 1 Conclusions:

The analyses showed that:

- The conversion of the Agrium plant is technically and economically feasible under the assumptions made. In the most financially attractive feasible case, Case 1 had an internal rate of return of 11.1%; Case 2 had an IRR of only 6.0%. Developers and investors use economic hurdles to judge investments and risk. Each case is different, so whether this yield is sufficiently high to secure financial commitments is a decision that can only be made by developers.
- There are sufficient coal resources to supply the plant at an economic delivered price.
- CO_2 will be produced in sufficient quantity and at a cost that may permit enhanced oil recovery in the Cook Inlet. The potential exists to recover as much as 300 MMbo – equaling the last 25 years of production. However, the CO_2 sales price will have to be greater than currently projected for this to be economically feasible.
- Large domestic and export markets exist for many by-products.
    - The developing Fischer-Tropsch diesel market has potentially the best return, but is also the one that is the least understood at this time.
    - Elemental sulfur and sulfuric acid have good and well understood world-wide markets.
    - Slag will need to be marketed locally as low-density aggregate, road building material, or sand blasting grit.
- Natural Gas - No change to the predictions described in *"Gas Needs and Market Assessment - Alaskan Spur Pipeline Project"*[5] was found.

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[5] Thomas, C.P. and C. Ellsworth, et al, (RDS), "Gas *Needs and Market Assessment - Alaskan Spur Pipeline Project*" Contract No. DE-AM26-04NT41817, Task 211.01.06, completed in June, 2006.

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- Electric power - The 70 MW of export power will bring a sales price of about $45.95/MWh in 2010. This excess power will not result in major impacts on the generation or transmission systems in the region over the time period evaluated.
- An analysis of the current design basis indicates that a proposed IGCC facility at the Agrium Kenai Plant is feasible in terms of current environmental permitting and compliance requirements imposed by federal, state and local regulations. Detailed environmental compliance strategies and mitigation measures would need to be developed in concert with design details and operational plans.

Phase 2 Project Plan:

The Phase 1 plant was designed for a very specific size, optimized for the level of production at the Agrium plant. In Phase 2, a plant based on the Phase 1 design will be considered for location at the Usibelli Coal Mine, near Healy. An NETL project[6] has determined that Healy would be the third most likely coal-to-liquids plant site in Alaska, after Nikiski and Beluga. Alaska Natural Resources to Liquids Company is pursuing a private sector initiative to develop the Alaska Beluga Coal-to-Liquids Project (AK Beluga CTL) on the west side of Cook Inlet. Since the Nikiski site was used in Phase 1 and AK Beluga CTL is underway, the Healy site was selected for Phase 2. The Healy plant will be optimized for commodity production levels consistent with expected local and export market demand and for electric power output levels consistent with growth projections and infrastructure capabilities. The conceptual design of this plant will be based on the design of the Phase 1.

Alaska Natural Resources to Liquids Company is pursuing a private sector initiative to develop the Alaska Beluga Coal-to-Liquids Project (AK Beluga CTL) on the west side of Cook Inlet. The AK Beluga CTL plant is also a gasification based facility and is on much scale larger (80,000 barrels per day) than that considered in Phase 1 of this study. As part of Phase 2, an investigation of the feasibility of piping synthesis gas from the proposed CTL plant to the Agrium plant will be undertaken.

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[6] Integrated Concepts and Research Corporation (ICRC), "Production and Demonstration of Synthesis Gas-Derived Fuels" NETL Contract DE-FC26-01NT41099

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Contributors and Acknowledgements

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The analytical portion of this study was conducted over a five month period beginning in October 2005. Assistance and support was received from many agencies and industry. Specifically, the authors thank members of the Advisory Committee for input and guidance, and for providing assistance in obtaining publicly available data in a timely and efficient manner.

Advisory Committee

An Advisory Committee was formed to review the scope of work, monitor progress, and make suggestions for further work. The primary function of the committee was to make sure the most critical issues were addressed and to assist in obtaining critical data. The Advisory Committee met on December 1, 2005 and February 17, 2006. The committee members are listed below.

- **Agrium U.S. Inc**: Lisa Parker, Corporate Relations; Tim Johnson, Technical Services
- **Alaska Department of Natural Resources**: Rick Fredericksen, Mining Section Chief, Division of Mining, Land, and Water
- **Alaska Governors Office**: Linda Hay, Special Staff Asst. - Resources
- **Alaska Industrial Development and Export Authority**: Ron Miller, Executive Director
- **Alaska Power Association**: Brad Janorschke, General Manager Homer Electric Association
- **DRven**: Robert Stiles, President, Mine Owner Representative
- **Usibelli Coal Mine**: Steve Denton, V.P. Business Development
- **At-Large:** Eric Yould
- In addition to their participation in the Advisory Committee, several members were interviewed by phone and in person, in some cases multiple times, regarding select opportunities. They graciously shared materials and estimates, and directed us to visit web sites and interview other agencies and developers involved in the industrial opportunities.

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February 1, 2010

Memorandum
TO: Senator Lesil McGuire
FROM: Chuck Burnham, Legislative Analyst
RE: Advanced Coal Technology: Wyoming Coal to Liquids Facility and State Incentives
LRS Report 10.108

You asked for an overview of the state regulatory and taxation regimes applicable to the Medicine Bow coal to liquids (CTL) facility currently under development in southeastern Wyoming.[1] You were also interested in state incentives to encourage development of CTL or other advanced coal technologies.

Briefly, our research located no Wyoming regulatory or taxation measures that are specific to CTL or to the Medicine Bow facility under development.

Taxation

We asked Craig Grenvik, administrator of Wyoming's Mineral Taxes Division, if any taxation framework was being developed specific to CTL. Mr. Grenvik stated that no such framework had been detailed and that, whatever the design of the final regime, his experience suggests that new tax regulations will be litigated.[2]

If the Medicine Bow facility were to be subject to the Wyoming state fiscal regime for coal production that is in place today, the following would apply:

- **Severance Tax:** 7 percent for surface mines (3.5 percent for underground mines);
- **Ad Valorem – Production**: Levied by counties on value of production at the mine mouth. Average Rate: 60 mills (6 percent).
- **Ad Valorem – Property**: Levied by counties on assessed valuation of physical property, such as mining facilities and equipment. Average Rate: 60 mills (6 percent).
- **Sales and Use Taxes**: Levied by the state and local government on purchases of goods and services. Rate: 4 to 6 percent depending on county.
- **State Royalties and Rents**: 12.5% (surface) and rents, $1 to $4 per acre.[3]

[1] As you know, the proposed $2.7 billion Medicine Bow facility is projected to begin producing 20,000-22,000 barrels of transportation fuels per day in 2014 using low-sulfur coal from a collocated mine. More information on the project is available on the website of its parent company, DKRW Advanced Fuels, at *http://www.dkrwenergy.com/fw/main/Medicine-Bow-111.html*.

[2] Mr. Grenvik can be reached at (307) 777-5237, or by email at *cgrenv@state.wy.us*.

[3] In addition to state taxes, royalties, and rents, facilities located on federal land are subject to federal royalties of 12.5 percent (which are ultimately shared with the state), and fees for the Abandoned Mine Lands fund. Wyoming fiscal information is from "A Concise Guide to Wyoming Coal," Wyoming Mine Association; available through *http://www.wma-minelife.com/*.

Regulation

Regulatory processes for the Medicine Bow project will presumably be largely the same as those for traditional coal mines and petroleum refiners, although additional regulations may be developed relating to the planned liquefaction and transportation of carbon dioxide (CO_2), which will be sold to oil producers for reinjection in order to pressurize wells and increase production. At this point in the facility's development, the primary applicable regulations are those related to industrial siting and environmental permitting, which apply to all industrial facilities and potential large-scale emitters of pollution. We provide links to regulatory reports and permitting documents below:

- "Medicine Bow Fuel & Power, LLC, Coal-to-Liquids Project Industrial Siting Permit Application," prepared by CH2M Hill, September 2007, *http://deq.state.wy.us/out/downloads/MBFP_ISA_Permit_Application_09-17-07_Final.pdf*. This document provides project, construction, and operation descriptions and analysis of socioeconomic impacts of the facility. Appendices to the report are available at *http://deq.state.wy.us/isd/isdnews.htm* [see the bottom of the page].

- "Final Opinion of Water Supply and Water Yield Analysis for Medicine Bow Fuel and Power's Proposed Coal-to-Liquid Plant and Saddleback Hills Coal Mine in Carbon Basin, Carbon County, WY," Wyoming State Engineer's Office, Ground Water Division, October 2007, *http://deq.state.wy.us/isd/downloads/MBFP%20SEO%20Final%20Opinion.pdf*.

- Archive of documents related to the challenge of the approval of Medicine Bow's air quality permit, available on the website of the Wyoming Environmental Quality Council (*http://deq.state.wy.us/eqc/m*) through the link to "In the Matter of Medicine Bow Fuel and Power, LLC Air Permit CT-5873, EQC Docket No. 09-2801" The permit itself is available through the link "Exhibit F." That document lists the specific emissions standards applicable to the facility.

- Although not solely related to the Medicine Bow facility, the Wyoming Legislature formed a Carbon Sequestration Working Group, which published its report in September 2009. To the extent the findings and recommendations of the group are adopted and implemented, the report may impact the development of the project. The report is available at *http://deq.state.wy.us/carbonsequestration.htm*.

State Incentives

Attached are two documents that provide details on state incentives for advanced coal technologies. They are as follows:

- "State Incentives for Advanced Coal Projects," Coal Utilization Research Council, 2006; and
- Julia Verdi, "Incentives for Coal Gasification Plants," National Conference of State Legislatures, January 12, 2010.

I hope this information is useful. Please do not hesitate to contact us if you have questions or require further information.

State Incentives for Advanced Coal Projects

Several states have adopted incentives for advanced coal projects. This report examines the state incentives currently available for advanced coal projects as well as proposals for incentives and provides resources for obtaining additional information.

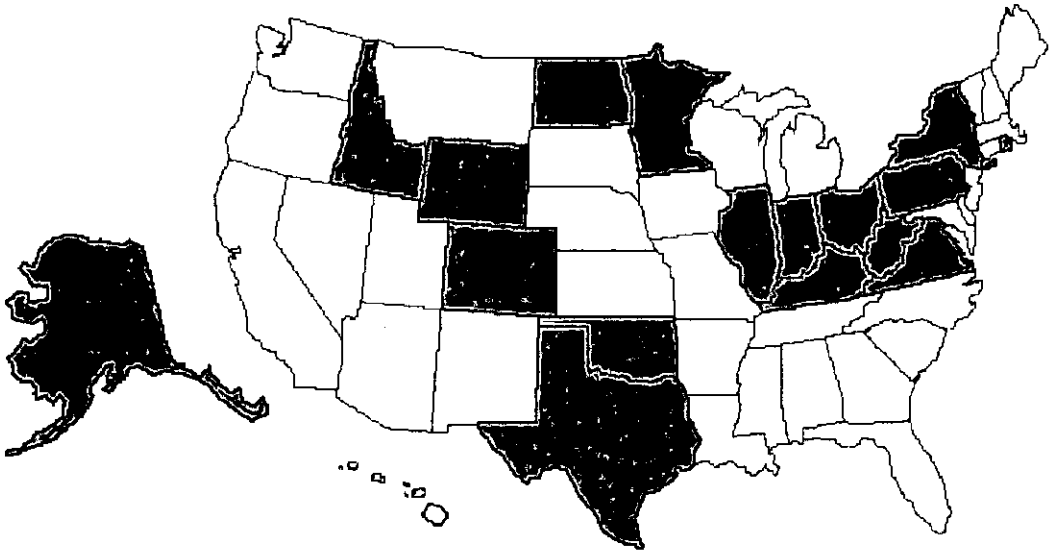

Fig. 1 – States with current incentives for advanced coal projects (Alaska, Colorado, Idaho, Illinois, Indiana, Kentucky, Minnesota, New York, North Dakota, Ohio, Oklahoma, Pennsylvania, Rhode Island, Texas, Virginia, West Virginia, and Wyoming) are shaded.

Prepared by the Coal Utilization Research Council, 2006

ALASKA

The state of Alaska has provided assistance to a clean coal project through its Alaska Industrial Development and Export Authority (AIDEA). The AIDEA Development Finance Program can provide bond financing to a "plant or facility demonstrating technological advances of new methods and procedures and prototype, commercial applications for the exploration, development, production, transportation, conversion, and use of energy resources."[1] This program provided $85 million in bond funding for the 50 MW Healy Clean Coal Project in the 1990's. Projects must be able to demonstrate that they will be able to produce adequate revenues to repay the bonds. Projects seeking financing over $10 million must be approved by the state legislature.

COLORADO

In 2006, Colorado adopted legislation to encourage the construction of a clean coal technology demonstration project.[2] The legislation provides incentives for an IGCC project, which is defined as a facility in Colorado that uses Colorado or other western coal to generate electricity and demonstrates the capture and sequestration of a portion of the project's carbon dioxide emissions. Additionally, the plant may not exceed 350 MW nameplate capacity without a finding from the Colorado Public Utilities Commission (CPUC) that the larger size is necessary to obtain the benefits of federal cost-sharing, financial grants or tax benefits, or other financial opportunities.

The legislation provides a variety of incentives for IGCC projects, including:

- Waivers of the CPUC's certificate of public convenience and necessity requirement
- Full cost recovery from customers, including full life-cycle capital and operating costs associated with the IGCC project
- Recovery of additional costs for electricity purchased due to planned and unplanned outages of an IGCC project.
- Waiver of CPUC rules requiring competitive resource acquisition
- With CPUC approval utilities may enter into a power purchase agreement with the owner of the IGCC facility that provides compensation to the facility owner for its costs and provides a reasonable return on investment. Such payments by a utility are recoverable through a rate adjustment clause on a timely basis.

Finally, IGCC projects are eligible for financial assistance from the Governor's Office of Energy Management and Conservation through the Clean Energy Development Fund. Currently, $2 million per year is appropriated for the fund through fiscal year 2008.[3]

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[1] ALASKA STAT. § 44.88.900(9)(D).
[2] 2006 COLO. SESS. LAWS 1413 (HB06-1281, signed into law on June 1, 2006). Available at http://www.state.co.us/gov_dir/leg_dir/olls/sl2006a/sl_300.pdf.
[3] 2006 COLO. SESS. LAWS 1738 (HB06-1322, signed into law on June 6, 2006). Available at http://www.state.co.us/gov_dir/leg_dir/olls/sl2006a/sl_347.pdf.

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IDAHO

Idaho has adopted a moratorium on the construction of new coal fired power plants effective until April 2008.[4] The moratorium, however, does not apply to IGCC facilities.

ILLINOIS

Coal Revival Program[5]

Direct financial assistance is available for capital costs including buildings, structures, durable equipment and land at new facilities.[6] To qualify, a facility must:

(1) create 400 MW of new generating capacity, use coal or gases derived from coal as its primary fuel source, and support the creation of at least 150 new Illinois coal-mining jobs, OR

(2) Use coal gasification or IGCC to generate chemical feedstocks, transportation fuels or electricity.

The amount of the grant will depend on the state occupation and use taxes to be paid on Illinois-mined coal used at the new facility.[7] The maximum grant to any one facility is $100 million.

High Impact Business Program[8]

New or expanded electric generating facilities using coal are now eligible to apply for High Impact Business designation. This program offers a sales tax exemption on building materials and equipment, a utility tax exemption, and an investment tax credit.

Property Tax Abatement[9]

Facilities may be eligible to receive property tax abatement from local taxing districts. Facilities receiving a new High Impact Business designation are eligible for up to $4 million in property tax abatements over a 10 year period. Other facilities meeting

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[4] IDAHO CODE ANN. § 39-125.

[5] To view grant application information view this document fromthe Illinois Department of Commerce and Economic Opportunity (DCEO) website.

[6] To be considered a "new facility" construction must have commenced on or after July 1, 2001. 20 ILL. COMP. STAT. 605/605-332(a).

[7] Funding is roughly equal to the present value of future sales taxes paid on Illinois-mined coal over a 25-year period. 20 ILL. COMP. STAT. 605/605-332(b)(3).

[8] For more details on the High Impact Business program view pages 2-3 of this document from the Illinois DCEO website. *See also* 20 ILL. COMP. STAT. 655/5.5.

[9] For more details on property tax abatement view page 3 of this document from the Illinois DCEO website. *See also* 35 ILL. COMP. STAT. 200/18-165.

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the definition of "new electric generating facility"[10] are eligible for property tax abatement on a sliding scale based on the valuation of the facility.[11]

A brochure produced by the Illinois Department of Commerce and Economic Opportunity (DCEO) Office of Coal Development regarding direct financial assistance via the Revival program, the High Impact Business program, and tax abatement program is available from the DCEO website.

Long-Term Contracting[12]

In 2005, Illinois amended the Public Utilities Act to allow any gas utility to enter into a 20-year supply contract with any company for synthetic natural gas produced from coal through the gasification process. To qualify, the coal gasification facility must commence construction by July 1, 2008. Further, the amended Act provides that costs paid for synthetic natural gas are reasonable and prudent and recoverable for the first 10 years of the contract if certain conditions are met (most notably that the contract was entered into by June 21, 2006).

Illinois DCEO Coal Grant Programs

- Coal Competitiveness Program
  - Purpose: For projects that improve coal extraction, preparation and transportation systems in Illinois
  - Amount: $50,000 to $1.5 million, up to 20 percent of project cost

- Coal Research Program
  - Purpose: To fund universities and other research institutions focusing on clean coal technology development, coal chemistry, mining productivity and coal combustion byproduct utilization
  - Amount: $60,000 to $250,000

- Coal Development Program
  - Purpose: To advance promising clean coal technologies beyond the research stage towards commercialization by providing a 50/50 match with private industry dollars, typically to universities and technology developers
  - Amount: $250,000 to $600,000

[10] To qualify as a "new electric generating facility" the facility must create 400 MW of new generating capacity, use coal or gases derived from coal as its primary fuel source, and support the creation of at least 150 new Illinois coal-mining jobs. 20 ILL. COMP. STAT. 605/605-332(a).
[11] 35 ILL. COMP. STAT. 200/18-165.
[12] 220 ILL. COMP. STAT. 5/9-220(h).

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- Coal Demonstration Program
  - Purpose: To provide partial funding for selected large-scale demonstration of advanced coal systems for utility and industrial use that will produce significant economic benefits for Illinois
  - Amount: $1 million to $30 million (A project-specific appropriation and approval by the governor are required

For more information on Illinois' grant programs, including applications, visit the DCEO's website at http://www.illinoisbiz.biz/dceo/Bureaus/Coal/Grants.

INDIANA

Tax Credits for IGCC Facilities[13]

Indiana has tax credits available to newly constructed[14] IGCC power plants located in Indiana. The facility must convert coal into synthesis gas and use that gas to generate electric energy. To qualify facilities must also be dedicated primarily to serving Indiana retail electric utility consumers.

The tax credit is equal to the sum of 10 percent of the first $500 million of investment in the facility plus 5 percent of any investment over $500 million. The credit is spread out over 10 years. In each year the credit is multiplied by the percentage of Indiana coal used at the facility.[15]

Financial Incentives for Clean Coal and Energy Projects[16]

Several types of projects qualify for financial incentives under this program, including:

- New energy generating facilities that use clean coal technology and are fueled primarily by Illinois Basin coal or coal gases
- Projects that reduce regulated air emissions from existing energy generating plants that are fueled primarily by Illinois Basin coal or coal gases
- Projects to provide transmission service to a new energy facility
- Projects to develop alternative energy sources, including renewable energy
- The purchase of fuels produced by a coal gasification facility
- Projects meeting any of the above criteria that use coal bed methane[17]

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[13] IND. CODE § 6-3.1-29

[14] The Indiana Code defines "new energy generating facility" at IND. CODE § 8-1-8.8-8. Notably, the repowering, construction or expansion must have begun after July 1, 2002.

[15] Indiana coal is defined as coal from a mine whose coal deposits are located in the ground wholly or partially in Indiana regardless of the location of the mine's tipple. IND. CODE § 4-4-30-4.

[16] IND. CODE § 8-1-8.8.

[17] The incentives legis lation was initially enacted in 2002. In 2005 the statute was amended to include projects that use coal bed methane in the definition of "clean coal and energy projects." However, the section of the statute regarding incentives was not amended and does not explicitly provide for financial incentives for coal bed methane projects. It is possible that the Indiana Utility Regulatory Commission could view this as a clerical oversight rather than a legislative policy choice and exercise its discretion

Incentives for these projects include timely recovery of costs and an additional three percentage points on the return on shareholder equity that would otherwise be allowed. The timely recovery of costs incentive allows for rate adjustment via a "tracker" instead of a full blown rate case to recover costs for incurred in the construction, repowering, expansion, operation or maintenance of a qualifying facility. The financial incentives program is administered by the Indiana Utility Regulatory Commission.

KENTUCKY

Kentucky currently provides tax credits for clean coal facilities.[18] The amount of the credit is $2 per ton of Kentucky coal purchased used at a certified clean coal facility. To qualify a facility must:

- Have begun operations after January 1, 2005
- Have a cost greater than $150 million
- Be located in Kentucky
- Be certified by the Kentucky Environmental and Public Protection Cabinet as reducing emissions of pollutants released during generation of electricity through the use of clean coal equipment and technologies
- Not have claimed the incentive ton tax credit with the same coal[19]

After the enactment this tax credit in 2005, the Kentucky Public Service Commission (KPSC) issued a report that called for adoption of incentives for IGCC, possibly including grants, low interest loans, and tax credits.[20] The KPSC stated that it was uncertain whether an IGCC facility would qualify for a certificate of public convenience and necessity under current Kentucky law and that it was unclear how the environmental benefits of an IGCC facility could be accounted for in an environmental surcharge proceeding. The KPSC recommended extending the incentives currently offered for renewables to IGCC and called for discussion of financing IGCC facilities via securitization.

In June 2006, Kentucky adopted legislation that provides incentives for a potential FutureGen site.[21] A FutureGen site approved by DOE would be exempt from Kentucky taxes on the sale, rental, storage, use or other consumption of tangible personal property used to construct , repair, renovate, or upgrade the facility, including repair and replacement parts purchased for the plants.

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under IND. CODE § 8-1-8.8-11(a)(5) to award "other financial incentives the commission considers appropriate" to coal bed methane projects.

[18] KY. REV. STAT. ANN. § 141.428.

[19] KY. REV. STAT. ANN. § 141.0405. This section provides a $2 per ton tax credit for coal-fired electric generation for tons of coal purchased above the baseline year (1999) level.

[20] Kentucky's Electric Infrastructure: Present and Future, Report of the Kentucky Public Service Commission, August 22, 2005. Available at http://psc.ky.gov/agencies/psc/hot_list/ElectricRpt_082205/MainRpt/electric1_CompleteRpt.pdf.

[21] HB 1, 2006 Extraordinary Session of the Kentucky Legislature, signed into law on June 28, 2006. Available at http://www.lrc.ky.gov/record/06SS/HB1/bill.doc.

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MINNESOTA

Unlike other states that have adopted generally applicable legislation to encourage the adoption and development of clean coal technology, Minnesota has taken a more specific approach. The Minnesota statute provides incentives to the Mesaba Energy IGCC plant.[22] The legislation provides for an annual grant of $2 million for five years, exempts the Mesaba plant from the requirement of a certificate of need, and entitles the developer to enter into a 450 MW long-term power purchase agreement with Xcel Energy.

NEW YORK

New York's Governor George Pataki has launched the Advanced Clean Coal Power Plant Initiative (ACCPPI) with the goal of building one or more advanced coal power plants in the state. The ACCPPI Shovel Ready Team[23] is conducting feasibility studies and initial environmental reviews of potential sites. The Team is scheduled to issue its final report and requests for proposals on September 1, 2006. Applications are due by October 31, 2006 and the winning proposals are expected to be announced in December 2006.

ACCPPI is offering a variety of financial incentives to winning proposals, including:

- New York Power Authority (NYPA) will agree to enter into a power purchase agreement with the developer
- If requested, NYPA may become a minority share partner in the project
- NYPA will establish a Clean Coal Initiative Fund ($50 million) to implement carbon sequestration technology when it becomes available
- Tax exempt bonding authority of up to $200 million per year, capped at $1 billion
- Qualification for Empire Zone tax treatment regardless of location
- Brownfield Cleanup Program benefits in qualifying locations

NORTH DAKOTA

The North Dakota Constitution provides that up to 20 percent of funds in the coal development impact trust fund may be appropriated for clean coal demonstration projects.[24] Projects must be submitted to the North Dakota Industrial Commission for approval.

Additionally, all new coal plants in North Dakota are eligible for a tax deduction equal to one percent of total wages and salaries paid in the state for the first three years

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[22] MINN. STAT. § 216B.1694.

[23] The Shovel Ready Team is made up of the Governor's Office of Regulatory Reform, New York Power Authority, New York State Energy Research and Development Authority, Department of Environmental Conservation, Empire State Development, and the Public Service Commission.

[24] N.D. CONST. art X, section 21.

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and one-half of one percent for the fourth and fifth years.[25] Investments in new power plant construction, repowering, or environmental upgrades may also be eligible for an exemption from the state's 5 percent sales and use tax.[26] North Dakota also provides for an exemption from 85 percent of the state's installed capacity tax (with the possibility of the local government waiving its 15 percent) and a full exemption from the state's production tax.[27]

OHIO

Ohio administers its clean coal incentives through the Ohio Coal Development Office (OCDO).[28] The OCDO makes awards funds to coal research and development projects with a goal of assisting in the deployment of cost-effective technologies that can enable the use of high-sulfur Ohio coal in compliance with current and future environmental limits. The OCDO offers grants, loans, and loan guarantees.

The OCDO periodically seeks projects through public solicitations and requests-for-proposals (RFPs), most recently in the spring of 2005. Once an RFP is submitted, it is reviewed by independent technical reviewers and submitted to the Technical Advisory Committee (TAC). Projects favorably recommended by the TAC are subject to final approval by the Ohio Air Quality Development Authority (OAQDA). The specific amount of funds available for individual projects is set by each RFP.[29]

In 2006, Ohio expanded its definition of "air quality facility" to include (1) any coal research and development project[30], (2) property used in connection with the by-products of a coal research and development project[31], and (3) property that is a part of the FutureGen project.[32] Being designated an "air quality facility" allows a project to seek state-funded mortgage insurance from the Development Financing Advisory Council[33] and financing from OAQDA issued revenue bonds.[34]

Ohio also created the FutureGen Initiative Fund and appropriated $1.25 million towards the drilling of test wells to assist the state's efforts to secure the FutureGen project.[35]

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[25] N.D. CENT. CODE § 57-38-30.1.
[26] N.D. CENT. CODE § 57-40.2-04.2.
[27] N.D. CENT. CODE § 57-60-02.
[28] OHIO REV. CODE ANN. § 1551.32.
[29] In the most recent RFP, funds for an individual project were capped at the lesser of $5 million or one-third of the total project cost for full-scale projects and lower amounts for smaller projects.
[30] As used in the definition of "air quality facility" a "coal research and development project" is defined by § 1555.01(C) of the Ohio Code as a project that is financed, in whole or in part, with a grant or loan from the OCDO.
[31] *Id.*
[32] OHIO REV. CODE ANN. § 3706.01.
[33] OHIO REV. CODE ANN. § 122.451.
[34] OHIO REV. CODE ANN. § 3706.03.
[35] OHIO REV. CODE ANN. § 3706.101; HB 440, 126th Ohio Legislature, signed into law on April 4, 2006.

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OKLAHOMA

Oklahoma offers coal-fired electric generation facilities a tax credit of $5 per ton of Oklahoma-mined coal.[36]

PENNSYLVANIA

Pennsylvania's Alternative Energy Portfolio Standards Act[37] requires electric distribution companies and electric generation suppliers to provide a percentage of their electricity from alternative energy sources. Following the enactment of the Act in 2004, companies must provide the following percentages of their electricity from Tier II alternative energy sources, including IGCC[38]:

Years 1-4	4.2 percent
Years 5-9	6.2 percent
Years 10-14	8.2 percent
Years 15+	10 percent

Pennsylvania's Governor has also proposed the Energy Deployment for a Growing Economy (EDGE) initiative, which would offer incentives for IGCC technology. These incentives would include[39]:

- Priority funding from the Pennsylvania Economic Development Financing Authority (PEDFA) and the Pennsylvania Energy Development Authority (PEDA) through low-interest loans
- Allowing long term contracts for gas and electricity products
- Permitting synthetic gas producers to operate without the burden of utility regulation when they serve and sell to limited purchasers such as chemical, manufacturing or industrial facilities
- Ensuring that electricity produced by these plants will be subject to the pricing and cost-recovery provisions of the state's Alternative Energy Portfolio Standards Act

The State of Pennsylvania is also in negotiations with EPA to allow utilities a one-time option of allowing older facilities to continue using coal without updated air pollution controls if the utility agrees to replace the plant with an IGCC facility by 2013.[40]

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[36] OKLA. STAT. tit. 68, § 2357.11.
[37] 73 PA. CONS. STAT. § 1647.2.
[38] Waste coal is also a Tier II alternative energy source. Coal mine methane is considered a Tier I alternative energy source. Under the Act, the Tier I sources must account for eight percent of electric energy sold in 2020.
[39] Press Release, Pennsylvania Department of Environmental Protection, Federal Appeals Court Sides with Pa., 13 Other States in Suit Against EPA (March 20, 2006) (available online at http://www.depweb.state.pa.us/news/cwp/view.asp?Q=495309&A=3).
[40] *Id.*

RHODE ISLAND

Rhode Island law directs the state's energy facilities siting board to give priority to projects based on eight criteria, one of which is the use of coal processed by clean coal technology.[41] Rhode Island defines clean coal technology as a technology developed in the DOE clean coal technology program and shown to produce emissions levels substantially equal to those of natural gas fired power plants.[42]

TEXAS

In 2005, the Texas legislature provided $22 million in grant funds for clean-coal and gasification projects.[43] Texas also funded the site screening process for possible FutureGen plants and allows expedited permitting for projects that are related to the construction of a FutureGen component.[44]

In 2006, Texas adopted legislation that instructs the Railroad Commission of Texas to acquire ownership of carbon dioxide captured by a FutureGen project located in the state.[45] This would relieve the entity operating a FutureGen project of potential liability for the carbon dioxide captured and sequestered.

VIRGINIA

Virginia allows "clean coal projects"[46] priority in the processing of permit applications with the State Air Pollution Control Board.[47]

WEST VIRGINIA

The West Virginia public service commission has the authority to authorize rate-making allowances for electric utility investment in clean coal technologies.[48]

WYOMING

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[41] R.I. GEN LAWS § 42-98-2.
[42] R.I. GEN LAWS § 42-98-3.
[43] TEX. GOV'T CODE ANN. § 2305.037; Press release, Railroad Commission of Texas, Texas Recognized for Leadership in Clean Coal Technology Efforts (Dec. 2, 2005) (available online at http://www.rrc.state.tx.us/news-releases/2005/120205.html).
[44] TEX. HEALTH & SAFETY CODE ANN. § 382.0565 & TEX. WATER CODE ANN. § 5.001(6).
[45] HB 149, signed May 31, 2006 79th Texas Legislature, 3rd called session. Available at http://www.capitol.state.tx.us/cgi-bin/tlo/textframe.cmd?LEG=79&SESS=3&CHAMBER=H&BILLTYPE=B&BILLSUFFIX=00149&VERSION=5&TYPE=B.
[46] Virginia defines "clean coal project" as "any project that uses any technology, including technologies applied at the precombustion, combustion, or postcombustion stage, at a new or existing facility that will achieve significant reductions in air emissions of sulfur dioxide or oxides of nitrogen associated with the utilization of coal in the generation of electricity, process steam, or industrial products, which is not in widespread use, or is otherwise defined as clean coal technology pursuant to 42 U.S.C. § 7651n." VA. CODE ANN. § 67-400.
[47] VA. CODE ANN. § 67-401.
[48] W. VA. CODE § 24-2-1g.

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In 2006, Wyoming passed legislation creating a sales and use tax exemption for new coal gasification or coal liquefaction facilities and the equipment used to construct a new facility or make it operational.[49] The exemption does not apply to tools and other equipment used in construction of a new facility, contracted services required for construction and routine maintenance, or equipment utilized or acquired after the facility is operational.

STATES CONSIDERING ADVANCED COAL INCENTIVES

The following states have taken undertaken studies of potential incentives for advanced coal technologies and/or expressed a strong interest in developing such technologies in their state.

Arizona

- In 2006 Arizona created the Clean Coal Technology Task Force comprised of government and industry participants.[50] The task force is charged to "determine whether new state policies or incentives are needed to promote the development of new clean coal fired power plants in this state."

Montana

- Montana's Governor has expressed a strong interest in using coal to produce synthetic fuels, but no incentives have been enacted. One proposed bill for the Montana legislature's upcoming 2007 session would offer tax breaks on equipment used for carbon sequestration.[51]

Wisconsin

- In 2005, Wisconsin Governor Jim Doyle asked the state Public Service Commission and the Department of Natural Resources to investigate the potential of IGCC technology in Wisconsin. A June 2006 Draft Report from the study group outlined 22 potential steps for the state to consider that would advance IGCC technology in Wisconsin.

WESTERN GOVERNORS' ASSOCIATION PROPOSAL

The Western Governor's Association's Advanced Coal Task Force recently recommended that the Western Governors and the Western states provide direct financial assistance, recovery of costs, expedited permitting and other incentives for the development of advanced coal technologies.[52]

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[49] 2006 Wyo. Sess. Laws, Chapter No. 14 (H.B. 61, signed into law on March 9, 2006).
Full text of the legislation is available at http://legisweb.state.wy.us/2006/Enroll/HB0061.pdf.

[50] H.B. 2475, Forty-seventh Arizona Legislature, Second Regular Session, signed into law on May 9, 2006. Available at http://www.azleg.gov/legtext/47leg/2r/bills/hb2475h.pdf.

[51] The bill is in the drafting process. Updates are available at http://laws.leg.state.mt.us/pls/laws07/LAW0210w$BSIV.ActionQuery?P_BILL_DFT_NO5=LC0089&Z_ACTION=Find.

[52] The complete recommendations are available online at http://www.westgov.org/wga/meetings/am2006/CDEAC06.pdf (see Appendix A).

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NATIONAL CONFERENCE of STATE LEGISLATURES

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Incentives for Coal Gasification Plants
January 12, 2010
Julia Verdi

Alabama

CODE OF ALABAMA TITLE 40. REVENUE AND TAXATION. CHAPTER 9B. TAX INCENTIVE REFORM ACT OF 1992. s 40-9B-4. Authorization of abatement.

(f)(1) For a qualifying industrial or research enterprise described in Section 40-9B-3(a)(10)e., which is owned by a utility described in Section 37-4-1(7)a., and which is a coal gasification or liquefaction project or an advanced fossil-based generation project, as such terms are defined in Section 40-18-1, or which utilizes hydropower production, an abatement under this section shall be in an amount equal to 100 percent of the state noneducational ad valorem taxes owed for plant, property, and facilities for the maximum exemption period, and in an amount equal to 50 percent of the state construction related transaction taxes. The abatement shall not be subject to the procedures in Section 40-9B-5 or 40-9B-6.

Indiana

TITLE 4. STATE OFFICES AND ADMINISTRATION ARTICLE 4. LIEUTENANT GOVERNOR; DEPARTMENT OF COMMERCE CHAPTER 11.6. ADDITIONAL AUTHORITY; SUBSTITUTE NATURAL GAS CONTRACTS 4-4-11.6-12 Legislative findings

Sec. 12. The general assembly makes the following findings:

(1) The furnishing of reliable supplies of reasonably priced natural gas for sales to retail customers is essential for the well being of the people of Indiana. Natural gas prices are volatile, and energy utilities have been unable to mitigate completely the effects of the volatility.

(2) Long term contracts for the purchase of SNG between the authority and SNG producers will enhance the receipt of federal incentives for the development, construction, and financing of new coal gasification facilities in Indiana.

(3) The authority's participation in and oversight of the purchase, sale, and delivery of SNG to retail end use customers is critical to obtain low cost financing for the construction of new coal gasification facilities.

(4) Obtaining low cost financing for the construction of new coal gasification facilities is necessary to allow retail end use customers to enjoy the benefits of a reliable, reasonably priced, and long term energy supply.

TITLE 6. TAXATION ARTICLE 3.1. STATE TAX LIABILITY CREDITS CHAPTER 29. COAL GASIFICATION TECHNOLOGY INVESTMENT TAX CREDIT 6-3.1-29-19 Credit agreement; description; requirements

Sec. 19. (a) The corporation shall enter into an agreement with an applicant that is awarded a credit under this chapter. The agreement must include all the following:

(1) A detailed description of the project that is the subject of the agreement.

(2) The first taxable year for which the credit may be claimed.

(3) The maximum tax credit amount that will be allowed for each taxable year.

(4) A requirement that the taxpayer shall maintain operations at the project location for at least ten (10) years during the term that the tax credit is available.

(5) If the facility is an integrated coal gasification powerplant, a requirement that the taxpayer shall pay an average wage to its employees at the integrated coal gasification powerplant, other than highly compensated employees, in each taxable year that a tax credit is available, that equals at least one hundred twenty-five percent (125%) of the average county wage in the county in which the integrated coal gasification powerplant is located.

(6) For a project involving a qualified investment in an integrated coal gasification powerplant, a requirement that the taxpayer will maintain at the location where the qualified investment is made, during the term of the tax credit, a total payroll that is at least equal to the payroll that existed on the date that the taxpayer placed the integrated coal gasification powerplant into service.

(7) A requirement that:

(A) one hundred percent (100%) of the coal used:

(i) at the integrated coal gasification powerplant, for a project involving a qualified investment in an integrated coal gasification powerplant; or

(ii) as fuel in a fluidized bed combustion unit, in a project involving a qualified investment in a fluidized bed combustion technology, if the unit is dedicated primarily to serving Indiana retail electric utility consumers;

must be Indiana coal, unless the applicant wishes to assign the tax credit as allowed under section 20.5(c) of this chapter or elects to receive a refundable tax credit under section 20.7 of this chapter and the applicant certifies to the corporation that partial use of other coal is necessary to result in lower rates for Indiana retail utility customers; or

(B) seventy-five percent (75%) of the coal used as fuel in a fluidized bed combustion unit must be Indiana coal, in a project involving a qualified investment in a fluidized bed combustion technology, if the unit is not dedicated primarily to serving Indiana retail electric utility consumers.

(8) A requirement that the taxpayer obtain from the commission a determination under IC 8-1-8.5-2 that public convenience and necessity require, or will require:

(A) the construction of the taxpayer's integrated coal gasification powerplant, in the case of a project involving a qualified investment in an integrated coal gasification powerplant; or

(B) the installation of the taxpayer's fluidized bed combustion unit, in the case of a project involving a qualified investment in a fluidized bed combustion technology.

(b) A taxpayer must comply with the terms of the agreement described in subsection (a) to receive an annual installment of the tax credit awarded under this chapter. The corporation shall annually determine whether the taxpayer is in compliance with the agreement. If the corporation determines that the taxpayer is in compliance, the corporation shall issue a certificate of compliance to the taxpayer.

TITLE 6. TAXATION ARTICLE 3.1. STATE TAX LIABILITY CREDITS CHAPTER 29. COAL GASIFICATION TECHNOLOGY INVESTMENT TAX CREDIT 6-3.1-29-1 Tax credit applicants; women and minority business enterprises

Sec. 1. The general assembly declares that the opportunity for the participation of underutilized small businesses, especially women and minority business enterprises, in the coal gasification industry is essential if social and economic parity is to be obtained

by women and minority business persons and if the economy of Indiana is to be stimulated as contemplated by this chapter. A recipient of a credit under this chapter is encouraged to purchase goods and services from underutilized small businesses, especially women and minority business enterprises.

Kansas

CHAPTER 79. TAXATION - ARTICLE 2. PROPERTY EXEMPT FROM TAXATION 79-225. Property exempt from taxation; certain integrated coal gasification power plant property

(a) The following described property, to the extent herein specified, shall be exempt from all property taxes levied under the laws of the state of Kansas:

(1) Any new integrated coal gasification power plant property or any expanded integrated coal gasification power plant property.

(2) All property purchased for or constructed or installed at an integrated coal gasification power plant to comply with air emission standards imposed by state or federal law.

(b) The provisions of subsection (a) shall apply from and after purchase or commencement of construction or installation of such property and for the 12 taxable years immediately following the taxable year in which construction or installation of such property is completed.

(c) The provisions of this section shall apply to all taxable years commencing after December 31, 2005.

(d) As used in this section:

(1) "Expanded integrated coal gasification power plant property" means any real or tangible personal property purchased, constructed or installed for incorporation in and use as part of an expansion of an existing integrated coal gasification power plant, construction of which expansion begins after December 31, 2005.

(2) "Expansion of an existing integrated coal gasification power plant" means expansion of the capacity of an existing integrated coal gasification power plant by at least 10% of such capacity.

(3) "Integrated coal gasification power plant" has the meaning provided by K.S.A. 79-32,238, and amendments thereto.

(4) "New integrated coal gasification power plant property" means any real or tangible personal property purchased, constructed or installed for incorporation in and use as part

of an integrated coal gasification power plant, construction of which begins after December 31, 2005.

Key to Energy Security: Converting Coal to Gas to Synthetic Fuels to More Petroleum Production

By
Paul Metz, Director
Mineral Industry Research Laboratory
University of Alaska Fairbanks

Arctic Mining Symposium
03/12/10

Outline of Presentation

- Alaska's Energy Challenges
- Developing an Energy Plan
- Coal to Synthetic Gas and Liquid Fuels
- Carbon Dioxide and Enhanced Oil Recovery
- Financing the CTL Project
- Rails to Resources to Markets
- Summary of the Synergistic Effects of the Proposed Projects
- Conclusions

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- Decreasing oil production and revenues from the North Slope.
- Decreasing natural gas production from the Cook Inlet Basin.
- Increasing federal and state regulations that decrease incentives to find and develop more oil, natural gas & coal.
- Increasing federal and state regulations the increase the cost of petroleum refining.
- Alternate and lower cost sources of supply of natural gas to the contiguous states.
- Highly fluctuating energy costs as a function of worldwide demand and production of petroleum.
- Combined negative effects of costs and limited fuel supplies on the air cargo industry in Anchorage in particular and the transportation and tourism industries in Alaska in general.

- The KEY to developing cost effective and stable energy supplies and energy security for Alaska and the Nation is an Energy Plan that includes a Public Private Partnership between the state, the federal government, and the various industries that facilitates the FULL utilization of our coal, natural gas and petroleum resources.

- Natural Gas
  - Reserves in Prudhoe Bay and Kuparuk Fields – 26 Tcf.; Reserves in Pt. Thomson – 9 Tcf.
  - Total 35 Tcf

Gross Value ($ Billions)	at ($/mcf)
$210	$6
$280	$8
$350	$10
$420	$12
$490	$14

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- Petroleum
  - Original Oil in Place (OOIP) 67 Billion Barrels
  - Expected Total Recovery Without Enhancement – 22 Billion Barrels
  - Gross Value of 8 Billion Barrels of Enhanced Oil

Gross Value ($ Billions)	at ($/Barrel)
$320	$40
$480	$60
$640	$80
$800	$100
$960	$120
$1,120	$140
$1,280	$160

Arctic Mining Symposium
03/12/10

- Petroleum
  - Original Oil in Place (OOIP) 67 Billion Barrels
  - Expected Total Recovery Without Enhancement – 22 Billion Barrels
  - Gross Value of 12 Billion Barrels of Enhanced Oil

Gross Value ($ Billions)	at ($/Barrel)
$480	$40
$720	$60
$960	$80
$1,200	$100
$1,440	$120
$1,680	$140
$1,920	$160

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- Coal
  - Resources widely disbursed in Alaska but majority of high rank on the western end of the North Slope.
  - U.S.G.S. recent resource assessment – 5.5 trillion tons with majority of resources high rank coals @ 15,000 Btu/lb.
  - Magnitude of resource: 50% of U.S. electrical energy generated with coal; at 100% coal generation, Alaska could sustain the U.S. for at least 2,500 years!

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Gross Value of Alaska Coal

Resources at Various Price Levels

Price ($/ton)	Gross Value of 5.5 trillion tons ($ trillions)
40	220
60	330
80	440
100	550
120	660
140	770
160	880
180	990

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[illegible]

- Coal
  - Estimated coal resources of Alaska is at least 5.5 trillion tons with majority high rank coal @ 15,000 Btu/lb.

  Total energy in proven gas reserves – 3.5×10^{16} Btu.
  - Total energy in remaining oil in place – 3.9×10^{17} Btu.
  - Total energy in estimated coal resources 1.7×10^{20} Btu. (10,000 x that in the natural gas).

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Synergism of Three Major Energy Projects

- Alaska In-State Natural Gas Pipeline (ENSTAR "Bullet Pipeline")
- Coal to Liquids Plant (Synthetic Fuels Plant as under investigation by Fairbanks Economic Development Corporation)
- Carbon Dioxide Enhanced Oil Recovery of Stranded Heavy Oil in Prudhoe Bay and Kuparuk Oil Fields.

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[illegible]

- Cook Inlet Basin has supplied gas for electric power generation, space heating in the Anchorage area, industrial uses in the Kenai area, and for export markets.
- Current supplies will be depleted by 2015 with current shortages during peak demand periods.
- Expected cost to discover and develop new gas reserves in the Basin: $5-6 billion if the price of gas is deregulated.
- Current and potential market in the Fairbanks area - less than 10% of the needs in south-central Alaska.

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About the ENSTAR Pipeline

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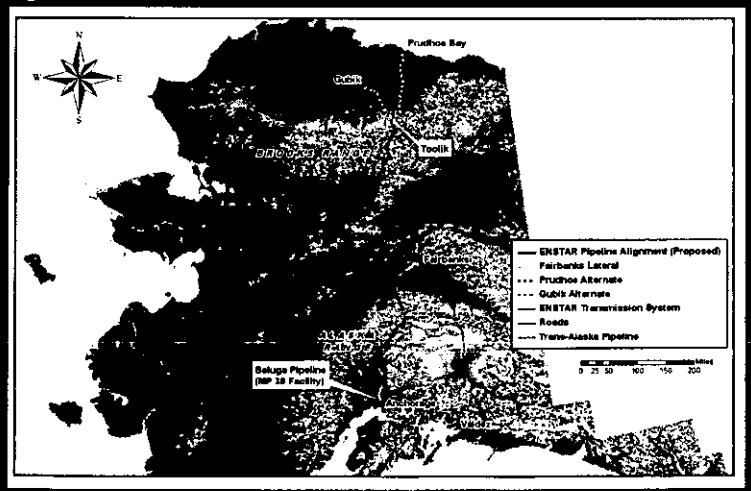
About the ENSTAR Pipeline



03/12/10

- Estimated capital cost of 24 inch (0.5 Bcf/d) natural gas pipeline from Gubik 'Gas Field' (Expected dry pipeline quality gas) to Fairbanks and Anchorage – $3.8 billion.
- Estimated cost to discover and develop 30 year supply of gas from Gubik - $1.0 billion (Anadarko Petroleum).
- ENSTAR target date for gas to Anchorage is 2015.
- Total of Anchorage, Kenai, and Fairbanks markets significantly less than 0.5 Bcf/d.
- Project needs large commercial user to be economically feasible – Hence FEDC Coal to Liquids Project.

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Coal to Liquids Project

- Estimated capital cost of 40,000 barrel per day plant: $4.6 billion.
- Products: Jet-A and diesel fuel.
- Estimated return on capital at an average price for these synthetic fuels of $2.57/gal.:12%.
- During 2008 diesel peaked at approximately $5.00/gal. and over the next decade it is expected that the price will return to this level.
- Major benefit in the long term coal conversion is the long term price stability of coal, large domestic resources of coal, and thus no adverse impact on trade balance and the value of the dollar.

Arctic Mining Symposium
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Major Environmental Concern with Respect to Coal Combustion

- Carbon Dioxide emissions – 3.6 tons for every ton of coal combusted.
- Potential technologies for CO_2 sequestration – most expected to result in significant 25% or more increased cost of energy produced.
- Carbon Dioxide enhanced oil recovery (see Schlumberger web site for new CO_2 sequestration projects office in Calgary, Alberta.
- North Slope producers have utilized water flooding and CO_2 injection to enhance oil recovery on the Alaska North Slope since 1980s.

U.S. Department of Energy Investigations of CO_2 Enhanced Oil Recovery

- See Advanced Resources International Report, 2005.
- Major constraint to CO_2 enhanced oil recovery on the North Slope is the availability of large volumes (1 Tcf/yr) of CO_2 at costs not exceeding 5% of the well price of oil.
- Coal to Liquids Plant operating at 200,000 barrels per day could produce this volume of CO_2 .

Rates of Return for 200,000 b/d Plant at

Oil Price	Sale of CO_2 (@5% Oil Price)
$40	7.3%
$60	12.4%
$80	17.1%
$100	21.6%
$120	26.0%
$140	30.4%
$160	34.8%
$180	39.1%

Arctic Mining Symposium
03/12/10

Rates of Return for 200,000 b/d Plant at

1/8 royalty on 8 billion barrels of oil

Oil Price	Sale of CO_2 (@5% Oil Price)
$40	15.1%
$60	23.1%
$80	31.0%
$100	38.7%
$120	46.5%
$140	54.2%
$160	62.0%
$180	69.7%

Arctic Mining Symposium
03/12/10

Rates of Return for 200,000 b/d Plant at

1/8 royalty on 12 billion barrels of oil

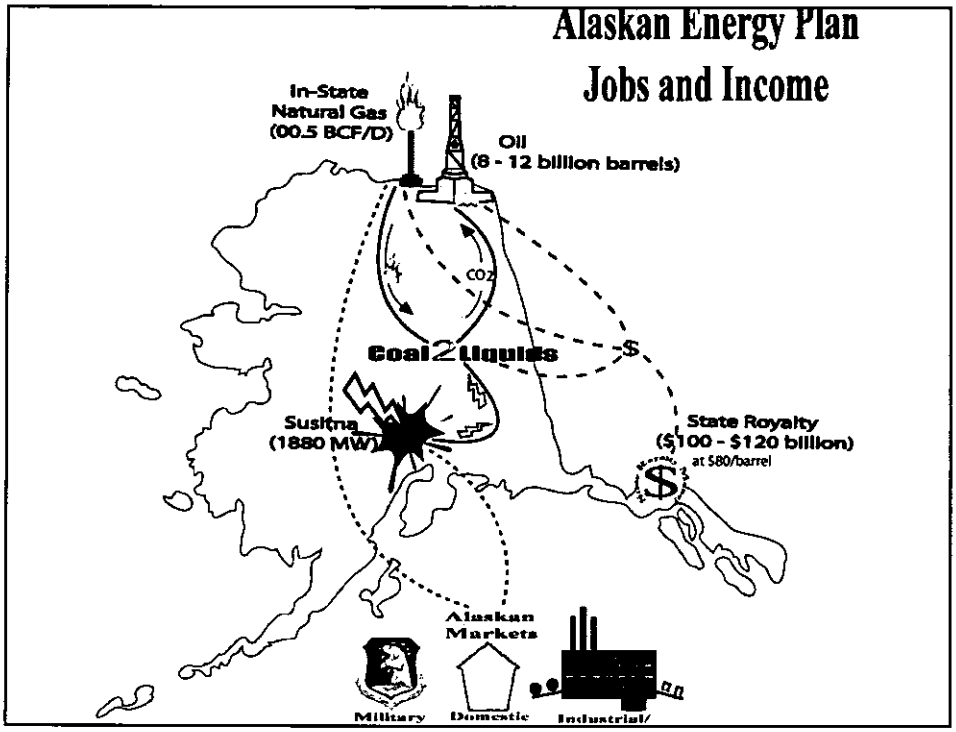
Oil Price	Sale of CO_2 (@5% Oil Price)
$40	18.6%
$60	28.2%
$80	37.7%
$100	47.1%
$120	56.5%
$140	65.9%
$160	75.4%
$180	84.5%

Arctic Mining Symposium
03/12/10

Financing the Coal-to-Liquids Plant

- ARRC Tax Exempt Non-Recourse Bonds
- Requirement – long term contract with North Slope Producers for the sale of carbon dioxide at the CTL Plant Site.
- 12 inch line to NS estimated to cost $2.4-$2.8 billion.
- Advanced Resources International used hurdle ROR of 15% and 25% based on an oil price of $25/barrel and tax incentives of $10/barrel thus an effective well-head price of $35/barrel.
- This analysis assumes a minimum oil price of $40/b and that the tariff on the CO_2 line will not exceed $5/barrel of oil recovered which is very conservative.

Arctic Mining Symposium
03/12/10



Summary of Synergistic Effects of the Proposed Projects

- Maintenance of higher levels of oil production and revenues from the North Slope for another 30 years.
- Replacement of Cook Inlet natural gas production with North Slope gas for both Anchorage and Fairbanks.
- Supplement or replacement of North Pole refinery production with low sulfur synthetic fuels @ 200,000 barrels per day.
- Availability of in-state gas without constraints of markets in the contiguous states.
- Stable fuel supplies and prices as a function of the large in-state supply of coal.
- Long term stable fuel supplies and prices for the air cargo and other transportation systems in Alaska.

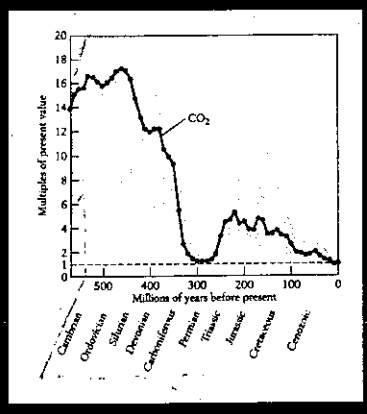
Arctic Mining Symposium
03/12/10

CONCLUSION

- NOT TAPS FOR TAPS FOR AT LEAST ANOTHER 30 YEARS

Concentration of Carbon Dioxide in the Atmosphere During the Phanerozoic

- Complex life forms developed during the Phanerozoic time.
- This time interval includes the last 600 million years of Earth history.
- For 85% of the time during this interval of Earth history, carbon dioxide concentrations in the atmosphere were two or more times greater than present levels.
- Extreme levels of carbon dioxide in the atmosphere during this time probably exceeded current levels by 2000%.
- These extreme levels did not result in irreversible global warming or mass extinctions.
- Carbon dioxide in the atmosphere has increased from approximately 250 to 330 ppm over the past 50 years (30%).
- Even the most extreme predictions of anthropogenic carbon emissions over the next 100 years do not exceed two times current levels.



SB

242

SENATE COMMITTEE REPORT
First Committee of Referral

DATE: 1/27/10

FURTHER: Finance

Date of 5-Day Notice: _____
(in accordance with Uniform Rule 23)

DATE TURNED IN TO OFFICE: _____

Resources Committee considered SENATE BILL NO. 242

SB 242 GEOTHERMAL RESOURCE TAX CREDITS

"An Act providing income tax credits for geothermal resource exploration and development."

and recommends:

[ ] be **replaced** with [ ] **SCS** or [✓] **CS** SB 242 (RES)

[ ] adopt **previous** [ ] **SCS** or [ ] **CS** _____ (_____)

[ ] attached amendment(s)

[ ] adopt _____ Letter of Intent

[ ] further referral to _____ Committee

SENATE BILL:
[✓] Same Title
[ ] New Title

HOUSE BILL:
[ ] Same Title
[ ] Technical Title Change
[ ] New Title w/ SCR #_____

NEW FISCAL NOTE(S):

Department	Date	Fiscal	Indet.	Zero	FN#
REV	02/10	✓			
DNR	02/10			✓	

PREVIOUS FISCAL NOTE(S):

Department	Date	Fiscal	Indet.	Zero	FN#

[ ] **APPROPRIATION - no fiscal note**

SIGNATURES AND RECOMMENDATIONS	PRINTED LAST NAME	DO PASS	DO NOT PASS	NO REC	AMEND
	Stevens			X	
	French			✓	
	WAGONER	✓			
CO-CHAIR:	McGuire	✓			
CO-CHAIR:	Wielechowski			X	

26-LS1347\E
Bullock
3/10/10

CS FOR SENATE BILL NO. 242(RES)

IN THE LEGISLATURE OF THE STATE OF ALASKA

TWENTY-SIXTH LEGISLATURE - SECOND SESSION

BY THE SENATE RESOURCES COMMITTEE

Offered:
Referred:

Sponsor(s): SENATOR MCGUIRE

A BILL

FOR AN ACT ENTITLED

"An Act providing income tax credits for geothermal resource exploration and development."

BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF ALASKA:

*** Section 1.** AS 43.20 is amended by adding a new section to article 1 to read:

Sec. 43.20.046. Geothermal resource tax credits. (a) In addition to any other credit authorized to the person by this chapter, a person may take a credit against the tax due under this chapter for geothermal resource exploration and development as provided by this section.

(b) A person is eligible for a geothermal resource exploration credit for qualified exploration expenditures incurred after the effective date of this section and before July 1, 2018, in the amount of 30 percent of the qualified exploration expenditures incurred for exploration for a geothermal resource. An unused geothermal resource exploration credit may not be carried forward for more than 20 years immediately following the year in which the geothermal resource first generates

gross income.

(c) A person is eligible for a geothermal resource development credit in the amount of 30 percent of the qualified development expenditures incurred to develop a geothermal resource. An unused geothermal resource credit may not be carried forward for more than 20 years immediately following the year in which the geothermal resource is first used to generate gross income.

(d) A credit under (b) or (c) of this section may be transferred to a person who is a successor in interest in the geothermal resource project that resulted from the exploration qualifying for an exploration credit under (b) of this section or qualifying for a development credit under (c) of this section. Subject to appropriation, an unused credit for

(1) an exploration expenditure under (b) of this section is refundable on an annual basis;

(2) a development expenditure under (c) of this section is refundable after the geothermal resource first generates gross income.

(e) In this section,

(1) "geothermal resource" has the meaning given to "geothermal resources" in AS 38.05.965;

(2) "qualified development expenditure" means an expenditure

(A) incurred after two wells capable of commercial production have been drilled, completed, and flow tested;

(B) to develop a known geothermal resource; and

(C) that is reasonable and necessary

(i) to acquire, lease, or rent real property, including an expenditure for engineering services, surveying, title insurance, recording fees, legal services, site improvements, site restoration, access roads, and fencing;

(ii) for the construction of the facility to develop and use the geothermal resource, including an expenditure for drilling development wells; materials; labor; travel and transportation related to facility design; and the costs of startup, commissioning, and testing;

(iii) for equipment used in the operation of the facility;

(iv) for safety measures and environmental protection;

(v) for financial and legal services related to obtaining licenses and permits and preparing an environmental impact statement;

(vi) for capitalized interest during the construction period;

(3) "qualified exploration expenditure" means an expenditure

(A) to explore a previously unknown geothermal resource; and

(B) that is reasonable and necessary for goods, services, or rental of personal property required for the surface preparation, drilling, and assessment of the commercial potential of a geothermal resource.

ALASKA STATE LEGISLATURE

SENATOR LESIL McGUIRE
SENATOR BILL WIELECHOWSKI
Co-Chairs, Senate Resources Committee

MEMORANDUM

Memorandum

To: Leg. Legal

From: Shalon Szymanski, Committee Aide
Senate Resources Committee

Date: March 19, 2010

Re: Final CS Request

Please create a FINAL Senate Resources CS for SB 242 mirroring work order number 26-LS1347\E but also incorporate the two attached amendments.

If you have any questions or need further information, please feel free to contact me on my direct line, 465-4522

Thank you!

PASSED

Amendment #1

Offered in the Senate By Senator McGuire

To: CS SB 242 (RES), Draft Version "E"

Page 1, line 14 – page 2 line 1: Delete "the geothermal resource first generates gross income."

Insert: "the exploration expenditure was incurred."

Page 3, line 8: Delete "previously unknown"

PASSED

26-LS1347\R.1
Bullock
3/16/10

AMENDMENT

OFFERED IN THE SENATE BY SENATOR WIELECHOWSKI

TO: SB 242

Page 2, following line 19:

Insert a new subsection to read:

"(e) A person that receives a credit under (b) or (c) of this section,

(1) shall reduce a cost related to the geothermal resource that would otherwise be included in a proceeding for determining a just and reasonable rate under AS 42.05.381 by the amount of the credit; and

(2) may not elect to be exempt from the provisions of AS 42.05."

Reletter the following subsection accordingly.

3646

ALASKA STATE LEGISLATURE

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Juneau, Alaska 99801-1182
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Chair
Senate Special Committee on Energy
Senate Committee on World Trade, Technology and Innovations

Co-Chair
Senate Resources Committee

Member
Senate Judiciary Committee

SENATOR LESIL MCGUIRE

Changes to SB 242 (26-LS1347\R) in CS SB 242 (26-LS1347\E)

Section 1: The CS SB 242 makes the following changes to the geothermal exploration and development tax credits.

1. The tax credits may only be taken for expenditures made after the effective date of the act.
2. The differentiation between credits for exploration on state land (50%) and non-state land (25%) has been removed.
    a. Exploration credits are fixed at a flat 30% of qualified expenditures.
    b. Exploration credits are made refundable annually.
    c. Unused[1] exploration credits may be carried forward for 20 years rather than the original five to seven.
3. Development credits are increased to 30% from 10% in the original bill.
    a. Development credits are refundable after the project produces gross revenues.
    b. Unused development credits may be carried forward for 20 years.
4. A definition of when exploration becomes development has been added to the bill on page 2, lines 20-21.

[1] Refundable credits are subject to appropriation. The carry forward language has been included in case an appropriation is not made.

ALASKA STATE LEGISLATURE

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Senate Committee on World Trade,
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Co-Chair
Senate Resources Committee

Member
Senate Judiciary Committee

SENATOR LESIL MCGUIRE

Date: 2/8/10
Version: 26-LS1347\R

SPONSOR STATEMENT – SB 242

"An Act providing income tax credits for geothermal resource exploration and development."

Electric power generated from geothermal sources is a clean, sustainable and environmentally friendly alternative to fossil fuels. It can play a major part in meeting the future energy needs of the railbelt and other regions.

Unlike many other types of renewable energy, geothermal power requires a capital intensive exploration program that carries risks similar to the oil and gas development Alaskans are more familiar with. Senate Bill 242 provides an incentive for the exploration and development of geothermal resources that is similar to those currently in statute for oil and gas projects. SB 242 allows a company exploring for a geothermal resource to receive a credit against their future corporate income taxes for expenses incurred in exploring for, and developing a geothermal resource. Therefore, SB 242 contains two distinct credits; one for exploration and one for development.

Under SB 242 a company would receive a credit in the amount of 50% of their exploration expenditures for work conducted on State land, and 25% for work conducted on other lands within the State of Alaska. The total exploration credits a company would be eligible for would be capped at $20 million. When a company began developing a geothermal resource, SB 242 would then provide a credit of 10% of the expenditures made to develop the resource.

However, the combined credits envisioned by SB 242 could not be used to reduce a taxpayer's annual tax bill by more than 50%. This provision ensures that while the State is incentivizing geothermal development, it would still receive revenue from geothermal development.

The clean, reliable power provided by geothermal resources has formed the foundation of the economy of Iceland for years. SB 242 will provide the incentives necessary to attract world-class geothermal development to Alaska; and potentially help establish a new, sustainable economy in Alaska.

LEGAL SERVICES

DIVISION OF LEGAL AND RESEARCH SERVICES
LEGISLATIVE AFFAIRS AGENCY
STATE OF ALASKA

(907) 465-3867 or 465-2450
FAX (907) 465-2029
Mail Stop 3101

State Capitol
Juneau, Alaska 99801-1182
Deliveries to: 129 6th St., Rm. 329

MEMORANDUM January 28, 2010

SUBJECT: Sectional summary for SB 242 (Work Order No. 26-LS1347\R)

TO: Senator Lesil McGuire
Attn: Mike Pawlowski

FROM: Donald M. Bullock Jr.
Legislative Counsel

You have requested a sectional summary of the above-described bill.

As a preliminary matter, note that a sectional summary of a bill should not be considered an authoritative interpretation of the bill and the bill itself is the best statement of its contents. If you would like an interpretation of the bill as it may apply to a particular set of circumstances, please advise.

Section 1. Adds a new section to AS 43.20 -- AS 43.20.046 -- that provides an income tax credit for geothermal resource exploration and development. States the amount of the credit and the period in which expenditures may be made to qualify for the credit. Provides limitations on the carry-forward of unused credit and limitations on the amount of credit that may be applied. Includes definitions for terms used in the section, including definitions for the expenditures that qualify for the credit.

DMB:ljw
10-047.ljw

BRIEFING PAPER

THE CASE IN SUPPORT OF SB242 FOR PROVIDING INCOME TAX CREDITS FOR GEOTHERMAL RESOURCE EXPLORATION AND DEVELOPMENT

EXECUTIVE SUMMARY

Geothermal power offers reliable baseload power that delivers consistent megawatt-hours 24 hours per day, 365 days per year, which is something that most other forms of renewable resources cannot provide. In fact, for a utility or regional transmission organization, a geothermal power plant shows up in a resource plan much like a conventional power plant. Geothermal power is also unique in its lack of emissions, minimal land use, low visual impact and other environmental merits.

Geothermal energy is extremely cost competitive when compared to other forms of renewable energy and fossil-fuel based processes (e.g. natural-gas based plants, as indicated by studies performed by the California Energy Commission[1] [2]).

Geothermal development is also an effective means to create long term and diversified jobs. A report by the Geothermal Energy Association concludes that a typical 50 MW geothermal plant provides opportunities for 212 direct, indirect, and induced full-time jobs[3].

Although believed to be rich in geothermal resources in various regions around the state, Alaska has yet to develop a single utility-size geothermal power plant. One major hurdle for geothermal development is the relatively high capital cost associated with exploration, drilling and development. This hurdle is even bigger in Alaska compared to other states, due to the remoteness of the resources and the harsh terrain and climate. While capital costs for development and construction of geothermal power plants in other states is typically around $4,000/kW[4], in Alaska estimates typically increase 25%-50%.

Similar to oil & gas exploration, exploring for geothermal resource involves both non-intrusive exploration but primarily high-cost exploration drilling, in order to identify, confirm and delineate the geothermal resource. This endeavor is not only capital-intensive, but also of high risk. While in several western states substantial exploration drilling for geothermal resources took place primarily in the 1970's and 1980's, the geothermal resources in Alaska are mostly "Greenfields", thereby increasing the cost required to confirm these resources and the associated risk.

---

[1] http://www.energy.ca.gov/2009publications/CEC-200-2009-017/CEC-200-2009-017-SD.PDF

[2] http://www.energy.ca.gov/2007publications/CEC-200-2007-011/CEC-200-2007-011-SD.PDF

[3] http://www.geo-energy.org/publications/reports/Socioeconomics%20Guide.pdf

[4] Climate Change Business Journal, April/May 2009

Even after a geothermal resource is explored and successfully confirmed, the additional costs associated with developing a power plant utilizing that resource are still great, and include developing the well-field by drilling of additional production and re-injection wells as well as by putting in place the required pumping and piping infrastructure, building a power plant, and the supporting infrastructure.

The state of Alaska has recognized the similar financial challenges associated with oil & gas exploration and development, and has therefore put in place tax credits in attempt to reduce some of the risk and cost.

The suggested amendments to AS.43.20 come to recognize that: (a) geothermal exploration and development are similar in their cost and risk nature to those of oil & gas; and (b) promoting the development of geothermal resources is no less important to Alaska's economy than developing oil & gas resources, as it helps achieving Alaska's goals of increasing its renewable energy portfolio in order to diversify its energy resources, stabilize long-term power prices, fight climate change as well as providing long term jobs, primarily in rural areas.

The proposed amendments will serve to incentivize exploration of geothermal resources, and are therefore expected to boost exploration and confirmation of previously unconfirmed resources, thereby generating more opportunities for geothermal development.

The suggested amendments will also serve to incentivize development of new geothermal power plants by reducnig the total capital investment required for such development.

Financial analysis indicates that the combined credits, if made refundable, will lower the total cost of geothermal development by more than 10%, and are therefore expected to lower the total cost of power to the ratepayer by 5-10%

Therefore, by introducing these incentives, the state will recognize both the merits and the financial challenges associated with geothermal power, will promote new development and will help reduce the total cost to the ratepayer.

ANNEX: ORMAT COMMETS TO THE SUGGESTED LANGUAGE IN SB242

While greatly in support of this bill we would like to raise some concerns related to its potential impact on boosting geothermal exploration and development.

Page	Line	Note
1	6	**Point of Consideration:** "person" **Note:** The term "person" is used on this line as well as throughout the document to describe the eligible recipients. The term "person" is a term of art and is defined under Alaska Code Title 43.20.340(8) as "an individual, a trust or estate, a partnership, or a corporation." The term "taxpayer" is likewise defined at Title 43.20.340(10) to mean a "person subject to a tax imposed by this chapter." The rest of Title 43 generally uses the term "taxpayer" when describing the entity eligible for claiming a credit. We are concerned that use of "person" rather than "taxpayer" creates ambiguity as to who can claim a credit and who it is applicable to. **We suggest substituting the term "taxpayer" for "person" as it is less open to potential conflicting interpretations.**
2	1	**Point of Consideration:** Clarification of "$20,000,000" limitation per project **Note:** There is no time period stated to which the limitation applies, just the "project." This might preclude additional credit opportunities in the future if significant investment is needed to expand a certain project, though such expansion may be similarly capital-intensive a the original exploration and development . **We suggest considering a "per year" time period or a stronger definition of the term project.**
2	3 - 11	**Point of Consideration:** "years" **Note:** The term "years" is generally interpreted as "tax years." If the statute is interpreted as such, unintended consequences could adversely affect the carry-forward period. If, perhaps, for a variety of reasons a developer is required to file a "short-year" return for any of these years, that could dramatically reduce the carry-forward period. Potentially, then, the credit carry-forward period could expire before the plant is either placed in service or generates "gross income." **We suggest to instead state "60 months" for example, instead of "five years".**
2	3-7	**Major Point of Consideration:** Carry-forward time **Note:** Geothermal exploration and development greatly defers from oil&gas in the duration of the process. It may very well take more than 5 years from start of exploration until a geothermal plant is placed in service (due to permitting, weather and other delays). Furthermore, it typically takes more than 7 years from the date when a plant is placed in service until it accumulates substantial taxable income against which the credits can be claimed. Under the current language it is likely that the carry-forward period expires before all credits can be used. **We suggest extending the carry-forward periods in item (1) to 8 years and in item (2) to 20 years upon facility being "placed in service".**

2	16-19	**Major Point of Consideration:** "Successor in interest" language will greatly limit our ability to enjoy the credit **Note:** As currently stated the credit is only able to be transferred to a successor in interest. This is a term of art which, generally, would mean the purchaser of the facility (the successor in ownership to a business that is carried on substantially as it was before). As written, the bill will not help a developer to monetize the credit in a timely manner. Geothermal projects typically only start generating taxable income 5-7 years after commercial operation at the earliest. Therefore, the carry-forward period will probably elapse before the developer has a chance to utilize the credits. Furthermore, the current language will probably not allow the developer to recover any portion of their loss in case the exploration work does not lead to a revenue generating plant (in case a commercial-size resource is not confirmed). **We suggest changing this item (2) to read: "may be sold, assigned, exchanged, conveyed, or otherwise transferred, or refunded in whole or in part").**
3	7	**Point of Consideration:** "capitalized interest" **Note:** The current phrasing "capitalized interest" could potentially limit the types of costs that qualify. **We suggest using "capitalized costs", which may cover a substantially broader scope.**
3	10	**Major Point of Consideration:** "unknown" **Note:** The current phrasing "unknown" could potentially leave room for interpretation or argument as to whether a certain location being explored in "unknown" or not. As an example, a certain location may be known to have hot spring, but may still require substantial geothermal exploration in order to confirm the existence of a commercial-size resource.. **We suggest using the term "unconfirmed" as used by the Geothermal Energy Association and others.**

ORMAT®

Ormat Technologies, Inc.
2008 Sustainability Report

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Message from Mr. Lucien Bronicki, Chairman and Chief Technology Officer

Developing clean, reliable, and sustainable energy systems has been our mission and core business for more than four decades.

From the first product Ormat created - a solar pump in Mali, Africa - to the 48 MW Olkaria geothermal power plant we now operate in Kenya - Ormat's focus on creating value-added sustainable energy products is unchanged. Our proprietary technology – the Ormat Energy Converter, which effectively converts low and medium temperature heat into electrical energy – has been successfully applied to geothermal power plants and to recovered energy generation systems using waste heat from process industries and gas pipeline compressors.

Despite an economic environment characterized by volatility and uncertainty in the second half of 2008, Ormat continued to demonstrate solid, steady growth. Our revenues increased 16.5% for the year to approximately $345.0 million, Ormat-owned generating capacity increased by 109 megawatts (MW) and demand for our geothermal and recovered energy products continued to grow, resulting in a record product backlog of $194.0 million as of February 2009

These results speak to the growing awareness, acceptance and demand for sustainable energy sources that are able to produce electricity with no or significantly less emissions of CO_2 and other pollutants such as nitrogen oxides, than fossil fuel generated electricity. We believe geothermal and recovered energy sources are poised to play a significant role in the cleaner energy mix of the future – and our company is committed to advancing new opportunities and the technologies that will be necessary to enhance their availability and effectiveness on a larger scale.

In the US, Ormat is a lead participant in research and development work on Enhanced Geothermal Systems, in concert with several academic institutions and the US Department of Energy (DOE). These initiatives, while still in the early stages, are focused on innovative technologies that could more than double geothermal megawatt potential in the US.

We are also committed to continuing to support the future growth of our company. In 2008, Ormat added 150,000 acres of new leases to our exploration development inventory. This includes securing the geothermal rights to 35,000 acres of land in an area close to Anchorage, Alaska, an active volcanic region with high potential for discovery of a large geothermal field, compared with the more mature geological formations in Nevada and California, where our current base of operations is concentrated.

Ormat Technologies, Inc.
2008 Sustainability Report

Regardless of where we operate, in more developed jurisdictions or in countries that are just beginning to build their energy infrastructure, Ormat recognizes the importance of effective community and stakeholder engagement, of providing opportunities for local employment and training, as well as investing in initiatives that make a lasting difference at the local community level. In this sustainability report you'll be introduced to our company, our technologies and our business practices as they relate to each of these areas. You'll also learn more about geothermal and recovered energy production.

Thank you for your interest in Ormat Technologies, Inc. We welcome your questions, comments and feedback about this report and look forward to continued dialogue.

Sincerely,

Lucien Bronicki
Chairman and Chief Technology Officer

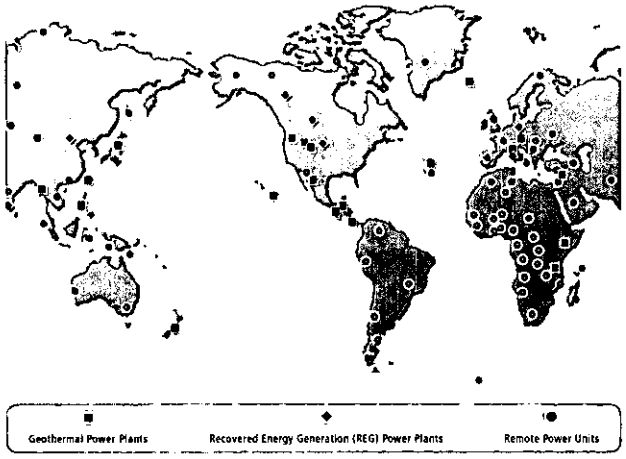
Organizational Profile

Ormat Technologies, Inc. (Ormat) is the world's leading vertically integrated company primarily engaged in the geothermal and recovered energy power businesses. Ormat explores, develops, designs, manufactures and sells equipment for geothermal and recovered energy-based electricity generation (REG), as well as remote power unit. In addition, our company provides services relating to the engineering, procurement, construction, operation and maintenance of geothermal and recovered energy power plants.

Collectively, our products and services are covered by 75 United States (US) patents.

Ormat Technologies, Inc. is a public company traded on the New York Stock Exchange, under the symbol ORA and is headquartered in Reno, Nevada. Our current generating portfolio includes the following geothermal and recovered energy-based power plants: in the United States - Brady Complex, Heber Complex, Mammoth, Ormesa Complex, Puna, Steamboat Complex, OREG 1, OREG 2; in Guatemala - Zunil and Amatitlan; in Kenya - Olkaria Complex; in Nicaragua - Momotombo and in New Zealand - GDL.

Global Presence - Geothermal and REG power plants and Remote Power Units installed by Ormat worldwide



Ormat Project Financing Recognized as "Best Sustainability Deal"

The project financing transaction supporting Ormat's new 48 MW Olkaria III Geothermal Power Plant in Kenya was recognized by EMEA (Europe Middle East Africa) Magazine as the "Best EMEA Sustainability Deal for 2008". The 10-year project finance loan for US $105 million was arranged by global agent Deutsche Investitions und Entwicklungsgesellschaft mbH (DEG), in association with a group of European Development Finance Institutions. The magazine annually highlights financial transactions in the EMEA region that represent innovation and excellence.

Our company is the second-largest geothermal power plant owner in the US. Ormat currently owns and operates nine geothermal and recovered-energy power plants complexes that generated, in 2008, approximately 2.5 million megawatt hours (MWh) of electricity produced without nitrogen oxide emissions and with significantly lower emissions of carbon dioxide (CO_2) compared with fossil fuel generated electricity. Virtually all of the electricity generated by our geothermal and recovered-energy power plants is currently sold pursuant to long-term power purchase agreements, providing generally predictable cash flows. In the United States, the purchasers of power from our projects are typically investor-owned electric utility companies. Outside of the United States, the purchaser is typically a state-owned utility or a privately-owned entity and we typically operate our power plants pursuant to rights granted to us by a governmental agency pursuant to a concession agreement.

In 2008, Ormat generated revenues of $345 million, earned net income of approximately $50 million and at December 31st, employed 1,069 people worldwide.

Ormat's Growth Plants

Ormat is one of the fastest growing geothermal and recovered power generation companies in the United States, as measured by growth in generating capacity.

Ormat Revenues ($ millions)

2006	2007	2008
$269.0	$296.0	$345.0

Growth in Ormat-Owned Generating Capacity (MW)

2006	2007	2008
400	410[1]	505[2]

At the end of 2008, Ormat owned a total of 505 MW of geothermal and recovered energy generating capacity worldwide. 377 MW is generated by our power plants in the US and the remaining 128 MW is generated by our international power plants. Between 82 MW and 94 MW of geothermal and recovered energy generation projects will be added to Ormat's generation portfolio through new construction targeted for completion by the end of 2010. In addition, Ormat has between 150 MW and 170 MW currently under development.

Our company plans to continue building a geographically balanced portfolio of geothermal and recovered energy assets, as well as to continue our record of leadership as a manufacturer and provider of products and services related to sustainable energy.

[1] On September 25, 2007, Leyte transferred its power plants in the Philippines to the off taker pursuant to a Build, Operate, and Transfer agreement. This transfer reduced our owned foreign generation capacity by 39 MW
[2] Including 50 MW of the North Brawley power plant in California which is in the start up phase.

Our Power Generation Portfolio

Power Plants Owned and Operated by Ormat - in the USA

State	Project	Capacity (MW)*	Technology	Year**
California	North Brawley	50***	Geothermal	2008
California	Heber Complex	92	Geothermal	1993, 2006, 2008
California	Ormesa Complex	57	Geothermal	1988-9,2003, 2007
California	Mammoth Complex	14.5****	Geothermal	1994
Nevada	Steamboat Complex	84	Geothermal	1986-8, 1992, 2005-8
Nevada	Brady Complex	22	Geothermal	2002
North Dakota	OREG II	5.5	REG	2008
South & North Dakota	OREG I	22	REG	2006-7
Hawaii	Puna	30	Geothermal	1992, 2004

Power Plants Owned and Operated by Ormat - Rest of the World

Country	Project	Capacity (MW)*	Technology	Year**
New Zealand	GDL	8	Geothermal	2008
Nicaragua	Momotombo	28	Geothermal	2002
Guatemala	Amatitlan	20	Geothermal	2007
Guatemala	Zunil	24	Geothermal	1999
Kenya	Olkaria III Complex	48	Geothermal	2000, 2008

Power Plants Under Construction or Under Development

Country	Project	Capacity (MW)*	Technology
California, USA	East Brawley	30	Geothermal
California, USA	Imperial Valley	50	Geothermal
California, USA	Mammoth	10 - 15****	Geothermal
Hawaii, USA	Puna	8	Geothermal
Nevada, USA	McGinness Hills	30	Geothermal
Nevada, USA	Carson Lake	18- 30	Geothermal
Nevada, USA	Jersey Valley	18 - 30	Geothermal
Colorado, USA	OREG IV – Peetz	4	REG
Minnesota, USA	OREG III – GRE	5.3	REG
North Dakota, Minnesota & Montana, USA	OREG II	16.5	REG
Indonesia	Sarulla	43*****	Geothermal

* Net to the grid at design point
** In power plants that were built in phases, the year of each new phase is indicated
*** The project is in start-up phase
**** In partnership with Constellation, represent Ormat's 50% interest in the project
***** Ormat owns 12.75% interest in the Sarulla Consortium
For further details, including full disclosure of our offtaker see, see our 10K report

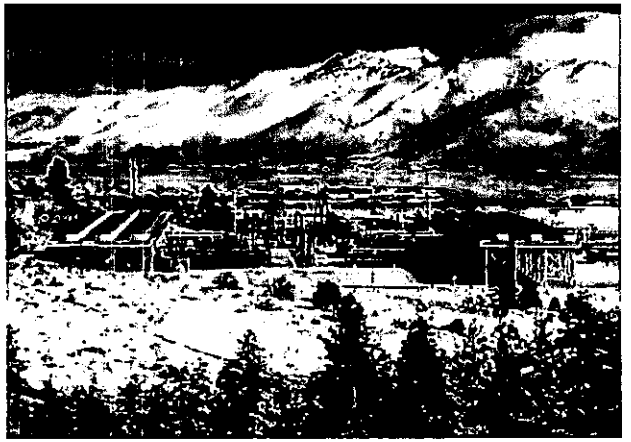
Ormat's Desert Peak II geothermal power plant, part of the Brady complex in Nevada, delivers 11 MW of clean electricity

About This Report

This is the first sustainability report published by Ormat Technologies, Inc. and is for the calendar year 2008. On a go-forward basis, Ormat plans to publish sustainability reports annually. Questions concerning any of the information contained about Ormat's sustainability performance may be directed to sustainability@ormat.com.

This report was prepared referencing the Global Reporting Initiative's G3 Guidelines, however we have not self-declared a level of disclosure at this time. As our first sustainability reporting effort, Ormat is working to develop internal frameworks and processes to facilitate more comprehensive reporting in the future. While the financial and operational data presented in this report has been verified for corporate financial disclosure purposes, a formal external verification of the information presented herein has not been conducted.

Ormat Technologies, Inc. or Ormat refers to the entire company and its subsidiaries. Dollar figures are US unless otherwise noted.



Ormat's 84 MW geothermal complex at Steamboat, Nevada supplies all of Reno's households with electricity

Corporate Governance

Ormat's Code of Business Conduct & Ethics is intended to:

- Promote honest and ethical conduct, including fair dealing and the ethical handling of conflicts of interest and corporate opportunities;
- Promote the protection and proper use of Corporation assets;
- Maintain the confidentiality of information acquired in the course of business;
- Promote compliance with applicable laws and governmental rules and regulations;
- Encourage the prompt reporting of any illegal or unethical behavior;

The full Code of Business Conduct and Ethics document can be found at the Ormat website under the investor realation tab.

Ormat stands behind the principles of honesty, openness, fairness and trust as pillars of our approach to corporate governance. These principles are reflected in the exacting standards that are set out in our Corporate Governance Guidelines, and our Code of Business Conduct and Ethics, both of which were adopted in 2004 and took effect as our company was formally registered for trading on the New York Stock Exchange. Each provides a framework that is aligned with regulatory requirements and reflects 'best practices' principles.

Ormat established and maintains adequate internal control over financial reporting and is in compliance with Sarbanes-Oxley Act (SOX). The effectiveness of Ormat's internal control has been audited by Price Waterhouse Coopers (PWC, one of the "Big Four" global accounting firms).

Ormat is a publicly traded company managed by a seven-member Board of Directors. Mr. Lucien Bronicki is Chairman and Chief Technology Officer, Mrs. Yehudit "Dita" Bronicki is a Director and Chief Executive Officer and Mr. Yoram Bronicki is President and Director and Chief Operating Officer of the company. The other four directors serving on Ormat's board are non-executive and classified as independent. They are: Robert F. Clark, Roger W. Gale, Jacob J. Worenklein, Dan Falk.

In 2008, Ormat's Board of Directors met 13 times to review the business affairs of the company and provide oversight. Key committees of the Board of Directors include: Audit, Compensation, and Nominations & Corporate Governance.

The Audit Committee's purpose is to assist the Board in its oversight responsibilities as they relate to Ormat's accounting policies and internal controls, financial reporting process and legal and regulatory compliance, as well as to maintain ongoing open lines of communication between the Board and Ormat's financial management, internal auditors and independent auditors. Among the key responsibilities the Audit Committee performs is the review and discussion of Ormat's annual audited financial statements and disclosures under "Management's Discussion and Analysis of Financial Condition and Results of Operations".

Ormat's Compensation Committee's primary purpose is to review and approve corporate goals and objectives relevant to compensation of our CEO, evaluate the performance of the CEO against those goals and objectives and determine and approve CEO compensation, as well as compensation of any of the five other most highly compensated executive officers. Recommendations to the Board for non-CEO compensation, incentive compensation plans and equity based plans are also under the committee's responsibilities.

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The Nominating and Corporate Governance Committee is responsible for identifying and recommending individuals to serve as members of Ormat's Board of directors, to oversee the evaluation of the Board's performance and CEO and to take a leadership role in shaping the corporate governance of the company.

Corporate Charters for each committee of the Board are contained in full on Ormat's website under "Corporate Governance".

All directors, officers and employees of Ormat are expected to read and be familiar with our company's Code of Business Conduct and Ethics and Corporate Governance Guidelines, as appropriate, and are also expected to affirm their agreement to adhere to these standards by signing a compliance certificate.

Ormat's Secretary of the Board of Directors fulfills the role of Code of Ethics contact person for our company. Shareholders of the company as well as employees are invited to participate in the Annual General Meetings Ormat hosts, where dialogue concerning the company's plans, progress and operations is encouraged. Our company also regularly hosts meetings for employees, where they are encouraged to learn more about company operations and share their questions and/or concerns. Employees also are informed of several tools they can use should they wish to report unethical behavior or file an anonymous complaint: a letter box, a telephone line and the website www.ethicspoint.com, on which Ormat has a section.

Ormat's Environmental Management System has been regularly audited and certified as complying with the International Standard ISO 14001.

Ormat's Puna geothermal power plant, located in Hawaii, which delivers 30 MW of clean electricity

Ormat selected for SB20 List

Ormat is now a member of the SB20 (Sustainable Business 20) a ranking of the world's 20 most innovative companies that are playing a leading role in creating the sustainable economy of the future. Compiled by the Progressive Investor newsletter, the judging panel for the SB20 is comprised of leading green stock analysts who use both sustainability and financial criteria to identify the most compelling green companies.

The 20 companies selected are noted for their advancement of sustainability, must have made significant progress toward achieving their stated goals, demonstrate strong management and be leading influencers in their particular sector.

Corporate Memberships

Ormat Technology, Inc. is a member of the following organizations:

- Centre for Energy Efficiency and Renewable Technologies (CEERT)
- Geothermal Energy Association (GEA)
- Geothermal Resources Council (GRC)
- Reno-Sparks Chamber of Commerce
- Economic Development Authority of Western Nevada (EDAWN)
- Nature Conservancy of Nevada
- National Renewable Energy Laboratory (NREL)
- American Council On Renewable Energy (ACORE)
- International Energy Agency (IEA)
- The International Solar Energy Society (ISES)

Sustainability Index Participation

Ormat's expertise and innovation in developing geothermal energy has been recognized by a growing number of sustainability indexes worldwide:

- The Cleantech Index™ – www.cleantechindex.com
- The SB20 List – www.SustainableBusiness.com
- NEX WilderHill New Energy Global Innovation Index – www.nexindex.com
- The Domini 400 SocialSM Index (DS400) – www.kld.com/indexes/ds400index/index.html
- The WilderHill Clean Energy Index – ECO – www.wildershares.com/stock.php
- RENIXX® - Renewable Energy Industrial Index – www.renewable-energy-industry.com/stocks/

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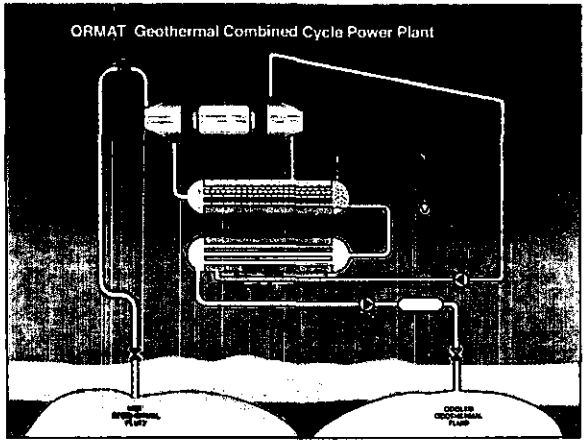
Environmental Leadership

The Environmental Benefits of Geothermal and Recovered Energy

Geothermal energy is heat energy that comes from the earth's molten interior deep in the earth's crust. This valuable heat is brought near to the surface due to movements in the earth's crustal plates by intrusion of molten magma and by deep circulation of groundwater. Reservoirs of hot water under pressure are formed. By drilling wells into these reservoirs, steam and high-pressure hot water can be captured and directed to drive turbines in power plants, completing the conversion of this earth-bound energy from heat to electrical energy.

Cooled geothermal fluid is injected back to the reservoir where it is reheated and preserves the resource mass balance and sustainability. The advantages of geothermal energy are enormous; it harnesses a natural locally available energy source, it offers base load electricity 24/7 year-round supply with high reliability and provides an environmentally friendly energy alternative which produces no NOx emissions and negligible CO_2 emissions.

Geothermal energy is used as a source of direct heat and electrical power generation in over 29 countries today, providing approximately 10,000 MW of electricity[3] which is enough to power between 10 and 12 million average homes.



[3] Source: GEA and Earth Policy Institute

Ormat also develops products that produce electricity from recovered energy or so-called "waste heat". Recovered energy represents residual heat that is generated as a by-product of a variety of industrial processes, such as cement manufacturing and gas compression stations. This residual heat, which would otherwise be wasted, may be captured in the recovery process and used by recovered energy power plants to generate electricity without burning additional fuel and/or generating emissions.

Ormat (and its parent company Ormat Industries Ltd.) has developed and manufactured over 1,200 MW of geothermal and recovered energy generation power plants with zero fossil fuel consumption and negligible emissions.

We are committing considerable effort towards exploring the vastly untapped geothermal and recovered energy resources available, and are working to develop and to innovate our geothermal power plants and technology.

We believe the importance of renewable energy as an alterative to fossil fuel will continue to grow and be aided by state, federal and international regulatory frameworks that are intended to reduce carbon emissions, promote renewable energy use, introduce market-based emissions trading systems and provide economic stimulus in a sustainable context. In the US, actions in these frameworks have been introduced through the implementation of the Renewable Portfolio Standards and, most recently the provision under the American Recovery and Reinvestment Act of 2009 (Stimulus Act).

Ormat Power Projects Eligible for Greenhouse Gas Emissions Trading

In December 2008, the Executive Board of the United Nations Framework Convention on Climate Change (UNFCCC) officially registered Ormat's Amatitlan Geothermal Project in Guatemala as a Clean Development Mechanism (CDM). The project is expected to offset emissions of approximately 83,000 tons of CO_2 per year. With Amatitlan registered under the CDM, the project will be eligible to receive certified emission reduction credits, each equivalent to one ton of carbon dioxide, which can be traded or sold. The project has a long-term contract to sell all of its emission reduction credits to a European buyer.

Ormat's GDL power plant in New Zealand is also working towards participation in the JI mechanism and the Olkaria III power plant is working towards participation in the CDM mechanism.

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Ormat's Energy Consumption

In 2008, the amount of electricity consumed by all of our manufacturing facilities was 3,514 MWh, all of which is derived from the grid and whose souce are fossil fuel based power plants. Still, this amount is negligible, as these 3,514 MWh are equivalent to less than 11 hours of operation of clean, low-carbon energy produced by Ormat's fleet of geothermal and REG power plants.

Ormat's 2008 Geothermal and REG Power Production

Ormat's geothermal and recovered energy power plants produce green, fossil fuel free electricity. To accurately calculate the emissions our renewable generation sources mitigate, we have calculated mitigation factors for several other potential energy sources which could have been used to provide electricity.

As Ormat's power plants provide baseload (constant, year-round) electricity, we compared them with other baseload energy sources: coal, oil, and natural gas. The comparison is based on a 2002 EIA study[4].

In 2008, power plants owned by Ormat have produced more than 3 million MWh of electricity. According to the calculation, this means our power plants mitigated 2.6 million tons of CO_2 compared with coal, 2.4 million of CO_2 compared with oil and 1.5 million tons of CO_2 compared with natural gas-fired electricity.

The power plants which Ormat sold to third parties produced in 2008 approximately the same amount of electricity, thus mitigating a similar amount of CO_2. We are unable to provide exact figures as we do not operate these power plants. However, in aggregate, in 2008 all power plants using Ormat's technology have mitigated approximately 5.2 million tons of CO_2 compared with coal, 4.8 million tons of CO_2 compared with oil, and 3 million tons of CO_2 compared with natural gas.

Improving Environmental Performance

Ormat's generating portfolio as of the end of 2008 includes a total of 14 geothermal and recovered energy power plant in the United States, Guatemala, Kenya, Nicaragua and New Zealand. While each power plants in our portfolio provides a positive alternative to carbon-intensive electricity generation, our company remains committed to ongoing action to minimize the environmental impact of our operations through reducing, reusing, recycling and applying leading edge technology. In fact, this approach is encapsulated in the Ormat Quality, Environmental, Health and Safety Policy, which guides these initiatives.

[4] Bloomfield, K., Moore, J.N., and R.M. Neilson Jr. (2003), Geothermal Energy Reduces Greenhouse Gases. Geothermal Research Council, GRC Bulletin, April 2003. www.geothermal.org/articles.html

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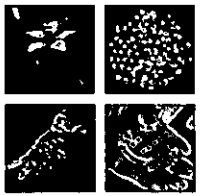
Wildlife Studies Enhance Conservation

Thymeleaf buckwheat is an endangered plant species and as such, is one of the plants that Ormat's operations take precise measures to protect. From our Steamboat power plant in Nevada, Ormat has donated to the Nevada Department of Wildlife, the state agency responsible for the restoration and management of fish and wildlife resources, to further study sagebrush in the region. Other species we work to develop and maintain include the Flat Tailed Horned Lizard, Sage Grouse, Desert Tortoises and Burrowing Owls.

We recognize the value of cultural resources on the sites that we develop and provide cultural resource surveys at a number of power plants to promote awareness of the archeological and biological significance of the land.



Ormat's Quality, Environmental, Health and Safety Policy

Ormat's QEHS policy is an integral part of our corporate policy and includes the following elements:

- Active communications between Ormat and its customers and suppliers in order to achieve understanding of customers' requirements, expectations, customer satisfaction and to provide effective product support.
- Compliance with applicable environmental, health and safety regulations where Ormat operates.
- continuous efforts to achieve:
  - High standards of safety in the production, construction and operational phases of our products in order to minimize risks to personnel and the public, improved product performance and reliability
  - Reduced costs and time to market
  - Prevent of pollution
  - Savings in energy and materials
- Implementation and certification of an integrated management system in accordance with ISO 9001 and 14001 international standards.
- Top management committed to dedicate resources and attention in order to comply with the requirements and continually improve the effectiveness of the integrated management system.

In Ormat's offices , efforts are in place to reduce the unnecessary use of paper products and preserve forests. Due to our widespread corporate geography, our company relies extensively on the Internet to enhance communication between head office and operating locations. We also reduce travel time and conduct training using "webinars", rather than through meetings. Car pooling is also encouraged for employees engaged in any travel on behalf of the company, as well as for regular commuting.

Most of our power plants are air cooled consuming no water. In addition a number of initiatives are underway throughout our facilities to reduce the amount of water and energy our operations consume. For example, we are investigating different ways to use recycled water in the power plants we operate in California and Nevada, and through the use of recuperators, we are reducing the water consumption of each new power plant we construct.

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Compliance with Environmental Laws

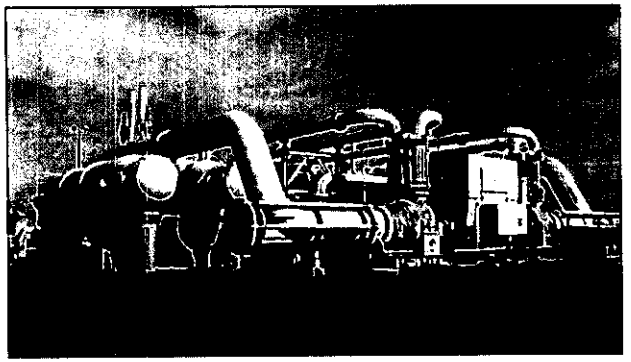
Ormat's US operations operate in compliance with the National Environmental Policy Act (NEPA) on public lands and the California Environmental Quality Act (CEQA) on private lands. This compliance includes performing environmental studies and implementing a variety of measures to mitigate any identified significant impact.

Scrap metal, used oil, and plastics & glass from used computers are the major categories of recyclables currently collected at Ormat facilities. All facilities benefit from our efforts to maximize the efficiency of our operations. We've introduced more efficient turbine units at our Steamboat 2/3 plants, which have resulted in lower oil consumption. The use of variable speed drives on key well pump motors has increased their output and productivity, while decreasing oil consumption. In addition, rigorous technical evaluation of geophysical data helps us reduce drilling risk and the number of holes that are required to maximize the output of geothermal reservoirs.

Drilling with a Difference

Ormat's operating procedures require all employees, as well as drilling contractor personnel, to be educated about and adhere to our company's policy regarding the standards for environmental protection we apply to our drilling activities and ongoing operations. Drilling geothermal wells is, in many respects, similar to the drilling procedures used for conventional oil and gas drilling. Our overarching goal is to minimize disturbance to the site from the outset, to protect wildlife, land and ground water throughout the well's operating life and to restore the site to its natural state when the well is no longer productive. Our environmental protocols for drilling geothermal wells include prevention of soil erosion, surface and ground water quality protection, by using steel casing cemented to below these zones, the use of only non-toxic, non-hazardous drilling mud constituents, the containment of all waste drilling mud, cuttings and runoffs, air quality protection and noise prevention. These measures may be implemented either prior to construction, during construction or during operations of the plant, depending on the specific measure.

Throughout 2008, Ormat did not incur any fines for environmental incidents or infractions.

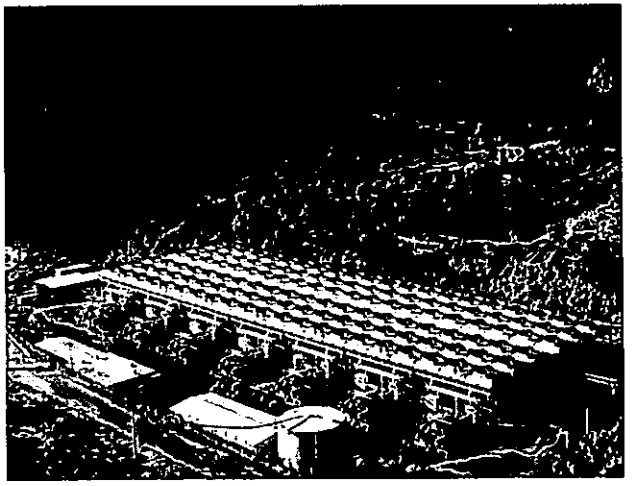


Ormat's Ormesa geothermal complex, located in California, which delivers 57 MW of clean electricity

Community and Stakeholder Involvement

Connecting with the Community

As a responsible and responsive corporate citizen, Ormat believes it is important to cultivate positive relationships with a wide variety of stakeholders who have an interest in our geothermal and recovered energy power plants. To do so, we employ a variety of activities and communications tools which include websites about our power plants and ongoing projects that affect the local community; a community relations program that encourages employee volunteerism and purchasing from local vendors; participation in local boards such as the Mammoth Lakes Alternative Energy Task Force; the maintenance of an extensive list of stakeholders with whom we stay in touch with via email, phone calls, meetings, and tours of the power plant; and by providing local support to community organizations. These combined efforts ensure that stakeholders are provided with timely and accurate information about our operations and development plans and that they are able to learn more about geothermal energy and how it contributes to the local economy and a cleaner environment.



Ormat's Zunil geothermal power plant, located in Guatemala, which delivers 24 MW of clean electricity

Support for Education

Ormat is a strong supporter of education as the foundation for positive, life-long learning and the path to fulfilling and brighter economic futures. Wherever we operate, we look for innovative ways to help improve the educational opportunities available within the local community, to advance research and development in the geothermal industry, to strengthen the array of tools and resources available and to further the academic careers of students by funding student scholarships and internships.

Advancing Higher Learning

Ormat has developed several close relationships with the institutes of higher learning in Nevada, where our corporate headquarters are located. We work with the Nevada System of Higher Education, which includes three institutions – the University of Nevada, Reno (UNR) which includes the Great Basin Center for Geothermal Energy, the University of Nevada Las Vegas and the Desert Research Institute.

In addition to providing direct funding support, Ormat also supports these institutions in different ways: senior Ormat employees regularly deliver lectures on geology and engineering projects; we support research and development initiatives that will further the understanding of geothermal energy; and we utilize and hire interns who work in our operations, gaining first-hand experience in geothermal energy production.

Ormat is an associate member of the Massachusetts Institute of Technology Energy Initiative (MITEI). Our company's contribution to this leading institution in 2008 provides funding for Energy Fellowship support for students. Ormat supports UNR with a grant as well as offering internship for students. Oramt is also a supporting member in the leadership council of the University of Colorado-Boulder Renewable and Sustainable Energy Institute (RASEI).

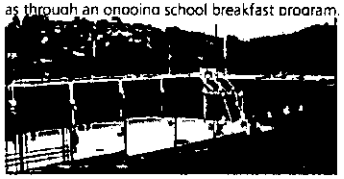
Opening Educational Doors

Ormat operates geothermal power plants in Guatemala, Nicaragua and Kenya – countries where local residents are challenged by limited access to education. In these countries, Ormat helps meet more basic needs.

For example, in 2008 in Kenya, our company provided funding to seven local primary schools to sponsor the salary costs for 21 teachers. While providing resources for instruction is important, helping to supplement the nutritional needs of the students is also a priority. In 2008, Ormat sponsored a feeding program at the Narasha Primary School throughout the academic year. Providing construction funding for a new classroom, and channeling support for secondary school fees are other practical ways our funds opened doors to the future for Kenyan students.

In Guatemala, Ormat provides similar types of support to ensure local resident who reside in the communities close to Ormat's Amatitlan plant – El Cedro, Bejucal, San Francisco las Sales, San Jose Calderas and Pepinal – benefit from our presence. In 2008, Ormat created a trust fund to manage all community affairs programming and provided seed funding of $150,000 to launch the fund. The trust is concentrating on education, health and eco-tourism initiatives to help develop economic opportunities at the local community level and is managed by three individuals – a representative from the local community, a representative from Ormat's Amatitlan plant and an independent advisor.

Our support for education is expressed through scholarships to students who excel in their studies, funding for computers, books, maintenance and other classroom resources, as well as through an ongoing school breakfast program.



Enhancing local educational opportunities in the South American and African countries where we operate is an investment in the future of local communities.

Providing a Hand-Up

While supporting educational initiatives is the primary focus of Ormat's community investment outreach, there are many other ways in which our company reaches out to the local people who live close to our power plants.

In Nicaragua in 2008, our company contributed to a wide variety of social, recreational, community infrastructure and building projects, which included providing medicine, buying Christmas gifts for disadvantaged children, supplementing the local fire fighting facilities and contributing to the construction of the Momotombo Church.

In Kenya, support provided by Ormat in 2008 for the local Narasha community helped them repair a leading water tank. Other gifts helped channel monthly support to the Kenya Wildlife Service's education assistant, the Kenya NEMA annual environmental conference, the Aberdare National Park Rhino Ark, the Lake Naivasha Riparian Association (LNRA) world conservation day and LNRA membership. At this year's inauguration ceremony, Ormat contributed to the National Famine Relief Fund.

In Guatemala, Ormat's connection with the local community close to the Zunil power plant resulted in medical visits for students and the local school and the distribution of vitamins throughout the community.

Many of Ormat's community investments help supplement existing infrastructure and contribute in an important way to the local quality of life.

Human Resources Policies

Ormat recognizes that engaged, motivated and energized employees are the key to our success as a leading geothermal and renewable energy innovator. Wherever we operate around the globe, it is Ormat policy to hire locally and to ensure that our employees are trained and ready to realize their potential. In all of our power plants, all employees, from the plant manager down, are locals.

Wherever our company operates, Ormat respects and adheres to the laws of each country. We are an equal opportunity employer and comply with all state and federal laws prohibiting discrimination based upon race, color, national origin, marital status, religion, sex, age, sexual orientation, mental condition, medical disability, veteran or other protected status. Ormat did not record any legal action or complaints with respect to our human resources activities in 2008.

In addition to competitive salaries, Ormat provides employees with an attractive series of employee benefits, which include an employer-sponsored retirement plan, an employee assistance program, voluntary benefits for four types of insurance, emergency travel assistance, and leave time for illness, bereavement and jury duty time.

Ormat is an equal opportunity employer. Wherever we operate, we hire locally and empower our employees to realize their potential.

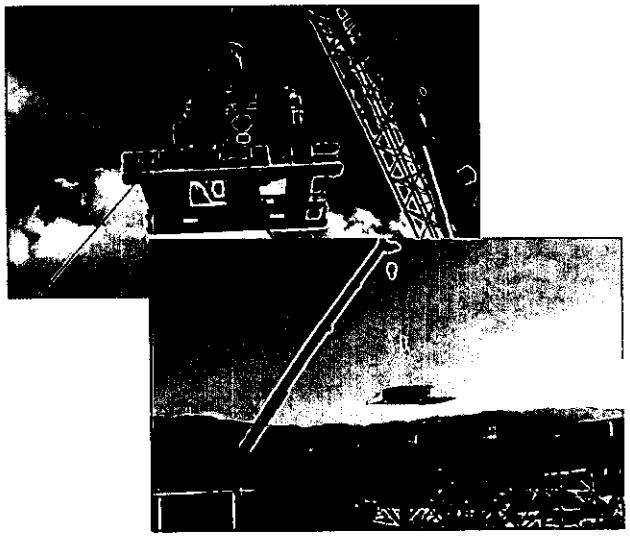
Safety & Health Performance

Safety is a significant priority at Ormat. We believe training – in face-to-face and on-line forums – continually reinforces the importance of applying the right procedures and helps keep safety awareness, values and attitudes at the top of our employees and contractors minds during their day-to-day activities inside our power plants and other operating facilities.

In 2008, Ormat recorded a Total Case Incident Rate (TCIR) of 2.4 across all of our operations in North America and worldwide. TCIR is calculated based on the number of recordable incidents a company experiences in a year, multiplied by 200,000 and divided by the total hours worked by employees during that year. The 2.4 TCIR Ormat achieved compares favorably with the industry average TCIR of 4.7 in 2008.

Also in 2008, Ormat recorded a Days Away and Restricted Time (DART) performance of 1.6, compared with the industry average of 2.9.

No fatal incidents were recorded in any of Ormat's operations in 2008.



Construction of an Ormat Power Plant

Safety Training Priorities

Ormat employees with operational responsibilities are required to complete annual coursework which is aligned with Ormat's safety procedures and for which completion is mandatory. Employees are tested to verify their knowledge at the end of each course, which include the following:

- Blood Borne Pathogen Guidelines.
- Breeching and Hot Tapping – This involves procedures for developing a work plan for breeching working fluid piping components as well as hot brine piping and components.
- Cold Weather Awareness – Guidelines for safe operations in cold weather, including personal protection.
- Confined Space Entry Program – This program outlines requirements for determining and mitigating confided space hazards and controlling entry into confined space areas.
- Contractor Safety.
- Cranes/Rigging/Lifting Devices.
- Electrical Safety Procedure – This program includes guidelines for NFPA 70e clothing and process.
- Emergency Action Plan requirements, which are site specific.
- Ergonomics.
- Excavation and Trenching.
- Fall Protection.
- Fire Prevention – Employees receive annual training on plant fire systems and fire extinguisher usage.
- First Aid/CPR.
- HAZCOM – includes Material Safety Data Sheets (MSDS) and chemical awareness.
- Heat Illness Awareness – Required in California and covered at all other plant sites.
- Hearing Conservation – Employees exposed to noise levels above 85dba receive training and hearing screening annually.
- Hot Work/Cutting and Welding.
- Injury and Illness Prevention Plan, Written Workplace Safety Plan.
- Lockout/Tagout – This involves control of energy for safe work.
- Personal Protective Equipment (PPE).
- Process Safety Management – Three-year rotating classes on elements of PSM that are not covered under general safety training.
- Respiratory Protection – Those employees who are required to wear respiratory PPE receive annual pulmonary and respiratory screening.
- Safety Policy/Safety Responsibilities.

Ormat's Safety Resource Structure

Ormat operates 14 different geothermal and recovered energy generation plants in several different countries. To ensure that a consistent approach is applied to safety throughout our company we have created an overarching Strategy Safety Committee. This committee includes Ormat's Vice-President of Operations, Manager of Business Processes, Operations Planning Coordinator, Human Resources and Plant Manager, and outlines the expectations and safety plan for the company.

An Operations Safety Improvement Team regularly meets and consists of representatives from each Ormat power plant. Together, they share their experiences, review incidents and ways to prevent them from reoccurring, identify best practices, evaluate new equipment, programs and services and provide an important conduit to Ormat's corporate management about plant issues and opportunities from a safety context. This team also conducts regular safety audits at each power plant.

Safety Improvement Teams are plant site specific and feature cross-functional plant representation. These teams work with plant management to develop and implement safety plans, review incidents and provide support in resolving issues and develop projects designed to enhance the safety performance of the power plant.

Ormat has an Industrial Hygiene function currently managed by contract with an outside vendor who is charged with developing and maintaining sampling plans for noise, heat, dust, chemicals, welding emissions and asbestos-free verification.

Ormat achieves a consistent company-wide approach to safety through an overarching Strategy Safety Committee.

Safe Harbor Statement

Information provided in this sustainability report may contain statements relating to current expectations, estimates, forecasts and projections about future events that are "forward-looking statements" as defined in the Private Securities Litigation Reform Act of 1995. These forward-looking statements generally relate to Ormat's plans, objectives and expectations for future operations and are based upon its management's current estimates and projections of future results or trends. Actual future results may differ materially from those projected as a result of certain risks and uncertainties. For a discussion of such risks and uncertainties, see "Risk Factors" as described in Ormat Technologies, Inc.'s Annual Report on Form 10-K filed with the Securities and Exchange Commission on March 5, 2008 and on Quarterly Report on Form 10-Q filed with the Securities and Exchange Commission on November 6, 2008.

These forward-looking statements are made only as of the date hereof, and we undertake no obligation to update or revise the forward-looking statements, whether as a result of new information, future events or otherwise.

For further information about Ormat's operations, please visit www.ormat.com

ORMAT®

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SB

243

SENATE COMMITTEE REPORT
First Committee of Referral

DATE: 1/27/10

FURTHER: (Finance)

Date of 5-Day Notice: 2/4/10
(in accordance with Uniform Rule 23)

DATE TURNED IN TO OFFICE: 3/19/10

Resources Committee considered SENATE BILL NO. 243

SB 243 NO ROYALTY ON GEOTHERMAL RESOURCE

"An Act removing the royalty obligation for geothermal resources."

and recommends:

[ ] be **replaced** with [ ] **SCS** or [ ] **CS** SB 243 (RES)

[ ] adopt **previous** [ ] **SCS** or [ ] **CS** _____ (_____)

[ ] attached amendment(s)

[ ] adopt _____ Letter of Intent

[ ] further referral to _____ Committee

SENATE BILL:
[✓] Same Title
[ ] New Title

HOUSE BILL:
[ ] Same Title
[ ] Technical Title Change
[ ] New Title w/ SCR #_____

NEW FISCAL NOTE(S):

Department	Date	Fiscal	Indet.	Zero	FN#
DNR	02/09			✓	
REV	02/10			✓	

PREVIOUS FISCAL NOTE(S):

Department	Date	Fiscal	Indet.	Zero	FN#

[ ] **APPROPRIATION - no fiscal note**

SIGNATURES AND RECOMMENDATIONS:	PRINTED LAST NAME	DO PASS	DO NOT PASS	NO REC	AMEND
	Stevens			✓	
	French			✓	
CO-CHAIR:	McGuire	✓			
CO-CHAIR:	Wielechowski			✓	

FISCAL NOTE

STATE OF ALASKA
2010 LEGISLATIVE SESSION

Fiscal Note Number: 1
Bill Version: CSSB 243(RES)
(S) Publish Date: 3/22/10

Identifier (file name): SB 243 DNR-OGD-02092010
Dept. Affected: Natural Resources
Title: No Royalty on Geothermal Resources
RDU: Resource Development
Component: Oil and Gas Development
Sponsor: Sen McGuire
Requester: SRES
Component Number: 439

Expenditures/Revenues (Thousands of Dollars)

Note: Amounts do not include inflation unless otherwise noted below.

	Appropriation Required	Information					
OPERATING EXPENDITURES	**FY 2011**	**FY 2011**	**FY 2012**	**FY 2013**	**FY 2014**	**FY 2015**	**FY 2016**
Personal Services							
Travel							
Contractual							
Supplies							
Equipment							
Land & Structures							
Grants & Claims							
Miscellaneous							
TOTAL OPERATING	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
CAPITAL EXPENDITURES							
CHANGE IN REVENUES ( )							

FUND SOURCE (Thousands of Dollars)

1002 Federal Receipts							
1003 GF Match							
1004 GF							
1005 GF/Program Receipts							
1037 GF/Mental Health							
Other Interagency Receipts							
TOTAL	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**

Estimate of any current year (FY2010) cost:

POSITIONS

Full-time							
Part-time							
Temporary							

ANALYSIS: *(Attach a separate page if necessary)*

SB 243 eliminates royalties from any state geothermal lease entered into for geothermal resources after the effective date. Under AS 38.05.140(d) the commissioner, for the purpose of encouraging the greatest ultimate resource recovery, already has the authority to reduce royalties on an entire leasehold for geothermal resources in order to promote development. Implementing this bill during the immature state of the geothermal industry may only result in the transfer of state resource revenue to private developers.

Prepared by: Kevin Banks
Phone 269-8800
Division: Oil and Gas
Date/Time 2/9/10 1:00 PM
Approved by: Tom Irwin
Date 2/9/10 5:15pm
Natural Resources

(Revised 11/6/2009 OMB)

3670

ALASKA STATE LEGISLATURE

SENATOR LESIL McGUIRE
SENATOR BILL WIELECHOWSKI
Co-Chairs, Senate Resources Committee

MEMORANDUM

Memorandum

To: Leg. Legal

From: Shalon Szymanski, Committee Aide
Senate Resources Committee

Date: March 19, 2010

Re: Final CS Request

Please create a FINAL Senate Resources CS for SB 243, work order number 26-LS1346\E.

If you have any questions or need further information, please feel free to contact me on my direct line, 465-4522

Thank you!

26-LS1346\E
Bullock
3/16/10

CS FOR SENATE BILL NO. 243(RES)

IN THE LEGISLATURE OF THE STATE OF ALASKA

TWENTY-SIXTH LEGISLATURE - SECOND SESSION

BY THE SENATE RESOURCES COMMITTEE

Offered:
Referred:

Sponsor(s): SENATOR MCGUIRE

A BILL

FOR AN ACT ENTITLED

"An Act relating to the royalty obligation for geothermal resources."

BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF ALASKA:

*** Section 1.** AS 38.05.181(g) is amended to read:

(g) Each geothermal lease shall be conditioned upon payment by the lessee of a royalty of **1.75 percent** [NOT LESS THAN 10 PERCENT BUT NOT MORE THAN 15 PERCENT] of the gross revenues derived from the production, sale, or use of geothermal resources under the lease **during the first 10 years immediately following the date the geothermal resource first generates gross income and 3.5 percent of the gross revenues derived from the production, sale, or use of geothermal resources under the lease after that first 10-year period**. Royalties may be taken in kind rather than in value if the commissioner determines that taking in kind would be in the best interest of the state.

*** Sec. 2.** The uncodified law of the State of Alaska is amended by adding a new section to read:

APPLICABILITY; AMENDMENT OF EXISTING LEASES. (a) Section 1 of this

Act applies to a lease for a geothermal resource or the renewal of a lease for a geothermal resource entered into on or after the effective date of this Act.

(b) The commissioner of natural resources shall offer the royalty rates in AS 38.05.181(g), as amended by sec. 1 of this Act, as an amendment to a lease or renewal of lease entered into before the effective date of this Act.

ALASKA STATE LEGISLATURE

Session
State Capitol Building, Room 125
Juneau, Alaska 99801-1182
Phone (907) 465-2995
Fax (907) 465-6592

Interim
716 West Fourth Avenue, Suite 430
Anchorage, Alaska 99501
Phone (907) 269-0250
Fax (907) 269-0249

Chair
Senate Special Committee on Energy
Senate Committee on World Trade, Technology and Innovations

Co-Chair
Senate Resources Committee

Member
Senate Judiciary Committee

SENATOR LESIL MCGUIRE

Changes to Senate Bill 243 in CS SB 243 (RES) 26-LS1346\E

Please note that the following is not an authoritative list of changes to the bill. The current version of the bill itself is the best statement of its contents.

Section 2: Applicability; Amendment of Existing Leases

1. Inserted new language directing the Commissioner of Natural Resources to offer the royalty terms established in section 1 as an amendment to an existing lease or to the renewal of an existing lease.

Prepared By: Michael Pawlowski, Aide to Senator McGuire

26-LS1346\R
Bullock
3/10/10

CS FOR SENATE BILL NO. 243(RES)

IN THE LEGISLATURE OF THE STATE OF ALASKA

TWENTY-SIXTH LEGISLATURE - SECOND SESSION

BY THE SENATE RESOURCES COMMITTEE

Offered:
Referred:

Sponsor(s): SENATOR MCGUIRE

A BILL

FOR AN ACT ENTITLED

"An Act relating to the royalty obligation for geothermal resources."

BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF ALASKA:

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*** Sec. 2.** The uncodified law of the State of Alaska is amended by adding a new section to read:

APPLICABILITY. Section 1 of this Act applies to a lease for a geothermal resource or

the renewal of a lease for a geothermal resource entered into on or after the effective date of this Act.

ALASKA STATE LEGISLATURE

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Juneau, Alaska 99801-1182
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Chair
Senate Special Committee on Energy
Senate Committee on World Trade,
Technology and Innovations

Co-Chair
Senate Resources Committee

Member
Senate Judiciary Committee

SENATOR LESIL MCGUIRE

Date: 2/8/10
Version: 26-LS1346\A

SPONSOR STATEMENT – SB 243

"An Act removing the royalty obligation for geothermal resources."

Electric power generated from geothermal sources is a clean, sustainable and environmentally friendly alternative to fossil fuels. It can play a major part in meeting the future energy needs of the railbelt and other regions.

The problem for any company seeking to build a commercial grade geothermal plant in Alaska is high capital costs that run 25-50 percent higher than the Lower-48. Operational costs could run 100 percent higher than the rest of the country.

Senate Bill 243 assists companies in developing geothermal resources discovered in commercial quantities on state land by lifting the 10 to 15 percent royalty payment obligation currently in state statute.

SB 243 is a common sense effort to make geothermal power projects economically viable and produce more affordable and reliable electric power for homes and businesses.

Geothermal electrical generation has been used for decades all over the world and creates "green" jobs. Alaska can now join other states and nations using geothermal sources to create a safe and secure source of electricity.

I urge all my colleagues to support SB 243 and move our state towards a secure energy future.

LEGAL SERVICES

DIVISION OF LEGAL AND RESEARCH SERVICES
LEGISLATIVE AFFAIRS AGENCY
STATE OF ALASKA

(907) 465-3867 or 465-2450
FAX (907) 465-2029
Mail Stop 3101

State Capitol
Juneau, Alaska 99801-1182
Deliveries to: 129 6th St., Rm. 329

MEMORANDUM January 28, 2010

SUBJECT: Sectional summary for SB 243; removing the royalty obligation for geothermal resources (Work Order No. 26-LS1346\A)

TO: Senator Lesil McGuire
Attn: Mike Pawlowski

FROM: Donald M. Bullock Jr.
Legislative Counsel

You have requested a sectional summary of the above-described bill.

As a preliminary matter, note that a sectional summary of a bill should not be considered an authoritative interpretation of the bill and the bill itself is the best statement of its contents. If you would like an interpretation of the bill as it may apply to a particular set of circumstances, please advise.

Section 1. Amends AS 38.05.181(c) by deleting language that requires a royalty obligation in conjunction with a noncompetitive geothermal lease.

Section 2. Amends AS 38.05.181(d) by deleting royalty share as an alternative term in a competitive geothermal lease sale.

Section 3. Amends AS 38.05.181(e) by deleting language that states that the rent paid on a geothermal lease is a credit against the royalty accruing on the lease.

Section 4. Amends AS 38.05.0181(f) by deleting a reference to royalties as a term to be considered in the renegotiation of a geothermal lease.

Section 5. Amends AS 38.05.182(a) to delete the statutory section providing for a geothermal resource royalty in a spanned citation for statutes that provide for royalties that may be taken in kind rather than in money.

Section 6. Deletes AS 38.05.181(g), which requires a royalty to be paid for the sale or use of a geothermal resource.

Section 7. Adds a section to uncodified law to state that secs. 1 - 5 of the Act apply to a lease or renewal of a lease for a geothermal lease entered into on, or after, the effective date of the Act.

DMB:ljw
10-048.ljw

FISCAL NOTE

STATE OF ALASKA
2010 LEGISLATIVE SESSION

Fiscal Note Number: 2
Bill Version: CSSB 243(RES)
(S) Publish Date: 3/22/10

Identifier (file name): SB243-REV-TAX-2-10-10
Title: Geothermal Royalties
Sponsor: Senator McGuire
Requester: (S) Resources

Dept. Affected: Revenue
RDU: Taxation and Treasury
Component: Tax Division
Component Number: 2476

Expenditures/Revenues (Thousands of Dollars)

Note: Amounts do not include inflation unless otherwise noted below.

	Appropriation Required	Information					
OPERATING EXPENDITURES	**FY 2011**	**FY 2011**	**FY 2012**	**FY 2013**	**FY 2014**	**FY 2015**	**FY 2016**
Personal Services							
Travel							
Contractual							
Supplies							
Equipment							
Land & Structures							
Grants & Claims							
Miscellaneous							
TOTAL OPERATING	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
CAPITAL EXPENDITURES							
CHANGE IN REVENUES ( )							

FUND SOURCE (Thousands of Dollars)

1002 Federal Receipts							
1003 GF Match							
1004 GF							
1005 GF/Program Receipts							
1037 GF/Mental Health							
Other Interagency Receipts							
TOTAL	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**

Estimate of any current year (FY2010) cost:

POSITIONS

Full-time							
Part-time							
Temporary							

ANALYSIS: *(Attach a separate page if necessary)*

SB 243 would eliminate state royalties on geothermal production. Royalty volumes are not taxable. Therefore, by eliminating state royalty on geothermal production, the taxable volume of geothermal production would be increased.

There are currently no commercial geothermal projects in Alaska. However there are projects that may begin exploration or development at a number of locations around the state including Naknek, Akutan, Chena and Mt. Spurr.

The increase in state taxes would vary based on the volume and value of geothermal production but is estimated to range from approximately $100,000 for a 5MW facility to $1.8 million for a 50MW facility. Due to uncertainty about future development the fiscal impact of this legislation can not be accurately determined at this time.

Prepared by: Cody Rice, Petroleum Economist — Phone 907-269-1024
Division: Tax Division — Date/Time 2-9-10; 6:21pm
Approved by: Ginger Blaisdell, Director — Date 2-10-10; 9:33am
Administrative Services Division

(Revised 11/6/2009 OMB)

BRIEFING PAPER

THE CASE IN SUPPORT OF SB243 FOR REMOVING ROYALTY OBLIGATIONS FOR GEOTHERMAL RESOURCES

EXECUTIVE SUMMARY

Geothermal power offers reliable baseload power that delivers consistent megawatt-hours 24 hours per day, 365 days per year, which is something that most other forms of renewable resources cannot provide. In fact, for a utility or regional transmission organization, a geothermal power plant shows up in a resource plan much like a conventional power plant. Geothermal power is also unique in its lack of emissions, minimal land use, low visual impact and other environmental merits.

Geothermal energy is extremely cost competitive when compared to other forms of renewable energy and fossil-fuel based processes (e.g. natural-gas based plants, as indicated by studies performed by the California Energy Commission[1] [2]).

Multiple western states (e.g. California, Nevada, Hawaii, Utah and Oregon) recognize the merits of geothermal power and have generated geothermal power for decades. These states, among many others, also have multiple new geothermal projects under development.

Although believed to be rich in geothermal resources in various regions around the state, Alaska has yet to develop a single utility-size geothermal power plant. One major hurdle for geothermal development is the relatively high capital cost associated with exploration, drilling and development, as well as high operation and maintenance costs due to the remoteness of resources and the harsh terrain and climate. While capital costs for development and construction of geothermal power plants in other states is typically around $4,000/kW[3], in Alaska estimates typically increase 25%-50%. Operation and maintenance costs of geothermal plants in Alaska are expected to be as much as 100% higher than the respective lower 48 states, again due to the typical remoteness of the plants.

In other western states, geothermal power projects rarely are required to pay State royalties. A report by the Geothermal Energy Association explains geothermal royalties vary depending on land ownership type (Federal, state, private) yet tend to range from 0.5% to 5.5% of revenues[4]. The majority of the geothermal projects currently under development in the US are on Federal lands, where BLM regulations call for revenue royalties of 1.75% during the first 10 years and 3.5% thereafter.

---

[1] http://www.energy.ca.gov/2009publications/CEC-200-2009-017/CEC-200-2009-017-SD.PDF

[2] http://www.energy.ca.gov/2007publications/CEC-200-2007-011/CEC-200-2007-011-SD.PDF

[3] Climate Change Business Journal, April/May 2009

[4] http://www.geo-energy.org/publications/reports/Socioeconomics%20Guide.pdf

In Alaska, despite the fact that geothermal development faces greater financial challenges compared to other states, the current statutes call for royalty rates of 10%-15%, similar to oil, gas and mineral regulations. Ormat believes this rate is cost-prohibitive and is one of the reasons no utility-size geothermal plant has ever been built in the state.

Financial analysis shows that removing the 10-15% royalty obligation will lower the operations and maintenance cost by 10-15%, therefore lowering the kWh cost by 10-15%. Removing royalty obligations from geothermal power plants in Alaska will serve to acknowledge the unusually high costs of geothermal development, operation and maintenance while incentivizing geothermal development in the state. This will ultimately lower the cost of clean, reliable power to the ratepayers.

Paul Thomsen
Director, Policy & Business Development
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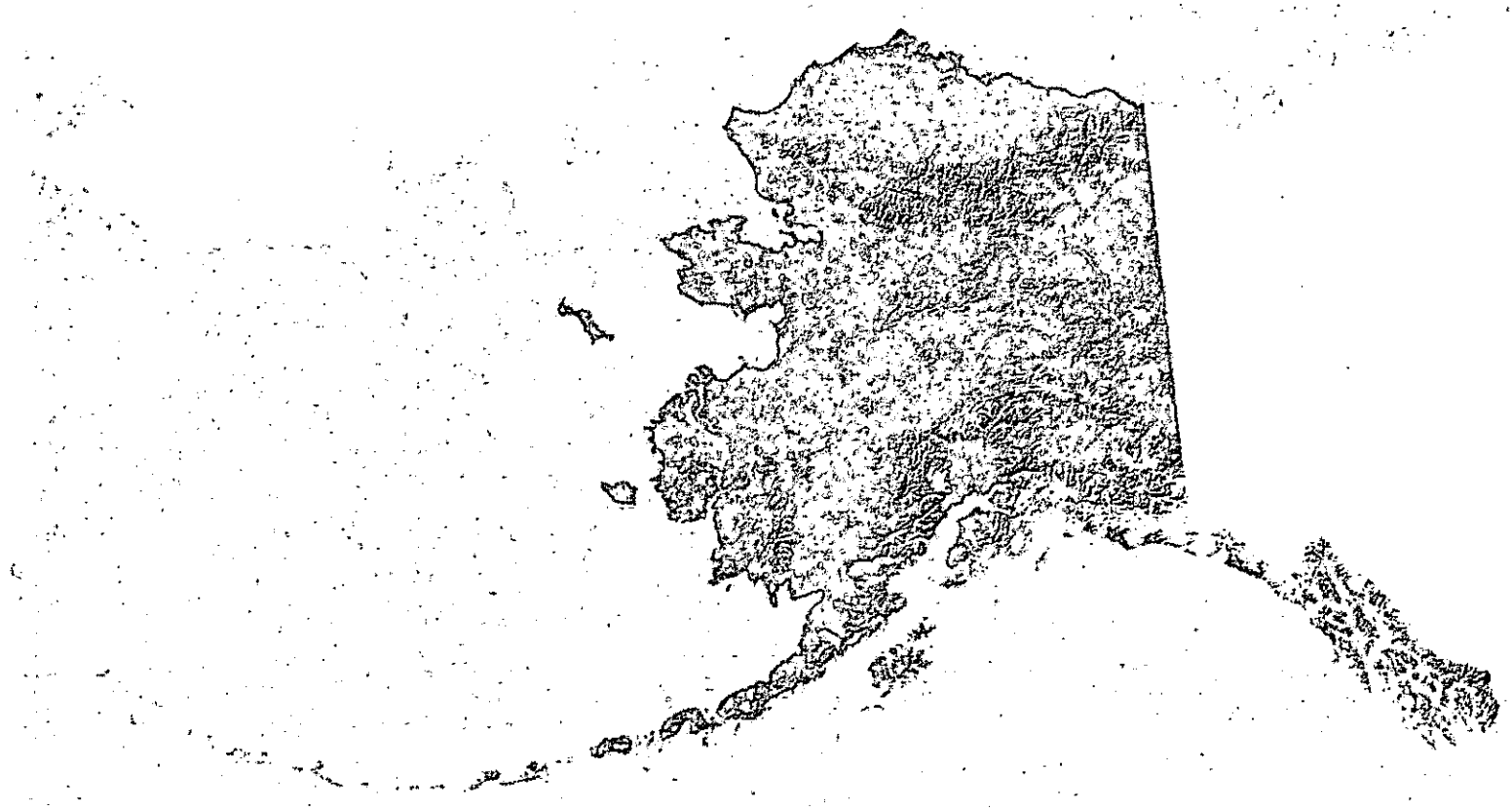
RENEWABLE ENERGY

ATLAS

OF ALASKA



A Guide to Alaska's Clean, Local, and Inexhaustible Energy Resources

July 2007

Why Renewable Energy is Important

As concerns about rising fossil fuel prices, energy security, and climate change increase, renewable energy can play a key role in producing local, clean, and inexhaustible energy to supply Alaska's growing demand for electricity, heat, and transportation fuel. Because there are little or no fuel costs associated with generating electricity from renewable sources, more Alaskans are looking to resources like wind, geothermal, hydroelectric, ocean, and biomass to hedge against the increasing cost of natural gas and diesel.

Renewable energy resources provide low-risk energy that, over the long term, can lower costs. With some of the best renewable energy resources in the country, Alaska has an opportunity to be a leader in their development and bring new revenue streams into the state's economy.

The Renewable Energy Atlas of Alaska is designed as a resource for policy makers, advocates, landowners, developers, utility companies and others interested in furthering the production of electricity and fuels from wind, solar, biomass, geothermal, hydro and ocean power resources. Produced with the use of GIS technology, this Atlas brings together the best renewable resource maps and data into a single comprehensive publicly available document. While the maps contained in this atlas do not eliminate the need for on-site resource assessment, they do provide an estimate of the available resources.

This atlas is posted on the Alaska Energy Authority website, www.akenergyauthority.org. Map data will be available in interactive format at the State of Alaska's new energy inventory web site at www.energyinventory.alaska.gov.

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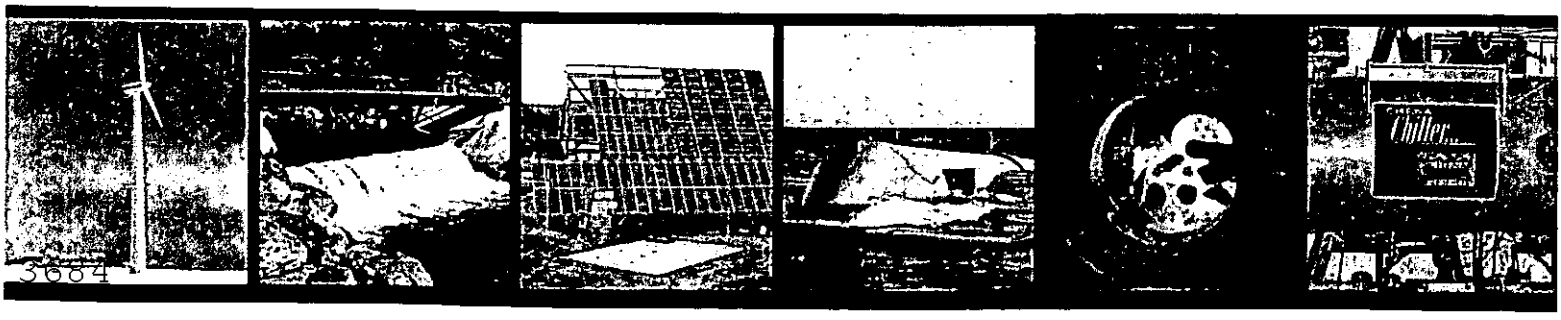
Photo Credits

Above, left to right: Doug Ogden, Jim D. Barr, Michael DeYoung, Danny Daniels, Michael DeYoung, Doug Ogden.

Below, left to right: TDX Power, Cordova Electric Cooperative, Alaska Energy Authority, Ocean Power Delivery, Ltd., Alaska Energy Authority, Chena Hot Springs Resort.

Photographs by Doug Ogden, Jim D. Barr, Michael DeYoung, and Danny Daniels, © 2007 by the photographers/Alaska Stock.



3664

Alaska's Energy Infrastructure

With 20% of the country's landmass and less than 1% of its population Alaska's unique geography has driven development of its energy supply infrastructure—power plants, power lines, natural gas pipelines, bulk fuel "tank farms" and related facilities. Alaska has over 200 remote, stand-alone electrical grids serving villages as well as larger transmission grids in Southeast Alaska and the Railbelt. The Railbelt electrical grid follows the Alaska Railroad from Fairbanks through Anchorage to the Kenai Peninsula and provides 80% of the state's electrical energy.

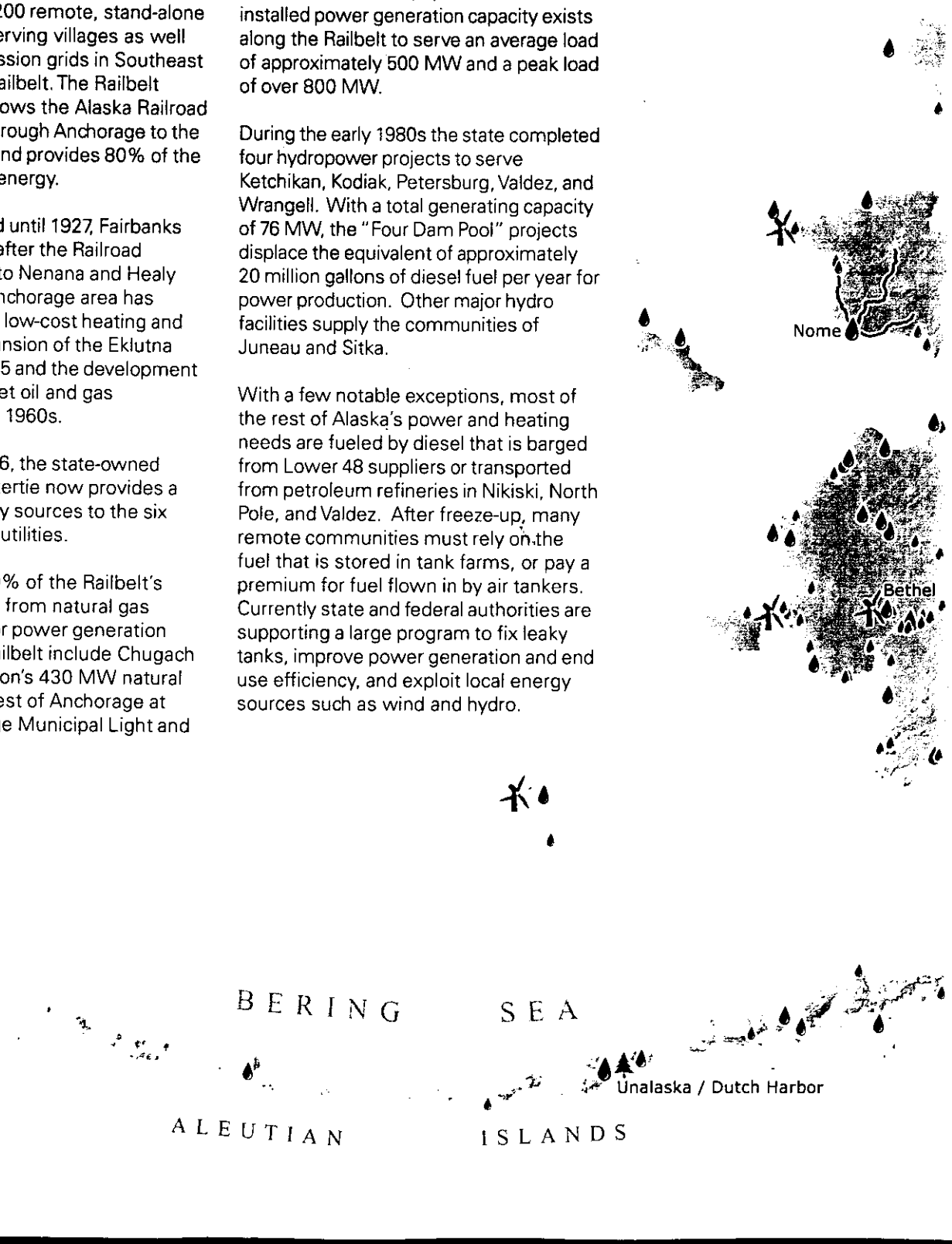
Powered by wood until 1927, Fairbanks switched to coal after the Railroad provided access to Nenana and Healy coalfields. The Anchorage area has enjoyed relatively low-cost heating and power since expansion of the Eklutna hydro plant in 1955 and the development of major Cook Inlet oil and gas discoveries in the 1960s.

Completed in 1986, the state-owned Willow - Healy Intertie now provides a diversity of energy sources to the six Railbelt electrical utilities.

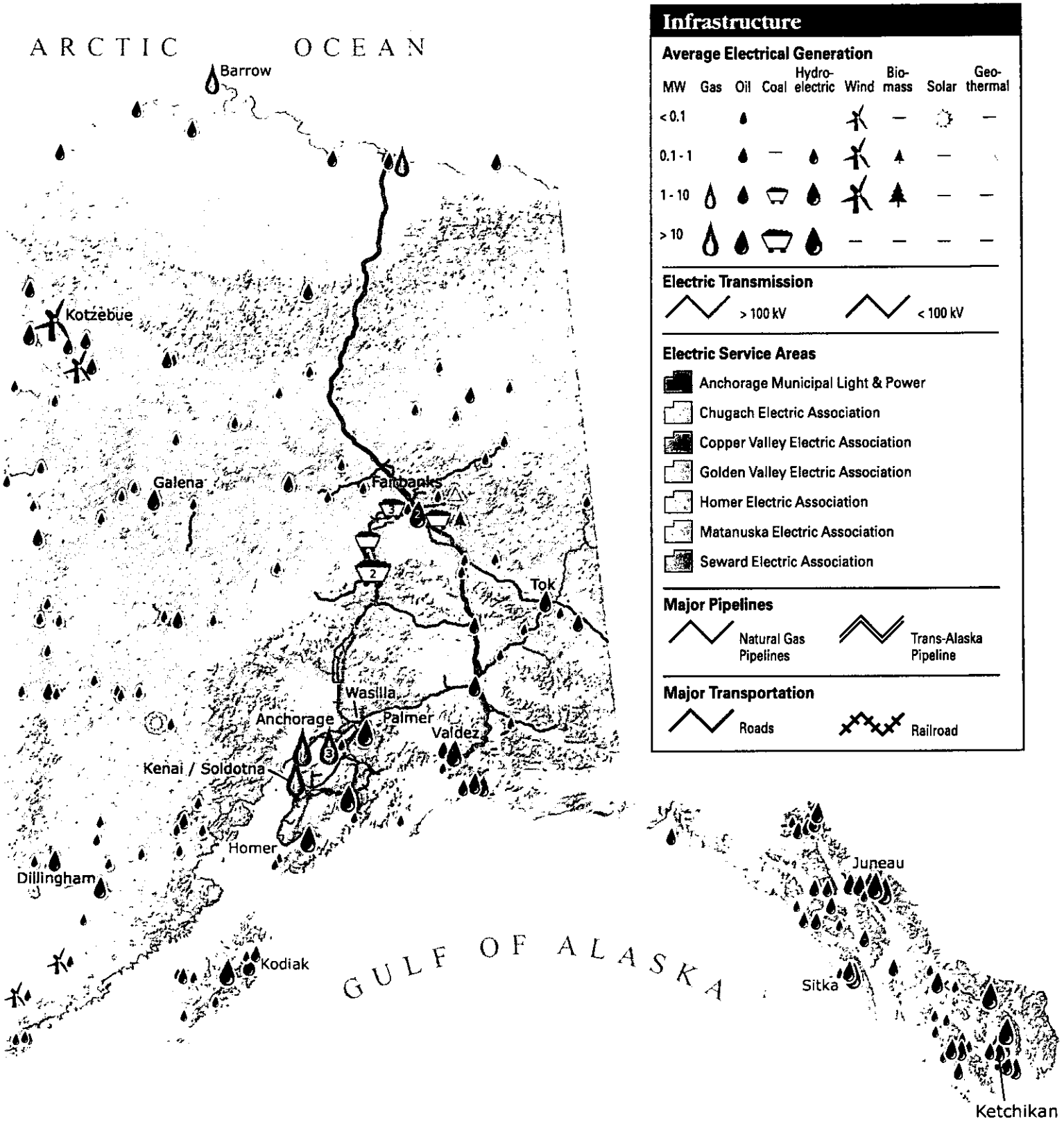
Approximately 70% of the Railbelt's electricity comes from natural gas generators. Major power generation facilities in the Railbelt include Chugach Electric Association's 430 MW natural gas-fired plant west of Anchorage at Beluga, Anchorage Municipal Light and Power's 266 MW natural gas-fired plant in Anchorage, Golden Valley Electric Association's 129 MW facility near Fairbanks fueled by oil from the Trans-Alaska Pipeline, and the 126 MW state-owned Bradley Lake hydroelectric plant near Homer. In total, 1,340 MW of installed power generation capacity exists along the Railbelt to serve an average load of approximately 500 MW and a peak load of over 800 MW.

During the early 1980s the state completed four hydropower projects to serve Ketchikan, Kodiak, Petersburg, Valdez, and Wrangell. With a total generating capacity of 76 MW, the "Four Dam Pool" projects displace the equivalent of approximately 20 million gallons of diesel fuel per year for power production. Other major hydro facilities supply the communities of Juneau and Sitka.

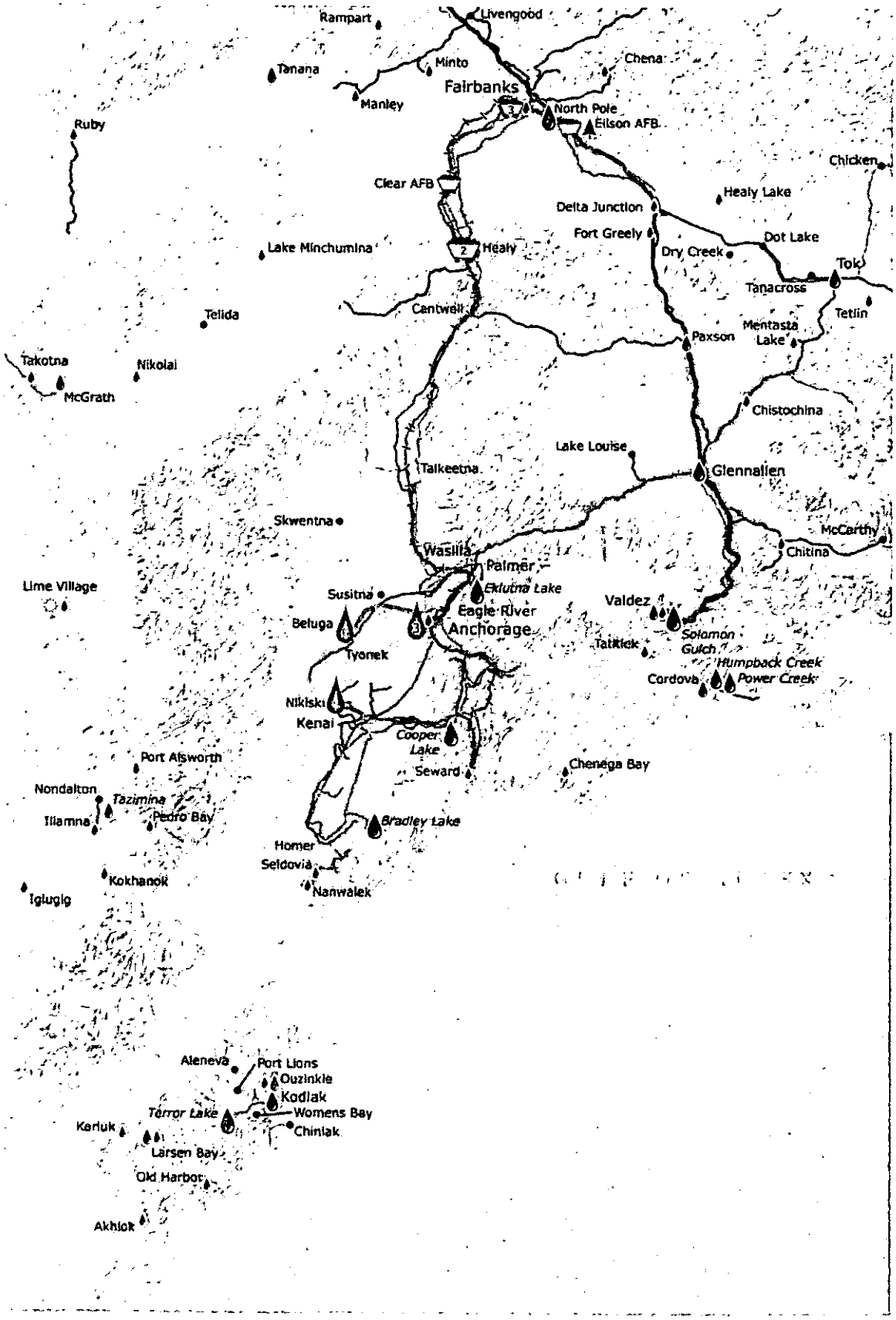
With a few notable exceptions, most of the rest of Alaska's power and heating needs are fueled by diesel that is barged from Lower 48 suppliers or transported from petroleum refineries in Nikiski, North Pole, and Valdez. After freeze-up, many remote communities must rely on the fuel that is stored in tank farms, or pay a premium for fuel flown in by air tankers. Currently state and federal authorities are supporting a large program to fix leaky tanks, improve power generation and end use efficiency, and exploit local energy sources such as wind and hydro.



Alaska's Renewable Energy Resources



Infrastructure: Fairbanks to Kodiak



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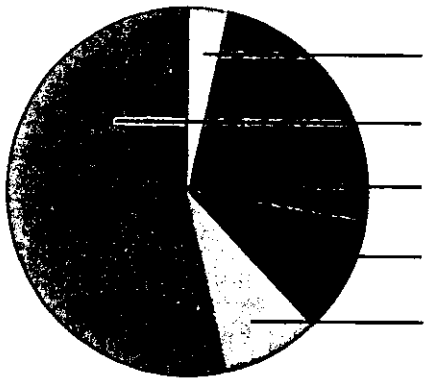
Infrastructure: Southeast Alaska

Statewide Electrical Generation in Alaska by Energy Source



Wind, solar, and biomass account for 0.2% of Alaska's energy generation.

Infrastructure

Average Electrical Generation

MW	Gas	Oil	Coal	Hydro-electric	Wind	Bio-mass	Solar	Geo-thermal
< 0.1		●			●	—	●	—
0.1 - 1		●	—	●	●	●	—	
1 - 10	●	●	●	●	●	●	—	—
> 10	●	●	●	●	—	—	—	—

Electric Transmission

> 100 kV

< 100 kV

Electric Service Areas

- Anchorage Municipal Light & Power
- Chugach Electric Association
- Copper Valley Electric Association
- Golden Valley Electric Association
- Homer Electric Association
- Matanuska Electric Association
- Seward Electric Association

Major Pipelines

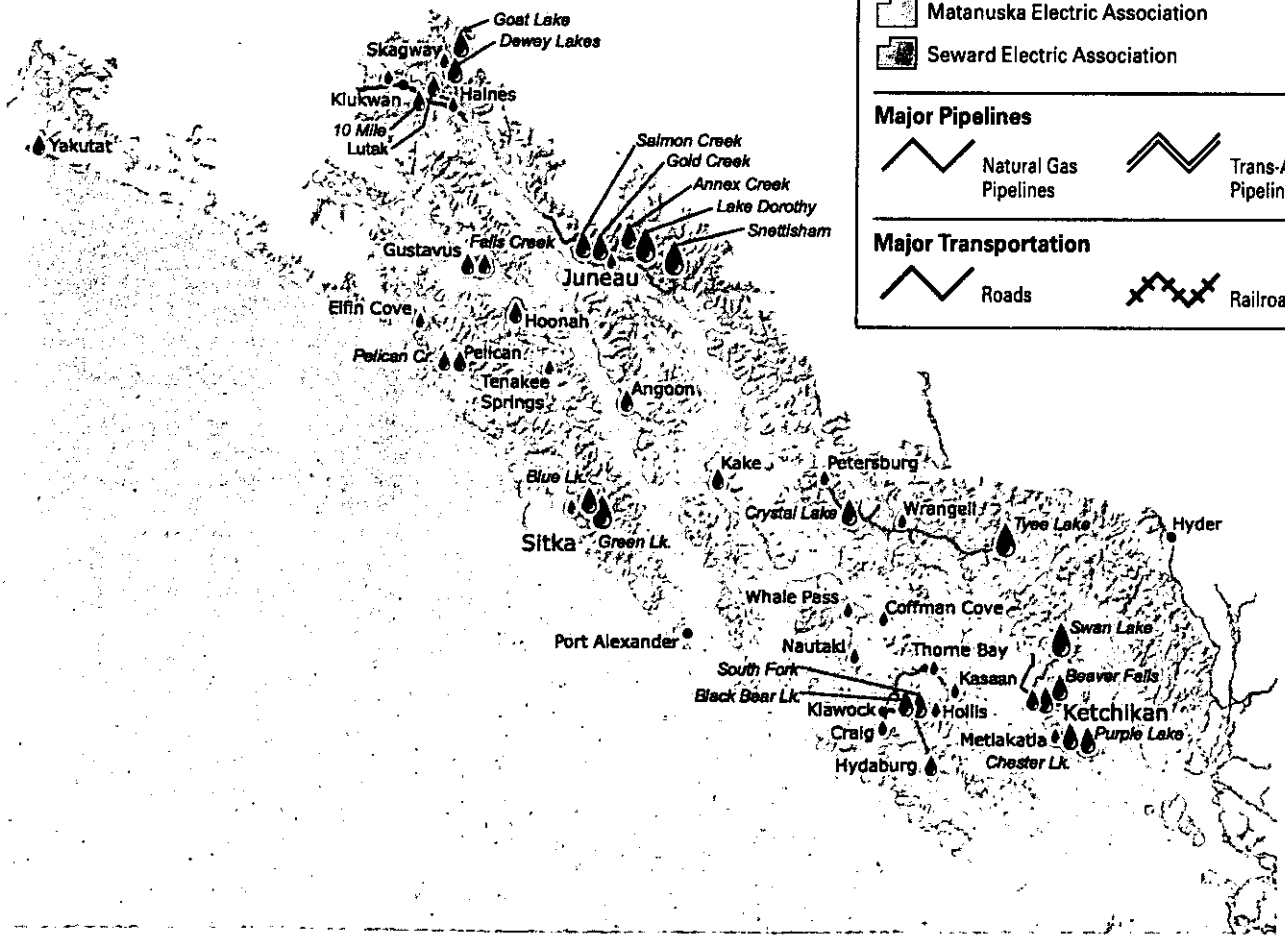
Natural Gas Pipelines

Trans-Alaska Pipeline

Major Transportation

Roads

Railroad

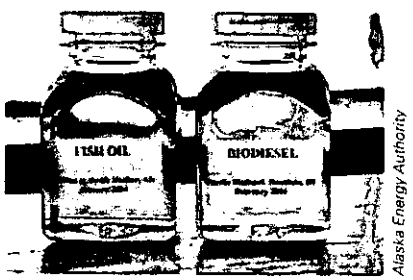


Biomass

Alaska's primary biomass fuels are wood, sawmill wastes, fish byproducts, and municipal waste.

Wood remains an important renewable energy source for Alaskans, with over 100,000 cords per year used for space heating statewide. Closure of the major pulp mills in Sitka and Ketchikan in the 1990s brought an end to large-scale wood-fired power generation in Alaska. However, recent increases in oil prices have raised interest in using sawdust and wood wastes as fuel for lumber drying, space heating, and small-scale power production. Alaska has also seen renewed interest in converting low-value wood and wood wastes to liquid fuels such as ethanol.

Groundfish processors in Unalaska, Kodiak and other locations produce approximately 8 million gallons of pollock oil every year as a byproduct of fish meal plants. Much of the oil is used as boiler fuel for drying the fish meal or exported to Pacific Rim markets for livestock and aquaculture feed supplements and other uses. In 2001, with assistance from the State of Alaska, processor UniSea Inc. conducted successful tests of raw fish oil/diesel blends in a 2.2 MW engine generator.



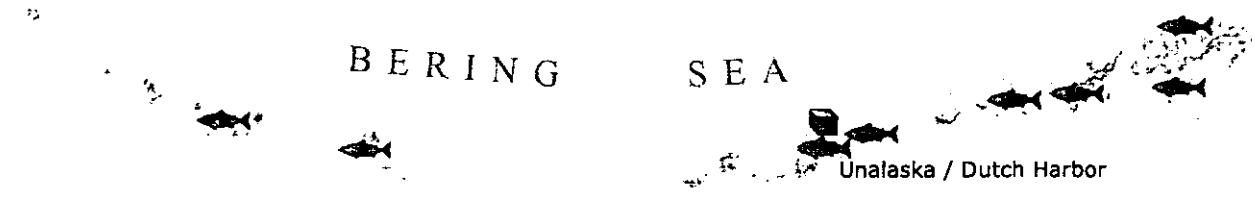
Raw fish oil and fish oil biodiesel from the Unisea plant in Dutch Harbor.

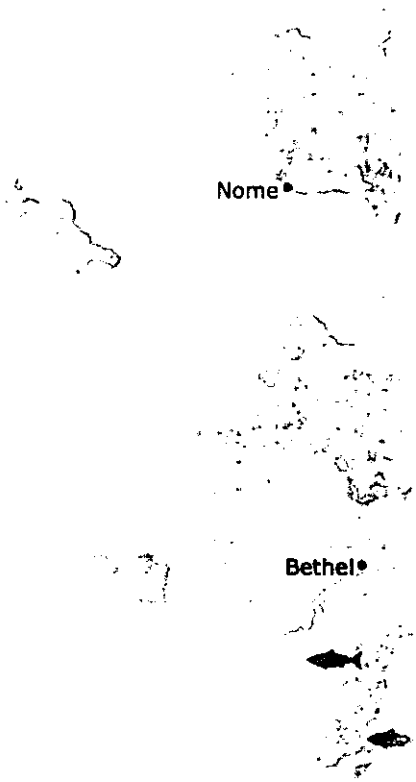
Since then, the company has expanded the operation and now uses approximately one million gallons of up to 70% fish oil for power production each year. Currently state, federal, university, and industry groups are testing fish oil biodiesel storage, handling and performance in diesel generators and developing a portable demonstration module for recovering a portion of the estimated 13 million gallons of fish oil returned to the ocean each year as processing waste. Local groups in Anchorage, Fairbanks, and other communities are converting waste fry oil into fuels for heating and transportation.

Alaskans generate approximately 650,000 tons of garbage per year. Eielson Air Force Base, near Fairbanks, densifies paper separated from the local waste stream and then co-fires the 4 cm square "cubes" at the base's coal-fired power plant. Beginning in 1997, the facility has produced 600-3000 tons per year of "refuse-derived fuel" providing up to 1.5% of the base's heat and power. Conventional recycling of paper, approximately half of Fairbanks' waste stream, is economically marginal given the distance to Lower 48 markets.

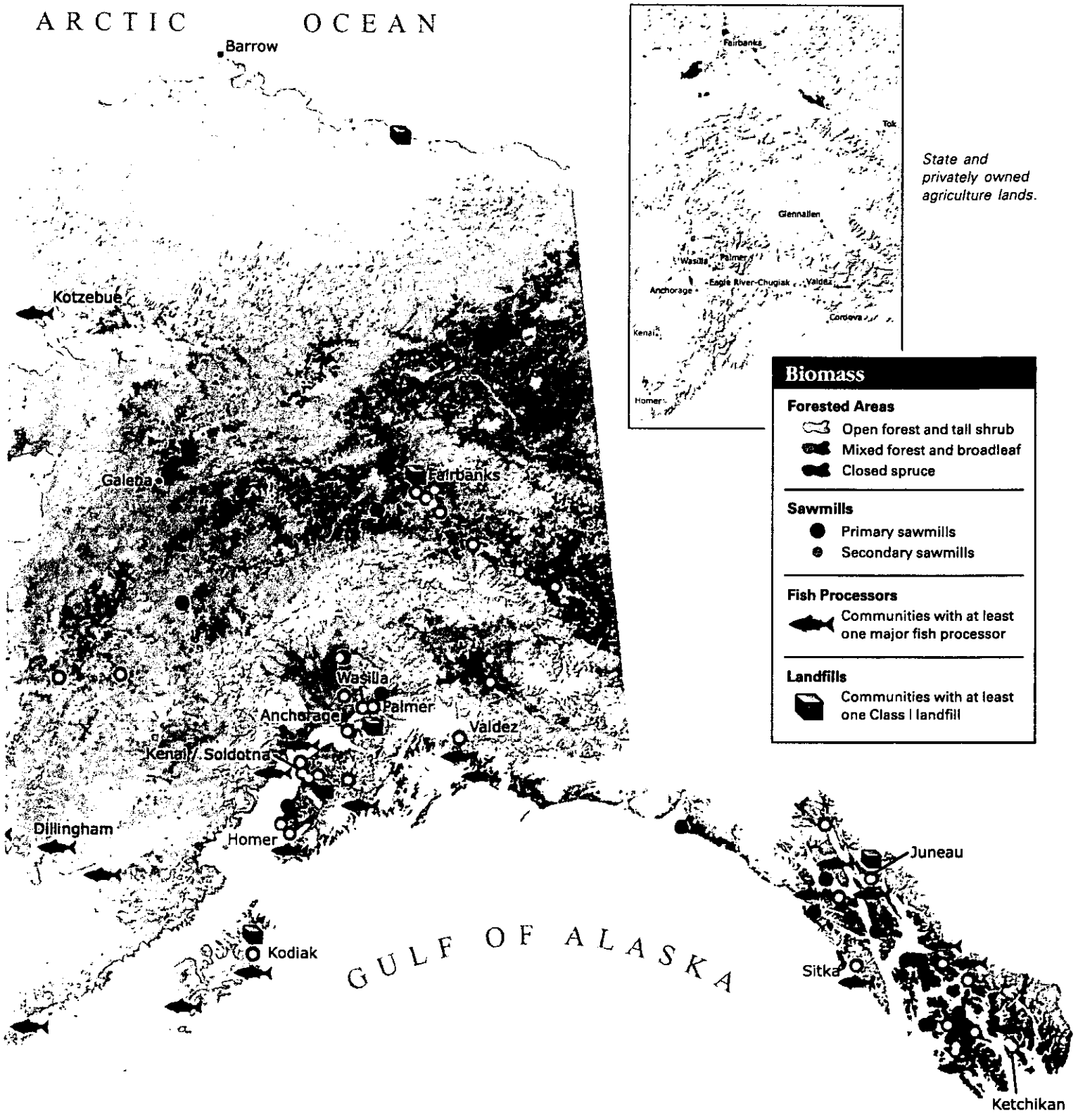
Energy recovery from Anchorage landfill gas is viable, according to a report prepared in 2005 for the Municipality of Anchorage. The landfill will produce methane with an energy equivalent of approximately 1.9 million gallons of diesel fuel per year over the next ten years. The gas could be used to heat nearby military or school facilities, or be converted to 2.5 MW of electrical power, enough to supply 2,500 homes in the Railbelt.

It is also possible that Alaska's agricultural lands may be used to produce energy crops, such as rapeseed, to produce biodiesel.





Alaska's Renewable Energy Resources



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Geothermal

Alaska has four distinct geothermal resource regions: 1) The Interior Hot Springs, which include the band of hot springs that runs east-west from the Yukon Territory of Canada to the Seward Peninsula, 2) The Southeast Hot Springs 3) The Wrangell Mountains, and 4) The Ring of Fire Volcanoes, which includes the Aleutians, the Alaska Peninsula, and Baranof Island.

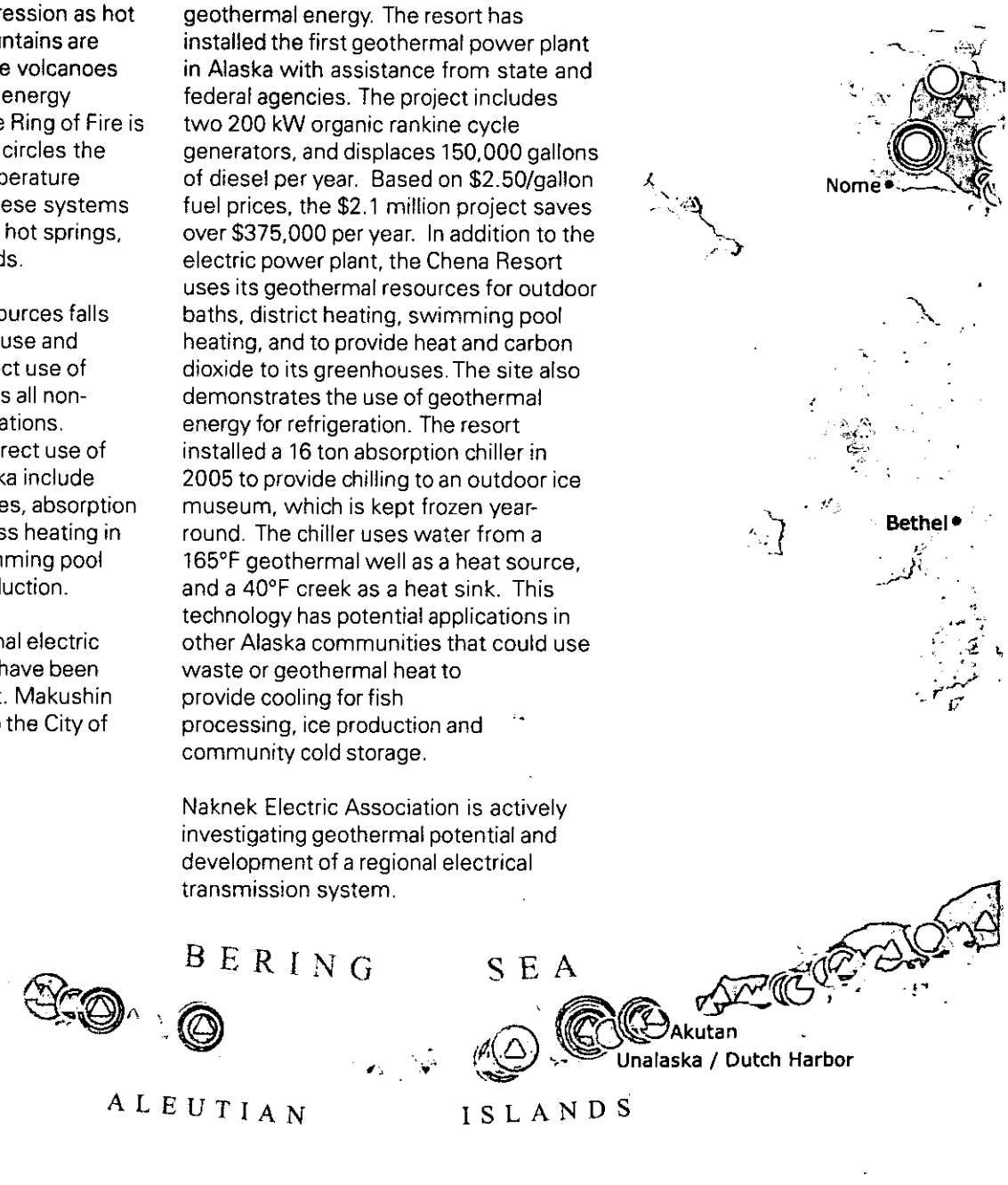
The Interior Hot Springs and the Southeast Hot Springs are low to moderate temperature geothermal systems with surface expression as hot springs. The Wrangell Mountains are composed of several active volcanoes that may have geothermal energy development potential. The Ring of Fire is an active volcanic arc that circles the Pacific and hosts high-temperature hydrothermal systems. These systems are seen on the surface as hot springs, geysers, and fumarole fields.

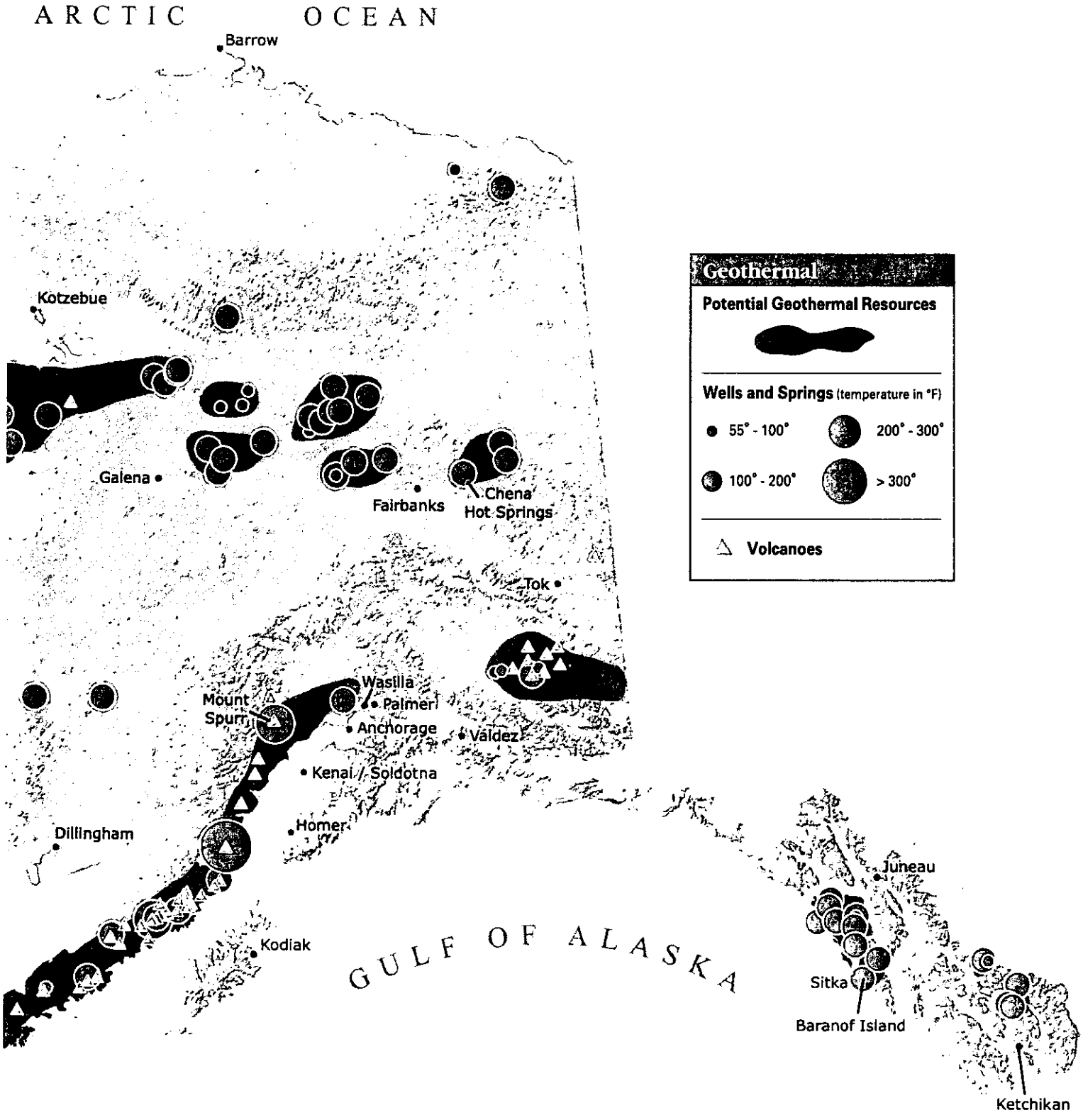
The use of geothermal resources falls into two categories: direct use and electricity production. Direct use of geothermal energy includes all non-electricity-producing applications. Potential applications for direct use of geothermal energy in Alaska include district heating, greenhouses, absorption chilling, mariculture, process heating in the seafood industry, swimming pool heating, and hydrogen production.

Three large-scale geothermal electric power generation projects have been proposed in Alaska: the Mt. Makushin project to provide power to the City of Unalaska, the Akutan project to provide power to the City of Akutan, and the Mt. Spurr project to provide power to the Railbelt grid. If developed, the Makushin and Akutan projects would also provide district heat and process heat to local, municipal, and fish processing customers. Each of these proposed geothermal power projects has the potential to produce tens and possibly hundreds of megawatts of electric power.

In the Interior, Chena Hot Springs Resort serves as an example of diverse use of geothermal energy. The resort has installed the first geothermal power plant in Alaska with assistance from state and federal agencies. The project includes two 200 kW organic rankine cycle generators, and displaces 150,000 gallons of diesel per year. Based on $2.50/gallon fuel prices, the $2.1 million project saves over $375,000 per year. In addition to the electric power plant, the Chena Resort uses its geothermal resources for outdoor baths, district heating, swimming pool heating, and to provide heat and carbon dioxide to its greenhouses. The site also demonstrates the use of geothermal energy for refrigeration. The resort installed a 16 ton absorption chiller in 2005 to provide chilling to an outdoor ice museum, which is kept frozen year-round. The chiller uses water from a 165°F geothermal well as a heat source, and a 40°F creek as a heat sink. This technology has potential applications in other Alaska communities that could use waste or geothermal heat to provide cooling for fish processing, ice production and community cold storage.

Naknek Electric Association is actively investigating geothermal potential and development of a regional electrical transmission system.




ARCTIC OCEAN
Barrow
Kotzebue
Galena
Fairbanks
Chena Hot Springs
Tok
Wasilla
Palmer
Mount Spurr
Anchorage
Valdez
Kenai / Soldotna
Homer
Dillingham
Kodiak
GULF OF ALASKA
Juneau
Sitka
Baranof Island
Ketchikan
Geothermal
Potential Geothermal Resources
Wells and Springs (temperature in °F)
55° - 100°
100° - 200°
200° - 300°
> 300°
Volcanoes
150 75 0 150
Miles

Hydroelectric

Hydroelectric power, Alaska's largest source of renewable energy, supplies 24 percent of the state's electrical energy. In 2007, 27 hydro projects provide power to Alaska utility customers, ranging in size from the 105 kW Akutan hydro project in the Aleutians to the 126 MW state-owned Bradley Lake project near Homer, which supplies 8% of the Railbelt's electrical energy. An additional 20 privately-owned hydro projects are catalogued in the Alaska Energy Authority's database.

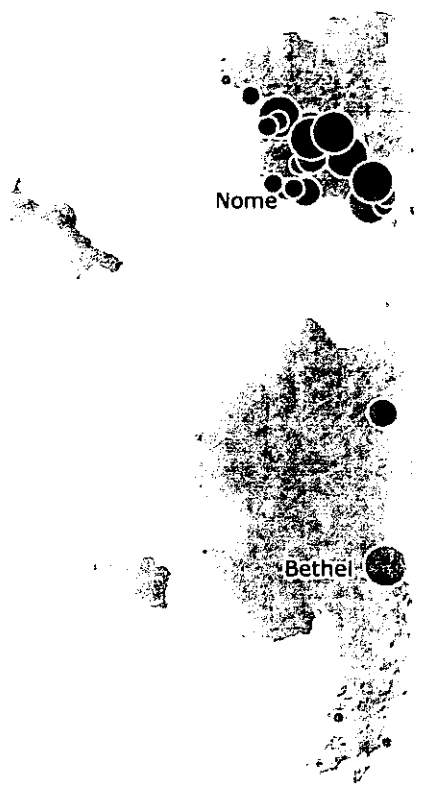
Most of the state's developed hydro resources are located near communities in Southcentral, the Alaska Peninsula, and Southeast—mountainous regions with moderate to high precipitation. Outside the Railbelt, major communities supplied with hydropower are Juneau, Ketchikan, Sitka, Wrangell, Petersburg, Kodiak, Valdez, Cordova, and Glenallen.

Like Bradley Lake, the 8 MW Blue Lake project near Sitka is an example of a project that stores energy by impounding water in a reservoir behind a dam. The dam is approximately 145 feet high with a spillway 342 feet above sea level. Water travels from the lake through a 1.3 mile tunnel to the main powerhouse, which discharges water near sea level. The project can store over 100,000 acre-feet of water— enough buffer between inflow and outflow to power Sitka for over a month—and supplies 60 percent of Sitka's average annual power requirements.

Other projects provide hydro storage without dam construction through the natural impoundment of an existing lake. The 31 MW Crater Lake project, part of the state-owned Snettisham project near Juneau, includes a "lake tap" 200 feet below the normal level of the lake that supplies water to a powerhouse at sea level through a 1.5 mile tunnel.

In contrast to projects providing storage, smaller "run-of-river" projects use more modest structures to divert a portion of the natural river flow through turbines to make power. An example is the 824 kW Tazimina project near Iliamna. Here water is diverted through an intake 250 feet upstream from a 100 foot waterfall through a steel pipe to an underground powerhouse. Water is released back into the river near the base of the falls.

Many rural communities located on the Yukon and other large rivers are interested in using river current for generating power. In 2002 Alaska Power and Telephone proposed testing UEK Corporation's 90 kW twin propeller system in the Yukon's 5.5 mph flow near Eagle. The propellers resemble underwater wind turbines anchored under the river's surface. Although funding for this demonstration is not yet available, current efforts directed toward developing tidal energy resources may advance this concept.



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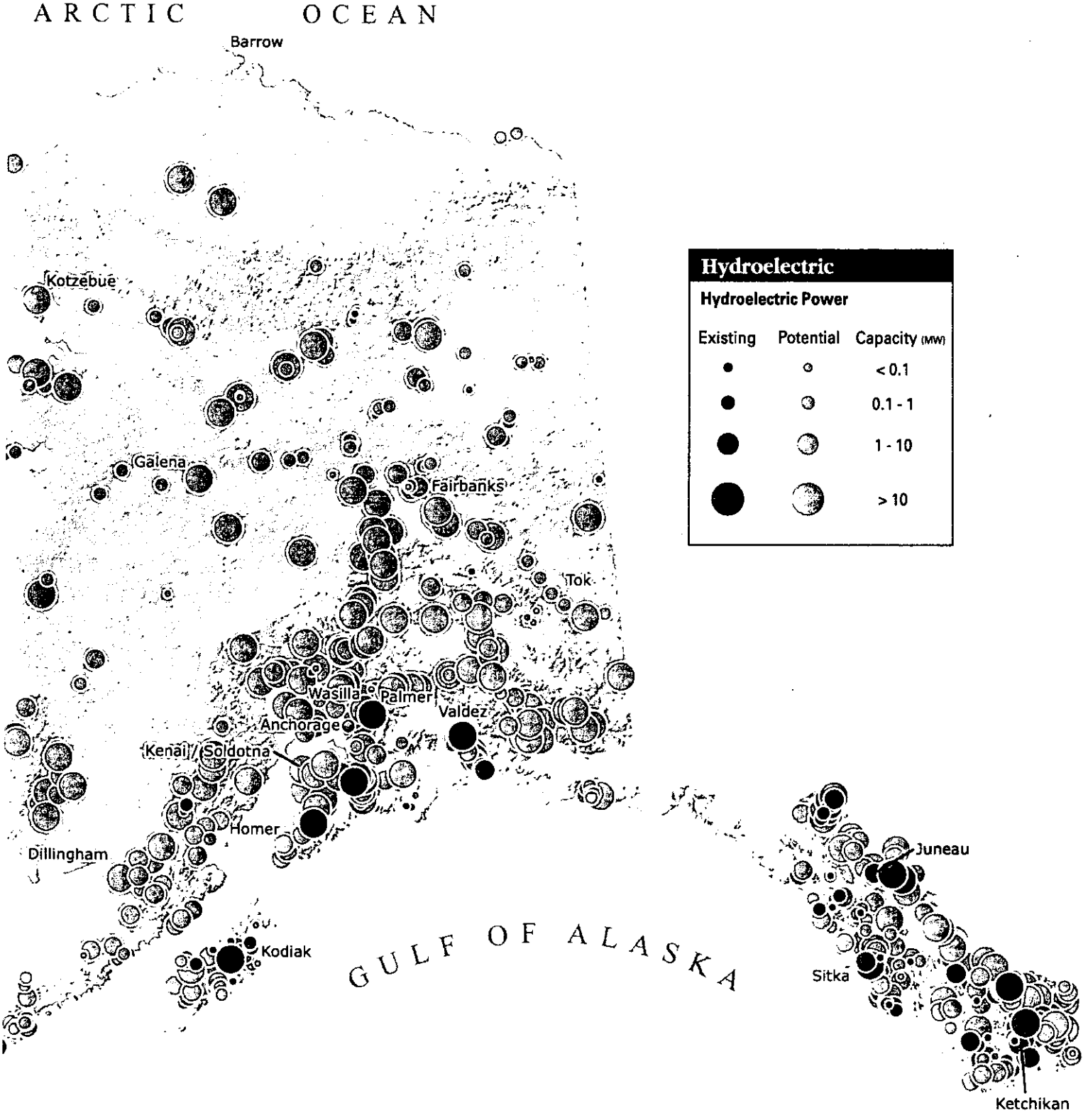

ARCTIC OCEAN
Barrow
Kotzebue
Galena
Fairbanks
Tok
Wasilla
Palmer
Valdez
Anchorage
Kenai
Soldotna
Homer
Dillingham
Kodiak
GULF OF ALASKA
Juneau
Sitka
Ketchikan
Hydroelectric
Hydroelectric Power
Existing
Potential
Capacity (MW)
< 0.1
0.1 - 1
1 - 10
> 10
150 75 0 150
Miles

Ocean

Alaska has 34,000 miles of coastline, more than all other states combined. For centuries the sea has provided rich marine resources that attracted people to the Alaska coast. Now another potential marine resource is being considered: harvesting energy from the ocean.

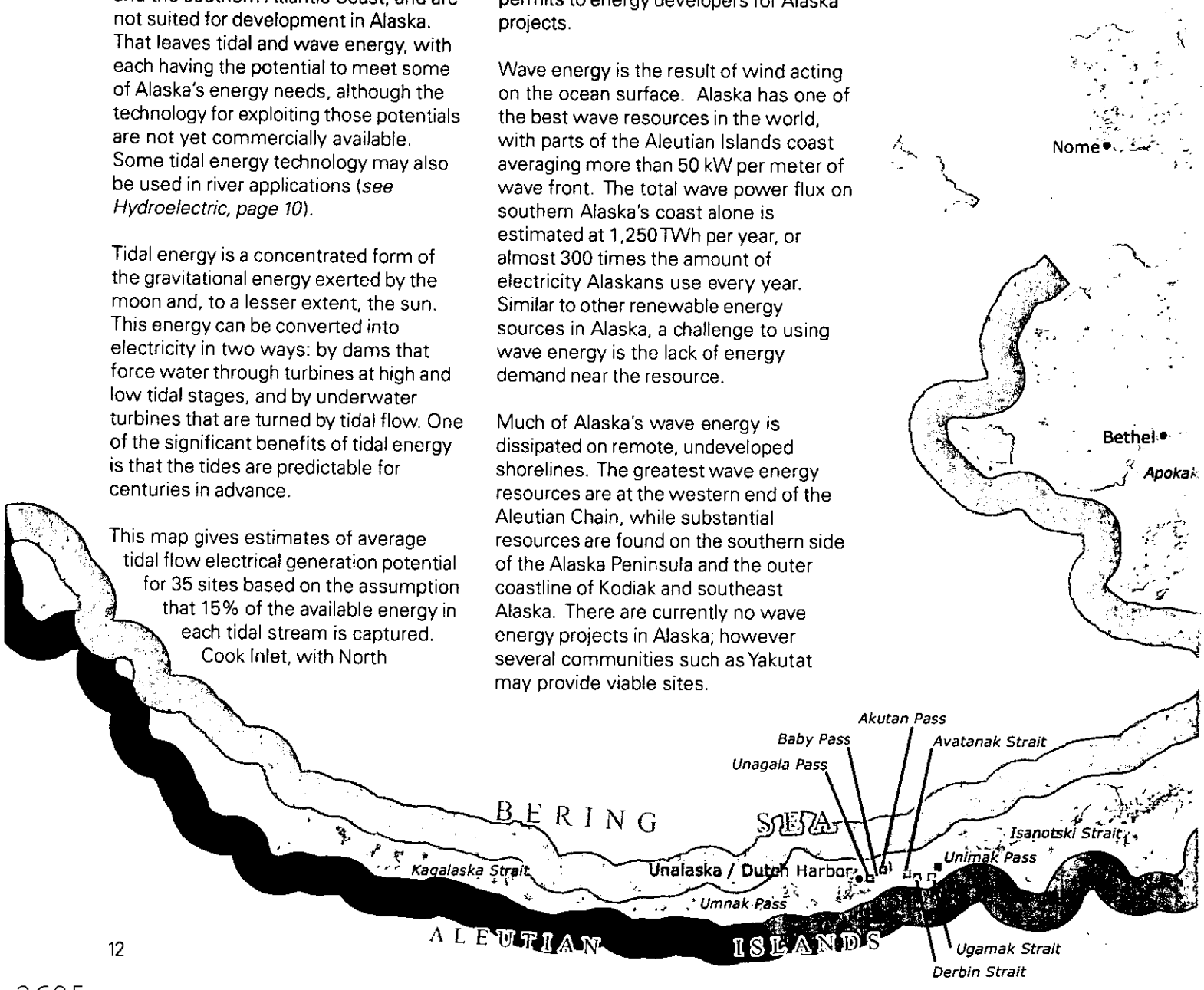
Ocean energy falls into three general categories: ocean thermal energy conversion (OTEC), tidal energy, and wave energy. OTEC applications are limited to tropical areas such as Hawaii and the southern Atlantic Coast, and are not suited for development in Alaska. That leaves tidal and wave energy, with each having the potential to meet some of Alaska's energy needs, although the technology for exploiting those potentials are not yet commercially available. Some tidal energy technology may also be used in river applications (*see Hydroelectric, page 10*).

Tidal energy is a concentrated form of the gravitational energy exerted by the moon and, to a lesser extent, the sun. This energy can be converted into electricity in two ways: by dams that force water through turbines at high and low tidal stages, and by underwater turbines that are turned by tidal flow. One of the significant benefits of tidal energy is that the tides are predictable for centuries in advance.

This map gives estimates of average tidal flow electrical generation potential for 35 sites based on the assumption that 15% of the available energy in each tidal stream is captured. Cook Inlet, with North America's second largest tidal range, has attracted interest as an energy source for the Railbelt for many years. In 2006, the Electric Power Research Institute, in partnership with the Alaska Energy Authority, Chugach Electric and ML&P, completed a tidal energy study at Cairn Point on Knik Arm. The study results showed that an estimated 17 MW of power could be generated using tidal energy, enough to power 17,000 homes. Since the report was published, the Federal Energy Regulatory Commission has issued eight preliminary tidal energy permits to energy developers for Alaska projects.

Wave energy is the result of wind acting on the ocean surface. Alaska has one of the best wave resources in the world, with parts of the Aleutian Islands coast averaging more than 50 kW per meter of wave front. The total wave power flux on southern Alaska's coast alone is estimated at 1,250 TWh per year, or almost 300 times the amount of electricity Alaskans use every year. Similar to other renewable energy sources in Alaska, a challenge to using wave energy is the lack of energy demand near the resource.

Much of Alaska's wave energy is dissipated on remote, undeveloped shorelines. The greatest wave energy resources are at the western end of the Aleutian Chain, while substantial resources are found on the southern side of the Alaska Peninsula and the outer coastline of Kodiak and southeast Alaska. There are currently no wave energy projects in Alaska; however several communities such as Yakutat may provide viable sites.



ARCTIC OCEAN
Barrow
Kotzebue
Galena
Fairbanks
Tok
Cairn Point
Knik Arm
Fire Island
Palmer
Upper Cook Inlet
Wasilla
Pt Possession
Anchorage
Valdez
North Foreland
Creek
The Forelands
Kenai
Soldotna
East of Kalgin Island
Harriet Point
Cape Ninilchik
Bainbridge Passage
Homer
Dillingham
Chugach Passage
Clarks Point
Cape Current Narrows
Whale Passage
Kodiak
GULF OF ALASKA
North Inian Pass
North Passage (Icy Strait)
Juneau
South Passage (Icy Strait)
South Inian Pass
Kootznahoo Inlet
Sergius Narrows
Turn Point
Sitka
South Ledge
Spike Rock
Tonowek Narrows
Ketchikan
Tlevak Narrows
Ocean
Tidal Electric Generation Potential
MW
1.3 - 25
25 - 50
50 - 75
75 - 100
100 - 220
Wave Power Potential
kW/m
26 - 30
30 - 40
40 - 50
50 - 56
150 75 0 150
Miles

3696

Solar

Although Alaska's northern location presents the challenge of minimal solar energy during the long winter when energy demand is greatest, solar energy fulfills an important role in space heating and off-grid power generation.

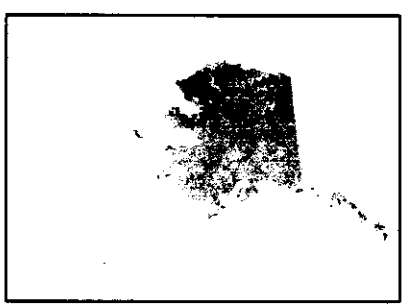
Most Alaskans know that careful house design and construction can minimize the use of heating fuel. "Passive solar" design includes proper southern orientation and the use of south facing windows that transfer the sun's energy into the house through natural processes of conduction, convection, and radiation. Passive solar design employs windows, thermal mass, and proper insulation to enable the building itself to function as a solar collector.

"Active solar" heating systems use pumps or fans to move energy to a point of use, such as a domestic hot water tank. A typical home demands a large amount of fuel year-round for domestic hot water, so using the sun to heat water for even seven or eight months a year saves significant amounts of energy. A larger role for active solar hot water systems may emerge as advances in heating systems allow solar heated fluid to supply in-floor systems currently heated by conventional fuel boilers.

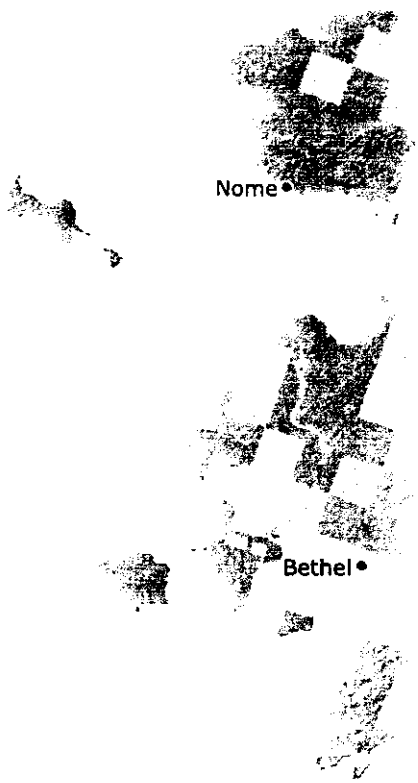
The state's largest utility-connected photovoltaic power system is in the remote community of Lime Village. Placed on line in 2001, the 106-panel hybrid photovoltaic-diesel-battery system can generate up to 12 kW.

Although large utility-scale solar electric projects such as a 64 MW solar thermal plant in Nevada are being built in the Lower 48, significant utility-scale solar generation is unlikely in Alaska due to high capital costs and low yearly solar power output. For off-grid cabin owners, remote government installations, and other places where a relatively small amount of electricity is needed and proven generation options are limited, solar photovoltaics remain an excellent choice. As the price of solar panels continue to drop, more people are likely to consider solar electricity economical, especially if the cost of fossil-fueled electricity continues to rise.

December Average Insolation



June Average Insolation



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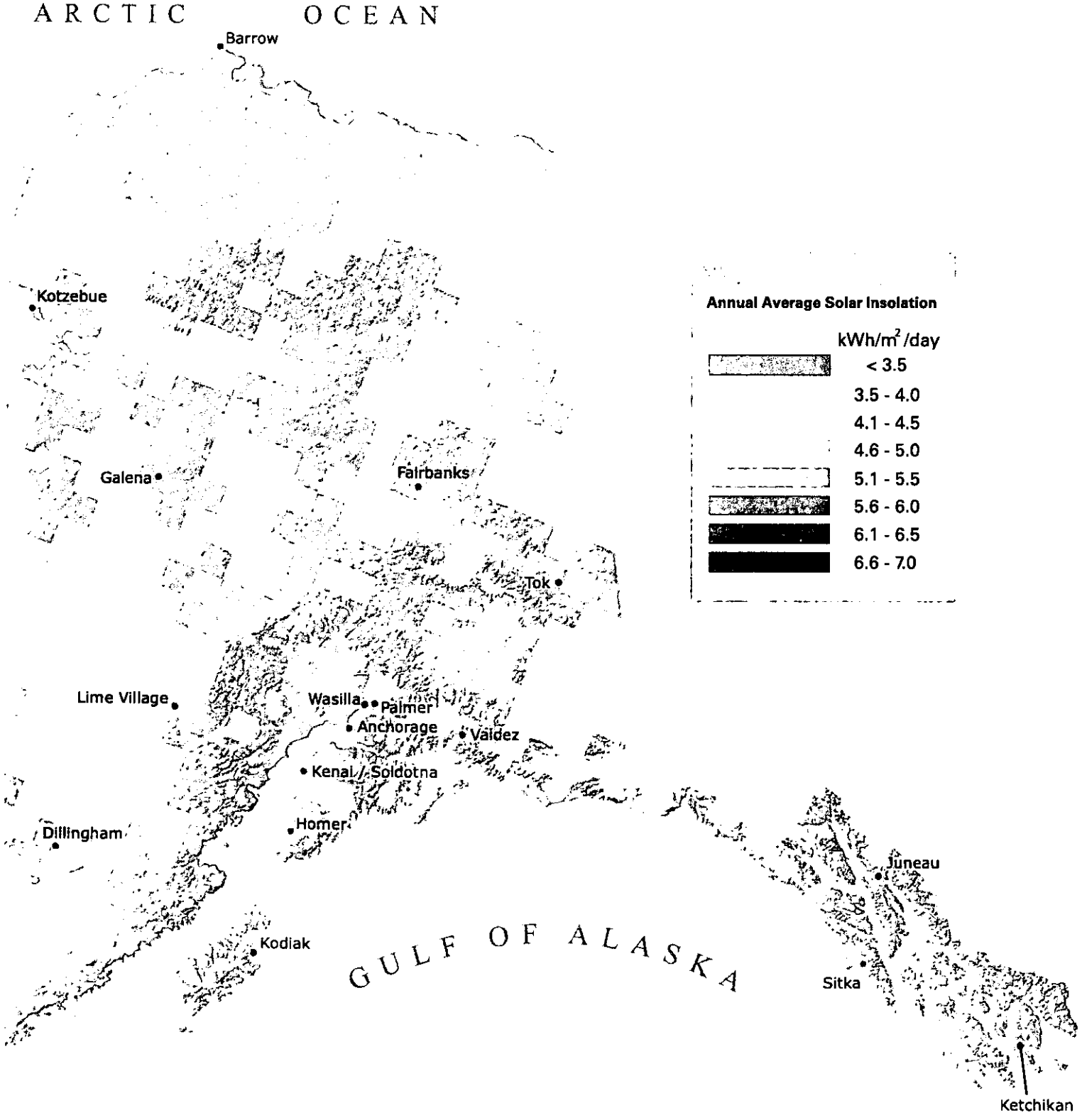

ARCTIC OCEAN
Barrow
Kotzebue
Galena
Fairbanks
Tok
Lime Village
Wasilla
Palmer
Anchorage
Valdez
Kenai / Soldotna
Homer
Dillingham
Kodiak
GULF OF ALASKA
Juneau
Sitka
Ketchikan
Annual Average Solar Insolation
kWh/m²/day
< 3.5
3.5 - 4.0
4.1 - 4.5
4.6 - 5.0
5.1 - 5.5
5.6 - 6.0
6.1 - 6.5
6.6 - 7.0
150 75 0 150
Miles

Wind

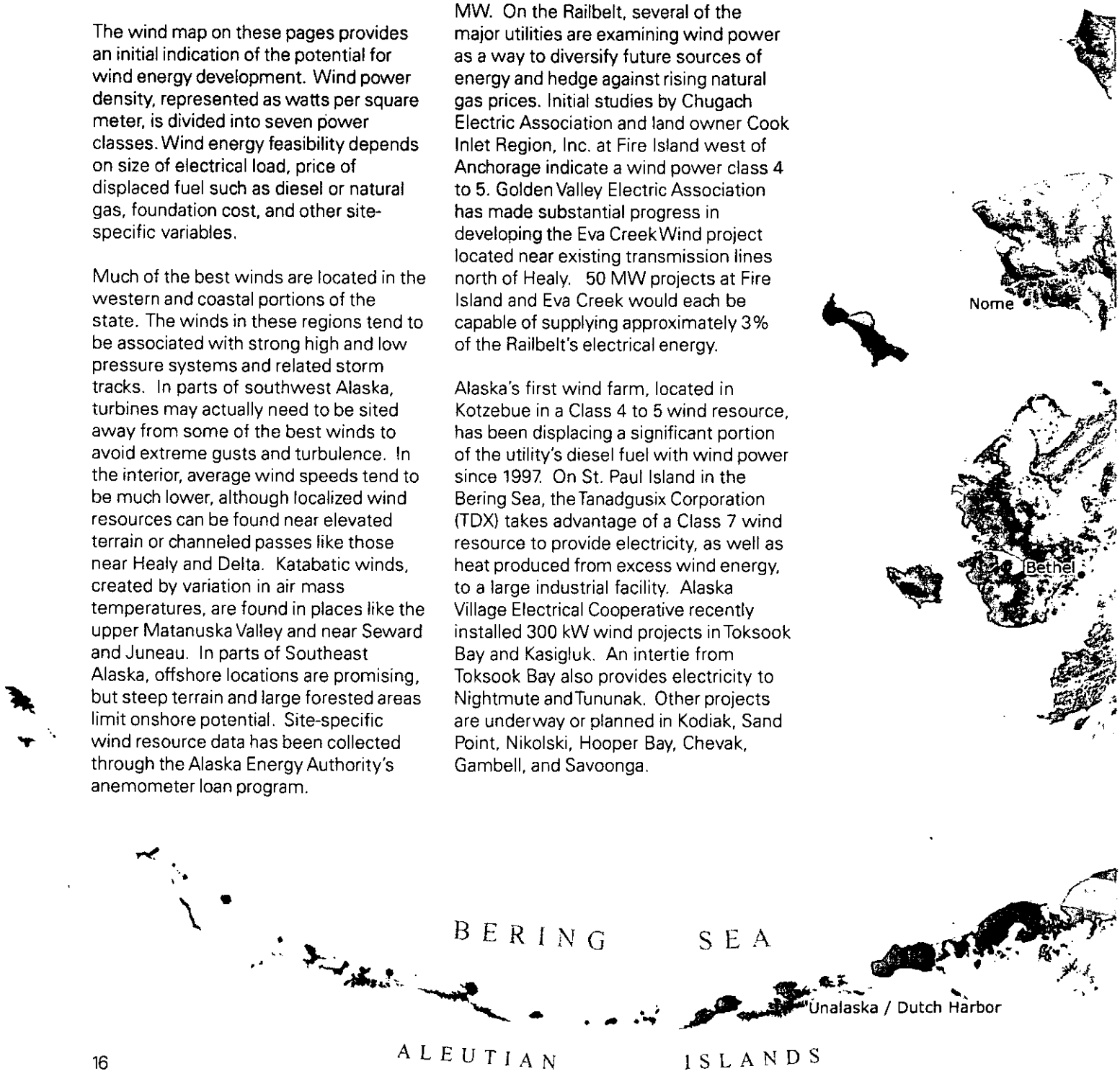
Alaska has abundant wind resources suitable for power development. Costs associated with fossil fuels and improvements in wind power technology make harnessing this clean, renewable energy source a growing opportunity for many Alaskans.

The wind map on these pages provides an initial indication of the potential for wind energy development. Wind power density, represented as watts per square meter, is divided into seven power classes. Wind energy feasibility depends on size of electrical load, price of displaced fuel such as diesel or natural gas, foundation cost, and other site-specific variables.

Much of the best winds are located in the western and coastal portions of the state. The winds in these regions tend to be associated with strong high and low pressure systems and related storm tracks. In parts of southwest Alaska, turbines may actually need to be sited away from some of the best winds to avoid extreme gusts and turbulence. In the interior, average wind speeds tend to be much lower, although localized wind resources can be found near elevated terrain or channeled passes like those near Healy and Delta. Katabatic winds, created by variation in air mass temperatures, are found in places like the upper Matanuska Valley and near Seward and Juneau. In parts of Southeast Alaska, offshore locations are promising, but steep terrain and large forested areas limit onshore potential. Site-specific wind resource data has been collected through the Alaska Energy Authority's anemometer loan program.

Wind power technologies being used or planned in Alaska range from small wind chargers at off-grid homes or remote camps, to medium-sized machines displacing diesel fuel in isolated village wind-diesel hybrid power systems, to large industrial turbines greater than 1 MW. On the Railbelt, several of the major utilities are examining wind power as a way to diversify future sources of energy and hedge against rising natural gas prices. Initial studies by Chugach Electric Association and land owner Cook Inlet Region, Inc. at Fire Island west of Anchorage indicate a wind power class 4 to 5. Golden Valley Electric Association has made substantial progress in developing the Eva Creek Wind project located near existing transmission lines north of Healy. 50 MW projects at Fire Island and Eva Creek would each be capable of supplying approximately 3% of the Railbelt's electrical energy.

Alaska's first wind farm, located in Kotzebue in a Class 4 to 5 wind resource, has been displacing a significant portion of the utility's diesel fuel with wind power since 1997. On St. Paul Island in the Bering Sea, the Tanadgusix Corporation (TDX) takes advantage of a Class 7 wind resource to provide electricity, as well as heat produced from excess wind energy, to a large industrial facility. Alaska Village Electrical Cooperative recently installed 300 kW wind projects in Toksook Bay and Kasigluk. An intertie from Toksook Bay also provides electricity to Nightmute and Tununak. Other projects are underway or planned in Kodiak, Sand Point, Nikolski, Hooper Bay, Chevak, Gambell, and Savoonga.



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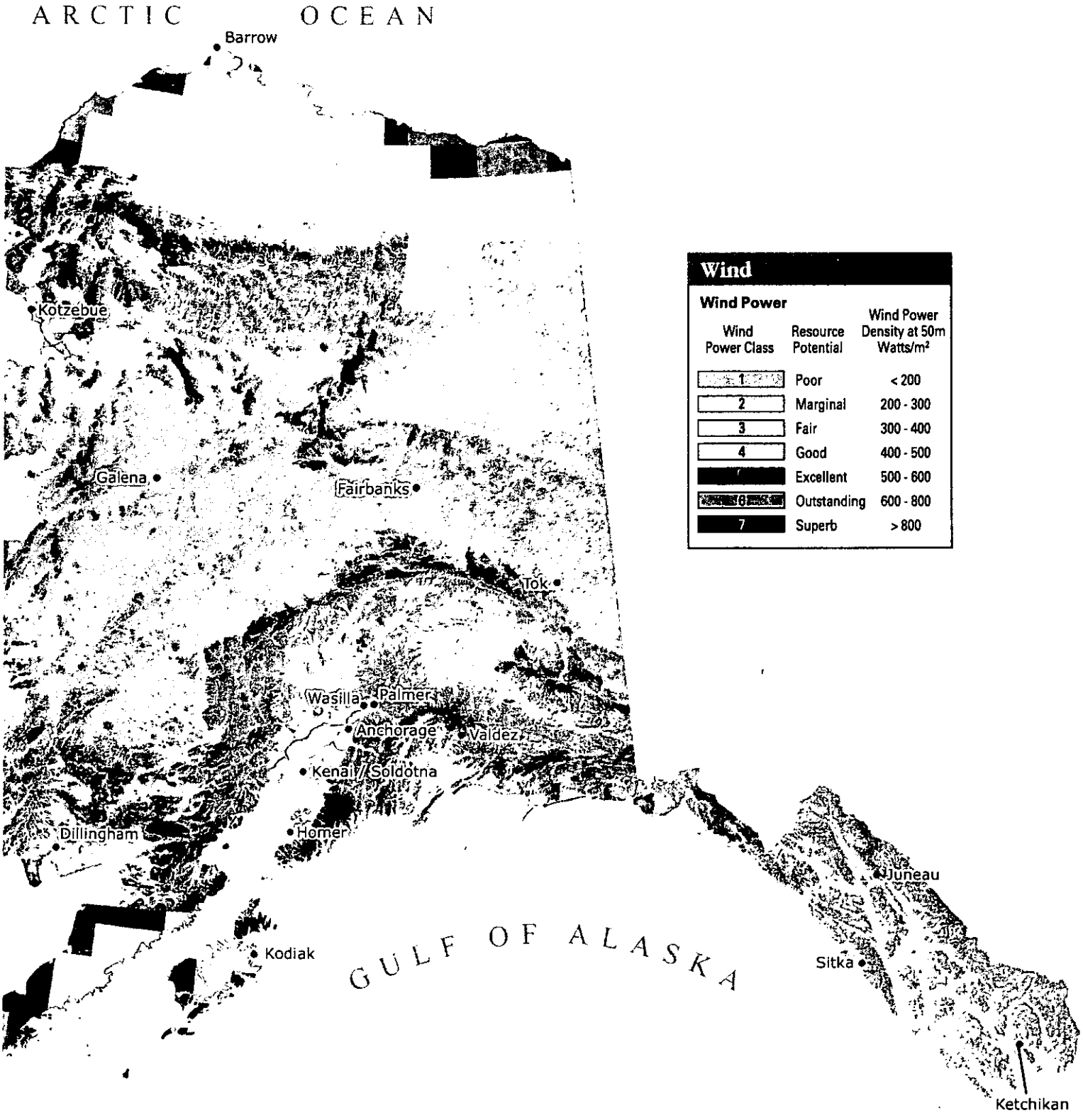
Alaska's Renewable Energy Resources



Renewable Energy Policies

State and federal policies that encourage renewable energy projects play an important role in their development.

At the federal level the production tax credit (PTC) is the primary incentive tool. The PTC was passed by Congress to even the playing field between the renewable energy industry and the heavily subsidized fossil fuel and nuclear industries. The PTC currently allows the owners of qualifying renewable energy projects to take 1.9 cents off their tax bill for every kilowatt-hour of renewable energy generated during the first ten years of the project. Though the tax credit is an important part of renewable energy project financing, one criticism of the PTC has been its short term duration. Congress has reauthorized the tax credit a year or two at time, making it difficult for investors to plan development of renewable energy resources far into the future.

Because there are few other federal policies that support renewable energy development besides the PTC, individual state policies have been the primary drivers of renewable energy development in the United States. The three primary policies used across the country are net metering, renewable portfolio standards, and renewable energy funds. A fourth policy area focuses on state set electrical tariffs being used in countries like Canada, Germany, and Spain.

Net Metering

State net metering rules provide an incentive for individuals and businesses to invest in their own small renewable energy systems by allowing them to sell back into the grid any excess power they produce. Forty states now offer some form of net metering. Different rules in each state determine the maximum amount of power an individual can sell back to the utility, the price at which the utility must purchase the power, and the length of time an individual producer can "bank" the power they produce before a "net" bill must be calculated.

Rich Seifert

Home near Fairbanks that uses a combination of photovoltaic cells for power, an active solar water heater, and passive solar design.

Although it is possible for individuals to sell power back in some Alaska utility districts, Alaska does not have a statewide net metering law that would make it much easier to do so.

Alaska Energy Authority

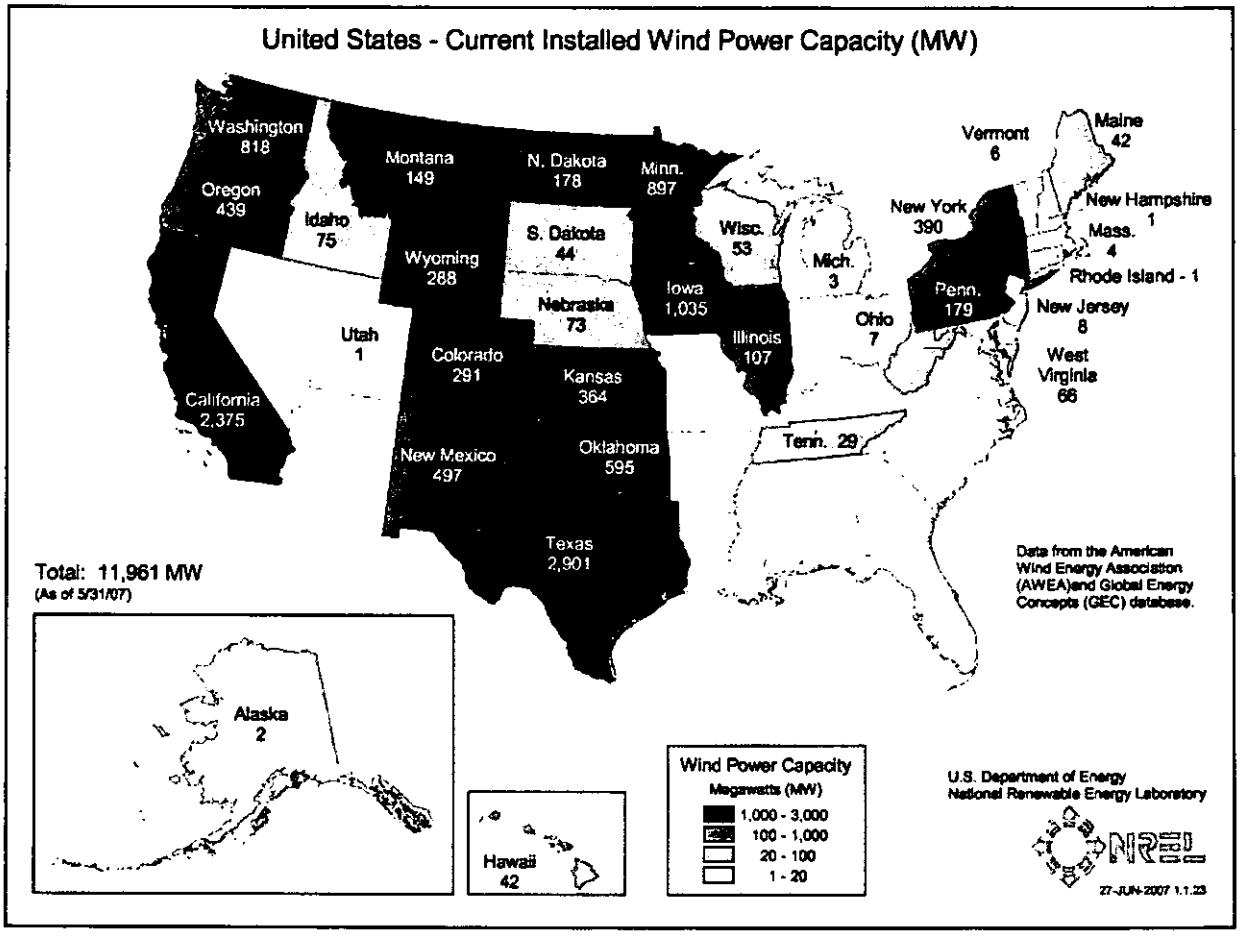
Renewable energy creates jobs for Alaskans

In the Fairbanks area Golden Valley Electric Association (GVEA) has developed the Sustainable Natural Alternative Power (SNAP) program. SNAP allows GVEA customers who wish to support renewable energy development to do so by contributing to a fund that is held in escrow by the utility company. Individuals in the GVEA service area who want to produce up to 25 kW of renewable electricity for the grid are paid from the escrow fund in proportion to the amount of power they produce.

Renewable Portfolio Standards

Twenty-two states and the District of Columbia now have a policy known as a renewable portfolio standard (RPS). An RPS is a state law that requires utility companies to generate a specified percentage of their electricity from renewable resources by a certain date. For example, Nevada law mandates that investor owned utilities in that state produce 20% of their electricity from renewables by the year 2015. The percentage and the end date range widely across the various states that have an RPS. Utilities are typically given interim milestones, and must pay a fine if they do not reach those milestones. Most states allow utilities to purchase renewable energy credits (RECs) to meet the RPS standard and avoid paying fines. The RPS approach makes different entities and renewable energy resources compete to meet the standard.

3701



Wind is the fastest growing energy sector in the world. The U.S now ranks second in total installed wind generation capacity behind Germany, although the U.S. still generates less than 1% of its electricity from wind. Denmark already generates over 20% of its electricity from wind, followed by Spain at 8% and Germany at 6%.

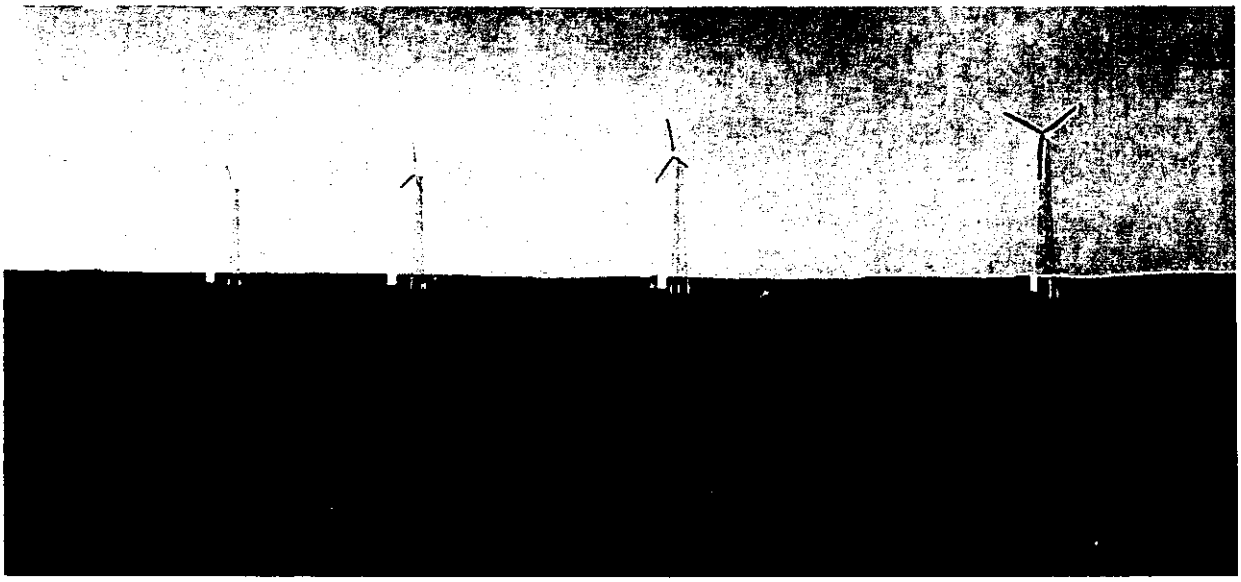
Renewable Energy Funds / System Benefit Charges

Fifteen states have renewable energy funds (sometimes called clean energy funds), most of which are supported by small, mill-rated surcharges on energy sold to consumers. These surcharges are sometimes referred to as system benefit charges. Renewable energy funds provide support for the development of renewable energy by helping to remove market barriers, lowering financing costs, developing infrastructure, and educating the public. For example, the system benefit charges in Oregon are deposited into an independent trust that funds eligible wind, solar electric, biomass, small scale hydro, tidal, geothermal, and fuel cell projects. These projects are supported by grants, loans, rebates, equity investments, and other financing mechanisms used by the fund.

Terms of the various funds vary from state to state. Some states have scheduled funds to last only five years. Other states have open-ended funds. Longer-term funds provide greater stability for renewable energy developers. It's estimated that over the next 20 years the combined renewable energy funds of the 15 states will invest about $4.5 billion in renewable energy generation.

In the states that have both an RPS and a renewable energy fund, the two policies complement each other in stimulating the renewable energy market. RPS standards "pull" renewable energy technologies into a state by providing a long-term market that reduces investment risk and provides a level playing field for developers. On the other hand, renewable energy funds "push" clean energy technologies by lowering market barriers through direct investment incentives

Renewable Energy Policies



Kotzebue Electric Association

Four 66 kW Integrity wind turbines that make up part of Kotzebue Electric Association's 957 kW wind farm. By the end of 2006 Kotzebue will have 1155 kW of installed wind capacity. In a typical year the wind farm displaces over 100,000 gallons of diesel fuel.

and supporting the infrastructure needed to develop renewable energy. For example, in California, the fund is used to buy down the above-market costs of renewable energy. And of course, the development that takes place as a result of renewable energy funds helps states meet their RPS requirements.

Renewable Energy Credits (RECs)

Utilities recognized years ago that there was a market demand for clean renewable energy when customers agreed to pay more for resources like wind. Today, rather than charging a premium for renewable source power, most utilities sell the social and environmental attributes of renewable energy separately from the actual electrons in the form of certificates. Also known as "green tags," renewable energy certificates (RECs) are essentially the bragging rights that are created when renewable energy is produced. Each REC represents the production of one megawatt hour of renewable energy and the displacement of approximately 1,400 pounds of CO_2 emissions. Buyers of RECs include utilities trying to meet state RPS requirements, as well as a growing number of federal agencies and corporations committed to supporting increased renewable energy production. For example, Fortune 500 company Whole Foods is buying RECs from wind farms to offset 100% of the electricity used in all of its facilities in the United States and Canada.

Renewable Energy Alaska Project (REAP) and the Bonneville Environmental Foundation (BEF) recently joined forces to create the first REC containing renewable energy from Alaska. *Denali Green Tags* are available through the BEF website, and contain the social and environmental attributes from small village wind projects in rural Alaska.

Alaska Volcano Observatory

Steam vent on Kiska Volcano in the Aleutian Islands. Several communities in the Aleutians are considering developing their geothermal resources.

3703

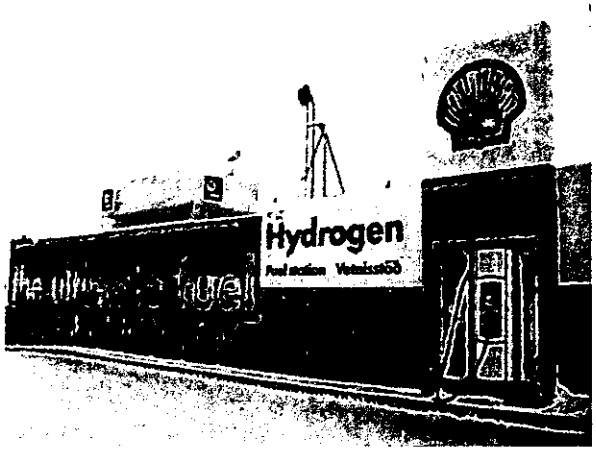
Electricity Feed Laws and Advanced Renewable Tariffs

Electricity feed laws and advanced renewable tariffs (ARTs) are used in a number of European countries and are considered by many to be the world's most successful policy mechanism for stimulating rapid renewable energy development. They give renewable energy producers guaranteed access to the electric grid at a price set by the regulatory authority, giving producers the contractual certainty needed to finance renewable energy projects. They also enable homeowners, farmers, cooperatives and others to participate on an equal footing with large commercial developers of renewable energy. Currently 16 countries in the European Union use some form of feed law.

ARTs are the modern version of Feed Laws. They differ from the simpler feed laws in several important ways. Tariffs are differentiated by technology. (There is one price for wind energy, another price for solar, etc.). Tariffs within each technology can also be differentiated by project size or, in the case of wind energy, by the productivity of the resource. Tariffs for new projects are also subject to periodic review to determine if the program is sufficiently robust. For example, programs are reviewed every two years in France, and every three years in Germany.

The Canadian province of Ontario recently enacted a type of Advanced Renewable Tariff called a Standard Offer Contract. The program offers 11 cents/kWh (Canadian) to producers of wind, biomass and small hydro energy and 42 cents/kWh for solar photovoltaic energy. The contracts are for 20 years, and will be adjusted for inflation as time goes on. (This price compares to the 2006 residential retail price for electricity in Ontario of just under $0.06/kWh). There is no limit to the number of projects that may apply for a contract, but the size of each project is capped at 10 MW. The contracts are available to anyone, including homeowners, businesses and commercial energy producers.

Many commentators are looking to Ontario's new policy to become a model that other North America jurisdictions will follow. Recently the State of Washington passed a modest version of a feed law for small solar projects. It gives businesses and homes with solar photovoltaics a credit of 15 cents/kWh for electricity generated by the PV system. The credit is capped at $2,000 annually and runs until 2015. The law also combines economic multipliers to increase the system owner's credit up to 54 cents/kWh if the project's components are manufactured in Washington.



Chris Rose, REAP

Hydrogen filling station in Reykjavik, Iceland. Iceland gets 99% of its electricity and over 90% of heat for buildings from its geothermal and hydroelectric resources. Ninety-three percent of Icelanders support the government's goal to be the first nation in the world to replace its use of fossil fuels in autos and boats with hydrogen fuel.

Alaska

Two state documents have recently made policy recommendations calling for the increased development of renewable energy in Alaska. In 2003 the Alaska State Legislature commissioned the Alaska Energy Policy Task Force to develop a long-term energy policy for Alaska. In its written report to the Legislature the Task Force established goals to "promote research, development, and demonstration of clean and renewable energy" and to "promote conservation and energy efficiency across all of Alaska." It also recommended that Alaska "increase the proportion of renewables in long-term fuel sources," including hydroelectric generation.

The 2004 Alaska Rural Energy Plan, which was supported by state and federal agencies, concluded that wind energy development was feasible in a substantial number of rural communities, and recommended an aggressive program of resource assessment and turbine deployment in rural Alaska. The Alaska Energy Authority has begun to implement the plan through its anemometer loan and rural power system upgrade programs.

3704

Glossary

Absorption Chiller - A device that uses heat energy rather than mechanical energy to cool an interior space through the evaporation of a volatile fluid.

Active Solar - A solar water or space-heating system that uses pumps or fans to circulate the fluid (water or heat-transfer fluid like diluted antifreeze) from the solar collectors to a storage tank subsystem.

Alternative Fuels - A term for "non-conventional" transportation fuels derived from natural gas (propane, compressed natural gas, methanol, etc.) or biomass materials (ethanol, methanol, or biodiesel).

Anemometer - An instrument for measuring the velocity of wind; a wind gauge.

ASTM - Abbreviation for the American Society for Testing and Materials, which is responsible for the issue of many standard methods used in the energy industry.

Availability - Describes the reliability of power plants. It refers to the number of hours that a power plant is available to produce power divided by the total hours in a set time period, usually a year.

Avoided Cost - The incremental cost to an electric power producer to generate or purchase a unit of electricity or capacity or both.

Biodiesel - A domestic, renewable fuel for diesel engines derived from natural oils like fish and vegetable oil; produced by a chemical process which removes the glycerin from the oil and meets a national specification (ASTM D 6751).

Biomass - Organic matter that is available on a renewable basis, including agricultural crops and agricultural wastes and residues, wood and wood wastes and residues, animal wastes, municipal wastes, and aquatic plants.

Bioenergy – Electrical, mechanical, or thermal energy or fuels derived from biomass.

Capacity Factor - The ratio of the average power output of a generating unit to the capacity rating of the unit over a specified period of time, usually a year.

Co-firing - Using more than one fuel source to produce electricity in a power plant. Common combinations include biomass and coal, biomass and natural gas, or natural gas and coal.

Cogeneration - The generation of electricity and the concurrent use of rejected thermal energy from the conversion system as an auxiliary energy source.

Conduction - The transfer of heat through a material by the transfer of kinetic energy from particle to particle; the flow of heat between two materials of different temperatures that are in direct physical contact.

Convection - The transfer of heat by means of air currents.

Dam - A structure for impeding and controlling the flow of water in a water course that increases the water elevation to create hydraulic head. The reservoir creates, in effect, stored energy.

District Heating System - Local system that provides thermal energy through steam or hot water piped to buildings within a specific geographic area. Used for space heating, water heating, cooling, and industrial processes. A common application of geothermal resources.

Distributed Generation - Localized or on-site power generation, which can be used to reduce the burden on a transmission system by generating electricity close to areas of customer need.

Distribution Line - One or more circuits of an electrical distribution system on the same line or poles or supporting structures, usually operating at a lower voltage relative to a transmission line.

Domestic Hot Water - Water heated for residential washing, bathing, etc.

Electrical Energy - The amount of work accomplished by electrical power, usually measured in kilowatt-hours (kWh). One kWh is 1,000 Watts generated for one hour and is equal to 3,4138tu.

Energy - The capability of doing work; different forms of energy can be converted to other forms, but the total amount of energy remains the same.

Energy Crop - A plant grown with the express purpose to be used in biomass electricity or thermal generation.

Energy Storage - The process of storing, or converting energy from one form to another, for later use. Storage devices and systems include batteries, conventional and pumped storage hydroelectric, flywheels, compressed gas, hydrogen, and thermal mass.

Ethanol - A colorless liquid that is the product of fermentation used in alcoholic beverages, in industrial processes, and as a fuel.

Feedstock - A raw material that can be converted to one or more products.

Fossil Fuels - Fuels formed in the ground from the remains of dead plants and animals, including oil, natural gas, and coal. It takes millions of years to form fossil fuels.

Fuel - Any material that can be burned to make energy.

Fuel Oil - Any liquid petroleum product burned for the generation of heat in a furnace or firebox, or for the generation of power in an engine. Domestic (residential) heating fuels are classed as Nos. 1, 2, 3; Industrial fuels as Nos. 4, 5, and 6.

Generator - A device for converting mechanical energy to electrical energy.

Geothermal Energy - Energy produced by the internal heat of the earth; geothermal heat sources include: hydrothermal convective systems; pressurized water reservoirs; hot dry rocks; manual gradients; and magma. Geothermal energy can be used directly for heating and cooling or to produce electric power.

Head – A measure of fluid pressure, commonly used in water pumping and hydro power to express height that a pump must lift water, or the distance water falls. Total head accounts for friction and other head losses.

Heat Pump - An electricity powered device that extracts available heat from one area (the heat source) and transfers it to another (the heat sink) to either heat or cool an interior space or to extract heat energy from a fluid.

Hybrid System - An energy system that includes two different types of technologies that produce the same type of energy; for example, a wind turbine and a solar photovoltaic array combined to meet electric power demand.

Hydroelectric Power Plant - A power plant that produces electricity by the force of water falling through a hydro turbine that spins a generator.

Hydrogen - A chemical element (H_2) that can be used as a fuel since it has a very high energy content.

Landfill Gas - Naturally occurring methane produced in landfills that can be burned in a boiler to produce heat or in a gas turbine or engine-generator to produce electricity.

Large-scale or Utility-scale - A power generating facility designed to output enough electricity for purchase by a utility.

Load - Amount of electricity required to meet customer demand at any given time.

Meteorological (Met) Tower - A structure instrumented with anemometers, wind vanes, and other sensors to measure the wind resource at a site.

Ocean Energy Systems - Energy conversion technologies that harness the energy in tides, waves, and thermal gradients in the oceans.

Ocean Thermal Energy Conversion (OTEC) - The process or technologies for producing energy by harnessing the temperature differences between ocean surface waters and that of ocean depths.

Organic Rankine cycle – A system that uses a hydrocarbon instead of water as a working fluid to spin a turbine, and therefore can operate at lower temperatures and pressures than a conventional steam process.

Panel (Solar) - A term generally applied to individual solar collectors, and typically to solar photovoltaic collectors or modules.

Passive Solar Design - Construction of a building to maximize solar heat gain in the winter and minimize it in the summer, thereby reducing the use of mechanical heating and cooling systems.

Peak load – The amount of electricity required to meet customer demand at its highest.

Penstock - A component of a hydropower plant; a pipe that delivers water to the turbine.

Photovoltaics (PV) - Devices that convert sunlight directly into electricity using semiconductor materials. Most commonly found on a fixed or movable panel; also called solar panels.

Power - Energy that is capable of doing work; the time rate at which work is performed, measured in horsepower, Watts, or Btu per hour.

Production Tax Credit (PTC) – An incentive that allows the owner of a qualifying energy project to reduce their taxes by a specified amount. The federal PTC for wind, geothermal, and closed-loop biomass is 1.9 cents per kWh.

Radiation - The transfer of heat through matter or space by means of electromagnetic waves.

Railbelt - The portion of Alaska that is near the Alaska Railroad, generally including Fairbanks, Anchorage, and the Kenai Peninsula.

Renewable Resource - Energy sources which are continuously replenished by natural processes, such as wind, solar, biomass, hydroelectric, wave, tidal, and geothermal.

Run-of-River Hydroelectric - A type of hydroelectric facility that uses the river flow with very little alteration and little or no impoundment of the water.

Small-scale or Residential-scale - A generating facility designed to output enough electricity to offset the needs of a residence, farm or small group of farms, generally 250 kW or smaller.

Solar Energy - Electromagnetic energy transmitted from the sun (solar radiation).

Solar Radiation - A general term for the visible and near visible (ultraviolet and near-infrared) electromagnetic radiation that is emitted by the sun. It has a spectral, or wavelength, distribution that corresponds to different energy levels; short wavelength radiation has a higher energy than long-wavelength radiation.

Tidal Power - The power available from either the rise and fall or flow associated with ocean tides.

Transmission Grid - The network of power lines and associated equipment required to deliver electricity from generating facilities to consumers through electric lines.

Turbine - A device for converting the flow of a fluid (air, steam, water, or hot gases) into mechanical motion.

Wave Energy - Energy derived from the motion of ocean waves.

Wind Energy - Energy derived from the movement of the wind across a landscape. Wind is caused by the sun heating the atmosphere, earth, and oceans.

Wind Turbine - A device that converts energy in the wind to electrical energy, typically having two or three blades.

Windmill - A device that converts energy in the wind to mechanical energy that is used to grind grain or pump water.

Wind Power Class - A class based on wind power density ranging from 1 (worst) to 7 (best).

Wind Power Density - The amount of power per unit area of a free windstream.

Wind Resource Assessment - The process of characterizing the wind resource, and its energy potential, for a specific site or geographical area.

UNITS

Ampere - A unit of measure for an electrical current; the amount of current that flows in a circuit at an electromotive force of one Volt and at a resistance of one Ohm. Abbreviated as amp.

Amp-Hours - A measure of the flow of current (in amperes) over one hour.

Barrel (Petroleum) - Equivalent to 42 U.S. gallons (306 pounds of oil, or 5.78 million Btu).

British Thermal Unit (Btu) - The amount of heat required to raise the temperature of one pound of water one degree Fahrenheit; equal to 252 calories.

Cord (of Wood) - A stack of wood 4 feet by 4 feet by 8 feet.

Gigawatt (GW) - A unit of power equal to 1 billion Watts; 1 million kilowatts, or 1,000 megawatts.

Hertz - A measure of the number of cycles or wavelengths of electrical energy per second; U.S. electricity supply has a standard frequency of 60 hertz.

Horsepower (hp) - A measure of time rate of mechanical energy output; usually applied to electric motors as the maximum output; 1 electrical hp is equal to 0.746 kilowatts or 2,545 Btu per hour.

Kilowatt (kW) - A standard unit of electrical power equal to one thousand watts, or to the energy consumption at a rate of 1000 Joules per second.

Kilowatt-hour (kWh) - A common measurement of electricity equivalent to one kilowatt of power generated or consumed over the period of one hour; equivalent to 3,413 Btu.

Megawatt (MW) - One thousand kilowatts, or 1 million watts; standard measure of electric power plant generating capacity.

Megawatt-hour (MWh) - One thousand kilowatt-hours or 1 million watt-hours.

Mill - A common monetary measure equal to one-thousandth of a dollar or a tenth of a cent.

Quad - One quadrillion Btu. (1,000,000,000,000,000 Btu)

Therm - A unit of heat containing 100,000 British thermal units (Btu).

Terawatt (TW) - A unit of electrical power equal to one trillion watts or one million megawatts.

Tonne - A unit of mass equal to 1,000 kilograms or 2,204.6 pounds, also known as a metric ton.

Volt (V) - A unit of electrical force equal to that amount of electromotive force that will cause a steady current of one ampere to flow through a resistance of one ohm.

Voltage - The amount of electromotive force, measured in volts, that exists between two points.

Watt (W) - Instantaneous measure of power, equivalent to one ampere under an electrical pressure of one volt. One watt equals 1/746 horsepower, or one joule per second. It is the product of Voltage and Current (amperage).

Watt-hour - A unit of electricity consumption of one Watt over the period of one hour.

Watts per Square Meter (W/m^2) - Unit used to measure wind power density, measured in Watts per square meter of blade swept area.

Data Sources

References

Common Map Layers
(1) Communities: State of Alaska Department of Commerce, Community, and Economic Development. Community Database Online.
www.commerce.state.ak.us/dca/commdb/CF_COMDB.htm

(2) Lakes, Streams, and Glaciers: State of Alaska Department of Natural Resources (ADNR).
www.asgdc.state.ak.us/metadata/vector/physical/hydro/lk2mil.html

(3) Grayscale Elevation Hillshade Image: Resource Data Inc.
The elevation image was developed using a 300 meter digital elevation model from U.S. Geological Survey EROS Alaska Field Office.
www.asgdc.state.ak.us/metadata/raster/elev/elev300m.html

(4) Canada and Russia: State of Alaska Department of Natural Resources.
www.asgdc.state.ak.us/metadata/vector/physical/coast/canada.html
www.asgdc.state.ak.us/metadata/vector/physical/coast/russia.html

Infrastructure
Average generation from Alaska Electric Power Statistics (with Alaska Energy Balance) 1960-2001, University of Alaska Anchorage Institute of Social and Economic Research, 2003. www.iser.uaa.alaska.edu/Publications/akelectricpowerfinal.pdf

Pie chart from Alaska Electric Power Statistics 1960-2001, and AEA estimates for non-hydro renewables.

(5) Coal, Gas Turbine, and Diesel sites*: Institute of Social and Economic Research (ISER). Alaska Electric Power Statistics (with Alaska Energy Balance) 1960-2001.

(6) Existing Utility Hydroelectric sites: Alaska Energy Authority hydroelectric database. Spatial location and attribute data updated by HDR Alaska Inc. in 2006.

(7) Wind, Solar, Geothermal, and Biomass sites*: Alaska Energy Authority.

(8) Electrical Interties: Interties aggregated from data provided by Alaska Electric Light & Power Company, Alaska Power & Telephone Company, Alaska Village Electric Cooperative, Chugach Electric Association, City of Sitka Electric Department, Copper Valley Electric Association, Four Dam Pool Association, Golden Valley Electric Association, Homer Electric Association, Naknek Electric Association, and Nushagak Cooperative.

(9) Natural Gas Pipelines: ENSTAR Natural Gas Company.

(10) Electric Service Areas: Chugach Electric Association.

(11) Trans-Alaska Pipeline: State of Alaska Department of Natural Resources.
www.asgdc.state.ak.us/metadata/vector/trans/pipeline.html

(12) Railroad: State of Alaska Department of Natural Resources.
www.asgdc.state.ak.us/metadata/vector/trans/rail2mil.html

(13) Roads: State of Alaska Department of Natural Resources & State of Alaska Department of Transportation.
www.asgdc.state.ak.us/metadata/vector/trans/road2mil.html
www.asgdc.state.ak.us/metadata/vector/othermet/akhwysy.html

Biomass
(14) Forested Areas: U.S. Forest Service, U.S. Geological Survey, and State of Alaska Division of Forestry Forest Health Monitoring Clearinghouse.
http://agdc.usgs.gov/data/projects/fhm/index.html#G
http://agdcftp1.wr.usgs.gov/pub/projects/fhm/vegcls.txt

Vegetation classes for the map selected from source dataset classes as follows:
Open forest and tall shrub: Class 10, 15
Mixed spruce and broadleaf: Class 11, 12, 14, 16, 18
Closed spruce: Class 13, 17, 19

(15) Fish Processing Plants*: Alaska Energy Authority.
Plant locations are a subset of a fish biodiesel database.

(16) Class I Landfills*: State of Alaska Department of Environmental Conservation.

(17) Sawmills*: Alaska Wood Products Manufacturers Directory, September 2004. Juneau Economic Development Council Wood Products Development Service.
www.jedc.org/wood/index.htm

(18) Agricultural Lands: State of Alaska Department of Natural Resources, Division of Agriculture (ADNR). Agricultural lands classified by ADNR from land use plans and private land patented for agricultural use.

Geothermal
(19) Volcanoes: Alaska Volcano Observatory. The locations depicted represent volcanoes without regard to recency of activity.
http://www.avo.alaska.edu/volcanoes/latlong.php

(20) Wells and Springs by Temperature: Geo-Heat Center State Geothermal Database CD, Geo-Heat Center, Oregon Institute of Technology.
http://geoheat.oit.edu/database.htm

(21) Potential Geothermal Resources: Idaho National Laboratory.
The areas depicted represent regions favorable for the discovery (at shallow depth, less than 1000m) of thermal water of sufficient temperature for direct-heat applications. It is probable that only small areas of the regions are truly underlain by such thermal water; the regions represent that part of the state that deserves exploration for thermal areas. The regions are defined on the basis of various geothermal and tectonic phenomena such as locations of thermal wells and springs, above-normal heat flow, youthful volcanism, mineralization, and seismicity.
http://geothermal.id.doe.gov/maps/index.shtml
http://geothermal.id.doe.gov/maps/ak_metadata.htm

Hydroelectric
(22) Existing and Potential Hydroelectric sites: Alaska Energy Authority hydroelectric database. Spatial location and attribute data updated by HDR Alaska Inc. in 2006.

Ocean
(25) Tidal Electric Generation Potential: Brian Polagye, 2007. Tidal resource was quantified for 35 transects across tidal channels, perpendicular to the flow. The analysis used NOAA time series of currents and tidal range, as well as bathymetric data. Due to map scale each study site is depicted as a point location rather than a linear transect.

(26) Wave Power Potential: Mirko Previsic (re vision consulting LLC), 2007. Primary resource potential in average megawatts was derived from analysis of nine representative NOAA moored ocean buoys. The linear length of the approximate outer coast represented by each buoy was used to calculate the kilowatts per meter depicted on the map as a buffered area. Wave energy resource is not shown for the coastline north of the Yukon River delta due to seasonal pack ice and relatively low wave energy resources.

Solar
(23) Solar Insolation: U.S. Department of Energy, National Renewable Energy Laboratory, 1999. The data layer provides annual average daily total solar resource averaged over surface cells of approximately 40 km by 40 km in size.
www.nrel.gov/gis/data_analysis.html

Wind
(24) Wind Power: AWS Truewind, 2006 & U.S. Department of Energy, National Renewable Energy Laboratory (NREL), 1986.

Three separate datasets were merged to create the wind power layer. In order of display priority these were 1) AWS Truewind 2006 final data for the core of Alaska (200m resolution), 2) AWS Truewind 2006 final data for the Southeastern Panhandle (200m resolution), and 3) NREL 1987 data for the remaining locations. All datasets were clipped to the coastline to remove offshore locations.
www.nrel.gov/gis/data_analysis.html
www.awstruewind.com/inner/windmaps/UnitedStates.htm

*For data sources with descriptive point locations the spatial positions were derived by matching the descriptive location to the community location in (1), or were geocoded using the U.S. Geological Survey Geographic Names Information System database.

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For More Information

Alaska
Alaska Energy Authority
www.akenergyauthority.org
Renewable energy resource maps, reports, programs, planning, and financing information.

Alaska Housing Finance Corporation
www.ahfc.state.ak.us
Residential energy efficiency and energy resources library, programs, and financing information.

Renewable Energy Alaska Project
www.alaskarenewableenergy.org
Alaska utilities, businesses, conservation and consumer groups, and Alaska Native organizations with a goal of increasing the production of renewable energy in Alaska.

University of Alaska Fairbanks
Arctic Energy Technology Development Laboratory
www.uaf.edu/aetdl
Promotes research, development and deployment (RD&D) of energy technologies in Arctic regions.

Cooperative Extension Service
www.uaf.edu/coop-ext/faculty/seifert/energy.html
Provides housing technology information to Alaskan homeowners and builders.

Nationwide and Regional
National Renewable Energy Laboratory
www.nrel.gov
USDOE's premier renewable energy research and development lab.

US Department of Energy's Office of Energy Efficiency and Renewable Energy
www.eere.energy.gov
Provides information on federal programs relating to renewable energy and energy efficiency.

Western Governors Association
www.westgov.org/wga/initiatives/cdeac/index.htm
Maintains an advisory committee on clean and diversified energy.

Policies Supporting Renewable Energy
Database of State Incentives for Renewable Energy
www.dsireusa.org
Information on tax incentives, rebate programs, portfolio standards, green power programs and other policies.

Clean Energy States Alliance
www.cleanenergystates.org
Works with clean energy funds across the country to build and expand clean energy markets in the United States.

Biomass
National Biodiesel Board
www.biodiesel.org
National trade association represents the biodiesel industry.

National Biomass Energy Program
www1.eere.energy.gov/biomass
USDOE's biomass energy program.

Pacific Regional Biomass Energy Partnership
www.pacificbiomass.org
Promotes bioenergy development in Alaska, Hawaii, and the Northwest.

Geothermal
Geothermal Resources Council
www.geothermal.org
International association for geothermal education including industry, researchers, and government.

National Geothermal Energy Program
www1.eere.energy.gov/geothermal
USDOE's geothermal energy program.

Hydroelectric
National Hydropower Association
www.hydro.org
Information on conventional hydro and tidal wave technologies.

Ocean
Electric Power Research Institute
http://www.epri.com/oceanenergy/
Ocean energy webpage for independent, nonprofit energy research center.

Solar
Alaska Sun
www.alaskasun.org
Alaskans supporting solar energy with link to Solar Design Manual for Alaska.

American Solar Energy Society
www.ases.org
National association dedicated to advancing the use of solar energy.

National Solar Energy Program
www1.eere.energy.gov/solar
USDOE's solar energy website.

Wind
Wind Powering America
www.eren.doe.gov/windpoweringamerica
USDOE's wind energy program.

American Wind Energy Association
www.awea.org
National trade association promoting the development of wind power.

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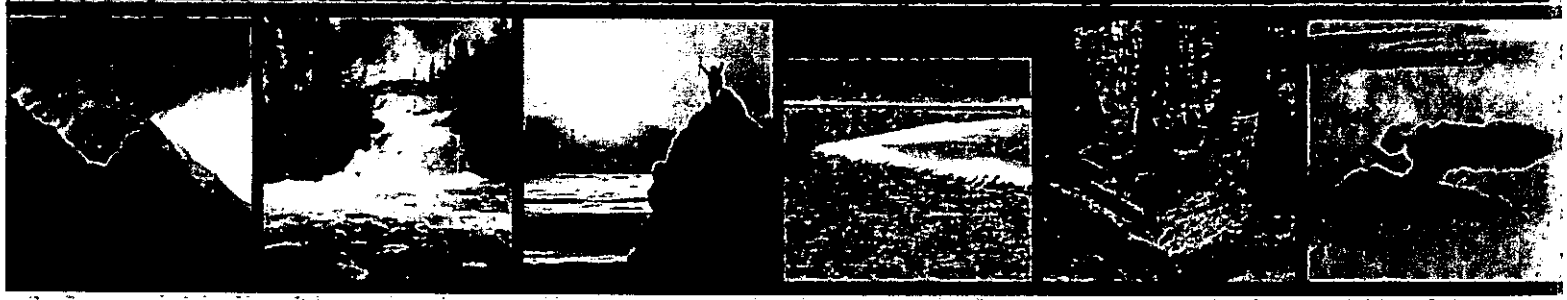
RENEWABLE ENERGY ATLAS OF ALASKA

A Guide to Alaska's Clean, Local and Inexhaustible Energy Resources



ALASKA ENERGY AUTHORITY

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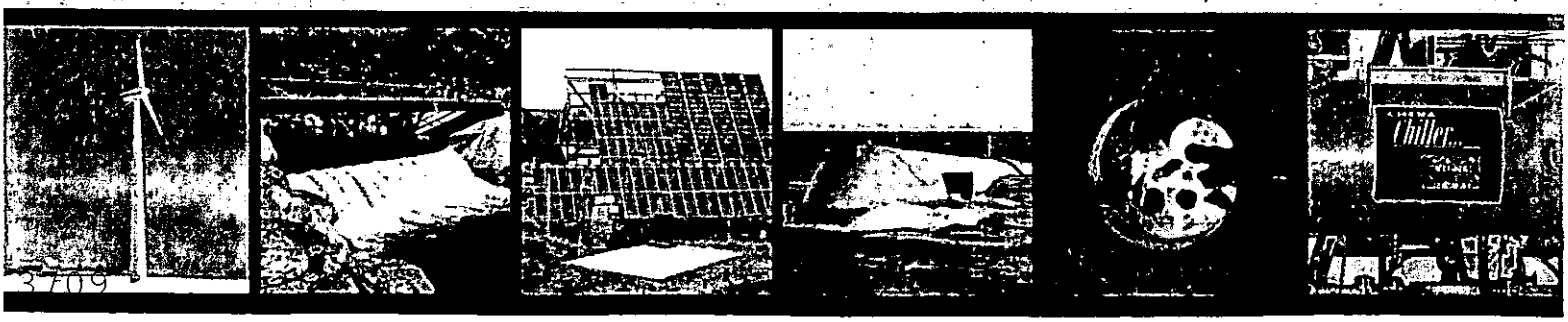
Phone (907) 269-3000
Toll Free in Alaska (888) 300-8534
Fax (907) 269-3044
www.akenergyauthority.org

REAP

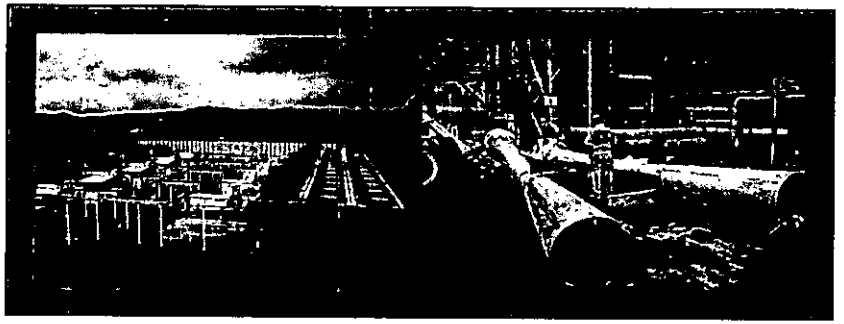
Renewable Energy Alaska Project (REAP)
308 G Street, Suite 218, Anchorage, Alaska 99501
Phone and Fax (907) 929-7770
www.alaskarenewableenergy.org



3709

3710

A Handbook on the Externalities, Employment, and Economics of Geothermal Energy



Puna geothermal power plant (source: Ormat), workers at The Geysers (source: U.S. DOE EERE)

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October 2006

Summary

Geothermal energy is defined as heat from the Earth. It is one among only a few energy sources that is renewable, sustainable, and reliable over the long term. The United States, with a capacity of 2828.25 MW, continues to be the world leader in online capacity of geothermal power.

A. Externalities

Geothermal energy development, like any development, produces a series of effects. These effects, both positive and negative, include not only standard components such as the cost of building a power plant and generating power, but also effects that are sometimes difficult to quantify. Effects that are typically not taken into account in establishing the market price of goods or materials are known in economic circles as "externalities." In assessing the viability of an electricity source, externalities that should be considered include:

- average number of hours a facility can produce power in a 24 hour day
- ability of a facility to generate power during peak hours
- ability of a facility to increase/decrease generation, or be brought on line or shut down at the request of a utility's system operator
- the expected capacity factor of a facility (roughly defined as the reliability of a system)
- air emissions, other potential environmental effects, and related public health issues
- visibility and other aesthetic concerns
- water and waste disposal
- offsite fuel and transportation
- land usage, including the extent and impact of land use and zoning
- water usage
- employment

Geothermal power plants, like most types of power plants, promote economic growth. One of the unique external benefits of geothermal power, unlike many traditional types of power, is sustainable development. Geothermal development is sustainable because it is environmentally friendly and lasts for generations. Geothermal plants provide long-term, stable, well-paying jobs (typically in rural areas), produce nearly zero air emissions and associated health impacts, and supply billions of dollars to local, state, and federal economies through decades of reliable, secure, domestic, renewable energy production. In addition, geothermal plants can help states meet renewable portfolio standards (RPSs), ensuring that renewable power is available on a consistent, rather than intermittent, basis.

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B. Employment

A geothermal power plant provides significantly more jobs than a comparative natural gas-fired power plant, according to the Department of Energy (DOE).[1] Geothermal jobs are quality, long term, and diverse. According to the Environmental Impact Statement/Environmental Impact Report (EIS/EIR) for the proposed Telephone Flat geothermal development project located in the Glass Mountain Known Geothermal Resource Area (KGRA) in California, the average wage at the facility will be more than double the average wage in the surrounding counties. GEA's employment survey found that the overwhelming majority of geothermal jobs (95%) are permanent, and most are also full-time.

In 2004 the geothermal industry supplied about 4,583 direct power plant related jobs. The total direct, indirect, and induced[2] employment impact of the industry in 2004 was 11,460 full-time jobs.[3] Looking to the future, geothermal employment should expand significantly. In 2005 alone, GEA has verified over 2000 MW of geothermal projects under development, which would increase geothermal capacity, and subsequently geothermal employment, by over 70%. Within the next ten years, the Western Governors' Association (WGA) estimates that over 5600 MW could be produced in eleven U.S. states, the economic effect of which is detailed in the table on page v.

Geothermal Development and Rural America

Rural areas that suffer from particularly high rates of unemployment can benefit from geothermal development. Because geothermal resources (hot water and steam) cannot be transported long distances and electricity is generated on-site, development facilities are located at the site of the resource. As a result, geothermal development and associated economic benefits occur in remote, rural areas. At the Mammoth Pacific Power Plant in Mammoth Lakes, California, the contested geothermal facility now produces substantial revenue, employment, and energy security for the small town in which it is located, while avoiding virtually all of the hydrologic and aesthetic concerns raised during the planning process. The plant is now considered a geothermal success story by industry and community members.

C. Economic Impacts

Geothermal's upfront costs, comprising mainly of exploration and development, make up the majority of costs accrued over the life of the plant. The operation and maintenance (O&M) phase accounts for a very small percentage of total costs, but can vary depending upon the location of the facility. O&M costs are low because geothermal relies on a

[1] U.S. DOE (Jan 2006). *Employment Benefits of Using Geothermal Energy*, Geothermal Technologies Program. Retrieved March 17, 2006 from http://www1.eere.energy.gov/geothermal/employ_benefits.html.
[2] See glossary for definitions
[3] Geothermal Energy Association (GEA) (September 7, 2005). *Expanding Geothermal Power Could Create 100,000 New Jobs*. Press Release. Retrieved June 16 2006 from www.geo-energy.org.

sustainable, environmentally friendly, low-maintenance fuel that is basically free once it is developed.

Most geothermal developers agree that the levelized cost[4] of power for new geothermal projects ranges from about 5.5 to 7.5 cents per kilowatthour (kWh). The following table displays the average cost figures for several phases of geothermal development.[5]

Selected Cost Parameters of a Geothermal Power Plant

PHASE	SUBPHASE (if applicable)	2004 Cost per kW	Cost for 50 MW Plant
Exploration		$150	$7.5 million
Site Development	Permitting	$20	$1 million
	Drilling	$750	$37.5 million
	Steam Gathering	$250	$12.5 million
	Power Plant equipment & construction	$1500	$75 million
	Transmission	$100	$5 million
Total		$2770	$138.5 million

It is important to note, when considering the figures in the table above, that actual cost figures vary considerably from site to site based upon a number of factors. These factors include:

- Type of project: expansion of an existing project will entail less exploration cost than a "greenfield" project (one that hasn't been previously drilled), where specific resource locations are unknown
- Plant size: the larger the plant, the less the cost per megawatt (economies of scale)
- Well characteristics: depth, diameter, productivity, subsurface geology, rock formation properties
- Site accessibility and location
- Time delays
- Ease with which the resource can be retrieved, influenced by permeability, depth of the reservoir, and pressure
- Characteristics of the geothermal fluid/steam, including chemistry and temperature

[4] See glossary for definitions
[5] All cost figures from Hance, Nathanael (2005). *Factors Affecting Cost of Geothermal Power Development*. Geothermal Energy Association (GEA) and represent 2004$. Geothermal Energy Association (2004). *Geothermal Energy Potential*. Retrieved March 23, 2006, from http://www.geo-energy.org/USGeoProv.pdf

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- Fluctuations in the costs of certain materials or services, such as drilling, cementing, or steel for well casing
- Lease and permitting costs/issues
- Transmission costs
- Tax incentives, such as the production tax credit (PTC) included in the 2005 Energy Policy Act (EPAct)
- Financing: types of investors, interest rates, debt periods, rate of return
- Resource availability and quality
- Seasonal and weather variability

Geothermal facilities provide substantial contributions to the United States economy. The chart on page v indicates the economic output that would result if WGA's geothermal potential estimates are achieved.

The table below summarizes some of the economic benefits produced by an average, 50 MW facility over 30 years of operation on federal lands. While 30 years is the standard economic timeframe used to calculate costs at most energy facilities, geothermal plants typically last more than 30 years. Other socioeconomic benefits, including tax contributions, are not captured in this table.

Sample Economic Benefits at a 50 MW Geothermal Power Plant

Employment (direct, indirect, and induced)		212 fulltime jobs/800 person-years (p-*y)[6]
Economic Output (over 30 years, nominal)		$749 million
Royalties	Contribution to the Federal Government	$5.46 million
	Contribution to the State	$10.9 million
	Contribution to the County	$5.46 million

Besides the costs expended through the development and construction of a power plant, geothermal developers often make significant contributions to the communities in which they are located, as well as the local, state, and federal governments under whose jurisdiction they operate. Some contributions come as royalties or taxes, which are mandated by the government, while some come voluntarily from the geothermal company. In addition, wages paid to geothermal employees often circulate back through the community.

[6] Person year corresponds to the employment of one person during one year.

Summary of Western States' Near-Term Geothermal Potential and Resulting Employment and Economic Contribution

	New Power Capacity (MWs)	Direct and Indirect and Induced Employment (Power Plant Jobs/Construction & Manufacturing Employment)**	30 Year Economic Output (nominal)+
California	2,400	10,200 ft jobs/38,400 person*yrs	$36 billion
Nevada	1,500	6,375 ft jobs/24,000 person*yrs	$22.5 billion
Oregon	380	1,615 ft jobs/6,080 person*yrs	$5.7 billion
Washington	50	212 ft jobs/800 person*yrs	$749 million
Alaska	25	106 ft jobs/400 person*yrs	$375 million
Arizona	20	85 ft jobs/320 person*yrs	$300 million
Colorado	20	85 ft jobs/320 person*yrs	$300 million
Hawaii	70	298 ft jobs/1,120 person*yrs	$1 billion
Idaho	860	3,655 ft jobs/13,760 person*yrs	$12.9 billion
New Mexico	80	340 ft jobs/1,280 person*yrs	$1.2 billion
Utah	230	978 ft jobs/3,680 person*yrs	$3.4 billion
Wyoming, Montana, Texas, Kansas, Nebraska, South Dakota, North Dakota	Potential Exists; Resource not studied in WGA Report	Not Studied	Not Studied
Total Western States (additional to current)	**5,635 MW**	**23,949 fulltime jobs/90,160 person*years of construction and manufacturing employment**	**84,410,046,000.00** **Almost 85 billion dollars to the U.S. economy over 30 years**

** Power plant jobs are the direct, indirect and induced full-time jobs (ft jobs) created by reaching the full power production capacity indicated. Construction and manufacturing jobs are the direct, indirect and induced jobs necessary to build and supply the power plants at the full power capacity indicated. Construction and manufacturing jobs are expressed as full-time positions for one year (person*years), however these jobs will be spread out over several years depending upon the development time frame for new projects. Direct employment results in 1.7 full time positions and 6.4 person*years per megawatt. Induced and indirect impacts were calculated assuming a 2.5% multiplier; for a total direct, indirect, and induced employment impact of 4.25 full time positions and 16 person*years per megawatt.

+Economic Output measures gross power sales over 30 years, assuming power sells at $.06/kWh and produces at a 95% capacity factor. Economic output is represented in nominal dollars, is not adjusted for inflation, and is rounded to the nearest million. Total economic output is not rounded.

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[7] Individual's affiliated companies listed for identification purposes only

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I. INTRODUCTION

A. Background

In 2004, the Geothermal Energy Association (GEA), in support of the U.S. Department of Energy (DOE) Geothermal Technologies Program, surveyed the existing U.S. based geothermal literature related to socioeconomics. Much of this information turned out to be old, incomplete, or inconsistent. In an effort to update and improve the available information, GEA produced two publications on the socioeconomics of geothermal energy: *Factors Affecting Cost of Geothermal Power Development* and *Geothermal Industry Employment Survey Results and Analysis*. However, even after these publications were released, GEA routinely received questions about the basic economic, social, and employment impacts related to geothermal energy. Drawing upon the existing GEA documents and additional sources, GEA has produced this *Handbook on the Externalities, Employment, and Economics of Geothermal Energy* to address these key questions. "Externalities," including social and environmental effects, are costs or benefits attributable to activities that are not reflected in the price of the goods or services produced.

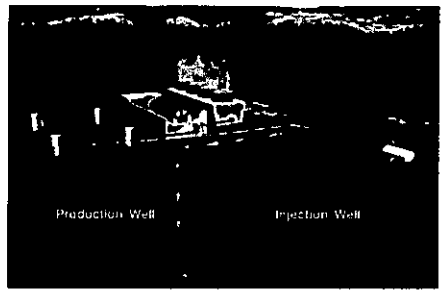
This handbook is divided into five sections. Some of the most common questions related to geothermal costs and benefits will be answered in each, including:

- *I. Introduction*: What is geothermal energy? How much geothermal energy is produced? What is geothermal potential?
- *II. Externalities*: What are the environmental implications of geothermal development? Is geothermal development sustainable?
- *III. Employment*: What types of jobs are created by the geothermal sector, and how long will they last? How many people currently work in the U.S. geothermal industry?
- *IV. Economic Impacts*: What is the cost of geothermal power or of a geothermal facility? Does the price of geothermal power fluctuate? What is the total estimated geothermal contribution to the U.S. economy?
- *V. Case Study Analysis (Mammoth Pacific Power Plants)*: Did the construction of the geothermal power plants at Mammoth impact tourism? After several decades, how have the power facilities affected the community?

B. Geothermal Basics

Geothermal energy is defined as heat from the Earth. It is considered a renewable resource because the heat emanating from the interior of the Earth, estimated to be equivalent to 42 million MW of power, is essentially limitless and continuously regenerates through natural geologic processes. The four main types of geothermal power plants are flash, binary, dry steam, and flash/binary combined cycle.

Figure 1: Basic Structure of a Geothermal Power Plant



Source: Geothermal Education Office (GEO)

To develop electricity from geothermal resources, wells are drilled into deep subsurface permeable regions containing natural hot water or steam, far below the shallow groundwater depth. The wells bring the hot fluids to the surface for use in generating electricity. Because hot geothermal fluids will cool if transported more than a few miles from the wellheads, geothermal power plants must be built at the site of the reservoir. If the deep resource contains hot compressed liquid water, it may be expanded to create steam or used to heat a secondary fluid that is converted to steam. The expanding steam is separated in a surface vessel (steam separator) and delivered to the spinning turbine, and the turbine powers a generator.[8] Flash, the most popular type, starts with hot water to produce electricity, while dry steam starts with hot steam to produce electricity. In the binary process, the geothermal water heats another liquid that boils at a lower temperature than water. The two liquids are kept completely separate through the use of a heat exchanger, so geothermal's already low emissions are reduced to zero. A combination of flash and binary technology, known as the flash/binary combined cycle, has been used effectively to take advantage of the benefits of both technologies.

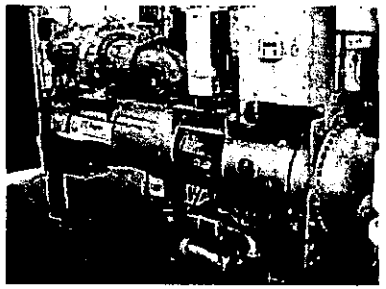
Two cooling options are available: water or air cooling. The most popular type, water cooling, requires a continuous supply of cooling water and creates vapor plumes. Air cooled systems, in contrast to the relative stability and continuous efficiency of water cooled systems, can be extremely efficient in the winter months, but are less efficient in hotter seasons when the contrast between air and water temperature is reduced, so that air does not effectively cool the organic fluid. Air cooled systems are preferred in areas where the viewshed is particularly sensitive to the effects of vapor plumes, as vapor plumes are only emitted into the air by water cooling towers and not air cooling towers. Most geothermal air cooling is used in binary facilities.

While geothermal resources capable of power generation are only economically viable in the geologically active western states at this time, geothermal fluids and the heat they contain are currently used in 26 states for "direct uses" in spas, for space and district heating, and in industry, agriculture and aquaculture. Besides electricity production and

[8] Kagel, Alyssa et al. (2005). *Geothermal Energy and the Environment*. Geothermal Energy Association (GEA). Retrieved August 2, 2006, from www.geo-energy.org.

direct use, the third type of geothermal use, often called "geothermal heat pump" or "ground source heat pump" technology, does not require a geothermal reservoir. Rather, heat pumps make use of stable temperatures of approximately 65°F just a few feet underground, and can be used anywhere in the world. While this paper focuses on geothermal power production that takes place in the western U.S., widespread applications and uses of geothermal energy, such as through direct use or heat pump applications, span the entire country.

Figure 2: New Technology Using Low Temperature Resources at Chena Hot Springs in Alaska



Source: Chena Hot Springs, Alaska

Experts are exploring ways to produce geothermal energy in a variety of new ways: using oil and gas wells, hot dry rock (HDR) technology (an application that does not require liquid or steam), and low temperature resources, for example. Further advancements could make geothermal energy for direct use and power production economically viable throughout the U.S.

C. Current Generation

The United States continues to be the world leader in online capacity of geothermal energy. According to the Energy Information Administration (EIA), geothermal energy in 2005 generated approximately 16,010 Gigawatt hours (GWh) of electric generation or about 0.36% of U.S. annual electricity generation. U.S. capacity is rated at 2828.25 MW.

1. Developing Projects

Up to 1,500 MW of new geothermal power plant capacity are currently under development in the United States. 223 MWs are currently under construction in eight projects across the western United States. Unconfirmed projects (some of which are likely to be developed within the next few years) raise these numbers to over 2,000 MW of potential capacity currently under consideration.

D. Potential

Estimates for geothermal potential vary depending upon the study cited and the assumptions behind each study. A study considering only near-term potential, for example, will present vastly different numbers than a study considering long-term potential. Whether the timeframe considered is short or long, the potential for geothermal development is significantly greater than current geothermal output. With future technologies in geothermal engineering, geothermal output could exceed all the worldwide oil, gas and coal resources.

1. Short-Term Potential

In late 2005, the Western Governors' Association (WGA) estimated that nearly 6,000 MW of potential exist in eleven U.S. states at known, readily developable sites.[9] This resource base could produce electricity within 10 years without any technological advances. It is considered a short-term, limited potential estimate.

2. Long-Term Potential

The U.S. Geological Survey (USGS), in its Circular 790,[10] estimates a hydrothermal (liquid) resource base in each of two categories: an Identified Resources Base, which locates each of the sites included by latitude and longitude and presents specific information on each in the appendix, and an Undiscovered Resource Base, which is limited by depth, heat and location-related parameters. The potential, as assessed by USGS Circular 790, is as follows:

- Identified Resources Base (excluding National Parks): 23,000MW +/- 3,400 MW
- Undiscovered Resource Bases: 72,000-127,000MW
- Total Identified and Undiscovered Resource Base: 95,000-150,000MW

The USGS is currently working to revise these estimates using modern techniques that were not available during the study noted above and published in 1978.

[9] Western Governors' Association (WGA) (November 3, 2005). *Geothermal Task Force Near-Term Geothermal Resource Assessment*. Produced by WGA's Clean and Diversified Energy Advisory Committee (CDEAC). Accessed August 14, 2006, from http://www.geo-energy.org/information/developing/WGA%20GEOTHERMAL%20TASK%20FORCE%20RESOURCE%20ASSESSMENT%20NOV%203%202005[1].pdf.

[10] USGS (1978). *Circular 790*. Retrieved October 3, 2006, from http://pubs.er.usgs.gov/usgspubs/cir/cir790#viewdoc.

II. EXTERNALITIES

Geothermal energy development, like any development, produces a series of effects. These effects, both positive and negative, include not only standard components such as the cost of building a power plant and generating power, but also effects that are sometimes difficult to quantify. Effects that are typically not taken into account in establishing the market price of goods or materials[11] are known in economic circles as "externalities." Notes one researcher, "the externality cost of fossil fuels...is not taken into account in the conventional analysis of electricity production cost per unit of energy produced."[12] Despite the fact that negative externalities such as pollution or land degradation, and positive externalities such as increased employment and reduced health risks, are rarely figured into conventional cost analysis, they should still be considered in assessing the viability of a resource. Numerous studies show that externalities significantly change costs – some studies even indicate that the externality costs of burning coal for electricity can be greater than the generation costs.[13]

Geothermal energy provides secure, low cost, reliable, environmentally friendly heat and electricity; supplies thousands of quality jobs; boosts rural economies; increases tax bases; stabilizes energy prices; provides baseload power; and diversifies the fuel supply. Each of these externalities benefits the U.S. economy in direct and indirect ways. Geothermal plants, for example, unlike coal and natural gas, incur no "hidden costs" such as offsite degradation of land and waterways, high air emissions, and health impacts to humans. Some of the factors to consider when choosing an energy source for a particular region are illustrated in table 1 on the following page.

[11] From Encarta online dictionary.
[12] Meidav, Tsvi and Joshua Meidav (October 1994). *Renewable Energy in Isolated Frontier Areas.* Geothermal Resources Council Transactions, Vol. 18.
[13] Ottinger, R L and M Jayne (2000) *Global climate change – Kyoto Protocol implementation: Legal frameworks for implementing clean energy solutions*, Pace University School of Law, White Plains, New York. Retrieved September 28, 2006, from http://www.solutions-site.org/special_reports/CleanEnergyFinal4.doc

Table 1: Power Technologies Comparison

Technology	Average Hours available out of 24 hours/day	Dispatchable[14]	Available During Peaking Hours[15]	Expected Capacity Factor (percent)
Coal	24	Y	Y	71
Nuclear	24	N	Y	90
Geothermal	24	N	Y	86-95
Wind	8-9*	N	N	25-40
Solar	6-7	N	Y	24-33
Natural Gas Combustion Turbine	24	Y	Y	30-35
Hydropower	24	Y	Y	30-35
Biomass	24	Y	Y	83

*The wind figure refers to full operation only; this figure increases if partial wind generation is considered.

Other externalities, besides those listed in the above table, include but are not limited to aesthetic concerns, resource availability and cost, environmental concerns, waste and water disposal, resource quality, transportation, land degradation, extent and impact of land use, zoning, water usage, and seasonal variability. The California Energy Commission (CEC) confirmed the importance of considering outside factors: "a more comprehensive analysis, which evaluates economic and environmental impacts, would be preferable to resource evaluation based on rate impacts alone."[16]

These outside factors influence all electricity sources. Nuclear plants, for example, use extensive land and water resources and have near and long-term spent fuel disposal concerns. Natural gas plants, in contrast to nuclear, suffer from considerable problems with fuel availability, a concern that has driven up the price of natural gas in recent years. Coal plants, while generally more economical than nuclear or natural gas facilities, use extensive land and water resources, suffer from significant environmental concerns such as air emissions and health impacts, and have mine tailings disposal problems. Solar and wind plants, with few water use issues, have land use, aesthetics, and resource availability problems. Geothermal is consistently available, but geothermal reservoirs must be managed properly in order to ensure sustainability, and thus, geothermal plants have potential resource availability concerns. Production from hydropower fluctuates with snow and rain fall and seasonal variability, and can be destructive if not managed carefully. Biomass plants also suffered fuel availability problems.

[14] A plant that is *Dispatchable* can increase or decrease generation, or be brought on line or shut down at the request of a utility's system operator.
[15] A plant that is capable of *Peaking* can be used to meet daily increases in electricity demand. Power demand tends to peak in late afternoon or early evening before gradually declining to its lowest point at night.
[16] Miller, Santord A (Sept/Oct 1996). Incorporating Economic and Environmental Externalities of Geothermal and Natural Gas Generating Technologies. GRC Transactions; Vol 20. 187 – 193.

A. Meeting State RPS Requirements

Twenty states and the District of Columbia have Renewable Portfolio Standards (RPSs) which requires that a percentage of the electricity supplied by generators be derived from renewable sources. For many states, geothermal may be the preferred option to meet RPSs: geothermal is one of the only renewable energy sources that delivers reliable, baseload power. When geothermal is used in conjunction with other renewables such as wind and solar to meet RPSs, geothermal helps ensure that renewable power is available on a consistent, rather than intermittent, basis.

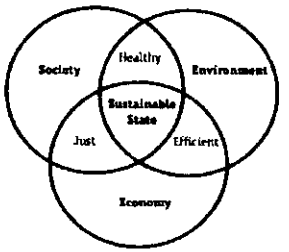
B. Promoting Sustainable Development

Sustainability is defined by the USGS as "economic development that takes full account of the environmental consequences of economic activity and is based on the use of resources that can be replaced or renewed and therefore are not depleted." A resource that is naturally renewable, such as geothermal energy, must still be properly managed to ensure sustainability. Geothermal energy is managed through the use of a geothermal reservoir: wells are drilled into the reservoir, and the hot liquid or steam is brought up to the surface and used to produce power. If the fluid in the reservoir is extracted at a faster rate than the rate at which it naturally regenerates, the reservoir will not be sustainable. Geothermal engineers must determine the rate at which geothermal energy (heat) can be extracted from the reservoir so that maximum electricity can be produced and the longevity of the reservoir can be preserved. Obtaining sustainability also depends upon the rate of injection of the resource (see *Steam Gathering System*, page 27, for more information about injection). While *sustainability* describes how a resource is used, *renewability* describes a property of a resource.[17] Geothermal is one among only a few energy sources that is both renewable and, if properly managed, sustainable over the long term.

Development fuels economies and grows communities. But development can sometimes produce negative externalities, including pollution from industrial activity, or short-term economic booms followed by long-term busts. *Sustainable development* is a type of development that is successful only when social, economic, and environmental consequences are considered over a longer timeframe. According to the International Institute for Sustainable Development (IISD), sustainable development must integrate environmental stewardship, economic development and the well-being of all people—not just for today but for countless generations to come.[18]

[17] Stefansson, Valgardur (2000). *The Renewability of Geothermal Energy*. Reykjavik – Iceland: Proceedings World Geothermal Congress 2000. pgs. 883-888.
[18] IISD. *About*. Retrieved April 6, 2006, from http://www.iisd.org/about/.

Figure 3: Three Spheres of Sustainable Development



Source: The Official Website of the state of New Jersey

Geothermal plants facilitate sustainable development. They provide long-term, stable, well-paying jobs (see *Employment* for more information), produce nearly zero air emissions and associated health impacts, and supply hundreds of thousands of dollars to local, state, and federal economies through decades of reliable, renewable, consistent energy production. The three spheres necessary for sustainable development are illustrated in the figure to the left, and discussed in more detail in the following sections.

1. Economy

Geothermal projects generate revenue for small, rural communities. Taxes and royalties paid by developers help support and grow underserved areas. The economic benefits of geothermal extend beyond just the community or sector in which they are located: for every dollar invested in geothermal energy, at least 2.5 dollars are invested back into the economy.[19] Over time, geothermal's economic benefits are even greater. Geothermal use throughout the U.S. helps stabilize volatile energy markets, and brings diversity and security to the economy (see *Direct Payments* for more information).

2. Environment

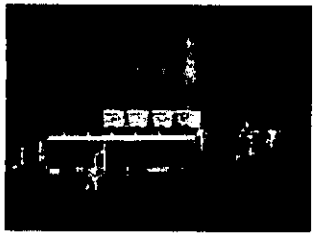
Development of any kind may cause environmental impacts. Any energy source, renewable or not, will require land and manmade materials, but renewable energy sources create far fewer environmental impacts than traditional fossil fuel sources. Geothermal, in particular, is unique in its ability to produce few environmental impacts, while also ensuring a high level of dependability.

[19] Hance, Nathanael (2005). *Factors Affecting Cost of Geothermal Power Development*. Geothermal Energy Association (GEA) and represent 2004$. Geothermal Energy Association (2004). *Geothermal Energy Potential*. Retrieved November 10, 2004, from http://www.geo-energy.org/USGeoProv.pdf.

a) Air Emissions

Geothermal produces significantly less air pollution per unit of energy produced than traditional fossil fuel sources, resulting in fewer respiratory health problems for the U.S. population. The American Lung Association estimates that power plant emissions, primarily from coal plants, result in over 30,000 yearly deaths.[20] Greater use of geothermal power can decrease air emissions as compared to a greater use of fossil-fuel generation. This is certainly the case for Lake County, California, downwind of the world's largest geothermal field known as "The Geysers." Lake County is the only air district in California that has been in compliance with all state and federal air quality standards for over 17 years.

Figure 4: West Ford Flat Power Plant at The Geysers



Source: Calpine Corporation

Because fossil fuel health impacts are difficult to monetize, it is difficult to approximate the cost savings produced by renewable electricity options. One way to approximate positive geothermal externalities is to examine the economic values received for air emissions in existing emissions trading systems.

An article published in the *Electricity Journal* by GEA attempts to monetize the cost savings of geothermal power. GEA calculated geothermal's emissions savings compared with coal if examined within emissions trading markets. The study found that the positive externality benefits of geothermal from avoided air emissions—considering only carbon dioxide, sulfur dioxides, nitrogen oxides, and particulate matter—is $255.4 million per year.[21] In contrast, a 1995 study estimates that costs of power generation would increase 17% for natural gas and 25% for coal if environmental costs were included.[22] These additional costs include land degradation, potentially hazardous air emissions, forced extinction and destruction of animals and plants, and health impacts to humans.

[20] Garcia, Staci (Aug 2001). *Air Pollution Impacts and Reduction Strategies*
Retrieved September 24, 2004, from http://www.nrel.gov/docs/gen/fy01/NN0060.pdf.
[21] Kagel, Alyssa et al (2005). *Promoting Geothermal: Air Emissions Comparison and Externality Analysis*. Electricity Journal: Volume 18, Issue 7, August-September 2005, Pages 90-99. Accessed March 13, 2006, from http://authors.elsevier.com/sd/article/S1040619005000862.
[22] Haberle and Flynn (1995). *Comparative Economics and Benefits of Electricity Produced from Geothermal Resources in the State of Nevada*. Univ. of Nevada, Las Vegas.

Recent studies show that both air quality and renewable technologies would benefit from stricter emissions control. An analysis of emissions legislation including "four pollutants,"—mercury, carbon dioxide, sulfur dioxides, and nitrogen oxides—as opposed to only "three pollutants"—mercury, sulfur dioxides, and nitrogen oxides— show that renewables energy sources such as geothermal increase most significantly under a four pollutant plan that includes regulations to reduce CO_2 emissions.[23]

Today's U.S. Geothermal output offsets harmful pollutants and greenhouse gases that would otherwise be generated by coal facilities each year, including 16 million tons of carbon dioxide (CO_2), 78 thousand tons of sulfur dioxides (SO_2), 32 thousand tons of nitrogen oxides(NO_x) and 17 thousand tons of particulate matter (PM).[24]

b) Public Health

Health impacts deliver an unfair burden to people living in the areas where fossil fuel plants are developed, as well as areas downwind of polluting plants where emissions travel. When a community's health is affected, its pocketbook is affected as well. According to one study, "health care is the single largest and fastest growing segment in numerous state and city budgets."[25]

A 2004 study by Abt Associates, a consulting firm regularly employed by the Environmental Protection Agency (EPA), attempted to quantify costs associated with fossil fuel pollution.[26] The study found that health impacts associated with particulate matter emissions[27] from coal power plants alone subtracts billions of dollars each year in the form of healthcare costs from the U.S. economy. According to the report, the health care costs resulting from emissions at coal facilities, in 1999 $ by 2010, would be:

- $150 billion: mortality
- $5.5 billion: chronic bronchitis
- $3.3 billion: heart attacks
- $187 million: respiratory hospital admissions
- $206 million: cardiovascular hospital admissions

[23] Palmer, Karen and Dallas Burtraw (Jan 2005). *Cost-Effectiveness of Renewable Electricity Policies*. Discussion Paper 05-01: Resources for the Future (RFF).
[24] Based on average EIA estimate of yearly geothermal generation, 1990-2004, available at http://www.eia.doe.gov/cneaf/acr/txt/ptb0802c.html, and using percentages of each type of generation based on gross capacity listed at GEA website, available at http://www.geo-energy.org/Existing.htm.
[25] J. Peter Lynch. (Nov 2003). Renewableenergystocks.com Features: *The Real Costs of Fossil Fuels*. Retrieved April 3, 2006, from http://www.investorideas.com/Companies/RenewableEnergy/News/FossilFuels1110.03.asp.
[26] Schneider, Conrad, Project Manager of Abt Associates Team of Researchers (June 2004). *Power Plant Emissions: Particulate Matter-Related Health Damages and the Benefits of Alternative Emission Reduction Scenarios. Prepared for Clean Air Task Force*. Retrieved April 10, 2006, from http://www.clearthenir.org/dirtypower/docs/abt_powerplant_whitepaper.pdf.
[27] Particulate matter (PM) is a broad term for a range of substances that exist as discrete particles. Particulate matter includes liquid droplets or particles from smoke, dust, or fly ash.

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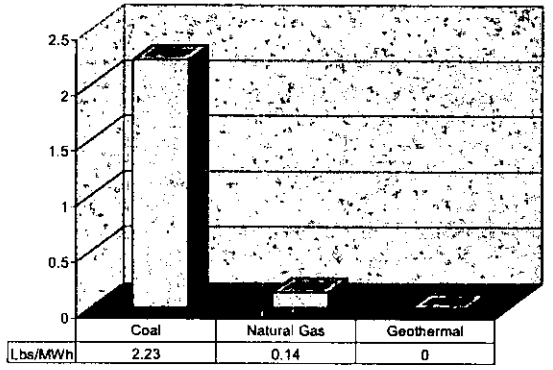
- $7 million: emergency room visits for asthma
- $13 million: acute bronchitis
- $16 million: upper and lower respiratory symptoms
- $367 million: work loss days
- $956 million: minor restricted days

These costs total almost $160 billion, and place a substantial burden on hospitals, health care professionals, health insurers, taxpayers, company productivity, not to mention the individuals inflicted with these ailments.

If other emissions besides particulate matter were considered—including NOx, SO_2, CO_2, or mercury—or if fossil fuel sources other than coal were considered, the health care cost estimates would increase. The figure below compares particulate matter emissions from coal, natural gas, and geothermal power plants.

Figure 5: Particulate Matter Comparison



	Coal	Natural Gas	Geothermal
Lbs/MWh	2.23	0.14	0

Comparing pulverized coal boiler, natural gas combined cycle, and average existing power plant, geothermal.

Source: Antares Group, Inc.

c) Environmental Implications of Baseload Power

Geothermal energy is a baseload resource: it is available 24 hours a day, 365 days a year. Not only does baseload power contribute to power stability, it also contributes to environmental stability. An intermittent peaking plant—one that is available only part of the day, or only during peaking hours—usually works in conjunction with a more reliable energy source. This means that an intermittent plant—even if it is renewable and emissions free—supplies consistent power only if paired with a baseload plant—usually a polluting fossil fuel plant such as a coal facility. When two plants are necessary, more land is required, and greater environmental impacts, such as air emissions, are produced. Geothermal is one of only a few resources that is clean, renewable—and also baseload.

3. Society

Geothermal provides a much needed source of employment to rural communities. Geothermal jobs are typically stable, long term, diverse, and high quality (see *Employment* for more information). Property taxes and royalty revenues are typically allocated to schools and roads. In counties with geothermal power projects on federal leases, a provision of the 2005 Energy Policy Act (EPAct) requires that 25% of the federally imposed royalty is returned to the county of origin, 25% to the federal government, and 50% to the state (previously royalties were equally shared by the state and federal government). Most developers hire locally and donate additional funds to local schools, museums and community centers.

a) Increasing National Security

Of the renewable options usually considered, geothermal is one of the few that provides baseload power while at the same time lowering homeland security risks. Geothermal plants do not rely upon unstable international energy sources. Also, geothermal facilities are local, and smaller than large fossil or nuclear plants. Geothermal plants are therefore important regional energy sources that are less likely to be used as terrorist targets. Finally, geothermal plants are not significantly impacted by scheduled outages.

b) Producing Power at Home

By producing power at home, jobs and revenue are generated in the U.S., rather than transported overseas. In addition, transportation over long distances in not required. Geothermal energy can displace natural gas in the electric power sector, which is increasingly imported from overseas sources.

III. EMPLOYMENT

A. Current Employment

Geothermal provides more jobs per MW than natural gas, according to the DOE, as shown in Table 2 below.[28] While the figures in table 2 are not consistent with GEA's most recent employment data, the information is included for comparison purposes only.

Table 2: Comparative Job Creation

Power Source	Construction Employment (jobs/MW)	O&M Employment (jobs/MW)	Total Employment for 500 MW Capacity (person-years)
Geothermal	4.0	1.7	27,050
Natural Gas	1.0	0.1	2,460

Source: U.S. DOE[29]

In 2004 alone, the geothermal industry supplied about 4,583 direct power plant related jobs. The total direct, indirect, and induced impact[30] of the industry in 2004 was 11,460 full-time jobs.[31] Employment is expected to increase in coming years as geothermal plant development and research expands.

B. Job Quality

Not only does geothermal provide more jobs than a traditional power plant, it also provides quality, long-term jobs. According to the proposed Telephone Flat geothermal development project EIS/EIR located in the Glass Mountain Known Geothermal Resource Area, the average wage at the facility will be more than double the average wage in surrounding counties. According to the California census bureau, the average

[28] U.S. DOE (Jan 2006). *Employment Benefits of Using Geothermal Energy*, Geothermal Technologies Program. Retrieved March 17, 2006 from http://www1.eere.energy.gov/geothermal/employ_benefits.html.
[29] This table is included for comparative purposes only. While these geothermal employment numbers are not consistent with GEA's updated employment information, GEA chose to include this table, endorsed by US DOE, in order to show how geothermal's employment figures compare with natural gas'. GEA has chosen to include these slightly outdated figures because they allow an even comparison between natural gas and geothermal. As we do not have updated natural gas figures, we cannot update only the geothermal figures for the purpose of comparison.
[30] See glossary for definitions
[31] GEA Press Release (2005). *Expanding Geothermal Power Could Create 100,000 New Jobs*. Retrieved May 17, 2006, from http://www.geo-energy.org/publications/pressReleases/Expanding%20Geothermal%20Power%20Could%20Create%20100,000%20New%20Jobs%20September%207%202005.pdf.

per capita income in 1998 in the closest counties was around $20,000, with the average California per capita income nearly $8,000 higher.[32] The average projected wage related to operation at the Telephone Flat facility would be higher than both the county and state averages, totaling between $40,000 and $50,000 (1998 $).[33]

GEA's employment survey found that the overwhelming majority of geothermal jobs are permanent (95%), and most are also full-time. At The Geysers in California, 425 full-time and 225 part-time residents of the community are employed.[34]

1. Geothermal Employment and Rural America

Geothermal resources tend to be located in rural areas with few employment opportunities. Because geothermal energy must be developed where the resource is located, geothermal power plants tend to benefit these economically depressed areas by providing jobs, stability, and revenue. Geothermal developers, who typically negotiate 10 to 30 year agreements with purchasers (see *Financing* for more information), provide jobs that can be guaranteed for decades, presuming plants are not sold or do not suffer from financial problems.

Rural communities face many unique challenges. Lack of stable, secure, long-term jobs in rural communities leads many young adults with "the most education and the greatest earning potential" to emigrate, leaving a poorer, older, and smaller population.[35] Many rural communities, including those in which geothermal facilities tend to be located, suffer from significantly higher unemployment rates than the general population. In 2004, California's unemployment rate was 6.2%, while Siskiyou County, one of the areas closest to the proposed Telephone Flat proposed geothermal power plant, had an unemployment rate more than one-third higher than the California average, at 9.3%.[36] The Center for Mental Health Services (CMHS), found that "many rural Americans are at or below the national poverty level," which can result in physical and psychological harm.[37] Unemployment in rural communities makes residents particularly susceptible to high levels of social and health related problems—more so than their urban counterparts.[38]

[32] Bureau of Economic Analysis (BEA). *Table 3.—Personal Income and Per Capita Personal Income by County*. Retrieved September 6, 2006, from www.bea.gov/bea/regional/articles/0700lap/tab3b.html.
[33] Calpine Corporation (February 1999). *Telephone Flat Geothermal Development Project Final Environmental Impact Statement Environmental Impact Report*. California State Clearinghouse Number 97052078. pg 3.12-16.
[34] National Geothermal Collaborative (NGC). *Geothermal Energy and Economic Development*. Retrieved March 14, 2006, from http://www.geocollaborative.org/publications/Geothermal_Energy_and_Economic_Development.pdf.
[35] Fitchen, Janet M. (1991). "A Time of Change in Rural Communities: Implications for Rural Mental Health." *Rural Community Mental Health*, Vol. 18, No. 3. Retrieved April 5, 2006, from http://www.narmh.org/pages/cultwo.html.
[36] Employment Development Department (EDD) (2005). *Siskiyou County, Snapshot*. State of California. Retrieved June 30, 2006, from http://www.calmis.cahwnet.gov/file/cosnaps/siskiSnap.pdf.
[37] CMHS (1993). *Taking Rural Into Account: Report on the National Public Forum*.
[38] Jackson, Glenn & Charles Cook, Substance Abuse and Mental Health Services Administration

Rural communities tend to focus on a single source of revenue, such as manufacturing or agriculture, and this can contribute to unemployment and economic instability. Geothermal offers an important means of diversifying the economic base and simultaneously adopting an "innovative income-generating [strategy] to build on...assets, diversify...economies, attract new businesses, and sustain... successes."[39] Such diversification, according to the Sonoran Institute, is a direct indicator of economic stability.[40] The jobs within at a geothermal facility cover a broad spectrum of skills, and draw from a diverse selection of applicants.

2. Types of Jobs Created

Geothermal provides long-term income for people with a diversity of job skills. People employed by the sector include welders; mechanics; pipe fitters; plumbers; machinists; electricians; carpenters; construction and drilling equipment operators and excavators; surveyors; architects and designers; geologists; hydrologists; electrical, mechanical, and structural engineers; HVAC technicians; food processing specialists; aquaculture and horticulture specialists; managers; attorneys; regulatory and environmental consultants; accountants; computer techs; resort managers; spa developers; researchers; and government employees.

C. Projected Employment

Looking to the future, geothermal employment should expand significantly. In 2005 alone, GEA has verified over 2000 MWs of geothermal projects under development. If only half of this development comes online within the next few years (a conservative estimate), these new facilities will support 6400 person-year (p-*y) manufacturing and construction jobs and 740 power plant O&M jobs. If these 1000 MW last 30 years – another conservative estimate – new production will create 28,600 p*-y jobs. This employment estimate increases if the additional jobs brought on by research, direct use applications, and other geothermal activities are considered. The number also excludes indirect employment impacts.

(1999). "Crisis Counseling Programs for the Rural Community." from *Disaster Mental Health: Crisis Counseling Programs for the Rural Community*. DHHS Publication No. SMA 99-3378. Retrieved April 6, 2006, from http://www.mentalhealth.samhsa.gov/publications/allpubs/SMA99-3378/crisiscounseling_ch2.asp.

[39] Whitener, Leslie and David McGranahan (February 2003). *Rural America: Opportunities and Challenges*. AmberWaves, United States Department of Agriculture, Economic Research Service. Retrieved April 6, 2006, from http://www.ers.usda.gov/Amberwaves/Feb03/features/ruralamerica.htm.

[40] Sonoran Institute (2005). "A socioeconomic profile, Josephine County, Oregon." *Economic profile system (EPS)*. Sonoran Institute. Tuscan, Arizona.

Figure 6: Power Plant Workers

Source: EERE Geothermal Technologies Program

Take just one example of a developing project in Imperial County, California, at the Salton Sea Unit 6, where all permits have been secured for a 215 MW plant. Once this power plant produces electricity, it will be one of the largest renewable energy projects in the United States. According to congressional testimony, the plant will employ 550 construction workers, eventually leading to more than 60 "high paid, fulltime positions." Testimony concludes that the plant will represent "the single largest capital investment in Imperial County, which is the most economically disadvantaged area in the state."[41]

1. California Potential

Geothermal provides 5% of California's electricity, only a small percentage of the known, developable potential. This potential could contribute much-needed electricity to areas where the population is on the rise and blackouts have already occurred. In California, geothermal is expected to contribute more jobs to the state than any other renewable sector. The table on the following page shows the number of both construction and operational person-years that will likely be generated over the lifetimes of the plants built in California, producing electricity for California, from 2003-2017:[42]

[41] Statement of Vince Signorotti, Vice President, CalEnergy Operating Corporation, Brawley, California. (March 2006). *Testimony Before the Subcommittee on Select Revenue Measures of the House Committee on Ways and Means*. Retrieved March 14, 2006, from http://waysandmeans.house.gov/hearings.asp?formmode=view&id=2698.

[42] Source: Heavner, Brad and Bernadette Del Chiaro (July 2003). *Renewable Energy and Jobs: Employment Impacts of Developing Markets for Renewables in California*. Environment California Research and Policy Center. Accessed March 17, 2006, from http://www.environmentcalifornia.org/uploads/OW/aa/OWaa2RacdlfHwQOWbxKd5w/Renewable_Energy_and_Jobs.pdf.

Table 3: Projected California Renewable Energy Job Opportunities, 2003-2017

Technology	Total CA Employment Growth for CA Electricity Production (person*years)
Geothermal	60,260
Biomass	38,610
Wind	20,420
Solar PV	2660
Solar Thermal	940

Source: Environment California Research and Policy Center

2. Direct and Indirect Potential, Western States

Most industries measure employment through both direct and indirect employment impacts. While indirect impacts are somewhat difficult to quantify, they help capture an industry's overall employment. According to a report by the Western Governors' Association (WGA),[43] development of the near-term geothermal potential of 5,600 MW of geothermal energy would result in the creation of almost 100,000 new power plant, manufacturing and construction jobs. If the USGS estimate of 125,000 MW of geothermal potential is developed, millions of quality jobs will be created. The table on the following page shows employment and resulting economic output estimates based on WGA's near-term estimates.

[43] Western Governors' Association (WGA) (2005). *CDEAC - Geothermal Task Force*. Retrieved March 14, 2006, from http://www.westgov.org/wga/initiatives/cdeac/geothermal.htm.

Table 4: Summary of Western States' Near-Term Geothermal Potential and Resulting Employment and Economic Contribution

	New Power Capacity (MWs)	Direct and Indirect and Induced Employment (Power Plant Jobs/Construction & Manufacturing Employment)**	30 Year Economic Output (nominal)+
California	2,400	10,200 ft jobs/38,400 person*yrs	$36 billion
Nevada	1,500	6,375 ft jobs/24,000 person*yrs	$22.5 billion
Oregon	380	1,615 ft jobs/6,080 person*yrs	$5.7 billion
Washington	50	212 ft jobs/800 person*yrs	$749 million
Alaska	25	106 ft jobs/400 person*yrs	$375 million
Arizona	20	85 ft jobs/320 person*yrs	$300 million
Colorado	20	85 ft jobs/320 person*yrs	$300 million
Hawaii	70	298 ft jobs/1,120 person*yrs	$1 billion
Idaho	860	3,655 ft jobs/13,760 person*yrs	$12.9 billion
New Mexico	80	340 ft jobs/1,280 person*yrs	$1.2 billion
Utah	230	978 ft jobs/3,680 person*yrs	$3.4 billion
Wyoming, Montana, Texas, Kansas, Nebraska, South Dakota, North Dakota	Potential Exists; Resource not studied in WGA Report	Not Studied	Not Studied
Total Western States (additional to current)	**5,635 MW**	**23,949 fulltime jobs/90,160 person*years of construction and manufacturing employment**	**84,410,046,000.00** **Almost 85 billion dollars to the U.S. economy over 30 years!**

** Power plant jobs are the direct, indirect and induced full-time jobs (ft jobs) created by reaching the full power production capacity indicated. Construction and manufacturing jobs are the direct, indirect and induced jobs necessary to build and supply the power plants at the full power capacity indicated. Construction and manufacturing jobs are expressed as full-time positions for one year (person*years), however these jobs will be spread out over several years depending upon the development time frame for new projects. Direct employment results in 1.7 full time positions and 6.4 person*years per megawatt. Induced and indirect impacts were calculated assuming a 2.5% multiplier; for a total direct, indirect, and induced employment impact of 4.25 full time positions and 16 person*years per megawatt.

+Economic Output measures gross power sales over 30 years, assuming power sells at $.06/kWh and produces at a 95% capacity factor. Economic output is represented in nominal dollars, is not adjusted for inflation, and is rounded to the nearest million. Total economic output is not rounded.

II. COSTS AND PAYMENTS

Geothermal's upfront costs, made up of exploration, resource confirmation and characterization (drilling and well testing), and site development (facility construction), comprise the majority of costs accrued over the life of the plant. In 2001, the Electric Power Research Institute (EPRI) estimated that capital reimbursement and associated interest account for 65% of the total cost of geothermal power, while the cost of fuel and operation account for only 35%. In contrast, fossil fuel facilities typically spend 65% on fuel, and only 35% on upfront costs.[44] Geothermal's high upfront costs and low O&M costs, while challenging to developers and investors, help stabilize the power market. Since the cost of fuel at a geothermal plant is so low compared to the initial cost of planning for and building the plant, the operational cost is less likely to fluctuate.

The following sections highlight cost information for each phase of development: exploration, confirmation, site development, financing, and O&M costs. Each phase also includes a set of sub-phases, and where appropriate or applicable, cost figures are sited for each sub-phase. These figures are unique and not cumulative unless otherwise noted. All cost figures are derived from GEA's 2005 Employment Study and represent 2004 $.[45]

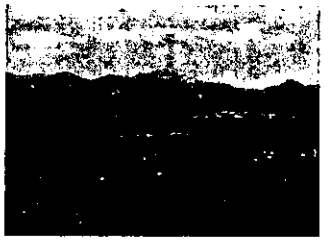
A. Exploration

The first phase, exploration, during which resources are defined, can be divided into three sub-phases: regional reconnaissance, district exploration, and prospect valuation. Exploration for commercially viable projects costs between $100/kW - $200/kW.[46] At a typical, 50 MW plant, exploration costs will total an average of $7.5 million, including all sub-phases (regional reconnaissance, district exploration, and prospect evaluation).

1. Regional Reconnaissance identifies resource areas at the least specific level, at around 1000 km.^{2} The price for regional reconnaissance has been estimated at roughly $7.70 per kW[47] installed. For the typical geothermal plant, a 50 MW facility, this amounts to $385,000 in total regional reconnaissance costs.[48]

[44] Capital cost of a combined cycle natural gas power plant only represents about 22 percent of the levelized cost of electricity produced from the plant whereas the fossil fuel cost accounts for 67 percent. (Source: Source: "An Assessment of the Economics of Future Electric Power Generation Options and the Implications for Fusion", Oak Ridge National Laboratory, 1999)., Oak Ridge National Laboratory, 1999).
[45] Hance, Nathanael (2005). *Factors Affecting Cost of Geothermal Power Development.* Geothermal Energy Association (GEA) and represent 2004$. Geothermal Energy Association (2004). *Geothermal Energy Potential.* Retrieved November 10, 2004, from http://www.geo-energy.org/USGeoProv.pdf.
[46] The average confirmation costs of projects considered as "cost competitive" by GeothermEx (2004) *(i.e. capital investment ≤ 2400$/kW)* is 153$/kW. Inflated confirmation cost estimates published in EPRI 1997 correspond to 140.35 $/kW.
[47] Nielson D (1989), *Competitive economics of Geothermal Energy: The Exploration and Development Perspective,* University of Utah, estimated this exploration phase to cost $500,000 for a 100 MW

Figure 7: Geothermal Surface Manifestation, Indicating Possible Underground Resources: Steam Vent in Central Nevada



Source: Daniel Fleischmann, GEA

Regional reconnaissance costs are influenced by the amount of resource information already available and by the accessibility of prospective areas. Government agencies, international development institutions, or multilateral aid programs typically subsidize or even fully finance such activities (through national geologic mapping or satellite imagery, for example).

The USGS completed a geothermal resource survey in 1978, Circular 790. However, when the assessment was conducted, relatively few geothermal power plants existed. That 1978 survey, which considered mostly resources with visible surface manifestations, identified 125,000 MW of geothermal potential throughout the U.S. Currently only 2825 MW of that potential is utilized—a mere fraction of the known potential. EPAct requires the USGS to update its 1978 survey by 2008. That update will incorporate data developed by federal agencies, states, and private entities; will consider the additional knowledge brought by increased geothermal power generation; and will take into account the technological advances that have emerged since 1978.

2. District Exploration identifies resources within more precise regions of around 100 km^2 with the intent of securing reservoirs for further exploration. Geophysical and geochemical surveys are completed and, if encouraging, exploration wells are drilled. Usually, in a greenfield prospect, temperature gradient holes will be drilled or cored. If those are encouraging (they indicate high enough temperature gradients), then a larger well, capable of testing a reservoir, may be drilled. Two types of geothermal exploration wells are generally used: either production-size (or full-size) exploration wells, or smaller and less expensive slim holes. A slim hole typically cannot be used during actual geothermal production, and so developers often opt to drill a production-sized well. However, if drilling a production well does not locate a usable resource, the money lost will be twice as great as if a slim well had been used. A slim well costs an average of $22.50 per kW. District exploration cost varies depending upon geology and resource depth. Wells drilled during this phase are called "wildcats" and have an average success rate of 20-25%. Oil and gas exploration, which relies on wildcat drilling, has a similar

geothermal power project. The $500,000 value has been inflated according to the U.S. BLS inflation calculator in order to represent 2004 dollar values. The inflation index for the 1989-2004 period is 1.54.
[48] All cost figures for "typical 50 MW plants" are drawn from: Hance, Nathanael (2005) [See footnote #5].

one in five success rate.[49] Drilling costs are escalating rapidly as the cost of steel and cement increases, so the cost figures cited above may be lower than the current average.

3. Prospect Evaluation is the most costly and specific phase of exploration. This phase costs about $77.00 per kW. For an average, 50 MW geothermal power plant, the total cost for prospect evaluation amounts to $3.85 million. This phase (which overlaps with the district exploration phase) seeks to locate the best sites to drill production wells with fluid temperatures and flow rates at levels that can produce electricity.

4. Geothermal and Oil and Gas Exploration: A Comparison

Because of technological constraints, geothermal resources below depths of 4 km are typically not considered economically viable. By improving technology and increasing the depth at which resources can be considered economical by only 2 km, to a total depth of 6 km, the potential for developable geothermal resources expands significantly. Increasing the geothermal drilling depth by only one kilometer—to 5 km depths, as is the current practice in Iceland—could dramatically expand the number of developable geothermal resources. Though the drilling techniques and procedures for geothermal wells are similar to those used in the oil and gas industry, the latter is remarkably farther along in its exploration capabilities when compared to geothermal. The depth record for a gas well is in the Gulf of Mexico. It was drilled in January 2004 by Shell Oil Company to a depth of 33,200 feet, or over 10 km.[50] Because many gas wells have elevated temperatures, work is being conducted to determine if these existing wells can be utilized for geothermal power generation.

5. Factors Affecting Exploration Costs

Financing costs can significantly increase the cost of exploration. Because the risk factor for geothermal is so high (only 25% of wells drilled during exploration find a usable resource), companies seek equity investors to share in the risk by financing the project. Equity invested in geothermal yields an average annual rate of 17%.[51] This increases the total exploration costs considerably (see *Financing* for more information). In recent years, the increased cost of steel and cement materials required for drilling and well completion has significantly increased drilling costs—in some cases, nearly doubling the drilling cost.

[49] EIA. *Supply*. Retrieved September 6, 2006, from http://www.eia.doe.gov/pub/oil_gas/petroleum/analysis_publications/oil_market_basics/supply_text.htm.
[50] Geothermal Energy Association (2004). *Geothermal Energy Potential*. Retrieved November 10, 2004, from http://www.geo-energy.org/USGeoProv.pdf.
[51] Owens, Brandon, Platts Consulting and Research (September 2002). *An Economic Valuation of a Geothermal Production Tax Credit*. Geothermal Resources Council Transactions, Vol. 26.

A number of other factors affect exploration costs:

- Expansion of an existing project will require lower exploration costs than greenfield projects, where a reservoir has not been previously drilled
- The larger the plant, the less the cost per MW (economies of scale)
- When costs of drilling materials, such as steel, fluctuate, so will the cost of drilling; also if the lithologies (properties of the rock formation) are more difficult to drill through, the cost of drilling will increase
- Lease costs and lag time in obtaining leases and permits increase the costs associated with exploration
- Site location and accessibility both influence exploration costs; costs tend to increase if the resource is located in a remote area
- Competition for drill rigs, as has occurred in Nevada over the past year as both gold and geothermal exploration have expanded
- Exploration techniques, including geophysics, chemistry, and number of slim holes needed
- Time delays (see following section)

Considering all of these factors, exploration is estimated to cost $100 – 200 / kWh. Exploration for the typical 50 MW geothermal power plant will thus cost between $5 and $10 million, with costs rising as the cost of steel increases.

a) Project Delays: Increasing the Total Cost

Project delays due to permitting, leasing, or other issues can significantly increase the exploration cost of a project. The table and chart on the following page show the cost increase of the expected value of a $100 (pink lower line) and $150 (blue upper line) capital investment when a 17% rate of return is considered. The vertical column represents the increase in exploration costs (in 2004 $) due to delays. As shown in the figure below, an initial investment of $100 translates into an investment of $2311 after twenty years; likewise, an initial investment of $150 will cost $3466 after twenty years.

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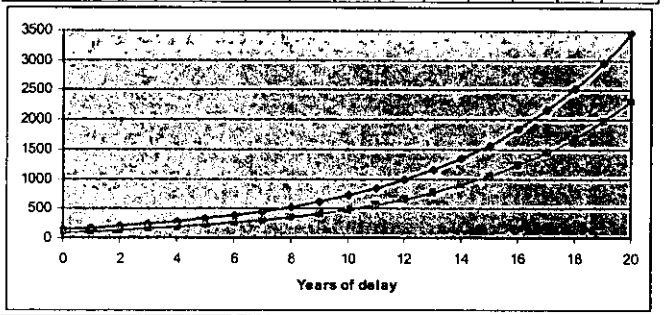
Figure 8: Typical Exploration Cost Increase Caused by Delays

Delay (years)	0	1	2	3	4	5	6	7	8	9	10
Exploration Costs	100	117	137	160	187	219	257	300	351	411	481
	150	176	205	240	281	329	385	450	527	616	721



Delay (years)	11	12	13	14	15	16	17	18	19	20
Exploration Costs	562	658	770	901	1054	1233	1443	1688	1975	2311
	844	987	1155	1351	1581	1850	2164	2532	2962	3466

Source: Hance, GEA

B. Confirmation

The confirmation phase seeks to confirm the energy potential of a resource by drilling production wells and testing their flow rates until around 25% of the resource capacity needed by the project is confirmed. Confirmation cost estimates for commercially viable projects average $150/kW.[52] At a typical, 50 MW plant, confirmation costs will total $7.5 million. The drilling success rate at the confirmation phase is 60%.[53]

A number of factors influence confirmation costs:

- The depth and diameter of the well
- The properties of the rock formation
- The number of wells drilled (determined by well productivity)
- Site accessibility
- Time delays

[52] The average confirmation costs of projects considered as "cost competitive" by GeothermEx (2004) *(i.e. capital investment ≤ 2400$/kW)* is 153$/kW. Inflated confirmation cost estimates published in EPRI 1997 correspond to 140.35 $/kW.

[53] GeothermEx (2004) estimates that a 60 percent success rate for production wells during the confirmation phase is reasonable, because confirmation drilling is based on very limited data about the deep resource, and the reservoir information gathered during confirmation later leads to the higher overall success rate."

- Rate of return on money invested

1. Confirmation Success Rate

GEA is often asked why the confirmation success rate is so low, especially considering that geothermal power plants have been operating for decades. Although the operating procedures for geothermal plants are mature and developed, the exploration and confirmation procedures are not nearly as advanced as operation. Often, geothermal resource areas have been found inadvertently in locations without any surface manifestation whatsoever. Even areas with surface manifestation do not always produce resources when drilled. If exploration shows the existence of a resource, confirmation is still needed to prove whether or not the resource is suitable for electricity production. All of these uncertainties accounts for the 60% confirmation success rate. As time goes on, it is expected that research activities will improve the confirmation success rate.

C. Site Development

The site development phase covers all the remaining activities that bring a power plant on line: drilling, project permitting, liquid and steam gathering system, and power plant design and construction. Site development costs at a 50 MW geothermal facility will average $131 million,[54] with site development costs varying considerably from project to project.

1. Drilling

The success rate for drilling production wells during site development averages 70 to 80%. The size of the well and the depth to the geothermal reservoir are the most important factors in determining the drilling cost. Inexpensive wells could cost as little as $1 million while expensive wells could cost $8-9 million. An average well will probably cost between $2 and 5 million.[55] Inexpensive wells tend to be found in areas of shallow resources located in sedimentary rocks, while expensive wells tend to be found in deep reservoirs located in hard rock formations.

[54] EIA's geothermal capital costs are low compared to those referenced in GEA's recent report, *Factors Affecting Cost of Geothermal Power Development* (see footnote #5). GEA lists geothermal development costs at $2620 per kWh, while EIA information represented in Table 1 of this paper lists geothermal capital costs at $2100 per kWh. The increase in the cost of the former can be explained because of the inclusion of additional cost parameters: financing, developer's soft costs, transmission costs, and others. Few of these parameters are included in the EIA figures of Table 1. However, if the figure of $2620 per kWh had been used for geothermal in Table 1, while using EIA figures for the other technologies, the cost figure for geothermal would include a larger set of parameters than those included in the other technologies, and thus would not provide a fair comparison.

[55] A 2M$ cost figure is most likely applicable to low average cost figure (e.g. a shallow resource) while a 5M$ well would rather correspond to the high end of the "average" cost figure.

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The average drilling expenses for a known geothermal site with existing production wells is $648/kW,[56] excluding confirmation drilling costs. Interviews with geothermal developers revealed that total drilling costs—including confirmation and site development drilling—range from $600/kW to over $1200/kW with an average drilling cost of close to $1000/kW. A typical, 50 MW plant would accrue an average of $37.5 million in drilling costs. However, just as the cost of drilling during exploration has significantly increased due to rising steel prices, so too has the cost of drilling during site development. In some cases, drilling costs have doubled.

A number of factors influence drilling costs:

- Permeability of the rock (ability of fluid to flow through the rock)
- Depth of the reservoir
- Chemistry of the geothermal fluid
- Resource temperature and pressure
- Competition with the oil & gas industry for drilling equipment (escalating rig and equipment costs, particularly steel and cement)
- "Known" versus "unknown" fields: drilling costs are expected to average 37% less on "known" geothermal fields compared with "unknown" fields[57]
- Reservoir engineering

a) A Note about Drilling Costs

GEA has often been asked why drilling costs are so high relative to the total price of a constructing a geothermal power plant. Indeed, after power plant design and construction, drilling costs account for the second largest cost associated with geothermal power development, at almost 30% of total cost. There are a number of reasons for this comparatively high drilling cost. Drilling requires a considerable amount of costly materials, such as steel. The cost of steel has been increasing in recent years, which creates competition between the geothermal and oil and gas industries, because oil and gas producers can generally afford to buy more of these costly materials. Additionally, competition for drill rigs drives up the costs. Geothermal drilling technology continues to require refinement if costs are to be reduced and accuracy is to be improved. Compared to geothermal's low operation and fuel costs, the cost of drilling looks particularly high; however, the levelized cost of geothermal power looks much more reasonable, and often, even cost-competitive with other available technologies.

2. Project Leasing and Permitting

Like all power projects, geothermal power projects must comply with a series of legislated requirements related to environmental concerns and construction criteria. Laws

[56] Hance, Nathanael (2005). *Factors Affecting Cost of Geothermal Power Development*. Geothermal Energy Association (GEA) and represent 2004$. Geothermal Energy Association (2004). *Geothermal Energy Potential*. Retrieved November 10, 2004, from http://www.geo-energy.org/USGeoProv.pdf.
[57] Stefansson V (2002). *Investment cost for geothermal power plants*, Geothermics 31, pp 263-272.

and regulations vary significantly from state to state and, to some extent, depend on the land ownership. While procedures for approving construction of coal and natural gas facilities are generally standardized and transparent, those for permitting and leasing geothermal lands – before construction can even begin – can be arduous and unclear. Respondents to a recent survey about the barriers of new developing geothermal projects listed up to two decades of delay, with an average of 2 years, due primarily to difficulties in obtaining leases and permits for their projects.

During project development, leases are issued, site exploration for which permits are required takes place, and construction permits are issued. Overlapping jurisdiction, lack of funds, and lack of personnel has lead to leasing backlogs in many states, where applicants have been forced to wait decades for lease approval. EPAct's recent amendments to leasing laws seek to streamline the leasing process and facilitate the issuance of more leases. Because the new law has not yet been implemented, at this time its impact is unclear.

Most phases of project development must comply with a series of land use requirements. National Environmental Policy Act (NEPA) review costs are a subset of permitting costs, i.e., there are other permitting costs to consider besides NEPA compliance. Both permitting and leasing will require some sort of environmental documentation, whether it be the detailed Environmental Impact Statement (EIS), or the Environmental Assessment (EA).

One estimate places an EIS related to NEPA requirements at an average cost of $600,000, with an average time of up to two years. [58] Total permitting costs vary significantly for each project, often falling well above or below the average. While permitting a small project may only cost about $200,000 and take less than one year (best case scenario), permitting a large project may cost over a million dollars and take more than three years.

Even though geothermal plants are some of the most environmentally benign that exist today, the permitting requirements associated with geothermal development can be overwhelming. At the Mammoth Pacific plant, located in California, a five-year struggle for expansion permits resulted in approval with a 22-page "conditional use permit," with over 100 conditions that had to be met in order for the expansion to move forward (see *Mammoth Pacific Case Study* for more information).

3. Steam Gathering System

The liquid and steam gathering systems are the network of pipes connecting the power plant with production and injection wells. Production wells bring the geothermal fluid to the surface to be used for power generation, while injection wells return most of the used fluid back into the geothermal system to be used again. Injection helps ensure that geothermal systems are sustainable and that the resource is not depleted.

[58] National Geothermal Collaborative (November 2004). Geothermal Leasing Panel. Accessed March 23, 2006, at http://www.geocollaborative.org/publications/default.htm.

A number of factors influence the cost of the steam gathering system:

- Site topography
- Slope stability
- Average well productivity and thus, pipeline sizes
- Size and spread of the steam field
- Characteristics of the geothermal fluid (temperature, pressure)
- Site accessibility (road construction needs and difficulties)
- Chemical characteristics of the geothermal fluid

Recent cost estimates provided by geothermal power developers average 250$/kW and, in some cases, exceeded $400/kW. At a typical 50 MW plant, the steam gathering system costs approximately $12.5 million.

a) Benefits of Injection

Benefits of injection include enhanced recovery of geothermal fluids, reduced subsidence, safe disposal of geothermal fluids, and an increased operational lifetime of the reservoir.[59] Geothermal plants can last for decades if managed properly. Because geothermal facilities rely on a constant source of fuel that can be recycled through the system, the cost of maintaining the geothermal facility is minimal once the drilling and exploration takes place, while the benefits of using a clean, stable energy source—including reduced air emissions, increased national security, energy stability, reduced dependence upon foreign oil—are substantial.

One geothermal complex, The Geysers in California, has realized unique benefits from its injection activities. At The Geysers, injection serves the dual purpose of environmentally responsible disposal of reclaimed water, which would otherwise be discharged onto fields or into local waterways, and rejuvenating geothermal reservoirs with additional water sources. Reclaimed water from Lake County is being injected deep into The Geysers reservoir at the rate of approximately 2.8 billion gallons annually. Additionally, about 4 billion gallons annually (11 million gallons of treated wastewater per day) is being pumped to The Geysers for injection from cities in Sonoma County. These projects have proven to be a great success.

4. Power Plant Design and Construction

In designing a power plant, developers must balance size and technology of plant materials with efficiency and cost effectiveness. The power plant design and construction depends upon the type of plant (flash, binary, dry steam, or flash/binary

[59] California Division of Oil, Gas, and Geothermal Resources (2004). *Geothermal Injection Wells*. Retrieved November 4, 2004, from http://www.consrv.ca.gov/DOG/geothermal/general_info/injection_wells.htm.

combined cycle), as well as the type of cooling cycle used (water or air cooling). See *Geothermal Basics* for more information about cooling systems and power plant types. Labor costs are estimated to account for 41% of total project construction costs while materials and "other" costs respectively represented the remaining 40% and 19%. Labor costs can increase by 10% if camps are needed to provide housing and meals to workers when a resource is remotely located.[60]

Figure 9: Soda Lake Binary Power Plant, Fallon, Nevada.

Source: Daniel Fleischmann, GEA

Besides the costs related to physically building a power plant, other power plant related costs include soft costs and land costs. *Soft costs* relate to project development and financial issues, including expenses such as engineering, legal, regulatory, documentation and reporting activities. Soft costs represent approximately 6 -10% of total costs.

Land costs can vary depending upon the type and ownership of land in question—desert vs. agricultural land; rural land vs. land close to cities, purchased vs. leased parcels. For steam geothermal systems,[61] land costs include subsurface mineral rights that correspond to roughly 10% of the value of steam.

a) Land Cost and Use Comparison

Although any development will impact land, fossil fuel site development and land use tends to be more destructive than geothermal development. Fossil fuel power plants impact both the site of the plant and the site of drilling (for natural gas), or mining (for coal). Transportation impacts for pipelines and coal shipments, usually via rail, can also be environmentally destructive. Coal mining can damage large swaths of land and degrade streams. Coal power use impacts and associated costs would be much higher if

[60] Bloomquist, Gordon (2002). "Economics and Financing," In *Geothermal Energy* (UNESCO), Chapter 9, M.H. Dickson and M. Fanelli.

[61] At a *dry steam geothermal power plant*, steam directly from the geothermal reservoir runs the turbines that power the generator, and no separation is necessary because wells only produce steam.

mining, processing, transport, construction, and reclamation were included. Nuclear costs increase due to the required safe maintenance of huge amounts of radioactive waste, and the cost of keeping waste safe is imposed on future generations. Nuclear also uses and discharges extensive water resources. Natural gas wells are drilled hundreds of miles from the plant site, and this means that the gas is transported by pipeline across considerable distances to be used at the power plant. In the future, much of our natural gas will likely be imported from other countries as liquefied natural gas.

With geothermal development, land use impacts are located at the power plant and transmission line site. There is no potential for disasters such as the 1989 Exxon Valdez oil spill in Prince William Sound, Alaska, where 15 million gallons of oil in transport were accidentally released into a pristine natural area. Over 30 years, the period of time commonly used to compare life cycle impacts of different power sources, geothermal uses less land than most other sources.[62] Geothermal plants can also be built upon multiple use land, where aquaculture operations, agricultural activities, and hunting can regularly take place on the same site as the power plant. Cascaded uses, where a power facility provides power and thermal heating needs for collocated businesses, are also common at geothermal power plants.

Geothermal facilities use less freshwater than other electricity sources. An analysis of a geothermal and a natural gas facility shows that a typical geothermal facility uses significantly less freshwater than a natural gas facility.[63] A binary geothermal plant with an air-cooling system uses virtually no freshwater at all.

b) Transmission Issues

Because geothermal resources cannot be transported distances over a few miles, geothermal power plants must be built at the site of the reservoir and must rely upon transmission systems to bring their power to the regional power grid. Sometimes transmission infrastructure does not exist where a geothermal resource is located, and additional power lines must be built, adding to project costs. Geothermal developers pay the direct costs to connect their plant to the grid, and in some cases incur additional transmission related costs. These additional costs could include the construction of new lines, upgrades to existing lines, or new transformers and substations.

[62] Brophy, Paul (1997). Environmental Advantages to the Utilization of Geothermal Energy. *Renewable Energy*, Vol 10:2/3, Table 3, pp. 374.

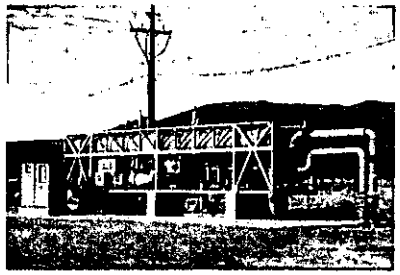
[63] Telephone Flat Environmental Impact Statement 3.2-32, 3.2-34, 3.2-35; natural gas: Calpine Corporation Sutter Power Plant Project, Application for Certification (AFC) (Dec 1997). Table 2.2-1, *Estimated Average Daily Water Requirements.*
NOTE ON CALCULATIONS: Telephone Flat (geothermal)was proposed to produce 48 MW and use an average of 6.5 acre feet/year, Sutter (natural gas) was proposed to produce 500 MW and use an average 4,336,000 gals/day. Numbers based on the assumptions that one acre-foot = approximately 325,851 gallons, as reported by USGS (http://water.usgs.gov/pubs/circ/2004/circ1268/htdocs/text-conversion.html) and that the water usages are averaged over a 24 hour a day, 365 day a year time period.

Projects considered economically viable have transmission related costs ranging from $13 to $236 per kW with an average of $104/kW.[64]

A number of factors influence the transmission costs:

- existing lines
- topography of the area
- size of the plant – Considering a 10 MW and a 100 MW project with similar transmission requirements, transmissions costs for the larger project will be 10 times smaller than the cost for the smaller project, since the cost will be shared out over a much larger power output.

Figure 10: A Small Power Plant in Nevada, the Wabuska



Source: Ormat

c) Other Factors that Influence Design and Construction

A number of other factors besides transmission influence the cost of designing and constructing a power plant:

- The temperature of the resource: as the temperature increases, the efficiency of the power system increases and the specific cost of equipment decreases
- The depth to the reservoir
- The chemistry of the geothermal fluid
- Water availability, which will help determine the type of cooling system that will be used[65]
- Location, topography and geologic factors
- Power plant technology choices
- Larger projects will cost less per MW than smaller projects (economies of scale)
- Greenfield projects tend to cost 10 to 15% more than power plant expansions

[64] Sanyal S (2004). *Cost of Geothermal Power and Factors that affect it.* GeothermEx.

[65] Two different kinds of cooling systems exist: air-cooled or water-cooled. Water-cooled systems are generally considered to be less expensive to build and operate as long as water is inexpensive and readily available.

d) Geothermal Power Plants and Tourism

Most geothermal power plants will either not affect tourism or cause it to increase. Take the example of the power plant at Mammoth Lakes, California, a sight of heavy outdoor recreation and active fisheries. Although people initially opposed the project due to worries over tourism impacts, the project is now highly regarded among community members and visitors alike. Many people in the city do not even know the power plant exists because it was so expertly engineered to blend into the surrounding environment (See *Mammoth Pacific Case Study* for details). Tourism might increase when students, scientists, or interested individuals visit the site of the power plant, thereby bringing business to the local community, but rarely does geothermal development negatively impact tourism. Tourism has certainly increased near the Blue Lagoon in Iceland, a turquoise body of mineral rich water, which was actually created by geothermal water discharged from a power plant.[66]

5. The Production Tax Credit (PTC)

EPAct 2005 provides a production tax credit (PTC) for renewable technologies, including geothermal, through the end of 2007. This PTC provides a 1.9 cent tax credit for each KWh of power produced by an eligible facility (or $19 per MWh) as adjusted annually for inflation. The PTC was available only to wind and closed loop biomass in 1992, and resulted in the "increased installed capacity of wind turbines in the United States," according to the EIA, with "large amounts of capacity built in the year prior to the expiration of the PTC, and virtually no capacity built when the PTC [was] not available."[67] As of 2005, the PTC was expanded to include not only geothermal facilities, but also open-loop biomass, solar energy, small irrigation power, and municipal solid waste (MSW) power facilities. The value of the PTC is halved for open-loop biomass, MSW, landfill gas, small hydro and incremental hydro from efficiency improvements or capacity additions at existing hydro projects. Coal owned by or held in trust on behalf of an Indian tribe and refined coal are eligible as well, with the credit set at $4.375 per ton for refined coal and $1.50 for Indian coal.

a) Impact on Geothermal Cost

One analysis found that a PTC would decrease the levelized cost of geothermal power by 25 – 30% compared with the current policy environment.[68] For many developers, a PTC

[66] Geotimes, Dec. 2003. http://www.geotimes.org/dec03/Travels1203.html. Retrieved November 9, 2004.
[67] EIA, DOE. Policies to Promote Non-hydro Renewable Energy in the United States and Selected Countries (February 2005). Retrieved April 5, 2006, from http://www.eia.doe.gov/cneaf/solar.renewables/page/non_hydro/nonhydrorenewablespaper_final.pdf#2.
[68] Owens, Brandon, Platts Consulting and Research (September 2002). *An Economic Valuation of a Geothermal Production Tax Credit*. Geothermal Resources Council Transactions, Vol. 26, pgs 467 – 471.

can dictate whether or not a power purchase agreement (PPA) will be secured (see *Financing* for more information). Without a PTC, geothermal power will not likely be brought to the grid. Besides increasing geothermal and other renewable development, the PTC lowers the price customers must pay for renewable energy.[69]

Figure 111: Raft River Groundbreaking

Source: Dan Fleishmann, GEA

b) Impact on Geothermal Development

As of October 2005, one newly operating geothermal power plant, the Richard Burdette power plant located near Reno, Nevada, benefited from the production tax credit (see figure 12 below). About a half dozen other plants—of the three dozen or so under development—are set to come online in time to benefit from the credit. One of the plants that will likely benefit from the PTC is the Raft River geothermal power plant, which will be the first geothermal plant to produce power in the northwest (figure 11).

Other plants included in the 35 new projects under development as of 2006 may benefit from the credit, but timeframe issues make this uncertain. Many industry experts, including Ormat, the owner of the Richard Burdette plant, admit that "it is too early to assess the impact of provisions in EPAct, including the PTC, on the geothermal industry." Ormat stresses, however, on behalf of the geothermal industry, that the PTC will likely "enhance the ability of geothermal projects to compete with other fossil fuel technologies." Only in the next few years will the geothermal industry know for sure what the impact of the PTC will be. It is anticipated, however, that the PTC, especially if extended, will result in new geothermal development. In fact, industry leaders and the GEA, the industry trade group representing U.S. companies, identify the PTC is one of the most effective policy tools to expand geothermal development.

[69] Gale, Brent E., MidAmerican Energy Company (April 2005). "The Economics of Utility Ownership of Wind." Power point presentation at PUC Conference on *The State of America's Energy*. Retrieved July 21, 2006, from http://www.state.sd.us/puc/puceventsEnergy%20Conf%20Presentations/Brent%20Gale%20Economics%20of%20Wind.pdf.

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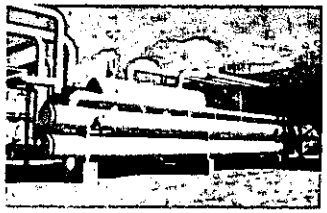
Figure 122: Richard Burdett Plant



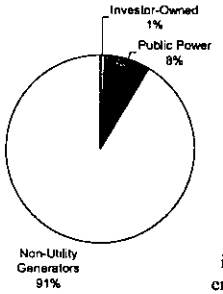
Source: Ormat

c) Geothermal Market Price

Even though the levelized cost of certain distributed renewable energy sources might be higher than the levelized cost of geothermal energy, geothermal still needs the PTC to remain competitive. The reason for this price difference can be explained, in part, by the power prices in the wholesale vs. the retail market. In general, for an energy source to compete in the wholesale market, it must cost less than the competitive cost in the retail power market. Geothermal is an energy source sold in the wholesale power market, while a source such as solar is typically sold in the retail power market.

It is true that geothermal prices are decreasing, and in fact are close to market price. While geothermal is one of the most cost-effective options of the renewable energy sources available, in many cases geothermal technology still struggles to compete with polluting fossil fuel sources. Geothermal developers hope that, with time, they will be able to compete in the wholesale power market without the PTC. But today's studies show that in order for geothermal to compete against highly subsidized fossil fuel energy sources, the PTC is necessary.

Figure 13: Public and Private Ownership of Geothermal



Source: American Public Power Association (APPA)

Power Plants, 2003d) Alternative for Independent Power Producers: CREBs

Clean Renewable Energy Bonds (CREBs) provide an incentive for electric co-ops and public power projects that cannot qualify for the PTC. A CREB is a special type of bond, known as a "tax credit bond," that offers cooperatives the equivalent of an interest-free loan for financing qualified energy projects for a limited term.[70] While the

[70] National Rural Electric Cooperative Association (NRCA). *Clean Renewable Energy Bonds (CREBs).* Retrieved August 11, 2006 from http://www.nreca.org/Documents/PublicPolicy/CleanRenewableEnergyBonds.pdf.

majority of geothermal power plants, designated as either private or utility-generators, benefit from the PTC, some geothermal power plants, such as the Northern California Power Agency (NCPA) facilities, are publicly owned. The breakdown of private/public ownership is shown in figure 13 on the preceding page.[71] Two NCPA units generate 220 MW of geothermal power at The Geysers. New publicly owned projects are in the works, including several on Indian land.

e) PTC Timeframe Challenges for the Geothermal Industry

EPAct specifies that a facility eligible for the PTC must be built by the end of 2007. This stipulation poses a challenge for many geothermal developers, because most new geothermal facilities cannot be constructed by that time. Most geothermal projects take 3 to 5 years to come online, without even considering permitting and leasing issues that can delay operation further. In one instance, a geothermal power company is only developing 25 of its contracted-for 215 MW, because only 25 MW can be developed within the timeframe set forth in the PTC. According to the largest geothermal power producer in the U.S., Calpine Corporation, without a facility qualifying for a PTC, even though "buyers have shown considerable interest in purchasing geothermal power because it is both renewable and extremely reliable...the utilities are likely to award power purchase contracts to plants that can be constructed in a shorter time frame and can offer more price certainty."[72]

Table 5 on the following page shows average leadtimes for selected alternative energy technologies.[73] As the table shows, several other technologies suffer from long leadtimes: geothermal, conventional hydropower, and biomass share the longest leadtimes. Many geothermal developers in California—the state with the most developed geothermal resources—complain of even longer leadtimes. Note that nuclear, with an EIA-projected six-year leadtime, benefits from long-term loan agreements, substantial R&D funding, and numerous other benefits.

[71] American Public Power Association (APPA). *2006-07 Annual Directory & Statistical Report.* "Renewable Capacity by Owner Type: Nameplate Capacity, in Megawatts." Retrieved August 14, 2006, from http://www.appanet.org/files/PDFs/renewablecapacity.pdf.
[72] Calpine Corporation (2006). *Statement on Calpine Plans for Geothermal Development.*
[73] Source: EIA (2006). *Assumptions to the Annual Energy Outlook 2006.* Retrieved March 17, 2006, http://www.eia.doe.gov/oiaf/aeo/assumption/index.html.

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Table 5: Average Number of Years Required to Bring a Plant Online

Technology	Leadtime (years)
MSW[74] / Landfill Gas	3
Biomass	4
Wind	3
Geothermal	4
Fuel Cells	3
Conventional Hydropower	4
Solar Thermal	3
Photovoltaic (PV)	2

Source: EIA

6. Mitigation Measures

Despite the minimal impact of geothermal facilities compared to fossil fuel sources, geothermal development is accompanied by significant mitigation measures.

At most geothermal facilities, detailed site planning, facility design, materials selection, revegetation programs, and adjustment to transmission line routing are routine components of geothermal operations. One large geothermal company reduced the visual impacts of their power plant by painting all piping forest green to blend into the surrounding landscape. Another installed the first air-cooled geothermal power plant in order to eliminate the view of steam plumes that accompany the more standard water-cooled geothermal plant (for details, see *Mammoth Pacific Case Study*). Some companies utilize non-specular conductors, which reduce reflection and glare on transmission lines. Transplanting trees is also a common mitigation technique.

Several noise muffling techniques and equipment are available for geothermal facilities. During drilling, temporary noise shields can be constructed around portions of drilling rigs. Noise controls can be used on standard construction equipment, impact tools can be shielded, and exhaust muffling equipment can be installed where appropriate. Because turbine-generator buildings are usually designed to accommodate cold temperatures, they are typically well-insulated acoustically and thermally, and equipped with noise absorptive interior walls.

Mitigation also consists of monitoring activities. Ongoing monitoring activities could include but are not limited to well pressure, water chemistry, archeological, species, ecosystem, surface site, and deep temperature monitoring. Most mitigation measures are set forth in permitting conditions and in environmental documents that are available for public review.

[74] Municipal Solid Waste

D. Financing

Two types of investors typically provide money for geothermal development: equity investors and debt investors. Early *equity investors* may recover the money they invest only if geothermal exploration proves the existence of a resource that results in an operating project or a sale. Because high risk is involved for equity investors, equity investors expect a high rate of return if a project is successful—16-20 percent or more.[75]

Debt investors are usually risk-averse lenders or commercial banks. Debt investors are among the first financial stakeholders to recover their money in case of project failure. Because comparatively lower risk is involved for debt investors, debt investors receive lower interest rates (about 6-8%). Debt investors usually will not lend money unless a certain percentage has already been invested by an equity investor. Today's geothermal projects are generally composed of 70% debt and 30% equity. As an added constraint, debt lenders (commercial banks) will require 25% of the resource capacity to be proven before lending any money. This means that all early phases of the project have to be financed by equity. So, while geothermal developers would prefer their projects were funded entirely by debt due to lower interest rates, at least part of the project, especially the upfront costs, must be funded by equity.

1. Interest Rates for Geothermal Developers

Different types of developers will be required to pay different rates of interest over various timeframes for their loans. For example, Independent Power Producers (IPPs),[76] which account for all but one geothermal power producer in the U.S., will pay an average interest rate of 10.7% over 15 years, while a municipal utility[77] will pay an average interest rate of 5.5% over 30 years.[78] This means that the cost of financing for an IPP could increase the levelized cost of power[79] by as much as 44% compared with the cost at a municipal utility.

2. Length of Debt

In order to secure the revenue flow of the project, commercial banks will require the developer to have a Power Purchase Agreement (PPA) that covers at least the length of the debt period. A PPA, negotiated with a utility, guarantees that a power plant will be able to deliver its power to the grid at a fixed or market-dependent price for a certain

[75] Return on equity figures provided above are nominal. To obtain real interest rates, inflation has to be subtracted from nominal interest rates.
[76] An "IPP" is a private non-utility or utility-affiliated entity that generates electricity and sells it to other businesses including utilities.
[77] A "municipal utility" is one owned and operated by a town or city with an organized local government.
[78] U.S. DOE, EPRI (1997). Renewable Energy Technology Characterizations.
[79] "Levelized cost" is defined as the total capital, fuel, and operating and maintenance costs associated with the plant over its lifetime divided by the estimated output in kWh over its lifetime (expressed here in current dollars).

period of time.[80] Geothermal power plants have a planned lifetime of at least 30 years and usually operate much longer, while power purchase agreements typically last 10 to 20 years. This means that the debt payback period of the project has to fit into the PPA timeframe. After a geothermal project pays back the debt incurred by a PPA, over ten years or more, costs may then fall by about 50% to cover just O&M costs for the remaining time during which a facility operates.

3. Long-term PPAs and Stability

Although obtaining a long-term PPA may be challenging for a developer, the agreement helps stabilize the electricity market. A geothermal PPA transfers any risk related to fuel from the market and/or consumer to the developer and/or operator. A PPA ensures a stable, long-term electricity price for decades. This price security means that geothermal energy can offset the U.S.'s dependence upon the highly volatile fossil fuel power market. Once a power project is built, most of its power production costs are known and predictable and, in many cases, few market parameters can modify them.

4. The True Capital Cost of Power: Considering Capacity Factor

At first glance, geothermal power plants seem to require higher upfront costs than most other renewable and fossil fuel technologies. A closer look, however, proves that this is not the case. Table 6 on the following page shows the weighted overnight costs[81] once capacity factor (CF) is considered.[82] CF measures the amount of power that a facility produces related to its rated capacity over time. Geothermal plants have the highest projected rated CF of any renewable facility, according to EIA. The overnight or capital costs increase dramatically for most technologies when capacity factor is considered, but stay relatively stable for geothermal. This means that geothermal's overnight costs based on generation—the number of MWs actually producing electricity—is competitive with other fuel sources.

[80] Power Purchase Agreements are long-term contracts that specify power prices and output for the period considered. They are usually the result of political commitment that aims to diversify the energy mix and promote alternative sources of energy (renewable energy) to stabilize long-term price projections but are not always available neither easy to obtain.

[81] Overnight costs for each technology are calculated as a function of regional construction parameters, project contingency, and technological optimism and learning factors, according to EIA.

[82] From EIA (2006). *Assumptions to the Annual Energy Outlook 2006.* Retrieved April 17, 2006, from http://www.eia.doe.gov/oiaf/aeo/assumption/index.html.

Table 6: Overnight or Capital Cost Comparison

Technology	Base Overnight Costs (2005, per MW)	2010 Capacity Factor (percent)	Weighted Overnight Costs[83]
MSW / Landfill Gas	1,443	90	1,603
Biomass	1,659	83	1,999
Wind	1,091	37	2,949
Geothermal	2,100	95	2,211
Conventional Hydro	1,320	64	2,063
Solar Thermal	2,589	31	8,352
Photovoltaic (PV)	3,981	21	18,957

Source: EIA

E. O&M Costs

Operation and Maintenance (O&M) costs consist of all costs incurred during the operational phase of the power plant. Operation costs include labor, spending for consumable goods, taxes, royalties, and other miscellaneous charges such as internal electricity uses. Maintenance costs include all expenses related to the upkeep and maintenance of the equipment and the continued sustainability of the resource through injection and other activities such as reservoir and environmental monitoring and reporting. Geothermal is one of few technologies with near zero fuel costs. This, combined with a high capacity factor, means that geothermal is one of the most reliable fuel sources available today.

1. Direct Payments (Government Taxes, Royalties and other Revenues)

Geothermal facilities make significant contributions to the U.S. economy. Some contributions come as royalties or taxes, which are mandated by the government, while some come voluntarily from the geothermal company. In many areas where geothermal resources are developed, the developer is considered a "good neighbor" because of substantial local contributions.

[83] In order to calculate the weighted overnight costs, we divided 100 by the projected 2010 capacity factor (CF) percent, and then multiplied the resulting number by the EIA listed base overnight cost. For example, to find geothermal weighted overnight cost, we divided 100 by 95, and then multiplied the resulting number (1.053) by 2,100. We chose to represent capacity factors projected for 2010 because the average new geothermal power plant will come online at or near 2010 if development begins today. Also, this is the earliest year capacity factor is rated in EIA's Assumptions to the Annual Energy Outlook 2006.

a) Royalties

Royalties are payments that power producers are required to make to the owners of the geothermal resource. Exact royalty values are difficult to provide since terms and conditions of geothermal leases vary according to the resource owner (private vs. government). Royalty values range from 0.5 to 5.5% of the price of power and typically account for 10 to 15% of O&M costs. Globally, the "average effective royalty rate" paid by geothermal power producers in 2004 for leases concerning resources located on federal land was 3.94%.[84]

Between 1970 and 1997, geothermal power plant operators had paid a total of nearly $500 million to the Federal Government in royalties.[85] In 2000, California alone supplied $14,373,308 in federal royalties from geothermal leases.[86]

Recent changes to royalty fees proposed by the Mineral Management Service (MMS) Royalty Advisory Committee would provide $4 million a year to local counties, according to the proposed rule. Assuming the newly proposed royalty schedule,[87] over 30 years, an average, 50 MW plant will supply a total of over $16 million to the federal government and the state and county where the resource is developed. The new rules require geothermal producers to pay a royalty of 1.75% of total annual income for the first 10 years, and 3.5% for every year thereafter. Of this amount, 25% goes directly to the county, 50% to the state, and 25% to the federal government. This means that for the first ten years of production, assuming an average price of 6 cents/kWh and 95% capacity factor, without adjusting for inflation, every year a 50 MW geothermal plant will contribute $218,453 to the state, $109,226 to the federal government, and $109,226 to the county government. From the eleventh year on, without adjusting for inflation, every year the plant will contribute $436,905 to the state, $218,452 to the county, and $218,452 to the federal government. Over 30 years, the power plant would contribute a nominal total of over $16 million to federal, state, and local governments.

b) Taxes

Geothermal power producers contribute to government budgets through different kinds of taxes:
- *Property taxes* are based on the estimated value of the company assets. Tax rules may be different from one jurisdiction to another.

[84] The royalty ranges provided above were provided by BLM and MMS to the Royalty Policy Committee for the "Geothermal Valuation Subcommittee Report" that was published in May 2005.
[85] National Geothermal Collaborative. *Geothermal Energy and Economic Development*. Retrieved March 13, 2006, from http://www.geocollaborative.org/publications/Geothermal_Energy_and_Economic_Development.pdf.
[86] Bureau of Land Management (December 2004). *Geothermal Leasing in California*. Retrieved July 12, 2006, from http://www.blm.gov/ca/pa/minerals/geothermal.html.
[87] Proposed rules were issued in August 2006. At publication, these rules had not been finalized.

- *Federal and State income taxes* are calculated upon the net revenue of the company. Rules may vary from one state to another and the amount will vary according to the company structure and annual profits.
- *Sales taxes* paid on consumables and services will depend on the amount and value of goods needed for O&M (which varies with the technologies used) and will also vary from one state to another.

Besides companies' tax contributions, local employees will pay income, property, municipal, county, and sales taxes.

In many counties where geothermal power plants exist, the plant is one of the largest taxpayers. In 2003, The Geysers paid property taxes to two counties totaling more than $11 million. CalEnergy, the largest geothermal company in the region, is the single largest taxpayer in Imperial County, supplying 25% of the tax base.[88] At the geothermal power plants located in Inyo County, California, plant owners pay approximately $6 million annually, of which roughly two-thirds is used to fund schools.

c) Voluntary Payments

Besides royalty and tax payments, geothermal companies often provide voluntary funds to the communities in which they are located. The Mammoth Pacific power plant, for example, has been designated a "good neighbor" by many locals for making donations to local groups in the area and building a new community center from the proceeds of the power plant (see *Mammoth Pacific Case Study* for details).

d) Projected Payments

Achieving the 2001 goals of the DOE Geothermal Energy Strategic Plan could result in payment of over $7 billion in royalties to the Federal Government by 2050, and income tax revenues of over $52 billion (1998 $).[89] From just the state share in these royalties, alone, that would mean an additional investment of $3.5 billion in schools and local government facilities in the western states (1998 $).[90]

Renewable Northwest Project reports that a 100 MW project in Eastern Oregon could create over a $1 million (1990 $) of additional local income each year, and would pay $4 million-$6 million (1990 $) in local and state fees, royalties and taxes, according to the Oregon Department of Energy. In contrast, a similarly-sized natural gas project sends

[88] Center for Energy Efficiency and Renewable Energy (CEERT). *Geothermal Power*. Accessed March 13, 2006, from http://www.ceert.org/ip/geothermal.html.
[89] Princeton Energy Research Inc (December 15, 1998). Review of Federal Geothermal Royalties and Taxes. Volume I, page 17. March 14, 2006, from http://waysandmeans.house.gov/hearings.asp?formmode=view&id=4069#_ftn4#_ftn4
[90] Ibid

$11-24 million (1990 $) out of the region every year for fuel costs alone.[91]

The construction of two new geothermal plants by Calpine Corporation in Siskiyou County, California would result in a total economic benefit of almost $114 million over 30 years (2002 $), with a yearly average increase of almost $4 million. Property taxes and royalty revenues for the two projects totals $956,286, and the 30-year total is $28,688,581 (2002 $).[92] The new royalty laws would provide even more money to the local community in which the plants are located. This money will generate jobs, improve community living, and boost educational standards throughout the region.

Two plants in the planning stages, the Fourmile Hill and Salton Sea Unit 6 Geothermal Power Plant projects, would together have a total economic benefit of $866 million, or $29 million per year.[93]

2. Indirect and Induced Payments

For every dollar invested in geothermal energy, the resulting growth of output to the economy is $2.50 or more. This means that the investment required to bring 1000 MWs of new geothermal power online within the next three years as projected, the associated $2.8 billion investment[94] will bring an economic output of at least $7 billion nationwide, and even more over several years.

F. The Levelized Cost of Geothermal Power

The California Energy Commission (CEC) estimates the levelized generation costs from new geothermal plants at 4.5 to 7.3 cents per kWh, which over the lifetime of the plant can be competitive with a variety of technologies. Recent EIA analysis places geothermal energy at a lower levelized cost than natural gas combined-cycle, wind, open-loop biomass, nuclear, solar thermal, and photovoltaic (with costs increasing in the order in which they are listed).[95] However, two points should be considered regarding these estimates. First, it is important to keep in mind the different prices associated with

[91] Sifford, Alex and Kasi Beale (Dec 1991). Economic Impacts of Geothermal Development in Deschutes County, OR. Prepared for the Bonneville Power Administration under Agreement No. DE-BI79-90BP07 129. Oregon Department of Energy, Salem, Oregon.
[92] Gallo, David E. (June 2002). The Economic Impact of Calpine's Geothermal Development Projects, Siskiyou County, California. Prepared for Calpine Corporation. Center for Economic Development: California State University, Chico. Accessed March 23, 2006, from http://www.csuchico.edu/cedp/pdf/esp.calpine.pdf
[93] Battocletti, Liz, and Marilyn Nemzer (February 2006). *Measuring the Economic, Environmental, and Social Benefits of Nine Geothermal Heating System and Power Generation Projects*. Prepared for California Energy Commission Geothermal Program. Contract No. MFS-04-002.
[94] Assuming that average capital investment of a geothermal project is $2800/kW.
[95] Howard Gruenspecht, Administrator, Energy Information Administration, U.S. DOE (May 2005). Statement Before the Subcommittee on Select Revenue Measures., Committee on Ways and Means, U.S. House of Representatives. Table 1. Accessed March 23, 2006, from http://www.eia.doe.gov/neic/speeches/howard052405.pdf.

competitiveness in different markets (wholesale vs. retail). Second, the lower-end price figures cited for geothermal likely rely on lower than average upfront financing agreements (see *Financing*), or consider only new projects that are built as expansions of existing projects. Expansion projects typically forgo many of the construction, resource risk, and transmission costs associated with new plants.

In fact, most geothermal developers contend that the cost for new projects is more accurately reflected in a range of 5.5 to 7.5 cents per kWh. Even so, the current price for geothermal expansion projects can be competitive with coal-fired plants, and greenfield projects can be competitive with natural gas.[96] At current fossil fuel market prices, natural gas costs the equivalent of 8 to 9 cents per kWh (2005 $).[97]

Figure 14 on the following page shows that developing and defining the geothermal resource costs almost as much as building the power plant. For geothermal, a full one quarter of total costs are attributed to drilling alone, and almost half of all levelized costs are spent before the plant goes online.

[96] Comparative Cost of California Central Station Electricity Generation Technologies, Final Staff Report, March 16, 2006, from http://www.energy.ca.gov/reports/2003-06-06_100-03-001F.PDF.
[97] Energy Information Administration (EIA) (2005). Natural Gas Weekly Update. Accessed March 23, 2006, from http://tonto.eia.doe.gov/oog/info/ngw/ngupdate.asp.

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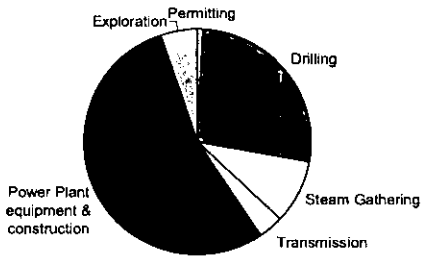
Figure 14: Typical Cost for Geothermal Power Plant



Source: Hance, GEA

1. Geothermal and Fossil Fuels: Comparing True Levelized Costs

While it is important to compare the costs of various components of power production across technologies, it is perhaps more important to consider other factors, not necessarily apparent at first, that directly impact the levelized cost of power over the long and short term.

a) Subsidies

According to the nonpartisan *Taxpayers for Common Sense*, the fossil fuel industry receives billions of dollars in subsidies from the U.S. government[98]—almost 80% of the subsidies supplied to the energy industry.[99] *Taxpayers* estimates that removing subsidies could reduce U.S. carbon emissions by 65-70 million metric tons. These U.S. subsidies amount to as high as $18.3 billion a year ($ 2000).[100] The removal of fossil fuel subsidies has been advocated by World Bank as the first order of priority in instituting economic policies to protect local and global environments that could also help spur new renewable development.[101] Further, a report by the New Economics Foundation says that

[98] Taxpayers for Common Sense. *Fuels Fact Sheet*. Retrieved March 13, 2006 from http://www.taxpayer.net/TCS/fuelsubfact.htm.
[99] Aulisi, Andrew (October 2004). *Emissions Market Designs and Implications for Renewable Energy*. World Resources Institute: Tenth National Green Power Marketing Conference: Austin, TX. Retrieved March 13, 2006, from http://www.eere.energy.gov/greenpower/conference/10gpmc05/aulisi.pdf.
[100] Ottinger, R L and M Jayne (2000) *Global climate change – Kyoto Protocol implementation: Legal frameworks for implementing clean energy solutions*, Pace University School of Law, White Plains, New York. Retrieved September 28, 2006, from http://www.solutions-site.org/special_reports/CleanEnergyFinal4.doc
[101] Larsen, Bjorn and Anwar Shah (1992). *World Fossil Fuel Subsidies and Global Carbon Emissions*. The World Bank, Office of the President. Retrieved March 13, 2006, from http://info.worldbank.org/etools/docs/library/206933/WorldFossilFuelSubsidiesandGlobalCarbonEmissions.pdf.

worldwide fossil fuel subsidies amount conservatively to about $235 billion a year ($ 2004),[102] while other sources put the figure closer to $250-300 billion (mid-1990s $), plus an estimated $100 or more per barrel necessary to secure the supply of oil imports.[103]

b) Trend in Cost of Power over Time

Geothermal costs have decreased considerably – by nearly 50 % over the past two decades. According to the National Renewable Energy Laboratory (NREL), costs neared 15 cents per kWh in 1980, with current prices decreasing to 7 cents per kWh. And while geothermal prices are expected to continue to decline, both coal and natural gas prices will likely increase, according to the EIA. Natural gas prices have increased recently, often experiencing boom and bust type cycles. Most industry experts agree that geothermal is one of only a few alternative technologies that could compete economically with polluting technologies in the near term—even without considering the ancillary benefits of geothermal production. Authors noted in one recent EIA publication, "In some regions and years, new geothermal...plants may be competitive with new coal-fired plants, but their development is limited by the availability of geothermal resources."[104]

c) Electricity Needs and Cost Savings

In the long run, renewable energy resources can help decrease costs by providing domestic, low-cost, low-pollution options to meet U.S. energy needs. An EPA study concludes that if all states were to implement "cost-effective energy efficiency and clean energy policies, the expected growth in demand for electricity could be cut in half by 2025, providing billions of dollars in customer savings, contributing to lower prices for natural gas, and substantially reducing greenhouse gas emissions."[105] Another study cites that increasing renewable energy generation to 20% could "reduce natural gas use by 6%, while saving consumers nearly $27 billion."[106] Geothermal, as a renewable technology, offers all of these benefits. In addition, geothermal's long-term, legally binding PPAs offset some of the volatility of other energy markets.

[102] Simms, Andrew (June 2004). *The price of power: Poverty, climate change, the coming energy crisis and the renewable revolution*. New Economics Foundation, isbn 1055254. *Retrieved September 28, 2006, from http://www.neweconomics.org/gen/uploads/3lskbu55vjuveu45nvbftgmb180620041736 46.pdf*.
[103] Ottinger, R L and M Jayne (2000) *Global climate change – Kyoto Protocol implementation: Legal frameworks for implementing clean energy solutions*, Pace University School of Law, White Plains, New York. Retrieved September 28, 2006, from http://www.solutions-site.org/special_reports/CleanEnergyFinal4.doc.
[104] EIA (2005). *Annual Energy Outlook 2005*. Retrieved March 16, 2006, from http://www.eia.doe.gov/oiaf/aeo/electricity.html.
[105] U.S. EPA. NREL (2004). *EPA-State Energy Efficiency and Renewable Energy Projects* Retrieved March 8, 2005, from http://www.epa.gov/cleanenergy/pdf/eere_factsheet.pdf.
[106] Retrieved March 14, 2006, from http://www.uesusa.org/clean_energy/clean_energy_policies/renewable-energy-can-help-ease-natural-gas-crunch.html.

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d) Investors' Perspective

Unfortunately, many investors tend to consider only the near term. They favor the electricity source—such as coal—that will require the lowest cost and risk upfront, without considering the higher costs associated with the fuel itself over the long term. With fossil fuel development, utility commissions usually permit the recovery of increased fuel costs through fuel-price adjustment clauses in power contracts, passing the increase in cost onto the consumer. Geothermal developers, on the other hand, bear all of the risks associated with fuel cost changes. This means that if costs increase, the developer loses money; if costs decrease, the developer makes money.

Investments in geothermal projects may take longer to recover because of exploration and drilling costs and risks, among other factors. The longer recovery time leads many lenders to invest in fossil fuel projects with smaller associated risks. While petroleum prospectors can usually get a full return on their investment in less than a year, geothermal prospectors can wait ten years or more for a full return on their investment.[107]

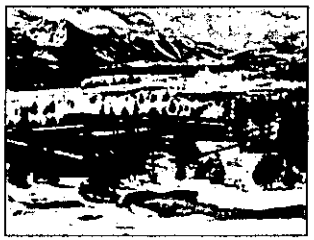
e) Addressing Shortages and Concerns Over Increasing Fossil Fuel Prices

Natural gas prices have soared recently, and our oil reserves are continually being depleted. In the mean time, our energy needs are increasing. The development of renewables, in conjunction with improved efficiency, provides one of the only solutions to our increasing energy needs that is both readily available and environmentally friendly. Drilling in Alaskan National Wildlife Refuge (ANWR), nuclear development, and new advanced coal facilities are examples of projects that will likely require 10 years or longer. Research into other energy sources such as fusion or hydrogen is not expected to provide any new energy in the near term. The good news is that many megawatts of geothermal potential, along with potential from other renewable sources, exist throughout the United States that are developable today.

[107] Hook, John W. (Nov/Dec 2005). *Geothermal Energy from the Cascades*. GRC Bulletin, pgs 263-265. Retrieved May 2, 2006, from http://www.geothermal.org/articles/Cascades.pdf.

IV. CASE STUDY: MAMMOTH PACIFIC POWER PLANT

Figure 15: View of Mammoth Pacific II



Source: Ormat

The following section offers a firsthand account of the development process for a geothermal power plant. It reveals what took place behind the scenes to bring a power plant online near a small, California community, as indicated by the people who were involved in that process—both within and outside the developing company. This case study documents one plant's transformation from one of the most hotly contested to one of the most locally and internationally appreciated power plants in the United States.

A. Setting

Travel guides advertise Mono County, California, as "a land of fire and ice" with "extraordinary features [that] attest to the region's active geologic past."[108] The largest city within Mono County, the Town of Mammoth Lakes, is a recreation area, where regular activities include skiing, mountain climbing, hiking, fishing, and is a land that one local described as Los Angeles' playground. At the time the Mammoth Pacific power plants were developed near the Town of Mammoth Lakes, the type of geothermal technology used[109] was relatively new and unexplored. The effects of such a plant, especially upon such a prime recreation area prized for its natural beauty, were uncertain.

[108] Official Website for Mammoth Lakes (2004). Retrieved October 7, 2005 from http://www.visitmammoth.com/arcainfo/geology.html.

[109] At a *binary geothermal power plant*, the type developed at Mammoth, electricity is produced using lower temperature geothermal resources, at 100° C (212° F) to 165° C (330° F). In the binary process, the geothermal water heats another liquid that boils at a lower temperature than the geothermal water. The two liquids are kept completely separate through the use of heat exchangers used to transfer the heat energy from the geothermal water to the "working-fluid." The secondary fluid vaporizes into gaseous vapor and (like steam) the force of the expanding vapor turns the turbines that power the generators. The vapor is then condensed back to a liquid and reused over and over.

B. Plans for Development

The first unit at the Mammoth Pacific Complex, the 10-MW MP-I power plant that came online in 1984, was relatively unknown by constituents of Mono County. But the 1990 expansion, which added two 15 MW units to the Mammoth Pacific Complex, bringing the total capacity at the complex to 40 MW, met substantial public scrutiny. These two new facilities, one on private land, known as MP-II, and one on federal land (Inyo National Forest), known as PLES I, were proposed by Mammoth Pacific, L.P. (MPLP) as expansion projects.

C. Public Reaction and Company Response

Once plans for the expansion began, a full five years before permits were issued in 1989, people began voicing concerns related primarily to tourism and environmental impact. With guidance from Mono County Economic Development Director Dan Lyster, the county established the Long Valley Hydrologic Advisory Committee (LVHAC) in 1986 in response to those concerns. Members of LVHAC included regulatory agencies such as Mono County; the Bureau of Land Management (BLM) the U.S. Forest Service (USFS); California Dept. of Fish and Game; California Division of Oil, Gas, and Geothermal Resources; and Mammoth Community Water District; as well as the developer. The meetings were open to the public and were regularly attended by technical groups, representatives from USGS, and local organizations such as the Sierra Club.

At the same time that the LVHAC was formed, MPLP (through it managing partner, initially Pacific Energy and currently Ormat) responded to the concerns voiced by constituents. According to Claude Harvey, Pacific Energy's Senior Vice President in charge of geothermal at the time, without a timely and comprehensive response to peoples' concerns, the expansion would never have been permitted.

"When a project is going to be controversial, you've got to get in there and talk to the people directly," notes Harvey. "You've got to knock on doors, show up at town meetings, respond to letters in the local paper. Explain the benefits of a geothermal power plant and the benign nature of the plant. That's what we [Pacific Energy] did, and, if we hadn't done so, the plant simply would not have come online, because we wouldn't have had the necessary public support."

Dwight Carey, an environmental consultant who worked with MPLP during the expansion, notes that MPLP's efforts to integrate itself into the community have been ongoing, and continue to this day under the efforts of Bob Sullivan, plant manager: "MPLP has made it a point to be a true member of the community - making presentations, inviting tours, sponsoring community events - and generally making sure that people in the community at all levels (both in the economic and environmental community) know what is going on. As a result, the community trusts MPLP, and is not willing to immediately believe the worst if issues or concerns are brought up."

D. Permitting

Though the permitting process began in 1986, only after a five-year struggle to obtain permits was permission finally granted for construction. The MP-II expansion project, located on private land, was approved by Mono County with a "conditional use permit," a 22-page document that contained over 100 conditions that had to be met in order for the project to move forward. The PLES I project, located on public land managed by the Inyo National Forest, was approved with a similar extensive list of conditions. Each project was required to pay for its own detailed study (an Environmental Impact Report [EIR] for the MP-II project and an EIS for the PLES I project) that assessed all potential environmental impacts of each project and the potential cumulative impacts of all of the projects.

According to Lyster, these two projects were the most highly conditioned power plant projects in California, with a laundry list of water monitoring activities developed by LVHAC and required by the respective permits. Water monitoring activities, including quality, flow, and temperature monitoring of geothermal resource wells, hot and cold water springs, groundwater wells, and surface waters, were initially conducted by USGS, but subsequently some of those have been transferred to the power company. Additional permit conditions required transplanting pine trees, extensive revegetation of disturbed areas, archeological surveys and monitoring, and painting structures with specific colors approved by the agencies.

E. Construction

The expansion construction followed a breathtaking pace—the shortest amount of time Harvey had ever seen—so that the plants could reap the benefit of an investment tax credit. The company that designed the power plant, started by Harvey and Ben Holt, provided much of the financial backing for the project. Efficient, state-of-the art facilities were operating in December 1990, just a year after construction began. Today, 15 years later, the plants continue to produce power with few hydrologic impacts, and minimal emissions or aesthetic impacts.

Notes Harvey, "you'd never find a hotel that blended so well into this pristine environment." A hotel wouldn't contribute as much money to the economy, and it certainly wouldn't provide electricity to the grid, he adds.

MPLP took steps that showed their willingness to integrate into the community. For example, they paid special attention to preserving and adding to the bicycle paths, they utilized costly and efficient technology to minimize noise, and they ensured that roads were accessible in the wintertime.

Harvey, who, before his tenure with Pacific Energy had built many power plants—including coal, natural gas, and nuclear facilities—says that the Mammoth Plants "involved the longest, biggest, and most arduous permitting process" he's ever gone

through. "I never got into [a project] as hot and controversial as Mammoth during my 40 years of experience, and that's ironic because the Mammoth plant was the most environmentally benign I've ever worked on."

Richard Campbell, one of the primary engineers for the units at Mammoth, helped design a power plant that is not only environmentally benign, but also unobtrusive. He and the company he worked for, Ben Holt Company, designed low-lying, camouflaged facilities that are difficult to spot even from a major highway overlooking the plant. The company also put silencers in place to limit noise.

Based on Campbell's design, the MP-I plant became the first of its kind to utilize air-cooled technology, rather than the water-cooled technology used by geothermal power plants before it. While water-cooled units emit generally harmless but noticeable steam plumes, air-cooled units have no visible emissions and minimal operating losses of geothermal fluid or gases. Besides reducing the aesthetic impact, air-cooled binary cycle technology requires no cooling water—a particularly important consideration in the Mammoth area where water availability is limited.

F. Results of Monitoring Activity

After years of monitoring, with the Mammoth power plants continually pumping at 12,500 gallons of hot water per minute, there have been few adverse impacts attributed to plant development. Even so, all monitoring efforts continue on a regular basis, and are made available once a quarter to any interested parties. With continued efficient management practices, the plant will likely stay online many years into the future.

Carey measures the success of the plant based on the minimal impact over the last 15 years of operations: "none of the dire predictions about the worst case impacts of the expansion projects came true. The projects aren't that visible; no adverse impacts to the hot springs in Hot Creek or the hatchery or the Owens tui chub have been documented; deer are grazing amongst the wells; no spills have adversely affected the creeks; and tourism is doing well." People slowly but surely began to realize that not only did the Mammoth Plants produce no negative impacts, it actually produced community benefits.

G. Economic Benefits

One such benefit is employment. Construction of the plant required a few hundred workers; current operation requires 21 full-time employees, with additional seasonal employees. The plants provide some of the best jobs in the Town of Mammoth Lakes, with a population of around 7,000. Both the original managing partner, Pacific Energy, and the current managing partner, Ormat Nevada, Inc., have made a commitment to hiring locally, with most full-time employees entering the geothermal field from a variety of backgrounds. Jobs histories of current Mammoth employees include positions as ski patrolmen, ex-miners, bartenders, and volunteer firemen. Ormat provides the

considerable training needed for these highly skilled positions, and workers are encouraged to stay with the company long term. Indeed, most of them do.

"A number of our employees have been with us for 20 years," says Sullivan. "I myself have been with the company for over almost 15 years."

Another benefit of the Mammoth Pacific geothermal plant is its low environmental impact. This type of plant produces minimal air emissions. A study showed that the pine trees surrounding the geothermal plants emit more greenhouse gases than the fugitive emissions from the power plants themselves. The effect on the deer population, which was one of the concerns of the California Department of Fish and Game when it sued Mono County to prevent the approval of the MP-II project, was found to be one half of one deer over the entire lifetime of the plant. Hawks have flocked to the area near the plants, and can be seen using the thermal currents to assist in soaring. In 1991, the California State Assembly passed a resolution commending the MPLP on the start-up of two of its geothermal power facilities in Mono County, recognizing its use of clean energy without "environmentally damaging emissions." In addition, for four consecutive years (2000-2004), MPLP received from the California Department of Conservation an award for its outstanding environmental record at its Mono County geothermal facilities.[110]

Another significant benefit has been the financial contributions of the power plant. MPLP has been designated a "good neighbor," by many locals, including Lyster, for making donations to local groups in the area. MPLP built a new community center from the proceeds of the power plants. According to Sullivan, MPLP is one of the largest taxpayers in the county, supplying over half a million dollars last year alone.

H. MP: A Success Story

The Mammoth Pacific Complex, which supplies power enough for approximately 40,000 homes, has provided many socioeconomic benefits. MPLP's involvement at all levels—including monitoring, individual responses to citizens' concerns, sponsorship of community events, funding of community centers, and construction of aesthetically pleasing facilities—demonstrates its commitment to Mono County. Despite initial challenges, MPLP has emerged as a true success story for the geothermal community.

[110] DOE EERE Geothermal Technologies Program (Update Jan 2005). *The Award-Winning Environmental Performance of Geothermal Power in California.* Retrieved October 14, 2005, from http://www.eere.energy.gov/geothermal/geopower_calif_awards.html.

Glossary[111]

Aquaculture:[112] farming of organisms that live in water, such as fish, shellfish, and algae.

Baseload Capacity: The generating equipment normally operated to serve loads on an around-the-clock basis.

Baseload Plant: A plant, usually housing high-efficiency steam-electric units, which is normally operated to take all or part of the minimum load of a system, and which consequently produces electricity at an essentially constant rate and runs continuously. These units are operated to maximize system mechanical and thermal efficiency and minimize system operating costs.

Baseload: The minimum amount of electric power delivered or required over a given period of time at a steady rate.

Binary-Cycle Plant: A geothermal electricity generating plant employing a closed-loop heat exchange system in which the heat of the geothermal fluid (the "primary fluid") is transferred to a lower-boiling-point fluid (the "secondary" or "working" fluid), which is thereby vaporized and used to drive a turbine/generator set.

Biomass: Energy resources derived from organic matter. These include wood, agricultural waste and other living-cell material that can be burned to produce heat energy. They also include algae, sewage and other organic substances that may be used to make energy through chemical processes.

Capability: The maximum load that a generating unit, generating station, or other electrical apparatus can carry under specified conditions for a given period of time without exceeding approved limits of temperature and stress.

Capacity Factor: a measure of the amount of real time during which a facility is used

Capacity: The amount of electric power delivered or required for which a generator, turbine, transformer, transmission circuit, station, or system is rated by the manufacturer.

Carbon Dioxide: A colorless, odorless, non-poisonous gas that is a normal part of the air. Carbon dioxide, also called CO_2, is exhaled by humans and animals and is absorbed by green growing things and by the sea.

Coal: A readily combustible black or brownish-black rock whose composition, including inherent moisture, consists of more than 50 percent by weight and more than 70 percent by volume of carbonaceous material. It is formed from plant remains that have been compacted, hardened, chemically altered, and metamorphosed by heat and pressure over geologic time.

Combined Cycle: An electric generating technology in which electricity is produced from otherwise lost waste heat exiting from one or more gas (combustion) turbines. The exiting heat is routed to a conventional boiler or to a heat recovery steam generator for utilization by a steam turbine in the production of electricity. This process increases the efficiency of the electric generating unit.

Condensate: Water formed by condensation of steam.

Consumption (Fuel): The amount of fuel used for gross generation, providing standby service, start-up and/or flame stabilization.

Cooling tower: A cooling tower is the structure associated with water-cooled heat extraction systems. Hot water is spayed from the top of the structure and cascades against an upwards airflow that cools the water (mainly through evaporation).

Cost: The amount paid to acquire resources, such as plant and equipment, fuel, or labor services.

Crust: Earth's outer layer of rock. Also called the lithosphere.

Debt: An amount owed to a person or organization for funds borrowed. Debt can be represented by a loan note, bond, mortgage or other form stating repayment terms and, if applicable, interest requirements. These different forms all imply intent to pay back an amount owed by a specific date, which is set forth in the repayment terms.

Demand (Electric): The rate at which electric energy is delivered to or by a system, part of a system, or piece of equipment, at a given instant or averaged over any designated period of time.

Demand (Utility): The level at which electricity or natural gas is delivered to users at a given point in time. Electric demand is expressed in kilowatts.

Direct impacts: All expenditures associated with construction and maintenance of geothermal power plants. During the construction phase, it corresponds to the total investment associated with the power plant construction. During the operation and maintenance phase, it relates to all expenditures in goods and services associated with power plant operation and maintenance.

Direct Use: Use of geothermal heat without first converting it to electricity, such as for space heating and cooling, food preparation, industrial processes, etc.

Dispatch: The operating control of an integrated electric system to: Assign generation to specific generating plants and other sources of supply to effect the most reliable and economical supply as the total of the significant area loads rises or falls. Control operations and maintenance of high-voltage lines, substations and equipment, including administration of safety procedures. Operate the interconnection. Schedule energy transactions with other interconnected electric utilities.

Distribution: The delivery of electricity to retail customers (including homes, businesses, etc.).

[111] All terms from Energy Information Administration [EIA] (2002) *Glossary of Electricity Terms*, Retrieved August 1, 2006, from http://www.eia.doe.gov/cneaf/electricity/epav1/glossary.html; California Energy Commission [CEC] (2004), *Glossary of Energy Terms*, Retrieved August 1, 2006, from http://www.energy.ca.gov/glossary/; U.S. DOE Energy Efficiency and Renewable Energy Geothermal Technologies Program. *Geothermal Glossary*. Retrieved August 1, 2006, from http://www.eere.energy.gov/geothermal/glossary.html; from Hance (2005) (see footnote #5); or from the *Investing Glossary* accessible at www.investorwords.com unless otherwise noted.

[112] Source: USGS

Drilling: Boring into the Earth to access geothermal resources, usually with oil and gas drilling equipment that has been modified to meet geothermal requirements.

Dry Steam: Very hot steam that doesn't occur with liquid.

Economics: The study of how the forces of supply and demand allocate scarce resources. Subdivided into microeconomics, which examines the behavior of firms, consumers and the role of government; and macroeconomics, which looks at inflation, unemployment, industrial production, and the role of government.

Economy of scale: Reduction in cost per unit resulting from increased production, realized through operational efficiencies. Economies of scale can be accomplished because as production increases, the cost of producing each additional unit falls.

Electric Plant (Physical): A facility containing prime movers, electric generators, and auxiliary equipment for converting mechanical, chemical, and/or fission energy into electric energy.

Electric Utility: A corporation, person, agency, authority, or other legal entity or instrumentality that owns and/or operates facilities within the United States, its territories, or Puerto Rico for the generation, transmission, distribution, or sale of electric energy primarily for use by the public and files forms listed in the Code of Federal Regulations, Title 18, Part 141. Facilities that qualify as cogenerators or small power producers under the Public Utility Regulatory Policies Act (PURPA) are not considered electric utilities.

Emissions Standard: The maximum amount of a pollutant legally permitted to be discharged from a single source.

Energy Policy Act 2005 (EPAct): (Public Law 109-58) is a statute which was passed by the United States Congress on July 29, 2005 and signed into law on August 8, 2005 at Sandia National Laboratories in Albuquerque, New Mexico. The Act, described by proponents as an attempt to combat growing energy problems, provides tax incentives and loan guarantees for energy production of various types.

Energy Source: The primary source that provides the power that is converted to electricity through chemical, mechanical, or other means. Energy sources include coal, petroleum and petroleum products, gas, water, uranium, wind, sunlight, geothermal, and other sources.

Energy: The capacity for doing work as measured by the capability of doing work (potential energy) or the conversion of this capability to motion (kinetic energy). Energy has several forms, some of which are easily convertible and can be changed to another form useful for work. Most of the world's convertible energy comes from fossil fuels that are burned to produce heat that is then used as a transfer medium to mechanical or other means in order to accomplish tasks. Electrical energy is usually measured in kilowatthours, while heat energy is usually measured in British thermal units.

Environmental Impact Study: A document required by federal and state laws to accompany proposals for projects and programs that may have an impact on the surrounding area.
equity: Ownership interest in a corporation in the form of common stock or preferred stock. It is the risk-bearing part of the company's capital and contrasts with debt capital which is usually

secured and has priority over shareholders if the company becomes insolvent and its assets are distributed.

Facility: An existing or planned location or site at which prime movers, electric generators, and/or equipment for converting mechanical, chemical, and/or nuclear energy into electric energy are situated, or will be situated. A facility may contain more than one generator of either the same or different prime mover type. For a cogenerator, the facility includes the industrial or commercial process.

Flash Steam: Steam produced when the pressure on a geothermal liquid is reduced. Also called flashing.

Fossil Fuel: Any naturally occurring organic fuel, such as petroleum, coal, and natural gas.

Fossil-Fuel Plant: A plant using coal, petroleum, or gas as its source of energy.

Fuel: Any substance that can be burned to produce heat; also, materials that can be fissioned in a chain reaction to produce heat.

Generating Unit: Any combination of physically connected generator(s), reactor(s), boiler(s), combustion turbine(s), or other prime mover(s) operated together to produce electric power.

Generation (Electricity): The process of producing electric energy by transforming other forms of energy; also, the amount of electric energy produced, expressed in watthours (Wh).

Geology: Study of the planet Earth, its composition, structure, natural processes, and history.

Geophysical survey: Geophysical methodologies used during the exploration and drilling phases to locate the resource and identify the best suited sites to drill production wells. These may include gravity surveys, ground magnetic surveys, magnetotelluric surveys, electrical resistivity surveys, and seismic surveys.

Geothermal: Of or relating to the Earth's interior heat.

Geothermal Energy: Natural heat from within the Earth, captured for production of electric power, space heating or industrial steam.

Geothermal Heat Pumps: Devices that take advantage of the relatively constant temperature of the Earth's interior, using it as a source and sink of heat for both heating and cooling. When cooling, heat is extracted from the space and dissipated into the Earth; when heating, heat is extracted from the Earth and pumped into the space.

Geothermal Plant: A plant in which the prime mover is a steam turbine. The turbine is driven either by steam produced from hot water or by natural steam that derives its energy from heat found in rocks or fluids at various depths beneath the surface of the Earth. The energy is extracted by drilling and/or pumping.

Geothermal Steam: Steam drawn from deep within the Earth.

Geyser: A spring that shoots jets of hot water and steam into the air.

Geysers, The (note: "The" of "The Geysers" is always capitalized): A large geothermal steam field located north of San Francisco.

Greenfield project: A greenfield project (as opposed to a project expansion) is a project that is developed on a resource (area) that is not used by an existing power plant.

Greenhouse Effect: The increasing mean global surface temperature of the Earth caused by gases in the atmosphere (including carbon dioxide, methane, nitrous oxide, ozone, and chlorofluorocarbon). The greenhouse effect allows solar radiation to penetrate but absorbs the infrared radiation returning to space.

Grid: The layout of an electrical distribution system.

Gross Generation: The total amount of electric energy produced by the generating units at a generating station or stations, measured at the generator terminals.

Heat Exchanger: A device for transferring thermal energy from one fluid to another.

Heat Pumps: *See Geothermal Heat Pumps*

Hot Dry Rock: A geothermal resource created when impermeable, subsurface rock structures, typically granite rock 15,000 feet or more below the Earth's surface, are heated by geothermal energy. The resource is being investigated as a source of energy production.

Hydroelectric Plant: A plant in which the turbine generators are driven by falling water.

Independent Power Producers: Entities that are considered nonutility power producers in the United States. These facilities are wholesale electricity producers that operate within the franchised service territories of host utilities and are usually authorized to sell at market-based rates. Unlike traditional electric utilities, Independent Power Producers do not possess transmission

Indirect impacts: This correspond to the economic impact that affects all industries that provides goods and services to the industries directly involved in power plant construction or operation and maintenance. Indirect impacts thus quantify the impact of changes in power plant construction or O&M activities on the industries that supplies it.

Induced impacts: Industries that experience both direct and indirect impacts will often change their employment levels to meet the new level of demand. These employment changes induce changes in income that are spent in the region to purchase goods and services. This income effect is the source of induced impacts. Induced impacts leads to further rounds of indirect and induced impacts as the increased demand for goods and services purchased by workers leads to further increases in output in other industries.

Injection well: Injection wells inject the brine back into the reservoir after using it in the power production process.

Injection: The process of returning spent geothermal fluids to the subsurface. Sometimes referred to as reinjection.

Kilowatt (kW): One thousand watts.

Kilowatthour (kWh): One thousand watthours.

Known Geothermal Resource Area (KGRA): A region identified by the U.S. Geological Survey as containing geothermal resources.

Lead-time: The amount of time between the placing of an order and the receipt of the goods ordered.

Lease: A contract between a lessor and a lessee for the use of a vehicle or other property, subject to stated terms and limitations, for a specified period and at a specified payment.[113]

Levelized cost: The present value of the total cost of building and operating a generating plant over its economic life, converted to equal annual payments. Costs are levelized in real dollars (i.e., adjusted to remove the impact of inflation).

Lithologies: properties of a rock formation

Load (Electric): The amount of electric power delivered or required at any specific point or points on a system. The requirement originates at the energy-consuming equipment of the consumers.

Magma: The molten rock and elements that lie below the Earth's crust. The heat energy can approach 1,000 degrees Fahrenheit and is generated directly from a shallow molten magma resource and stored in adjacent rock structures. To extract energy from magma resources requires drilling near or directly into a magma chamber and circulating water down the well in a convection- type system. California has two areas that may be magma resource sites: the Mono-Long Valley Caldera and Coso Hot Springs Known Geothermal Resource Areas.

Mantle: The Earth's inner layer of molten rock, lying beneath the Earth's crust and above the Earth's core of liquid iron and nickel.

Megawatt (MW): One million watts.

megawatt hour (MWh): One million watthours.

Mitigation: Structural and non-structural measures undertaken to limit the adverse impact of natural hazards, environmental degradation and technological hazards

Municipal utility: Water or electric company over which the State Department of Public Utility Control does not have jurisdiction to regulate.

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[113] Federal Reserve. *Glossary of Terms*. Retrieved August 1, 2006, from www.federalreserve.gov/pubs/leasing/glossary.htm.

Natural Gas Combined-Cycle: plants that generate electricity using two methods, the steam cycle and the gas cycle. In the steam cycle, fuel is burned to boil water and create steam which turns a steam turbine driving a generator to create electricity. In the gas cycle, gas is burned in a gas turbine which directly turns a generator to create electricity. Combined cycle power plants operate by combining the gas cycle and the steam cycle for higher efficiency.

Natural Gas: A naturally occurring mixture of hydrocarbon and nonhydrocarbon gases found in porous geological formations beneath the earth's surface, often in association with petroleum. The principal constituent is methane.

Net Capability: The maximum load-carrying ability of the equipment, exclusive of station use, under specified conditions for a given time interval, independent of the characteristics of the load. (Capability is determined by design characteristics, physical conditions, adequacy of prime mover, energy supply, and operating limitations such as cooling and circulating water supply and temperature, headwater and tailwater elevations, and electrical use.)

Net Generation: Gross generation less the electric energy consumed at the generating station for station use.

Nitrogen oxides (NOx): Oxides of nitrogen that are a chief component of air pollution that can be produced by the burning of fossil fuels. Also called nitrogen oxides.

Non-specular conductors: conductors treated to reduce the amount of light reflected, usually by dipping the conductor in an acid bath that takes the shine off thereby reducing visibility.

Nuclear Energy: Power obtained by splitting heavy atoms (fission) or joining light atoms (fusion). A nuclear energy plant uses a controlled atomic chain reaction to produce heat. The heat is used to make steam run conventional turbine generators.

Nuclear Power Plant: A facility in which heat produced in a reactor by the fissioning of nuclear fuel is used to drive a steam turbine.

Open-Loop Biomass: [114] any agricultural livestock waste nutrients; or, any solid, nonhazardous, cellulosic or lignin waste material or by product of wood
or paper mill operations, including lignin in pulping liquors, which is derived from

Outage: The period during which a generating unit, transmission line, or other facility is out of service.

Particulate Matter (PM): Unburned fuel particles that form smoke or soot and stick to lung tissue when inhaled. A chief component of exhaust emissions from heavy-duty diesel engines

Peak Demand: The maximum load during a specified period of time.

[114] American Forest & Paper Association (August 2005). *Senate Corrections Comments*. Retrieved August 1, 2006, from http://www.senate.gov/~finance/Technical%20Correction%2005/Comments%20on%20Tax%20Technical%20Corrections-%20Finance.pdf.

Peaking Capacity: Capacity of generating equipment normally reserved for operation during the hours of highest daily, weekly, or seasonal loads. Some generating equipment may be operated at certain times as peaking capacity and at other times to serve loads on an around-the-clock basis.

Permeability: The relative ease with which a porous medium can transmit a liquid under a hydraulic gradient. In hydrology, the capacity of rock, soil, or sediment to allow the passage of water.

Plant: A facility at which are located prime movers, electric generators, and auxiliary equipment for converting mechanical, chemical, and/or nuclear energy into electric energy. A plant may contain more than one type of prime mover. Electric utility plants exclude facilities that satisfy the definition of a qualifying facility under the Public Utility Regulatory Policies Act of 1978.

Pollution: Unwanted particles, mist or gases put into the atmosphere as a result of motor vehicle exhaust, the operation of industrial facilities or other human activity.
power purchase agreement: The off-take contract from a large customer to buy the electricity generated by a power plant.

Power: The rate at which energy is transferred. Electrical energy is usually measured in watts. Also used for a measurement of capacity.

Price: The amount of money or consideration-in-kind for which a service is bought, sold, or offered for sale.

Production well: A production well is a well drilled through a geothermal resource that produces geothermal brine.

Profit: The income remaining after all business expenses are paid.

Qualifying Facility (QF): A cogeneration or small power production facility that meets certain ownership, operating, and efficiency criteria established by the Federal Energy Regulatory Commission (FERC) pursuant to the Public Utility Regulatory Policies Act (PURPA).

Rate of return: The annual rate of return on an investment, expressed as a percentage of the total amount invested. also called return

Reconnaissance:[115] A method of gathering data, often associated with surface surveys, in which archaeological remains are systematically identified and plotted on a map.

Regulation: The governmental function of controlling or directing economic entities through the process of rulemaking and adjudication.

Reliability: Electric system reliability has two components--adequacy and security. Adequacy is the ability of the electric system to supply to aggregate electrical demand and energy requirements of the customers at all times, taking into account scheduled and unscheduled outages of system facilities. Security is the ability of the electric system to withstand sudden disturbances, such as electric short circuits or unanticipated loss of system facilities. The degree

[115] Archeological Institute of America (2006). *Glossary*. Retrieved August 1, 2006, from http://www.archaeological.org/webinfo.php?page=10299.

of reliability may be measured by the frequency, duration, and magnitude of adverse effects on consumer services.

Renewable energy: Resources that constantly renew themselves or that are regarded as practically inexhaustible. These include solar, wind, geothermal, hydro and wood. Although particular geothermal formations can be depleted, the natural heat in the earth is a virtually inexhaustible reserve of potential energy. Renewable resources also include some experimental or less-developed sources such as tidal power, sea currents and ocean thermal gradients.

Renewable Resources: Naturally, but flow-limited resources that can be replenished. They are virtually inexhaustible in duration but limited in the amount of energy that is available per unit of time. Some (such as geothermal and biomass) may be stock-limited in that stocks are depleted by use, but on a time scale of decades, or perhaps centuries, they can probably be replenished. Renewable energy resources include: biomass, hydro, geothermal, solar and wind. In the future, they could also include the use of ocean thermal, wave, and tidal action technologies. Utility renewable resource applications include bulk electricity generation, on-site electricity generation, distributed electricity generation, non-grid-connected generation, and demand-reduction (energy efficiency) technologies.

Reservoir: A natural underground container of liquids, such as water or steam (or, in the petroleum context, oil or gas).

Revegetation:[116] Regrowing native plants, mainly trees and shrubs, by active restoration, natural process restoration, or both.

Revenue: The total amount of money received by a firm from sales of its products and/or services, gains from the sales or exchange of assets, interest and dividends earned on investments, and other increases in the owner's equity except those arising from capital adjustments.

Royalty: A payment made for the use of property, especially a patent, copyrighted work, franchise, or natural resource. The amount is usually a percentage of revenues obtained through its use.

Sales: The amount of kilowatthours sold in a given period of time; usually grouped by classes of service, such as residential, commercial, industrial, and other. Other sales include public street and highway lighting, other sales to public authorities and railways, and interdepartmental sales.

Slim-hole: Slim-holes are small diameter wells drilled during the exploration phase in order to verify the existence of a productive geothermal resource and provide information about the geologic structure of the site. Such holes are sometimes preferred to "full-diameter production wells" since they are significantly less expensive.

Socioeconomics:[117] Research into the effects of both social and economic factors on individuals and communities. Socioeconomics begins with the assumption that economics is not a self-contained system, but is embedded in society, polity, and culture.

[116] The Nature Conservancy. Retrieved August 1, 2006, from www.tncvalifornia.org/glossary/.
[117] Harvard University (http://www.researchmatters.harvard.edu/topic.php?topic_id=260) and Society for the Advancement of Socio-Economics (SASE)

Solar Energy: Heat and light radiated from the sun.

Stability: The property of a system or element by virtue of which its output will ultimately attain a steady state. The amount of power that can be transferred from one machine to another following a disturbance. The stability of a power system is its ability to develop restoring forces equal to or greater than the disturbing forces so as to maintain a state of equilibrium.

Standby Service: Support service that is available, as needed, to supplement a consumer, a utility system, or to another utility if a schedule or an agreement authorizes the transaction. The service is not regularly used.

Subsidence: A sinking of an area of the Earth's crust due to fluid withdrawal and pressure decline

Sulfur oxides: Compounds containing sulfur and oxygen, such as sulfur dioxide (SO2) and sulfur trioxide (SO3).

Sustainablility:[118] Economic development that takes full account of the environmental consequences of economic activity and is based on the use of resources that can be replaced or renewed and therefore are not depleted.

System (Electric): Physically connected generation, transmission, and distribution facilities operated as an integrated unit under one central management, or operating supervision.

Temperature gradient hole: A temperature gradient hole is a relatively slim and shallow hole (50-600 feet deep) that aims to estimate the rate of increase of ground temperature with depth.

Transmission System (Electric): An interconnected group of electric transmission lines and associated equipment for moving or transferring electric energy in bulk between points of supply and points at which it is transformed for delivery over the distribution system lines to consumers, or is delivered to other electric systems.

Transmission: The movement or transfer of electric energy over an interconnected group of lines and associated equipment between points of supply and points at which it is transformed for delivery to consumers, or is delivered to other electric systems. Transmission is considered to end when the energy is transformed for distribution to the consumer.

Turbine: A machine for generating rotary mechanical power from the energy of a stream of fluid (such as water, steam, or hot gas). Turbines convert the kinetic energy of fluids to mechanical energy through the principles of impulse and reaction, or a mixture of the two.

Utility: A regulated entity which exhibits the characteristics of a natural monopoly. For the purposes of electric industry restructuring, "utility" refers to the regulated, vertically-integrated electric company. "Transmission utility" refers to the regulated owner/operator of the transmission system only. "Distribution utility" refers to the regulated owner/operator of the distribution system which serves retail customers.

(http://www.sase.org/index.php?option=com_content&task=blogsection&id=5&Itemid=43). Retrieved August 1, 2006, 2006.
[118] USGS. *Glossary*. Retrieved August 1, 2006, from http://biology.usgs.gov/s+t/SNT/noframe/gy198.htm.

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Watt: The electrical unit of power. The rate of energy transfer equivalent to 1 ampere flowing under a pressure of 1 volt at unity power factor.

Watthour (Wh): An electrical energy unit of measure equal to 1 watt of power supplied to, or taken from, an electric circuit steadily for 1 hour.

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Strategic Information for the Climate Change Industry

CLIMATE CHANGE BUSINESS JOURNAL®

Volume II, No. 4/5 April/May 2009

Global Geothermal Industry Balances Short-Term Development With Long-Term Investment in EGS

If the Low-Carbon & Renewable Power segment of the Climate Change Industry were a baseball team, geothermal energy would be the underrated veteran shortstop who doesn't hit many homers but fields consistently, rarely strikes out and scores runs on a regular basis. Let the stars like wind turbines and solar photovoltaic (PV) panels get the headlines; let the sports writers pump up the egos of rookies like thin-film PV, cellulosic biofuels and solar thermal power. Geothermal will be there to rack up solid stats and deliver for the team and the fans year after year.

Geothermal power's workmanlike quality stems from the fact that it offers something that wind and solar cannot provide: reliable baseload power that can be counted on to deliver megawatt-hours 24 hours a day, 365 days a year. In fact, for a utility or regional transmission organization, a geothermal power plant shows up on a resource plan grid like a conventional power plant.

In a broad context there are really three ways to look at geothermal energy:

1) Traditional steam-generated electricity generation, or hydrothermal, as it is often known, is site-dependent and has rather limited potential of perhaps 30,000 MW in the United States;

2) Enhanced geothermal systems (EGS) allow electricity generation from hot dry rock, thus opening up the map and the potential for geothermal power. But it is still early stages for EGS; and

3) Direct use geothermal encompasses space heating, hot water, process heat, pools, greenhouses and aquaculture. Direct use is exploited in more countries than electricity generation (see box on page 5), but CCBJ classifies it as an energy efficiency application in that it replaces conventional sources of energy. The main growth in direct use during the last decade has been geothermal or ground-source heat pumps for space heating.

The Geothermal Energy Industry

Geothermal energy was a $6.8 billion global industry in 2008, generating 66,000 GWh of electricity worth close to $4.8 billion, $1.1 billion in equipment sales and $900 million in service revenues. The United States market is the world's largest at $2.3 billion, and forecasts are for high growth as a strong pipeline of projects are developed in the next few years when carbon regulations are expected to drive a subsequent wave of growth.

- *Geothermal Energy Overview 1-8*
- *Developer Roundtable 9-12*
- *Emerging Markets 13-16*
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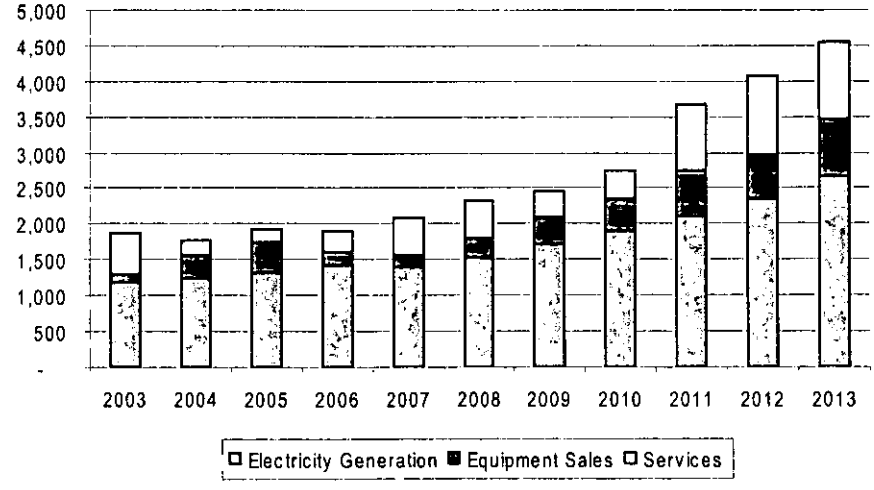
- *Profiles of Leaders Ormat, United Technologies, Raser, Turbine Air Systems, Exorka, Nevada 20-28*
- *The Future of EGS 29-31*

The U.S. Geothermal Industry ($mil)



Source: Climate Change Business Journal from a market model dervied from a variety of sources including Geothermal Energy Assn., International Geothermal Assn., Emerging Energy Research, New Energy Finance and company, government and academic sources. Services include exploration & resource assessment, well field drilling & development, plant design & construction.

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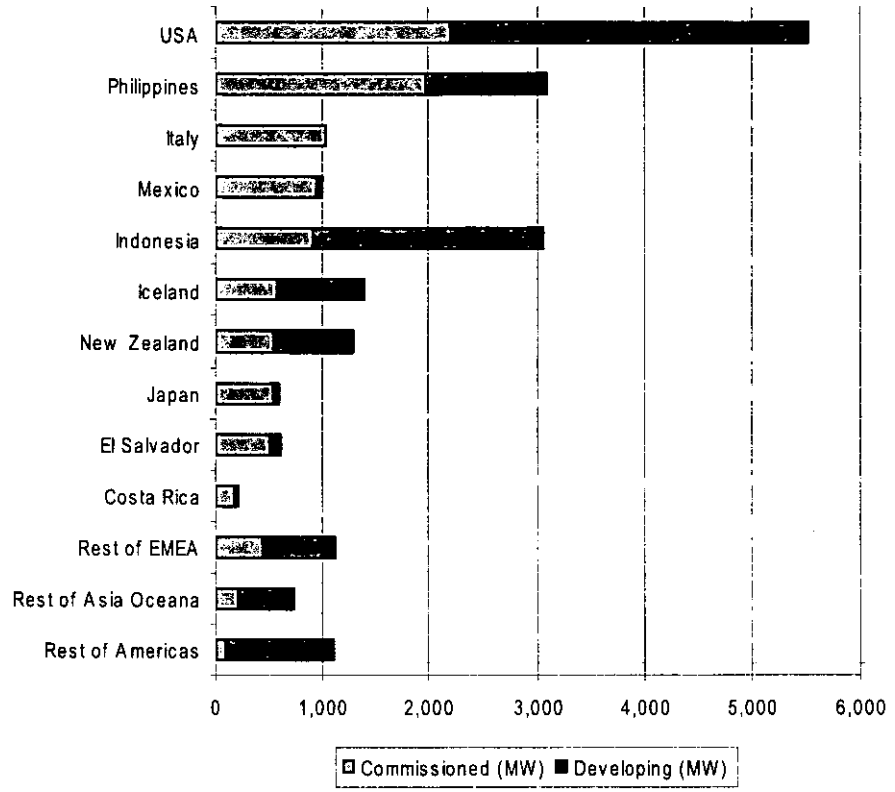
Global Geothermal Capacity and Development Pipeline (MW)



Source: New Energy Finance, Mark Taylor presentation, April 2009. Commissioned total is 10,162 MW in 2009 with 10,663 MW in development. EMEA is Europe, Middle East and Africa

Air Force 17
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Hence the focus of this review on electricity generation and its tie in with the power sector. Geothermal electricity "bridges both the conventional feedstock and renewable energy options for electric power generation rather uniquely," wrote **Deloitte** in a February 2008 report for the U.S. **Department of Energy (DOE)**. Geothermal's baseload characteristics allow "it to compete with other baseload feedstocks such as coal, natural gas and nuclear. At the same time, geothermal energy is a clean, renewable resource that competes with other renewable energy options such as wind and solar [making] it an attractive option for reliable and scalable generation while satisfying renewable energy voluntary or mandatory portfolio standards."

Yet, geothermal both in the United States and the rest of the world is not being deployed at a particularly brisk pace. At the end of 2008, cumulative worldwide installed capacity was between 9,900 and 10,500 MW, including 2,200 MW in operating capacity in the United States, according to estimates from **New Energy Finance** (NEF) and **Emerging Energy Research**. (Some 400-500 MW of capacity at the 1,400-MW Geysers project in California is on standby.)

Globally the pipeline of hydrothermal electricity projects currently in development exceeds the installed capacity by about 500 MW (see chart on page 2). The United States, Indonesia, the Philippines, Iceland and New Zealand account for 77% of the 10.7-MW pipeline, according to NEF estimates as of April 2009.

How Geothermal Stacks Up Against Other Renewables

Not only is geothermal's 10,000 MW in current global capacity easily less than 10% of the comparable capacity figure for wind power (121 GW worldwide) and less than two thirds of solar PV's installed capacity (15 GW), but geothermal electricity generation represents a comparatively anemic growth rate. At the end of 2003, global geothermal capacity was at 8,400 MW, meaning average annual growth from 2003-2008 was about 3.4%. Not bad if you're in the soup business, but in the clean energy business that kind of growth doesn't generate much excitement. By contrast, PV's 5.95-GW jump in 2008 as tallied by **SolarBuzz** represented one year growth of 110%. Wind power's leap forward in 2008 as tallied by the **Global Wind Energy Council** was 29%.

Even with the recent growth in wind and solar, renewable sources remain fairly insignificant in the 19 million GWh global electricity picture. In terms of electricity production, however, geothermal's superior capacity factor makes its contribution to global electricity generation more substantial than solar and close to half that of wind—at least in 2006, the most recent year for which the International Energy Agency publishes data. According to the IEA, geothermal electricity accounted for 59,200 GWh or 0.31% of global electricity generated, with wind at 0.7% and solar 0.2% in the same year. Coal (41%), gas (20%), hydro (16%), nuclear (15%) and oil (6%) made up 98% in 2006, according to IEA. Of course, lumping geothermal with the other renewables does de-emphasize its higher capacity factor (see table at right) and predictable baseload contribution valued by utilities.

As a business segment, CCBJ estimates the U.S. geothermal industry accounted for $2.3 billion in revenues in 2008, or 34% of the $6.8 billion global total. The $7 billion figure for the global geothermal industry compares to $56 billion for wind and $28 billion for solar (See dedicated CCBJ editions from 2008).

CCBJ defines the geothermal industry in three subsegments: electricity generation; equipment sales; and services. The latter includes exploration & resource assessment, well field drilling & development and plant design & construction. Electricity represents about 70% of the global total, but the ramping up of growth until the 2008 financial meltdown had corresponding investments in site evaluation, drilling, etc. that tilted the share of revenues more to services in growing mar-

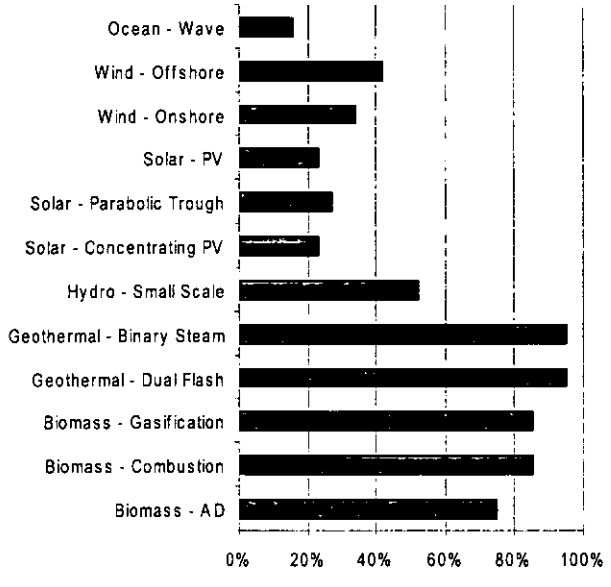
Typical Market Drivers for Renewable Energy

Driver	Developed markets	Emerging markets
Power prices	+	++
Demand growth	++	+++
Reliance on energy imports	+++	++++
Environment	++++	+

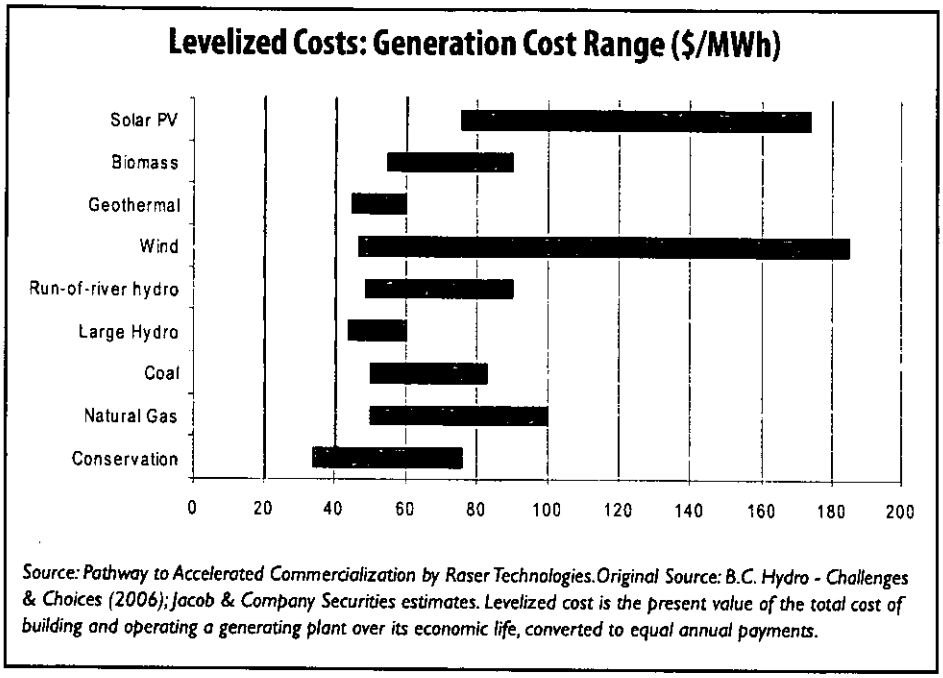
Note: Each + indicates relative importance of market driver; Drivers are the same worldwide, but priorities vary.

Source: Ormat Technologies, Inc., presentation by Rahm Orenstein at Greenpower Conferences' March 2009 Geothermal Innovation and Investment conference

Capacity Factors for Selected Renewables (Average Net Capacity %)



Source: Presentation by Raser Technologies
Original Source: Glitner Geothermal Report, September 2007



Source: Pathway to Accelerated Commercialization by Raser Technologies. Original Source: B.C. Hydro - Challenges & Choices (2006); Jacob & Company Securities estimates. Levelized cost is the present value of the total cost of building and operating a generating plant over its economic life, converted to equal annual payments.

kets, the U.S. included. CCBJ forecasts indicate that following a delay resulting from the freezing of credit and financing, the geothermal market will resume a growth trajectory and reach $5 billion in the U.S. and $16 billion globally by 2014.

Revenues available to specialist consulting & engineering firms could arguably be the total service amounts of roughly $1 billion globally the past few years, with a jump to $2-3 billion provided nothing further curtails the current pipeline or forecasted growth trajectory. A significant portion of these revenues, however, would be drilling or construction, meaning pure C&E project revenue would likely be closer to half these figures.

According to a variety of analysts and CCBJ interviews with industry leaders and experts, the growth of geothermal has historically been hampered by several constraints and challenges. In the first place, without a technological revolution like that promised by enhanced geothermal systems (EGS, also known as hot dry rock technology; see EGS/HDR feature on pages 29-31), geothermal power can only be developed in countries with suitable underground geothermal resources. Most geothermal resources are located along the seismically active Ring of Fire that roughly follows the coasts of the Pacific Ocean. Other resource areas include Eastern China and the Himalayan Belt, the Caribbean, Iceland, The Azores, Canary Islands, Italy, parts of Northern and Eastern Europe, the Eastern and Southern Mediterranean and Kenya, Tanzania and other countries is the East Africa Rift zone.

Investors prefer to buy geothermal companies or their operating power plants rather than invest in new projects.

In the second place, geothermal development is to a certain degree a speculative enterprise. Like wildcatters in the oil industry, geothermal developers must spend millions of dollars drilling for underground resources that they're not sure are present—or present in the quantities that will lead to their expected return on investment. "Geothermal projects have distinctly different challenges than other, more traditional, renewable technologies such as wind, solar, and biomass," notes the DOE's office of **Energy Efficiency and Renewable Energy (EERE)** in its *Geothermal Tomorrow* report. "Geothermal projects require subsurface exploration and well field development and have greater upfront risk because the geothermal resource is not confirmed without drilling."

Geothermal developers at **Greenpower Conferences'** March 2009 Geothermal Innovation and Investment conference in San Francisco said that typically 20% to 30% of the wells they drill—wells costing from $1.5 million to $10 million—end up hitting "dryholes." While not always physically dry, these dryholes are of sub-commercial enthalpy (heat energy). Compounding this dryhole risk is the fact that in the United States and some other regions, many of the best and most easily accessible geothermal resources—those with surface expressions like hot springs and fumaroles—have already been developed. To tap undeveloped resources for new power plants, developers must take on more risk in their drilling and development efforts.

As described in the developers roundtable article that follows this overview on page 9, as recently as the summer of 2008 developers could obtain debt financing to finance some of this resource and wellfield development work. Today the pendulum has swung the other way. Those lenders willing to finance geothermal projects require that developers sink wells and have proven resources—"steam behind the pipe" as they call it—before they will finance power plant construction. Separately with the depressed market caps of publicly held geothermal developers, private equity funders would rather buy companies or their assets than invest in new projects. Financial institutions in the market for tax credits are few and far between. And except for companies with a technology play in the emerging EGS segment, venture capitalists aren't interested in geothermal companies because of the lack of upside potential.

In this difficult environment, geothermal developers are urging the U.S.

Geothermal Energy: Opportunity and Challenge

Advantages from Utility Perspective

- Firm 24x7, not an intermittent resource
- Competitive cost
- Small physical footprint with minimal environmental impact
- 20-40 MW size does not require EHV transmission
- Credibility from years of success
- Recognized as a well-established industry

Some Development Challenges

- Financing uncertainty & heightened risk aversion
- Resource uncertainty
- Consolidating site control
- Prospecting/drilling cost on front-end
- Permitting
- Long lead-time
- Supply curve: progression to lower quality prospects

Challenges for Utilities

- Increasing RPS requirements puts pressure on utilities to turn to big projects
- Greenfield project failure an issue
- Uncertainties regarding amount, timing, and cost at odds with competitive resource procurement
- Operating plant/resource performance predictability an issue
- Few players in geothermal industry have the financial strength to go the distance

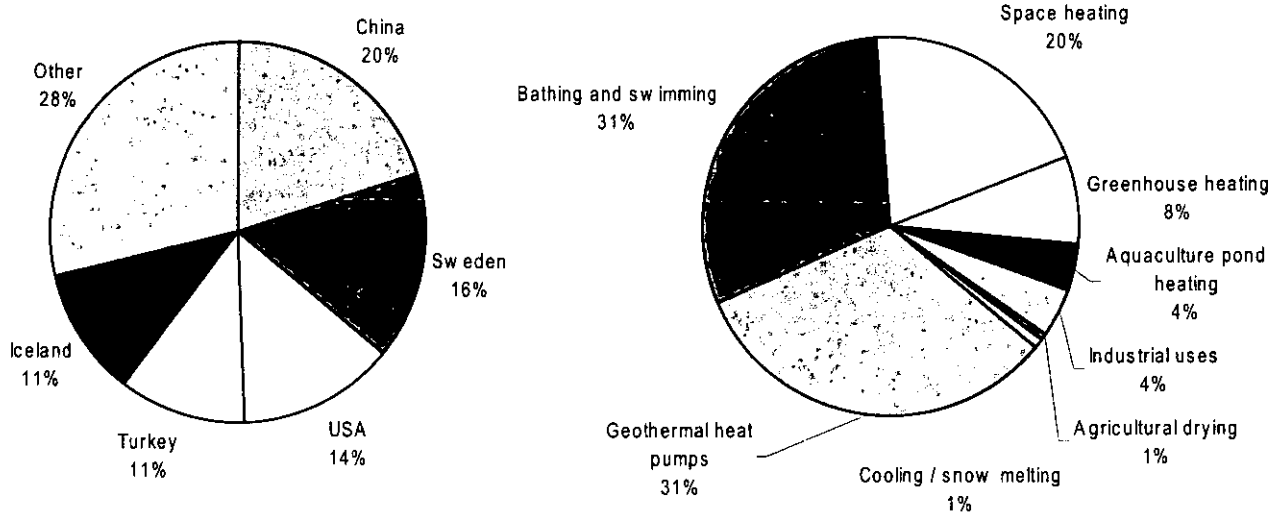
Source: NV Energy, March 2009 presentation by Thomas R. Fair, Vice President Renewable Energy

Direct Use Geothermal and Impacts on Climate Change

Electricity is produced from geothermal sources in 24 countries. Direct application of geothermal energy has been reported by 72 countries. In 2005, the worldwide use of geothermal energy was 57 TWh/yr of electricity and direct use was 76 TWh/yr, as reported by the **Intergovernmental Panel on Climate Change** (IPCC), a scientific intergovernmental body set up by the World Meteorological Organization and by the United Nations Environment Programme. Six developing countries are in the top 15 countries in direct use, with China at the top of the list. Direct use utilizes low-enthalphy geothermal fields that don't produce hot water at temperatures sufficient to generate power. While many firms engaged in geothermal electricity also work on direct-use projects, the segment is more driven by utilities, governments or companies using the heat directly. (Note: IPCC has released forecasts for geothermal electricity with global capacity reaching 24 GW in 2020, 46 GW in 2030, 90 GW in 2040 and 140 GW in 2050)

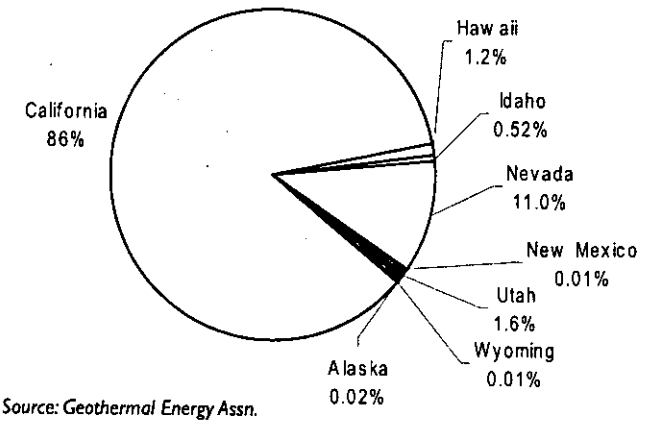
Direct Use Applications: Direct applications of geothermal energy are for space heating 52%, hot water (bathing and swimming) 30%, horticulture (greenhouses and soil heating) 8%, industry 4%, and aquaculture (mainly fish farming) 4%, according to John Lund in his paper *World-Wide Direct Uses of Geothermal Energy 2005.* Ground-source heat pumps are growing due to their ability to utilise groundwater or ground-coupled temperatures. According to IPCC, scenarios for future development show only a moderate increase in traditional direct use applications, but an exponential increase in heat pumps, as geothermal heat pumps can be used for heating and/or cooling in most parts of the world. In addition, geothermal heat pumps driven by fossil-fuel electricity reduce CO2 emissions by at least 50% compared with fossil-fuel fired boilers. If the electricity that drives the geothermal heat pump is produced from a renewable energy source like hydropower or geothermal energy the CO2 emission savings are up to 100%. The total CO2 emission reduction potential of geothermal heat pumps has been estimated to be 1.2 billion tonnes per year or about 6% of global CO2 emissions. Geothermal heat pumps will be covered in CCBJ's upcoming edition on energy efficiency and demand response.

Geographic and Application Breakdown of Direct Use Geothermal



Source: Lund, Freeston, and Boyd, World-Wide Direct Uses of Geothermal Energy 2005, published in Proceedings of the World Geothermal Congress 2005

2009 U.S. Geothermal Power Capacity On-Line



Source: Geothermal Energy Assn.

Department of Energy to use some of its ARRA funding—$400 million for geothermal and $6 billion for innovative technology loan guarantees—to subsidize drilling. As of May 2009, DOE had not issued guidance on this question. In international developments, the recession's impact on Icelandic geothermal firms has been amplified by the collapse of Iceland's currency. With the krona almost worthless on the international market, Icelandic geothermal developers that had set their sights on developing projects in foreign markets have scaled back to focus on the significant potential in their homeland.

Western States' Near-Term New Geothermal Power Capacity

	Capacity MW	Number of Sites
Alaska	20	3
Arizona	20	2
Colorado	20	9
California	2,400	25
Hawaii	70	3
Idaho	860	6
Nevada	1,500	63
New Mexico	80	6
Oregon	380	11
Utah	230	5
Washington	50	5
Total	**5,630**	**138**

Source: Western Governors' Association, Geothermal Task Force of the Clean and Diversified Energy Initiative. The task force concluded that Western States have a capacity of 13,000 MW that can be developed on specific sites within a reasonable timeframe, of these, 5,600 MW are considered viable for commercial development by 2015.

Long-Term Market Drivers Look Solid

The phrase "when the economy recovers" is becoming a cliché of analysts and commentators looking at virtually all industries, but there's really no other way to say: When the economy recovers, and when the prices of oil and gas resume their inevitable rise into the $100-plus territory, the geothermal power industry's prospects will improve. The CCBJ global market forecast, not that dissimilar from the base-case capacity-growth scenario of Emerging Energy Research (EER), has 2011-2014 annual growth in the high teens, with double-digit growth persisting to 2020.

Market drivers for geothermal power are fundamentally sound: In the developed world, renewable energy standards and greenhouse gas caps are pushing utilities toward low-carbon generation, and geothermal's baseload qualities give it advantages over solar and wind. As outlined in the chart on page 3, energy supply and security are also drivers, as is power price in regions such as the Caribbean and parts of South Asia that are highly dependent on imported diesel oil for power supply. Some developing country markets are using feed-in tariffs popularized mostly for other renewables in Germany and other developed nations.

With renewed growth, however, the geothermal power segment will have to contend with a couple of looming challenges. One is lack of access to drilling rigs. When oil prices were in the stratosphere and demand was outstripping supply, geothermal developers had a difficult time contracting for rigs and crews. With the drop in prices and demand, that has gotten easier; but rising prices and demand will inevitably cause drilling demand to rise. Another challenge will be recruiting and training staff. "The professional staff available in geothermal is minute," said Doug Glaspey, CEO of U.S. Geothermal, at the March conference. "In order to grow, you have to have skilled professionals, and that's a very difficult thing to accomplish in this business today." Investment capital is also required, and although the flow of venture money into cleantech businesses was tallied at over $8 billion in 2008, geothermal is not the sexiest category.

EER states that geothermal power plant investment could reach $13-20 billion by 2020, representing cumulative investment in geothermal exploration, drilling, and power plant construction. In comparison with EER's broader power generation forecasts, geothermal is the fourth-largest market for cumulative renewable power generation investment between 2009 and 2020, behind onshore wind, solar PV, and biomass, but ahead of offshore wind, CSP, and small hydro globally by 2020.

EER's base-case growth scenario forecasts 20 GW of geothermal installed during the 2010s, with their high-growth scenario at about 1.5 times that or about 30 GW. The vast majority of growth in both scenarios is North America and Southeast Asia, although the rest of the world accounts for as much as 25-30% of growth in some years of EER's forecast. A few new markets are expected to see sustained growth, led by Chile, Turkey, Russia, East Africa, and Central America. Established markets in Iceland, Mexico, and New Zealand are also expected to

Regions Where Geothermal Companies Expect to Increase Their Work in 2009-2011

United States	69%
Europe	31%
Indonesia	31%
Central America	23%
Australia	15%
Africa	12%
China	12%
New Zealand	12%
Philippines	12%
Rest of Asia	12%
Canada	12%
Italy	8%
Japan	8%
Mexico	8%
India	8%
Chile	8%
Iceland	4%

Source: CCBJ 2009 Geothermal Survey conducted in April 2009. Question was: What countries or regions are you expecting to increase your work in over the next three years? n=26

continue to tap their potential. Australia is what EER calls the largest region of uncertainty, as its substantial goal of bringing online over 2 GW of geothermal by 2020 remains contingent on successful deployment of unproven EGS.

As mentioned, the United States leads the world in online capacity of geothermal energy and continues to be one of the principal countries to increase its geothermal growth. Geothermal electric power generation is centered in eight U.S. states: Alaska, California, Hawaii, Idaho, Nevada, New Mexico, Utah and Wyoming with Oregon and Colorado coming on line. Total U.S. installed capacity was 3,040 MW as of March 2009, according to GEA's *U.S. Geothermal Power Production and Development Update* that includes some units on standby. With a pipeline of now more than 4.4 GW of confirmed projects, the U.S. geothermal market is poised to more than double existing capacity over the next five years, says EER, with U.S. carbon legislation and national

Geothermal Industry Gameboard Not Too Crowded

The geothermal power industry consists of project developers that identify, finance and build geothermal power plants; consulting engineering and technical firms that identify and quantify geothermal resources, conduct environmental analyses, design, operate and maintain projects; drilling firms that drill wells for exploration and production; engineering, procurement and construction (EPC) firms that build geothermal power plants; manufacturers of turbine generator sets, heat exchangers and other equipment; and other specialty firms. Some firms perform multiple roles, for example, manufacturers sometimes develop their own projects and EPC firms often provide multiple technical services with in-house staff. Exploring for and developing geothermal power resources requires specialized expertise that is concentrated in a few countries including Japan, Iceland, the United States, Canada, New Zealand, Australia and the Philippines.

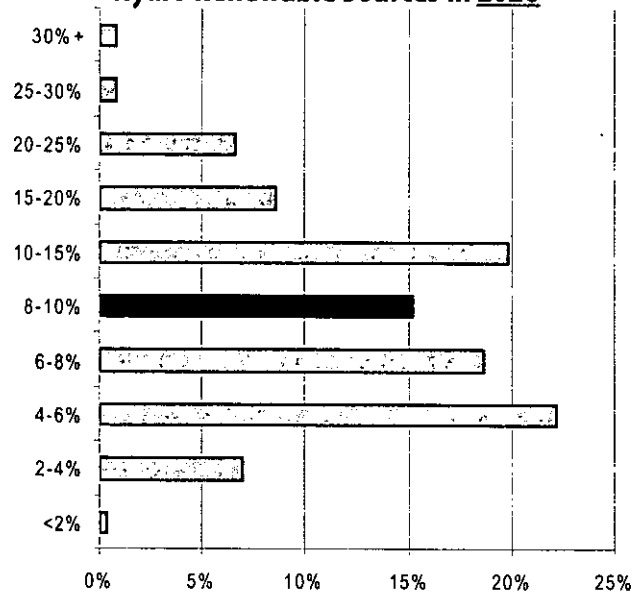
The number of firms in the industry is very small compared to other energy sectors. There are 11 manufacturers of geothermal turbine generator sets and related power plant components. They include: Alstom (France), Ansaldo (Italy), Fuji Electric (Japan), GE Energy (United States), Mitsubishi Heavy Industries (Japan), OAO Kalugo Energo (Russia), Ormat Technologies (United States), Siemens (Germany), Turboden (Italy), Toshiba (Japan) and UTC/Pratt & Whitney (United States). At the most recent international trade show of the **Geothermal Energy Association** in the United States, there were fewer than 100 exhibitors.

Geothermal project developers and power plant owners can be divided into two categories: 1) major independent power producers (IPPs) and utilities and 2) pure-play geothermal developers. The former category includes (U.S. companies unless stated): ArcLight Capital Partners/Terra-Gen Power, Calpine, Chevron, ENEL (Italy), EnBW (Germany), Geysir Green Energy (Iceland), LaGeo (El Salvador), Mid-American/CalEnergy, Ormat Technologies and PNOC EDC (The Philippines). Unocal and Chevron had historically been active developers of geothermal power in Southeast Asia. In 2005, Chevron acquired Unocal, and Chevron today is the world's largest private owner of geothermal power plants with combined capacity of 1,273 MW in the Philippines and Indonesia. Pure-play developers include: Magma Energy (Canada), Nevada Geothermal Power (Canada), Polaris Geothermal (Canada), Ram Power, Raser Technologies, Sierra Geothermal (Canada), U.S. Geothermal, Vulcan Power and Western GeoPower (Canada).

Enhanced geothermal systems (EGS) firms include AltaRock, Green Rock Energy (Australia), Panax Geothermal (Australia), Petratherm (Australia) and Potter Drilling. Leading technical and engineering consultancies and EPC contractors include AMEC, Enex (Iceland), GeothermEx, Geothermal Development Associates, Geothermal Resource Group, Horizon Well Logging, Hot Dry Rocks (Australia), Mannvit Engineering (Iceland), Ormat Technologies, Power Engineers, SAIC, SKM Consulting (Australia), West Japan Engineering Co. and Wood Group (United Kingdom)

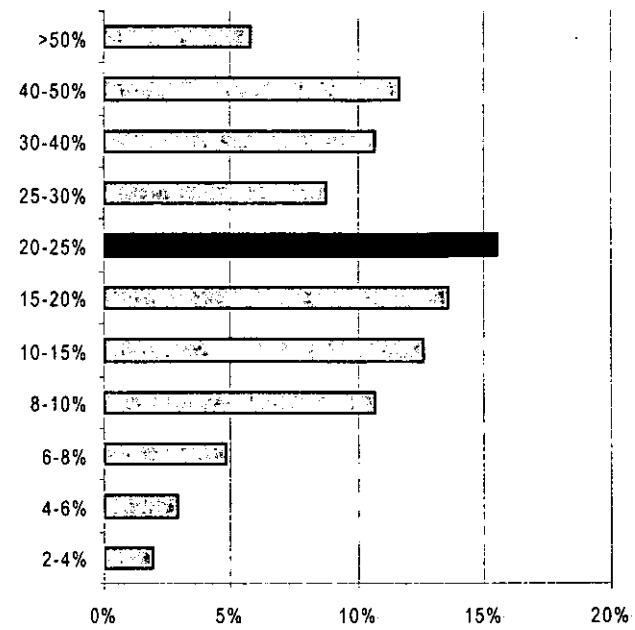
Leading drilling and drilling services companies include Baker Hughes, (United States), B.J. Services (United States), Boart Longyear (United States), Halliburton (United States), Iceland Drilling (Wales), Schlumberger (France, United States and The Netherlands), Thermasource (United States) and Weatherford (United States).

Percentage of U.S. Electricity Generation From Non-Hydro Renewable Sources in 2020



Source: Multiple CCBJ surveys with the same question conducted in 2008 and 2009 on the following topics: wind energy, CCS, snapshot and geothermal. Black bar indicates median range. Question was: U.S. DOE's Energy Information Administration says non-hydro renewable sources were responsible for 2.4% of U.S. electricity generation in 2006. What percentage of U.S. electricity generation do you believe non-hydro renewable sources will represent in 2020? (includes wood, municipal solid waste, landfill gas, sludge, biomass, geothermal, solar and wind).

Percentage of U.S. Electricity Generation From Non-Hydro Renewable Sources in 2050



Source: Multiple CCBJ surveys with the same question conducted in 2008 and 2009 on the following topics: wind energy, CCS and geothermal. The black bar indicates median range.

RPS expected to drive sustained growth from 2015-2020.

The global geothermal pipeline now exceeds 10 MW of projects under development, which if completed would almost double the installed global geothermal capacity of 10.5 GW built up over the past 30 years.

Currently, there are over 215 commercial geothermal electricity projects operating in 24 countries. The largest dry steam field in the world is The Geysers, 116 km north of San Francisco. The Geysers began in 1960 and has 1360 MW of installed capacity. **Calpine Corp.** now owns 19 of the 21 plants in The Geysers and is currently the United States' largest producer of geothermal energy. The other two plants are owned jointly by the Northern California Power Agency and the City of Santa Clara's municipal Electric Utility (now called Silicon Valley Power). Since the activities of one geothermal plant affects those nearby, the consolidation plant ownership at The Geysers has been beneficial because the plants operate cooperatively instead of in their own short-term interest. The Geysers is now recharged by injecting treated sewage effluent from the City of Santa Rosa and the Lake County sewage treatment plant. This sewage effluent used to be dumped into rivers and streams and is now piped to the geothermal field where it replenishes the steam produced for power generation.

Another major geothermal area is located in south central California, on the southeast side of the Salton Sea, near the cities of Niland and Calipatria, Calif. There were 15 geothermal plants producing electricity in the area. CalEnergy owns about half of them and the rest are owned by various companies. Combined the plants have a capacity of about 570 MW. The Basin and Range geologic province in Nevada, southeastern Oregon, southwestern Idaho, Arizona and western Utah is an area of rapid geothermal development. Several small power plants were built during the late 1980s during times of high power prices. Plants in Nevada at Steamboat near Reno, Brady/Desert Peak, now produce about 240 MW. As indicated on the chart on page 24, Nevada and Utah account for 86% of the new leases granted by the U.S. government in 2007-2008.

While geothermal electricity using existing technology indeed has good short-term prospects, the best sites are already snapped up. If geothermal is to make a big dent in renewables' inevitable penetration of the U.S. electricity business, EGS will have to play a role. Regardless, the manufacturers, consulting engineers, investors and policymakers in the CCBJ community believe that non-hydro renewables will account for roughly 8-10% of electricity by 2020 and 20-25% by 2050, according to compiled results of CCBJ surveys that incorporated the identical question (see charts above). How America reaches these thresholds remains to be seen, but it seems certain that there will be an ample supply of scientists, engineers, entrepreneurs, businessmen and corporations to chase the goal. ☼

Geothermal Developers Grapple With Financial Realities of 2009

For many geothermal power plant developers in North America, the worldwide economic free-fall that began in September 2008 has turned 2009 into a year of holding on, hunkering down and trying to survive. Despite holding leases to tens of thousands of acres of geothermal-rich land in the western United States, most developers lack risk capital to invest in the upfront geo-scientific work and exploratory drilling that is needed to verify the extent and quality of geothermal resources under the ground. (An exception to some degree is **Ormat Technologies**, which generated $252 million in revenues last year from its 505-MW portfolio of existing geothermal power plants; for more on Ormat see story on page 20.)

As recently as a year ago, developers could obtain debt financing before they had validated and drilled the production wells to tap geothermal resources—had "steam behind the pipe" in industry parlance. Not so today. "We've come out of a period in which there has been hyper-liquidity, a buyer's market for capital if you will. In the period we're in now, the pendulum has swung the other way," Ric Abel, Managing Director, Electric Finance Group, **Prudential Capital Group**, told CCBJ in April. "While in the past developers could get debt sooner in the life of a project and finance their drilling with a larger percentage of debt, today drilling and proving up the resource is seen as an equity risk."

Abel spoke at the March 2009 San Francisco Geothermal Innovation and Investment Forum sponsored by **Greenpower Conferences**. He was one of several representatives of lending institutions who discussed just how much financial conditions have tightened up for geothermal developers since the fall of 2008.

Investors had similarly bad news. Venture capitalists from **Google.org** and **KPCB** said they're only investing in technology firms with a strong upside potential, like those aiming to gain a position in the emerging enhanced geothermal systems (EGS) industry (also known as hot dry rock or HDR; for more, see feature on pages 29-31).

Private equity investors told the audience that because of the depressed market caps of publicly held geothermal developers, investors would prefer to buy geothermal companies or their operating power plants rather than invest in new geothermal projects. "Right now because of the large number of [geothermal] companies looking for financing as well as the significantly shrunken pool of available capital we expect that [development] deals will be few and far between going forward. The return hurdles and pre-requisites for successful private equity investment will be a lot higher," Paul Ho, managing director of **Hudson Clean Energy Partners**, told the audience.

New Wave of Developers

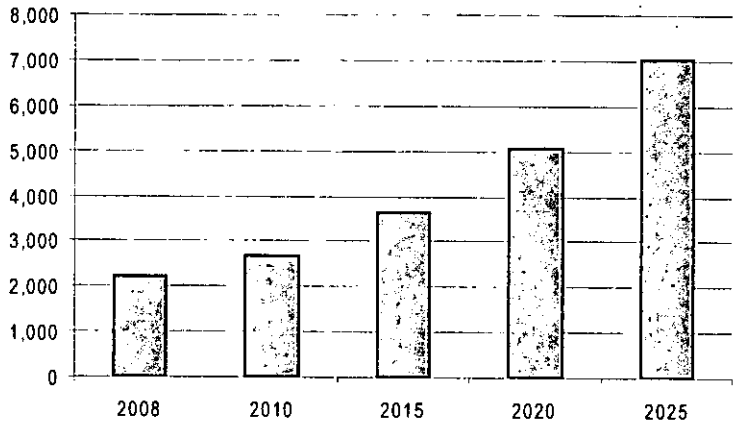
This was not news to the North American geothermal project developers who were in the audience, five of whom would later sit on a panel together representing their firms: **Magma Energy, US Geothermal, Ram Power, Nevada Geothermal Power** and **Sierra Geothermal Power**. These companies are part of a relatively new wave of pure-play geothermal project developers that emerged in this century, driven by the California energy crisis, the adoption of renewable energy standards in western states and the emergence of climate change and energy security concerns. Unlike Ormat and a handful of larger independent power producers and energy companies playing in U.S. geothermal project development—such as **CE Generation** and **Enel North America**—these firms are in the early stages of building their portfolios of geothermal projects. Tim Stephure, a geothermal expert at **Emerging Energy Research**, calls them "junior developers." Some have purchased existing plants with an eye toward expanding or repowering those facilities, but all are focused on new developments.

Hezy Ram, a longtime executive with Ormat who founded Ram Power last year, told an anecdote that while not literally true was nonetheless emblematic of the state of play for him and his counterparts. After leaving a meeting with an investor, he checked the visitor register at the front desk. Competing developer Doug Glaspey of U.S. Geothermal had been in just before him, while Brian Fairbank, CEO of developer **Nevada Geothermal Power** had just arrived for his appointment. (Both Glaspey and Fairbank were on the conference panel.) "We all go to the same private equity funds and financial institutions and talk to the same people," he said. "We need development capital. And as you know capital is very scarce today."

Development capital—lots of it—is needed for the upfront work that developers must do not only to verify that adequate geothermal resources lie under the ground they've leased or purchased, but also to sink wells accurately enough to tap those resources. In this economic environment, until they've got "steam behind the pipe," they can't access private equity funding, tax-credit equity or project-finance debt. And even when they can meet the risk requirements of such funders, funding is harder and more expensive to obtain than any time in recent memory.

As Abel pointed out, prior to the recession, developers could often obtain debt financing for some of this risky resource development activity. Not only is that no longer the case, but prospective equity investors are requiring more resource development work—more steam behind the pipe—before they'll invest in projects. And lenders are requiring higher levels of equity investment before they'll lend money for a project. One geothermal

Forecast of US Capacity for Conventional Hydrothermal Power



Source: CCBJ 2009 Geothermal Survey conducted in April 2009. Question was: Geothermal generating capacity in the United States was approximately 2,200 MW at the end of 2008. Given an economic revival by 2010 and adequate incentives, please estimate the US capacity for conventional hydrothermal power for 2010, 2015, 2020 and 2025. Result displayed is an average of the responses written in.

veteran who spoke to a CCBJ editor at the conference said: "The big economic problem affecting us now is the amount of debt you can get as part of your total project cost. This amount used to be 70-80%, and you'd only have to come up with 20-30% equity. First of all, nobody is really doing any deals right now. Banks don't have money they're willing to loan on such projects. But the numbers we're hearing tossed around [by lenders willing to lend] are more like 40-50% equity."

Panelists agreed that the last significant geothermal financing deal in the United States was Nevada Geothermal Power's $180 million line of credit to build a 50-MW project near Winnemucca, Nevada. But as CEO Brian Fairbank told CCBJ in an interview, the financing was much less favorable than what the company had anticipated. And in the current climate, the developer's success in getting steam behind the pipe for 50 MW has not led to any breakthroughs in financing an additional 50 MW at the same site. "Just at the time when we should have the light of success shining on us, we've run into the collapse in the credit market and a situation where the equity markets aren't working very well either." (For more on Nevada Geothermal Power, see page 28.)

Geothermal Land Rush

Before a developer worries about financing, however, it must have land leased for development, either from private owners, states or the federal Department of Interior, which controls through **the Bureau of Land Management** (BLM) millions of acres in the West. After May 2007, when the BLM finalized its rules for auctioning leases under the Energy Policy Act of 2005, there was a "land rush" as firms bid for favorable parcels. Auctions in 2007 brought in bids ranging from an historic high of $14,000 per acre for a 470-acre parcel adjacent to The Geysers in California to bids in the neighborhood of $300 to $500 per acre in Nevada, according to a BLM news release. Data compiled by Emerging Energy Research shows that since 2007 the three top lessees are Ormat, with about 150,000 acres; **Raser Power Systems** with some 75,000 acres; and Magma Energy with about 45,000 acres. These three are followed by some 20 developers with anywhere from a few hundred acres to 20,000-plus acres under lease. (See chart on page 24.)

The BLM has been paid more than $63 million for geothermal leases since 2007, according to Kermit Witherbee, national geothermal program manager for the agency. According to Witherbee, the perceived value of auctioned leases have dropped significantly. In the agency's last auction in December 2008, the average price was between $30 and $50 per acre.

For developers without existing leases or rights to private or federal lands, the prospects of gaining a toehold in geothermal development are increasingly slim. Most of the favorable geothermal sites—outside of off-limits areas like Yellowstone National Park—have already been developed or acquired. "Those of us who have been around for a few years kind of got the first pick on some of these prospects that that [already] had drilling [done] and had discoveries," said Doug Glaspey, CEO of **U.S. Geothermal.** "Those are the sites we went to first, and those are rapidly being consumed not only by ourselves but by new entrants in the market. So the quality of [geothermal site] prospects is going down. That means the risk to define and develop new resources is going higher and higher."

Drill, Baby, Drill (With DOE Money?)

While the output of wind, solar PV, biomass, hydropower and other renewable power plants can be predicted with a fair amount of certainty, geothermal developers face much more uncertainty as they search for steam supplies anywhere from 2,000 to 10,000 feet underground.

To find geothermal resources of sufficient enthalpy (heat energy) for power generation, they start with geological mapping that points to likely areas. They also consider distance to grid connections. Then they hire staff or consultants to perform geochemical analyses of hot springs and geophysical analyses such as seismic studies to refine models of likely resources. On many prospective geothermal properties, developers have the benefit of earlier explorations done by oil and gas companies that were investigating geothermal in a big way in the 1970s and 1980s.

Many of those prospective sites were not developed because the market drivers of that era diminished with the decline in oil prices. Additionally, the binary technology that can utilize lower-temperature geothermal resources was not available on a commercial scale at that time.

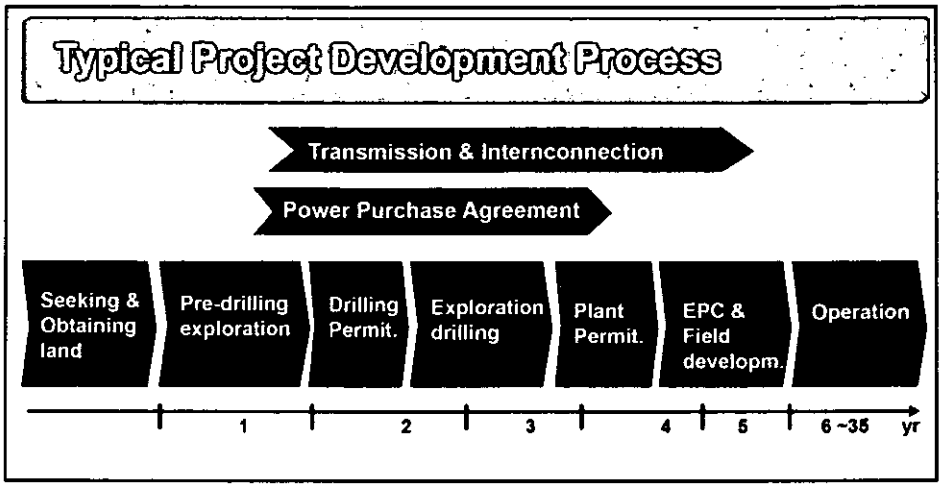
The costs for the geologic mapping, geochemical and geophysical work is generally in the hundreds of thousands of dollars for a 40 to 50 MW geothermal power project—add in permitting for the well drilling phase and you're looking at $2 million to $3 million, according to Brian Fairbank of Nevada Geothermal Power (see page 27).

Then the cash really starts to flow. Developers hire drilling contractors who come with rigs, equipment and personnel and charge $25,000 a day or more. Sometimes a drilling program start with slimhole test wells that can cost $2 million to $3 million each; in other cases developers and their contrators go straight to the production wells that can cost anywhere from $3 million to $10 million or more.

Like wildcat oil drillers, the geothermal prospectors are usually looking in areas without a history of geothermal production. They don't always hit paydirt, yet the drilling contractors must be paid. In fact, drilling "dry holes" is quite common. Developers estimated the risk at 20% to 30% on greenfield projects that haven't already been subjected to some exploratory drilling. "That scares a lot of people," said Glaspey.

"The drilling is really the wild card in geothermal," said Gary Thompson, CEO of Sierra Geothermal Power in response to a questions about average costs for developing a geothermal wellfield. "You have to have a fairly large contingency when you're talking about drilling because [the costs] are all over the map It could be $2 million, it could be $15 million to drill one of these wells. And your output varies [on the the same scale]. It could be two megawatts per well or 10 or 15 megawatts per well."

Typical Geothermal Project Develoment Process



Source: Geothermal Development in Emerging Markets by Rahm Orenstein, Ormat Technologies, Inc. Geothermal Innovation & Investment Conference, March 24th, 2009.

Given the risks of hitting dryholes and creating wells that produce less power than anticipated, the typical upfront capital required for a geothermal project of 40-50 MW with a typical life cycle of 30-35 years could be from $30 million to $50 million, according to developers. With the high risk profile of their endeavor and the difficulty of financing such activities, developers and other speakers at the conference pleaded with one particular person in attendance: Ed Wall, manager of the **U.S. Department of Energy's Geothermal Technologies Program**. What they asked for repeatedly is for Wall to use some of the $400 million for geothermal contained in the American Recovery and Reinvestment Act (ARRA) stimulus package to help developers mitigate this daunting dry-hole risk (see list on page 17).

"It's great to spend money on EGS. That's the future," said Glaspey. "But if you want megawatts on the ground today, you have to capitalize exploration. The way you do that is put it into drilling programs. Cost share [from the DOE] would be very nice for folks like us."

"There's a tremendous amount of conventional geothermal projects out there that desperately need assistance in order to do the drilling," said Abel from Prudential. "I think from a stimulus bill perspective, getting projects built, producing electricity and creating those jobs is where there's more bang for your buck."

Another option for DOE funding, according to Glaspey, is the loan guarantee program for renewable energy technology funded to the tune of $6 billion by the ARRA. "It may be possible for DOE to offer us loans at 3.5-4% interest," he said. "That's very encouraging, although we can't wait two years to get that kind of financing package," he added, referring to DOE's past difficulties with the loan guarantee program.

Long-Term Drivers

Despite the current difficulties, geothermal developers are operating in a marketplace with some very strong long-term drivers. Regardless of what happens with federal renewable energy standards and climate change legislation, utilities in western states are already under state laws requiring sharp increases in renewable generation. Because of its reliable baseload properties—in contrast to the intermittency of wind and solar—utilities and grid operators can more easily incorporate geothermal generators.

Those "junior developers" who can hang on through this difficult period will likely enjoy a more robust market envi-

ronment within one to two years. Prudential Capital Group's Ric Abel pointed out at the March conference and in a separate interview with CCBJ that institutional lenders like insurance companies still have a large appetite to finance long-term projects like geothermal power plants built with fixed-price EPC contracts and 20-year power purchase agreements. "There is money available, although it's a lot more expensive than it was a year ago," said Abel. "While drilling and proving up the resources is an equity risk, building the power plant and producing electricity for a PPA is more of a debt risk."

Abel said geothermal projects are financed in similar fashion to combined cycle gas turbine plants and other fossil fuel-fired power plants, with a waterfall structure designed to ensure that asset maintenance—including reservoir maintenance in the case of geothermal—is adequately funded and creditors are paid before plant equity owners. "This structure was developed and perfected primarily with gas-fired projects.... Most of the major law firms that focus on project finance are very familiar with this structure and the documents associated with it. At various times, including in the recent period of hyper-liquidity, people have deviated from that structure, but now the pendulum has swung back and lenders are approaching power projects in this more standard format."

For geothermal projects, a "disciplined operating budget" to maintain reservoir viability is critical to giving long-term lenders assurance. "You've got to have continued funding to maintain the geothermal resource, which is your fuel supply, on an ongoing basis," he said.

Emerging Energy Research's Stephure points to some recent investment highlights that show the underlying strength of the geothermal segment, but also point toward consolidation trends. He noted that Canadian energy company Alta-Gas recently purchased a 25% stake in

Leading Geothermal Power Market Participants

Power Plant Owners & Developers

Major IPPs And Utilities:
ArcLight Capital Partners
Calpine (USA)
Chevron (USA)
EnBW (Germany)
ENEL (Italy)
Geysir Green Energy (Iceland)
LaGeo (El Salvador)
Mid-American/CalEnergy (USA)
Mighty River Power (New Zealand)
Ormat Technologies (USA)
PNOC EDC (The Philippines)
Terra-Gen Power (USA)

Pure-Play Geothermal Developers:
Magma Energy (Canada)
Nevada Geothermal Power (Canada)
Polaris Geothermal (Canada)
Ram Power (USA)
Raser Technologies (USA)
Sierra Geothermal (Canada)
U.S. Geothermal (USA)
Vulcan Power (USA)
Western GeoPower (Canada)

Power Plant Equipment Suppliers:
Alstom (France)
Ansaldo Energia (Italy)
Fuji (Japan)
GE/Nuovo Pignone (USA)
Mitsubishi (Japan)
OAO Kalugo Energo (Russia)
Ormat Technologies (USA)
Siemens (Germany)
Toshiba (Japan)
Turboden (Italy)
UTC/Pratt & Whitney (USA)

Energy Conversion Technology Developers
Borealis/Power Chips (Gibraltar)
ElectraTherm (USA)
Exorka (Germany)
O-Flex
Ormat Technologies (USA)
Turbine Air Systems (USA)
UTC/Pratt & Whitney (USA)

Technical and Engineering Consultancies & EPC Contractors
Amec (USA)
Enex (Iceland)
GeothermEx (USA)
Geothermal Development Associates (USA)
Geothermal Resource Group (USA)
Horizon Well Logging (USA)
Hot Dry Rocks (Australia)
Mannvit Engineering (Iceland)
Ormat Technologies (USA)
Power Engineers (USA)
SAIC (USA)
SKM Consulting (Australia)
West Japan Engineering Co.
Wood Group (United Kingdom)

Drilling And Drilling Services Firms
Baker Hughes (USA)
B.J. Services (USA)
Boart Longyear (USA)
Halliburton (USA)
Iceland Drilling (Wales)
Schlumerger (France, USA, Netherlands)
Thermasource (USA)
Weatherford (USA)

EGS Developers/Technology Firms
AltaRock (USA)
Geodynamics (Australia)
Green Rock Energy (Australia)
Panax Geothermal (Australia)
Petratherm (Australia)
Potter Drilling (USA)

Source: CCBJ, EER, NEF and Geothermal Resources Council

Magma Energy and Raser Technologies has recently executed a funding agreement with **Copper Canyon Mining**. Australian EGS geothermal developers **Geodynamix** and **Petratherm** have formed alliances and joint ventures with very large companies: Geothermix with Indian conglomerate **Tata** and Petratherm with Australian utility **TruEnergy** and oil & gas producer **Beach Petroleum**. "Companies with bigger balance sheets will be better positioned moving forward," said Stephure.

"There are definitely some opportunities for these players to take advantage of the economic situation. They can fund a lot of activity in house and pick up projects from developers who are struggling. M&A activities are likely to occur. We may also see utilities move into this space, either developing or owning their own projects or partnering to help develop projects." In chaos lies opportunity is how some observers are characterizing 2009 and the geothermal industry has both. ☼

Geothermal Power in Developing Countries

With the best geothermal resources located along the Pacific Ring of Fire, there are enormous opportunities for developing geothermal power in Asian and Latin American countries that currently have little or none. The eastern and southern Mediterranean and the East Africa Rift zone (Kenya, Ethiopia, etc.) also present large geothermal development opportunities.

But developing geothermal power plants in many emerging markets is an enterprise fraught with high risks—risks that are layered on top of the ordinary risks of hitting dryholes and drilling under-producing wells that confront geothermal project developers in the United States and other developed countries. To build geothermal wellfields and power plants, most developing countries (the exceptions being the Philippines, Mexico, El Salvador and Indonesia) need foreign experts, suppliers and development capital because they lack the internal capacity—yet foreign firms often find it difficult to work in many developing countries because of the lack of frameworks to manage risks, delays in administrative processing, frequent requests for local patronage, contracts being violated and projects being shut down for murky political reasons.

"In some of these markets you have to add political risk to the drilling risks and credit risks that exist in developed countries," said Rahm Orenstein, director of business development for internationally active **Ormat Technologies** in a talk at the March 2009 Geothermal Innovation and Investment Forum sponsored by **Green-Power Conferences** in San Francisco. "Then you have off-take risk. In some countries, there's a high risk that your electricity customer won't pay you."

Poor market conditions are also a barrier to geothermal development in many developing countries. These include: Electricity markets that have not been fully restructured to encourage competition by independent power producers (IPPs), low rates for electricity that price geothermal out of the market, and lack of incentives to subsidize the up-front investment costs of geothermal power projects. "In many countries, geothermal has to compete with fossil fuels that still get subsidies and incentives," explained Orenstein. Additionally, many developing countries that have restructured their state power monopolies to facilitate more competition still retain monopolistic elements. "Any place we go and compete as an IPP is a market that has been deregulated to allow merchant power suppliers like us to compete, which is good.... But in some cases we discover that market is still to some extent monopolistic. Utilities may have been broken into a generation company and a transmission and distribution company, so now they have two monopolies."

For developing countries desperate for more domestic power sources—and for the worldwide effort to mitigate carbon emissions—the consequences that these risks and barriers will forestall geothermal power development in emerging markets are immense. **West Japan Engineering Co.** (West JEC), which has extensive experience in Central America, estimates that 3,000 MW to 4,000 MW—about 10 times current installed geothermal capacity—of new geothermal could be developed in that region given proper market structures, incentives and policies.

Geothermal-rich Indonesia has set a goal of building more than 4 GW of geothermal power capacity by 2014 (It currently has less than 1 GW online), but many international companies are reluctant to work there because of its unfavorable power market, bureaucratic inertia and reputation for corruption. In Kenya, some 4 GW of geothermal capacity—triple the nation's current electrical generation capacity—could be developed in the Rift Valley given proper market conditions and incentives, according to a study by UN agencies and the national power generation utility.

Foreign firms have successfully developed geothermal power projects in all of these regions and other developing nations. But it hasn't been easy.

Case In Point: Kenya

Ormat began developing a geothermal project in Kenya in the late 1990s, soon after the former state-owned power monopoly was unbundled into generation and transmission-distribution units. "Kenya was still heavily reliant on several hydropower projects for its electricity generation, and in the late 1990s the country suffered a major drought that caused generation to drop by some 30 percent," said Orenstein. The reliable baseload characteristics of geothermal made it an ideal resource for the country's power needs, according to Orenstein.

A **World Bank** supervised international competitive bid was issued by the utility, which was won by Ormat. Nine months after signing of a 30-year 50 MW power purchase agreement (PPA), the first 8 MW plant came online, and was soon expanded to 12 MW. By May 2002, Ormat had completed and demonstrated a total of 48 MW of steam capacity from the wells, but then it had to wait an agonizing six years to wade through what Orenstein called "administrative and political issues" before it could complete its power plant to reach that capacity. Ormat invested $150 million of its own funds for the wells and the plant; only recently was it partially refinanced by a loan from the German DEG lead consortium.

Kenya has relatively high electricity tariffs—between $80 and $120 per MWh compared to $60 to $80 for the rest of sub-Saharan Africa, according to a report by Julie Rowlett of the **Columbia University School of International and Public Affairs**. So Ormat's wholly owned Kenyan

subsidiary **OrPower** is likely doing well. But according to Ormat's 2008 annual report, the firm, along with the handful of other IPPs operating in Kenya, is under pressure to reduce tariffs to allow the government to make good on campaign promises of cheaper electricity. Furthermore, its customer **Kenya Power and Light Company** is being re-organized. And the country is in a state of ongoing political turmoil between President Mwai Kibaki and Prime Minister Raila Odinga.

To manage the risks of operating in countries like Kenya, Ormat buys political risk insurance from the **Multilateral Investment Guarantee Agency (MIGA)** of the **World Bank Group** or from **Zurich Re**, for most of its foreign projects, according to the company's annual report.

Ranking Developing Country Markets

Research outfit **New Energy Finance** has ranked the favorability of geothermal markets in both developed and developing countries. NEF's four criteria are:

Stability – political, economic and social, including a reliable electricity grid.

Availability of **local partners** to handle licensing, permitting and obtaining power purchase agreements.

A positive **policy framework** with high energy demand and limited supply

Incentives or subsidies such as feed-in tariffs, renewable energy certificate trading schemes and tax exemptions.

West JEC would probably add to that list a wholesale power market that is amenable to power purchase agreements (PPAs). Without PPAs, geothermal plants compete as merchant power producers, being dispatched only when their power is needed and their price is competitive. "Not all countries are like the United States where you can get PPAs," said Enrique Lima, general manager for overseas business. "In Central America, for example, it is difficult to get PPAs. You have to compete in the market where the price varies 24 hours a day. It can go from as low as 1 to 2 cents and as high as 10 to 13 cents at peak. But the duration of the peak is very short, so the average price you'll get is 3 or 4 cents. This makes it very difficult for geothermal to compete."

It's no suprise that Kenya is near the bottom of NEF's rankings with a 2.0 ranking out of 4.0 possible points. (See chart on left for all of NEF's rankings.) Many developing countries rank more highly, in NEF's view, including Chile, Hungary, Nicaragua, Guatemala, Indonesia, the Philippines and Turkey.

Indonesian Puzzle

But according to New Energy Finance Associate Mark Taylor—and research by CCBJ's parent company **Environmental Business International (EBI)** on behalf of the Organization for Economic Cooperation and Development—the level of risks and difficulties presented by certain countries can be as much a matter of perception or opinion as fact. Indonesia, for example, is widely perceived as a very difficult market to develop geothermal projects due to broken contracts, turgid bureaucracies, an unfriendly power market and corruption. According to an executive with an international engineering firm active in geothermal worldwide, wholesale power prices in Indonesia are tied to the price of coal power, essentially pricing geothermal out of the market. This individual (who was interviewed confidentially for EBI's OECD study) doesn't believe

Global Geothermal Markets Rating

Country	Stability	Local Partners	Policy Framework	Subsidies	Ranking
Chile	+	+	+	+	4.0
Greece	+	+	+	+	4.0
Hungary	+	+	+	+	4.0
Iceland	+	+	+	+	4.0
Australia	+	+	+	+	4.0
Austria	+	+	+	+/-	3.5
Slovakia	+	+	+	+/-	3.5
Nicaragua	+	+	+	-	3.0
US	+	+	+	-	3.0
Guatemala	+	+	+	-	3.0
Indonesia	+	+	+	-	3.0
Japan	+	+	+	-	3.0
Philippines	+	+	+	-	3.0
Germany	+	+	+	-	3.0
Italy	+	+	+	-	3.0
New Zealand	+	+	+	-	3.0
Turkey	+	+	+	-	3.0
Costa Rica	+	+	+/-	-	2.5
El Salvador	+	+	+/-	-	2.5
Poland	+	+	+/-	-	2.5
Portugal	+	+	+/-	-	2.5
China	+	+	+/-	-	2.5
Thailand	+	+/-	+	-	2.5
France	+	+/-	+	-	2.5
Kenya	+/-	+	+/-	-	2.0
Mexico	+	+/-	-	-	1.5
Russia	+	+/-	-	-	1.5
Ecuador	+	-	-	-	1.0
Peru	+	-	-	-	1.0
Papua New Guinea	+/-	+/-	-	-	1.0
Djibouti	+/-	+/-	-	-	1.0
Ethiopia	+/-	+/-	-	-	1.0

Source: New Energy Finance. Countries were ranked on a scale of 0 to 4 points. Each of the criteria presented in the four columns is worth 1 point. A + symbol signifies that country fully meets the criteria and 1 point. A +/- symbol indicates that a country only partially meets the criteria and is awarded a 0.5 point.

that the government's plan to offer higher rates for geothermal and other renewables will succeed because of resistance within the electricity bureaucracy.

WJEC's Lima offered a more balanced perspective on Indonesia, telling CCBJ: "The Indonesian government is now thinking what kind of support is needed for geothermal and other renewables but they have not yet reached a conclusion." And Taylor says he has "talked to people who have developed projects there, and they say that if you know the people and the culture, it's not that bad." Indeed, **Chevron**, which calls itself the largest producer of geothermal energy in the world, has a 30-year history of geothermal work in Indonesia (through **Unocal** which Chevron acquired in 2004). According to Taylor, government officials in charge of boosting geothermal production to 4.4 GW by 2014 are aware of its reputation and working to ease some of the barriers and challenges.

A key insight that emerged from EBI's research is that some firms succeed handsomely in doing business in foreign markets where others fear to tread. One wind power developer told EBI that his firm avoided mature wind-power markets in OECD countries to focus on the opening markets in what he called "dodgy" countries with higher levels of political risk and corruption. While some firms reported avoiding China because of intellectual property risk and poor contract enforcement, several European wind power firms work quite successfully in China. It appears that a market which scares off some firms can offer opportunities to other firms that adapt to the country's business norms and market conditions.

For geothermal power developers, however, the higher levels of risk and difficulty imposed by operating in a "dodgy" country are much more formidable than for wind power because of the cost of quantifying and developing resources. While assessing the expected annual yield of a wind farm site is not a trivial matter, doing the drilling needed to prove and develop the geothermal resource for a 50-MW power project can run as high as $50 million or more.

Governments, Funding Institutions Step Up

Because of these high costs and the attendant risks of finding dryholes or hitting reservoirs with lower than expected power capacity, geothermal power development in emerging markets is often too risky for the private sector to do on its own. To offset these costs and risks, developed country governments, multilateral lending agencies like the World Bank and in some cases host country governments subsidize the exploration and resource development phase of creating a new geothermal power plant.

The impact of such subsidies can be seen in the contrast between the geothermal power development trajectories of the Philippines and Indonesia. The two countries are both rich in geothermal resources and both began developing them in the 1970s, yet the Philippines today has about 1900 MW of capacity online, meeting about 17% of total demand, while Indonesia has less than 1 GW meeting 5% of demand. According to multiple informants for EBI's OECD research, the Philippines' success story was based on a policy in which publicly owned **PNOC Energy Development Corporation (EDC)** took the exploration and drilling risk, selling steam to power plant developers.

By contrast Indonesia required foreign developers to fund exploration and drilling. "In the 1990s, you could do a geothermal power project in the Philippines for 4.5 cents to 5 cents U.S. per kilowatt-hour, but contracts in Indonesia were at 7.5 to 8 cents because developers were putting a big margin on for the risks being assigned to the projects," said EBI's source with the international engineering firm. (PNOC EDC has since been privatized and EBI's sources say the industry is watching closely to see how its development policies evolve.)

Looking forward, Taylor says that funding to underwrite the costs of resource exploration and wellfield development will be vitally important to building geothermal projects in most developing countries. "Right now, developing geothermal in these countries is so high-risk that there needs to be some sort of multilateral bank or government intervention to help out," he said.

He spoke recently with the head of the World Bank's $25 million GeoFund which subsidizes drilling and exploration and technology development. The official reported that the fund had lent $5 mil-

Developing Markets with Most Promise in Geothermal

- Brazil
- Canada (2 responses): political stability, history of resource development
- Chile (2 responses): resource and government support, great resource, new developers in area
- China (2): Universal carbon tax
- Iceland: size of resource
- India: universal carbon tax
- Indonesia (4) : lots of resources
- Japan
- Kenya
- Mexico
- Nevis Island (Antilles): great start, high electricity pricing
- Nicaragua: good resource
- Philippines (5): replace dependance on diesel powered generation; size of resource
- Turkey

Source: CCBJ 2009 Geothermal Survey conducted in April 2009. Question was: Many regions of the developing world such as Central America and parts of Africa have tremendous potential to develop more geothermal power, yet little internal capacity to develop their resources. In many cases, such countries present high risks for foreign geothermal developers and service providers. Please note the three developing countries that you think will grow their geothermal power capacity the most over the next 10 years and what factors will make those markets favorable for geothermal development.

lion and still had another $20 million to lend, which would likely go to subsidize three resource exploration efforts and five technology development programs. "**The European Investment Bank** and **the European Bank for Reconstruction and Development** have also offered funding, but the existing financing resources are absolutely not enough. To significantly ramp up geothermal power capacity in developing countries, it will be necessary for multilateral banks to step up their financing."

Enrique Lima of West JEC told CCBJ about a series of geothermal projects in countries such as the Philippines, Indonesia, Guatemala, Jordan, Panama, Colombia and other countries for which the initial stage of development were or are being financed by country-to-country development assistance programs. "This kind of financing through donations or soft loans may provide means to offset risk," said Lima.

Chile, Turkey, Hungary Entice Developers

According to Taylor, a country that has been particulary successful in turning around a negative reputation for geothermal development is Chile. Developers were plagued by long delays in receiving permits until the government streamlined the permitting by setting deadlines for administrative departments.

"Chile is one of the best markets now for two reasons," said Taylor. "It doesn't have a feed-in-tariff but it has an average wholesale electricity price of $115 per megwatt-hour, which is very high. The other reason is that it has an immense geothermal resource and developers who have looked at it are fairly confident that they can make projects work economically." The Chilean government is also offering a $5 million subsidy per geothermal project and is doing organized leasing and tendering of known geothermal resource areas.

"Many mining companies up in Northern Chile need a lot of electricity, and they're paying high rates for it," said Taylor. "There is a lot of geothermal [in the mining areas], with geysers and other surface expressions." Combining small distributed projects for mines and other remote industries with utility-scale projects, Chile can develop 2350 MW of geothermal power capacity according to an estimate provided by NEF from **Bob Lawrence & Associates**, a consulting firm.

Other developing-country markets have implemented feed-in-tariffs for geothermal, according to Taylor. These include Hungary with a $90 per MWh rate; Turkey with $70 per MWh; and **the Central American Electrical Interconnection System (SIEPAC)** linking Panama, Costa Rica, Honduras, Nicaragua, El Salvador, and Guatemala has set an $80 per MWh FIT (SIEPAC is still under construction as of April 2009). ☼

Trouble In Central America: One Company's Experience

CCBJ's parent company Environmental Business International (EBI) recently conducted a series of confidential interviews with geothermal market participants on behalf of the Organization for Economic Cooperation and Development to assess the market barriers in different countries. EBI's informants (interviewed confidentially) told stories of extra costs, obstacles and delays due to government procedures and local business culture. One of the most daunting experiences was related by an international developer doing its first project in Central America. As a result of these experiences, the company will raise its revenue requirements for future projects in the country by 10% to 20%. (The country is not identified to protect the company's confidentiality.) Among the challenges:

* A government anti-corruption law made customs clearance cumbersome and expensive. A mistake like classifying a pipe fitting as a pipe could result in fines and special treatment of all the company's imports for a year.

* Conflicts between labor unions in Mexico and Central America resulted in a *de facto* ban on Mexican trucks crossing the border. In spite of a regional free trade agreement, shipments are re-loaded at the border—a requirement that could not be safely met for a 50-ton heat exchanger the company was importing. A logistics contractor had to negotiate a special arrangement with the unions.

* The company had difficulty importing the isopentane needed for the binary steam cycle because customs officials didn't know how to classify it.

* Banking regulations prevented the company from opening an account unless it established a domestic company. This meant that the company could not establish credit at local vendors and had to get quotes, write purchase orders and process invoices through its home office for all purchases.

* The project tender document gave the client—a quasi-public utility—the right to travel at the developer's expense to inspect the production of components. While traveling to inspect heat exchanger or turbines was justifiable, client staff insisted on traveling to visit the makers of commodity items like transformers and pumps.

* For some site preparation work, the company was forced to employ laborers instead of heavy equipment.

* After a site engineer was murdered, the company hired an armed security service to accompany all foreign staff 24 hours a day.

ARRA Update: Federal Procurement Picks Up at GSA, DOD and DOI

Federal government agencies are flush with cash to spend quickly thanks to the American Recovery and Reinvestment Act (ARRA), also known as the Stimulus Package. And a great deal of that cash will go to services and products related to energy efficiency and renewable energy projects. While **the U.S. Department of Energy (DOE)** is the largest recipient and disburser of ARRA funds for energy efficiency and renewable energy, other federal, state and local agencies also have a great deal of new money to spend on these segments by September 30, 2010.

As noted in our first edition of 2009 (January/February/March 2009), given the size and the phased implementation of the ARRA, CCBJ will cover aspects relevant to our readers over several editions in 2009. In this edition, we focus on federal procurement for services and products associated with energy efficiency and renewable energy by three federal agencies: **General Services Administration** (GSA), **Department of Defense** (DOD) and **Department of Interior** (DOI).

According to CCBJ's estimates, these three agencies will directly spend about $5.5 billion on contracts for renewable energy and energy efficiency projects by September 30, 2010. (Note: this does not include funds being channel to states, local governments, housing authorities, tribes and school districts by the **Department of Education, Environmental Protection Agency, Housing and Urban Development** and DOE.)

Five and a half billion dollars is a rough estimate based on an educated guess about the amount of capital project funds that GSA, DOD and DOI agencies will spend on energy-related projects. Congress gave the agencies wide latitude, telling the Army, for example, to spend $1.47 billion to "improve, repair and modernize... facilities, restore and modernize real property to include barracks, and invest in the energy efficiency of ... facilities." All other DOD departments, including reserves, received similar marching orders. Similarly, the **Bureau of Land Management, Fish and Wildlife Service** and other DOI agencies have been given money for "repair of roads, bridges, property, and facilities and for energy efficient retrofits of existing facilities."

With that kind of discretion, the full scope of GSA, DOD and DOI spending on energy efficiency projects like upgraded lighting and replacement of inefficient HVAC equipment and renewable energy projects such as solar water heating systems and wind turbines won't be known for some time. But early indications are that spending from DOD at least will be very robust.

In a March 2009 report to Congress, DOD highlighted hundreds of energy efficiency and renewable energy projects that will be funded with ARRA money. Just a few examples: $4.7 million for wind turbines at the **Air Force's** Cape Newenham Long Range Radar site in Arkansas; $10.7 million for a PV system at Camp Pendleton Marine Corps Base in California; and $3 million to upgrade the HVAC system at Fort Leavenworth in Kansas.

Obviously, there's a lot of work on tap for equipment installers and integrators and engineering and construction firms. But DOD is also looking for consultants to do conceptual planning and analysis work. A whole section of ARRA DOD funding is devoted to research, development test and evaluation (RDT&E) projects, and DOD aims to spend much of that funding on energy related projects.

There are initiatives around designing more fuel-efficient military vehicles and developing renewable energy generation and energy devices for combat usage; contracts for those types of projects will prob-

Recommendations for DOE for Utilization of the $400 million in ARRA or Stimulus Funds for Geothermal Energy

Reduce drilling risk
Fund Exploration and Drilling
Incentives for exploration
Invest in exploration research
Create new test wells for deeper operations
Help finance geothermal development first cost
Construction loan capital for shovel-ready developments
Continue and Increase Loan Guarantees
Staff Up to Process Loan Guarantee Applications
Reduce development red-tape
Facilitate and ease permitting process
Concentrate on Hot Dry Rock Geothermal Energy
Invest in proving EGS technology
Fund EGS developments
Fund traditional deployment instead of EGS
Don't squander it on EGS
Invest in geothermal R&D
Advance hard-rock drill-bit development
Invest in cycle engineering and simulation
Advance hybrid solar/binary power plants
Fund new research for power conversion technology

Source: CCBJ 2009 Geothermal Survey conducted in April 2009. Question was: What three top recommendations would you give to US DOE for the $400 million it received in the American Recovery and Reinvestment Act (ARRA) specifically for geothermal.

ably go to firms' with prior experience in combat and weapons systems. But there are also RDT&E projects suitable for consulting engineering firms with expertise and capabilities in designing building energy systems. For example, the Army is looking to spend $3 million for planning of an ultra-low energy campus that can be a model for other facilities. The Navy and Marine Corps expect to spend $2.5 million on developing methods to integrate cogeneration into tactical systems. And the Air Force is in the market for ideas to maximize renewable energy development on its vast test ranges.

According to Chris Lippert, corporate initiative leader for energy efficiency at $2-billion consulting engineering firm **Tetra Tech**, federal agencies have pent-up demands for energy efficiency and renewable energy projects—demands that are finally being satisfied with ARRA funding. "DOD and all federal agencies have been under some form of federal mandate to reduce energy use for some time," said Lippert, citing the Energy Policy Act of 2005 and the Executive Order 13423 signed by former President George Bush in 2007. "But these mandates have not traditionally come with funding. Now that the stimulus package has made funds available, federal agencies are well positioned to implement a large wish list of projects to cut energy use and save on energy costs. There's a great opportunity for the private sector to provide those services."

While many businesses can become federal contractors, given the rigid timelines for spending in the ARRA, Lippert and others think that the vast majority of spending will go to existing contractors. "Existing contract vehicles are incredibly important," he said. "The contracting staff on the federal side is already overtaxed and now they're being asked to take on this significant chunk of work."

That doesn't mean that only those already in the federal doorway need apply because there is great scope for subcontracting work. In demand will be installers and integrators of renewable energy and energy efficiency equipment and projects, but also consulting firms with relevant expertise.

According to Lippert and other executives familiar with federal contracting, becoming a subcontract supplier to a federal contractor is not all that difficult. "As long as you can prove you have your relevant licensing, such as a plumber's license for installing solar water heating, you can start on day one," said Scott Sklar of the **Stella Group**, a firm that integrates solar, wind, geothermal and other renewable energy sources for public and private sector clients. "You may have to get some additional bonding and insurance."

Where to Find Opportunities

Sklar, Lippert and others agree that the best places to start looking for federal subcontracting opportunities are the federal websites, particularly GSA.gov and FedBizOpps.gov. "You have to take the time to troll through and look at all the opportunities," said Sklar. "The U.S. government is the biggest user of energy in the world and the biggest owner of buildings. I suggest focusing on the niches where you are most capable.... You may have done a lot of medium-sized business renovations and now you want to install solar systems for medium-sized buildings. Well, that's different from doing a giant base dormitory that is six square blocks. Focus on what your experience level is and look at the government through that lens."

Sklar takes note that energy efficiency and renewable energy contractors may be able to find significant opportunities with some of the 16 energy service companies (ESCOs) designated as primary energy service performance contractors by DOE in December (see list above). CCBJ's conversations with a couple of these entities indicate that they anticipate being in the market subcontracting vendors, but their needs are probably more skewed to implementation rather than planning and analysis. (Funding for many of these projects is not tied to ARRA but rather to cost savings achieved by energy conservation measures; CCBJ will cover ESCOs and energy service performance contracting in our upcoming edition on energy efficiency and demand response.)

DOE's Primary Energy Service Performance Contractors

Ameresco
Chevron Energy Solutions
Clark Realty Builders
Consolidated Edison Solutions
Constellation Energy Projects & Services
FPL Energy Service
Honeywell International
Johnson Controls Government Systems
Lockheed Martin Services
McKinstry Essention
Pepco Energy Services
Siemens Government Services
TAC Energy Solutions
The Benham Companies
Trane U.S.

The GSA handles purchasing and procurement for multiple federal agencies, and many federal contractors hold what are known as multiple award schedule contracts that GSA administers. "A multiple award contract schedule allows any federal government agency and some state agencies and some contractors to the federal government to access the products and services through the GSA," said Al Tattersall, a senior vice president of federal contractor **GP Physics**. "The advantage to agencies in doing it this way is that it reduces the amount of time for contracting." GSA schedules have already been analyzed and vetted for fair pricing of products and services, and individual agencies can essentially shop among GSA schedule holders for vendors, then work through GSA to execute the contract quickly.

According to Lippert, federal agencies have different preferences regarding whether to procure services through

a GSA schedule or handle their own procurement. "It really gets down to a specific branch of DOD, a region or even a specific base within that region," he said. "The preference may come down to a certain individual procurement officer's experiences."

The eLibrary on GSA.gov can be used to locate firms that hold multiple award schedule contracts. With stimulus money flowing, many of these firms will be already looking at how to ramp up their capabilities through subcontractors. "We have been approached by government agencies with which we have contracts, and we've been told that they are expecting stimulus funding that would expand the scope of work that we would provide through our existing contracts," said Tattersall.

There's also the option to look for specific contract opportunities being offered directly by federal agencies. GSA's FedBizOpps.gov website lists any contract greater than $25,000, according to Tattersall. "In this case, you're not looking for the contract vehicle but the types of procurement that are being opened for solicitation," he said. He suggests prioritizing solicitations based on NAICS codes and geography for regional firms, then contacting the relevant agencies directly.

For businesses that meet federal small business criteria (see SBA.gov/faqs), most federal agencies have liaison staff who can assist in locating prime contractors who may be bidding on specific projects. "You tell them the type of work you do and they will assist you, including telling you companies who are bidding on contracts where you could be a good subcontractor," said Tattersall. "Almost every military facility, including NASA, has someone responsible for getting small businesses involved in acquisition primarily because Congress sets targets for small business contracting."

Tetra Tech's Lippert says that such requirements will lead his firm to subcontract even when it possesses all the needed capabilities for a contract in-house. "We're a large firm and proud of our broad expertise, but since a number of federal clients have small business requirements in their contracting, we'll plan to exceed those," said Lippert. "There could also be niche technologies where we need to bring in a technical specialist."

(Tattersall and Lippert also noted that for small firms willing and able to become qualified as federal contractors, contracting requirements can put their firm in the prime contractor spot with larger firms acting as subcontractors. "Some of the small-business set-asides can be for quite sizeable contracts, so there's often a real need for the expertise and experience that a large business can provide. We are in mentor-protégé and joint-venture relationships with some small businesses that qualify for set-asides," said Lippert.)

As far as making contact with and cultivating a subcontractor relationship with a federal contractor, Tattersall recommends the additional step of registering as an interested party for solicitations of interest on FedBizOpps.gov. "They'll post your name as a company looking to subcontract."

Lippert underscores Tattersall's advice about using the small business liaisons at DOD facilities, but he says old-fashioned networking and marketing can be valuable as well. "Getting involved with groups, where they want to do business, that will give them insight and referrals is a good start." he said. "The Society of American Military Engineers, for example, has monthly meetings and is a great place to do business networking."

"We certainly get cold calls and have people sending us information, but even in this modern world where we're all tied together through technology, my preference would be to meet someone face to face at a SAME meeting or have an introduction facilitated by a small business liaison from one of the DOD branches." If such introductions lead to a potential relationship, it is always preceded by thorough vetting, said Lippert. "Just because we have this glut of funding, we'll still continue to do thorough vetting of subcontractors. The taxpayers don't want to see projects funded that aren't high quality." ☼

Reasons for Regional Variations in U.S. Geothermal Power Prices

- 1) Transmission Access; 2) Utility Attitude towards renewables; 3) RPS requirements; 4) Supply and Demand; and 5) Competition from other sources
- Regulatory structure, energy efficiency mandates, market manipulation of pricing
- RPS states, proximity to fuel, natural resource availablity, transmission constraints, labor costs
- RPS and transmission infrastructure
- States pushing RPS have higher prices; regions with marginal pricing based on natural gas-fired generation currently have lower pricing
- Transmission access, level of Renewable Portfolio Standards, utility attitude towards geothermal
- Transmission capacity/ installed power conversion technology
- Free market pricing is subject to the law of supply and demand, and stimulus/incentive. We are seeing voluntary standards causing some important rises in price paid for renewables, with incentives coming from contribution to portfolio in a utilities footprint, and what that utilty thinks it can safely pass to their rate base. A Federal Renewable Porfolio Standard will change the game significantly (at a cost to all rate payers). Time will tell, but in the meantime, there is sufficient demand and pricing to make hydrothermal projects work financially, and that is what it's all about.

Source: CCBJ 2009 Geothermal Survey conducted in April 2009. Question was: Please comment on variations in power prices in U.S. states and regions and what causes these variations.

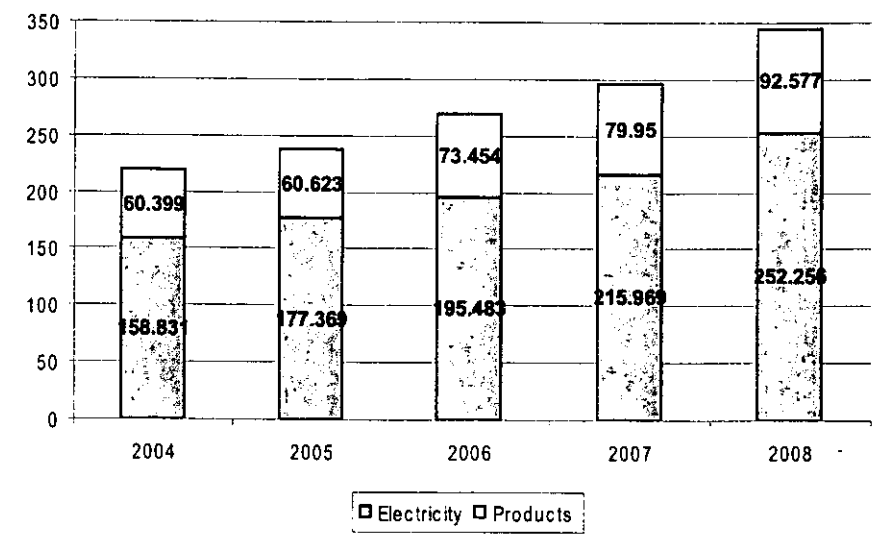
Ormat Leads Market With Technology and Vertical Integration

Ormat is the clear leader with $350 million in sales, but more competition is seen for low-temperature geothermal projects using binary technology

The geothermal power industry is made up of project developers and independent power producers (IPPs); scientific and technical consultants; drilling outfits and drilling technology firms; manufacturers of power plant equipment; and consulting engineers who explore for resources and design and build power plants. Many firms perform multiple roles in this value chain, but there is only one truly vertically integrated corporation whose activities and revenue streams stretch from resource exploration through equipment manufacturing to engineering, procurement and construction (EPC) contracting and power sales: **Ormat Technologies**.

According to its 2008 annual report, Ormat generated $344.8 million in revenues in 2008, 16.5% growth over 2007. Ormat's power sales revenues from its geothermal plants (both Ormat-built and acquired) and recovered energy generation (REG) plants (see below for more on REG) accounted for $252 million or 73.2% of revenues with product sales accounting for $92.6 million or 26.8% of 2008 revenues. Ormat built 109 MW of company-owned geothermal and REG capacity in 2008 and increased its portfolio to 505 MW. Ormat is on track to build between 82 MW to 94 MW by the end of 2010 for its own portfolio, according to a company spokesperson.

This cash flow from electricity sales puts Ormat in an enviable position relative to smaller developers that are struggling for needed upfront development capital in the current economic climate. "The cash flow generated by our portfolio of operating geothermal and REG power plants provides us with a robust and predictable base for our exploration, development and construction activities, to a certain level without the need to tap into external liquidity sources," notes the annual report. "We believe that this gives us a competitive advantage over certain competitors whose activities are dependent on external credit and financing sources, particularly in light of the current global credit and financial crisis."



Source: Ormat 10-K for fiscal year 2008 ended December 31, 2008. Products includes revenues from four groups: Power Units for Geothermal Power Plants; Power Units for Recovered Energy-Based Power Generation; Remote Power Units and other Generators; and Engineering, Procurement and Construction (EPC) of Power Plants. Electricity includes three groups: Energy and capacity; Lease portion of energy and capacity; and Lease income.

The company's reported highlights for the last year alone show just how broad and diverse its geothermal operations and revenues are. Among its accomplishments: Signing a $65 million contract to supply and oversee construction and startup of a geothermal power plant in Costa Rica; Starting commercial operation of 35 MW of new plant capacity in Kenya; Securing rights to some 150,000 acres of land in Alaska, California, Hawaii, Nevada, Oregon and Utah; Acquiring 51% ownership of a New Zealand geothermal plant; Signing a joint venture to develop a new geothermal project in Nevada; joining a power development consortium in Indonesia; Signing EPC contracts with developers in New Zealand and Nevada worth $42 million and $76 million; Signing a $16 million supply contract for a geothermal project in Turkey; And closing a $63 million tax credit financing deal for an existing plant.

Israeli Roots, But U.S. Was 72% of Ormat's Revenues in 2008

A U.S. company with Israeli roots, Ormat was founded to develop and market heat exchangers and turbines using the organic rankine cycle (ORC) which Ormat founder Lucien Bronicki and his collaborator Harry Zvi Tabor, both Israeli, developed in the early 1960s. ORC uses working fluids with boiling points lower than water to recover energy and generate steam and power from heat sources that would otherwise be insufficient to power steam generators. The original technology was developed at **the National Physical Laboratory** in Jerusalem in the frame-

Ormat 2008 Revenues ($mil)

	Electricity	Products	Total
Foreign	$45	$51	**$96**
USA	$207	$42	**$249**
Total	**$252**	**$93**	**$345**

Source: Ormat 10-K for 2008.

work of solar energy research. Lucien Bronicki formed Ormat in 1965 in Israel.

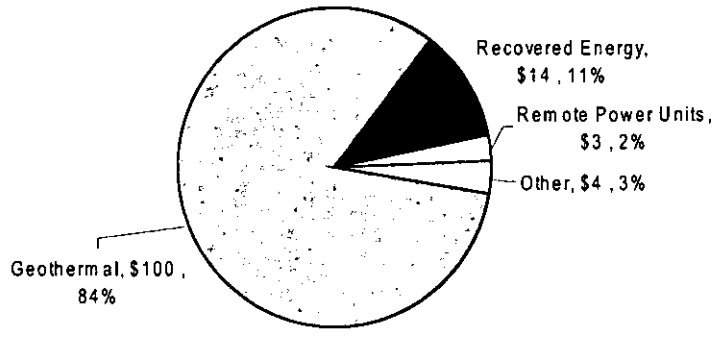
Bronicki originally targeted solar thermal applications in remote off-grid villages, but with that technology facing poor commercial prospects, what emerged from his work was the small Ormat Energy Converter (OEC), a power unit for remote telecom stations, offshore oil and gas rigs and other off-grid facilities that need small amounts of electrical power.

In 1972, Ormat was established in the United States where it supplied OEC units to the Trans Alaska Pipeline. According to material published on Ormat's website, for remote power applications the OEC uses natural gas, kerosene, diesel and other combustion fuels to heat the working fluids, which the hermetically sealed unit condenses and re-uses, allowing continuing operations for many years with periodic refueling and maintenance. More than 3,500 OECs of up to 7 kW capacity have been have been installed in 63 countries, according to Ormat's website.

Ormat turned its attention to geothermal, solar and biomass in the 1970s, with geothermal eventually becoming its major focus. Its business model has steadily evolved from that of a supplier of power systems and components to a vertically integrated firm that builds, owns and operates its own geothermal power plants as an IPP, as well as an EPC contractor that builds power plants for other geothermal project developers.

The company continues to market small OECs and REG systems. For its REG segment, Ormat foresees major growth by selling to North American natural gas pipeline operators who produce waste heat at compression stations driven by gas turbines. Ormat reports that the **Federal Energy Regulatory Commission** (FERC) is asking proponents of new or expanded pipelines to improve their energy efficiency.

Ormat Product Revenues: Expected Sales in 2009 ($mil)



Source: Ormat 10-K for 2008. Products include revenues from four groups: Power Units for Geothermal Power Plants; Power Units for Recovered Energy-Based Power Generation; Remote Power Units and other Generators; and Engineering, Procurement and Construction (EPC) of Power Plants.

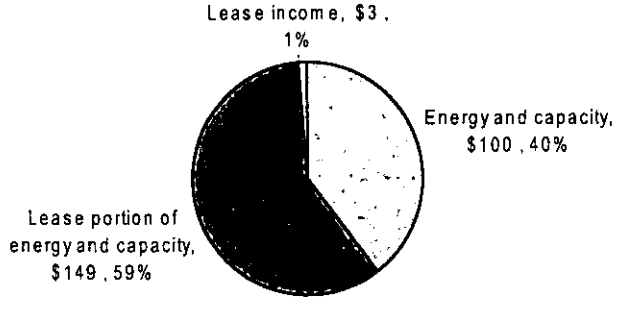
Ormat has begun building 5 to 6 MW REG systems along interstate natural gas pipelines and midstream gas processing facilities. The company also see opportunities for REG in the power sector in Colorado, Massachusetts, Ohio, Pennsylvania, Washington and other states where utilities can install REG systems on power plants and count the capacity toward their renewable energy standards. Additionally, North and South Dakota and the U.S. **Department of Agriculture** have qualified REG systems for low-interest loans. In North America, Ormat estimates the market potential for REG at 1,000 MW. After building out this domestic market, the company plans to target Europe which has "similar potential," according to the report.

By contrast, the potential for adding geothermal power in the United States is much larger. Ormat's Director for Policy and Business Development Paul Thomsen says the company sees the potential for geothermal power capacity to grow to 30,000 MW to 40,000 MW by 2050, or an order of magnitude larger than the less than 3,000 MW in 2009. As has been widely reported, a 2007 **Massachusetts Institute of Technology** study projected a potential of 100,000 MW of geothermal generating capacity if enhanced geothermal systems (EGS) can be deployed successfully. (For more on EGS, see page 29.)

More Competition for the Binary Technology Segment

Ormat built its geothermal power business by leveraging its ORC expertise to create what became known as binary geothermal power plant technology. When Ormat first entered the geothermal market in the early 1980s, its technology was an upstart contender.

Ormat Electricity Revenues: 2008 ($mil)



Source: Ormat 10-K for 2008

Most of the action was focused on using conventional flash steam generation with high-temperature geothermal resources of 350 degrees fahrenheit and above. But when Ormat's technology came on the scene, those high-temperature resources were starting to become more scarce because they were the most favorable for geothermal power and therefore developed first. By the mid-1980s, geothermal project developers increasingly needed energy conversion technology that could make use of lower-temperature resources. "Until then people had only been looking for resources that had high temperature steam," said Thomsen.

While Ormat grew its business over the next two decades, it also facilitated the growth of the geothermal industry. Its niche technology position grew into a commanding lead in the fast-growing binary power plant segment, leaving the steam segment to other players, mostly large turbine manufacturers. "Ormat has never tried to compete with Mitsubishi or GE or other manufacturers on huge steam turbines," said Thomsen.

One industry veteran estimated that binary technology accounts for about 10% of the existing stock of geothermal capacity worldwide, and that Ormat has built 95% of those plants. Despite its lower penetration in commissioned power plants, binary technology represents the greatest growth potential because of the prevalence of undeveloped geothermal resources under 350° F, according to many industry experts. (Other factors go into the choice between flash steam technology and binary technology; see Nevada Geothermal profile on page 27 for more information.)

"In the United States, the low-temperature resources are huge," said Enrique Lima, general manager for overseas business of **West Japan Engineering Co.** (West JEC), a prominent and globally active geothermal consulting engineering firm. "The amount of hot water available is very large and the temperatures are well suited to the application of binary power generation. This is why many companies are trying to tap these resources."

Lima points to other countries where binary geothermal development could be the pivotal enabling technology for geothermal because of the abundance of underground reservoirs of 350° F or lower. "Exploration and development of low-temperature resources is happening in countries as diverse as Australia and Greece, and in countries like Hungary, Romania, and Jordan, where oil and gas exploration has led to discoveries of hot water and interest in geothermal energy."

According to Tim Stephure, clean and renewable power generation analyst at **Emerging Energy Research**, binary technology is slightly more expensive than conventional flash steam generation technology, but Stephure says this disadvantage is mitigated by the fact that the exploration and drilling risks are reduced because developers have a better chance of tapping resources of sufficient enthalpy

Ormat Projects

Domestic	Location	MW*	Power Purchaser	Contracts Expiration
Ormesa Complex	East Mesa, CA	57	Southern California Edison Co. (SCE)	2018
Heber Complex	Heber, California	92	SCE / SoCal Power Public Authoriy	2015-2031
Steamboat Complex	Steamboat, Nevada	84	NV Energy, Inc.	2018-2028
Mammoth Complex**	Mammoth Lakes, CA	14.5	SCE	2014/2020
Puna	Puna, Hawaii	30	Hawaii Electric Light	2027
Brady Complex	Churchill County, NV	22	NV Energy, Inc.	2022/2027
North Brawely	Imperial County, CA	50	SCE	2029
OREG 1	North and South Dakota	22	Basin Electric Power Cooperative	2031
OREG 2	North Dakota	5.5	Basin EP Coop	2033
Total Domestic Operating Projects		**377**		
Foreign				
Momotombo	Nicaragua	28	DISNORTE/DISSUR	2014
Zunil	Guatemala	24	Instituto Nacional de Electricidad (INE)	2019
Olkaria III Complex(8)	Kenya	48	Kenya Power and Lighting Co. Ltd.	2029
Amatitlan	Guatemala	20	INE	2026
GDL	New Zealand	8	Norske Skog Tasman	2015
Total Foreign Operating Projects		**128**		
Total Operating Projects		**505**		Expiration+
Under Construction				
OREG II	ND, MN, MT	16.5	Basin EP Coop	25 years
Peetz	Denver, Colorado	4	Highline Electric Asn	20 years
Puna	Puna, Hawaii	8	Hawaii Electric Light Company (3)	n/a
GRE(4)	Minnesota	5.3	Great River Energy	20 years
East Brawley	Imperial County, California	30	Southern Calif. Power Public Authority (5)	n/a
Jersey Valley	Nevada	18-30	NV Energy, Inc.	20 years
Total Under Construction		**82-94**		

*Source: Ormat 10-K for 2008. Projects under ownership only; *Ormat Share in Generating Capacity MW; **50% ownership; +Expiration in years following commercial operation date*

(heat energy) for the binary process. "In cost comparisons to wind or varying solar technologies, binary geothermal technology is very economically favorable," said Stephure. "The low-temperature market will probably have the highest growth rate going forward as there are so many more areas that can be explored.... Nevada has tremendous opportunities in this regard as well as some other states like Utah."

Ormat's Thomsen underscored Stephure's viewpoint about the lower risk levels and costs of drilling for low-temperature geothermal reservoirs. "Probably 90 percent of the geothermal projects in existence today were built on top of reservoirs that had some kind of surface expression such as hot springs or rapidly melting snow," he said. "Now that most of these have been developed, the industry is looking for what we call blind resources."

"Geothermal is where the oil & gas industry was in the 20s and 30s when they thought they were running out of oil because most of the reservoirs with surface manifestations had been utilized," said Thomsen. "We're now looking at deeper more moderate temperature resources that aren't inherently obvious or haven't been developed previously. In this phase, the advantage of Ormat's technology being able to user lower temperature heat is critical."

Stephure noted that European countries are banking on using binary technology as well as emerging EGS technology to tap the lower temperature geothermal resources under their soil as well as hot dry rock (HDR) resources. "A lot of European countries don't have those high-temperature resources you see along the Pacific Ring of Fire," said Stephure. "Germany has implemented a feed-in tariff for geothermal of up to €0.27. The base is €0.20 with enhancements of €0.04 if you do combined heat and power and €0.03 if you do EGS. This is the first direct incentive of this kind." ☼

Technology Providers and Developers Vie to Compete With Ormat in Emerging Geothermal Niches

United Technologies, Raser, Turbine Air Systems, Exorka and others develop in manufacturing, the lab and in the field.

Although Ormat dominates the low-temperature binary segment of the geothermal power market today, competitors have emerged in the last several years. **United Technologies Corp.** is its most high-profile competitor on the power systems technology front. Since 2006, UTC has marketed its PureCycle binary technology systems for geothermal power. PureCycle is a 280-kW modular unit that can be deployed in arrays to create commercial-scale plants. According to Michael Ronzello, North American sales and business development manager for **PureCycle** (marketed by UTC's **Pratt & Whitney Power Systems** division), PureCycle promises faster construction cycles. "Our modular approach to power plant deployment drastically reduces construction time," said Ronzello, indicating that plants can be constructed in 6-12 months (after hot water supply is established). "We have the capability to leverage Pratt & Whitney Power Systems 20 plus years of expertise and experience in the power business to provide full turnkey geothermal power plants using PureCycle".

While UTC doesn't publicly disclose prices for its equipment, Ronzello said the company expects to compete with Ormat's cost per MW of capacity by sourcing components from a UTC-owned affiliate. "We use off-the-shelf components and technology from our sister division, Carrier, the leader in commercial HVAC equipment," he said. According to Ronzello, Carrier produces components for PureCycle "in a pre-engineered, pre-manufactured fashion that drives down costs, increases quality and allows customers to take advantage of the lead time that is common in Carrier."

Raser Gains Efficiency With Networking

UTC's largest customer and best advocate is **Raser Technologies** (Provo, Utah). Raser has leveraged its expertise in electric motor technology to develop methods of networking the modular UTC units for optimal performance and efficiency. "Just like there are people who make computers and people who network computers together to function better, we've figured out how to network [the UTC PureCycle units] together so they can work in harmony and produce electricity more efficiently," said Richard Putnam, Raser's director of investor relations.

It's not clear yet how UTC's PureCycle systems will compare with Ormat's in terms of performance, costs and reliability. The geothermal developer community, while not unhappy with Ormat's equipment and EPC work, would certainly welcome additional competition in binary technology. But with over 20 years of experience and a proven ability to execute the guaranteed EPC contracts that lenders need to see before financing projects, Ormat will not be an easy competitor to take market share from. "We have been able to simplify our processes over time," said Thomsen. "We have fewer moving parts. We have a low speed turbine that doesn't require a gear box. Our power plants have become much more efficient over time [and EPC] projects much more streamlined and more efficient [resulting in] longer run times, greater longevity, less wear and tear on turbines, less opportunity for pump failure, less piping."

The industry is watching closely to see how the first Raser-UTC plants perform and what their construction costs are. Raser brought its first project online in 2008, the 11-MW Thermo No. 1 plant in Beaver County, Utah. According to Putnam, production wells drilled for the

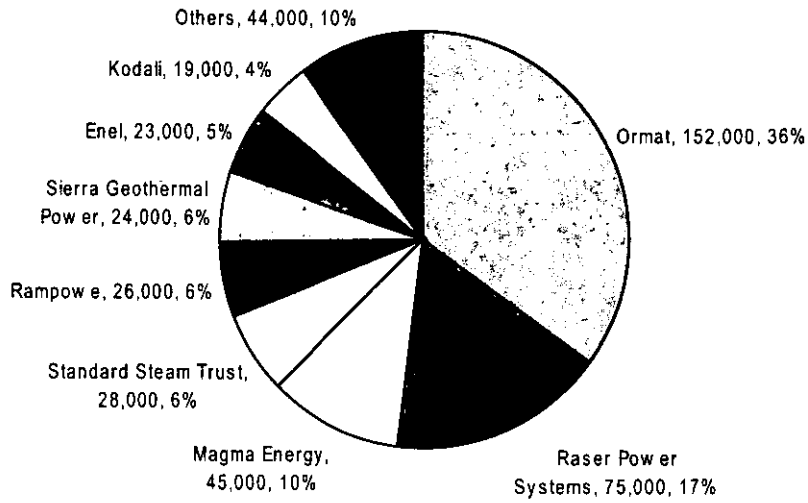
plant revealed a larger-than-expected geothermal reservoir capable of supplying steam for more than 200 MW of power plant capacity. "We had thought there were maybe 20 to 30 megawatts, but after doing some nice drill-out, GeothermEx, an independent geothermal consulting company, was able to verify and independently report that this is now a 230 megawatt resource," he said.

Raser's annual report for 2008 reported a capital cost for Thermo No. 1 of $88.1 million, with at least another $9.5 million needed to get the plant up to full operating capacity. That would seem to indicate a capital cost of about $7,000 per kilowatt of gross capacity. (After supplying its own pump loads Thermo No. 1 will produce 10 to 11 MW net from gross power capacity of 14 MW). That amount is far higher than the typical $4,000 per kW of gross capacity cited by developers at the recent Geothermal Innovation and Investment Conference or the $3,500 to $4,500 per kW range cited for Ormat plants by Ormat's Thomsen. (Those cost ranges include the highly variable cost of resource exploration and wellfield development. "We know the price of plants we build down to the penny. What we don't know is the cost of developing the resource," said Thomsen.)

But according to Putnam and Raser CEO Brent Cook, the nearly $100 million price tag for Thermo No. 1 included the production wells that revealed the reservoir's very large potential plus the cost of a larger transmission line to ship more electrons than anticipated to the company's electricity customers (currently the City of Anaheim, Calif.). "We are comfortable that the $57 to $59 million range is accurate for non–recurring development costs," wrote Cook in an email. "We expect our costs to be $3,800 to $4,200 per MW installed cost."

Raser's Beaver County development is just the opening salvo in a four-state development program that the company expects to yield hundreds of megawatts. Indeed, Raser aims to become a major developer and IPP operator of geothermal projects in the United States, Indonesia and elsewhere.

BLM Geothermal Competitive Leases by Acres, 2007–present



Source: Compiled by Emerging Energy Research; By state the 2007-2008 leases are 52% in Nevada, 34% in Utah and 9% in Oregon, 4% in Idaho. Others include Agua Caliente, Oski Energy, Geothermal Technical Partners, Silver State Geothermal, Vulcan Power, Geothermal Rail Ind. Dev., Miller Dusty, S4 Consultants, Montera Energy Ventures, US Geothermal, Calpine, First Covenant Construction, US Renewables Group, Kelsey South, High Valley. Figures in acres rounded to the nearest thousand acres. BLM is Bureau of Land Management.

After Ormat, Raser is the second largest acquirer of geothermal leases on federal land since 2007. According to figures compiled by **Emerging Energy Research**, Ormat purchased leases to about 150,000 acres (the company owns leases on a total of 220,000 acres according to its annual report), followed by Raser with approximately 75,000 acres and **Magma Energy** with about 45,000 acres (see chart above). "We have accumulated domestic geothermal interests in Nevada, New Mexico, Oregon and Utah," notes Raser's report. "With the help of internal and external geologists, we intend to continue to identify, evaluate and acquire additional interests in properties." And last year, Raser and **Indonesia Power** were the successful bidders on a geothermal concession in Indonesia that covers approximately 100,000 acres with potential resources. At CCBJ's deadline, Raser and Indonesia Power will still finalizing their joint venture agreement.

Turbine Air Systems Exploits Rankine Cycle

Another emerging potential Ormat competitor that some in the geothermal industry are excited about is **Turbine Air Systems** (TAS; Houston), an industrial cooling and heating systems manufacturer that has begun developing technology for geothermal applications. TAS already has a foothold in the power industry with its modular inlet chilling units that can increase the efficiency of gas-fired power plants in hot climates. "TAS has translated this modular construction to geothermal power and advanced waste heat recovery organic Rankine cycle systems," states a company brochure. The company aims to leverage its experience in the power sector to offer design and engineering services for geothermal developers rather than just off-the-shelf sales.

Halley Dickey, director of geothermal business development for TAS, told CCBJ that the company has developed a renewable energy division aiming to provide power plants to solar thermal power projects as well as geothermal and industrial heat recovery. "We've been working on the development of our organic Rankine cycle program for seven years," he said.

"We own some unique patents related to geothermal binary technology." The first plant to deploy a TAS system may be on the horizon, as Dickey said the company is negotiating with an undisclosed potential U.S. client to supply a 15-MW plant in 2010.

Kalina Has Backers & Detractors, Needs Manufacturer

A third competitor in the binary geothermal power systems segment is **Exorka** (Munich, Germany), which markets binary technology based on the Kalina system using an ammonia-water mixture as a working fluid. One speaker at the March 2009 geothermal industry conference disparaged the Kalina system from the lectern, saying that after promising to revolutionize the industry and unseat Ormat, the technology had gotten nowhere. The speaker claimed that there are only two Kalina plants worldwide and neither are operating. One conference participant speculated to CCBJ that the difficulties facing the Kalina process stemmed from its use of a mixture of ammonia and water; because the two fluids boiled at different temperatures, Kalina systems had to cope with constantly changing compositions.

But Exorka's CTO Gestur Bardarson reported that four of five Kalina cycle plants built since the late 1990s "have mostly shown high reliability, although some equipment problems have been present [but] no more ... than can be expected for new technology employed in the first commercial plants." A 2-MW plant in Husavik, Iceland, achieved a capacity factor of between 89% and 96% from 2005 to 2007, according to Bardarson. A 3.3 MW waste heat plant at a **Sumitomo Metal Industries** steel plant in Japan has been running smoothly since 1999 with an annual capacity factor as high as 99%, he said.

Raser's Richard Putnam told CCBJ that company staff has evaluated Kalina technology and visited some of the pilot plants. "We believe the technology has a positive operating history that should be discussed. It is unclear who will take the manufacturing lead on the technology, but we believe the technology is sound and proven."

There is also a prospective nano-technology entrant, Power Chips being developed by Gibraltar-based **Borealis Exploration**. The technology was announced in 2003 with a promise of superior power conversion for geothermal applications, waste heat recovery and other applications. A news release described Power Chips as "solid state thermotunnelling devices which use a combination of thermionic emission and quantum mechanical electron tunnelling to increase the rate of electron emission in solid-state converters." But Power Chips appears to either be in deep stealth mode or inactive since the last news relase posted on its website is more than two years old. (An email inquiry to Borealis was not returned by CCBJ deadline.)

Ormat, of course, is not standing still technologically. Thomsen says that the company's more than 25 years of experience designing, managing and operating geothermal plants gives it a technical edge over prospective competitors. "Converting heat to electricity is very expensive and hard to do," said Thomsen. "Some of our competitors have tried to do cookie-cutter type plants that they can produce rapidly. We started with small units and gradually built larger and larger units, refining our knowledge and expertise continually."

Ormat also has an operational edge that enables it to get the most MWh out of its plants for the lowest operating costs, according to Thomsen and Ormat's annual report. "Our intimate knowledge of the equipment that we use in our operations allows us to operate and maintain our projects efficiently and to respond to operational issues in a timely and cost-efficient manner," states the report. "Moreover, given the efficient communications among our subsidiary that designs and manufactures the products we use in our operations and our subsidiaries that own and operate our projects, we are able to quickly and cost effectively identify and repair mechanical issues and to have technical assistance and replacement parts available to us as and when needed."

Ormat Takes a Crack at EGS

Ormat is pushing the frontiers of geothermal technology in two key initiatives with the U.S. **Department of Energy**, one to explore the potential to exploit hot water that is co-produced with oil and gas and another to advance enhanced geothermal systems (EGS).

At the **Rocky Mountain Oilfield Testing Center** (RMOTC) in Wyoming, a 250-kW Ormat binary power unit started generating electricity in September 2008 using heat from 190° F water that is co-produced with oil. The potential to generate on-site power from such a set-up is enormous. RMOTC estimates that U.S. oil and gas wells that produce hot water along with hydrocarbons could generate "upwards of 5,000 MW of power," according to an RMOTC news release.

Ormat's Thomsen told CCBJ that the project is "over-producing what we had expected it to do." But moving ahead with co-production at oil and gas drilling sites will be a challenging endeavor. For one thing, there's the fact that according to RMOTC, the water recovered with oil or gas is usually only heated to a maximum of 220° F, far lower than what geothermal developers prefer to produce power economically. Furthermore the costs of operating such a system will depend on how the hot water is disposed of, i.e., through reinjection or surface dumping.

Probably much more significant to the future of geothermal power is Ormat's DOE-funded work on EGS with collaborators **GeothermEx**, **University of Utah**, **U.S. Geological Survey** and others on two

EGS demonstration projects.

As discussed in in the following feature on enhanced geothermal systems, EGS has the potential to vastly expand geothermal if it allows power to be produced successfully from hot dry rocks—as opposed to the conventional hydrothermal resources relied on for all geothermal power today, both flash and binary. The demonstration projects aim to hydraulically stimulate fractures that can enhance the production of hot water of sufficient enthalpy to generate additional power. "It's still very early stage R&D, but we're excited about not only developing technology to create standalone resources for EGS but also to create new life or viability for existing resources."

"We still need to prove the technical viability, and then get to the point of proving commercial viability," said Thomsen. "Ormat's experience has shown us that you can have complete technical success and zero commercial viability and vice versa." He also averred that it will be important to focus not just on the potential of EGS to greatly expand the pool of resources available for geothermal power but to look for ways to use the emerging technology to enhance existing geothermal power sites.

"If you can go back to wells that are less productive and, for lack of a more scientific term, tinker with them and produce more heat, we might determine that our potential hydrothermal resources may be much larger than we thought. For example, if you drill a well in a standard hydrothermal resource and don't get adequate permeability or heat, you might be able to use EGS technology to fragment back into the reservoir and stimulate adequate permeability and heat."

Growing Organically

With its healthy balance sheet and dominant vertically integrated position, Ormat might be expected to be on the hunt for project developers long on leases but short on capital. But according to Thomsen, the firm is reticent to diminish its third-party customer base through acquisition even though that might provide competitive advantages. "The only time we compete directly against another developer is when we're bidding on a resource at the federal land auctions," said Thomsen. "Once another developer is successful in achieving its resource position, we look to provide them with third-party power plant equipment."

Thomsen says that last year Ormat executives were asked by some in the geothermal industry whether they were considering making a bid for **Nevada Geothermal Power** when the developer was trying desperately to finance its Blue Mountain Project during the 2008 economic collapse. "People asked us 'Are you looking at this as potential acquisition?' We said no. We don't want potential third-party clients living in fear that we would acquire them when they run into financial difficulties."

Some financial analysts or deal-makers might argue Ormat is undervaluing the benefits of consolidation. But it's hard to argue with a business model in which Ormat's development arm pushes ahead with its own projects while earning revenues from equipment sales and EPC contracts—including $76 million from Nevada Geothermal for designing and building the Blue Mountain project.

Ormat's future is clearly tied to supplying and servicing a vigorous and growing geothermal industry, and to that end the company is a cheerleader for its counterparts as well as a competitor. Thomsen echoes a theme heard commonly in geothermal circles: The industry deserves more respect and recognition, and when elected officials, utility commissioners and activists talk about the importance of renewable energy, geothermal should be mentioned in the same breath as wind and solar.

"On one hand it can be frustrating that people don't recognize geothermal and its reliable baseload attributes as compared to wind and solar," said Thomsen. "But on the other hand, the investor-owned utilities we sell power to all know who we are and what we do. Geothermal might not be on the front page of the Wall Street Journal or the New York Times, but there are not many utilities who aren't familiar with geothermal. Serendipitously, after CCBJ interviewed Thomsen in April, Morgan Stanley put geothermal power on the cover of the *Wall Street Journal* on May 20, 2009, with a full-color ad touting geothermal as a sound investment, while promoting its expertise on the industry. "Unlike wind or solar energy, geothermal utilizes a constantly present energy source —the Earth. Just below our feet lies an industry that could reach $122 billion by 2030." While Morgan Stanley's 20-year valuation of the industry may be little more than an educated guess, the firm's promotion of its expertise harkens to what Thomsen says utilities have known for years: "To quote Michael Yackira, CEO of **NV Energy**, 'Geothermal projects don't look any different to an IOU than any other fossil fuel project,' While that's not sexy, it's a badge of honor for the industry. We're seen in their integrated resource plans as being just as reliable as coal or natural gas plants." ☼

Typical Geothermal Plant Development Costs ($/kw)

Development Stage	Cost ($/kW)
Exploration and resource assessment	400
Well field drilling and development	1,000
Poewr plant, surface facilities, transmission	2,000
Other dev't costs (fees, working cap, contingency)	600
Total development cost	4,000

Source: Geothermal Tomorrow, U.S.Department of Energy's Office of Energy Efficiency and Renewable Energy; Costs for a typical 20 MW plant or a total of $80 million; Does not include financing charges of interest rates 5-6% for some utilities or as high as 15% for IPPs."

Nevada Geothermal Power, Last in Before the Credit Freeze, Looks to Heat Up the Geothermal Market

Like several other pure-play geothermal developers, **Nevada Geothermal Power** (NGP) is a Canadian company with a U.S. subsidiary targeting development prospects in the lower 48. NGP became something of a celebrity in the small U.S. geothermal world last year because it secured project financing for its 49.5 MW Blue Mountain power plant near Winnemucca, Nevada, just before credit markets locked up in the third quarter of 2008. But the company's experience also illustrated just how difficult it is to finance a geothermal power project in this economic environment.

The credit facility NGP received from **Trust Company of the West** on August 29, 2008 enabled it to give **Ormat Technologies** a full notice to proceed on a previously negotiated $76 million engineering, procurement and construction (EPC) contract and to conclude a $4.5 million deal with **Wilson Utility Construction** for a transmission line to the regional grid. As of spring 2009, the project was on schedule and NGP expected Blue Mountain to be in commercial operation by the end of the year. The power buyer is investor-owned utility **NV Energy**.

"Our timing was perfect," said CEO Brian Fairbank in recounting his firm's dash for cash last summer. "We had been working with **Morgan Stanley** on a 30-month construction loan that would have then been replaced with production tax credits for permanent financing." With a proven resource of 50 MW (40 MWe) and the guaranteed turnkey EPC bid from Ormat, the project looked solid, until the credit markets started to unravel in mid-2008. "All summer we'd been sitting down with Morgan Stanley and the syndicating banks trying to close the deal, but it was apparent even then that the credit markets were not working. Around the end of July we were basically running out of time and needed to move forward." That's when NGP got its financing deal done with TCW—at 14 percent.

Cost of Developing a Geothermal Project

High front end costs

- High upfront confirmation costs, compared to other renewables
- Drilling, money, leasing, time

Phasing exploration mitigates risk

- Geochemistry, geology, geophysics and permitting: $2.5 million
- Temperature gradient drilling, slim-holes: $2.5 million
- Production test wells: $3.0 -$6.0 Million X 2
- $15 million plus to feasibility! Requires high risk upfront equity!

Source: Nevada Geothermal Power, presentation by CEO Brian Fairbank at Greenpower Conferences' March 2009 Geothermal Innovation and Investment conference

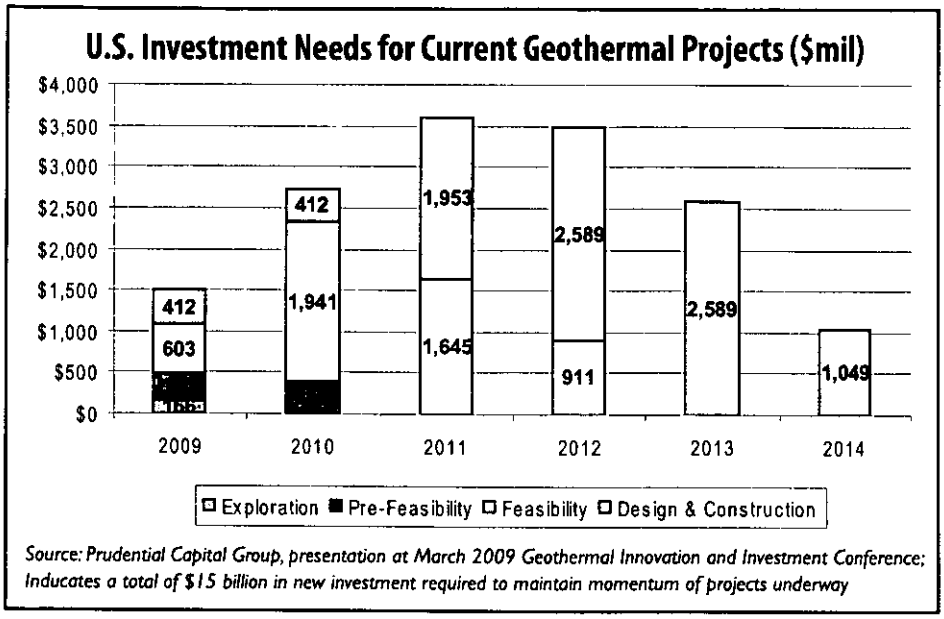
"In today's economic environment, this financing looks good," said Fairbank. "It's a facility up to $180 million that we draw as we need it." Fairbank says NGP is currently packaging a production tax credit (PTC) based financing, a task that is by no means easy since the tax credit capacity of U.S. financial institutions has shrunk dramatically with their declining profits. The American Recovery and Investment Act (ARRA) stimulus bill extended the "placed in service" date for tax credit qualification for geothermal projects to December 31, 2013, so Fairbank is confident that buyers will be found. The plant's commercial operation date (COD) looming—it could arrive by October 2009—and the impetus to take out the 14% debt is rather compelling.

Selling the PTCs is NGP's most preferable option; as noted in CCBJ's Q1 2009 edition, the House-Senate Joint Committee on Taxation estimates that PTCs taken over the 10-year qualification period are worth roughly 50 percent more than the investment tax credit that Blue Mountain and other renewable generators can also qualify thanks to ARRA. "The PTCs are worth $21 a megawatt-hour to start with, indexed to inflation. So if we're selling power at $75 to $80 per megawatt-hour, that's pretty significant," said Fairbank. Accelerated depreciation is also on offer, and combined with PTC value, Fairbank figures that NGP can offer a buyer about $100 million worth of tax benefits.

However, in today's climate, Fairbank acknowledges that he may have to go with the new tax credit option provided by the ARRA: a grant in lieu of a 30% investment tax credit (ITC). But like other geothermal developers eyeing the grant-in-lieu-of ITC, Fairbank is concerned about how much of the upfront exploration and drilling costs will be considered tangible costs by the U.S. Treasury for the purpose of calculating the ITC. At CCBJ's deadline, guidance on that issue had not come forth.

As is the case for many geothermal projects, in the process of drilling wells to tap the underground hot water resources at Blue Mountain, NGP ended up hitting one dry-hole—not literally dry but of sub-commercial enthalpy (heat energy)—and some "false starts" in Fairbank's words on injection wells (used to stimulate continuing flow of hot water). "We drilled a well to the north that didn't turn out."

At $3 million to $6 million per well, the ability to include unproductive wells in the investment cost basis that qualifies



Source: Prudential Capital Group, presentation at March 2009 Geothermal Innovation and Investment Conference; Inducates a total of $15 billion in new investment required to maintain momentum of projects underway

for the ITC is not trivial. According to Fairbank and other geothermal developers, typically 20% to 30% of the wells drilled on such a project end up not functioning as expected—but such dry-holes are an inevitable part of development, and they help the developer and its technical consultants understand more about their reservoir and target future drilling more accurately.

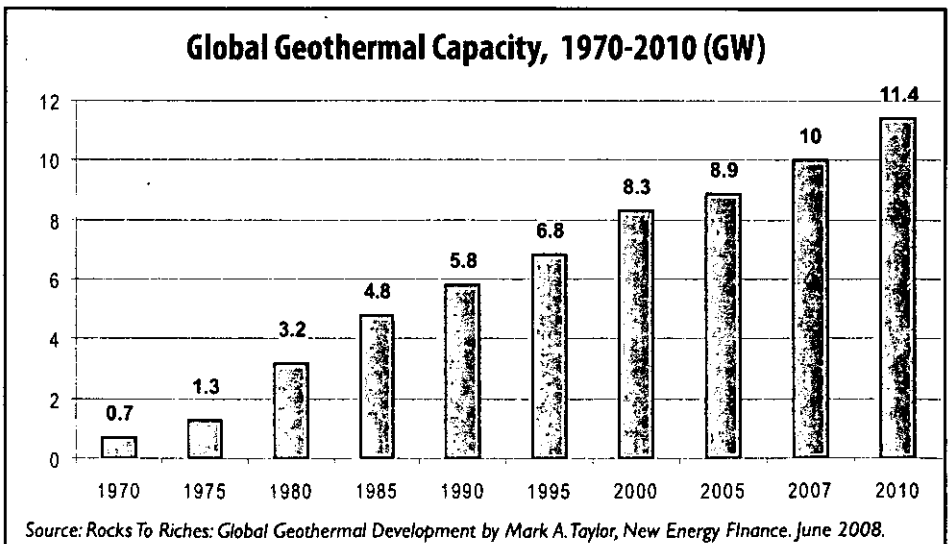
In fact, with the production drilling already completed, this gives Fairbank and his team reason to think that there is another 50 MW of geothermal power capacity to be tapped from the geothermal reservoir under their ground. "In oil and gas terms, there's an inferred or possible resource toward the mountain to the east," said Fairbank. Geoscientific and geochemical indications give strong hints of this. "The water we're producing now is 375 degrees Fahrenheit, but the chemistry of the water indicates that ultimate source temperatures greater than 400 Fahrenheit. In the long run we may not have found the hottest part of the resource." But more drilling is needed to prove it.

And speaking of temperatures, NGP's 375 degree Fahrenheit geothermal resource was hot enough to allow use of conventional flash steam technology—which would have resulted in a somewhat less costly power plant. But early on NGP chose the binary technology offered by Ormat, which uses working fluids and heat exchangers to capture the heat energy in lower temperature geothermal resources. According to Fairbank, the decision was based in part on the fact that while initial drilling turned up 375 degree Fahrenheit hot water, NGP couldn't be sure subsequent wells wouldn't be too cool for flash technology.

Plus, the closed-loop binary systems offered benefits for reservoir longevity and air quality permitting. "With binary you reinject 100% of the water and that helps maintain the overall resource's longevity because you're pressuring the reservoir," said Fairbank. "With flash, you're losing the vapor, about 30 percent of the water."

"Flash plants also have some slight air emissions in the vapor," said Fairbank. The most common is hydrogen disulfide—the rotten egg smell. "[To meet air quality regulations] you have to scrub that out. You can deal with it, but binary is absolutely emission free."

NGP is pursuing development of three other projects: Pumpernickel Valley and Black Warrior in Nevada and Crump Geyser in Oregon. With TCW funding for Blue Mountain only, NGP expects to be in the market for more financing soon. Because the expensive drilling programs must be funded by scarce equity—in the "hyperliquidity" era that ended last year, some debt funding might have been available—NGP is hoping that **the U.S. Department of Energy (DOE)** decides to use some of its **$400** million in ARRA funding for geothermal to subsidize drilling programs. Either that or a piece of the **$6** billion in new loan guarantee funds in the ARRA, hopefully made available in a process more streamlined that past DOE loan guarantees. "The existing established loan guarantee program is for technology [but for applicants] it has been more trouble than it was worth," said Fairbank. "My understanding is that the new program may be for other things, including geothermal drilling. The geothermal industry needs that." ☼



Source: Rocks To Riches: Global Geothermal Development by Mark A. Taylor, New Energy Finance. June 2008.

EGS Could Vastly Expand Geothermal Power But Funding of RD&D Projects Needed

Conventional geothermal industry competes with EGS for scarce funding.

In our page one overview for this edition, CCBJ characterized the geothermal power industry as the veteran journeyman shortstop on the baseball team of the Low-Carbon and Renewable Power Segment. Well, if one thinks of the geothermal power industry as a professional baseball team, **enhanced geothermal systems (EGS)** would be the 15-year-old phenom impressing the pro scouts. Only that metaphor is not grand enough. Imagine that the scouts have discovered a whole high school full of future all-stars who are destined to break every baseball record without using steroids and triple the size of Major League Baseball's fan base and revenues. That's just the kind of game-changing status that EGS is gaining in geothermal research and investment circles.

While the U.S. resources for conventional geothermal power—also known as "hydrothermal" because underground hot water provides the steam supply for power plants—are limited to the West and capable of growing to between 30,000 and 40,000 MW, geothermal plants using EGS could be built almost anywhere. A **Massachusetts Institute of Technology (MIT)** study projects that EGS technology could enable geothermal power to supply 100,000 MW of capacity in the United States, nearly 10% of current installed electrical generating capacity.

But as of 2009, EGS (which also stands for engineered geothermal systems and is alternately known as HDR, for hot dry rock) is more like a kid trying out for little league. After three decades of research and field testing, there are no EGS power plants pumping electrons to a utility grid. "So far there have only been test power plants run on true EGS experiments where they've actually fractured the rock and circulated the water," said EGS expert David Blackwell, co-author of the MIT report and a professor of geophysics at **Southern Methodist University** at the March 2009 Geothermal Innovation and Investment conference in San Francisco.

Blackwell acknowledged that European EGS projects in France and Germany are generating grid power, albeit in amounts of 3 MW or smaller. But he told the audience that those projects are not what he considers true EGS because their developers drilled into subterranean rock with existing fractures. "They didn't actually make the fractures," said Blackwell. In Blackwell's and many others view, the first company to accomplish a true EGS project will likely be **Geodynamics** of Australia, which looks ready to culminate six years of R&D with a 1-MW geothermal plant in South Australia's Cooper Basin. The pilot project will power the remote town of Innamincka as early as the summer of 2009, displacing a diesel generator that costs $15,000 a month to fuel. "That will be the first real long-term, large-scale test of EGS," said Blackwell.

EGS Basics

So what is EGS? In a nutshell, it is using hydraulic fracturing techniques—commonly deployed in the oil & gas industry—to open up sealed fractures in hot rocks far underground, then using injection wells to push cold water through the newly opened fractures where it is heated and returned to the surface to supply heat for power generation. EGS "emulates naturally occurring hydrothermal circulation systems—those now producing electricity and heat," wrote Jefferson Tester and co-authors of MIT's 2006 report, *The Future of Geothermal Energy*.

MIT's report has generated buzz in the media and in investment circles. Before the recession, EGS drew some venture capital, which had been rare to non-existing in the mature geothermal industry. **AltaRock Energy**, which aims to develop a pilot EGS project by drilling into granite below the hydrothermal reservoir that fuels The Geysers power plant in California, received $26.25 million from **KPCB, Khosla Ventures, Google.org** and **Vulcan Capital**; **Potter Drilling** has received $4 million from Google.org.

Not exactly big numbers in the clean energy field where solar took in 40%, biofuels 11% and wind 6% of $8.3 billion in global cleantech investing in 2008. Indeed, most money going into EGS has come from governments, including the United States, Germany and Australia. MIT's report authors warn that governments will have to keep putting up money for some time to come. "It is likely that government will have to fully support EGS fieldwork and supporting R&D. Later, as field sites are established and proven, the private sector will assume a greater role in co-funding projects—especially with government incentives accelerating the transition to independently financed EGS projects in the private sector."

Australia, which has little in the way of conventional hydrothermal resources, is one of the most aggressive EGS funders. The government has pledged about $45 million for pilot projects, and several hundred million dollars in shareholder investments have flowed into about 10 public companies. Along with Geodynamics, the leading firms include **Panax Geothermal** and **Petratherm**. Yet, in the United States, many in the geothermal industry would prefer that government keep the fledgling EGS phenom on a diet and feed them instead, or as the case may be, keep them alive through this current period of capital scarcity. "It's great to spend money on EGS. That's the future," said Doug Glaspey, CEO of **U.S. Geothermal**. "But if you want megawatts on the ground today, you have to capitalize exploration. The way you do that is put it into drilling programs."

Hot Dry Rock vs. Hot Wet Rock

To one pioneering EGS/HDR researcher, starving RD&D to support the existing geothermal industry would be a case of history repeating itself. Donald Brown was one of the three scientists from the U.S. DOE's **Los Alamos National Laboratory** who pioneered HDR and created a test project—one of the few "true EGS experiments" in Blackwell's rankings—at Fenton Hill, New Mexico. "HDR was actually Bob Potter's invention," Brown told CCBJ. "Mort Smith and I modified it, and I wrote the patent."

The Fenton Hill team developed two confined HDR reservoirs, the first from 1975 to 1977 and the second from 1983 to 1985. The first phase was centered at a depth of about 9,200 feet with a mean temperature of 385° F and the second phase was 11,500 feet underground with a mean temperature of 455° F. Contractors **Dowell Oil Well Services** and **Halliburton** fractured the rock with hydraulic pressure until fissures and cracks that had been long sealed by precipitation were forced open—a common technique in the oil & gas industry. This part of the process included a feat that still impresses Brown today: a massive hydraulic fracturing in which Dowell injected 5.7 millions over two and half days at a surface pressure of 7,000 PSI. "No EGS stimulation has ever approached those numbers."

Hoop stress created by the pressurization made the reservoirs tight at their margins. Injection wells pumped cool water down and through the fractures, where it was heated, then up to the surface—so the system operated in a closed loop, comparable to an automobile cooling system. "The stimulated joints were held open by reservoir pressure, a pressure greater than the joint closure stress so that the HDR reservoir was highly dilated," said Brown. "We were not at all worried about the joints plugging up again with dissolved minerals, since all the dissolved mineral species reached equilibrium in the pressurized close-loop circulating fluid within about two weeks. No precipitation occurred thereafter anywhere in the earth loop."

Years of testing concluded in 1995 showed the potential to generate about 1-MW of electric power, so the team began soliciting a partner from the geothermal industry. "It would have involved bringing in a company like Ormat to build a binary power plant," said Brown. "We got bids, the bids were evaluated and a winning contractor had been selected." The project would have provided invaluable information on "how to best produce heat in an engineered HDR reservoir," according to Brown.

"Our modeling suggested that the one-third cubic kilometer reservoir would last 10 to 20 years. It could be extended laterally or in depth, and I've got other tricks up my sleeve to increase the productivity and lifetime, but we would need to run a reservoir to demonstrate those." But Brown says DOE declined to fund the project at the last minute, instead directing money to building a 29-mile pipeline to carry recharge water to The Geysers, then owned by **Unocal, Calpine** and **Northern California Power Authority**. According to a report by some consulting engineers for the project, the $48 million project was 40% funded by DOE and other public agencies.

"It was frustrating," recalls Brown. With a change in leadership at DOE's geothermal program, he says the agency "didn't understand HDR. They didn't understand what we had done. They just wanted to get us as a thorn out from under their saddle. We kept saying how good HDR was and they kept saying 'but the industry doesn't like it so we're not going to fund it.'"

Echoing Blackwell's viewpoint, Brown contends that most existing EGS test programs are not true HDR, but rather HWR, or hot wet rock. Other industry sources and the MIT report confirm this, but note that the aim of these projects is to engineer those currently unproductive hot rocks to increase their permeability and make them productive for geothermal power. Brown contends HWR technology misses the true home run potential for geothermal, however. "Less than 1% of the geothermal resource is naturally occurring fluids in place, either along faults or in a steam dome like at The Geysers," he said. "The other 99% is HDR. When you can utilize HDR, you go from a few little fly specks on the world map to the rest of the map."

Regardless of disagreements over HDR vs. HWR, Brown agrees with the rest of the EGS crowd in saying that better drilling technology is needed to enable EGS to go forward on a large scale. While conventional hydrothermal drilling doesn't go much below 10,000 feet, candidate resources for EGS power plants start at 10,000 feet deep and can be as much as 30,000 feet below the surface.

The MIT report says both "evolutionary" and "revolutionary" techniques will be needed; in the former category, the report authors look for "more robust drill bits, innovative casing methods, better cementing techniques for high temperatures, improved sensors, and electronics capable of operating at higher temperature in downhole tools"; and in the second category, "new methods of rock penetration [with] lower production costs."

Brown, who has come back from retirement to work on HDR as a guest scientist at Los Alamos, likes the hard-rock polycrystalline diamond compact (PDC) drag bit now being developed by a company called **Novatek International**. "It can improve the drilling rate by a factor of three and will cut our front end costs down considerably so the economics of HDR become more attractive." Brown is also working with some undisclosed venture capital investors who are considering a demonstration project at Fenton Hill.

"The reservoir is still there, and one of the wells is still in decent shape," he said. "If we started today we would probably have power coming off the lines in three years." He says the investors would look to patent some of the technology coming out of the project and build on their first-in-class reputation and expertise to roll out more and larger EGS/HDR projects... They're willing to lose money on the first power generation demonstration. They know that we have to produce power to go to the bankers in order to get funding to step out into other areas and do this HDR."

This theme was echoed by speakers at the March geothermal conference in San Francisco. "We need to cross that first hurdle of getting some demonstration projects going," said Susan Petty, CEO of **AltaRock Energy**. Government funding will be key, according to Petty and others.

"Hydrothermal projects have high upfront capital costs, but EGS has an even higher upfront capital cost with the added difficulty that it's an emerging technology," she said. "We've going to have to rely on funds from the government to help us continue our R&D and to guarantee loans or to provide low-cost capital so we can get our wells through, set up demo sites and run these systems for a while so we can show they work."

Yet, North American conventional geothermal developers—with more 3,000 MW of capacity in the pipeline largely stalled by the recession—say they need DOE money to go forward. "It's very important that these hydrothermal development programs not get stalled," said Brian Fairbank, CEO of **Nevada Geothermal Power**.

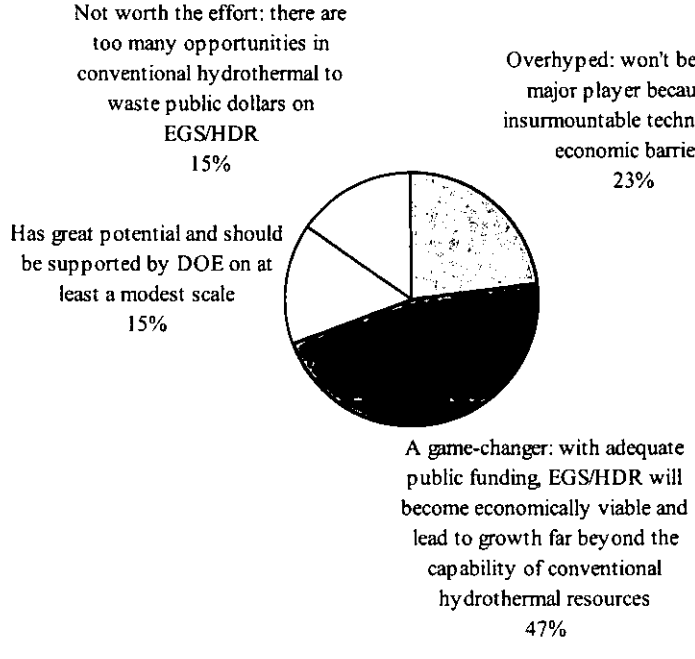
In other words, DOE's $400 million for geothermal is already overcommitted before the agency has had time to come up with disbursement guidelines.

Geothermal industry veterans, lenders and investors expressed a range of opinions to CCBJ about EGS's ultimate viability. "Do I think it can work, sure. But is it economic? I don't know enough to really comment one way or anther," said Ric Abel, managing director for electric finance at **Prudential Capital Group**. "When you start drilling holes 20,000 or 25,000 feet down, and you have to get a fluid down there and back up, you're talking about an enormous parasitic load. I just don't have a good feeling for how the economics will come together."

A veteran geothermal engineer who now consults for investors told CCBJ: "EGS is the holy grail, and like the holy grail it may be just a myth." But many who follow geothermal and other renewable energy technologies contend that with adequate public support, EGS/HDR will fundamentally change the geothermal game. "Work that we are doing in Canada suggests that with adequate investment we can utilize EGS successfully even when temperatures are between 125 and 150 celsius (257 and 302 Fahrenheit)," said Michal Moore, who is a senior fellow at the Institute for Sustainable Energy, Environment and Economy at the **University of Calgary** in Alberta, and a former member of the California Energy Commission. "With the impending changes to coal emission requirements and the retirement of a significant amount of nuclear baseload electric power, the potential of EGS geothermal is critically important."

Brown, who helped invent the concept of HDR geothermal energy, is now finishing a book covering the HDR Project at Fenton Hill and working with his project backers in Washington to get needed support from natural-resource agencies for restarting Fenton Hill (it's located in a national recreation area). At 77, his enthusiasm for EGS is as strong as that of a rookie slugger at the plate. "I want to see HDR out there commercialized and I'm working very hard to do that. Our plant can be online within three years, and from there, the future of HDR is almost unlimited." ☼

Opinions on Enhanced Geothermal Systems (EGS)



Source: CCBJ 2009 Geothermal Survey conducted in April 2009. Question was: Enhanced geothermal systems (EGS), also known as hot dry rock (HDR) technology, can vastly expand the use of geothermal power in the United States and elsewhere. Yet after more than 30 years of research, EGS has only been the subject of small-scale demonstration plants (and many observers say those projects are not using true HDR resources). Please check the category that best describes your general view of the future of EGS/HDR:

Volume 2, No. 4/5 CLIMATE CHANGE BUSINESS JOURNAL® April/May 2009

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Senate Committee on World Trade,
Technology and Innovations

Co-Chair
Senate Resources Committee

Member
Senate Judiciary Committee

SENATOR LESIL MCGUIRE

Changes to SB 243 (26-LS1346\A) in CS SB 243 (26-LS1346\R)

Section 1: The CS SB 243 enacts royalty rates that mirror the federal royalty rates for a geothermal resource.

1. 1.75% of gross revenues for the first 10 years
2. 3.5% of gross revenues for the following years

SB 245

SENATE COMMITTEE REPORT
First Committee of Referral

DATE: 1/29/10

FURTHER: Finance

DATE TURNED
IN TO OFFICE: _____

Resources Committee considered SENATE BILL NO. 245

SB 245 SALMON PRODUCT DEVELOP. TAX CREDIT

"An Act relating to the salmon product development tax credit; and providing for an effective date by amending an effective date in sec. 7, ch. 57, SLA 2003, as amended by sec. 4, ch. 3, SLA 2006, and by sec. 4, ch. 8, SLA 2008."

and recommends:

[ ] be **replaced** with [ ] **SCS** or [ ] **CS** _____ (_____)

[ ] adopt **previous** [ ] **SCS** or [ ] **CS** _____ (_____)

[ ] attached amendment(s)

[ ] adopt _____Letter of Intent

[ ] further referral to _____Committee

SENATE BILL:
[ ] Same Title
[ ] New Title

HOUSE BILL:
[ ] Same Title
[ ] Technical Title Change
[ ] New Title w/ SCR #_____

NEW FISCAL NOTE(S):

Department	Date	Fiscal	Indet.	Zero	FN#
REV	3/26	✓			

PREVIOUS FISCAL NOTE(S):

Department	Date	Fiscal	Indet.	Zero	FN#

[ ] **APPROPRIATION - no fiscal note**

SIGNATURES AND RECOMMENDATIONS:	PRINTED LAST NAME	DO PASS	DO NOT PASS	NO REC	AMEND
	WAGONER	✓			
	French	✓			
	STEVENS	X			
CO-CHAIR:	McGuire	✓			
CO-CHAIR:	Wielechowski	✓			

FISCAL NOTE

STATE OF ALASKA
2010 LEGISLATIVE SESSION

Fiscal Note Number: 1
Bill Version: SB 245
(S) Publish Date: 4/6/10

Identifier (file name): SB245-REV-TAX-03-26-10
Title: Salmon Product Development Tax Credit
Sponsor: Senate Finance Committee
Requester:

Dept. Affected: Revenue
RDU: Taxation and Treasury
Component: Tax Division
Component Number: 2476

Expenditures/Revenues (Thousands of Dollars)

Note: Amounts do not include inflation unless otherwise noted below.

	Appropriation Required	Information					
OPERATING EXPENDITURES	**FY 2011**	**FY 2011**	**FY 2012**	**FY 2013**	**FY 2014**	**FY 2015**	**FY 2016**
Personal Services							
Travel							
Contractual							
Supplies							
Equipment							
Land & Structures							
Grants & Claims							
Miscellaneous							
TOTAL OPERATING	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
CAPITAL EXPENDITURES							
CHANGE IN REVENUES ( )	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**(2,400.0)**	**(2,400.0)**

FUND SOURCE (Thousands of Dollars)

1002 Federal Receipts							
1003 GF Match							
1004 GF							
1005 GF/Program Receipts							
1037 GF/Mental Health							
Other Interagency Receipts							
TOTAL	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**

Estimate of any current year (FY2010) cost:

POSITIONS

Full-time							
Part-time							
Temporary							

ANALYSIS: *(Attach a separate page if necessary)*

See Attached.

Prepared by: Tim Cottongim, Revenue Audit Supervisor — Phone (907) 465-3695
Division: Tax Division — Date/Time 03-26-10; 12:41pm
Approved by: Ginger Blaisdell, Director — Date 03-26-10; 2:36pm
Administrative Services Division

(Revised 11/6/2009 OMB)

STATE OF ALASKA
2010 LEGISLATIVE SESSION

BILL NO. SB 245

ANALYSIS CONTINUATION

Bill Language:

This bill extends the existing salmon product development tax credit, for investment in processing equipment used to produce value-added salmon products, by four years through 2015. The salmon product development tax credit allows taxpayers to take a credit against their fisheries business tax liability for 50% of qualified investment in new value-added salmon processing equipment. Credits may be applied against 50% of the fisheries business tax liability on salmon processed in Alaska in the year generated and the three subsequent years .

Revenues:

Although it is difficult to determine the number of taxpayers who would take advantage of this tax credit, the DOR would expect reduced fisheries business tax collections in the years added. The department would expect the fisheries business tax to decrease by $2.4 million for each additional year the credit is extended.

Expenditures:

The provisions of this bill could be implemented with existing state resources. No additional personnel or resources would be needed.

ALASKA STATE LEGISLATURE

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SPONSOR STATEMENT
SB 245

An Act Relating to the Salmon Product Development Tax Credit

SB 245 extends the deadline for salmon processors in Alaska to receive a salmon product development tax credit. The program allows applicants to claim a credit on their annual fisheries business tax for the purchase of eligible equipment. Credits received may not exceed 50% of a taxpayer's liability. Under current law, processors can claim the credit for property first placed into service by December 31, 2011. This bill would extend the program's sunset date to December 31, 2015, allowing the processors ample time to continue their long-range investment planning.

The salmon product development tax credit was a key recommendation of the Joint Legislative Salmon Industry Task Force. First enacted in 2003, the credit was part of an effort by Alaska's elected leaders and the fishing industry to develop innovative value-added salmon products. Since then it has stimulated some important changes in Alaska's commercial fishing industry. New processing equipment eligible for the tax credit enables businesses to offer a more diverse complement of Alaska salmon products which helps increase overall customer acceptance. Modern equipment also helps increase efficiency of processing operations and improves throughput, meaning that quality has improved. This tax credit also encourages in-state processing of our salmon which is critical to job creation and retention in fishing communities.

Although Alaska's salmon industry is beginning to recover from years of low values caused by factors such as competition from fish farming, the industry continues to be challenged by the recent economic depression, changes in the marketplace, and increasing labor and energy costs. Extending the tax credit beyond its current sunset date of December 31, 2011 will allow the industry to continue the progress that is being made in developing and producing salmon products that will keep Alaska's fisheries competitive in world markets. The state should continue to support one of our most important basic industries by extending the salmon product development tax credit through passage of SB 245.

Annual Alaska Salmon Production
Finished Product Weight, thousands of pounds

	2002*	2003	2004	2005	2006	2007	2008
Sockeye							
canned	33,386	49,092	63,322	54,716	53,689	53,084	41,539
fresh H&G	5,589	9,052	16,217	15,685	15,154	23,818	13,188
fresh fillet	2,369	153	733	1,027	1,678	3,218	1,400
froz H&G	48,446	64,013	84,480	96,864	80,625	89,668	76,550
froz fillet	1,323	1,779	3,952	5,910	11,752	11,505	13,100
roe	2,393	4,091	4,388	6,238	4,732	5,404	4,446
Pink							
canned	114,627	158,778	123,662	159,526	88,177	123,294	91,091
fresh H&G	1,019	1,458	1,629	1,145	4,139	3,969	1,586
fresh fillet	**	**	-	**	**	**	**
froz H&G	30,571	42,963	49,603	96,271	59,280	107,588	53,268
froz fillet	**	5,868	6,094	9,757	2,705	9,163	3,058
roe	7,767	12,960	9,609	16,380	8,459	14,648	9,185

Source: AK Dept of Revenue, Alaska Salmon Price Report
canned includes standard ASPR can sizes & 'other'
* Due to ASPR confidentiality issues later resolved, 2002 reflects the sum of disclosable data rather than total production data

Share of Species Production

Sockeye							
canned	36%	**38%**	37%	30%	32%	28%	**28%**
fresh H&G	6%	7%	9%	9%	9%	13%	9%
fresh fillet	3%	0%	0%	1%	1%	2%	1%
froz H&G	52%	50%	49%	54%	48%	48%	51%
froz fillet	1%	**1%**	2%	3%	7%	6%	**9%**
roe	3%	3%	3%	3%	3%	3%	3%
Pink							
canned	**74%**	72%	65%	56%	54%	**48%**	58%
fresh H&G	1%	1%	1%	0%	3%	2%	1%
fresh fillet	-	-	-	-	-	-	-
froz H&G	**20%**	19%	26%	34%	36%	**42%**	34%
froz fillet	-	3%	3%	3%	2%	**4%**	2%
roe	5%	6%	5%	6%	5%	6%	6%

Figure 4 - Revenue Collections Detail

Listed in order of total amount of revenue collected.

TAX TYPE	FY 2006	FY 2005	FY 2004
FISHERIES BUSINESS			
Established			
Shore-based	$22,489,848	$17,934,554	$18,480,806
Floating	5,583,427	4,430,655	4,635,435
Cannery	4,115,868	3,573,861	3,069,518
Developing			
Shore-based	8,553	2,246	133,286
Floating	6,117	521	540
Total Tax	32,203,813	25,941,837	26,319,585
Prepayments	3,735,334	2,199,514	4,662,239
Penalties and Interest	24,450	153,357	87,197
License Fees	15,001	14,724	16,613
Less Credits			
A.W. "Winn" Brindle	(132,909)	(135,700)	(169,121)
Alaska Education	(300,000)	(300,000)	(302,500)
Salmon Product Development and Utilization	(3,058,516)	(2,314,258)	(1,369,408)
Total Receipts	**32,487,173**	**25,559,474**	**29,244,605**
Fisheries Business Tax Shared			
Direct to Municipalities	(15,268,647)	(13,485,788)	(12,672,941)
DCCED* Municipal Allocation	(1,867,596)	(1,738,224)	(1,725,251)
Amount Retained by State	**$15,350,930**	**$10,335,462**	**$14,846,413**
DEC Seafood Processor License Fees	**$540,723**	**$400,670**	**$402,050**
MINING LICENSE			
Tax Before Credits	$18,759,872	$10,467,238	$3,326,281
Less Credits			
Alaska Special Industrial Incentive	0	0	0
Mineral Exploration Incentive	0	0	0
Alaska Education	(121,876)	(150,000)	(101,597)
Total Receipts	**$18,637,996**	**$10,317,238**	**$3,224,684**

* *Department of Commerce, Community and Economic Development*

Figure 4 - Revenue Collections Detail

Listed in order of total amount of revenue collected

TAX TYPE	FY 2007	FY 2006	FY 2005
FISHERIES BUSINESS			
Established			
Shore-based	$21,838,661	$22,489,848	$17,934,554
Floating	4,461,717	5,583,427	4,430,655
Cannery	3,603,230	4,115,868	3,573,861
Developing			
Shore-based	4,040	8,553	2,246
Floating	2,523	6,117	521
Total Tax	29,910,171	32,203,813	25,941,837
Prepayments	5,546,512	3,735,334	2,199,514
Penalties and Interest	169,178	24,450	153,357
License Fees	14,725	15,001	14,724
Less Credits			
A.W. "Winn" Brindle	(167,000)	(132,909)	(135,700)
Alaska Education	(300,000)	(300,000)	(300,000)
Salmon Product Development and Utilization	415,745	(3,058,516)	(2,314,258)
Total Receipts	**35,589,331**	**32,487,173**	**25,559,474**
Fisheries Business Tax Shared			
Direct to Municipalities	(16,079,365)	(15,268,647)	(13,485,788)
DCCED* Municipal Allocation	(1,530,472)	(1,867,596)	(1,738,224)
Amount Retained by State	**$17,979,494**	**$15,350,930**	**$10,335,462**

** Department of Commerce, Community and Economic Development*

COMMERCIAL PASSENGER VESSEL			
Total Receipts	**$15,981,734**		
Taxes Shared to Municipalities	(744,580)	Not Applicable	Not Applicable
Amount Transferred to Regional Cruise Ship Impact Fund	(3,995,434)		
Amount Retained by the State of Alaska	**$11,241,720**		

Figure 3 - Revenue Collections Detail

Listed in order of total amount of revenue collected

TAX TYPE	FY 2008	FY 2007	FY 2006
ALCOHOLIC BEVERAGES			
Liquor	$18,719,422	$17,323,104	$16,642,283
Beer	13,317,219	13,063,186	13,155,523
Wine	5,140,482	4,852,715	4,616,542
Beer (small breweries)	801,127	797,543	810,080
Penalties, Interest and Refunds	186,950	1,916	648
Total Receipts	**38,165,200**	**$36,038,464**	**$35,225,076**
Amount transferred to Alcohol and Other Drug Abuse Treatment and Prevention Fund	(19,080,505)	(18,018,504)	(17,612,538)
Amount Retained in General Fund	**$19,084,695**	**$18,019,960**	**$17,612,538**
FISHERIES BUSINESS			
Established			
Shore-based	$24,865,940	$21,838,661	$22,489,848
Floating	5,769,466	4,461,717	5,583,427
Cannery	5,218,570	3,603,230	4,115,868
Developing			
Shore-based	54,486	4,040	8,553
Floating	802	2,523	6,117
Total Tax	35,909,264	29,910,171	32,203,813
Prepayments	3,694,083	5,546,512	3,735,334
Penalties and Interest	504,207	169,178	24,450
License Fees	13,975	14,725	15,001
Less Credits			
A.W. "Winn" Brindle	(177,228)	(167,000)	(132,909)
Alaska Education	(450,000)	(300,000)	(300,000)
Salmon Product Development and Utilization	(4,501,973)	415,745	(3,058,516)
Total Receipts	**34,992,328**	**35,589,331**	**32,487,173**
Fisheries Business Tax Shared			
Direct to Municipalities	(18,268,399)	(16,079,365)	(15,268,647)
DCCED* Municipal Allocation	(1,920,635)	(1,530,472)	(1,867,596)
Amount Retained by State	**$14,803,294**	**$17,979,494**	**$15,350,930**

* *Department of Commerce, Community and Economic Development*

Figure 3 - Revenue Collections Detail

Listed in order of total amount of revenue collected

TAX TYPE	FY 2009	FY 2008	FY 2007
FISHERIES BUSINESS			
Established			
Shore-based	$30,223,448	$24,865,940	$21,838,661
Floating	6,809,487	5,769,466	4,461,717
Cannery	5,069,742	5,218,570	3,603,230
Developing			
Shore-based	48,357	54,486	4,040
Floating	249	802	2,523
Total Tax	42,151,283	35,909,264	29,910,171
Prepayments	3,523,354	3,694,083	5,546,512
Penalties and Interest	311,942	504,207	169,178
License Fees	13,500	13,975	14,725
Less Credits			
Winn Brindle	(192,792)	(177,228)	(167,000)
Alaska Education Credit	(450,000)	(450,000)	(300,000)
Salmon Product Development and Utilization Credit	(3,121,697)	(4,501,973)	415,745
Total Receipts	**42,235,590**	**34,992,328**	**35,589,331**
Fisheries Business Tax Shared			
Direct to Municipalities	(21,304,498)	(18,268,399)	(16,079,365)
DCCED* Municipal Allocation	(1,635,638)	(1,920,635)	(1,530,472)
Amount Retained by State	**$19,295,454**	**$14,803,294**	**$17,979,494**
ALCOHOLIC BEVERAGES			
Liquor	$18,609,636	$18,719,422	$17,323,104
Beer	12,971,806	13,317,219	13,063,186
Wine	5,512,824	5,140,482	4,852,715
Beer qualifying for reduced tax rate	914,888	801,127	797,543
Penalties, Interest and Refunds	487,207	186,950	1,916
Total Receipts	**$38,496,361**	**$38,165,200**	**$36,038,464**
Amount transferred to Alcohol and Other Drug Abuse Treatment and Prevention Fund	(18,968,874)	(19,080,505)	(18,018,504)
Amount Retained in General Fund	**$19,527,487**	**$19,084,695**	**$18,019,960**

* Department of Commerce, Community and Economic Development

PSPA

PACIFIC SEAFOOD PROCESSORS ASSOCIATION
Est. 1914

RECEIVED
FEB - 8 2010

February 8, 2009

Senator Lesil McGuire, Co-Chair
Senator Bill Wielechowski, Co-Chair
Senate Resources Committee
State Capitol
Juneau, AK 99801-1182

RE: Request for scheduling and passage of SB 245 –
Extension of the Salmon Product Development Tax Credit

Dear Senators McGuire and Wielechowski:

On behalf of the Pacific Seafood Processors Association, a trade association of seafood processing companies with operations in many communities throughout Alaska, I am writing in strong support of SB 245 and to request that this important legislation be scheduled for a hearing and action in the Senate Resources Committee as soon as possible.

The legislature constructed the existing Salmon Product Development Tax Credit program tightly to accomplish very specific goals. It is proving to be very successful in accomplishing its intended purpose of encouraging and enabling Alaska salmon processors to develop and produce value-added salmon products in Alaska. This, in turn, is helping Alaska's salmon industry keep pace with evolving consumer demands and keep Alaska salmon competitive on world markets. It is a program that essentially pays for itself by increasing the value and marketability of Alaska salmon.

The attached 1-page document briefly describes some of the improvements that have been made with the help of this program. Many of the new product forms developed and improvements and expansions made in recent years would not have happened, or would have been significantly delayed, without the incentive and assistance provided by the tax credit program. The attached page also describes ways our member companies anticipate utilizing the tax credit program in upcoming years if it is extended.

Alaska's seafood industry, operating in remote areas of Alaska, is dealing with extremely high energy costs, the worldwide economic downturn, and other enormous challenges. Yet, the industry's future, and the future economic benefits Alaska's fisheries provide to fishermen, communities, and the state, depend on continued progress in developing and expanding value-added product forms and capacity. Extension of the Salmon Product Development Tax Credit Program will play an important role in maintaining the continued development and competitiveness of the Alaska salmon industry.

Extending this very effective program makes good sense for Alaska. We urge quick scheduling and passage of SB245.

Thank you very much for your consideration.

Sincerely,

Mary McDowell

Mary McDowell, Vice President

Attachment

222 Seward Street, Suite 200
Juneau, AK 99801
Phone (907) 586-6366
Fax (907) 586-4618
www.pspafish.net

3791

Past use of the Salmon Product Development Tax Credit

The Salmon Product Development Tax Credit Program has been very effective in advancing the goal of increasing in-state value-added processing. The credit has enabled and encouraged seafood companies to make investments in equipment that they would otherwise have had to delay or forego. In many cases, the credit has enabled companies to begin producing value-added product forms they had not previously produced.

Since enactment of the program, PSPA member companies have purchased and put into production a wide variety of value-adding equipment, such as:

- skinless/boneless fillet equipment
- roe separating equipment
- smoking equipment
- equipment to produce boneless/skinless salmon in pop-top ("easy-open") cans
- equipment to produce sockeye ikura
- equipment for packaging ikura in vacuumed sealed packages

The credit has enabled companies to increase capacity of pounds purchased from fisherman and improve quality by adding fillet lines and investing in coolers, blast freezers, and upgrading and increasing freezer capacity.

Anticipated future use of the tax credit

Continuation of the Salmon Product Development Tax Credit would be extremely helpful in maintaining the momentum of the expansion of in-state, value-added processing, and allow companies to plan for future capital investment in their salmon operations around the state and keep Alaska salmon competitive in evolving world markets.

Customers continually want more user-friendly products. The salmon fillet market, for example, has grown tremendously in the last few years and the market has not shown any signs of over supply. It takes some risk and a few years for companies to assess how their investments in value-added processing are paying off and then additional time to gear up and gather financial resources to make additional investments. A tax credit that makes such investments feasible in a shorter timeframe benefits Alaska harvesters, processors, communities, and the state.

If this tax credit program remains available, our member companies anticipate utilizing it in upcoming years for such things as additional filleting equipment; salmon sausage equipment; salmon oil refining equipment; equipment for producing skinless/boneless products; freezing capacity upgrades and increases, portioning equipment, vacuum packing equipment, and salmon roe processing equipment.

222 Seward Street, Suite 200
Juneau, AK 99801
Phone (907) 586-6366
Fax (907) 586-4618
www.pspafish.net

PETER PAN SEAFOODS, INC.

February 8, 2010

THE TENTH FLOOR
2200 SIXTH AVENUE
SEATTLE, WA 98121-1820
206.728.6000
OPERATION FAX 206.441.9090
SALES FAX 206.728.1855

Senator Lesil McGuire, Co-Chairman
Senator Bill Wielechowski, Co-Chairman
Senate Resources Committee
State Capitol
Juneau, Alaska 99801-1182

Dear Senator McGuire and Senator Wielechowski:

It is my pleasure to introduce Peter Pan Seafoods, Inc. We were incorporated in 1950 as the successor to P.E. Harris Co., which began canning salmon in Alaska in 1912. Peter Pan Seafoods processes and sells various types of Alaskan seafood products. All of our raw seafood is purchased from independent fishermen participating in fisheries throughout Alaska. Our production facilities include: King Cove, Port Moller, Dillingham, and Valdez. Salmon products account for the largest portion of our sales; other major product lines include crab, halibut, cod, Pollock and black cod. Our products are sold primarily to wholesalers and distributors throughout the world.

Peter Pan Seafoods would like to ask you and the Senate Resources Committee to schedule and pass **Bill HB245, the Salmon Tax Credit Bill**. This bill simply extends for 3 more years an existing program that is proving very successful for the Alaskan salmon industry. We hope to continue the momentum and progress this program has afforded us in keeping our Alaskan salmon products competitive in the domestic and world markets.

We have been able to utilize the salmon tax credit at each of our Alaska production facilities. Both King Cove and Dillingham have added value added salmon fillet and ikura roe lines. In Port Moller, we expanded our value added salmon fillet operation; and in Valdez we added value added salmon fillet production, skinless boneless canned salmon and ikura roe. The progress we have achieved by adding and developing the value added salmon products in such a relatively short time is due to the Salmon Tax Credit.

The ever increasing costs of energy, labor, packaging and insurance are diverting the funds that could otherwise be invested into these sorts of improvements. It is imperative to our industry and Peter Pan Seafoods in particular that the salmon tax credit continue for another 3 years. There is more to be achieved in the development of the salmon value added program to ensure Alaska salmon products keep pace with evolving world markets. We urge the committee to take quick action in support of **HB245, the Salmon Tax Credit**.

Thank you and the Committee for your timely consideration of this issue.

Respectfully,

Barry D. Collier
President and CEO
Peter Pan Seafoods, Inc.

SB 255

FISCAL NOTE

STATE OF ALASKA
2010 LEGISLATIVE SESSION

Fiscal Note Number:
Bill Version: SB 255
() Publish Date:

Identifier (file name): SB255-REV-TAX-03-26-10
Dept. Affected: Revenue
Title: Fish Processor Fees, Licenses, Records
RDU: Taxation and Treasury
Component: Tax Division
Sponsor: Senator Olson
Requester: Senate Resources
Component Number: 2476

Expenditures/Revenues (Thousands of Dollars)

Note: Amounts do not include inflation unless otherwise noted below.

	Appropriation Required	Information					
OPERATING EXPENDITURES	**FY 2011**	**FY 2011**	**FY 2012**	**FY 2013**	**FY 2014**	**FY 2015**	**FY 2016**
Personal Services							
Travel							
Contractual							
Supplies							
Equipment							
Land & Structures							
Grants & Claims							
Miscellaneous							
TOTAL OPERATING	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
CAPITAL EXPENDITURES							
CHANGE IN REVENUES ( )	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**

FUND SOURCE (Thousands of Dollars)

1002 Federal Receipts							
1003 GF Match							
1004 GF							
1005 GF/Program Receipts							
1037 GF/Mental Health							
Other Interagency Receipts							
TOTAL	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**

Estimate of any current year (FY2010) cost:

POSITIONS

Full-time							
Part-time							
Temporary							

ANALYSIS: *(Attach a separate page if necessary)*

See Attached.

Prepared by: Tim Cottongim, Revenue Audit Supervisor — Phone (907) 465-3695
Division: Tax Division — Date/Time 03-26-10; 12:41pm
Approved by: Ginger Blaisdell, Director — Date 03-26-10; 2:54pm
Administrative Services Division

(Revised 11/6/2009 OMB)

3795

ANALYSIS CONTINUATION

Bill Language:

This bill authorizes the department to withhold issuing a fisheries business license to applicants that fail to pay industry fees levied by NMFS under a fishing capacity reduction program.

Revenues:

The provisions of this bill will have no impact on tax collections.

Expenditures:

The provisions of this bill could be implemented with existing state resources. No additional personnel or resources would be needed.

ALASKA STATE LEGISLATURE

SENATOR DONALD C. OLSON

ALASKA
STATE CAPITOL
ROOM 514
JUNEAU, ALASKA 99801-1182

(907) 465-3707
FAX (907) 465-4821

SECTIONAL ANALYSIS

Senate Bill 255 – Fish Processors Fees, Licenses, and Records

Version 26-LS1413/A, February 3, 2010
STAFF: Tim Benintendi, 465-4989

SECTION 1: Amends AS 16.05.815(a) by adding to the list of information items which may be released by the Department of Fish & Game and by the Alaska Commercial Fisheries Entry Commission. It adds fish ticket information, records, and reports of the total value purchased by each fisherman, buyer, or processor, and makes it available to the National Marine Fisheries Service. This strengthens the NMFS position as loan guarantor of the fleet reduction loan program.

SECTION 2: Amends AS 43.75.020(a) by adding a subsection which provides that an applicant for a fishery business license agrees to pay the 3% fee levied under the fleet reduction program.

SECTION 3: Amends AS 43.75.020(b) by adding final administrative determinations of the National Marine Fisheries Service to the list of judgments or determinations which, if not received by the Department, will not prevent the issuance of a fishery business license to an applicant.

SECTION 4: Provides for an immediate effective date.

ALASKA STATE LEGISLATURE

SENATOR DONALD C. OLSON

ALASKA
STATE CAPITOL
ROOM 514
JUNEAU, ALASKA 99801-1182

(907) 465-3707
FAX (907) 465-4821

Senate Bill 255 – Fish Processor Fees, Licenses, and Records

Version 26-LS1413/A, February 3, 2010
STAFF: Tim Benintendi, 465-4989

SPONSOR STATEMENT

SB 255 will enable fisheries that have elected to pursue a capacity reduction (permit buyback) program to have the legal mechanism in place to ensure proper accounting of the transactions involved. The steps taken by this bill are procedural in nature.

Policy regarding capacity reduction through self- imposed fee collections have already been made in both state and federal statute. While allowing the National Oceanic & Atmospheric Administration (NOAA) and the National Marine Fishery Service (NMFS) access to fish ticket data held by the state to monitor loan repayments, this bill puts the final pieces together so that fishermen can decide on their participation based on a complete program.

Fleet capacity reduction programs are mechanisms that allow for stabilization of effort within a fishery. They are intended to ensure the long-term economic sustainability of the fishery by addressing the problem of over-capitalization. Based on the pilot program, 80% of permits bought back were non-resident. Alaska's legal framework for these programs ensures that they are:

FISHERY SPECIFIC - by requiring an affirmative vote of the registered and licensed permit-holding fishermen in the fishery in question. This process is spelled out in AS 43.76.230-270, statutes that were generated by the Joint Legislative Salmon Industry Task Force in 2002. The concept behind that legislation was that each fishery in Alaska has its own specific set of economic

factors, and therefore the participants should have the right of group self-determination in legally meeting the challenges of their fishery. This legislation will not affect any fishery that does not meet the previously established guidelines for capacity reduction.

SELF-FUNDED - In the case of the Southeast Alaska Purse Seine fishery, for example, the fishermen will have to agree to a self-assessment of 3% on each sale of fish they catch to cover the costs of the program.

VOLUNTARY - only fishermen who choose to sell their permits may do so. There is no effort to force any fishermen out of the fishery.

SB 255 does not affect any of the previously enacted pieces of the program. It simply enables the federal NMFS and the state Commercial Fisheries Entry Commission (CFEC) to share required information from the fish tickets (receipts for fish delivery transactions) in order to monitor loan repayments. It also requires processors to remit the fees to NMFS, using the same method as is already in practice for remission of the Alaska Salmon Enhancement Tax.

This legislation takes care of the final procedural hurdles to enable permit capacity reduction programs to go forward in any fishery that chooses to pursue that option and passes the other strict statutory requirements.

Senate Bill 255 is supported by the Southeast Seiners' Association, the United Fishermen of Alaska, and the Alaska Commercial Fishery Entry Commission.

ALASKA STATE LEGISLATURE

SENATE RESOURCES COMMITTEE

Letter of Intent
Senate Bill 255

The Alaska Legislature recognizes that passage of SB 255 is a necessary step to enable a planned permit buyback program in the Southeast Alaska Salmon Seine fishery to move forward. Further, while the Legislature recognizes the value of reducing the number of permits in the Southeast Salmon Seine fishery, it is also concerned that the permit buyback program will not remove more permits than necessary for the health and viability of the fishery, nor result in negative economic impacts to the region or state, including diminishment of the economic benefits of the investments that have been made in Alaska communities.

Specifically, the Legislature is passing this legislation with the understanding, and the assurance of the Southeast Revitalization Association, that the permit reduction program the association seeks to undertake for the Southeast Alaska Salmon Seine fishery and to implement through the provisions of this bill will not reduce the number of permits in that fishery to less than 260.

Sen. Lesil McGuire, Co-Chair

Sen. Bill Wielechowski, Co-Chair

Sen. Charlie Huggins, Vice-Chair

Sen. Gary Stevens

Sen. Bert Stedman

Sen. Hollis French

Sen. Tom Wagoner

Legislative Letter of Intent for HB365/ SB255

The Alaska Legislature recognizes that passage of HB365/ SB255 is a necessary step to enable a planned permit buyback program in the Southeast Alaska Salmon Seine fishery to move forward. Further, while the Legislature recognizes the value of reducing the number of permits in the Southeast Salmon Seine fishery, it is also concerned that the permit buyback program not remove more permits than necessary for the health and viability of the fishery, nor result in negative economic impacts to the region or state, including diminishment of the economic benefits of the investments that have been made in Alaska communities.

Specifically, the Legislature is passing this legislation with the understanding, and the assurance of the Southeast Revitalization Association, that the permit reduction program the association seeks to undertake for the Southeast Alaska Salmon Seine fishery and to implement through the provisions of this bill will not reduce the number of permits in that fishery to less than 260.

The Long Road to Implementing a Consolidation Program for the Southeast Purse Seine Salmon Fishery

2002: Alaska State Legislature enacts AS 16.40.250 to allow permit holders to form non-profit associations for purpose of promoting consolidation of permits

2004: Creation of Southeast Revitalization Association (SRA) by permit holders

2005: Congress amends Magnuson-Stevens, SRA eligibility under Commerce Department & National Marine Fisheries Service

2006: Congressional appropriation;

Alaska State Legislature modifies AS 16.40.250

2008: Alaska State Legislature appropriates $3 million in federal grant monies, resulting in purchase and relinquishment of 35 permits (8.5% of total permits)

2009: NMFS advises it will proceed, but will require access to fish tickets and other records.

How the Program Will Work

1. SRA will establish proper reverse auction procedures
2. Permit holder volunteers to relinquish permit to CFEC
3. Independent audit
4. SRA incorporates bids for submission to NMFS
5. NMFS conducts referendum amongst all permit holders
6. If approved, remaining permit holders pay 3% assessment on ex-vessel of salmon harvested; assessment collected by first buyer and sent to NMFS
7. Minimum of 260 permits remaining in S01A fishery

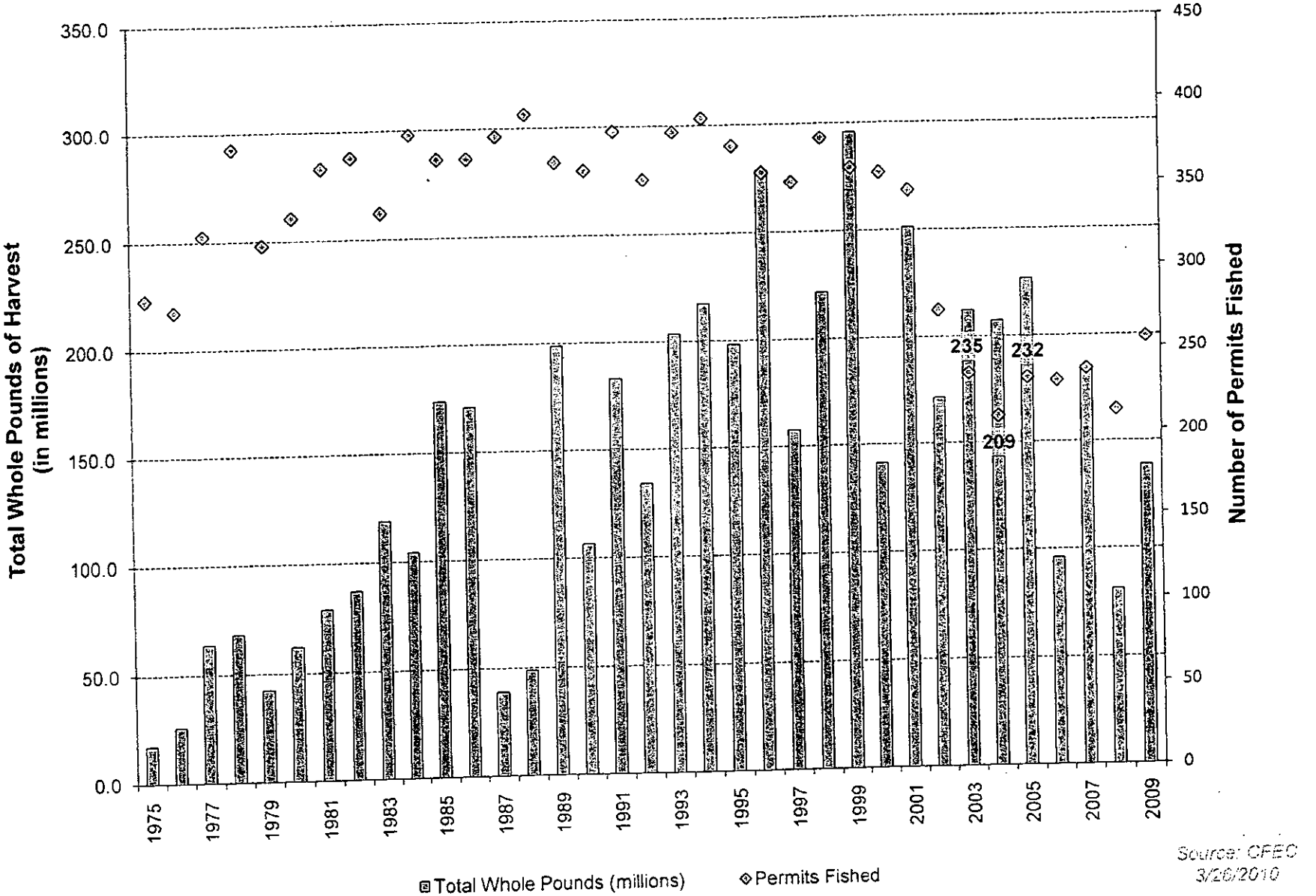
WHY 260 PERMITS SATISFIES ANY LEGITIMATE OBJECTION VOICED BY SEAFOOD PROCESSING COMPANIES

Southeast Alaska Salmon Purse Seine Fishery

Pounds Harvested (Descending Order) and Permits Fished*

Year	Total Lbs. (millions)	# of Permits Fished	Avg. lbs/permit
1999	296	359	824,000
1996	279	357	780,000
2001	251	345	728,000
2005	227	232	977,000
1998	222	377	588,000
1994	217	390	557,000
2003	212	235	903,000
2004	207	209	991,000
2008	81	212	384,000
2009	139	256	542,000

Total Harvest and Permits Fished in the Southeast Salmon Purse Seine Fishery



Source: CFEC
3/26/2010

WHAT THE BILL DOES

1. Amending AS 16.05.815(a) allowing NMFS access to confidential fish ticket and annual records to ensure that first buyers of the salmon are collecting the assessment.

There are already 12 other exceptions in this statute allowing release of this information.

2. Amending AS 43.75.020(a) to provide that when buyers of salmon apply for a fisheries business license – necessary to buy salmon – they must agree to collect and remit the assessment.

There are already five similar conditions in this statute requiring the applicant to pay state or municipal taxes to obtain or maintain a business license.

MEMORANDUM OF UNDERSTANDING

The Southeast Revitalization Association ("SRA") has entered into the following understanding with the undersigned seafood companies:

1. AS 16.40.250 allows permit holders in a salmon fishery to form non-profit associations for the purpose of promoting consolidation or reductions in the number of limited entry permits in a fishery for which the Commercial Fisheries Entry Commission ("CFEC") has issued limited entry permits.

2. The SRA is a duly qualified salmon fishery association under AS 16.40.250 and was organized for the express purpose of developing and implementing a consolidation plan for the Southeast purse seine salmon fishery.

3. Congress under Public Law 108-447, section 209 of the Consolidated Appropriations Act of 2005 amended the Magnuson-Stevens Act ("MSA") making the SRA eligible under a federal buyback loan program established under the U.S. Department of Commerce and administered through the National Marine Fisheries Service ("NMFS").

4. The SRA has developed a draft consolidation or fishing capacity reduction plan ("plan") for the fishery and has submitted that draft plan for approval by the Secretary of Commerce and then NMFS publication of rules to implement the plan.

5. The undersigned seafood companies have expressed concerns that the plan may unnecessarily result in the purchase and relinquishment of too many permits. This occurrence could result in too few fishermen and vessels operating and the potential to reduce the amount of salmon that could be purchased from fishermen by these companies.

6. To address these concerns, the SRA will revise the plan now under NMFS review to provide the following:

   The SRA will amend the plan to provide that under no circumstances will the SRA accept a bid that upon final implementation of the plan could result in fewer than 260 permits remaining in the fishery.

7. The NMFS has indicated it will consent to the proposed plan amendment to limit the number of permits that can be purchased and ultimately relinquished. However, it voiced a cautionary note that the plan is subject

to further review by legal counsel, the Office of Financial Management and Budget and others, which could cause further changes to the plan, including deletion of the proposed limit on the minimum number of permits that would remain in the fishery.

8. The SRA will maintain the position that limiting the number of permits to be purchased and relinquished under the amended plan to 260 is wholly consistent with the MSA, Section 312(b)(2) requirement to achieve the maximum sustained reduction in fishing capacity at the least cost.

9. The undersigned seafood companies agree to support passage of SB 255 and HB 365, as introduced, under the condition that the attached Letter of Intent, or a mutually acceptable revised version of it, is adopted and passed with the legislation by the Alaska Legislature

SRA
Rob Zuanich, Manager

Ocean Beauty Seafoods
Mark Palmer, President

Trident Seafoods
Joe Plesha, General Counsel

Attachment: Legislative Letter of Intent for HB365 / SB255

Petersburg Vessel Owners Association
PO Box 232
Petersburg, AK 99833
Phone & Fax: 907.772.9323
pvoa@gci.net • www.pvoaonline.org

March 10, 2010

The Honorable Lesil McGuire & Bill Wielechowski
Co-Chairs, Senate Resources Committee
Alaska State Capitol
Juneau, AK 99801-1182
Via email: Senator_Lesil_McGuire@legis.state.ak.us
Senator_Bill_Wielechowski@legis.state.ak.us

RE: SUPPORT SB 255, FINALIZE SOUTHEAST ALASKA SEINE BUYBACK

Dear Senators McGuire and Wielechowski,

The Petersburg Vessel Owners Association (PVOA) is a diverse group of 100 commercial fishermen and businesses operating primarily in Southeast Alaska. Our members provide millions of meals to the public annually by participating in a variety of fisheries statewide. Most PVOA members are salmon harvesters, and are also active sport, personal use, and subsistence fishermen who depend on sustainable and conservative management of Alaska's fishing resources to ensure healthy fisheries for the future.

PVOA supports the work of Southeast Alaska Seiners (SEAS) and both HB 365 and SB 255 which will provide the necessary vehicle to specify the route and parameters of the National Marine Fisheries Service (NMFS) loan that fishermen will repay with a 3% assessment. Passage of HB 365 will allow a vote to support that commitment to the assessment as well as support of the program.

Petersburg is one of the top ports in Alaska and the Nation for both pounds landed (#6 in Alaska, #26 in the Nation) and dollar value of landings (#7 in Alaska, #26 in the Nation) due in large part to salmon landings. The Southeast Alaska Seine fleet is a vital component of Petersburg's socio-economic well being.

In 2009, there were approximately 70 southeast seine permits actively fished out of Petersburg (Petersburg listed as the mailing address). Each permit and vessel employs four crewmembers who contribute to the local economy and rely on income provided by salmon fishing. Fishing vessels, support businesses, and fishing families are sustained by salmon revenues that are essential to coastal economies. While Petersburg is the most

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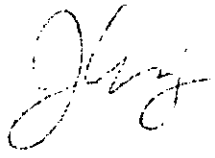
active commercial fishing port in Southeast Alaska, not one of active permits will be extinguished in a mandatory manner as a result of SB 255.

Thank you for your time and attention to this important matter. If we can provide further information or answer any questions as you finalize the Southeast Alaska seine buyback, please feel free to contact us.

Sincerely,



Julianne Curry
Director

3810

UNITED FISHERMEN OF ALASKA

211 Fourth Street, Suite 110
Juneau, Alaska 99801-1172
(907) 586-2820
(907) 463-2545 Fax
E-Mail: ufa@ufa-fish.org
www.ufa-fish.org

March 4, 2010

Senator Lesil McGuire, Co-Chair
Senator Bill Wielechowski, Co-Chair
Senate Resources Committee
Alaska State Legislature
State Capitol
Juneau, AK 99801

Re: Support for SB255

Dear Senators,

The United Fishermen of Alaska (UFA) supports passage of SB255/HB365.

The bill, while extremely timely and important to certain of our members, is nothing but a "housekeeping" bill that is needed as the last piece of work to finish off the SE fleet consolidation program for SEAS but will also set up a precedence and framework for any similar effort in the state of Alaska conducted at a later date. This legislation allows NMFS to confirm fish ticket/processor data to confirm that the assessment collected to pay back the federal government for the loan is correctly determined and allow for enforcement of those that don't pay the assessment. NMFS only has access to data for a specific fishery that has a federal loan program and not access to all salmon harvest data.

When UFA embraced the Legislative Salmon Task Force in 2001, we recognized that different regions require different solutions. Some groups wanted status quo. Other groups wanted market-oriented solutions. Others wanted to restructure their fishery, or basically re-limit limited entry. We want to acknowledge that many, probably most, of our state waters groups do not support a fleet consolidation program for their own region.

But when the Legislature embarked upon the Legislative Salmon Task Force, this was one of the major solutions that came out for each region to choose from. HB286, authored in 2002 by Drew Scalzi, was one of the resulting pieces of legislation. One of our groups, the Southeast Alaska Seiners Association (SEAS) chose to follow up on this and has already "permanently retired" around 20% of their consolidation target in 2008 with $3 million in NMFS grants that were authorized by the Alaska State Legislature.

Another piece of the pie here is HB484, passed in 2006 by the Alaska State Legislature that mandates a solution in the event of an "optimum number determination" in a court of law that causes retired permits to become reissued. HB484 allows that the Legislature "may" send the resulting funds back to the fleet consolidators, hence relieving fishermen of the uncertainty resulting from the "optimum number" issue.

In the case of SE seine fishery, the active fleet size has not exceeded the buydown goal of the buyback program since 2002. So this fleet consolidation is very unlikely to cost a single job or boat. The 3% assessment that these guys are paying is just an insurance policy for the fishermen (and processors) that there won't be a new "group" or company that will bring in some of the currently unused and dormant 140 permits. In fact there will be at least several dozen permits remaining on poor years and likely a dozen or so remaining even on good years.

UFA supports swift passage of this legislation, which is the wrap-up of the Legislative task force bill HB286 from 2002. It is now 2010 and it seems fitting that the Alaska State Legislature would be willing and able to support a "housekeeping" bill that brings to fruition a bill (nearly unanimous in passage in both the House and Senate) that was brought forth as a result of the Alaska State Legislative Task Force.

Thank you for your consideration of this legislation for one of our group members.

Sincerely

Mark Vinsel
Executive Director

Cc:
Senator Donald Olson
Senator Dennis Egan

March 17, 2010

The Honorable Lesil McGuire & Bill Wielechowski
Co-Chairs, Senate Resources Committee
Alaska State Capitol
Juneau, AK 99801-1182

RE: SUPPORT SB 255, FINALIZE SOUTHEAST ALASKA SEINE BUYBACK

Dear Representatives McGuire and Wielechowski,

I am writing on behalf of Cordova District Fishermen United (CDFU), a member organization representing over 300 commercial fishermen in Prince William Sound, including 60 seine fishermen, to request your support of SB255.

CDFU is in alliance with the Southeast Alaska Seiners (SEAS) on this bill, and believes the passage of both HB 365 and SB 255 will provide a relatively simple solution in specifying the route and parameters of the National Marine Fisheries Service (NMFS) loan that fishermen will repay with a 3% assessment.

While not directly related to present seine activity in Prince William Sound, the adoption of SB255 will provide a solid framework for any group within the State looking into practical solutions to stabilize their fishery.

We trust that you will see the merits in supporting this bill.

Sincerely,

Rochelle van den Broek
Executive Director

2 March 2010

The Honorable Lesil McGuire and Bill Wielechowski
Co-Chairs, Senate Resources Committee
Butrovich 205
Alaska State Capitol
Juneau, AK 99801-1182

Dear Senators McGuire and Wielechowski:

The Southeast Alaska Seiners Association (SEAS) fully supports SB 255 and would appreciate the opportunity to express such support before your Committee.

SEAS is a trade association of 127 member skippers (of 5 crew), who purse seine for salmon in Southeast Alaska, predominantly with 58 foot vessels. SEAS also has nearly 60 business members who support the fleet, consisting primarily of processors, fuel docks, grocery stores and marine suppliers, contractors, electronic suppliers, mechanics, shipyards and outfitters.

SB 255 Background

SEAS worked with the Congressional delegation to secure a $3 million grant that was spent in 2008, after being authorized to do so by the Alaska State Legislature, to retire 35 permits, or approximately 22% of our target permit reduction. The first part of our fleet consolidation was done under the supervision of the Commercial Fisheries Entry Commission (CFEC), the program was run by Elgee, Rehfeld, CPAs and we advertised throughout Southeast Alaska for a reverse auction. **These are the first ever Alaska state limited entry salmon permits retired under such a program.**

After the further repurchase of around 120-125 permits we expect to get to the 255-260 range of permits remaining available to fish. This time the fishermen are paying and the financing source is a National Marine Fisheries Service (NMFS) loan that fishermen will repay with a 3% assessment. A couple weeks into the 2010 legislative session the main NMFS Financial Services Division personnel came to Juneau to meet with the CFEC leadership as well as the state of Alaska in

☼ PO Box 23081, Juneau, AK 99802 ☼ 907-463-5030 ☼ Fax: 907-463-5083 ☼

order to prepare a bill that would work as the basic "closing document" on our loan.

SB 255 is exactly phrased and intently written with at least a dozen basic drafts prior to introduction. There is no fiscal note and should there be any concern to processors about extra paperwork, the processor can apply for compensation from the assessment. We do not believe at this time that the financial burden of adding a box to the fish ticket will cause any undue financial concern as this is already done in many Boroughs (such as Bristol Bay) and by enhancement taxation as well in the same section of the fish ticket.

This bill is the vehicle that specifies the route and parameters of this assessment and is necessary because this is not only Alaska's first, but it is likely that this is the first state water's fishery that has ever received a NMFS restructuring loan for fleet consolidation. According to NMFS, this bill cannot be changed in any fashion whatsoever - or our $20 million loan for Alaskan fishermen will fail.

When Southeast Alaska was rolled into the state's limited entry program in 1974, there was a **larger than average number of non-resident licenses due to the close proximity to Puget Sound and the Boldt Decision**, while not made until that very year, as well as the first shot at limited entry in 1969, made for a larger fleet than existed in the decade(s) prior to limited entry.

One other compelling reason seiners have sought out fleet consolidation is due to the amount of historical and traditional fishing area currently not available to access by the seine fleet. The Icy Strait corridor of about 100 miles of fishing shoreline was closed nearly simultaneously to the initiation of limited entry. Then in 1985, the 75 mile shoreline of Noyes Island and Dall Island outside of Prince of Wales Island was closed for most of the July fishery and has remained mostly closed by Treaty since then during the month of July. The fleet was bottled up in long line-ups (*boats idling their engines while waiting for hours for the opportunity to set the net and catch fish*) for much of the season save for the peak of some of our better runs. Certainly fuel savings and energy implications were there, but this was not our impetus.

Consequent to the major price crash in 1991 (12 cents per pound for pinks) after the introduction of Russian pink salmon into the Western world, another major price crash in 1996 (7-8 cents) and then again in 2002 (7-8 cents), SEAS decided to get rolling on a major fleet consolidation program. By 2003 and 2004 the fleet had been cut to around 225 boats from 360-375 during the prior decade. Most of these boats and crews no longer fishing were non-residents. **The fleet is a stable 225 average now with as little as 205 permits operated on poorer seasons while 240 is our high in recent years.**

With over 80% of the permits bought back in the first round having been owned by non-residents, the fleet has become even more 'Alaskan'. This trend is expected to continue in the next round, thereby resulting in strong and financially viable fishing families within Alaska.

SB 255 is an important bill because it is the final hurdle to clear in order to facilitate the NMFS Federal loan program so that it will work with Alaskan limited entry fisheries. While it is not a big bill, it is a huge bill for our members and is a necessary step towards stabilizing, modernizing, and maintaining our fishery here in Southeast Alaska.

Sincerely

Dan Castle
SEAS President

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Southeast Alaska Fishermen's Alliance
9369 North Douglas Highway
Juneau, AK 99801
Phone 907-586-6652
Fax 907-523-1168 Website: http://www.seafa.org E-mail: seafa@gci.net

March 8, 2010

Senate Resources
Senator Lesil McGuire, Chair
Alaska State Legislature: State Capitol, Room 205
Juneau, AK 99801

Senator McGuire, Chair and Committee Members

RE: Support SB 255

Southeast Alaska Fishermen's Alliance (SEAFA) supports HB 365/SB 255. This is legislation that simply allows NMFS to confirm that all the assessment collected from the fishermen by the Processors for a buyback program using federal loan programs has been collected and paid to the federal government and allows for enforcement against those who have not paid.

This legislation would not allow NMFS to collect information for programs that don't have a federal buy-back assessment. This legislation would allow this tool to be used in the future if another buyback with federal funds occurs. The other thing we would point out is that any buyback program has been created occurred by a vote of the fleet.

We support the legislation as a housekeeping measure to correct an oversight to the legislation previously passed to set up associations to conduct buy-back programs.

Southeast Alaska Fishermen's Alliance is a multi-gear/multi-species non-profit membership organization representing our members involved in the salmon, crab, shrimp and longline fisheries of Southeast Alaska. We represent salmon gillnet, seine and troll fishermen.

Sincerely,

Kathy Hansen, Executive Director

STATE OF ALASKA

COMMERCIAL FISHERIES ENTRY COMMISSION

SEAN PARNELL, GOVERNOR

8800 GLACIER HWY, #109
P.O. Box 110302
JUNEAU, AK 99811-0302

(907) 789-6150 Licensing Calls
(907) 789-6160 Other Business
(907) 789-6170 FAX
(907) 789-6180 BBS

INTERNET: www.cfec.state.ak.us

February 24, 2010

Senator Donald Olson
Alaska State Senate
State Capitol, Room 508
Juneau, AK 99801-1182

Re: SB 255, Fish Processor Fees, Licenses, and Records

Dear Senator Olson:

Thank you for the opportunity to respond to your inquiry regarding SB 255, Fish Processor Fees, Licenses, and Records.

SB 255 is a continuation of a program established by the Alaska State Legislature in 2002 allowing Salmon Fishery Associations (AS 16.40.250) formed by fishermen for the purpose of promoting fleet consolidation and capacity reduction. That legislation (HB 286-2002) encourages the Commissioner of the Alaska Department of Fish and Game to assist fishermen in the formation of these associations among the various Alaska salmon fisheries. In 2006, the Alaska State Legislature modified AS 16.43.330 through HB 484 to allow reimbursement to Salmon Fishery Associations in the unlikely event the State of Alaska, through the Commercial Fisheries Entry Commission, issued more limited entry permits into a salmon fishery that has an outstanding loan for fleet consolidation and capacity reduction.

SB 255 is simply an accounting procedure modification to make the program operate more efficiently and allow the lender to monitor the capacity reduction loan repayment. It does not change the program established in 2002 in any way.

The Southeast Revitalization Association (SRA), the fishermen's association formed by the SE Alaska Salmon Purse Seine fleet under the 2002 legislation, is close to receiving federal funding in the form of a loan through the National Marine Fisheries Service (NMFS) to carry out the purposes of the Salmon Fishery Association legislation. NMFS will provide a long term loan to SRA to be paid back by Southeast salmon seine fishermen from future salmon harvests. NMFS requires a mechanism to be able to monitor the loan payback. SB 255 provides that mechanism.

SB 255 will allow NMFS access to confidential state records and reports through an exception to AS 16. 05. 815 (a) (Confidential nature of certain reports and records). This is not an unusual request since a dozen other exceptions have been granted in statute, including NMFS but for purposes of fishery management and enforcement. This legislation is necessary since it is the State of Alaska that maintains the fish ticket harvest data and fish processor annual reports. This exception will provide

assurance to NMFS that they are receiving the proper repayment of their loan. Similarly a requirement is added to AS 43.75.020(a), the Alaska Fisheries Business License, that the applicant in addition to other conditions, agrees to pay the fee assessment collected from the Southeast seine fleet to NMFS.

The original legislation in 2002 was supported by the Alaska fishing community and had overwhelming legislative support in both the House and Senate, as did the 2006 modification. This support stemmed from the fact that the program was initiated by fishermen for fishermen, it is a voluntary program (no one will be forced to sell their limited entry permit), the program requires a majority vote of all the fishermen to implement the loan agreement, the fishery association will have access to federal funds through the Magnuson-Stevens Fishery Conservation and Management Act, there is little State expense or administration, the State maintains all its responsibility to manage its fisheries in the future should conservation or economic conditions change, and the program has had a history of legislative support.

We have been pleased to work with the SRA on the establishment of their association and the success of their pilot program in 2008 which resulted in the buyback of 35 limited entry permits in the SE Alaska salmon purse seine fishery.

With the passage of SB 255 we look forward to a continuous working relationship with SRA and the Alaska fishing community.

Thank you for the opportunity to provide these comments.

Sincerely,

Frank Homan, Chairman
Peter Froehlich, Commissioner
Bruce Twomley, Commissioner

2/2010

CAPACITY REDUCTION PROGRAM FOR THE SOUTHEAST ALASKA PURSE SEINE SALMON FISHERY

By Southeast Revitalization Association

SUMMARY: State and federal legislation authorized this fishing capacity reduction program for the Southeast Alaska purse seine salmon fishery. The program will reduce fishing capacity by permanently relinquishing permits, promote economic efficiency, improve flexibility in the conservation and management of the fishery and obtain the maximum reduction in permits at the least cost.

The program is voluntary and only permit holders of the fishery are eligible to participate. Participating permit holders must abide by the terms and conditions of the program set forth in the Bid Agreement and, if their bid is accepted, a Relinquishment Contract ("Contract") with the Southeast Revitalization Association (SRA) and the Alaska Commercial Fisheries Entry Commission (CFEC). The aggregate of all Bid Agreements and Contracts signed by permit holders whose bids are accepted, will together with supporting rationale, constitute the Reduction Plan ("Plan") to be submitted to the Secretary of Commerce ("Secretary") for approval. Permit holders participating in the program will receive up to $23.5 million in exchange for relinquishing permits.

To obtain the maximum capacity reduction at the least cost, SRA will use reverse auction procedures to rank and determine which bids to accept. If bids are accepted, the SRA will accept the bid with the lowest dollar amount and successively accept each additional bid with the next lowest dollar amount until it either elects not to accept a bid, there are no more bids to accept, or acceptance of the last bid with the next lowest dollar amount would cause the total cost to exceed $23.5 million. The SRA may conduct one or more separate auctions before determining whether the number of bids it elects to accept is sufficient to submit a Plan.

Following SRA submission of the Plan and approval by the Secretary, National Marine Fisheries Service ("NMFS") will conduct a referendum to determine the willingness of the permit holders to repay a fishing capacity reduction loan ("loan") to finance the Plan. A majority vote of all permit holders in favor would bind all permit holders. NMFS will issue a $23.5 million, 40-year loan to be repaid by those permit holders who continue operations in the fishery after implementation of the Plan.

In the event the aggregate amount of all accepted bids is less than $23.5 million, the remaining loan funds would be available for reduction payments as part of a later SRA submitted Plan, subject to approval by the Secretary, and after a successful referendum by the permit holders.

1. **Statutory Background**: The authority for the SRA to conduct the program is Alaska Statute 16.40.250. The program was established under the Consolidated Appropriations Act of 2005 (Act) authorizing the (NMFS) to establish up to a $50 million loan to finance the program and appropriated $500,000 for the cost of the loan. That law was subsequently amended by Section 121 of the Magnuson-Stevens (MSA) Reauthorization Act of 2006 (Public Law 109-447) reducing the loan amount to no more than $25 million and clarifying the respective roles of NMFS and SRA relative to development and implementation of the program. The sum of $235,000 was later appropriated for the cost of guaranteeing the loan amount. The authority for making the loan is sections 1111 and 1112 of the Merchant Marine Act, 1936. NMFS will implement the industry fee system to repay the loan under section 312(d)(2) of the MSA.

2. ***Purpose***. The program will reduce fishing capacity by permanently relinquishing permits, promote economic efficiencies, improve flexibility in the conservation and management off the fishery and obtain the maximum reduction in permits at the least cost by establishing reverse auction bidding procedures under the Plan.

3. ***Definitions.*** Unless otherwise defined, the following terms have the following meanings for the purpose of this program.

Acceptance means SRA acceptance of a bid.

Act means section 209 of Title II of Division B of Public Law 108-447 as amended by section 121 of Public Law 109-447.

Bid means a bidder's irrevocable offer under the Bid Agreement to relinquish a permit.

Bid Agreement means the form identifying the eligible bidder, procedures for the completion and submission of a bid; requirements upon acceptance of a bid and resulting relinquishment of the permit, and any other necessary implementation.

Bid Amount means the dollar amount of each bid by which SRA determines in what order to rank and potentially accept bids.

Final Plan means the aggregate of all Bid Agreements, Commercial Fisheries Entry Commission ("CFEC") documents, Relinquishment Contracts, and supporting documents and rationale; submitted to the Secretary for approval.

Conditional Notice means the CFEC form that any permit holder must sign and agree to abide upon submission of a Bid Agreement.

Conditional Relinquishment means the CFEC form that any permit holder agreeing to relinquish a permit must sign and agree to abide by upon SRA acceptance of the bid.

Fishery means the commercial taking of salmon with purse gear within the Southeast Alaska administrative area as defined under Title 5 Alaska Administrative Code Section 33.100.

Permit means a valid entry permit issued by CFEC to operate in the fishery.

Permit Holder means an individual at the time of bidding is the holder of record of a permit.

Relinquishment Contract means the contract that any permit holder agreeing to relinquish a permit pursuant to Alaska Statute (A.S. 16.43.150(i) must sign and agree to abide by upon acceptance of the bid, and before payment of the bid amount.

Secretary means the Secretary of Commerce or a designee.

Southeast Revitalization Association (SRA) is a qualified fishery association authorized to develop and implement this capacity reduction program under Alaska Statute 16.40.250 and federal law.

4. Eligibility and Application of permit holders

(a) Notification. A copy of the Bid Agreement, CFEC Conditional Notice and Conditional Relinquishment forms, and the Contract shall be mailed to each permit holder.

(b) Application. Any permit holder may apply to participate in the program, by submitting a fully completed and executed, Bid Agreement, including the necessary CFEC forms and the Contract.

5. **Withdrawal:** By submitting a completed and executed Bid Agreement, the person makes an irrevocable offer to relinquish a permit. No person, once having submitted the Bid Agreement, is entitled to withdraw or in any way amend the Bid Agreement.

6. Bid—(i) Binding agreement. A submitted Bid Agreement shall be an irrevocable offer to relinquish the permit for the bid amount, contingent on such offer being accepted by SRA. A bid that is submitted by the permit holder, but is not accepted by SRA, shall be deemed terminated and both the permit holder and SRA shall have no further obligation with respect to Bid Agreement.

> ***(ii)*** **Bid Content**. The submitted Bid Agreement shall include the following information: name, address, telephone number and (if available) electronic mail address of the submitting permit holder; permit number and whether any authorized party holds a security interest in the permit.

(iii) ***Bid submission.*** Any permit holder may submit a Bid Agreement. If a permit holder holds a second permit, such permit holder may, but is not required to submit a Bid Agreement for such second permit. Each application must be submitted to the SRA, c/o Elgee, Rehfeld, Mertz, LLC, Professional Plaza Building B, 9309 Glacier Highway, Suite B-200, Juneau, AK 99801.

(iv) **Validity of Bid.** SRA in consultation with CFEC shall examine each Bid Agreement for consistency and the necessary elements. SRA shall notify the permit holder if the Bid Agreement is non-conforming. In such cases, the permit holder may submit a revised, conforming Bid Agreement if within the prescribed period.

7. Warranty. By submitting a Bid Agreement, the permit holder warrants and represents that the permit holder has read and understands the terms of the Bid Agreement, Contract, CFEC forms, and has had the opportunity to seek independent legal counsel regarding such documents and the consequences of submitting the Bid Agreement.

8. Bids—(i) Ranking. *The* SRA shall rank bids by using a reverse auction in which the SRA ranks the bid with the lowest dollar amount and successively ranks each additional bid with the next lowest dollar amount until there are no more bids or the ranking of the next lowest bid would cause the total program cost to exceed $23.5 million.

(ii) Acceptance and Post-acceptance transfers. Upon expiration of the bid closing date the SRA will determine whether the number of ranked bids it is willing to accept is sufficient to achieve a substantive reduction in harvest capacity and increased economic efficiencies for those permit holders remaining in the fishery. If the SRA makes such a determination and thereafter accepts bids, SRA will send *CFEC* the Conditional Notice form restricting transfer of the permit to any person whose bid was accepted.

9. Submission of Plan, including repayment. The aggregate of all Bid Agreements, the CFEC forms and Contracts will, together with supporting documents and rationale, constitute the Plan to be submitted to NMFS for final approval on behalf of the Secretary. The Plan shall identify as the proposed capacity reduction, the permits identified in the Bid Agreements.

10. **Selection of fishing capacity to be removed by Plan.** The fishing capacity removed under the Plan will be the permits voluntarily offered by permit holders and accepted by SRA up to an aggregate amount of $23.5 million.

11. Approval of the Plan. The criteria for NMFS, on behalf of the Secretary, to approve any Plan must include a finding by the Administrator of NMFS that the Plan is consistent with the Act and MSA, and that it will result in the maximum reduction in permits and fishing capacity at the least cost and in the minimum amount of time.

12. Referendum. NMFS will conduct a referendum to determine the permit holder's willingness to repay a fishing capacity reduction loan to purchase the permits identified in the Plan. A successful referendum by a majority of the permit holders will bind all parties and complete the reduction process.

13. Reduction Payments. Within 60 days of a successful referendum and CFEC receipt of the Contract, SRA through the Secretary will tender the accepted bid amount.

14. Later Pan The SRA may accept a total number of bids in an aggregate amount less than $23.5 million. If this occurs, any remaining funds would be available for reduction payments as part of a later Plan.

15. Reduction Loan —(i) Term. As authorized by the Act, the capacity Reduction Loan ("Loan") shall be amortized over a forty (40) year term. The Loan's original principal amount may not exceed $23.5 million, but may be less if the ultimate reduction cost is less. NMFS has promulgated framework regulations generally applicable to all fishing capacity reduction programs and the Loan shall be subject to the provisions of these regulations.

16. Loan Repayment Permit holders operating in the fishery shall be obligated to pay the fee in accordance with the regulations. Permit holders acknowledge that in the event payments made under the Plan are insufficient to pay the actual Loan, the term of the repayment shall be extended by NMFS until the Loan is paid in full.

> **(i) Interest.** The Loan's interest rate will be the U.S. Treasury's cost of borrowing equivalent maturity funds plus 2 percent. NMFS will determine the Loan's initial interest rate when NMFS borrows from the U.S. Treasury the funds with which to disburse the reduction payments. The initial interest rate will change to a final interest rate at the end of the Federal fiscal year in which NMFS borrows the money from the U.S. Treasury. The final interest rate will be 2 percent plus a weighted average, throughout the fiscal year, of the U.S. Treasury's cost of borrowing equivalent maturity funds. The final interest rate will be fixed, and will not vary over the remainder of the reduction loan's 40-year term. The Loan will be subject to a level debt amortization. There is no prepayment penalty.

(ii) Fees. The Loan shall be repaid by fees collected from the remaining permit holders operating in the fishery.

(A) The fee will be expressed as a percentage of the ex-vessel price of all salmon harvested and landed in the fishery. For example, if the fee is 3% and the ex-vessel weighted average round price is $0.50, then the fee per pound of salmon will equal to $0.015 per pound.

(B) Fees must be assessed and collected on all salmon harvested in the fishery. Although the fee could be up to 3 percent of the ex-vessel price of all post-reduction landings, the fee will be less than 3 percent if NMFS projects that a lesser rate can amortize the Loan over the 40-year term.

(C) It is possible that the fishery may not open during some years. Consequently, the fishery will not produce fee revenue with which to service the Loan during these years. However, interest will continue to accrue on the principal balance. When this happens, if the fee is not already at the maximum 3 percent, NMFS will increase the fee to the maximum 3 percent, apply all subsequent fee revenue first to the payment of accrued interest, and continue the maximum fee rates until the principal and interest payments become current. Once all principal and interest payments are current, NMFS will make a determination about adjusting the fee rate.

(D) Collection. The permit holder or the person who purchases and processes the salmon landed in the fishery shall be responsible for collecting and submitting the fees to NMFS.

(E) Record keeping and Reporting. The permit holder or the person who purchases and processes the salmon landed in the fishery shall be responsible for compliance with the applicable record keeping and reporting requirements.

17. Enforcement/Specific Performance. The parties to the Contract have agreed that the opportunity to develop and submit a capacity reduction program for the fishery under the terms of the Act is both unique and finite. The failure of a permit holder whose bid was accepted to perform the obligations under the Contract will result in irreparable damage to the SRA and the permit holders upon submittal of the Plan to the Secretary for approval. Accordingly, the parties to the Contract expressly acknowledge that money damages are an inadequate means of redress and agree that upon failure of the permit holder to fulfill his obligations under the Contract that specific performance of those obligations may be obtained by suit in equity brought by the SRA in any court of competent jurisdiction without obligation to arbitrate such action.

8/2008

RESULTS OF PILOT PROJECT

SOUTHEAST REVITALIZATION ASSOCIATION

FLEET CONSOLIDATION PROGRAM FOR THE SOUTHEAST ALASKA PURSE SEINE SALMON FISHERY

SUMMARY:

The Southeast Revitalization Association ("SRA") a qualified fishery association under Alaska state law, established and implemented a fleet consolidation program for the Southeast Alaska purse seine salmon fishery.[1] The program utilized a reverse auction system to achieve the greatest consolidation or permit reduction with the available $2,872,746 in federal grant funding[2]. The program allowed for the purchase and relinquishment of 35 permits or 8.4% of all permits at an average cost of $82,020.

STATUTORY AND REGULATORY AUTHORITY:

The statutory authority for SRA to conduct the program is Alaska Statute ("AS") 16.40.250. The program was financed through Pacific Coast Salmon Recovery Fund (PCSRF) dollars designated to SRA under the Consolidated Appropriations Act of 2006 (P.L. 109-108) and related Commerce, Justice, State Conference Report. The authority for relinquishing limited entry fishing permits is AS 16.43.150(1).

RATIONALE:

The Alaska Legislature enacted legislation in 1973 establishing a system for limiting the number of individuals participating in commercial salmon fisheries. The Commercial Fisheries Entry Commission ("CFEC") was also created to implement and administer the "limited entry" system. CFEC determined that 415 was the optimal number of permits (and vessels) for the fishery. For the period 1992-2001 an average of 364 or almost 90% of the permits were fished each

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[1] A potential second and separate consolidation program has also been enacted for the fishery. Under this program permit holders would receive up to a $23.5 million in exchange for relinquishing permits. Following submission of a consolidation plan by SRA and approval by the Secretary of Commerce, the National Marine Fisheries Service (NMFS) would conduct a referendum to determine the willingness of permit holders remaining in the fishery to repay the loan to effect the second program. A majority vote of all permit holders in favor would bind all remaining permit holders to repay the loan. NMFS would issue a 40-year loan and establish a fee system for repayment of the loan not to exceed three percent (3.0%) of the ex-vessel of all salmon harvested in the fishery.

[2] Initially the SRA was scheduled to receive an additional $1 million in PCSRF grant funding. Unfortunately the State of Alaska and ADF&G reallocated the dollars to Southeast salmon processors to promote canned pink salmon sales.

year. By 2003 participation had fallen to only 210 and in 2007 active participation was no greater than 230.

The dramatic decline was not attributable to resource depletion or excessive vessel capacity, but rather to the dramatic reduction in ex-vessel salmon prices caused by competition from imported farm salmon[3]. Historically, 83% of the Southeast seine harvest is pink salmon. In 1988 the ex-vessel price of pink salmon reached $.88 per pound and then dropped precipitously. For the period 1992-2001 the average price fell to only $.19 per pound. The 2002 price plummeted to $.10 and in 2003 to a mere $.08. Ex-vessel prices rebounded slightly in 2007, but are still far below levels necessary to ensure an economically viable fishery.

The fall in salmon prices, higher operating costs and related consolidation in the processing sector, triggered a call for commensurate consolidation in the Southeast seine fleet. This was a difficult decision. However, it was almost universally recognized that if everyone stays in the fishery, no one will be profitable and the fishery will continue to teeter on economic collapse. Responding to this need, the Legislature under AS 16.40.250 authorized the formation of qualified salmon fishery associations for the purpose of reducing or consolidating a salmon fishery for which CFEC has issued limited entry permits.

GOALS:

The program sought to 1) reduce fishing capacity by permanently revoking a substantial number of permits, 2) promote economic efficiency, 3) improve flexibility in the conservation and management of the fishery and 4) obtain the maximum reduction in permits at the least cost.

DESIGN:

The program was voluntary and all permit holders of the fishery were eligible to participate. To maximize consolidation, the SRA designed a consolidation plan utilizing reverse auction bidding procedures. The SRA then consulted with CFEC to establish program requirements relating to notification, bidding procedures, method of payment and administration. The SRA mailed the consolidation plan to all permit holders on April 7, 2008 and published notice of the plan in various Southeast newspapers.

[3] In 1992 imports of farmed salmon began to seriously impact the U.S. market and ex-vessel prices paid Alaska salmon fishermen. Encouraged by U.S. free trade policy, these imports ultimately flooded the U.S. and then Japanese markets. Today farmed salmon accounts for over 70% of the worldwide market while Alaska salmon accounts for less than 15% of the market.

ADMINISTRATION:

The program was administered by the SRA Manager and Board of Directors. The SRA also utilized the services of the Southeast Alaska Seiners Association ("SEAS") and the Purse Seine Vessel Owners Association ("PSVOA"). Program administration was conducted consistent with the Statement of Work filed with the Alaska Department of Fish & Game ("ADF&G") as part of the PCSRF grant process. The SRA retained the CPA firm of Elgee, Rehfeld, Mertz, LLC, in Juneau, Alaska to receive and log bid applications. The SRA Manager processed the accepted bids and handled the logistics of permit purchasers and ultimate relinquishment of permits by CFEC. Decisions regarding the maximum purchase price and acceptance of a bid were made by the SRA Board. Legal consultation was provided by PSVOA and CFEC.

ADMINISTRATIVE COSTS:

The ADF&G Statement of Work proposed that the SRA receive $42,500 to administer the program. [4] However, upon the withdrawal of bids and subsequent acceptance of higher bids the SRA elected to forego all administrative fees and expenses to maximize the number of permits purchased.

IMPLEMENTATION:

Licenses Available:

The number of permits eligible for 2008 renewal was 415.

Number of Bids Submitted and Accepted:

82 bids were submitted for the cumulative amount of $9,642,994. Individual bid amounts ranged from $44,000 to $700,000. The SRA Board initially accepted 35 bids for a cumulative amount of $2,798,115. Certain accepted bidders later withdrew their bid and upon withdrawal the SRA Board selected the next highest bid amount. The SRA ultimately purchased 35 permits, but for the increased cumulative amount of $2,870,355[5]. The accepted bid amounts ranged from $55,000 to $94,950.

Number of Permits Relinquished:

The program purchased a total of 35 permits or 8.4 % of all permits. These permits were then relinquished and revoked by CFEC pursuant to the terms and conditions of a "Relinquishment Contract" executed by the accepted bidders.

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[4] ADF&G received $86,183 to administer its portion of the program.

[5] The PCSRF is a reimbursement only grant program. That is, SRA was first required to expend funds before seeking reimbursement. To initiate the program, the SRA borrowed $1 4 million from the Seine Vessels' Reserve, a for profit affiliate of PSVOA. This loan was made without interest and was subsequently repaid.

Identification of Accepted Bidders:
An alphabetical list of the 35 bidders, including the permit number and state of residency follows:

Last	First	Residency[6]	Permit #
Ancich, Jr.	Peter	CA	S01A57650E
Anderson	Norman	WA	S01A55309W
Babich	Randall	WA	S01A57232I
Bozanich	Tony	WA	S01A58439
Burdett-Gross	Jared	AK	S01A56465W
Buttle	Teddy	WA	S01A61889
Cresswell	Bruce	WA	S01A55420U
Dontos	Larry	WA	S01A56486K
Engblom	Larry	WA	S01A56841Q
Gilbert	Daniel	WA	S01A58994O
Hanson	Audrey	WA	S01A58949M
Hisaw	Edmond	WA	S01A60531E
Hooper	George	WA	S01A57908F
Jacobs	Mary	AK	S01A60278P
Janovich	Doris	WA	S01A61603C
Kjarstad	Arnie	WA	587693
Krigbaum	Gilbert L.	WA	S01A56694P
Kyle	James	WA	S01A5922OX
Lovrovich	Pauline	WA	S01A57227W
Lovrovich	Tom	WA	S01A58181U
Manos	William	CA	S01A61626A
Maricich	Roy	WA	S01A55069I
McVicker	Lee Ann	AK	S01A59504X
Meiners Jr.	Herman M.	AK	S01A639855
Menten	Erik	WA	S01A57486J
Quarterman	Robert	WA	S01A58864M
Ranniger	Royce	AK	S01A58341V
Riggs	Darrell	AK	S01A58413V
Schonberg	Paul	WA	S01A61461M
Stager	Frederick	AK	S01A56039N
Stroup	Rex	WA	S01A65976L
Vitalich	Janet	WA	S01A61538Z
Wartman	Sharon	WA	S01A55040
Wells	Douglas	WA	S01A55235M
Weynands	Mark	WA	S01A57229H

[6] Eighty percent (80%) of the accepted bidders (and permits relinquished) were held by non-Alaskan residents.

REVENUE & EXPENDITURES

The following is a summary of SRA program revenue and expenditures as of August 1, 2008:

SRA BALANCE SHEET

REVENUE		
PCSRF GRANT FUNDS	$	2,872,746
PSVOS/SEAS LOAN[7]		11,714
TOTAL		**2,884,460**
EXPENDITURES		
PERMIT PURCHASES	$	2,870,355
ELGEE REHFELD MERTZ		3,447
PUBLICATIONS[8]		1,789
SMS, INC[9]		3,423
EXPRESS MAIL		630
TRAVEL		3,966
PHONE		485
BANK FEES		365
TOTAL		**2,884,460**

[7] PSVOA and SEAS jointly loaned the SRA this amount to allow the entire grant to be applied toward the purchase of permits.

[8] The SRA published notice of the program in the Juneau Empire, Sitka Sentinel, Petersburg Pilot, Wrangell Sentinel and Ketchikan Daily.

[9] SRA contracted with SMS, Inc, a for profit affiliate of PSVOA, to coordinate mailings to permit holders and payments to accepted bidders.

(3) rearing and sale of ornamental finfish for aquariums or ornamental ponds provided that the fish are not reared in or released into water of the state.

(c) In this section "ornamental finfish" means fish commonly known as "tropical fish," "aquarium fish," or "goldfish," that are imported, cultured, or sold in the state customarily for viewing in aquaria or for raising in artificial systems, and not customarily used for sport fishing or human consumption purposes. (§ 2 ch 91 SLA 1990)

Cross references. — For legislative findings in connection with the enactment of this section, see § 1, ch. 91, SLA 1990 in the Temporary and Special Acts.

Article 4. Fishery Associations.

Section
240. Regional dive fishery development associations
250. Salmon fishery associations

Sec. 16.40.240. Regional dive fishery development associations. (a) The commissioner shall assist in and encourage the formation of qualified regional dive fishery development associations for the purpose of developing dive fisheries in administrative areas of the state in which dive fisheries exist. A regional dive fishery development association is qualified if the commissioner determines that the regional association

(1) is incorporated as a nonprofit corporation under AS 10.20;

(2) represents commercial fishermen who participate in each dive fishery in the region; and

(3) possesses a board of directors that

(A) is representative of commercial dive fishermen who fish in each of the significant commercial dive fishing areas in the administrative area;

(B) has a member who is representative of fish processors who process dive fishery resources in the administrative area; and

(C) has a member who is representative of municipalities in the administrative area.

(b) In this section, "administrative area" has the meaning given in AS 43.76.210. (§ 1 ch 90 SLA 1997)

Sec. 16.40.250. Salmon fishery associations. The commissioner may assist in and encourage the formation of qualified salmon fishery associations for the purpose of promoting the consolidation of the fishing fleet in a salmon fishery for which the Alaska Commercial Fisheries Entry Commission has issued commercial fishing entry permits under AS 16.43. A salmon fishery association is qualified if the commissioner determines that the regional association

(1) is incorporated as a nonprofit corporation under AS 10.20;

(2) is comprised of interim-use permit and entry permit holders in the salmon fishery for which the association is established; and

(3) has a board of directors that is comprised of interim-use permit and entry permit holders in the salmon fishery. (§ 1 ch 134 SLA 2002)

Cross references. — For reimbursement of expenses of fleet reduction programs, see AS 16.43.330(c).

Article 5. Sport Fishing Services.

Section
260. Sport fishing operator license
270. Sport fishing guide license
280. Reports
290. Penalty
299. Definitions

ffective dates. — Sectio
ics this article effective J

Sec. 16.40.260. Spo
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shermen;
(2) presents proof sat
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he person and the pers
east $100,000 for each
(3) pays the license fe
(4) satisfies all addi
Fisheries.
(b) A person may not
port fishing operator lic
this section.
(c) A person who holds
port fishing guide serv
current sport fishing gui
(d) A person who holds
sport fishing guide servic
port fishing guide licens
(e) A person who holds
of a violation of AS 16.05 -
including regulations rel
guide who is employed by
(§ 6 ch 70 SLA 2004)

Delayed repeal. — Under §
this section is repealed January

Sec. 16.40.270. Sport
annual sport fishing guide
(1) is a citizen of the U
(2) is certified in first a
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Guard if the person opera
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guide provides fishing gui
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State of Alaska
Commercial Fisheries Entry Commission
Statistics on Fishing Activity for Permits in the Southeast Salmon Purse Seine Fishery (S 01A)
1999-2008 by Resident Type

February 11, 2010

Fishery Description	Year	Permit Residency	Permits Issued		Permits Fished - Not Fished			
			Number Issued	% by Residency	Number Fished	% Fished	Number Not Fished	% Not Fished
S 01A Salmon, Purse Seine, Southeast		Resident	188	49.5	113	53.3	75	44.6
		Nonresident	192	50.5	99	46.7	93	55.4
	2008	Year Totals	380	100.0	212	100.0	168	100.0
		Resident	198	47.7	121	51.1	77	43.3
		Nonresident	217	52.3	116	48.9	101	56.7
	2007	Year Totals	415	100.0	237	100.0	178	100.0
		Resident	198	47.8	125	54.3	73	39.7
		Nonresident	216	52.2	105	45.7	111	60.3
	2006	Year Totals	414	100.0	230	100.0	184	100.0
		Resident	193	46.5	119	51.3	74	40.4
		Nonresident	222	53.5	113	48.7	109	59.6
	2005	Year Totals	415	100.0	232	100.0	183	100.0
		Resident	185	44.7	109	52.2	76	37.1
		Nonresident	229	55.3	100	47.8	129	62.9
	2004	Year Totals	414	100.0	209	100.0	205	100.0
		Resident	184	44.2	115	48.9	69	38.1
		Nonresident	232	55.8	120	51.1	112	61.9
	2003	Year Totals	416	100.0	235	100.0	181	100.0
		Resident	187	45.1	128	46.9	59	41.5
		Nonresident	228	54.9	145	53.1	83	58.5
	2002	Year Totals	415	100.0	273	100.0	142	100.0
		Resident	188	45.3	148	42.9	40	57.1
		Nonresident	227	54.7	197	57.1	30	42.9
	2001	Year Totals	415	100.0	345	100.0	70	100.0
		Resident	189	45.4	161	45.2	28	46.7
		Nonresident	227	54.6	195	54.8	32	53.3
	2000	Year Totals	416	100.0	356	100.0	60	100.0
		Resident	191	45.9	165	46.0	26	45.6
		Nonresident	225	54.1	194	54.0	31	54.4
	1999	Year Totals	416	100.0	359	100.0	57	100.0

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Commercial Fisheries Entry Commission
Basic Information Table
S 01A SALMON, PURSE SEINE, SOUTHEAST

Year		Residency	Permanent Permits Renewed	Interim Permits Issued	Total Permits Issued/ Renewed	Total Permits Fished	Total Pounds	Average Pounds	Total Gross Earnings	Average Gross Earnings	Average Permit Price
2008	*	Resident	187	0	187	113	41,115,902	363,858	$21,058,568	$186,359	
		Nonresident	193	0	193	99	40,262,245	406,689	$19,927,471	$201,288	
		Year Totals	380	0	380	212	81,378,147	383,859	$40,986,039	$193,330	$67,800
2007		Resident	198	0	198	121	95,024,646	785,328	$24,632,323	$203,573	
		Nonresident	217	0	217	116	90,244,723	777,972	$25,013,727	$215,636	
		Year Totals	415	0	415	237	185,269,369	781,727	$49,646,050	$209,477	$59,700
2006		Resident	198	0	198	125	53,037,973	424,304	$14,582,833	$116,663	
		Nonresident	216	0	216	105	43,038,415	409,890	$12,953,195	$123,364	
		Year Totals	414	0	414	230	96,076,388	417,723	$27,536,028	$119,722	$52,900
2005		Resident	193	0	193	119	121,367,012	1019891	$18,534,431	$155,752	
		Nonresident	222	0	222	113	105,326,313	932,091	$17,539,218	$155,214	
		Year Totals	415	0	415	232	226,693,325	977,126	$36,073,649	$155,490	$41,800
2004		Resident	185	0	185	109	109,121,597	1001116	$16,277,145	$149,332	
		Nonresident	229	0	229	100	97,968,963	979,690	$15,395,307	$153,953	
		Year Totals	414	0	414	209	207,090,560	990,864	$31,672,452	$151,543	$32,100
2003		Resident	184	0	184	115	107,652,418	936,108	$13,197,585	$114,762	
		Nonresident	231	1	232	120	104,489,485	870,746	$13,508,155	$112,568	
		Year Totals	415	1	416	235	212,141,903	902,732	$26,705,739	$113,641	$32,800
2002		Resident	187	0	187	128	78,142,583	610,489	$9,276,587	$72,473	
		Nonresident	227	1	228	145	93,196,668	642,736	$10,967,583	$75,639	
		Year Totals	414	1	415	273	171,339,251	627,616	$20,244,170	$74,154	$22,800
2001		Resident	188	0	188	148	111,933,441	756,307	$21,623,106	$146,102	
		Nonresident	226	1	227	197	139,215,120	706,676	$27,119,695	$137,663	
		Year Totals	414	1	415	345	251,148,561	727,967	$48,742,800	$141,283	$34,700
2000		Resident	189	0	189	161	64,590,834	401,185	$17,173,538	$106,668	
		Nonresident	226	1	227	195	76,721,153	393,442	$20,887,226	$107,114	
		Year Totals	415	1	416	356	141,311,987	396,944	$38,060,764	$106,912	$39,300
1999		Resident	191	0	191	165	132,746,677	804,525	$25,130,026	$152,303	
		Nonresident	224	1	225	194	163,070,469	840,569	$31,272,063	$161,196	
		Year Totals	415	1	416	359	295,817,146	824,003	$56,402,089	$157,109	$40,400
1998		Resident	189	0	189	163	97,935,311	600,830	$19,213,605	$117,875	
		Nonresident	226	1	227	214	123,567,242	577,417	$26,296,141	$122,879	
		Year Totals	415	1	416	377	221,502,553	587,540	$45,509,746	$120,716	$49,500
1997		Resident	188	0	188	160	78,644,528	491,528	$18,773,766	$117,336	
		Nonresident	227	1	228	191	78,917,546	413,181	$22,040,231	$115,394	
		Year Totals	415	1	416	351	157,562,074	448,895	$40,813,997	$116,279	$50,000
1996		Resident	183	0	183	154	115,404,055	749,377	$16,994,911	$110,357	
		Nonresident	233	1	234	203	163,201,719	803,949	$25,818,543	$127,185	
		Year Totals	416	1	417	357	278,605,774	780,408	$42,813,455	$119,926	$61,200
1995		Resident	182	0	182	169	79,102,923	468,065	$22,438,129	$132,770	
		Nonresident	235	1	236	204	118,879,852	582,744	$33,368,683	$163,572	
		Year Totals	417	1	418	373	197,982,775	530,785	$55,806,812	$149,616	$75,900
1994		Resident	180	0	180	168	94,774,661	564,135	$25,321,902	$150,726	
		Nonresident	237	1	238	222	122,538,557	551,975	$35,842,665	$161,453	

WWWBITP-A State of Alaska 2010-01-14
Commercial Fisheries Entry Commission
Basic Information Table
S 01A SALMON, PURSE SEINE, SOUTHEAST

Year		Residency	Permanent Permits Renewed	Interim Permits Issued	Total Permits Issued/ Renewed	Total Permits Fished	Total Pounds	Average Pounds	Total Gross Earnings	Average Gross Earnings	Average Permit Price
		Year Totals	417	1	418	390	217,313,218	557,213	$61,164,567	$156,832	$73,600
1993		Resident	178	0	178	167	85,239,895	510,419	$21,806,922	$130,580	
		Nonresident	239	2	241	215	118,444,777	550,906	$31,087,396	$144,593	
		Year Totals	417	2	419	382	203,684,672	533,206	$52,894,318	$138,467	$79,600
1992		Resident	181	1	182	158	59,626,323	377,382	$21,785,271	$137,881	
		Nonresident	236	2	238	196	74,440,329	379,798	$29,269,611	$149,335	
		Year Totals	417	3	420	354	134,066,652	378,719	$51,054,882	$144,223	$65,000
1991		Resident	181	1	182	169	78,326,334	463,469	$15,171,332	$89,771	
		Nonresident	236	2	238	214	104,975,063	490,538	$20,899,772	$97,662	
		Year Totals	417	3	420	383	183,301,397	478,594	$36,071,105	$94,180	$92,700
1990		Resident	183	1	184	164	45,178,677	275,480	$18,582,464	$113,308	
		Nonresident	234	2	236	196	61,548,061	314,021	$26,239,039	$133,873	
		Year Totals	417	3	420	360	106,726,738	296,463	$44,821,503	$124,504	$110,563
1989		Resident	182	1	183	168	83,438,346	496,657	$37,818,947	$225,113	
		Nonresident	234	3	237	197	115,360,380	585,586	$53,422,114	$271,178	
		Year Totals	416	4	420	365	198,798,726	544,654	$91,241,060	$249,976	$79,267
1988		Resident	184	1	185	173	22,379,852	129,363	$23,603,598	$136,437	
		Nonresident	232	3	235	221	26,522,341	120,011	$29,710,776	$134,438	
		Year Totals	416	4	420	394	48,902,193	124,117	$53,314,374	$135,316	$65,833
1987		Resident	182	1	183	165	18,158,827	110,053	$10,621,316	$64,372	
		Nonresident	234	3	237	216	20,925,297	96,876	$12,118,213	$56,103	
		Year Totals	416	4	420	381	39,084,124	102,583	$22,739,529	$59,684	$40,832
1986		Resident	184	1	185	158	68,638,440	434,421	$21,548,318	$136,382	
		Nonresident	232	3	235	210	102,408,682	487,660	$32,345,497	$154,026	
		Year Totals	416	4	420	368	171,047,122	464,802	$53,893,815	$146,451	$36,059
1985		Resident	184	1	185	165	80,530,322	488,063	$23,322,047	$141,346	
		Nonresident	232	3	235	203	93,375,832	459,979	$28,696,887	$141,364	
		Year Totals	416	4	420	368	173,906,154	472,571	$52,018,934	$141,356	$37,907
1984		Resident	188	2	190	168	44,554,659	265,206	$15,051,777	$89,594	
		Nonresident	229	4	233	215	59,775,376	278,025	$19,948,289	$92,783	
		Year Totals	417	6	423	383	104,330,035	272,402	$35,000,066	$91,384	$40,884
1983		Resident	187	1	188	157	49,761,844	316,954	$13,684,595	$87,163	
		Nonresident	229	4	233	181	69,210,905	382,381	$19,607,699	$108,330	
		Year Totals	416	5	421	338	118,972,749	351,990	$33,292,294	$98,498	$38,531
1982		Resident	186	2	188	159	41,063,358	258,260	$12,591,892	$79,194	
		Nonresident	228	5	233	211	46,112,250	218,541	$15,555,878	$73,725	
		Year Totals	414	7	421	370	87,175,608	235,610	$28,147,770	$76,075	$40,636
1981		Resident	194	1	195	175	38,819,364	221,825	$18,017,116	$102,955	
		Nonresident	220	3	223	189	40,267,166	213,054	$18,769,228	$99,308	
		Year Totals	414	4	418	364	79,086,530	217,271	$36,786,344	$101,061	$43,333
1980		Resident	193	1	194	163	29,593,745	181,557	$14,228,239	$87,290	
		Nonresident	221	3	224	172	32,608,378	189,584	$15,259,747	$88,719	
		Year Totals	414	4	418	335	62,202,123	185,678	$29,487,986	$88,024	$45,000
1979		Resident	189	2	191	160	23,417,245	146,358	$10,440,835	$65,255	

WWWBITP-A State of Alaska 2010-01-14
Commercial Fisheries Entry Commission
Basic Information Table
S 01A SALMON, PURSE SEINE, SOUTHEAST

Year		Residency	Permanent Permits Renewed	Interim Permits Issued	Total Permits Issued/ Renewed	Total Permits Fished	Total Pounds	Average Pounds	Total Gross Earnings	Average Gross Earnings	Average Permit Price
		Nonresident	224	3	227	159	19,126,818	120,294	$9,191,935	$57,811	
		Year Totals	413	5	418	319	42,544,063	133,367	$19,632,769	$61,545	$49,500
1978		Resident	193	2	195	170	30,840,986	181,418	$12,516,752	$73,628	
		Nonresident	220	5	225	206	37,563,079	182,345	$15,147,894	$73,533	
		Year Totals	413	7	420	376	68,404,065	181,926	$27,664,646	$73,576	$40,000
1977		Resident	196	2	198	159	34,095,906	214,440	$13,231,509	$83,217	
		Nonresident	215	1	216	166	29,755,899	179,252	$11,297,251	$68,056	
		Year Totals	411	3	414	325	63,851,805	196,467	$24,528,760	$75,473	.
1976		Resident	202	2	204	144	12,646,703	87,824	$5,463,056	$37,938	
		Nonresident	207	7	214	136	13,236,853	97,330	$5,601,198	$41,185	
		Year Totals	409	9	418	280	25,883,556	92,441	$11,064,253	$39,515	.
1975		Resident	198	34	232	159	10,281,573	64,664	$3,484,050	$21,912	
		Nonresident	200	45	245	128	7,227,447	56,464	$2,563,854	$20,030	
		Year Totals	398	79	477	287	17,509,020	61,007	$6,047,904	$21,073	.

Notes:

A "*" following the year field indicates data are preliminary.
Selected data fields are represented by "." when fewer than four people participated in a fishery.
Selected data fields are represented by "0" when no activity has occurred in a fishery (i.e.,closure).
Gross earnings are estimated using an average annual ex-vessel price per area, species, and gear type.
These data are aggregated by type of permit fished, and thus contain both targeted and incidentally landed species.
Data includes only commercial catch landed on valid permits.
Data associated with test fishing, illegal landings, derbies, educational permits, or unmatchable permits are excluded.

Average Permit Price Notes:
--- indicates that there were no monetary transfers for this fishery.
... indicates confidential information because fewer than four surveys exist.

SB 267

ALASKA STATE LEGISLATURE

SENATOR LESIL McGUIRE
SENATOR BILL WIELECHOWSKI
Co-Chairs, Senate Resources Committee

MEMORANDUM

Date: February 17, 2010

To: Kirsten Waid, Senate Secretary

From: Senator Lesil McGuire, Co-Chair
Senator Bill Wielechowski, Co-Chair
Senate Resources Committee

Re: Senate Resources Committee Schedule

Committee Schedule
Senate Resources
For the week of February 15-19

Unless otherwise noted, all meetings will be held in the Butrovich, Rm 205 @ 3:30 p.m.

Wednesday, February 17th

+ * SB 267 – Oil and Gas Production Tax
+ = *Bills Previously Heard/Scheduled*

Thursday, February 18th

+ * SB 220: Energy Efficiency/Alternative Energy
+ = *Bills Previously Heard/Scheduled*

* First Hearing in First Committee of Referral
\+ Teleconferenced
= Bill was previously Heard/Scheduled

3837

Technical Aspects of SB 267 (Version A)

Dan E. Dickinson, CPA

Senate Resources Committee
Feb 17, 2010

DAN E. DICKINSON CPA

6 Changes in SB 267

1. Change progressivity from .4% to .2% per dollar
2. 30% credit for well work
3. Tax rate tied to Resident Hire
4. Interest not due on retroactive reg changes prior to implementation
5. Interest rate is lower of fed funds +2 or 11%
6. Restore 3 year statute of limitations

2.17.2010

Structure of SB 267

Structure of SB 267 26-LS14521A Key Provision

	section:	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	Need 2011 Eff Dt
5	Interest rate is lower of fed funds + 2 or 11%						6																			25	
4	Interest not due on retroactive regs changes prior to implementation							7							14											25	
1	Change progressivity from .4 % to .2 %											11													24		
	Housekeeping - reference to interest	1				5	6		8	9	10		12	13			16		18	19		21	22			25	
3	Tax rate tied to Resident hire		2	3	4											15			18					23		25	
2	30% credit for well work																	17							24		
6	Restore 3 year statute of limitations																				20					25	

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DAN E. DICKINSON CPA

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What is Progressivity?

- Base Production Tax rate is 25% (AS 43.55.011(e)(1)) of net value or "PTV"
- Combined Progressivity Tax (on same PTV base) can range from 0 to 50%
- Sum= Total tax rate can range from 25% to 75%
- Progressivity rate is calculated as net value of all the (oil and gas produced less royalty)/taxable barrels (boe)= PTV/per barrel
- No progressivity charge when PTV/bbl<$30,
- Current Law:
- For each dollar above $30, .4% added to tax rate
- At PTV/bbl of $92.5, rate drops to .1% for each dollar

SB 267 (Section 11): drop rate to .2%, increase bend-over point to $155

2.17.2010

Progressivity Effect (FY 2008)

- FY 2008 Estimate (year of high prices)
- 25% Base tax – $4.2 billion
- Progressivity – $3.2 billion
- (less credits of $.5 billion)

- Compare to FY 2008
- Royalties (2.4 to GF, .8 to PF) $3.2 billion
- Oil and Gas Income Taxes $.6 billion
- Oil and Gas Property Taxes (State and Local) $.4 billion

Source: State of Alaska DOR Revenue Sources Book (Fall 2008)

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Progressivity in AS 43.55.011(g) vs. Personal Income Tax

- Under AS 43.55.011(g) the progressivity rate generated at high net values (PTVs)/bbl is applied to all the net value.
- ((PTV/bbl-30)* .004)+ 25%* PTV= Tax
- Under federal personal income tax rules:

Schedule X—If your filing status is Single

If your taxable income is:		The tax is:	
Over—	But not over—		of the amount over—
$0	$8,350	..... 10%	$0
8,350	33,950	$835.00 + 15%	8,350
33,950	82,250	4,675.00 + 25%	33,950
82,250	171,550	16,750.00 + 28%	82,250
171,550	372,950	41,754.00 + 33%	171,550
372,950	.....	108,216.00 + 35%	372,950

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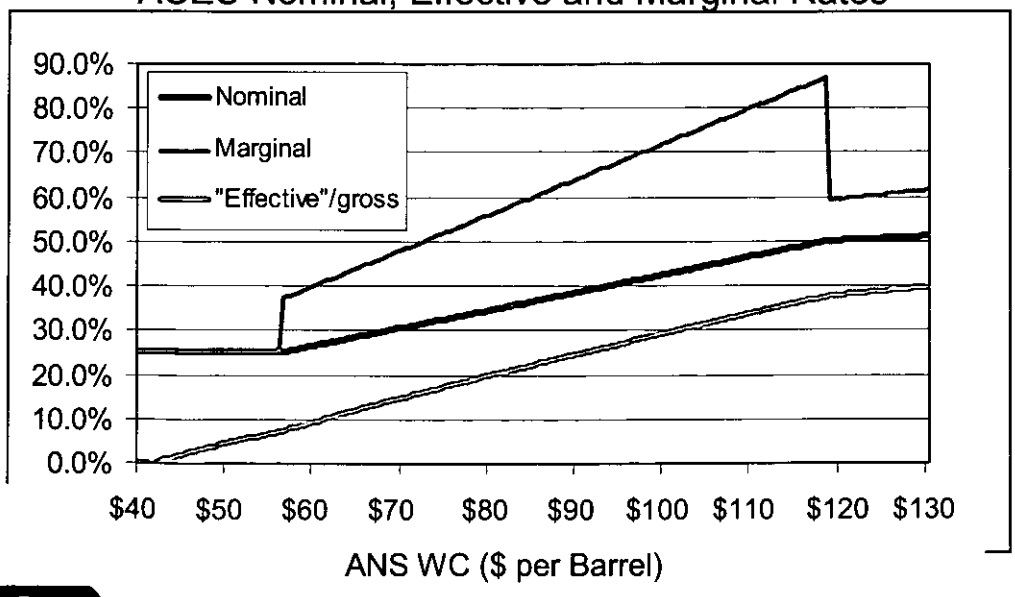
Production Tax: Progressivity + 25%

- Reproduction of Figure G from DOR January 14 Report
- "ACES Nominal, Effective and Marginal Rates"



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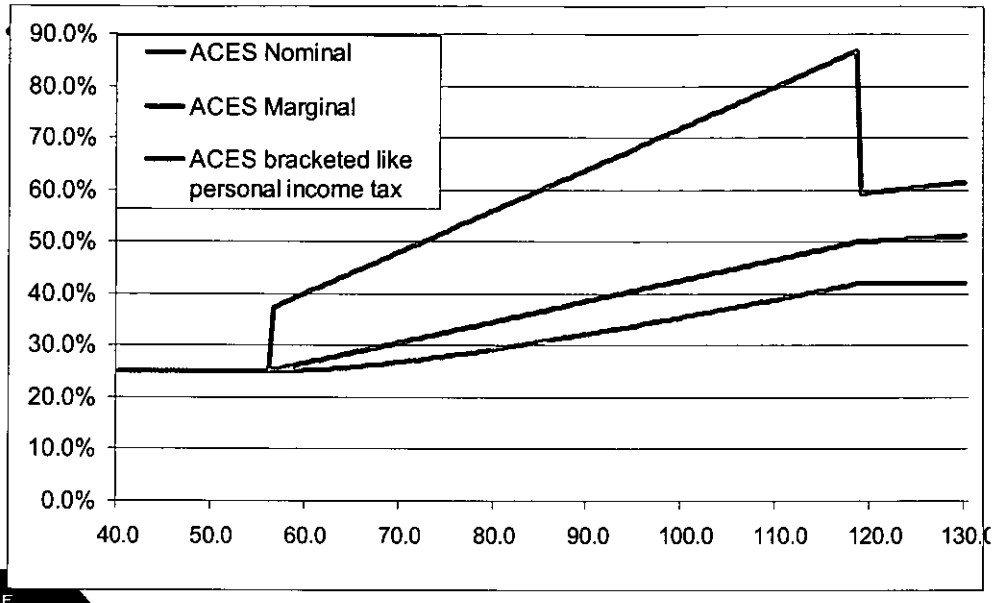
Production Tax: Progressivity + 25%

- What if the progressivity bracket was like personal federal income tax brackets.



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Crossing the Progressivity/Bracket Threshold

25.4% bigher bracket starts when net value (PTV) passes $30 a barrel

	30	31	Difference
Personal federal income tax progressivity			
PTV	$ 30.00	$30.00 + $ 1.00 = $31.00	$ 1.00
Tax Rate	25.0%	25.0% 25.4% 25.4%	
Tax	$ 7.500	$7.500 + $ 0.254 = $7.754	$ 0.254
Marginal Tax Rate:			25.4%
AS 43.55.011(g) Progressivity			
PTV	$ 30.00	$30.00 + $ 1.00 = $31.00	$ 1.00
Tax Rate	25.0%	25.4% 25.4% 25.4%	
Tax	$ 7.500	$7.620 + $ 0.254 = $7.874	$ 0.374
Marginal Tax Rate:			37%
Difference	$ -	$ 0.12 $ 0.12	$ 0.12

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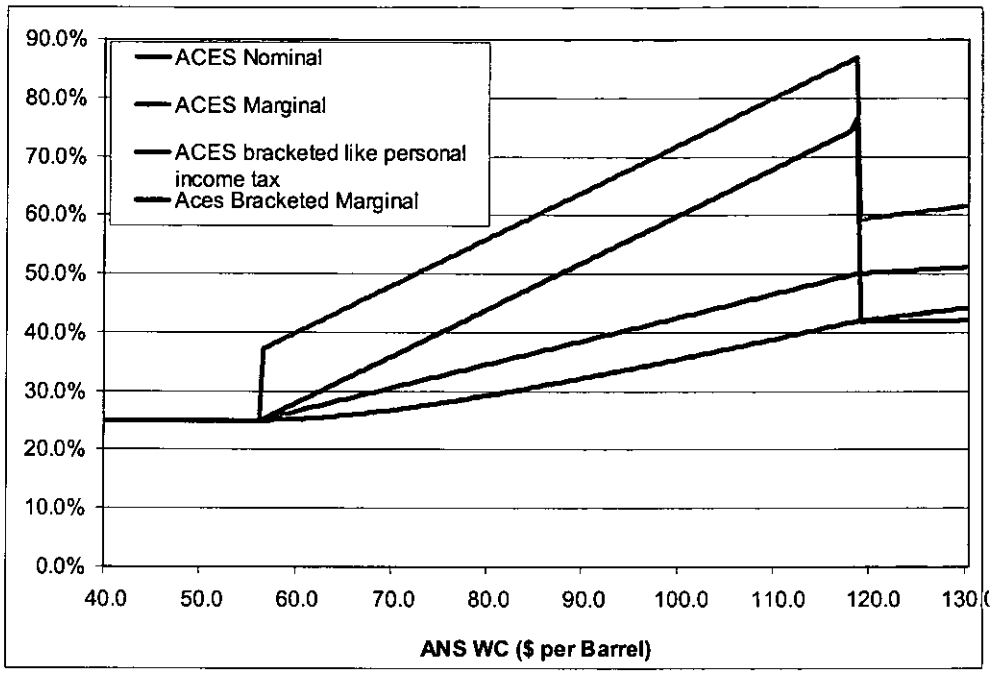
Production Tax: Progressivity + 25%



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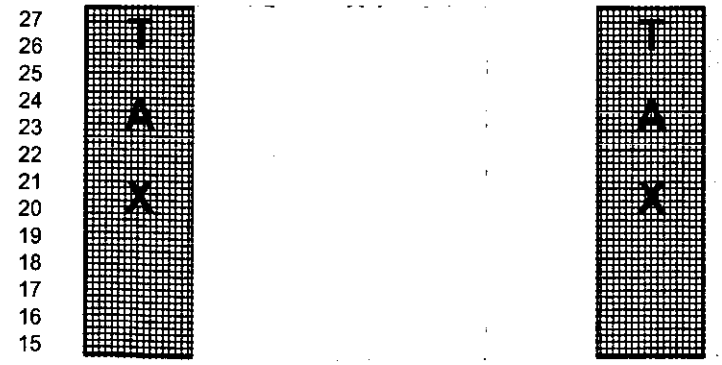
Progressivity in AS 43.55.011(g) vs. Personal Income Tax

"Income" **Progressivity in Federal Income Tax** **Progressivity in AS 43.55.011(g)**



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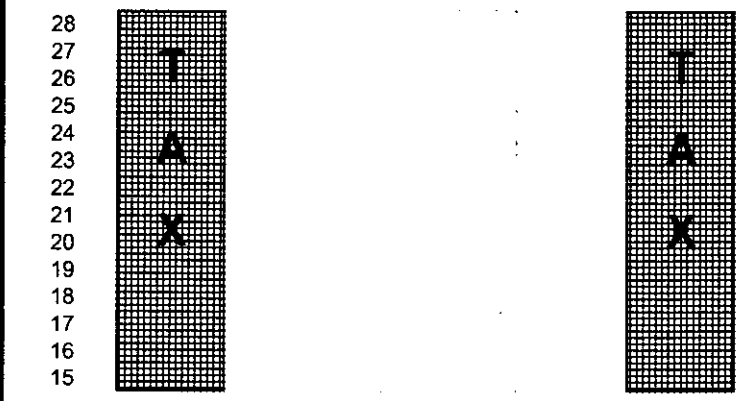

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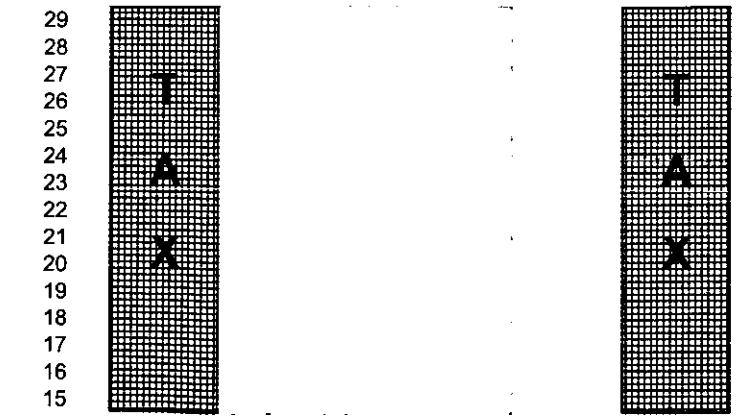

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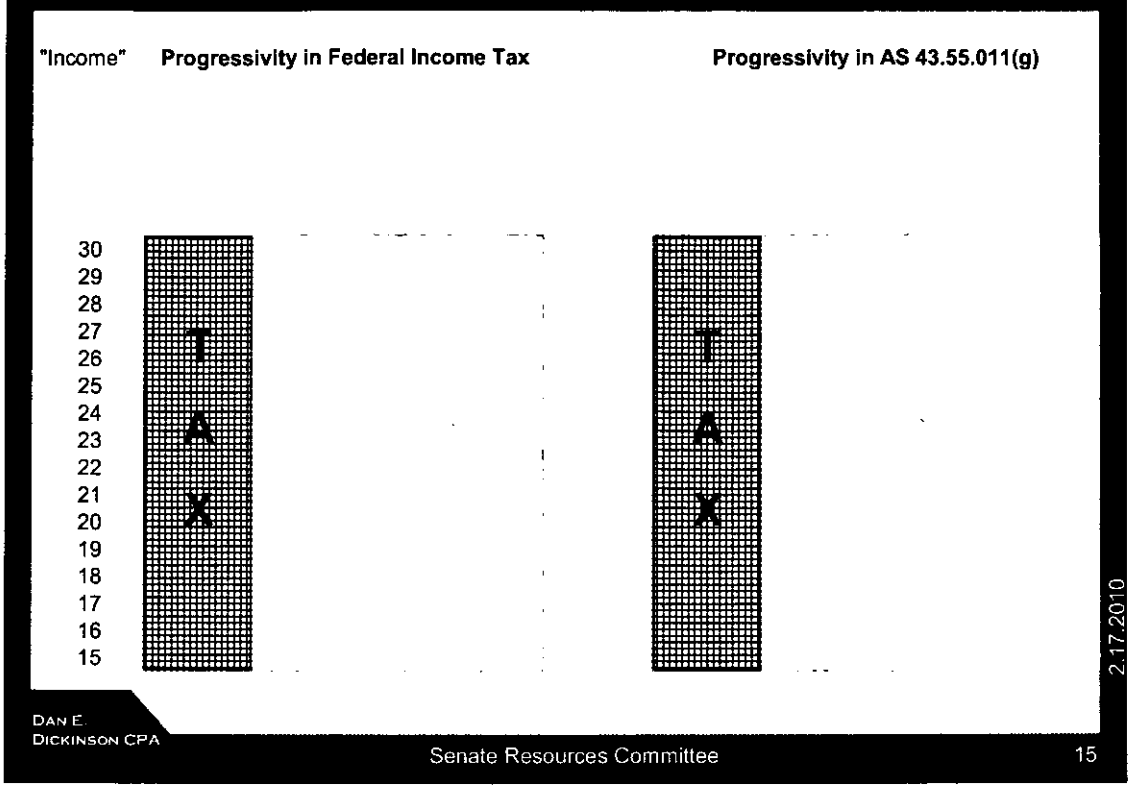

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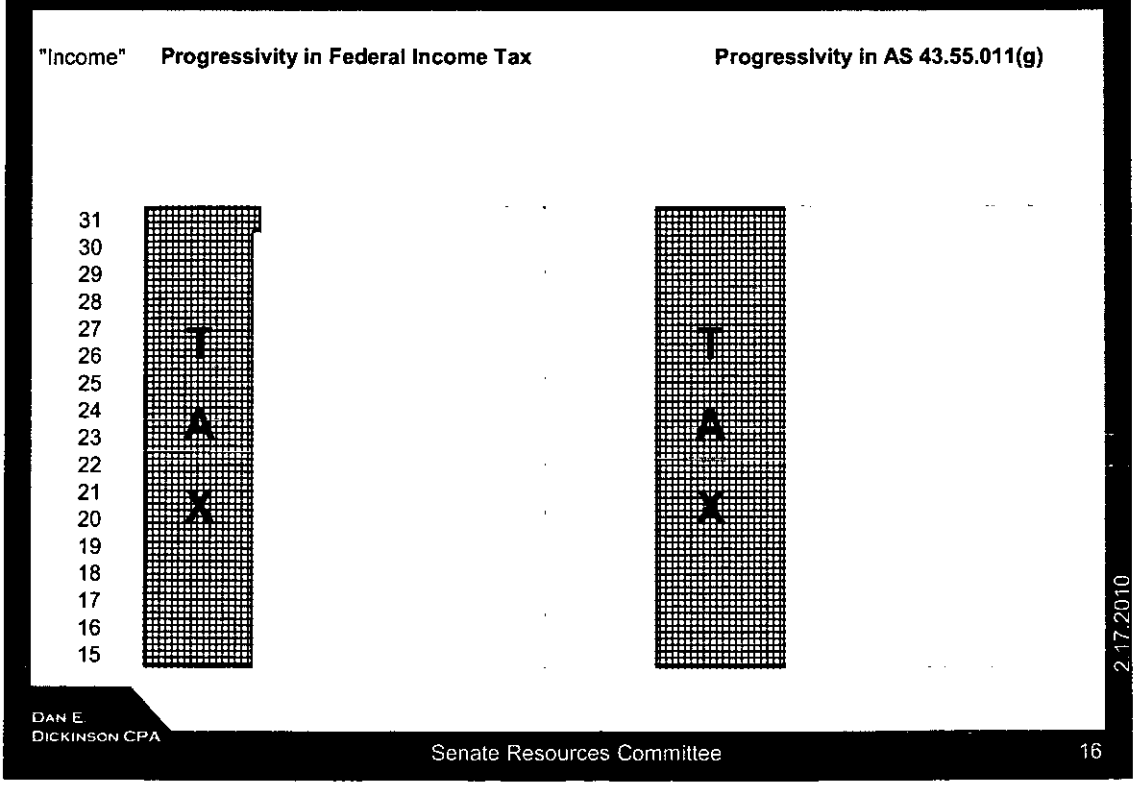

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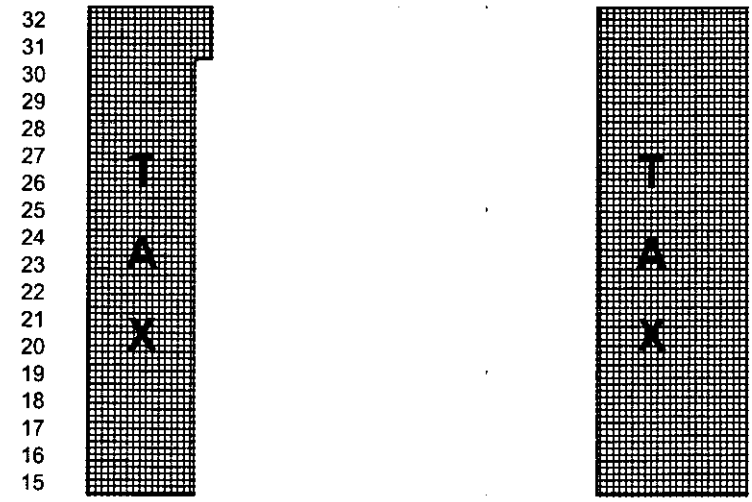

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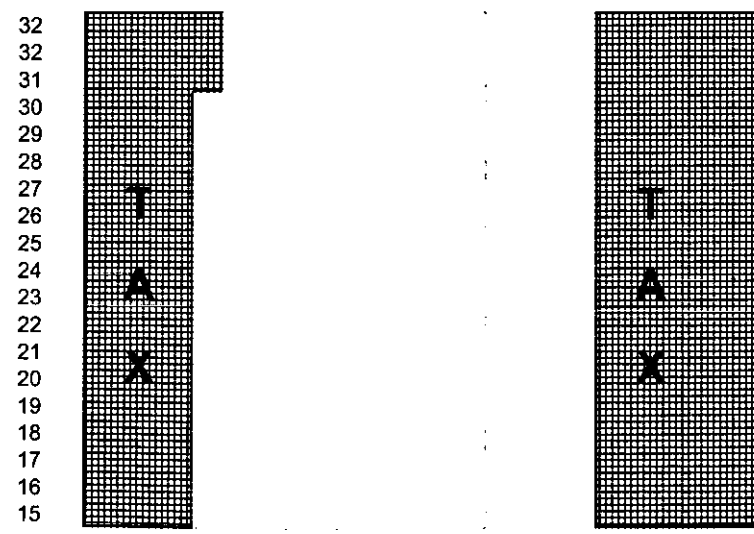

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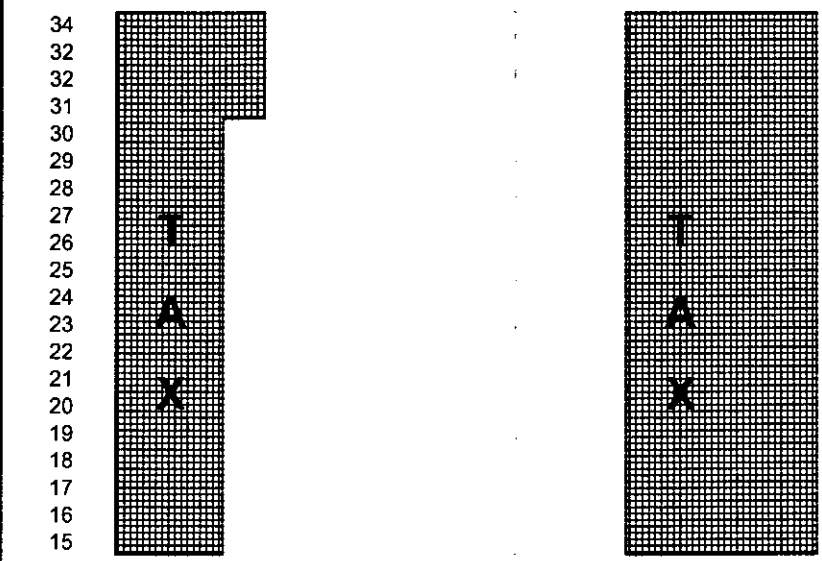

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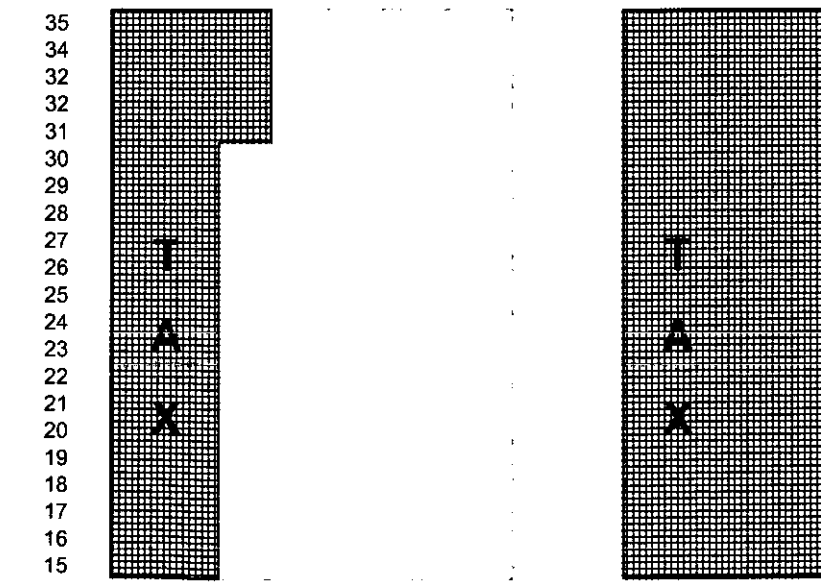

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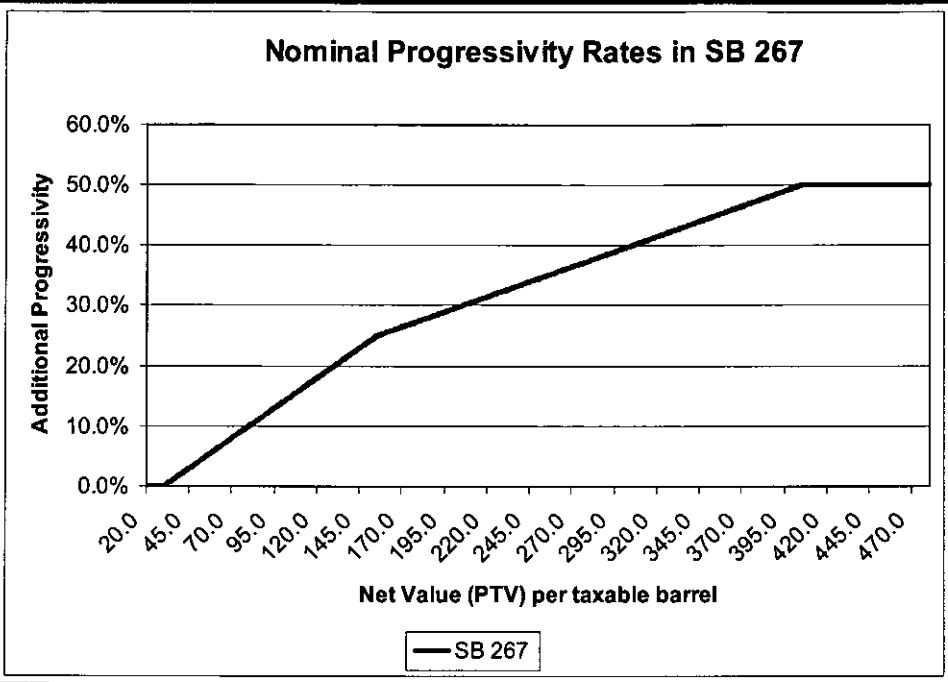
Progressivity Only



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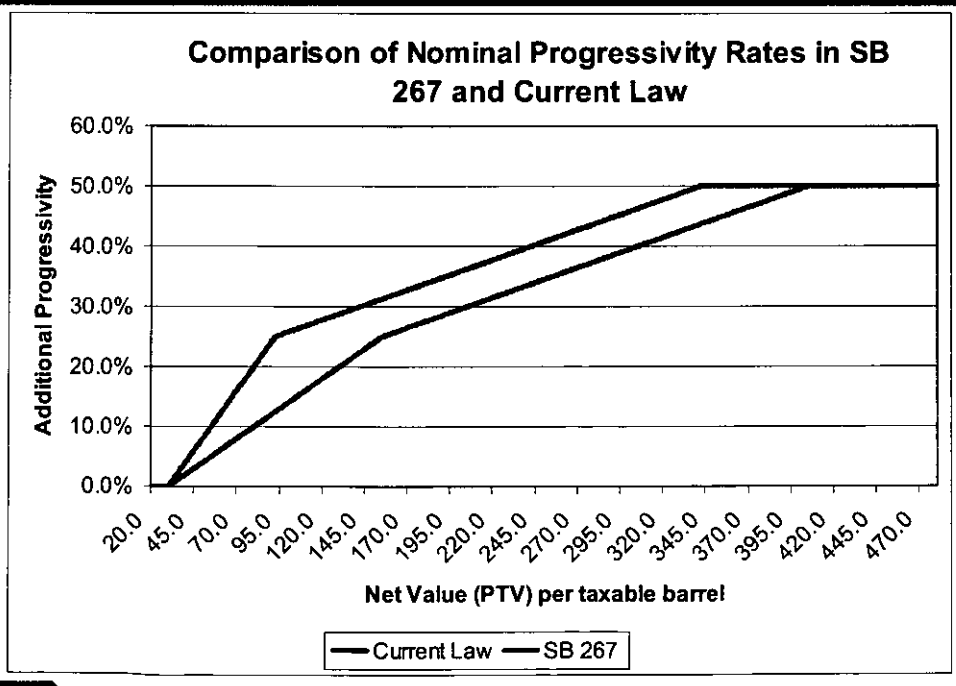

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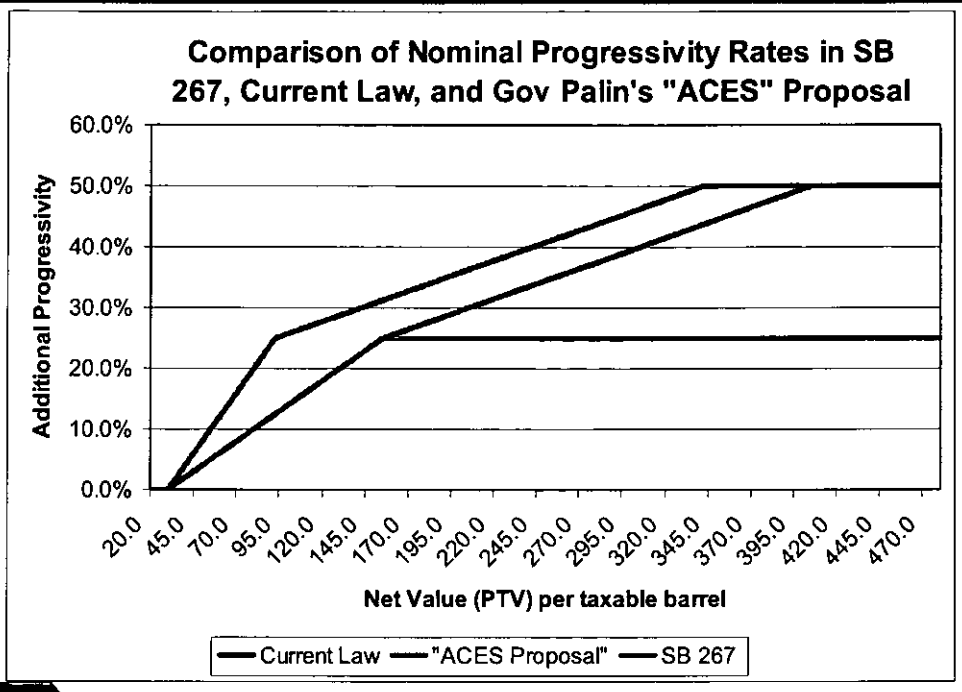

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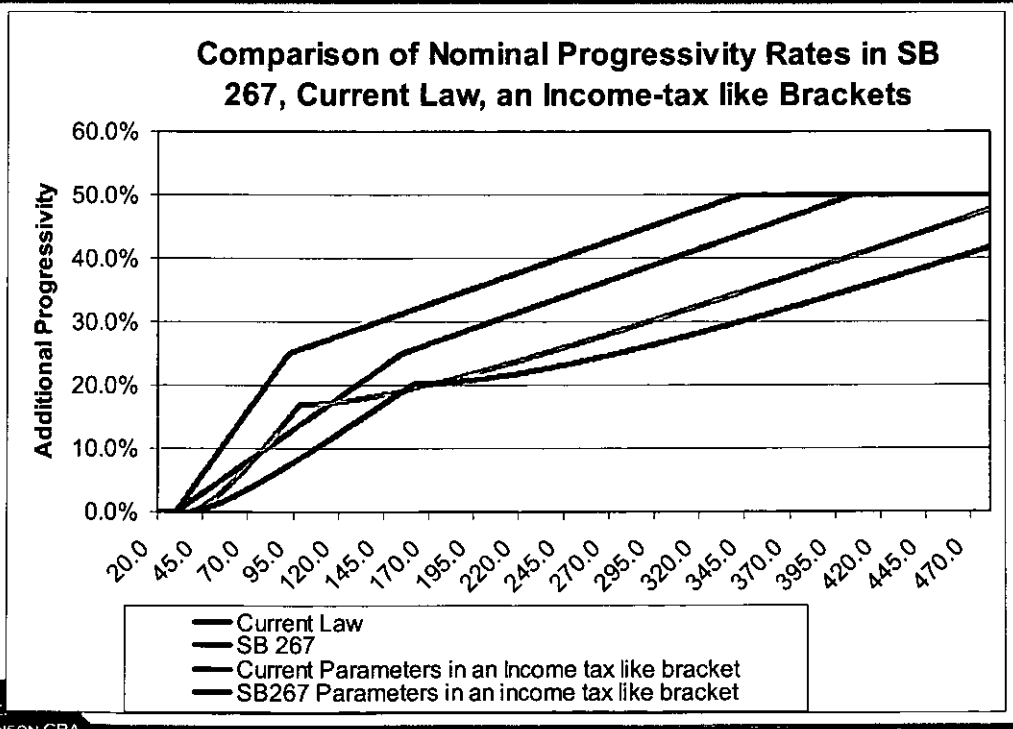

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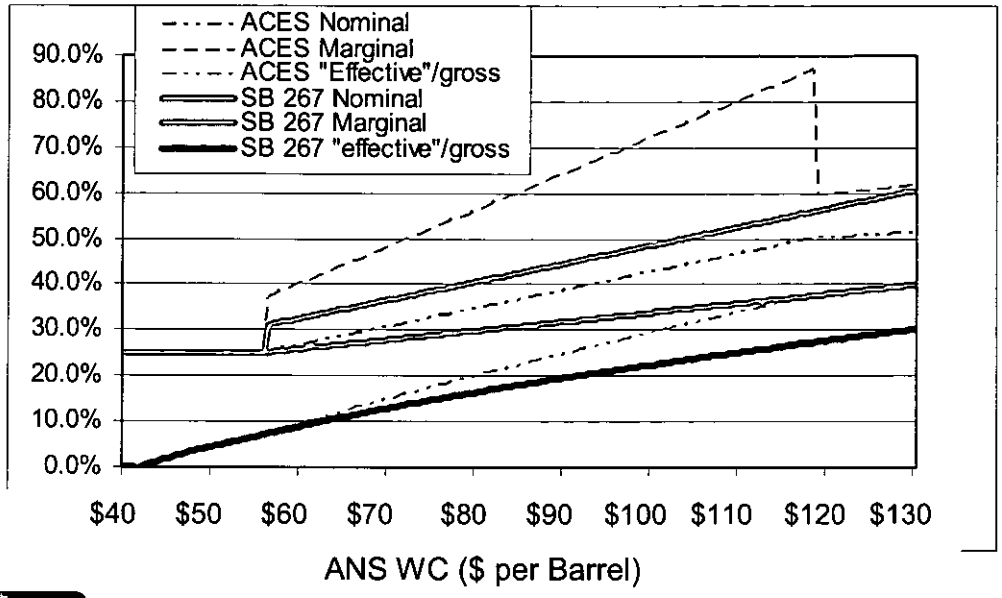
Production Tax: Progressivity + 25%

- Add SB 267 Nominal, Marginal and "effective"/gross"



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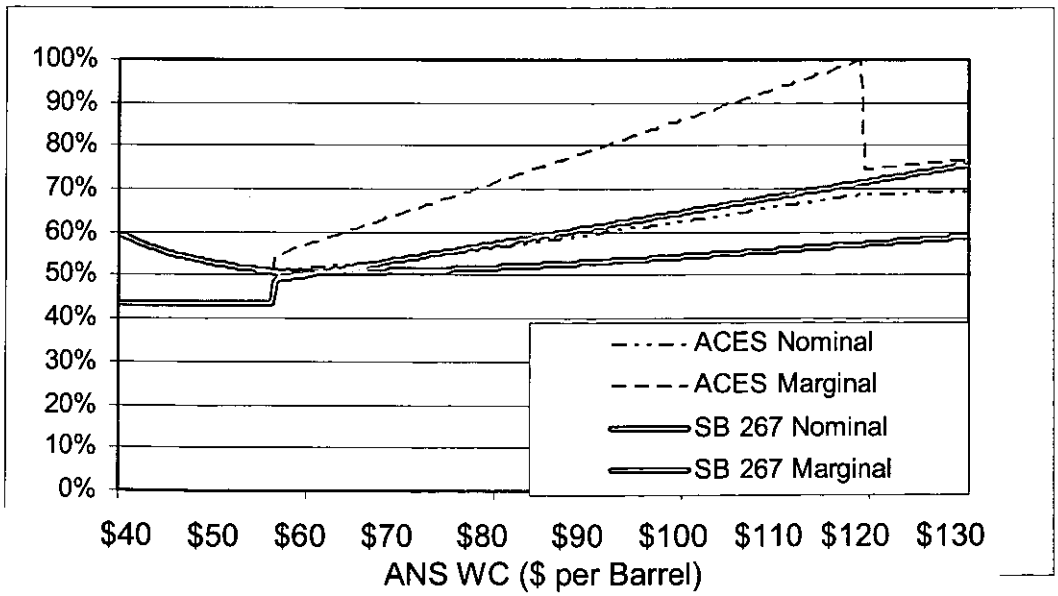
Total State of Alaska Take (Prod/Prop/Inc Tax + Royalty)



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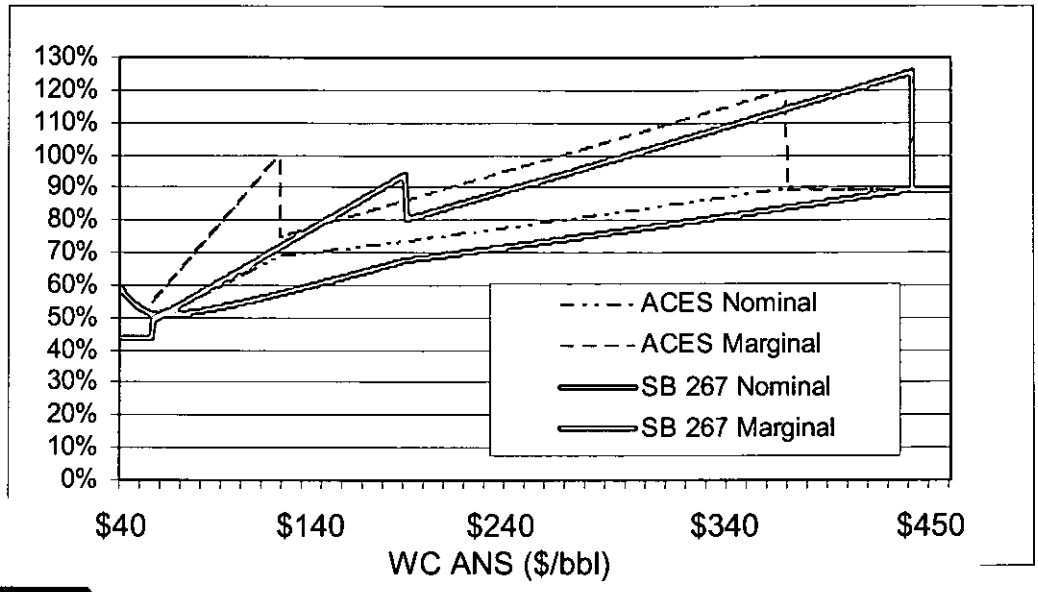

2.17.2010

6 Changes in SB 267

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2.17.2010

Investment Credits

- Section 17 adds 30% well work credit to investment credits
- Under Current Law –
- 30% Credit for exploration wells (AS 43.55.025)
- 40% Credit for seismic work outside of existing unit,
  - or exploration wells 25 miles from existing unit, and
  - 3 miles from any prior well (or with certification from DNR that it is for a new target in the Cook Inlet) (AS 43.55.025)
- 20% Credit for any capital investment (AS 43.55.023(a))
- No change to Exploration Credits AS 43.55.025 under this bill

2.17.2010

Compare with Other Well Work Proposals

- How does this compare with Governor's "Well Credits" proposal

-Both create a 30% credit for well work

-Both include pertinent capex and opex

-CS should be effective on the first day of a month (Gov's bill is July 1, 2010) year.

- Differences:
- CS for HB 308 places the credit among the .023 "Tax Credits for certain losses and expenditures" Governor's bill changes name of .025 from "Exploration" to "Exploration and Development" and places it there.
- Different definition of well related expense.
- (Other changes to AS 43.55.025 in Gov's bill)

2.17.2010

Differences between AS .023 and .025

AS 43.55.023 – Tax credits for certain loses and expenditures	AS 43.55.025 – Alternative tax credit for oil and gas exploration
AS 43.55.023 deals with capital costs in (a), lease expenditures in (b), and both in sections (c), (d), (e), (g), (h) and (j). (note – (f) repealed and (i) and (k) deal only with capital).	AS 43.55.025 deals only with exploration costs –by explorers. Administration suggests totally re-writing and re-titling to cover this work by explorers and producers.
21 specific exclusions from lease expenditures listed in AS 43.55.165 (e) (1) – (21) including exclusion of 30 cents a barrel from any capital cost, and certain transactions with affiliates or related parties.	Prohibitions summed up in one paragraph (AS 43.55.025(b)(3)
Restrictions in AS 43.55.011(m) ("credits clawback") do not apply.	AS 43.55.011(m) ("credits clawback") does apply.

Question: Are we certain that the restructuring of AS 43.55.025 will not result in inadvertent changes to the rules?

2.17.2010

Definitions of well work compared

SB 267 proposed AS 43.55.023(m)(3)	Governor's Language proposed AS 43.55.025(b) (3) and (4)
"Well-related expenditures" means	Development well expenditures are for
A lease expenditure	Goods, services and rentals of personal property reasonable required for
related to a well	
and includes a lease expenditure for the purposes of sidetracking, well deepening, well recompletion, well workover,	Re-drilling, casing , cementing or logging, Completing, workover operations or other operations intended to increase or enhance well production
	From a known productive pool;
an injection well and well related seismic work and	And the well is not a service well [injector] or stratigraphic test well.
an intangible drilling and development cost authorized under 26 USC (IRC) as amended, and 26 CFR 1.612-4, regardless of the elections make under 26 USC 263(C0 as amended	
up to the flange connecting the well head to the well line.	

2.17.2010

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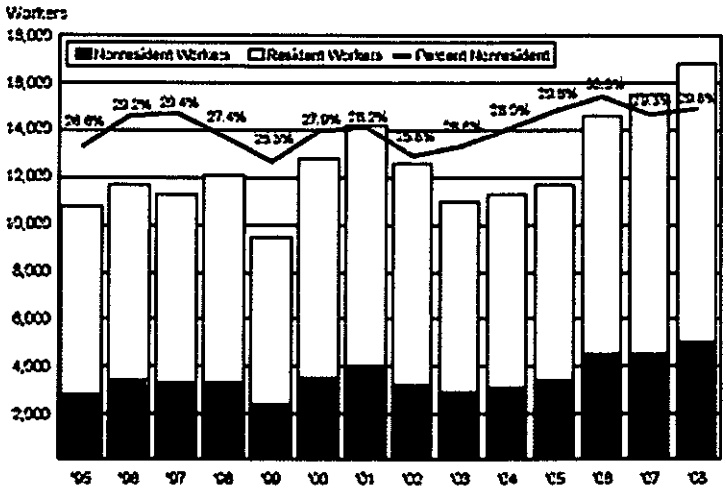
2.17.2010

Non Resident Workers

6 Oil Industry
Number and Percent Nonresident Workers
Alaska 1995-2008



Note: Private Sector Only
Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section

Source: Nonresidents Working in Alaska, 2008, State of Alaska, Dept of Labor and Workforce Development (Jan 2010) http://www.labor.state.ak.us/research/reshire/nonres.pdf

2.17.2010

Rate tied to Resident Hire

- General Approach – (section 15)
- Base Tax rate (in AS 43.55.011(e)) is 25%, and Taxpayers makes monthly payments at that rate
- Any direct labor that is a lease expenditure is accounted for as Resident or non-Resident.
- At the end of the year total hours of labor are used to calculate a ratio for the year: or resident hire %
- New effective rate is calculated:
  - 20% for a 100% Resident Hire ratio up to
  - 25% (current law) for an 80% Resident Hire ratio.
- Taxpayer can then apply for a rebate of the difference for the prior year.
- Note: effective date should be beginning of a year.

2.17.2010

Rates in CS HB 308 proposed 43.055.022 (b)

For Resident Hire Ratios		Rebate of amount under AS 43.55.011(e)(1)	Tax Rate in AS 43.55.011(e)(1)	Rebate as % of PTV	Effective Tax Rate
equal or above	but below				
70.0%	72.5%	0.0%	25.0%	0.0%	25.0%
72.5%	75.0%	0.0%	25.0%	0.0%	25.0%
75.0%	77.5%	0.0%	25.0%	0.0%	25.0%
80.0%	82.5%	2.0%	25.0%	0.5%	24.5%
82.5%	85.0%	4.0%	25.0%	1.0%	24.0%
85.0%	87.5%	6.0%	25.0%	1.5%	23.5%
87.5%	90.0%	8.0%	25.0%	2.0%	23.0%
90.0%	92.5%	10.0%	25.0%	2.5%	22.5%
92.5%	95.0%	12.0%	25.0%	3.0%	22.0%
95.0%	97.5%	14.0%	25.0%	3.5%	21.5%
97.5%	100.0%	16.0%	25.0%	4.0%	21.0%
100.0%		20.0%	25.0%	5.0%	20.0%

2.17.2010

Resident Hire -- What will it cost per job?

- "In an extreme example, [according to DOR] hiring just one Alaskan could mean $30 million in tax savings" (Anchorage Daily News 2/11/2010, backpage (A-14))

All figures in Millions of Dollars:	
FY2008 Estimated PTV ($millions)	$ 16,837.7
FY2009 Estimated PTV ($millions)	9,313.1
Average for CY 2009	13,075.4
Assumption: One company is responsible for half	6,537.7
AS 43.55.011(e)(1) taxes at 25%	1,634.4
If one incremental employee (hour) moves taxpayer by one bracket in between 80 - 97.5% then effect is (.5%)	**32.7**

Function of "brackets rate applied to base"
Opposite effect also occurs.

2.17.2010

Resident Hire – What will it cost per job?

Opposite effect also occurs.
Assumption: Company has 6,500 employees and contractors at the statewide average of 70% Residents
1. When Below 70%

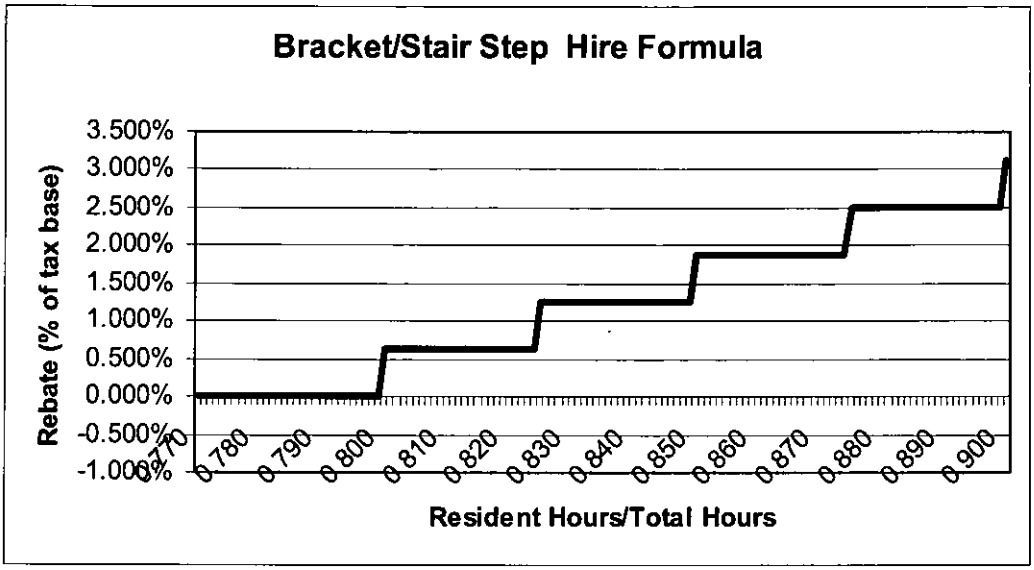
	Total Workers	Resident Workers	Ratio	Tax rate
year one	6,500	4,550	70.00%	25.0%
add		649		
year two	6,500	5,199	79.98%	25.0%

	Total Worker Hours	Resident Worker Hours	Ratio	Tax rate
year one	13,000,000	9,100,000	70.00%	25.0%
add		1,298,000		
year two	13,000,000	10,398,000	79.98%	25.0%

"need to be at 80% to start the conversation"

2.17.2010

Resident Hire – What will it cost per job?



2.17.2010

Resident Hire – What will it cost per job?

Opposite effect also occurs.
Assumption: Company has 6,500 employees and contractors at the statewide average of 70% Residents
(2) When between brackets

	Total Workers	Resident Workers	Ratio	Tax rate
year one	6,500	5,200	80.00%	24.5%
add		162		
year two	6,500	5,362	82.49%	24.5%

	Total Worker Hours	Resident Worker Hours	Ratio	Tax rate
year one	13,000,000	10,400,000	80.00%	24.5%
add		324,000		
year two	13,000,000	10,724,000	82.49%	24.5%

2.17.2010

Stair Step versus Continuous Function

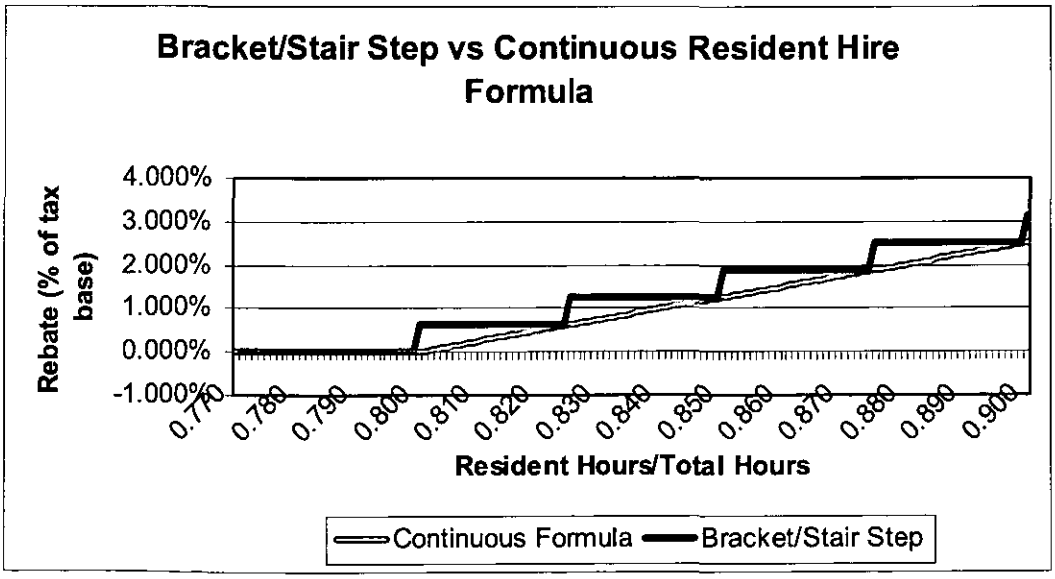
Solution – Continuous function (with rounding)

- Rebate equal to tax base (PTV) times
- Higher of ((Resident Hours/Total hours) or .8)
- Less .8

- That transforms Resident Hire rates between 80% and 100% into a series from 0% to 20%

2.17.2010

2. Stair Step versus Continuous Function



2.17.2010

Problem of "no reporting of nonresident wages"

		Actual	Rounded
FY2008 Estimated PTV ($millions)	$	16,837.7	
FY2009 Estimated PTV ($millions)		9,313.1	
Average for CY 2009		13,075.4	10,000
AS 43.55.011(e)(1) taxes at 25%		3,268.8	2,500
Maximum Rebate (20% of taxes, 5% of base)		653.8	500
Non Resident Workers in industry in 2008		5043	5,000
Average Wages (2008) per worker ($million)		0.083601	0.100000
Total Non- Resident Wages		422	500
Effect of not claiming Non resident wages as lease expense (25%) ($millions)		105.4	125
So by simply not reporting or deducting the 5043 non residents Decrease in taxes: ($millions)		548.4	375

Sources: State of Alaska, Dept. of Labor and Workforce Development, Nonresidents Working in Alaska, 2008 (Jan 2010), derivations from figures in Dept of Revenue, Revenue Sources Book (Fall 2009)

2.17.2010

Some solutions to "no reporting of nonresident wages"

1. Shift the scale so maximum tax savings are not $500 million by $100 million and tax rate could range from 24% to 25%.
2. Require that for any labor to be allowed as a lease expense, all the labor from that company must be calculated in Resident Hire calculation – (with additional rules for pass through).
3. Focus on new hires only, and specific dollar rebate for every new resident hire.
4. Given structure of industry, have the DOR determine a tax rate every year based on the Resident Hire Ratios of 10 (20?) largest employers in the industry or largest generators of lease expenditures.

2.17.2010

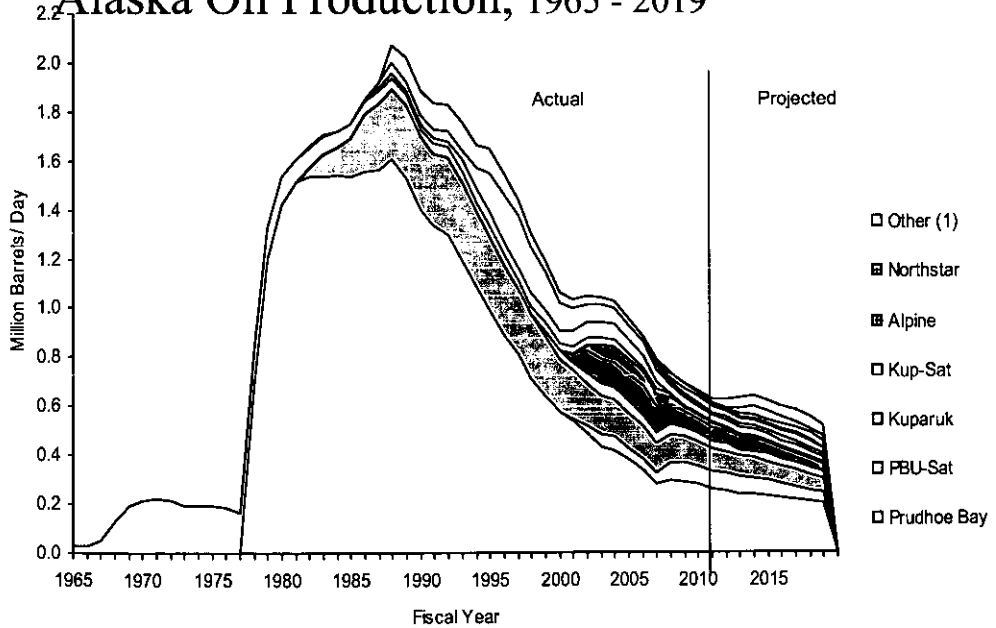
Structure of Industry in Alaska

- Producers (taxpayers) have employees & hire
  - Operator who has employees & hires
    - Contractors, and buys "stuff"
- According to the Dept of Labor & Workforce Development (2008) employment in
- Oil and gas (direct) 4,055
- Oilfield Services 12,875
- Total 16,930

2.17.2010

Sources: State of Alaska, Dept. of Labor and Workforce Development, Nonresidents Working in Alaska, 2008 (Jan 2010),

Alaska Oil Production, 1965 - 2019



Source: Alaska Department of Revenue, Fall 2009 Revenue Sources Book. Extrapolated
(1) Cook Inlet, Duck Island, Milne Point, Greater Point McIntyre, Liberty, Known On & Offshore, Fiord and NPRA.

2.17.2010

Who are the 15 Tax Production Tax Filers (2009)?

	1 CP	2 BP	3 EM	4 Anadarko	5 Chevron	6 Pioneer	7 -10 4 Others(1)	Total
Production in Millions of Bbls a day								
PBU & Sat	0.1317	0.0962	0.1328	-	0.0042	-	0.0001	0.365
KRU & Sat	0.0785	0.0558	0.0006	-	0.0071	-	-	0.142
North Star	-	0.0270	-	-	-	-	-	0.027
Alpine & Sat	0.0827	-	-	0.0233	-	-	-	0.106
Endicott	0.0004	0.0074	0.0045	-	0.0017	-	0.0001	0.014
Milne	-	0.0310	-	-	-	-	-	0.031
Oooguruk	-	-	-	-	-	0.0028	0.0012	0.004
Total bbl/day	0.2933	0.2174	0.1379	0.0233	0.0130	0.0028	0.0013	0.689
MM bbl/yr	**107.0**	**79.4**	**50.3**	**8.5**	**4.8**	**1.0**	**0.5**	**251.5**
% of NS	43%	32%	20%	3%	2%	0%	0%	100%

Cook Inlet 2009

Cook Inlet Production	
oil	4.0
gas (boe)	24.9
Total CI	28.9
Total AK	**280.43**

10% of production

1/2 of 1% of tax due to AS 43.55.011(j) and (k) limitations

Cook Inlet:

11 Aurora
*Chevron (heritage Unocal & Chevron)
*CP (heritage Arco and Phillips)
12 Pacific Energy (acquired Forest interests)
13 Marathon
14 ML&P
*EM (heritage Mobil & XTO)
15 Pioneer (Lawrenceville, Ill)

(1) Others
7 Nana
8 Doyen
9 Forest &
10 ENI

Source: DNR Division of Oil and Gas 2006 & 2009 Annual Reports, DOR, Fall 2009 Revenue Sources Book

2.17.2010

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8 Doyen
9 Forest &
10 ENI

DED estimate covered by AS 43.55.024 credit

Source: DNR Division of Oil and Gas 2006 & 2009 Annual Reports, DOR, Fall 2009 Revenue Sources Book

2.17.2010

Who are the Employers in the Oil and Gas Industry

- Recall EM, BP and CP are largest taxpayers – they would put pressure on employers to qualify for lower rate

Ranking in Top 100	Total Employees			Non Resident %
5 ASRC	2250	2499	Oil Field Services	24.1%
8 CH2MHill	1750	1999	Oil Field Services	35.5%
9 BP Exploration			Oil & Gas Extraction	27.7%
17 Conoco Phillips	1000	1249	Oil & Gas Extraction	20.7%
36 Nabors Alaska Drilling	500	749	Oil Field Services	
43 Schlumberger Technologies			Oil Field Services	30.5%
49 Udelhoven Oilfied System Services			Oil Field Services	30.5%
52 Peak Oilfield Service Company	250	499	Oil Field Services	26.8%
69 Norcon			Oil Field Services	23.2%
73 Chevron			Oil & Gas Extraction	
78 Hallibturon			Oil Field Services	32.3%
95 Doyon Drilling			Oil Field Services	
Veritas Dgc Land Inc				47.9%
Baker Hughes Oilfield Operations Inc.				54.1%

NOTE: Does Not Include "Catering/Security", Engineering, Transportion, Communications, Construction

2.17.2010

Sources: State of Alaska, Dept. of Labor and Workforce Development, 100 Largest Private Employers, 2008 (Alaska Economic Trends, July 2009),Nonresidents Working in Alaska, 2008 (Jan 2010)

To be addressed by Statute (or Regulations)

- Is the "overhead labor" that is replaced by a formula in 15 AAC 55.270 part of the resident labor calculation?
- If a contractor has a fixed price contract, or charges a fee that includes labor (such as for transportation, turnkey modules, any manufactured good) who determines, or how is it determined whether and how to analyze the labor in that transaction for resident labor?
- Are billed professional services (say by an engineer) "labor" for the resident hire calculation.

2.17.2010

To be addressed by Statute

- If tax was not paid due to limitations in AS 43.55.011(j), (k) and (o) – CI or instate gas, can it be rebated?
- If tax was not paid due to applications of .023 Capitol and Loss Carry Forward Credits, .024 "Low Production" Credits and/or .025 Exploration Credits, can it be rebated?
- If times are tough and taxpayers have to pay the "alternative minimum tax" under AS 43.55.011(f), can that be rebated? It is a tax based on gross – but will still require the calculation of labor costs.
- If there is lots of investment activity and so that generates a loss – No resident hire issues if no tax base? Or should the rebate effect the loss carryforward. (Perverse incentive)

2.17.2010

6 Changes in SB 267

1. Change progressivity from .4% to .2% per dollar
2. 30% credit for well work
3. Tax rate tied to Resident Hire
4. Interest not due on retroactive reg changes prior to implementation
5. Interest rate is lower of fed funds +2 or 11%
6. Restore 3 year statute of limitations

2.17.2010

How is interest calculated?

Current Law

- Production Tax is due on last day of the month following the month of production (AS 43.55.020 (a)).
- Amount of tax due changes because of audit, revised reporting by taxpayer, retroactive revision of tariff due to a regulatory order in a rate case, retroactive change in regulations.
- Interest is charged back to when original tax is due.
- In a settlement Department can compromise amount of tax and amount of Penalty. (AS 43.55.070) – No mention of interest.

SB 267 (section 7) For all taxes, when retroactive regulation is passed, interest only goes back to effective date of regulation.

2.17.2010

Regulations required retroactive to July 2007*

- In 2007 reforms ("ACES") Department charged with a number of specific responsibilities for regulations, as well as general implementation.
  - AS 43.55.150 "the department shall determine the reasonable cost of transportation, using the fair market value of like transportation, the fair market value of equally efficient and available modes of transportation or other reasonable methods.
  - AS 43.55.165(a) "...a producer's lease expenditures for a calendar year are ... costs ...allowed by the department by regulation..."
  - Production tax is a yearly tax – however, effective dates of most of 2007 reform was July 1, 2007, so ways of combining two half years had to be implemented.
  - New reporting requirements (AS 43.55.030 & .040)
  - *New rules for exploration credits (AS 43.55.025)

2.17.2010

Status of Regulations Affecting Returns after July 2007

	Discussion Draft				Public Comment Draft		Adopted
	1	2	3	4	1	2	
Project One - Reporting Requirement							
15 AAC 55. 520 Reporting					Feb-08		May '08 effective as of June '08
Project Two - NS PV, Civil Penalties, Mid Year Statutory Changes, CI reporting							
35 sections	Feb-08	*Oct-08*	*Nov-08*		Apr-08	Sep-08	Sep '09 effective as of Oct '09
Project Three - Exploration Credits							
6 sections					Aug-08	Jun-09	Nov '09 effective as of Dec '09
Project Four - Lease Expenditures							
10 Sections	Jan-08	Mar-08	Sep-08				Jan '10 effective as of Feb '10
Project Five - Reasonable Transportation							
5 sections	Mar-08	May-08	Jan-09		Feb-10		
6. Other Projects							
15 AAC 55. 173 NS Gas PV	Feb-08				Apr-08		Aug '08 effective as of Oct 1 '08
Facility Sharing	Oct-08	Nov-08	Feb-09	Jul-09			
Credit Safeguards	Nov-08						
"Affiliated" definition	Jan-09						
PV of oil					Jan-10		

2.17.2010

Interest on Retroactive Regulatory Changes

- Governor Parnell's suggested approach:
  - More thorough – explicitly recognizes that the absence of regulations is not the absence of any rules
  - Explicitly retroactive – deals with the 2007 -2010 regulatory delay
  - Does not require restructuring AS 43.05.225 (thus eliminates half the provisions in the SB 267) – however only applies to production tax.
  - (although in current version A, section 6, page 3 line 5 requires in the insertion of an "a" in any case.)

2.17.2010

Interest on Retroactive Regulatory Changes

- Possible upgrades to Governor's Language:
- Instead of requiring a departmental determination of good faith by the producer in each case. Assume it, and allow the department to prove otherwise if it finds egregious behavior.
- Possible upgrades to either approach
- AS 43.55.020 (a)(1)-(3) are monthly "installment payments of estimated tax" using 1/12th of estimated credits and 1/12th estimated lease expenditures - so
  - No true up caused by retroactive regs except for annual true up already required under AS 43.55.020 (a) (4) and
  - First first day of month more than 90 days after effective date of regs.

2.17.2010

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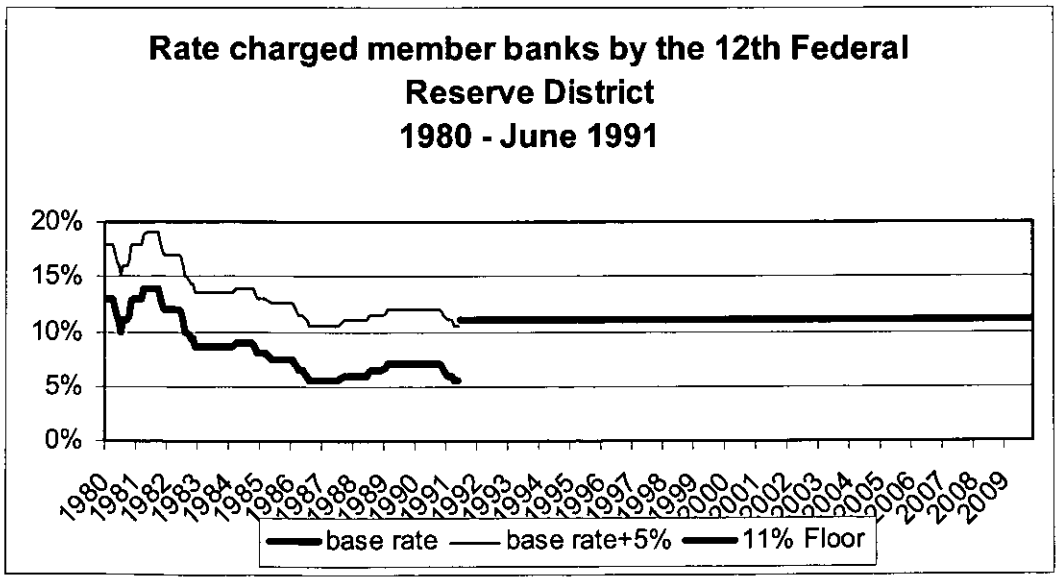
2.17.2010

Interest rate in AS 43.05.225

- Lower tax rate for all tax types (section 6)
- The interest rate applies to all 20 Alaska Tax Types*
- Current law – higher of fed funds + 5 or 11%
- Also applies to late royalty payments.
- **Compounded** Quarterly
- Implemented in 1991 amidst settlement of major production tax and royalty litigation going back to 1977 and era of simple interest.
- Effective date should be end of year, or at the very least, quarter.

2.17.2010

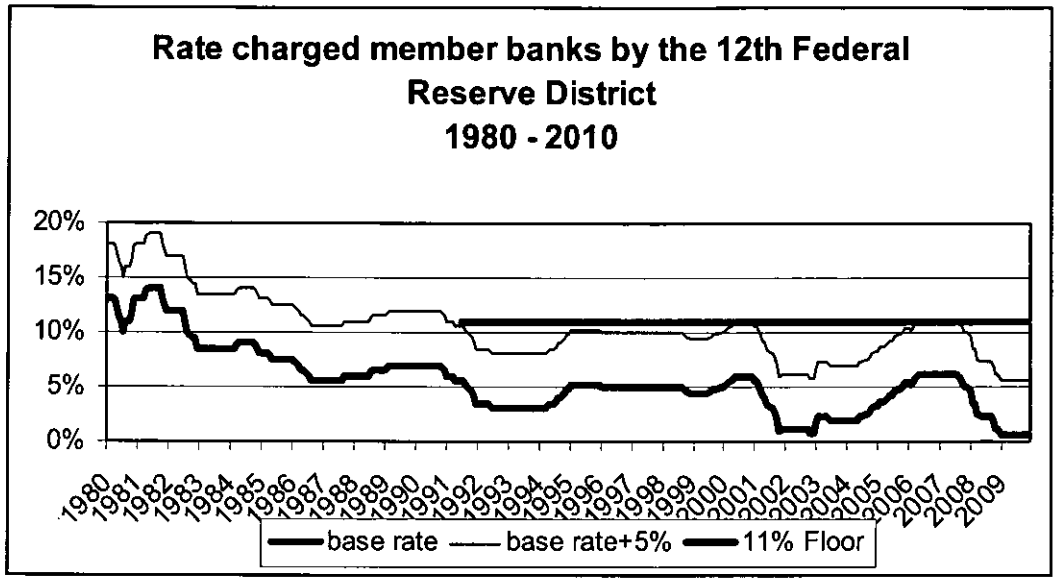
Interest Rates: The view from June 1991



Source: Federal Reserve Bank of San Francisco (frbsf.org)

2.17.2010

Interest Rates – The 11% floor since 1991



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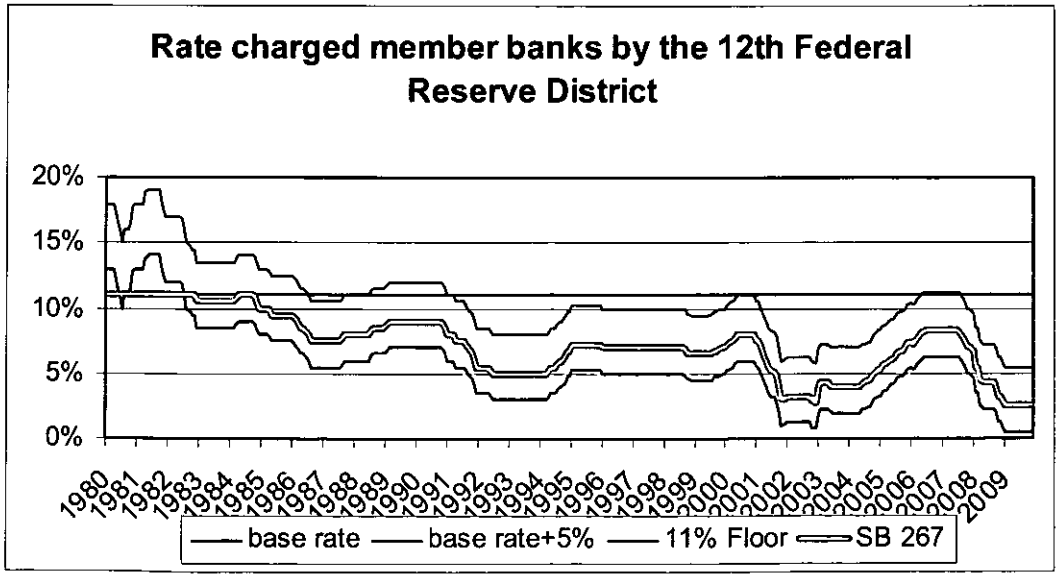
DAN E. DICKINSON CPA

Senate Resources Committee 61

Looking back: What would the rate have been under SB 267



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DAN E. DICKINSON CPA

Senate Resources Committee 62

Alaska compared with federal rate

- How are federal interest rates computed under IRC:

	Over Payments of Tax	Under Payments of Tax
Non- Corporate	Fed Funds + 3%	Fed Funds + 3%
Corporate	Fed Funds + 2%	Fed Funds + 3%
Corporate - Large	Fed Funds + ½%	Fed Funds + 5%

2.17.2010

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2.17.2010

Restore 3 year State of Limitations

- Section 20 Restores statute of limitations to three years for production tax - time for the state to complete a production tax audit (or, agree to an extension with taxpayer or issue a blue sky assessment)
- Three year rule would begin with 2011 tax year
- Note: in the case of False or Fraudulent returns, or failure to file a return, may proceed "at any time"

- Prior to 2007, SOL was three years for all tax types under AS 43.05.260 –
- In 2007 production tax pulled out and extended to 6 years in AS 43.55.075

2.17.2010

Thank You

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2.17.2010

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Technology and Innovations

Co-Chair
Senate Resources Committee

Member
Senate Judiciary Committee

SENATOR LESIL MCGUIRE

Sponsor Statement for Senate Bill 267

Anchorage economist Scott Goldsmith characterizes Alaska's economy prior to the discovery of the immense oil deposits on the North Slope as "small, thin and seasonal." With the federal government providing roughly half of Alaska's ninety thousand jobs at the time, the economy was dominated by outside residents and the State's revenue base was small. In 1960 for example, the State of Alaska collected roughly $154 million (2009 dollars) in taxes. This year, the State of Alaska will collect more than $5 billion. In 2009, 89% of the State of Alaska's general fund revenues will come from oil.

Alaska taxes oil based on the value of each barrel of oil produced. Although high oil prices certainly affect the State's treasury, oil must be produced in order for it to be taxed. Currently, Alaska's oil production is declining at between four and five percent per year. Simply maintaining this steady decline rate will require billions of dollars of investment in Alaska's oil patch. Reducing it will require billions more. While this challenge may sound daunting, it is actually an opportunity. For dollars invested in Alaska's oil patch aren't simply large numbers or entries in an accounting ledger; ultimately, dollars invested in Alaska are jobs.

Senate Bill 267 offers a simple exchange to the companies that operate, explore and invest in Alaska: If you invest in the type of activities that lead to increased oil production in Alaska, you will receive the capital investment credits already available to other investments. If you are willing to risk your capital in Alaska, you will be able to reap a reasonable reward for your investment. And most importantly, if you employ Alaskans, you will receive an additional credit against your taxes.

Through the resident worker rebate in Senate Bill 267, a company maintaining an Alaska resident workforce of at least 80% will see immediate reductions in their tax bill. The rebate increases as the level of the resident workforce increases. Estimates show that this provision could generate roughly 5,000 high-paying jobs for Alaskans and $1.2 billion in economic impact for $500 million in foregone State revenues. To put these numbers in perspective, if the credit was just 50% effective (2,500) new jobs it would be like adding the third largest private sector employer in Alaska. More plainly put, 2,500 jobs is roughly the equivalent of the total jobs available in Wasilla according to the last census or another military base. That is millions in new paychecks for Alaskans, who then spend their money in the local economy and generate work for other Alaskans. This multiplier effect will help shore up the economic foundation of our communities and subsequently, strengthen the social fabric of our State.

The battle for Statehood was largely fought over outside control and non-resident employment in Alaska's fishing industry. SB 267 builds on the promise of Statehood by aligning the interest of the oil industry with Alaskans so that together, we can develop our resources as required by our Constitution: for the maximum benefit of Alaskans.

Backup Contents for SB 267

1. Dan Dickinson Presentation on SB 267
2. Department of Revenue: ACES Status Report
3. Frasier Institute: Global Petroleum Survey 2009, Executive Summary
4. ConocoPhillips: Presentation to Meet Alaska
5. BP: John Minge speech to Meet Alaska

State of Alaska

Department of Revenue

Commissioner's Office

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January 14, 2010

Honorable Governor Parnell,

Recently you requested a review of Alaska's oil and gas production tax, and recommendations for how the production tax could be improved. Enclosed for your review is analysis of Alaska's oil and gas production tax (otherwise referred to as "ACES"), which was compiled at my request by the Department of Revenue's technical staff. The ACES Status Report evaluates whether ACES is meeting its intended goals of providing a fair share of revenue to the state while encouraging investment in new oil and gas exploration and development activities.

Based on the report, I am recommending a collection of potential amendments to ACES and its associated Exploration Incentive Credit (EIC) program. The amendments are primarily intended to accomplish two things: 1. Further incentivize drilling and other production enhancing activities; and 2. Address a number of provisions of ACES that may keep explorers from enjoying the full intended value of the capital credit program.

The status report shows that ACES successfully allowed the state to share in the benefits of high oil prices while accommodating fluctuations in production costs and oil prices. ACES adjusted when oil prices tumbled and kept oil operations in Alaska highly profitable relative to other oil provinces. With respect to the impact that the new production tax has had on investment activity, the report is positive, but ultimately inconclusive. While the overall level of taxation increased with ACES, it distributed the impact of that tax burden in a way designed to incentivize investment in new exploration and development. Since ACES passed the legislature, overall spending on oil and gas activities on the North Slope has increased. However, given only two and a half years of experience, during which time oil prices climbed to $140 per barrel then plunged to under $30 per barrel, it would be premature to attribute the increased level of oil company investment to the success of ACES.

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Oil taxes are clearly an important factor in industry investment decisions. However, it is misleading to isolate their influence from other key factors, such as world oil prices, geologic potential, access to land, resources and markets, costs of infrastructure and support services, and the legal and regulatory framework. As noted in the report, the true merit of Alaska's current fiscal system can only be determined when it is evaluated in conjunction with these other variables. The scope of the status report, and the limited timeframe since ACES passed, do not allow for such a comprehensive analysis and definitive conclusions.

In addition to documenting several promising trends in industry spending activity, the report notes a number of discrete policy issues associated with the production tax where improvement can be made. These warrant your consideration as potential amendments to the ACES framework.

1. **Increase Credits for All Well-Related Activity to 30%:** The Capital Credit and Exploration Incentive Credit (EIC) programs have been identified as influential in spurring exploration activities. However, the EIC program's 30% credits are only available to wells located more than 3 miles from all existing wells. The state has a significant interest in also incentivizing infill drilling and other well work that will increase oil production, particularly for heavy oil. I therefore recommend expanding the EIC program so that all expenditures related to drilling and well work that add new production or increase the efficiency of existing production will qualify for the 30% EIC credit under AS 43.55.025 regardless of a well's location relative to existing wells.

2. **Increase Access to Capital Credits for New Explorers:** Small producers are currently required to invest in new activities during subsequent years in order to obtain direct payment from the state for previously earned tax credits. This is not an issue for existing producers because they simply deduct credits from their current tax bill and do not need to seek direct payment from the state. Deleting this provision would make the tax credits more accessible to smaller explorers, level the playing field between new and existing operators, and eliminate an unfair double standard.

3. **Accelerate Capital Credit Usage**: Companies currently can only use half of their capital credits in the year they are earned, and the other half the following year. This is true whether the credits are applied against a tax liability or purchased by the state. Taxpayers would see increased value in the credits if they could apply the entire credit in the first year. In addition, this would ease the cost of administering these credits.

4. **Waive Interest on Late Tax Payments Due to Drafting of Regulations**: The ACES regulations, including those defining 'allowable lease expenditures' are being finalized this month. Under the statutes, these regulations are to be applied retroactively to various dates in 2007. To the extent additional taxes are due as a result of the application of the new regulations, such payments would be subject to interest and possibly penalties. While the department can waive penalties, it cannot waive interest charges. A statutory change is required in order to permit the waiver of interest.

I am confident you will find the ACES Status Report informative and interesting. Please consider my recommendations to improve the effectiveness and fair administration of ACES and the EIC program. I look forward to continuing to work with you to encourage additional oil and gas development while preserving Alaska's equitable share of oil and gas profits.

Sincerely,

Patrick S. Galvin
Commissioner

Alaska's Clear and Equitable Share (ACES)
Status Report
Alaska Department of Revenue
January 14, 2010

Introduction

In November 2007, the Alaska Legislature passed House Bill 2001, known as Alaska's Clear and Equitable Share (ACES). ACES made modifications to the prior production tax called the Petroleum Profits Tax (PPT), enacted in 2006. The changes made first with PPT and later with ACES represented substantial production tax reform in that the basis of the tax shifted from the *gross value* to the *net value* of oil and gas production. The gross tax which had been in place prior to the PPT is generally referred to as the Economic Limit Factor (ELF).

This report was prepared at the request of the Commissioner of Revenue in order to evaluate whether ACES is meeting its intended goals of providing a fair share of oil and gas revenue to the state, and encouraging investment in the exploration and development of new oil and gas resources in Alaska.

Following are the key findings of this report:

1) State revenues under ACES in FY 2009 exceeded amounts which would have been generated under either the PPT or ELF systems. The crossover point at which ACES is projected to provide more revenue than ELF is $51 per barrel west coast price in FY 2010.

2) Activation of the progressive surcharge is estimated to occur when west coast sales prices reach $56 per barrel.

3) Capital spending on the North Slope totaled over $2.2 billion in FY 2009 an increase over FY 2008. This is nearly the highest level of capital spending in nominal dollars since oil production began in the state.

4) The impact of the production tax modifications on industry investment cannot be clearly determined due to the influence of other factors and given the limited timeframe during which ACES has been in place.

5) Operating costs have risen since the enactment of PPT and ACES, but the impact of these cost increases to state tax revenues was moderated by the "standard deduction" provision of ACES, which expired December 31, 2009.

6) Increased reporting requirements, particularly of forward looking expenditure information, has greatly enhanced the accuracy of the Department's revenue forecasting efforts.

7) The Department has made significant progress in implementing ACES regulations, but there will be challenges to both the department and taxpayers as the regulations are implemented. Preliminary audits of taxpayers under the new profits-based system (formerly PPT) have begun, consistent with the normal audit timeframe.

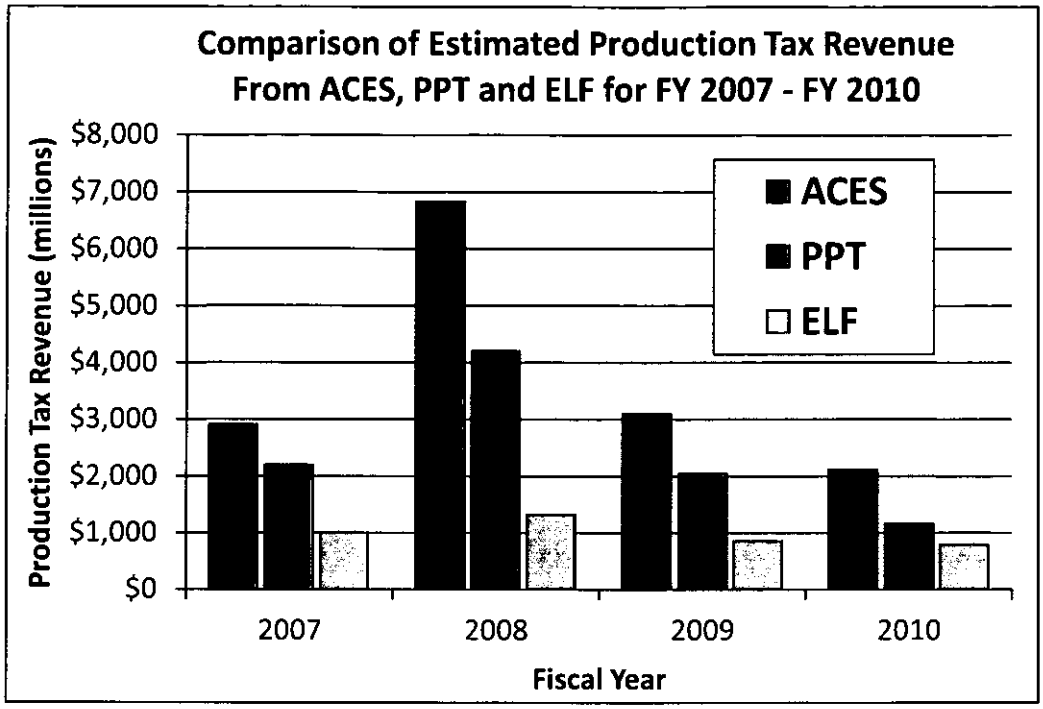
Comparison of Revenues under ACES, PPT and ELF

The net tax structure – first enacted under PPT (2006) and later with ACES (2007) – represents a significant change from the oil and gas tax structure used for much of Alaska's history. Under the earlier tax, known as the Economic Limit Factor (ELF), production tax was levied on oil and gas producing properties, regardless of whether operations were profitable. The current production tax structure requires companies to pay tax only when they are making profits from oil and gas production in the state. In addition, tax credits are provided for capital expenditures, with higher credits available for certain oil and gas exploration investments.

Since its enactment in 2007, ACES has generated more state revenue than would have been generated under either PPT or ELF. In FY 2008, a period of very high oil prices and profits, ACES generated $6.8 billion in production tax revenue, compared with $4.2 billion which would have been received under PPT and $1.3 billion which would have been received under ELF. In fiscal year 2009, during which west coast oil prices average $68.34, ACES generated just over $3.1 billion. This compares with roughly $2 billion that would have been generated under PPT and $858 million under the earlier ELF system.

Figure A compares revenue from ACES, PPT and ELF for FY 2007-2010. The FY 2009 revenues are preliminary. Estimates for FY 2010 are based on the Department's fall 2009 forecast of an average west coast oil price of $66.93 per barrel.

Figure A[1]



The progressive feature in ACES means that the state receives more production tax revenue when oil prices are high relative to underlying costs. Similarly, it significantly lessens the state's share of revenues when per-barrel margins decline. This effect was illustrated in 2008, when oil prices reached a high of $140 per barrel in July, bringing in $900 million in production tax for the month, and later plunged to below $30 per barrel in December, producing a total of $50 million in production tax for the month. Over the course of the full year, ANS crude oil averaged over $92 per barrel, resulting in five times more revenue than would have been realized under the ELF system.

Figure B shows estimated revenues that would be received under ACES, ELF and PPT at various oil prices.[2] The oil price crossover point at which the state receives more revenue under ACES than the ELF system is roughly $51 per barrel. The crossover point has increased over prior

[1] Production tax revenue includes surcharges but does not include any settlements which go to the Constitutional Budget Reserve Fund. FY 2007 PPT revenue includes true-up payments for the period of April 2006 through December 2006. FY 2007 ACES revenue assumes similar true-up payments for comparison purposes. For FY 2007 - FY 2009, assumes actual data for oil price, production, costs and other variables. For FY 2010, assumes oil price, production, costs and other variables as of the fall 2009 forecast. Costs under PPT for FY 2010 for Prudhoe Bay and Kuparuk are based on aggregated company forecasts. For ACES only, assumes that standard deduction would apply for all of FY 2007-FY 2009 and first half of FY 2010. Actual tax revenue, as opposed to modeled revenue, is used for PPT in FY 2007 and ACES in FY 2008-FY 2009.

[2] This analysis assumes a constant oil price for the entire year, production of 655,000 barrels per day, deductible lease expenditures of $20 per barrel and transit costs of $6 per barrel.

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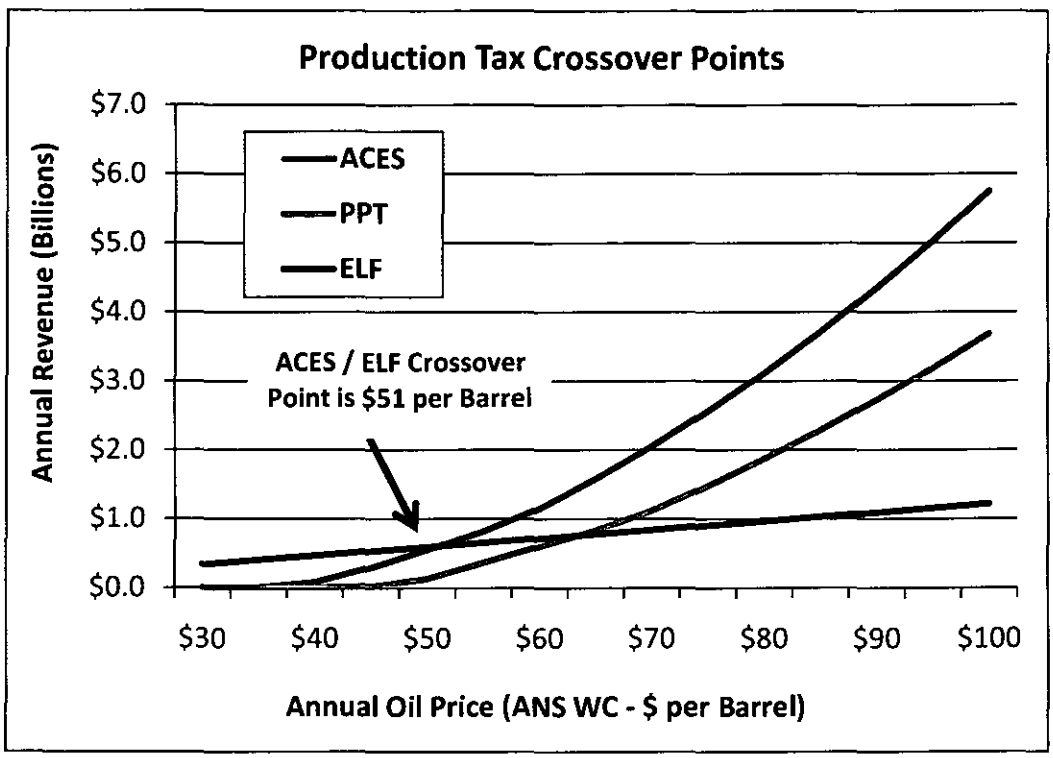
years because lease expenditures, which are deductible under ACES, have increased since ACES was passed. It is expected that lease expenditures will decrease as costs decline in delayed response to the decline in oil prices from their 2008 levels.

Figure B[3]



Lease Expenditures

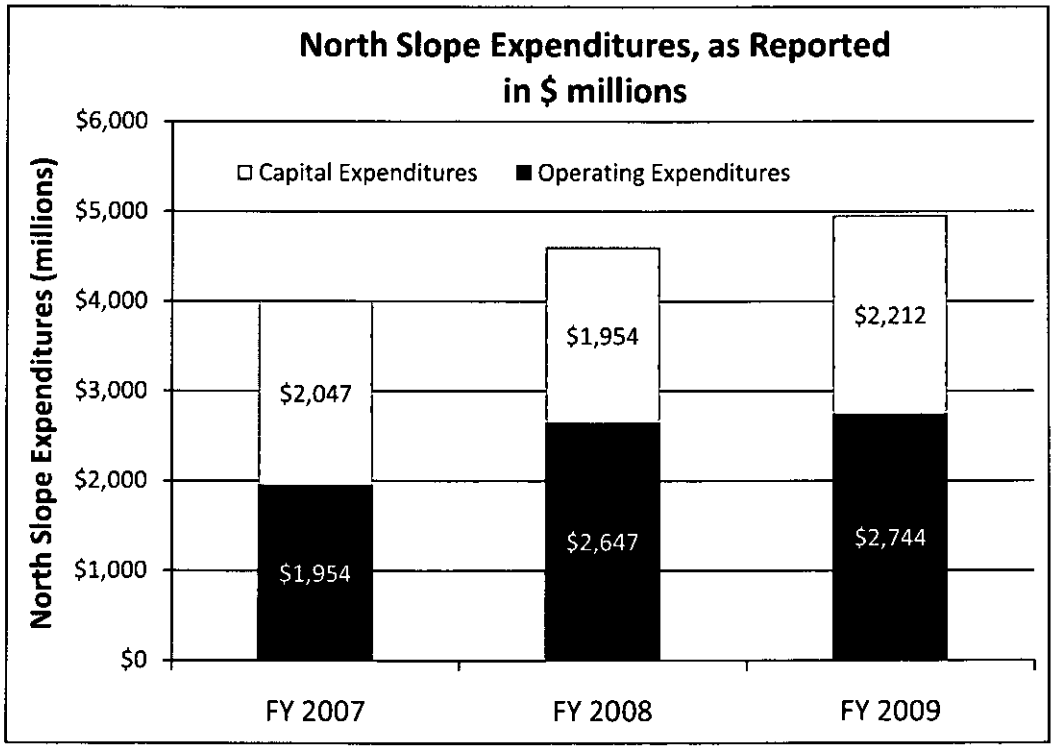
With the introduction of the net tax, it became necessary for the state to identify and forecast allowable lease expenditures for purposes of the tax calculation. Prior to the passage of PPT, the department had not been required to track or audit oil and gas production costs in Alaska. Some early cost data had been acquired directly from producing companies and through preliminary examination of federal tax returns. However, even during the debate over PPT, the state did not have access to comprehensive, Alaska-specific data that would enable policymakers to analyze the effects of the proposed tax over the life of a project. With much more information now being provided under the new tax structure, the department is developing a better understanding of oil and gas costs in Alaska, which will significantly benefit future policy deliberations.

[3] Assumes fixed operating and capital cost of $20 per barrel.

Lease expenditures fall into two general categories that constitute the major deductions under the ACES tax system. Operating expenditures are the costs to operate an oil or gas production facility on a day-to-day basis. These include labor, heat and light for the facilities, and some well work and minor equipment repairs. Capital expenditures are costs incurred to enhance or improve the reserve base, level of production, or facilities. Drilling is one of the most common forms of capital costs, as is facility construction or expansion.

Figure C shows the operating and capital expenditures, as reported on company tax returns and monthly reports, for their North Slope operations, from FY 2007 through FY 2009. Note that the graph represents all reported expenditures for all North Slope properties, regardless of whether or not they are subject to the "standard deduction" provisions of AS 43.55.165(j).

Figure C[4]



Operating Expenditures

Operating costs have risen significantly in recent years for the oil and gas industry worldwide. This has often been linked to the corresponding rise in oil prices beginning around 2002. Projects around the world that were once marginally economic have become viable, increasing the demand for limited supplies of engineering, procurement and construction services, as well

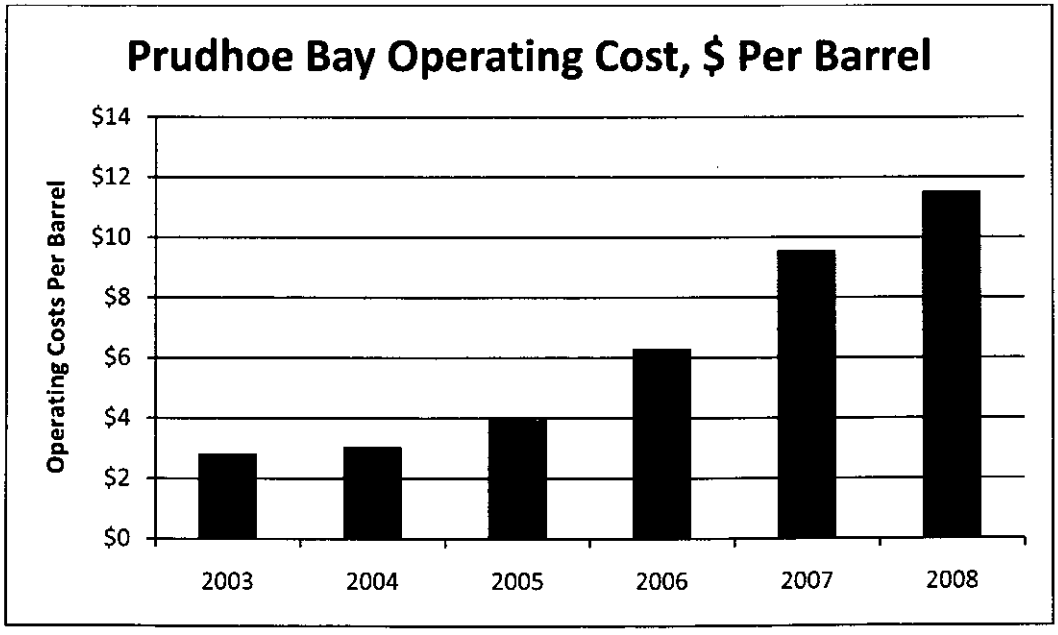
[4] Operating expenditures includes total reported costs, not standard deduction; FY 2007 estimated based on incomplete reporting

as raw materials. Cambridge Energy Research Associates (CERA) reports the upstream operating cost index rose for oil and gas field operations roughly 67% between 2002 and the end of 2008.[5] Meanwhile, the global capital cost index rose over 100% during the same period.[6]

Alaska-specific information obtained through public sources and shared in confidence during the Stranded Gas Development Act negotiations and through ACES reporting shows similar trends on the North Slope. Estimates of operating costs prior to PPT ranged from $3 to $5 per barrel. More recent information indicates that operating costs on the North Slope have doubled, and in some cases nearly tripled. Following the Prudhoe Bay corrosion incidents in 2006, operating expenditures on major repairs increased. However, since that time, the proportion of total operating expenditures directed to major repairs does not appear to have been a key driver in the growth of total operating expenditures.

Figure D shows the upward trend in per-barrel operating costs at Prudhoe Bay from 2003 to 2008. The chart shows a dramatic increase over the six-year period, consistent with cost increases seen in the oil and gas sector worldwide.

Figure D



The recent downturn of the global economy has started to push operating costs back down again. In June of 2009, CERA reported that worldwide, operating costs had declined 8 percent

[5] IHS CERA Upstream Operating Cost Index (UOCI), http://www.ihsindexes.com (Accessed December 11, 2009)
[6] IHS CERA Upstream Capital Cost Index (UOCI), http://www.ihsindexes.com (Accessed December 11, 2009)

over the previous 6 months.[7] The most recent information reported to the department under the new ACES requirements shows this trend to also be developing on the North Slope.

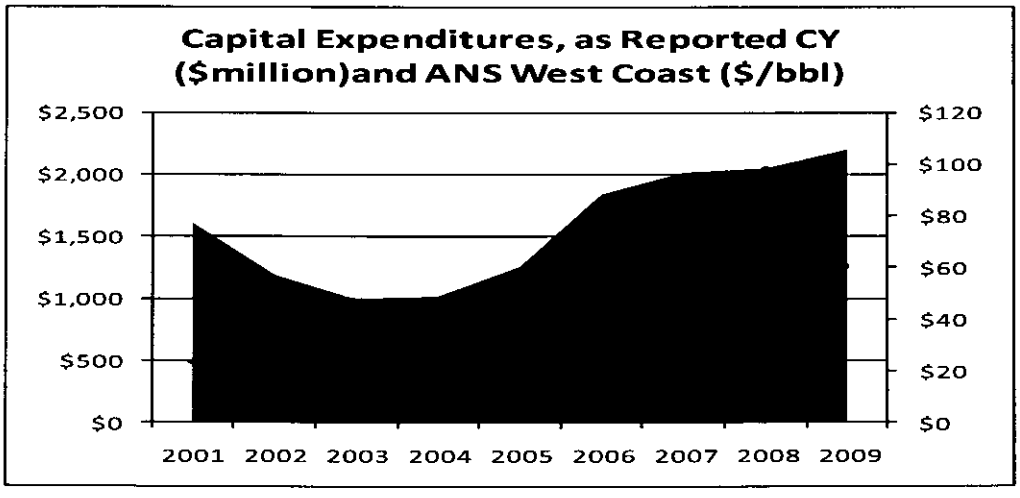
Much of this change can once again be linked to recent trends in oil prices. Lower oil prices led to a slackening of worldwide project activity, driving down the costs of transportation and various consumables. Despite this correlation, however, operating costs have not fallen at the same rate as oil prices. While the department anticipates that per-barrel operating costs will continue to decline under the lower oil price forecast for FY 2009 and FY 2010, they are expected to remain relatively high compared with those from five or more years ago.

Capital Expenditures

Capital expenditures have also increased since PPT and ACES were enacted. While capital expenditures on pipeline repairs at Prudhoe Bay increased after the Prudhoe Bay corrosion incidents in 2006, the majority of growth in capital expenditures is attributable to drilling, seismic and other projects. As shown below, capital spending on the North Slope in CY 2009 was roughly twice the level in either 2003 or 2004. At least some of this increase is due to new development activities. Two major developments – Oooguruk and Nikaitchuq – have gone forward despite recent oil price setbacks. Development of the Point Thomson field is also underway.

Figure E shows historical capital expenditures from CY 2001 to 2009 as reported by oil and gas producing companies operating on the North Slope.

Figure E



[7] IHS CERA: *"Period of Sustained Cost Escalation for Upstream Oil and Gas Facilities Comes to an End,"* June 5, 2009. http://www.cera.com/aspx/cda/public1/news/pressReleases/pressReleaseDetails.aspx?CID=10388 (Accessed December 11, 2009)

In order to forecast North Slope lease expenditures, the department receives forward looking spending projections from taxpayers, and also consults a variety of information sources, including unit forecasts, plans of development, and federal partnership returns. These data give the department significantly better insight into future development plans, as well as trends in operating and capital expenditures.

This information shows a variety of changes on the North Slope in the years ahead. There is continuing development of newer fields like Oooguruk, Nikaitchuq, and Point Thomson. Growth in capital expenditures at many major North Slope units (i.e. Prudhoe Bay, Kuparuk, Colville River and others) appear to slow slightly or decline in the next year or two and re-surge thereafter to the level of the recent past or higher. This trend is consistent with indicators of worldwide industry activity which show a dramatic drop in capital expenditures from the high levels experienced in 2008. This suggests that recent economic contraction may have caused some North Slope development projects to be delayed as producers hope to form a better idea of where the economy and oil prices may be headed.

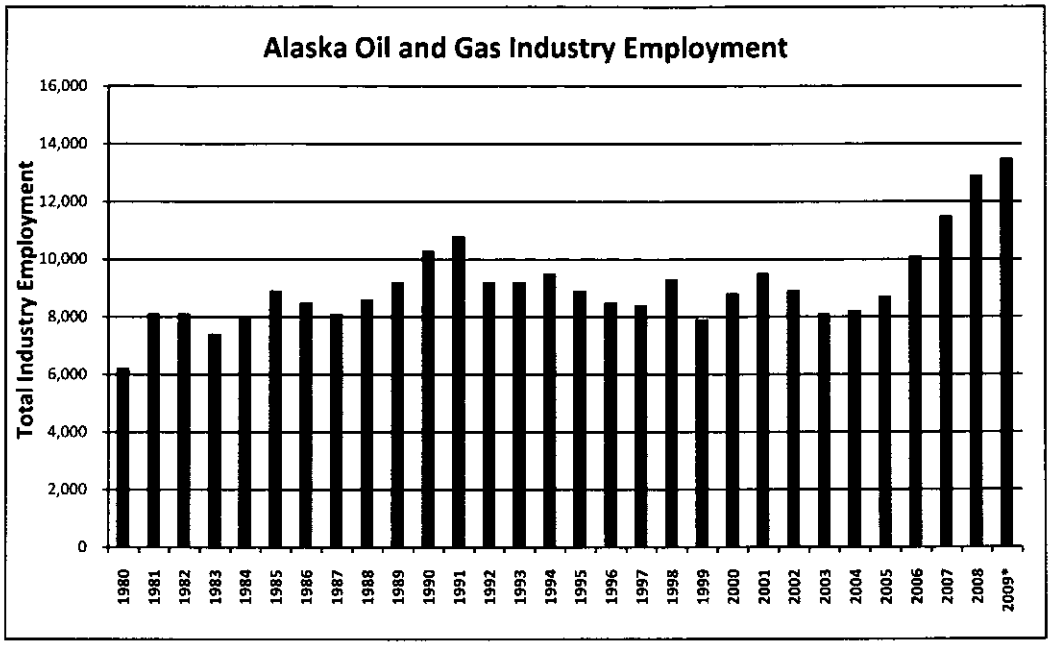
It would be presumptuous to solely attribute the rise in expenditures to the success of the investment incentives found in ACES. Many factors beyond tax policy drive oil and gas investment decisions. However, one of Alaska's new explorers, Savant Alaska, stated in a recent Petroleum News article that ACES had assisted in their development efforts at Badami. "ACES was an important component for Savant in considering investment in Alaska. It definitely had its intended consequence with us." [8]

Industry Employment

Employment in the industry has also increased steadily since the implementation of PPT and ACES, with 2009 forecast to be the highest in state history. It is important to note that this occurred concurrent with a steady rise in the oil prices, which has generally shown a strong correlation with industry activity.

[8] Kay Cashman quoting Savant's Chief Operating Officer Greg Vigil, "Savant Accelerates Badami Drilling Plan," *Petroleum News*, Volume 14, No. 3, January 18, 2009.

Figure F[9]



Flexibility of Tax Burden Evidenced

The increased revenues generated under ACES represent an increased tax burden on Alaska's oil and gas industry. However, there is evidence that ACES effectively adjusts that burden when oil prices drop and profit margins are squeezed. In 2009, a period of relatively low oil prices in comparison to recent years, 35 percent of ConocoPhillips total reported exploration and production profit in the first quarter of the year (Q1), 55 percent in Q2, and 36 percent in Q3, came from its Alaska operations, which only account for 12 percent of the company's worldwide production.[10]

ACES Structure and Tax Rate

The ACES tax consists of a base rate of 25% plus a progressive surcharge, which is triggered when a company's net profits — also known as "production tax value"— exceed $30 per barrel. Beyond this point, the base tax rate is increased by 0.4% for each additional $1 increase in per-barrel production tax value. Using current estimated transportation and production costs of roughly $26 per barrel, the surcharge would begin to be applied when west coast oil prices reach $56 per barrel. When the combined base rate and progressive surcharge reach 50%

[9] Data from Alaska Department of Labor and Workforce Development, Research and Analysis Section (January 11, 2010). Includes nonagricultural wage and salary data and excludes the self-employed. *Estimates for 2009 are preliminary.

[10] ConocoPhillips, Form 10-Q Quarterly Reports Pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934, March 31, 2009, June 30, 2009 and September 30, 2009.

(approximately $92.50 per-barrel profit or $118.50 West Coast price) the progressive surcharge is lessened to 0.1% for each additional $1 increase in per-barrel production tax value. The maximum nominal tax rate is 75%, which would apply at a profit rate of $342.50 per barrel or $368.50 West Coast price.

As with any tax, ACES may be evaluated using a variety of different metrics, including "effective," "nominal" and "marginal" tax rate comparisons. While each of these can be helpful under the appropriate circumstances, each is also subject to certain limitations. It is important when using these metrics to understand their relative value and how they reflect upon the objectives of the tax system.

The "effective tax rate" is the share of the total gross taxable value at the point of production that is paid in production taxes after credits are applied. It is a good universal measure of the sharing of total petroleum value that can be compared to gross value-based tax systems.

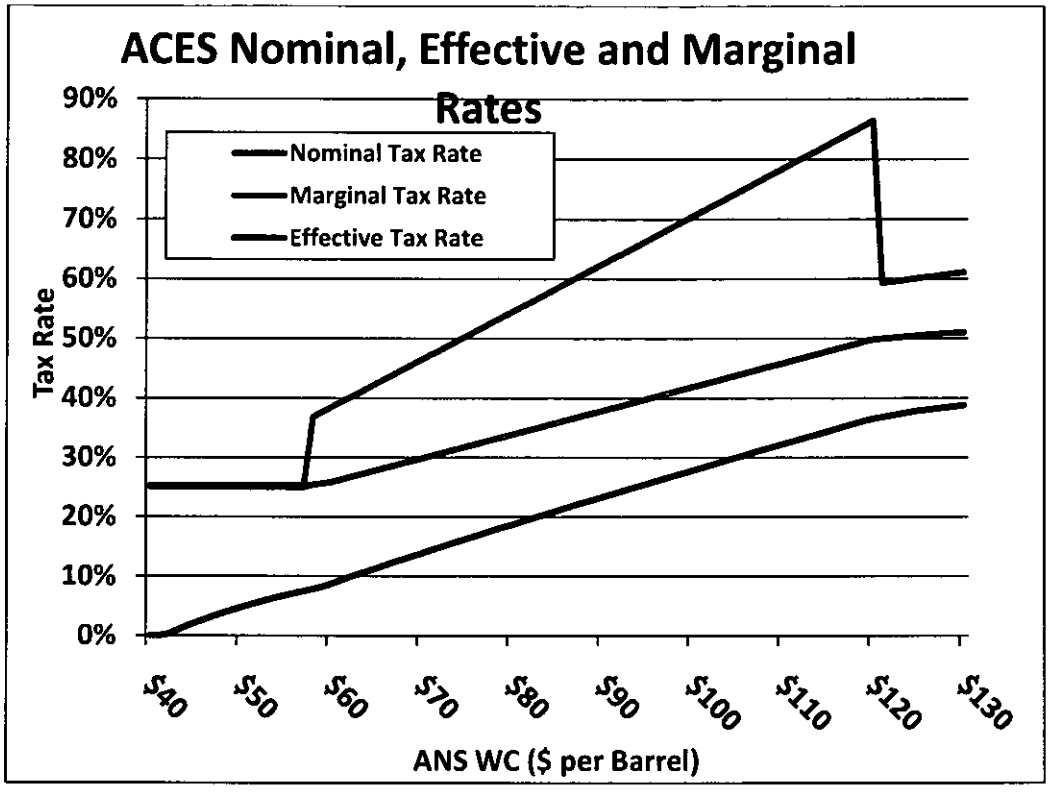
The "nominal tax rate" is the statutory tax rate as applied to the net value of oil and gas production. It does not account for credits or other tax benefits which ultimately impact a company's bottom line. Under ACES, the nominal tax rate varies with the per-barrel profitability. In addition to a base tax rate of 25%, ACES levies a progressive surcharge that can raise the combined nominal tax rate to 75% at extreme price levels.

The "marginal tax rate" is the rate theoretically applied to each dollar increase in oil price. In the case of ACES, the marginal tax rate is 25% until per barrel profit reaches $30 per barrel (about $56 per barrel in west coast spot price under the current cost structure), at which point it increases for every additional dollar up to a marginal tax rate of 87% when the profit reaches $92.50 per barrel (about $118.50 per barrel on the west coast). Following this peak, the marginal tax rate drops off significantly as the profit level continue to rise. With a net based tax system, this metric shows a company the impact of making additional investment, because each dollar they invest is "subsidized" by the government based on the amount of marginal tax they have avoided paying on that dollar.

Each of these metrics has their limitations when considered in isolation from other metrics, or when only one data point on the curve is presented. For example, a marginal tax rate of up to 87% initially sounds excessive. However, at that same price level, the effective tax rate (the tax burden) is less than 40%. The marginal rate of 87% actually represents the state's "portion" of any new investment made at such high prices.

Figure G shows the nominal, effective and marginal tax rates under ACES using a wide range of west coast spot prices.

Figure G



Production Tax Administration and Implementation

The passage of ACES presented significant challenges for tax administration and implementation because it involved comprehensive structural changes to the tax on the heels of the prior year's legislative changes through PPT. These challenges are experienced both on the taxpayer and on the state side.

Tax Credit Successes and Difficulties

The increased spending levels reported earlier in this document, may be due in part to the expansion of capital and exploration credits provided under ACES for reinvestment in the state. Credits can be applied against tax liabilities, sold to other companies or, for companies producing less than 50,000 boe/day, can be purchased by the state. Nearly $550 million in credits were claimed in FY 2009. Approximately $193 million was paid to oil and gas companies

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to purchase oil and gas tax credits, while an additional $350 million in tax credits were used to offset tax liabilities.

Some administrative difficulties have arisen due to the requirement that the 20% capital credit be spread out over two years. It has taken a substantial amount of time and resources to develop a database with which the division can track the issuance and staged application of these credits for each taxpayer. This detailed tracking was made necessary by the transferability and use of the credits, and some confusion by taxpayers and their transferees regarding how the credits could be applied. In addition, the two-year spread in the application of the capital credits diminishes their value to taxpayers who look for quick return of their investment dollars. Finally, one of the reasons for the two-year spread in credits was to assist the department in forecasting future revenues. However, the department has found that the information provisions in ACES have been extremely valuable and successful in improving the volume and quality of spending projection data provided to the department by operators. This forward looking spending information has been much more valuable to the revenue forecasting process than the two-year spread in credits.

The Department has also received feedback regarding the reinvestment requirements for new explorers. Under current law, companies generally receive a financial benefit of over 45 percent of exploration expenditures incurred in the state. However, a new entrant to Alaska (with no production to immediately apply the credit against) can only get full value for their expenditures by applying to the state for cash payment for their credits earned. In order to receive such a payment, the company must continue to make expenditures in future years. Although this provision was originally created to support new explorers, it appears to be a limiting factor for companies that have fewer financial resources and are only considering a single exploration investment. In application, this requirement creates a "double standard" where new entrants to Alaska are provided less value for their credits compared to incumbent companies.

"Standard Deduction" provision at AS 43.55.165(j)

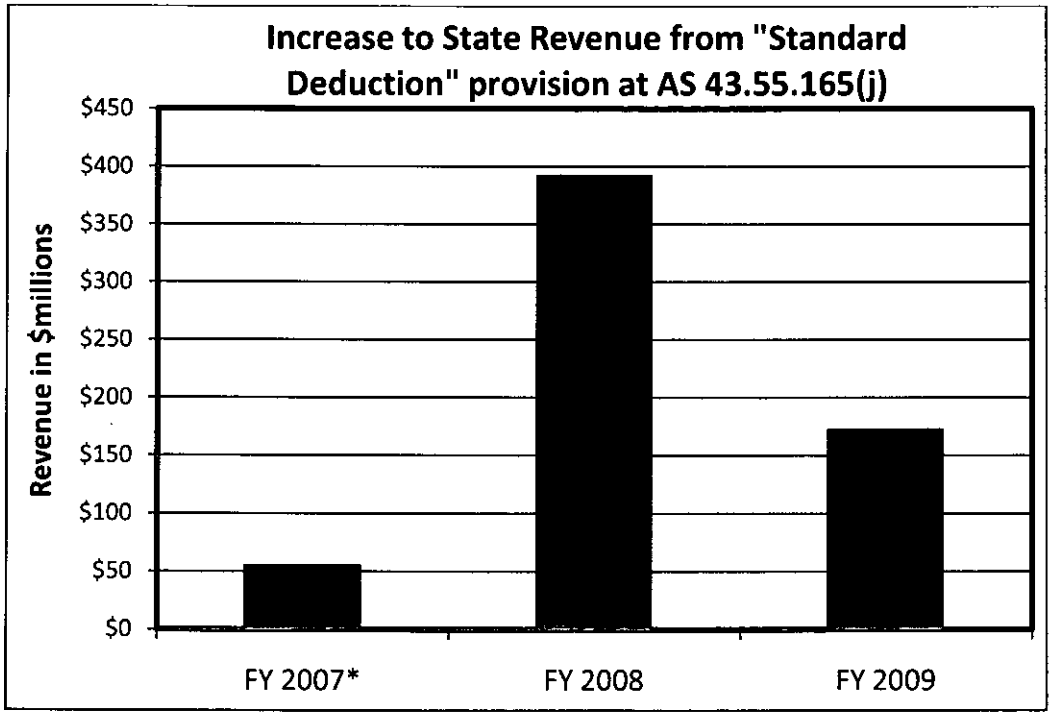
The ACES tax reform made modifications to the deductibility of operating expenditures for certain fields on the North Slope. Alaska Statute 43.55.165(j) limited the deduction of operating expenditures at leases or properties that have produced a cumulative 1 billion barrels of oil and NGLs since the lease or property began oil production. The Prudhoe Bay Unit and the Kuparuk River Unit are subject to these provisions based on their cumulative production. The provision, coined the "standard deduction," limits the deduction of operating expenditures to the amount deducted on the first PPT returns, filed April 1, 2007, for calendar year 2006 expenditures, adjusted annually. This provision, which was effective through December 31,

2009, was intended to moderate the risk associated with adopting a profits based tax without substantial historical data on which to rely for future cost estimates.

Based on company-reported expenditure data, the provision has resulted in a substantially greater tax liability to the state during the time it has been in place. The total liability in FY 2008 was substantially larger than the liability for FY 2009 due to the higher tax rate in FY2008 because of higher net profits realized due to high oil prices.

Figure H shows the increased revenue to the state from the standard deduction from FY 2007 through FY 2009.

Figure H[11]



Regulations

The ACES tax included new restrictions and guidance on allowable lease expenditures, requiring complex regulations. The department has actively sought industry input on the structure of the regulations to ensure they continue to achieve their intended purposes, while avoiding undue burdens for either side. The process has included numerous public workshops pertaining to credit regulation, conforming regulatory changes required by ACES, lease expenditures, facility sharing costs and transportation costs. As a result, the regulation drafting process has been

[11] *Standard Deduction was only in place for half of FY 2007.

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lengthy and complex. However, the regulations to define allowable lease expenditures are expected to be finalized this month.

Under the statute the regulations are retroactive to various 2007 dates. To the extent additional taxes are due, taxpayers would be required to pay interest on what would now be late tax payments. The department has discretion to waive any penalties for late payments. However, a statutory change would be needed in order for the department to provide a waiver from interest payments.

Reporting and Revenue Forecasting

ACES requires that companies exploring for or producing oil and gas in the state submit a monthly information report to the department. This report includes estimated data on production volumes, the value of the production, and the operating and capital expenditures related to production. The monthly report is used primarily by state economists to monitor company production and spending. Included with the monthly report is an estimate of taxes owed and credits earned. Twice annually, companies are asked to provide the department with forward-looking expenditure information, along with future production plans to aid the department in providing the legislature with state revenue forecasts.

These reports, in combination with the monthly information reports and the annual tax returns, have significantly enhanced the quality of the department's revenue forecasts.

Audit Compliance

The ACES legislation extended from three to six years, the period in which the department is required to assess production taxes owed. The extension was seen as necessary to assure proper tax assessments, particularly given the complexity of overlapping ELF, PPT and ACES tax laws. The new tax law also included funding for four new "Audit Masters" within the department. The department is still experiencing significant difficulties recruiting and filling audit positions. The department has successfully recruited three Audit Masters, and these individuals have been placed within sections of the Tax Division to assist with implementation and administration of the tax. The recruitment of the fourth Audit Master, and Oil and Gas Revenue Auditors is ongoing.

During 2008, the department's auditors began auditing tax returns that were submitted for calendar year 2006 under the PPT program.

Conclusion

The ACES production tax has been effective in allowing the state to share in the benefits of high oil profitability. It has also responded well to lower oil prices by reducing state tax burden on Alaska's oil and gas producers. Over $2 billion in new capital investment was reported in fiscal year 2009 reaching near-record levels. While these and other indicators suggest that the profits-based tax system has supported North Slope exploration and development, it would be misleading to suggest that ACES alone influences the level of investment. While tax is recognized as being an important factor in investment decisions, it is not the primary determinant. Long-term price forecasts, as well as the resources themselves, have proven to be much more significant drivers of industry activity.

The department is continuing to analyze ACES to identify opportunities to improve the tax framework in order to support additional exploration and development in the state, while not harming the state's revenue base.

The new reporting requirements under ACES are helping the department develop a better understanding of industry expenditures and activity, and have assisted in the state's revenue forecasting efforts. Development of new tax regulations is progressing, though several challenges remain for both the state and taxpayers. Numerous workshops have been held to solicit industry input and these will continue as the department continues to work through outstanding issues. In 2008, the production tax audit group began auditing taxpayers who submitted annual returns for CY 2006 under PPT.

Overall, the information reviewed by the department indicates that ACES is performing as expected when it was passed by the Legislature in 2007. The economic provisions are resulting in the revenue levels anticipated, and the investment incentives appear to distribute the increased tax burden in a fashion that continues to encourage reinvestment, though the experience with the credit program could be improved for new explorers. Challenges remain in the implementation by the department, but they are manageable and the department is positioned to meet those challenges.

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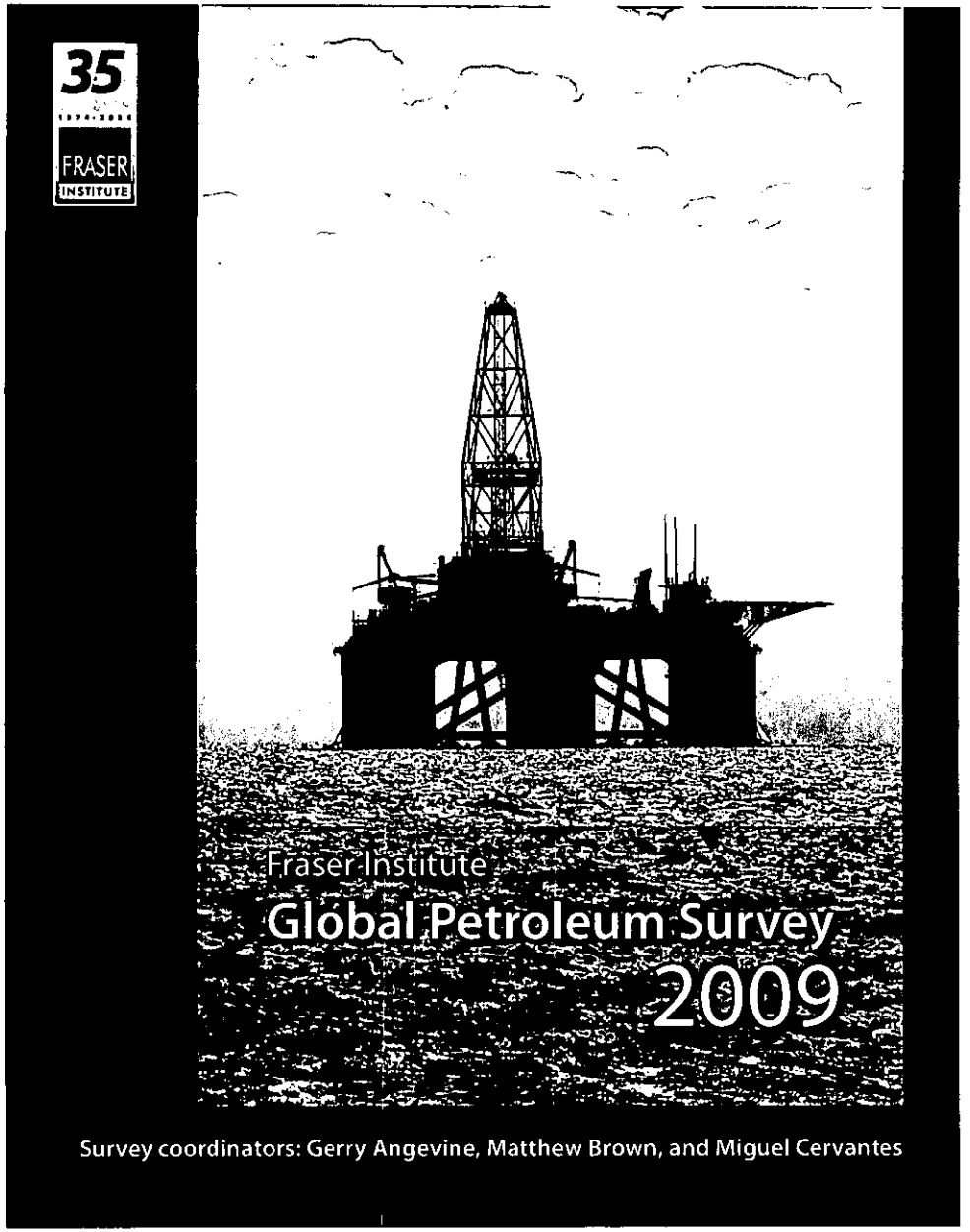

Acknowledgements

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Thanks also are due to the Australian Petroleum Producers and Explorers Association for identifying key companies and providing contact information to ensure ample representation from "down under." We are very grateful to the following groups, among others, for bringing the survey to the attention of their members: the South Australian Chamber of Mines and Energy; the Instituto Argentina del Petroleo y del Gas; the Canadian Association of Petroleum Producers; the Colorado Oil and Gas Association; the Independent Petroleum Association of America; and the Small Explorers and Producers Association of Canada.

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Any errors or omissions are the sole responsibility of the authors. As they worked independently, opinions expressed by the authors are their own and do not necessarily reflect the opinions of supporters, trustees, or other staff of the Fraser Institute.

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Design by Bill Ray. Image copyright © Elnur, Fotolia

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Survey Information

The 2009 Fraser Institute Global Petroleum Survey was distributed to managers and executives of petroleum exploration and production companies around the world and to firms that provide support services to such companies.

The analyses contained in this report are based on information obtained from 577 respondents representing 276 companies. The exploration and development budgets of these participating companies totaled about $200 billion in 2008. That represents more than 50 percent of global upstream expenditures last year, according to the *World Energy Outlook* 2008 (International Energy Agency, 2008).

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Executive Summary

This report presents the results of the Fraser Institute's 3rd annual survey of petroleum industry executives and managers regarding barriers to investment in oil and gas exploration and production in various jurisdictions around the world. The survey responses have been tallied to rank provinces, states, and countries by the severity of investment barriers such as high tax rates, costly regulatory schemes, and security threats, among other factors.

A total of 577 respondents completed the survey questionnaire this year, providing sufficient data to evaluate 143 jurisdictions. This is a substantial increase from the 2008 survey, in which 81 jurisdictions were rated, and the 2007 survey, in which 54 jurisdictions were rated.

The jurisdictions have been assigned scores for each of 16 factors that affect investment decisions. The scores are based on the proportion of negative responses a jurisdiction received; the greater the proportion of negative responses, the greater the perceived investment barriers and, therefore, the lower the jurisdiction's ranking.

This year for the first time, the six Australian states, Australia's Northern Territory, and the Timor Gap were each evaluated as individual jurisdictions.

An All-Inclusive Composite Index derived from the scores of all 16 factors provides an overall assessment of each jurisdiction. On this basis, the 10 least attractive jurisdictions for investment are Bolivia, Niger, Venezuela, Ecuador, Sudan, Russia, Bangladesh, Nigeria, Kazakhstan, and Ethiopia.

Jurisdictions within North America, Europe, Australia, and New Zealand generally received the best rankings overall. The 10 most attractive jurisdictions for investment, based on the All-Inclusive Composite Index, are Arkansas, Alabama, Kansas, Austria, Mississippi, Nebraska, South Dakota, Texas, Oklahoma, and Indiana.

Nine of the top 10 jurisdictions on this year's All Inclusive Composite Index are US states. Of these, top-ranked Arkansas and second-ranked Alabama were also among the top three jurisdictions in 2008. Saskatchewan, the only Canadian jurisdiction among the top 10 last year, fell to 38th (of 143) this year.

Among jurisdictions experiencing the greatest drops on the All Inclusive Composite Index are Bangladesh, Cote d'Ivoire, Myanmar, and Libya. In Europe, both Spain and Italy lost considerable ground in the rankings, as did the Ukraine, which continues to be regarded as among the least attractive jurisdictions for investment. Canada's Yukon and Northwest Territories also slipped in the rankings and, along with the third territory, Nunavut, which was rated for the first time this year, stand out as the least attractive regions in North America for investment in exploration and development.

Comments received from respondents highlight why some jurisdictions are considered attractive for investment and others not. Investors say they turn to different jurisdictions when confronted with high royalty fees and tax rates, inadequate infrastructure, price controls, and labor shortages. Similarly, investors prefer to avoid jurisdictions with costly and time-consuming regulations. Other factors being equal, competitive tax and regulatory regimes can attract investment and thus generate substantial economic benefits.

Survey Methodology

Sample design

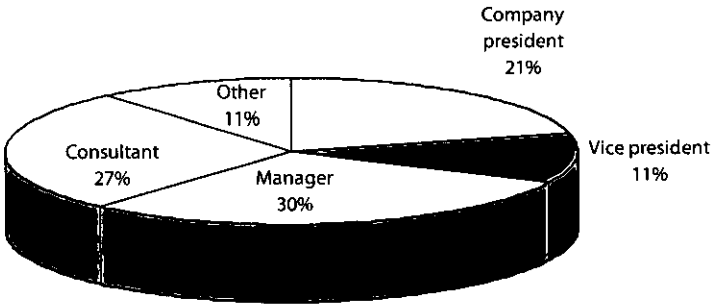
This survey was designed to identify the provinces, states, and countries with the highest barriers to investment in oil and gas exploration and production. This allows jurisdictions ranked poorly by investors to consider reforms that would improve the investment environment. Petroleum companies use the information to corroborate their own assessments and to identify jurisdictions where new investment may be attractive.

The survey was distributed to managers and executives in the "upstream" petroleum industry. This includes exploration for oil and gas reserves, and the production of crude oil, bitumen, and both conventional and non-conventional forms of natural gas. It does not include the refining and processing of crude oil and raw natural gas, or the transportation and marketing of petroleum products.

The names of potential respondents were chosen from publicly available membership lists of trade associations. Canadian trade commissioners abroad also provided the names of some companies and individuals in their host countries. In addition, some industry associations provided contact information for individuals with member companies.

The survey was administered from February 2, 2009 to April 17, 2009. A total of 577 responses were received from individuals representing 276 companies. About two-thirds of the respondents identified themselves as either a manager or holding a higher-level position. The companies represented in the survey account for more than 50% of the industry's annual spending on petroleum exploration and production (International Energy Agency, 2008).

Figure 1: The Position Survey Respondents Hold in Their Company, 2009



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Survey questionnaire

The survey was designed to capture the opinions of managers and executives regarding the level of investment barriers in jurisdictions with which their companies were familiar. Respondents were asked to rate how the 16 factors listed below influence company decisions to invest in various jurisdictions.

1. Fiscal Terms—government requirements pertaining to royalty payments, production shares, and licensing fees.
2. Taxation Regime—the tax burden (other than for oil production, which is reflected under Fiscal Terms), including personal, corporate, payroll, and capital taxes.
3. Local Natural Gas Prices—whether regulated rates for natural gas are set too low to recoup exploration and production costs.
4. Cost of Regulatory Compliance—the costs of processing permit applications, participating in hearings, etc.
5. Regulatory Uncertainty—the extent to which the regulatory environment is unstable, i.e., whether there are frequent, unexpected, or unjustified changes in rules and requirements.
6. Environmental Regulations—the costs of complying with regulatory requirements on exploration and production processes and facilities.
7. Local Processing Requirements—the extent to which a jurisdiction requires oil and gas that is extracted locally also to be processed locally.
8. Trade Regulations—the ability of producers to gain access to markets through the export of crude oil, natural gas, and refined petroleum products.
9. Labour Regulations and Employment Agreements—the degree of flexibility employers may exercise in hiring and firing, compensation, and work rules.
10. Local Public Infrastructure—the availability and quality of schools and colleges, hospitals, and recreation facilities.
11. Business Infrastructure—the adequacy of roads, railways, and airports.
12. Geological Database—the availability of credible and complete data on area geology.
13. Labor Availability—the supply and quality of labor, and the willingness of foreign workers to relocate to the region.
14. Aboriginal Land Claims—the uncertainty of unresolved claims by native groups, which can interfere with land access and transportation rights-of-way.
15. Political Stability—the frequency of changes in policies, regulations, and elected officials.
16. Security—the safety of assets and personnel, and the risk of expropriation.

For each of the 16 factors, respondents were asked to select one of the following five responses that best described each jurisdiction they were familiar with:

1. Encourages investment
2. Is not a deterrent to investment
3. Is a mild deterrent to investment
4. Is a strong deterrent to investment
5. Would not invest due to this criterion

The survey included a list of 162 jurisdictions that respondents could evaluate, including most Canadian provinces and territories, many US states (and the Atlantic, Pacific, Alaska, and Gulf Coast offshore regions), all 6 Australian states and 1 territory, the Timor Gap, and countries with current or potential petroleum production capacity. Mexico and other countries where investment in upstream petroleum exploration and development is mostly confined to government-owned facilities were excluded.

Scoring the survey responses

For each jurisdiction, we calculated the percentage of negative scores for each of the 16 factors.[1] We then developed an index for each factor by assigning the jurisdiction with the highest percentage of negative responses a score of 100, and correspondingly lower scores to the other jurisdictions according to their ratings. The jurisdictions with the lowest scores are considered the most attractive by the upstream investors and thus rank better than jurisdictions with higher, more negative scores.

Only jurisdictions evaluated on all 16 factors by an average of five respondents are included in the rankings, and no jurisdictions are included for which fewer than three responses were received for any of the 16 factors. This resulted in the ranking of 143 jurisdictions with a median of 19 responses each.

In addition to rankings for each of the 16 factors, jurisdictions are ranked on four composite indices, as follows.

All-Inclusive Composite Index

The All-Inclusive Composite Index is derived equally from the scores earned by jurisdictions on all 16 factors. This index is the most comprehensive measure of the investment barriers within each jurisdiction. A large index value indicates that investors consider a jurisdiction relatively unattractive for investment.

1 The negative scores were determined by the number of times respondents graded a factor as "a mild deterrent to investment" or as a "strong deterrent to investment," or indicated that they "would not invest" in the jurisdiction because of issues summarized under that factor heading. This year, the scoring methodology was changed to include the "mild deterrent to investment" response in order to differentiate among jurisdictions for which the number of stronger negative responses was negligible or constituted only a small portion of the total number of responses received.

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Commercial Environment Index

The Commercial Environment Index ranks jurisdictions on five factors affecting the costs of conducting business and the net revenue potential:

- Fiscal terms
- Taxation regime
- Local price of natural gas
- Local business infrastructure
- Labor availability

The index ranking was calculated by averaging the negative scores for each of these five factors. A large index value indicates that industry managers and executives consider that commercial conditions constitute significant barriers to investment.

Regulatory Climate Index

The Regulatory Climate Index reflects the scores assigned to jurisdictions for the following six factors:

- The cost of regulatory compliance
- Regulatory uncertainty
- Environmental regulations
- Local processing requirements
- Trade regulations
- Labor regulations and employment agreements

A relatively high Regulatory Climate Index value indicates that regulations, requirements, and agreements in a jurisdiction constitute a considerable barrier to investment, resulting in a relatively poor ranking.

Geopolitical Risk Index

The Geopolitical Risk Index represents the scores earned by jurisdictions for political stability and security. These two factors are considered to be more difficult to overcome than either regulatory or commercial barriers because political change typically is necessary before significant progress can be made. A high score on the Geopolitical Risk Index indicates that investment is relatively unattractive in that jurisdiction because of political instability and/or security problems such as crime, confiscation and use of company equipment and vehicles, and the threat of expropriation.

Global Results

All-Inclusive Composite Index

Table 1 compares the 2009 and 2008 scores and rankings of the All-Inclusive Composite Index. The first and second columns present the 2009 and 2008 rankings respectively. The third and fourth columns present the absolute scores for each jurisdiction in 2009 and 2008, based on the percentage of negative responses for each of the 16 factors in the survey. Those at the top of the list are regarded as having relatively few investment barriers and, therefore, as being attractive for investment.

The marked increase in the number of jurisdictions ranked this year represents greater survey participation by upstream investors with knowledge about overseas jurisdictions, especially in the Pacific Rim, Africa, and Europe, as well as a number of US states, and federally administered offshore regions.

The 10 jurisdictions with the largest percentage of negative responses, indicating the greatest barriers to investment, are:

1. Bolivia
2. Niger
3. Venezuela
4. Ecuador
5. Sudan
6. Russia
7. Bangladesh
8. Nigeria
9. Kazakhstan
10. Ethiopia

Apart from Ethiopia and Niger, which were not ranked in 2008, and Bangladesh, which fell from 45th (of 81) in 2008 to 137th (of 143) this year, the jurisdictions in this group were also among the 10 worst in last year's survey.

Bangladesh appears to have fallen from investors' favor largely as a result of fiscal terms, taxation, and the local price of natural gas. The security of production facilities and equipment has also become more problematic there.

In 2008, we noted some deterioration in the relative attractiveness for investment of Colorado, Alaska, and Alberta compared with 2007. The unfavorable ratings for Alberta and Alaska stemmed from increasingly costly fiscal terms and tax rates. Colorado's ranking suffered because of the stringency of its proposed environmental regulations for oil and gas explorers. As table 1 indicates, these factors have continued to affect the jurisdictional rankings.

Table 1: Jurisdictional Rankings According to the Extent of Investment Barriers (based on All-Inclusive Composite Index values)

Jurisdiction	2009 Rank in Group of 143	2008 Rank in Group of 81	2009 Score	2008 Score
US—Arkansas	1	3	6.73	10.08
US—Alabama	2	1	8.88	8.17
US—Kansas	3	16	8.93	20.48
Austria	4	NA	9.81	NA
US—Mississippi	5	27	9.88	26.77
US—Nebraska	6	NA	10.62	NA
US—South Dakota	7	NA	10.90	NA
US—Texas	8	8	10.97	16.24
US—Oklahoma	9	7	11.30	15.18
US—Indiana	10	NA	12.46	NA
US—Nevada	11	NA	13.70	NA
US—Illinois	12	NA	15.26	NA
US—Utah	13	49	15.45	36.35
US Offshore—Gulf of Mexico	14	NA	15.96	NA
US—Louisiana	15	35	16.18	31.34
US—Wyoming	16	24	17.35	23.82
AU—South Australia	17	NA	18.73	NA
Netherlands—North Sea	18	NA	19.16	NA
Namibia	19	NA	19.80	NA
Tunisia	20	66	20.42	48.29
CA—Manitoba	21	17	20.98	20.49
US—Michigan	22	32	21.00	29.52
Chile	23	25	21.46	24.68
Bahrain	24	NA	21.62	NA
Netherlands	25	29	21.63	26.89
US—Kentucky	26	NA	21.66	NA
Ireland	27	NA	21.88	NA
US—North Dakota	28	19	22.37	21.23
US—New York	29	6	22.73	13.37
New Zealand	30	51	23.19	37.79
US—Virginia	31	NA	23.25	NA
AU—Northern Territory	32	NA	23.46	NA
US Offshore—Pacific	33	NA	23.55	NA
Croatia	34	NA	23.59	NA
Qatar	35	9	23.90	17.46
US—Ohio	36	18	24.06	20.69
Norway—North Sea	37	11	24.81	19.28

Table 1: Jurisdictional Rankings According to the Extent of Investment Barriers (based on All-Inclusive Composite Index values)

Jurisdiction	2009 Rank in Group of 143	2008 Rank in Group of 81	2009 Score	2008 Score
CA—Saskatchewan	38	10	25.02	18.89
United Kingdom—North Sea	39	12	25.02	19.66
Denmark	40	4	25.53	10.89
US—Montana	41	59	25.74	41.75
Taiwan	42	NA	26.16	NA
US—New Mexico	43	23	26.75	23.72
AU—Tasmania	44	NA	27.13	NA
United Kingdom	45	22	27.87	23.52
Norway	46	20	28.28	21.59
United Arab Emirates	47	5	28.29	12.84
France	48	38	28.61	32.68
AU—Queensland	49	NA	28.80	NA
Germany	50	28	28.90	26.78
US—Pennsylvania	51	55	29.56	40.46
Oman	52	NA	29.78	NA
US Offshore—Atlantic	53	NA	29.78	NA
CA—Nova Scotia	54	40	30.37	34.23
Brunei	55	NA	31.15	NA
AU—Western Australia	56	NA	31.25	NA
AU—Victoria	57	NA	31.52	NA
US—West Virginia	58	57	32.34	40.86
Trinidad and Tobago	59	58	32.81	41.06
CA—Ontario	60	30	33.30	29.12
Morocco	61	NA	33.49	NA
AU—New South Wales	62	NA	33.77	NA
Timor Gap	63	NA	34.82	NA
Thailand	64	48	35.77	36.34
Romania	65	43	36.09	35.70
Colombia	66	52	36.16	37.82
Uruguay	67	NA	36.26	NA
CA—Quebec	68	NA	36.89	NA
Egypt	69	26	37.15	25.06
Serbia	70	NA	37.57	NA
CA—British Columbia	71	33	37.66	29.86
US Offshore—Alaska	72	NA	37.92	NA
Ghana	73	NA	37.95	NA
Japan	74	NA	38.53	NA

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Table 1: Jurisdictional Rankings According to the Extent of Investment Barriers (based on All-Inclusive Composite Index values)

Jurisdiction	2009 Rank in Group of 143	2008 Rank in Group of 81	2009 Score	2008 Score
Malaysia	75	44	39.06	35.84
Costa Rica	76	NA	39.12	NA
Kuwait	77	42	39.71	35.48
US—Alaska	78	46	39.75	36.31
US—California	79	74	40.13	58.39
Mozambique	80	NA	40.32	NA
US—Colorado	81	61	40.42	42.35
CA—Newfoundland and Labrador	82	63	40.87	46.04
Greenland	83	NA	41.44	NA
Bulgaria	84	NA	41.54	NA
Albania	85	NA	42.90	NA
Azerbaijan	86	37	43.91	32.44
Jordan	87	NA	44.56	NA
China	88	36	44.86	32.42
Brazil	89	64	45.43	46.51
Philippines	90	NA	45.65	NA
Hungary	91	NA	46.62	NA
CA—Alberta	92	54	47.46	38.78
Poland	93	NA	47.53	NA
Papua New Guinea	94	NA	48.29	NA
Gabon	95	NA	48.74	NA
Tanzania	96	NA	49.09	NA
Guatemala	97	NA	49.69	NA
Spain	98	15	50.04	20.30
South Africa	99	NA	50.36	NA
Yemen	100	69	51.46	51.74
Turkey	101	NA	51.57	NA
Peru	102	77	51.60	60.83
Italy	103	34	52.83	30.72
Vietnam	104	NA	53.95	NA
CA—Yukon	105	31	54.05	29.12
Greece	106	NA	54.26	NA
India	107	NA	54.71	NA
Cameroon	108	NA	55.27	NA
Syria	109	NA	56.27	NA
Uzbekistan	110	56	56.91	40.52
Suriname	111	NA	57.52	NA

Table 1: Jurisdictional Rankings According to the Extent of Investment Barriers (based on All-Inclusive Composite Index values)

Jurisdiction	2009 Rank in Group of 143	2008 Rank in Group of 81	2009 Score	2008 Score
Angola	112	39	58.72	33.38
Libya	113	14	58.95	20.30
Indonesia	114	67	59.66	48.98
Turkmenistan	115	60	60.57	41.82
Republic of Congo (Brazzaville)	116	NA	61.04	NA
Kyrgyzstan	117	NA	61.04	NA
Algeria	118	62	61.83	42.98
Pakistan	119	53	62.77	38.21
CA—Northwest Territories	120	65	62.84	47.18
CA—Nunavut	121	NA	63.51	NA
Paraguay	122	NA	63.95	NA
Cambodia	123	NA	64.08	NA
Equatorial Guinea	124	NA	65.15	NA
Guyana	125	NA	65.99	NA
Ukraine	126	50	69.16	37.67
Iran	127	NA	69.29	NA
Cote d'Ivoire	128	41	69.76	35.29
Iraq	129	68	70.09	49.09
Democratic Rep. of Congo (Kinshasa)	130	NA	70.68	NA
Argentina	131	76	71.51	59.35
Chad	132	70	73.46	54.51
Myanmar	133	NA	73.60	NA
Ethiopia	134	NA	74.24	NA
Kazakhstan	135	72	74.43	57.42
Nigeria	136	73	74.85	57.43
Bangladesh	137	45	74.99	36.09
Russia	138	78	78.69	62.33
Sudan	139	75	82.64	58.60
Ecuador	140	81	87.80	100.00
Venezuela	141	79	91.86	88.58
Niger	142	NA	99.03	NA
Bolivia	143	80	100.00	97.28
US—Arizona	NA	2	NA	8.66
US—Offshore*	NA	13	NA	20.09
Australia*	NA	21	NA	22.20
Afghanistan	NA	47	NA	36.34
US—Florida	NA	71	NA	56.91

*Not available in 2009 because the jurisdictions were broken down into more detailed states, territories, and districts.

FINAL

Thank you,

This is my first opportunity to speak at the Meet Alaska, it's a real honor. I'm going to talk about things close to home, to build on the global views we've heard today.

Continuous improvement is very important to BP. It's not a catch phrase or a slogan, but an attitude about how we do our business. It means that we want to be better today than we were yesterday. And better tomorrow than we are today.

In town hall meetings with our Alaska employees, I talk about **BP's 50-year Alaska strategy as a dream – not a promise.**

We've go a lot to do, but there is a lot to play for. The BP resource base in Alaska is greater than 5 billion BOE– but it is challenged.

The barrels are challenged: challenged by markets, challenged by technology and challenged by the cost of doing business.

Our strategy is focused on:

- Safe, Reliable and Efficient Operations
- Building a stable and viable base business at $50/bbl oil price
- And growing the business through unlocking the vast heavy oil and natural gas resources in our portfolio.

Nothing has changed in our strategy – but the business environment has changed, so our tactics have changed.

Factors like our medium term and long term outlook on oil price, costs and productivity, technology, technical risk, and the federal and state fiscal and policy regimes.

To achieve our 50-year dream we need to:

- continuously improve our performance in safety,
- protect the environment,
- deliver a business that is viable today, fit for tomorrow.

And delivers competitive investment options that sustain the business well into the future.

And when I say we, I don't simply mean BP. "We" includes: the industry, our contractors, the state and all Alaskans.

Together, we are facing more challenges than we did a few years ago. I want to touch on safety first. We have made progress – but we are not finished.

BP can't do it without you – safety starts with the people in this room. Our contractors, employees, and everyone who does business in the Alaska oil patch.

Of the 20 million man-hours worked last year, 80 percent were contractor man-hours. I need your help to ensure all the work on the Slope is conducted safely.

We all need to learn from companies like Little Red Services that had zero recordable incidents last year.

Or, facilities like Endicott that earned a three-year re-certification of its VPP Star status under the US OSHA Voluntary Protection Program. It was the first facility in Alaska to be certified by the OSHA program.

We need to learn from the people who made these success stories happen. That's what continuous improvement is all about.

For the contractors in the room, I think it's clear that the way to earn business with BP is to demonstrate you can work safely and efficiently.

The foundation of our strategy rests on a healthy light oil business. And a healthy light oil business is critical to a sustainable oil business in Alaska.

The light oil business has suffered the last few years due to declining production and rising costs.

Costs have risen through significant inflation and increased government take. Our cash break-even point is significantly higher today than it was 5 years ago – and is a threat to our future.

This is hard for people to understand, we remember when the price of oil was very low – $10, so what's changed?

Over the last 5 years, oil and gas industry costs have increased at a rate of four times the price of oil. [1] Meanwhile, North Slope oil production has declined about 29 percent.

Rising cost, reduced outputs and a lower commodity price; this is not a model for a sustainable business.

Economics and policies will continue to drive our business choices, because investment capital is limited.

The best opportunities attract the investment dollars.

BP is in action to improve the quality of the business and the risk-reward balance. We're focusing on three things.

1. Prioritizing the activity set or scope of work
2. Tackling inflation through competition to drive down costs
3. Improving the efficiency and productivity of every $ invested

[1] CERA Capital Cost Index Increased 200% since 2004, 3Q 2009 202%

Regarding the activity set – we are being selective and we are choosing what - and how much - we do.

- risk reduction activities focusing on infrastructure have the first priority
- Growth projects in execution like Liberty are next
- And finally, the base business

Activities that we've slowed or stopped for sustainability are:

- Western Region Development Expansion (WRDX) project as it is not competitive
- Heavy oil project continues, but has slowed by 50%
- Reduced our rig count from 10 to 7 from January last year.[1]

In terms of tackling inflation, many of you are aware of the steps we have taken in our "fit for the future" program.

The industry suffered significant inflation with the increased oil prices … and when the oil prices collapsed, the inflation remained.

[1] 1Q 2009 10 rigs, 1Q 2010 7 rigs, verified by Robinson

As I've said to contractors and to my team, we need to do what's right and fair with the contractor community. We live here too, and I want to ensure that the way we interact with you as contractors has been fair and reasonable.

We want to do business with Alaska contractors -- we just need you to be competitive.

The problem is that a dollar of cost to us is a dollar of revenue to you. No one likes to give up a dollar of revenue. It really hits close to home when you realize 80 percent of BP's spend is with Alaskan companies.

But to be sustainable, we need to ensure we pay market prices for goods and services. Competition is good and we have taken steps to award work to the most competitive suppliers.

For some activities, we've reduced costs by more than 50 percent from a few years ago.

Finally, we are looking to do things more efficiently. We are driving our business to continuously improve – so the next

well we drill will be better than the last ... so that tomorrow's activity is completed more efficiently than today.

We have some stunning examples of great teams making a real difference - teams that are changing the game in terms of safety, productivity and efficiency.

Accuren under the leadership of Dennis Lee, has more than doubled the number of corrosion inspections, improved efficiency and reduced injuries by 90%.

The CH2M Hill Weld Shop under the supervision of Chuck Shaumann and Jay Fillingham increased efficiency by 65%, with less than 1% rejection rate in more than 11,000 welds.

And, the BP Drilling & Wells Workover team and Nabors Rig 4ES, under the leadership of Dave Hebert, improved efficiencies in the installation of electric submersible pumps (ESP) by 33% in less than a year, saving more than $1MM.

These are just a few examples. What we find is that the most efficient teams are also becoming the safest teams. Our

focus is to have this kind of performance everywhere we work.

I have touched on how we are improving the performance and economics of our business – and now I would like to touch on government policy.

Last week's announcement by Governor Parnell on oil tax credits was a positive signal to the industry that he and his administration recognize that the ACES tax needs change to stimulate activity.

The opportunity for dialog is encouraging and we will participate openly. We believe the proposal is a good start, but it's not enough for sustainability of Alaska's oil and gas industry.

In Alaska, policy decisions around taxes made over the past few years have slowed the pace and scale of some of our North Slope developments.

We put projects on the shelf that didn't make sense in this environment and I mentioned three examples earlier.

It wouldn't be fair for me to assert that our investment decisions are solely based on the tax structure – in reality, there are a host of market factors. However, the tax structure plays a significant part in the decision process.

For a tax and royalty regime, Alaska has the least competitive tax structure of anywhere BP works in the world.

In the USA, the tax and royalty structures in the L48 and GOM are more competitive. The tax and royalty regimes in Australia, the North Sea, and Trinidad are also more competitive.

That means Alaska projects have to be more efficient to compete. This means our projects need to produce more barrels per dollar of investment and lower unit costs.

It's a tough challenge against the backdrop of decline and the Arctic environment where construction costs are significantly higher than the L48.

The two biggest issues with the Alaska tax structure are the overall tax rate, and the progressivity portion of ACES.

Here is a simple example:
In a Gulf of Mexico investment, the government take (taxes & royalties) from an incremental $1 at a $90 oil price is about 40 cents. That means the company has the upside potential of nearly 60 cents out of every incremental dollar.

So what is the government take on state lands in Alaska at $90 oil price? Because of the progressivity of the ACES severance tax, the government keeps between 70-80 cents of that one dollar, and the industry's share ranges from 20-30 cents.

If you had opportunities for new growth – where would you put your money? In a place where you can earn 60 cents on an incremental dollar, or 20-30 cents?

It should come as no surprise that we will need to reduce our capital spending about 15% this year. This year's actual capital spending will be about $850 million, compared to over $1 billion in 2009.

However, this 15% top line reduction actually masks the real impact that ACES has had on our base business.

Our 2010 investment consists of roughly one-third infrastructure renewal, one-third for growth and one-third drilling.

The infrastructure investment is not adding production, and the growth projects for BP are primarily our investment in Denali and Liberty.

The investment in our base business is focused on offsetting decline and delivering increased production from in field drilling. This is the activity that delivers more production in the short term.

That activity has been reduced since ACES passed at the end of 2007.

Here is some data that supports that statement:

Our total drilled footage will be more than 50% lower in 2010 vs. 2007. It was nearly 1 million feet in 2007.

Also, our capital investment in the base business has been reduced by 30% when comparing 2007 and 2010 investment.

It was encouraging that the Governor's announcement recognizes that this is an issue. That's a step in the right direction.

The bottom line is it's more difficult to attract capital to Alaska because the risk/reward balance is disadvantaged against investment opportunities in other parts of the world. Alaska has become more of a margin play as there is very little reward for price upside. Alaska needs to do better if it wants to attract investment.

So why then are we investing in Liberty?

Liberty will be the first full federal offshore development in Alaska, and the competitiveness of the project is helped because the high technical risk is balanced with higher

reward under the **federal tax structure – the project is not subject to ACES severance tax**. This is a good example of how policy drives investment.

This year, the first of up to six Liberty ultra-extended reach wells will reach 6-8 miles to a new 100-million barrel field.

First oil production is expected in 2011, peak of 40,000 barrels/day and a capital investment more than $1 billion.

That said, the state still benefits from Liberty:

- In state income and property taxes;
- a share of the federal royalty;
- 40,000 barrels/day down TAPS;
- and a lot of jobs -- about 40 Alaska companies worked on Liberty's construction.

There are other growth opportunities too. But like everything else, economics and policy will drive investment decisions.

The remaining resources in Alaska are significant – there is a lot to play for … but they are technically and commercially challenged – and they are harder to reach.

Being more technically challenged means it's harder for projects to be profitable – it takes more investment for less barrels compared with the past.

But the size of the resource base gives us great hope. There are significant opportunities in heavy oil and Alaska gas. But there are equally significant challenges.

You all know the heavy oil story. In a nutshell, it's an exciting opportunity that requires a technological solution. We have a strong belief we will find that solution.

However, our current estimates indicate that even with technological success, heavy oil is not economic under the current tax structure at today's oil prices.

Gas development is also an important part of our Alaska strategy, and it's certainly on the mind of every person in Alaska.

We all read the papers. Producers in the lower 48 have been aggressively looking at ways to access abundant shale gas resources. And they are succeeding. There has been a significant change in the Lower 48 gas market due to a technological breakthrough.

A recent study estimates that by 2020, unconventional gas, such as shale, is forecast to account for over 50% of total US production … with estimated shale gas supplies that will meet today's US market for 50 to 100 years.[3]

At the same time, Natural gas demand is forecast to remain relatively flat for the next 30 years.[2]

The market in the lower 48 is working … supply is up, demand is flat and Henry Hub prices have reacted.

I believe that demand will have to increase to make Alaska gas commercially viable in the Lower 48.

---

[3] Source: EIA Annual Energy Outlook 2009 & Brian Frank Presentation 1/09

[2] DOE 09 Forecast flat demand 23TCF/yr through 2020.

So gas is challenged. More challenged than it was just a few short years ago. But my team and I are absolutely focused on finding a way to bring Alaska North Slope gas to market. I don't know exactly how the future will play out, but I can promise that we are looking at all options for Alaska gas development.

That takes me back to where I began – our future is about continuous improvement of our business and playing the ball where it lies.

BP's employees are passionate about building a sustainable business in Alaska.

Over 81 percent of our two thousand person workforce call Alaska home. Together BP and our employees support more than 700 education, community organizations and youth teams in 49 different towns and villages across Alaska. Our employees are also the largest contributors to United Way.

Their commitment to Alaska is personal, and so is mine.

For decades BP has been the responsible steward of Alaska resources, delivering revenues to our state.

Our commitment has *not changed*, but our business reality has.

I believe the future will require all the "We" to work together differently – and better, than we have in the past.

I believe by working together with Alaskans, we can make our 50 year dream a promise … and that's what get's me excited about working in Alaska.

Thank you

Alliance Breakfast

Stimulating Production and Jobs

February 11, 2010

Investments → **Jobs + Production + Revenues for State and Industry**

Brian Wenzel
Vice President – Finance
ConocoPhillips Alaska

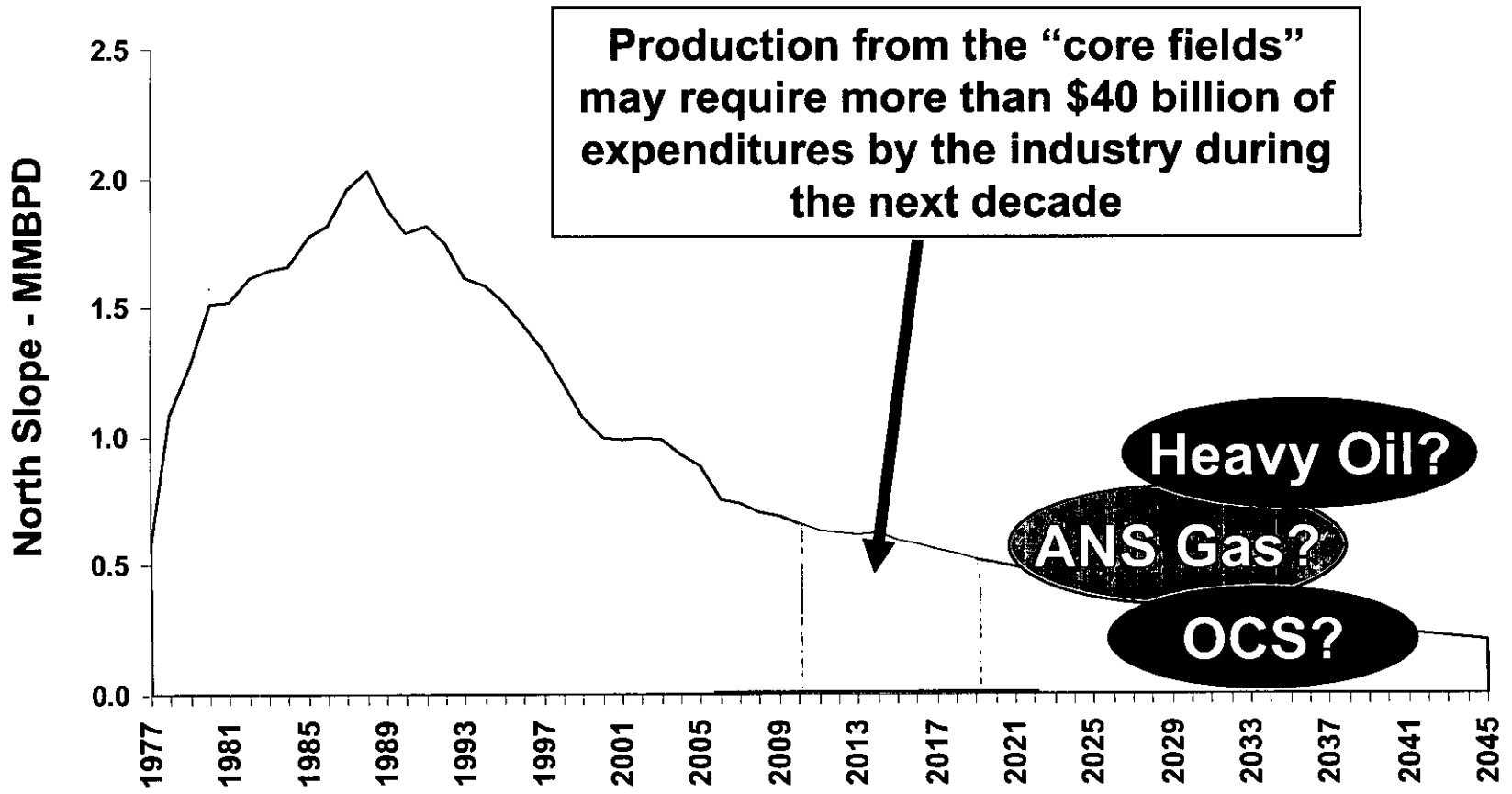
ConocoPhillips

CAUTIONARY STATEMENT FOR THE PURPOSES OF THE "SAFE HARBOR" PROVISIONS OF THE PRIVATE SECURITIES LITIGATION REFORM ACT OF 1995

The following presentation includes forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, as amended, and Section 21E of the Securities Exchange Act of 1934, as amended, which are intended to be covered by the safe harbors created thereby. You can identify our forward-looking statements by words such as "anticipates," "expects," "intends," "plans," "projects," "believes," "estimates," and similar expressions. Forward-looking statements relating to ConocoPhillips' operations are based on management's expectations, estimates and projections about ConocoPhillips and the petroleum industry in general on the date these presentations were given. These statements are not guarantees of future performance and involve certain risks, uncertainties and assumptions that are difficult to predict. Further, certain forward-looking statements are based upon assumptions as to future events that may not prove to be accurate. Therefore, actual outcomes and results may differ materially from what is expressed or forecast in such forward-looking statements.

Factors that could cause actual results or events to differ materially include, but are not limited to, crude oil and natural gas prices; refining and marketing margins; potential failure to achieve, and potential delays in achieving, expected reserves or production levels from existing and future oil and gas development projects due to operating hazards, drilling risks, and the inherent uncertainties in interpreting engineering data relating to underground accumulations of oil and gas; unsuccessful exploratory drilling activities; lack of exploration success; potential disruption or unexpected technical difficulties in developing new products and manufacturing processes; potential failure of new products to achieve acceptance in the market; unexpected cost increases or technical difficulties in constructing or modifying company manufacturing or refining facilities; unexpected difficulties in manufacturing, transporting or refining synthetic crude oil; international monetary conditions and exchange controls; potential liability for remedial actions under existing or future environmental regulations; potential liability resulting from pending or future litigation; general domestic and international economic and political conditions, as well as changes in tax and other laws applicable to ConocoPhillips' business; and limited access to capital or significantly higher cost of capital related to illiquidity or uncertainty in the domestic or international financial markets. Other factors that could cause actual results to differ materially from those described in the forward-looking statements include other economic, business, competitive and/or regulatory factors affecting ConocoPhillips' business generally as set forth in ConocoPhillips' filings with the Securities and Exchange Commission (SEC), including our Form 10-K for the year ending December 31, 2008, as updated by our quarterly and current reports on Forms 10-Q and 8-K, respectively. ConocoPhillips is under no obligation (and expressly disclaims any such obligation) to update or alter its forward-looking statements, whether as a result of new information, future events or otherwise.

Investment in Core Fields



Core fields are the bridge to the future

Sources: DNR production forecast and extrapolation of DOR expenditures forecast

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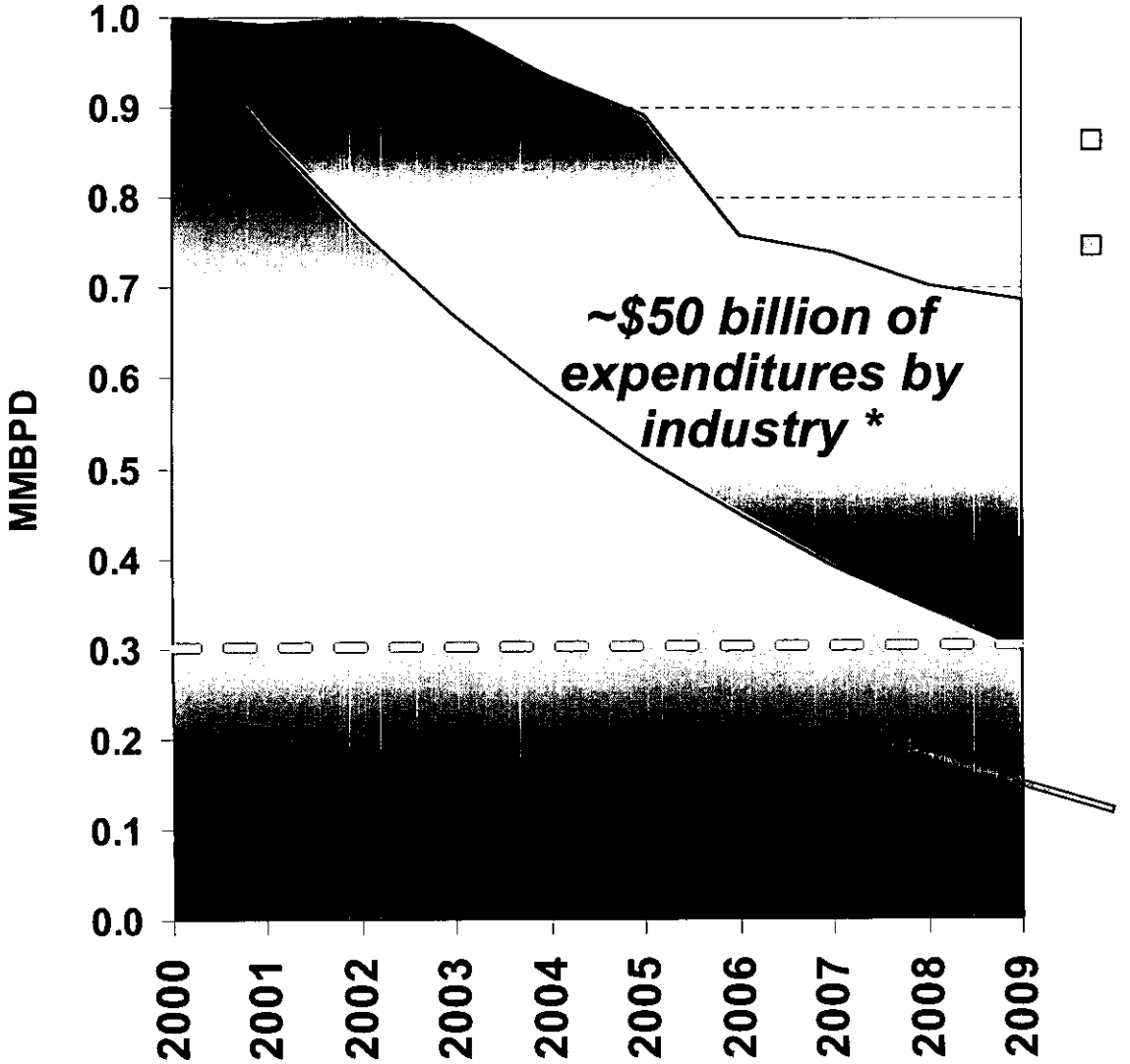
2000-2009 North Slope Production
with and without $50 Billion Invested by Industry



- Peak production in 1988
- $50 billion of expenditures by industry from 2000 - 09
  - Mitigated decline of nearly 400,000 bbl/day

Assumes 12.5% decline
<u>without investment:</u>
Production could have fallen to ~300,000 bbl per day

Sources: $50 billion per Wood Mackenzie Global Economic Model, DNR data for total volume, COP estimates for base decline rate

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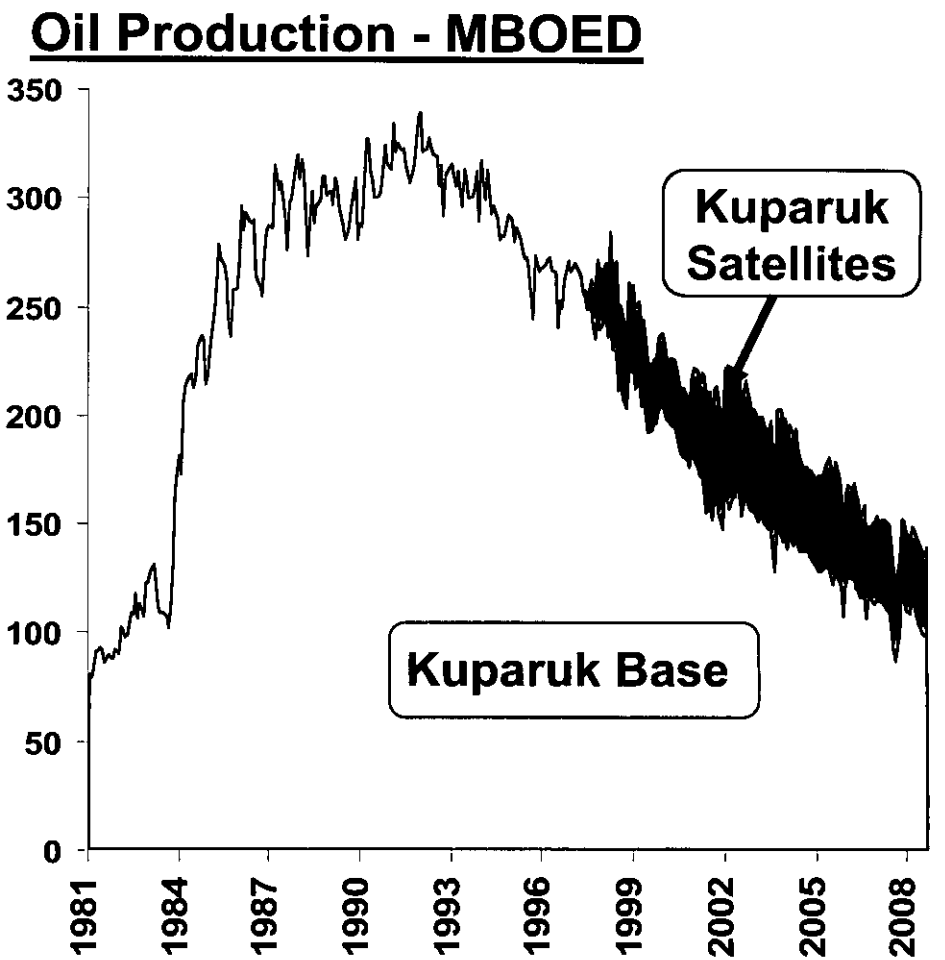
Nearing 30 Years at Kuparuk

- 1st Production in 1981
  - Over 6 Billion barrels OOIP[1]
    - *1% recovery = 60 million barrels*
  - Waterflood / Miscible gas EOR
- Recent activity
  - Pipeline and well maintenance
  - Coiled tubing drilling rig



1 – Original oil in place including satellites; Source – DNR website

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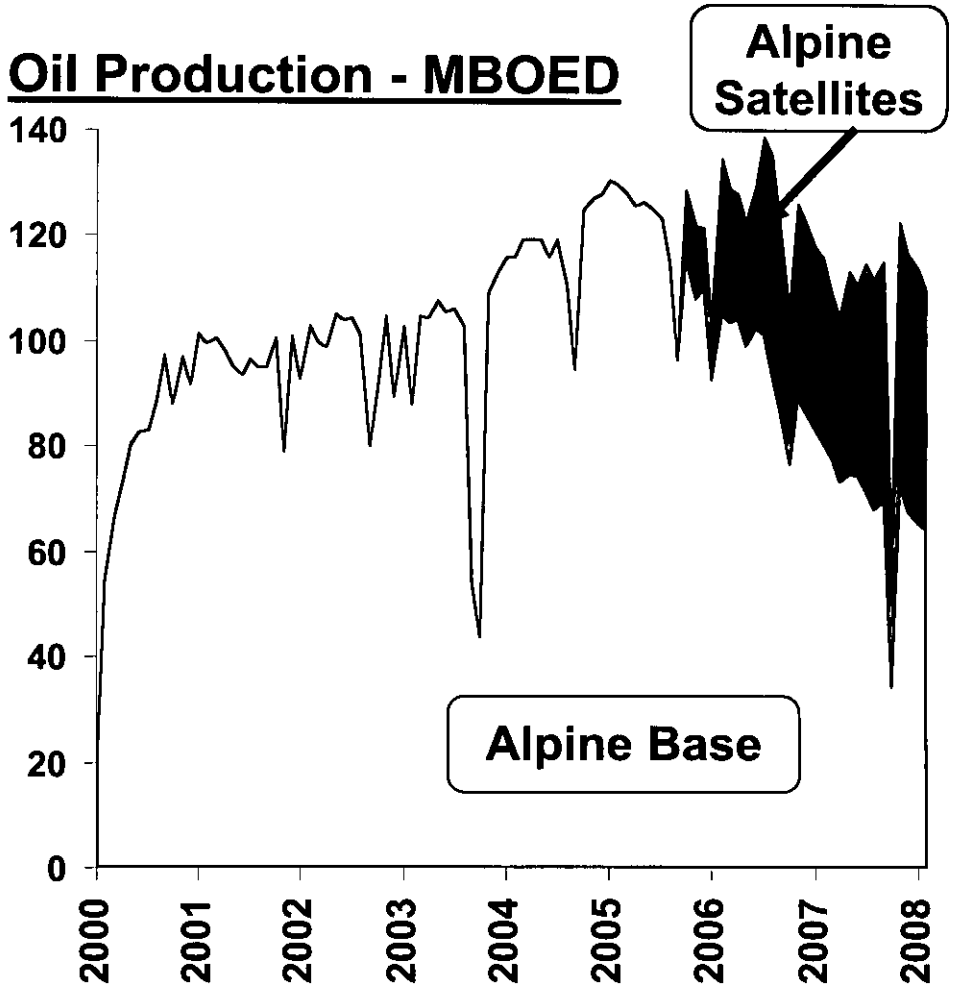
10 Years at Alpine

- 1st Production in 2000
  - Over 1 billion barrels OOIP[1]
  - Waterflood / Miscible gas EOR
  - Extended reach drilling
- Current opportunities
  - 3-D seismic
  - Satellite development is key



1 – Original oil in place including satellites; Source – DNR website

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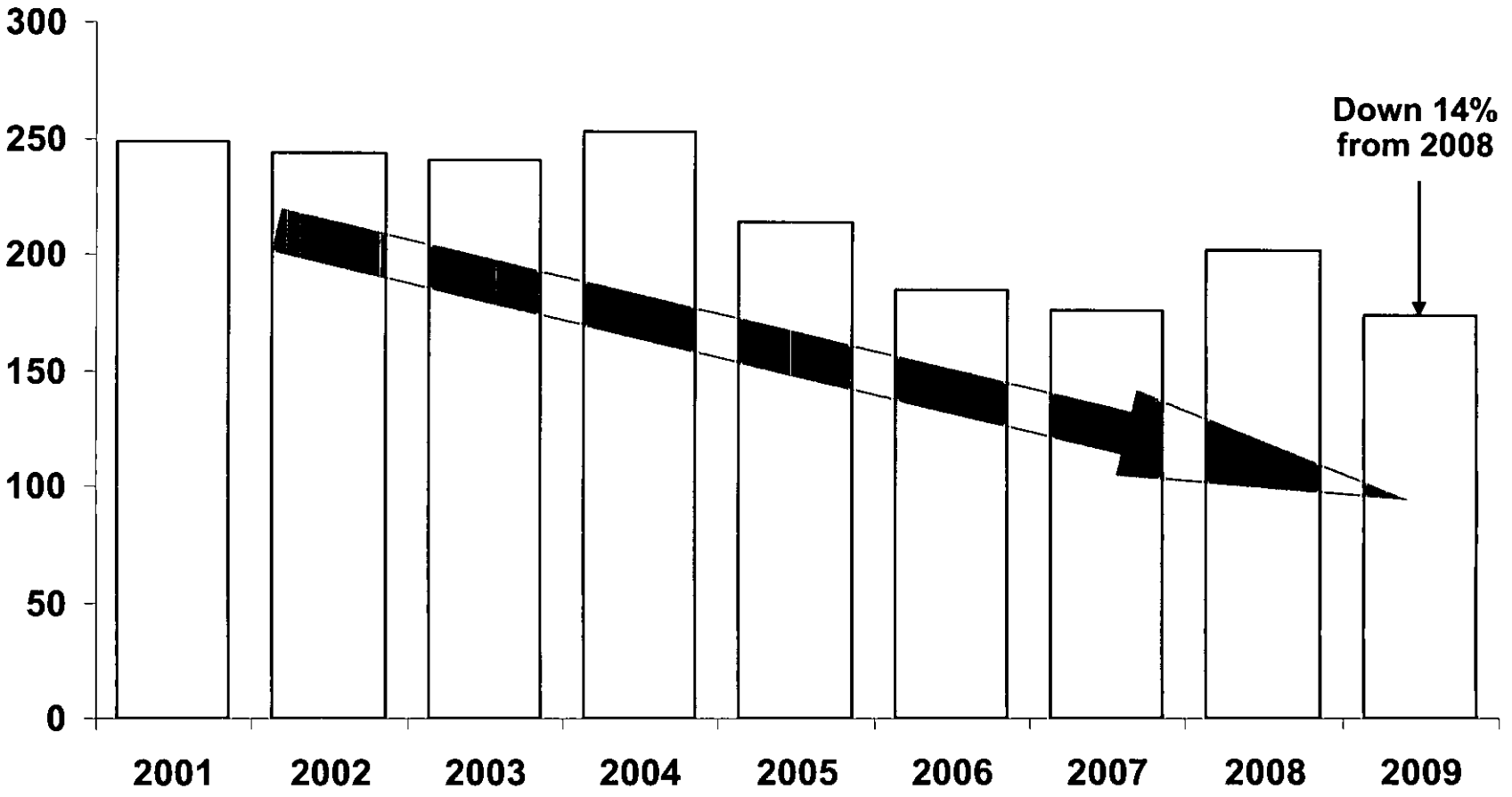
Alaska Drilling Permits



Decline in Alaska drilling permits

Source: AOGCC

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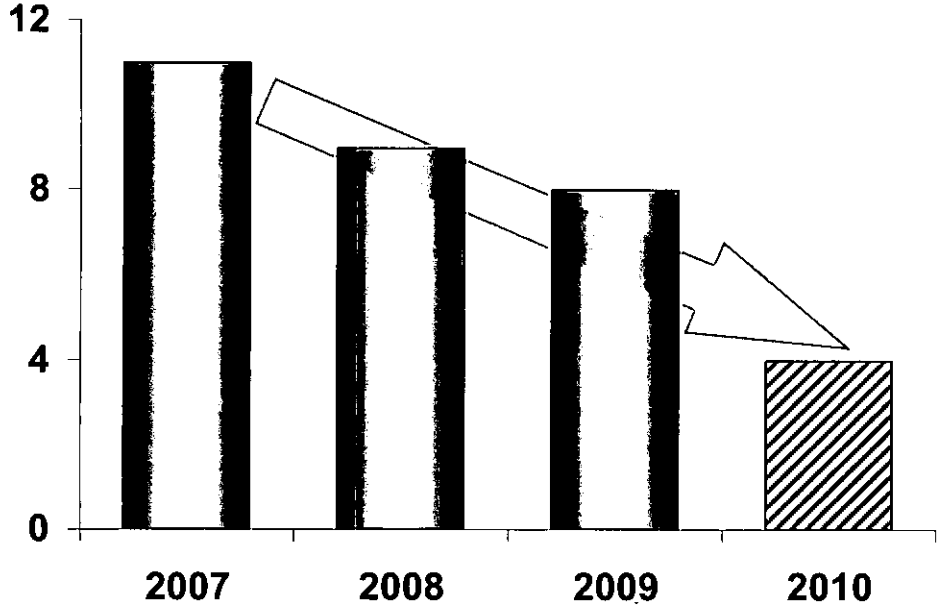
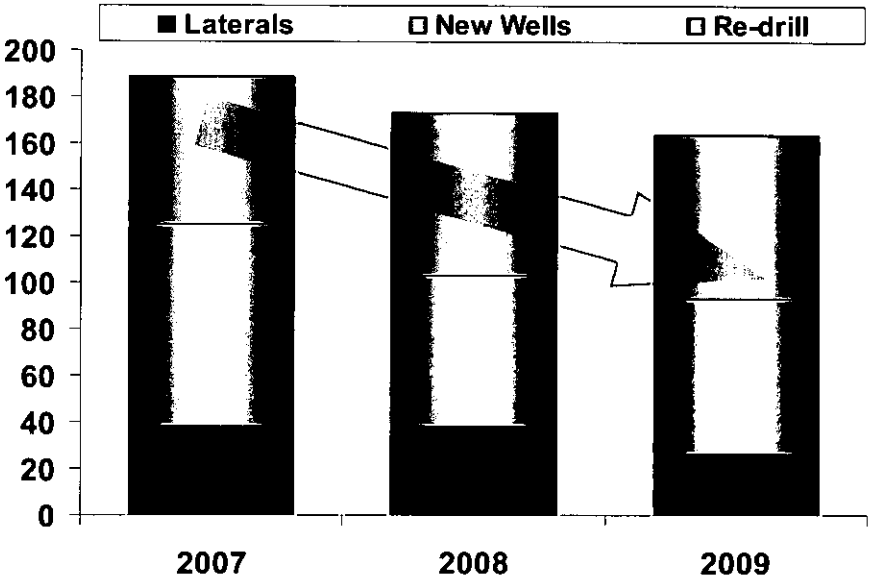
Investments and Jobs at Risk

Industry Exploration Wells *Down*



Industry Drilling *Down*



- **Decline in drilling means:**
  - **Fewer jobs; TAPS production decline; Less new reserves; Less State royalties, taxes**

All drilling indicators are down

Source: AOGCC data for drilling and exploration wells (exploration wells are North Slope only)

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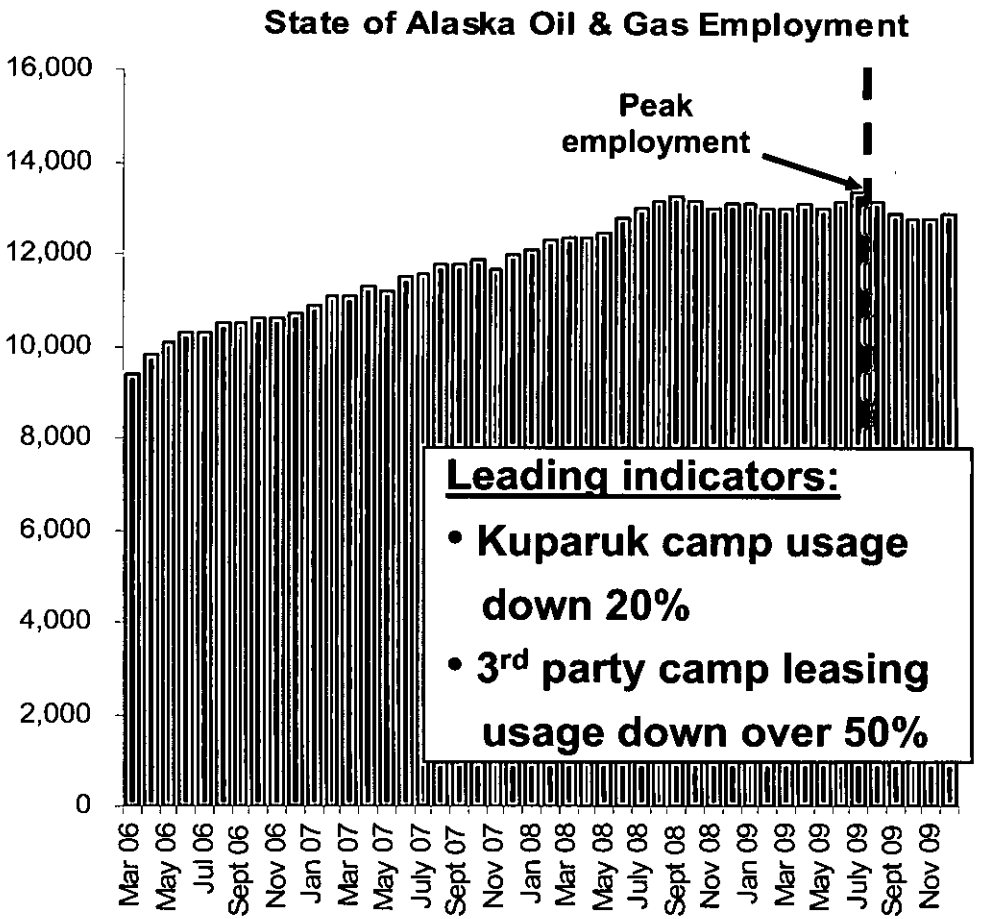
Oil & Gas Employment

Department of Revenue:

- ***"Employment in the industry has also increased steadily since the implementation of PPT and ACES, with 2009 forecast to be the highest in state history"***

Response:

- **Data since July-09 indicate downward trend in Oil & Gas jobs**
- **Prior to July-09 - employment levels driven primarily by maintenance and inspection activity, rather than PPT and ACES**
- **Alaska state unemployment rising**



Source: Alaska Dept of Labor

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Investments

Department of Revenue:

- **Investments are up since 2007**
- ***"majority of growth in capital expenditures is attributable to drilling, seismic and other projects"***

Response:

- **Cost levels impacted by hyper-inflation**
- **Maintenance spending is primary driver of recent activity increases on the slope**
- **Investment in new oil production has declined**
  - **Industry drilling / well count down**
  - **$2 billion in projects deferred**

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ACES Impacting Projects

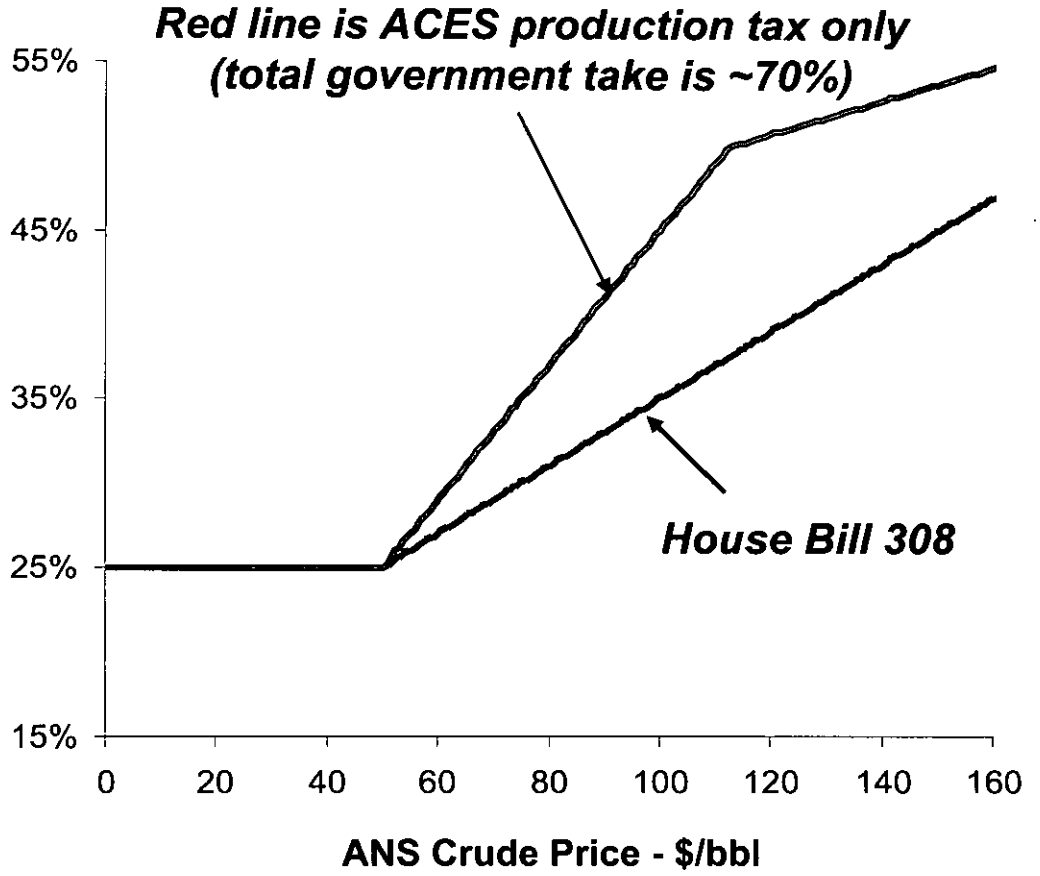
- Project activity since ACES passed
  - Oooguruk – pre-ACES, royalty relief
  - Nikaitchuq – royalty relief
  - Liberty – not subject to ACES
- Over $2 Billion in projects deferred since ACES
  - Approx. 40,000 barrels per day, plus impact on jobs
    - Prudhoe I-Pad and Gas Partial Processing (GPP)
    - West Sak slower pace
    - ULSD topping plant *(opportunity foregone)*

Larger, long-term projects impacted by progressivity

ACES – Progressively Increasing Tax

- **Rapidly increasing tax**
  - Net cash flow tax
  - Higher base tax rate
  - Retroactive
  - Restricted cost deductions
- **Incentives**
  - 20% tax credit for capital
  - 30-40% credit for exploration
- **Uncertainty increased**
  - Dept of Revenue discretion
  - Additional reporting / admin.
  - 6-year audit period
  - Punitive interest rates

ACES Production Tax *(does not incl. royalty, federal, other taxes)*



Significant increase in tax burden and administrative costs

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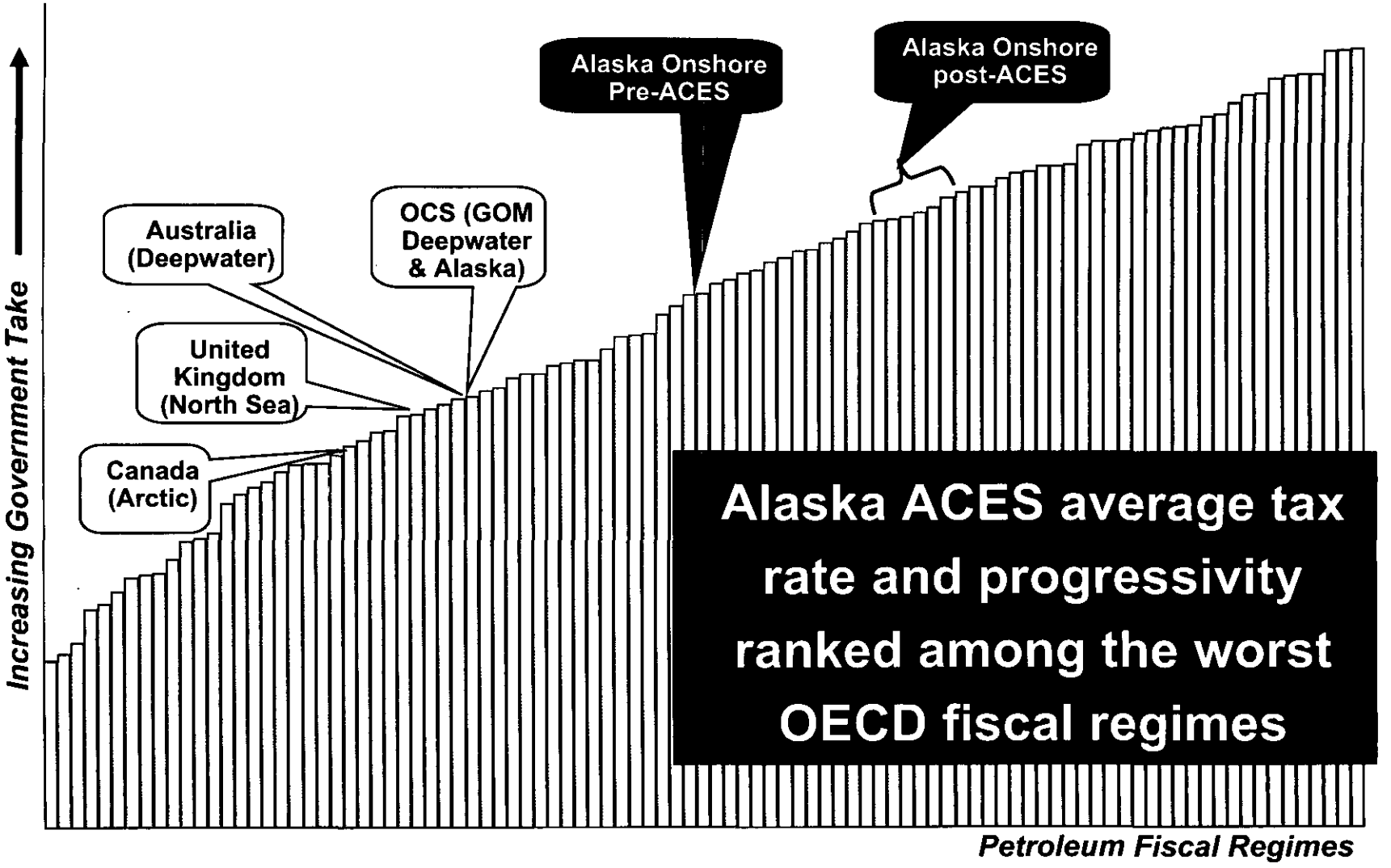
Global Perspective on Government Take



Source: Wood Mackenzie Government Take Analysis Dec 2009 and internal COP – high price case

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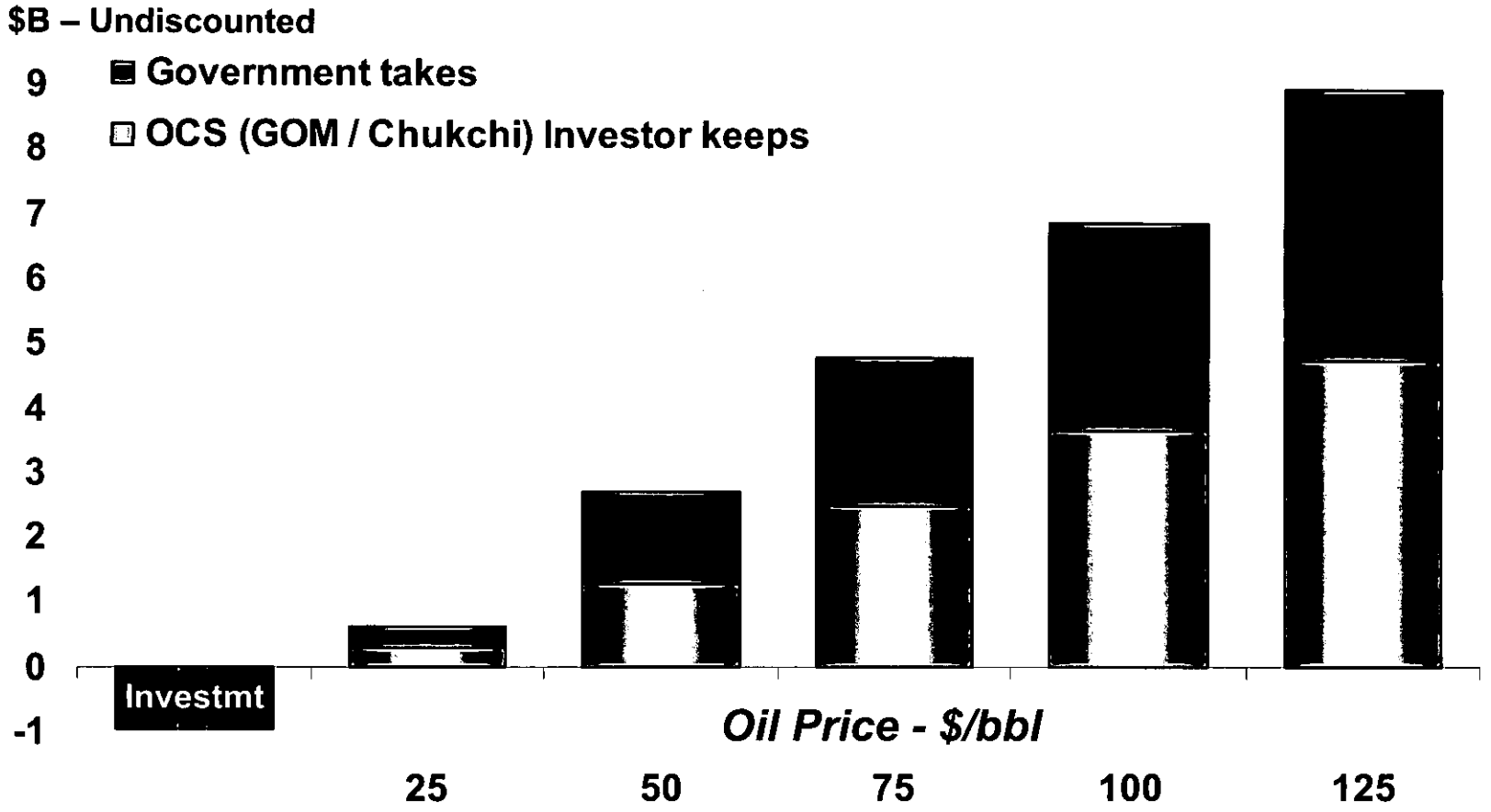
OCS Fiscal – Risk/Reward is Balanced

Example - $1 Billion Investment (success case)



Adequate success case returns justify taking up front risks

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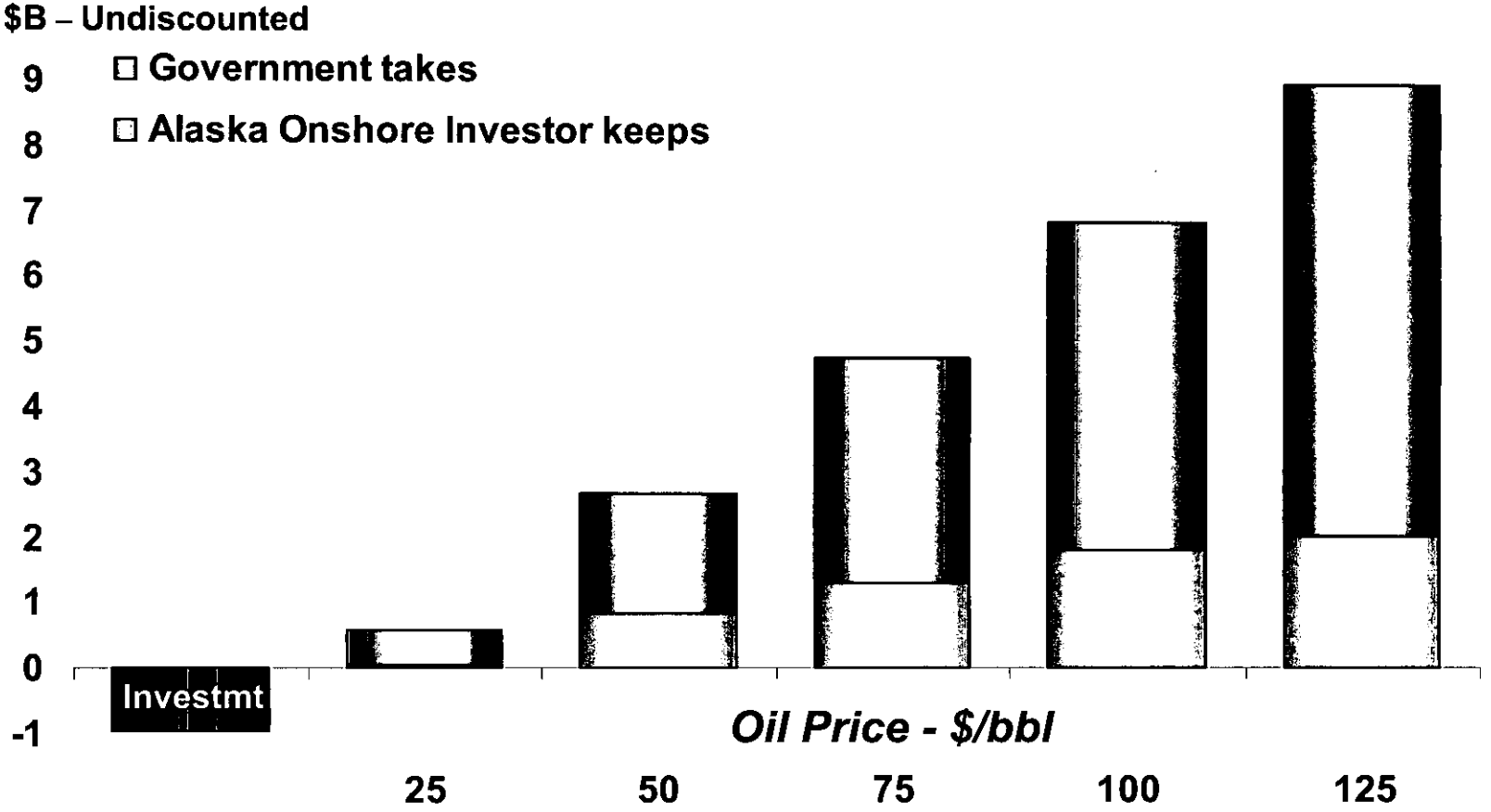
Alaska Fiscal – Risk/Reward is Broken

Example - $1 Billion Investment (success case)



Alaska onshore fiscal terms not competitive

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Oil Tax Legislation

	Current Law	Governor Bill (SB271/HB337)	House Bill 308CS / Senate Bill 267	House Bill 321
Base Tax Rate	25%	*No change*	*No change*	**20%**
Progressivity	0.4% per $1 price	*No change*	**Reduced from 0.4 to 0.2%**	*No change*
Tax credits	20% for capital; 30%, 40% for exploration	**Extended to all wellwork activities a 30% credit**	**Extended to all wellwork activities a 30% credit**	*No change*
Audit period	6 years	*No change*	**Return to 3 years**	*No change*
Interest due to delayed regulations	Charge punitive interest with regulations not fully defined	**Grants DOR authority to waive interest**	**Grants DOR authority to waive interest**	*No change*
Capital tax credit utilization	Credits spread over two years	**Full use of credits in the year incurred vs. one half currently**	*No change*	*No change*

Other areas of concern not addressed:

DOR discretion, incomplete regulations, facility sharing treatment, administrative burden, other hidden costs

Summary

- **Industry has over $40 billion in opportunities over the next decade**
  - **Existing fields have upside potential**
- **Future investments are challenged**
  - **Deferred over $2 billion in projects**
  - **Drilling activity has declined**
  - **Increased maintenance activity**
- **Expected legislative focus**
  - **30% well-related activity is a step in the right direction**
  - **Reduced progressivity required for more balanced risk / reward**

Improvements to ACES needed to increase investment and jobs

SB 271

SB 271 OVERVIEW

April 5, 2010

Alaska State Department of Revenue

SB 271 Overview

Purpose

- Increase tax incentives for activities that will result in more jobs and more production of oil and gas
- Provide all taxpayers with the full value of the incentives currently offered
- Provide fairness in the administration of the production tax

SB 271 Overview

Four Main Components

- 30% Credit for Well-Related Expenditures [.025]
- Eliminates requirement that credits be spread over 2 years[.023(a) & (d)]
- Eliminates reinvestment requirement for state purchase of credit certificates [.028(e)(2)-(3)]
- Waiver of interest on retroactive regulations [.020]

4 30% Credit for Infill Drilling – Well-Related Expenditures

30% Credit for Infill Drilling

- Targeting an area of concern – The documented drop, beginning in 2005, in the number of wells drilled in Alaska;
- Provides a credit boost from 20% to 30% for well-related capital expenditures;
- Provides a credit where none is currently available for well-related operating costs (i.e. well work-overs).

Review - SB 271 Overview

Four Main Components

- 30% Credit for Well-Related Expenditures [.025]
- Eliminates requirement that credits be spread over 2 years[.023(a) & (d)]
- Eliminates reinvestment requirement for state purchase of credit certificates [.028(e)(2)-(3)]
- Waiver of interest on retroactive regulations [.020]

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Governor Sean Parnell
STATE OF ALASKA

February 9, 2010

The Honorable Gary Stevens
President of the Senate
Alaska State Legislature
State Capitol, Room 111
Juneau, AK 99801-1182

Dear President Stevens,

Under the authority of Art. III, Sec. 18 of the Alaska Constitution, I am transmitting a bill that proposes four discrete changes to Alaska's oil and gas production tax. The bill will provide incentives for explorers and producers to continue to invest in Alaska. The proposed changes will encourage investment and employment within the state, and ultimately, increase production of the state's oil and gas resources.

I remain committed to considering all proposals and ideas that will result in increased exploration and drilling that produce more oil and jobs for Alaskans.

First, the bill will encourage investment by creating a new 30 percent alternative tax credit for qualified costs closely related to well drilling and work over operations designed to enhance current well operations. The taxpayer will have to claim the 30 percent credit within six months of completing the qualifying activity, and will have to submit enough information for the Department of Revenue to determine that the expenditures qualify for the credit.

Second, the bill will allow qualified applicants, regardless of their future spending levels, to receive cash refunds for tax credits that the applicants received for qualified capital expenditures. Under current law, an applicant cannot qualify for a cash refund unless, within 24 months of receiving the tax credit certificate, the applicant incurred a qualified capital expenditure or successfully bid on a lease on State land. If the applicant is unable to meet either requirement, the applicant cannot receive payment for the qualified capital expenditures the applicant invested in the state. To solve this problem, the bill will eliminate the requirement that the applicant make additional capital expenditures or be the successful bidder for a lease on State land.

Third, the bill will allow producers and explorers who qualify for the 20 percent tax credit under AS 43.55.023 for capital expenditures to use the credit in the year that the credit is earned. Currently, producers and explorers are required to spread the benefit over two years. Allowing producers and explorers the full value of their credits in one year would increase the amount available for further exploration activities and for work on currently producing wells.

Finally, the bill will allow the Department of Revenue to waive interest for certain underpayments of taxes due before the effective date of certain regulations implementing the production tax. This provision will apply only if regulations to implement the production tax are not yet in effect at the time the annual tax payments are due, and only if the underpayment results from the producer's good faith estimation of the tax due. Should it be determined that the taxpayer overpaid the amount of tax due under the regulations in effect at the time of payment and that a refund is due, no interest will be due on a refund made within the time period specified in the bill.

With these changes, we will continue to responsibly maximize and invest in Alaska's oil and gas resources. I urge your prompt and favorable action on this measure.

Sincerely,

Sean Parnell
Governor

Enclosure

State of Alaska

Department of Revenue

Commissioner's Office

SEAN PARNELL, GOVERNOR
333 Willoughby Avenue, 11th Floor
P.O. Box 110400
Juneau, Alaska 99811-0405
Phone: (907) 465-2300
Fax: (907) 465-2394

Sponsor Statement
HB 337 / SB 271
Oil Production Tax Credits

Governor Parnell's legislation to modify Alaska's oil taxes (HB 337 and SB 271) is intended to create Alaska jobs, increase production and TAPS throughput quickly, and encourage new companies to explore in Alaska. This is accomplished by providing incentives for explorers and producers only if they do on the ground work in Alaska, by expanding investment credits for that work, allowing companies to enjoy the entire benefit of credits earned, and waiving interest accrued due to retroactive regulations.

These changes will encourage investment in jobs and increased production of the state's oil and gas resources.

- **Encourages Investment by Expanding Investment Credits.**

  The bill increases to 30 percent a tax credit for costs related to drilling wells, including "work over" wells in existing fields that are now excluded from the credit.

  Primary Benefit: Most valuable for infill drilling programs within existing units, like Prudhoe Bay and Kuparuk. Current credits focus on exploration and other remote operations far removed from existing operations. This credit is focused on existing fields where infill drilling and work over wells can be done quickly resulting in new jobs immediately and new production within months.

- **Eliminates the payment delay for explorers by allowing the state to buy capital credits earned by explorers regardless of future spending levels.**

  The bill will allow those who receive credit certificates to receive cash refunds regardless of their future spending levels. Currently, an explorer cannot qualify for a cash payment from the state for its credit certificate unless, within 24 months of receiving the tax credit certificate, the explorer makes additional expenditures or successfully bids on a state oil lease. The bill eliminates this reinvestment requirement.

  Primary Benefit: Explorers can invest with complete confidence that they can monetize their earned tax credits, improving the economics of their project.

3942

- **Allows all companies to enjoy the entire benefit of their capital credits in the year they are earned, eliminating the requirement to spread the credit over two years.**

  The bill allows companies to use their entire tax credits in the year that the credit is earned. Currently, producers and explorers are required to spread the benefit over two years.

  Primary Benefit: Increases the value of the tax credits by allowing them to be monetized quickly.

- **Provides a waiver of interest charges on late payments caused by the retroactive application of new regulations.**

  The bill waives interest calculations for underpayments of taxes due to the retroactive effective date of regulations implementing the production tax. This provision will apply if the underpayment is the result of the producer's good faith estimation of the tax due.

  Primary Benefit: Is simply fairer. This provides for a more just outcome when a producer makes a tax payment based on a good faith understanding of the tax laws, and then regulations are made retroactive to before the time that the payment was due.

FISCAL NOTE

STATE OF ALASKA
2010 LEGISLATIVE SESSION

Fiscal Note Number:
Bill Version: **SB 271**
() Publish Date:

Identifier (file name): SB271-REV-TAX-02-12-10
Dept. Affected: Revenue
Title: Oil and Gas Tax Adjustements
RDU: Taxation and Treasury
Component: Tax Division
Sponsor: Rules
Requester: Request of the Governor
Component Number: 2476

Expenditures/Revenues (Thousands of Dollars)

Note: Amounts do not include inflation unless otherwise noted below.

	Appropriation Required	Information					
OPERATING EXPENDITURES	**FY 2011**	**FY 2011**	**FY 2012**	**FY 2013**	**FY 2014**	**FY 2015**	**FY 2016**
Personal Services							
Travel							
Contractual							
Supplies							
Equipment							
Land & Structures							
Grants & Claims							
Miscellaneous							
TOTAL OPERATING	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
CAPITAL EXPENDITURES							
CHANGE IN REVENUES ( )	***	***	***	***	***	***	***

***** See Analysis Section for Additional Information *****

FUND SOURCE (Thousands of Dollars)

1002 Federal Receipts							
1003 GF Match							
1004 GF	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1005 GF/Program Receipts							
1037 GF/Mental Health							
Other Interagency Receipts							
TOTAL	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**

Estimate of any current year (FY2010) cost: ***

POSITIONS

Full-time	**0.0**	0.00	0	0	0	0	0
Part-time							
Temporary							

ANALYSIS: *(Attach a separate page if necessary)*

See Attached.

Prepared by: Cherie Nienhuis and Dan Stickel, Petroleum Economists — Phone 907-269-1019
Division: Tax Division — Date/Time 2/08/10; 12:13pm
Approved by: Ginger Blaisdell, Director — Date 2/12/10; 12:26pm
Administrative Services Division

(Revised 11/6/2009 OMB)

3944

FISCAL NOTE

STATE OF ALASKA **BILL NO.** SB 271
2010 LEGISLATIVE SESSION

ANALYSIS CONTINUATION

Bill Language:

This bill makes four refinements to Alaska's oil and gas production tax. The refinements and the revenue impact of each are discussed below:

1. Increased credits for well related expenditures: This bill would modify AS 43.55.025 to allow a 30 percent credit against production tax for exploratory well expenditures and most development well expenditures. For wells more that 25 miles outside of existing units (or more than 10 miles outside of Cook Inlet units) the credit is 40 percent of exploratory well expenditures. These credits would also be an increase in credits for well related expenditures. Currently, companies are allowed a 20 percent credit for well related qualified capital expenditures under the provisions of AS 43.55.023. There are no current provisions for credits against operating expenditures and this bill would extend the 30% credit to well related operating expenditures as well as capital expenditures. This provision would take effect July 1, 2010.

Under current projected spending and production levels, revenues would be estimated to be reduced by $325 million in FY 2011, $335 million in FY 2012, and $350 million in FY 2013-2016. However, the Department of Revenue provides an indeterminant fiscal impact to revenues because the new incentives will likely spur higher spending levels on development activity, which would result in more credits being earned, but would also be expected to increase production, thus providing an offsetting increase in revenue.

2. Removing reinvestment requirement for state purchase of capital credits: For companies applying for state purchase of capital credits, this bill would remove the requirement that the companies reinvest an amount equal to the amount of the credit purchased within 24 months after applying for a credit certificate. This provision would take effect July 1, 2010.

This provision is expected to be revenue neutral as the credits will reduce revenue whether the state purchases the credits or other companies purchase and subsequently apply the credits against a tax liability.

3. Capital credits no longer required to be spread over two years: Producers and explorers receive a capital expenditure credit in the amount of 20 percent of the qualified capital expenditure. This bill would remove the provision that no more than half of the tax credit may be applied for in a single calendar year. As a result, the entire 20 percent credit could be applied in the year it is earned. This is retroactive to January 1, 2010.

There is a revenue reduction for FY 2010 of $120 million because of the immediate effective date of the changes to spreading of capital credits. For FY 2011-FY 2013, the revenue reduction from changes to the spreading of capital credits will be about $50 million per year. For FY 2014 and beyond, the revenue impacts will be negligible.

4. Interest waived for changes in tax liability as a result of to retroactive regulations changes: Following adoption of retroactive regulations to the oil and gas production tax under AS 43.55, the Department of Revenue is required to determine whether the retroactive application of the regulation caused an overpayment or underpayment of the amount due in tax. For an underpayment, interest is waived as long as the underpayment was due to the regulation and the producer made a good faith estimation and payment of its tax obligation under regulations in place when the payment was due. For an overpayment, interest does not accrue until either the first day of the second month following the regulation taking effect, or 90 days after the Department receives an amended annual production tax return with request for refund. The interest provisions are retroactive to February 2007. At this time it is uncertain whether there would be any revenue impact from this change, since it is unclear whether there was any underpayment or overpayment due to the retroactive regulations. The Department of Revenue does not include interest payments in our revenue projections, therefore this change would not affect our revenue forecast.

*** We cannot currently make a determination of the revenue impacts of the bill. For this reason, asterisks are include in our revenue estimates for this fiscal note.

Expenditures:
The Department will be able to implement the provisions of this bill using existing resources.

FISCAL NOTE

STATE OF ALASKA
2010 LEGISLATIVE SESSION

Fiscal Note Number: 1
Bill Version: SB 271
(S) Publish Date: 2/10/10

Identifier (file name): LL1057-DNR-OG-02-08-2010
Dept. Affected: Natural Resources
Title: Oil and Gas Tax Amendments
RDU: Resource Development
Component: Oil and Gas Development
Sponsor: Rules Committee
Requester: Governor
Component Number: 439

Expenditures/Revenues (Thousands of Dollars)

Note: Amounts do not include inflation unless otherwise noted below.

	Appropriation Required	Information					
OPERATING EXPENDITURES	**FY 2011**	**FY 2011**	**FY 2012**	**FY 2013**	**FY 2014**	**FY 2015**	**FY 2016**
Personal Services							
Travel							
Contractual							
Supplies							
Equipment							
Land & Structures							
Grants & Claims							
Miscellaneous							
TOTAL OPERATING	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
CAPITAL EXPENDITURES							
CHANGE IN REVENUES ( )							

FUND SOURCE (Thousands of Dollars)

1002 Federal Receipts							
1003 GF Match							
1004 GF							
1005 GF/Program Receipts							
1037 GF/Mental Health							
Other Interagency Receipts							
TOTAL	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**

Estimate of any current year (FY2010) cost:

POSITIONS

Full-time							
Part-time							
Temporary							

ANALYSIS: *(Attach a separate page if necessary)*

The bill will, first, change the current provision under AS 43.55.023(b) that only half the various tax credits could be taken in any one year. This limitation spreads the benefits of the credit out over a couple of years, thereby diluting the incentive that the credit provides to the extent that a producer/investor must wait before receiving the full benefit of the credit. This bill would also accelerate most investor's receipt of the full value of the credit. Second, the bill would extend the current 30% credit provided under 43.55.025 to include development drilling (this credit is available now only for exploration wells drilled beyond three-miles of another well. This credit will reduce the taxpayer's tax liability and, other things being equal, contribute to improved economics for development drilling. Finally, the bill allows a small producer to monetize the credit more easily by eliminating the requirement that the producer spend additional money before receiving the credit monies.

The effect on royalty revenue is an indeterminant positive.

Prepared by: Kevin Banks, Director — Phone 269-8800
Division: Oil and Gas — Date/Time 2/8/10 3:00 PM
Approved by: Tom Irwin, Commissioner — Date 2/8/2010
Natural Resources

(Revised 11/6/2009 OMB)

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STATE OF ALASKA
2010 LEGISLATIVE SESSION

BILL NO. SB 271

ANALYSIS CONTINUATION

In these three ways, the bill will encourage additional investment in oil and gas development in Alaska, leading to an expected increase in the amount of oil and gas produced from State lands. This should increase the amount of royalty revenue collected, the exact amount of this increase is indeterminate. This bill also requires that the producer submit to the DNR withing 30 days of the request for a credit under AS 43.55.025 data on development well activity under Section 9. While the DNR currently reviews seismic and exploration well information, the requirement to look at development wells as well may take additional staff time. However, we think we will be able to undertake this review with current staff.

FISCAL NOTE

STATE OF ALASKA
2010 LEGISLATIVE SESSION

Fiscal Note Number: 2
Bill Version: SB 271
(S) Publish Date: 2/10/10

Identifier (file name): 1057-DOA-AOGCC-01-27-10
Title: Relating to interest on certain underpayments...for Oil and Gas production tax...
Sponsor: Rules Committee
Requester: Governor

Dept. Affected: Admin
RDU: AOGCC
Component: AOGCC
Component Number: 2010

Expenditures/Revenues (Thousands of Dollars)

Note: Amounts do not include inflation unless otherwise noted below.

	Appropriation Required	Information					
OPERATING EXPENDITURES	**FY 2011**	**FY 2011**	**FY 2012**	**FY 2013**	**FY 2014**	**FY 2015**	**FY 2016**
Personal Services	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Travel	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Contractual	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Supplies	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Equipment	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Land & Structures	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Grants & Claims	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Miscellaneous	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL OPERATING	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
CAPITAL EXPENDITURES							
CHANGE IN REVENUES ( )							

FUND SOURCE (Thousands of Dollars)

1002 Federal Receipts	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1003 GF Match	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1004 GF	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1005 GF/Program Receipts	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1037 GF/Mental Health	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Other Interagency Receipts	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**

Estimate of any current year (FY2010) cost:

POSITIONS

Full-time							
Part-time							
Temporary							

ANALYSIS: *(Attach a separate page if necessary)*

Any additional activity that industry would undertake in areas the Alaska Oil and Gas Conservation Commission regulates because of this bill would be part of ongoing agency responsibilities and any additional workload would be managed by existing staff. The agency therefore submits a zero fiscal note.

Prepared by: Jody J. Colombie, Special Assistant I
Phone (907 793-1221
Division: Alaska Oil and Gas Conservation Commission
Date/Time 1/27/10 4:00 PM
Approved by: Rachael Petro, Deputy Commissioner
Date 1/27/2010
Department of Administration

(Revised 11/6/2009 OMB)

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SB 274

SENATE COMMITTEE REPORT
First Committee of Referral

DATE: 2/10/10

FURTHER:

Date of 5-Day Notice: _____
(in accordance with Uniform Rule 23)

DATE TURNED
IN TO OFFICE: _____

Resources Committee considered SENATE BILL NO. 274

SB 274 WILLIAM JACK HERNANDEZ FISH HATCHERY

"An Act naming the state fish hatchery on the Elmendorf Air Force Base the William Jack Hernandez Sport Fish Hatchery."

and recommends:

[ ] be **replaced** with [ ] **SCS** or [✓] **CS** SB 274 (RES)

[ ] adopt **previous** [ ] **SCS** or [ ] **CS** _____ (_____)

[ ] attached amendment(s)

[ ] adopt _____Letter of Intent

[ ] further referral to _____Committee

SENATE BILL:
[ ] Same Title
[ ] New Title

HOUSE BILL:
[ ] Same Title
[ ] Technical Title Change
[ ] New Title w/ SCR #_____

NEW FISCAL NOTE(S):

Department	Date	Fiscal	Indet.	Zero	FN#
SRES	03/08			✓	

PREVIOUS FISCAL NOTE(S):

Department	Date	Fiscal	Indet.	Zero	FN#

[ ] **APPROPRIATION - no fiscal note**

SIGNATURES AND RECOMMENDATIONS:	PRINTED LAST NAME	DO PASS	DO NOT PASS	NO REC	AMEND
	Huggins	✓			
	Stevens	✗			
	Frank	✓			
CO-CHAIR:	McGuire	✓			
CO-CHAIR:	Wielechowski	✓			

3950

(LIMITED RUN SHOWING ALL ADDITIONAL SPONSORSHIPS)

CS FOR SENATE BILL NO. 274(RES)

IN THE LEGISLATURE OF THE STATE OF ALASKA

TWENTY-SIXTH LEGISLATURE - SECOND SESSION

BY THE SENATE RESOURCES COMMITTEE

Offered: 3/10/10
Referred: Rules

Sponsor(s): SENATOR DYSON

REPRESENTATIVE Keller

A BILL

FOR AN ACT ENTITLED

"An Act naming the new state fish hatchery on the Elmendorf Air Force Base the William Jack Hernandez Sport Fish Hatchery."

BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF ALASKA:

*** Section 1.** AS 35.40 is amended by adding a new section to read:

Sec. 35.40.225. William Jack Hernandez Sport Fish Hatchery. The state fish hatchery under construction on the Elmendorf Air Force Base in Anchorage scheduled to be completed in May 2011 is named the William Jack Hernandez Sport Fish Hatchery.

PASSED

26-LS1449\A.2
Kane
2/25/10

AMENDMENT

OFFERED IN THE SENATE BY SENATOR DYSON

TO: SB 274

Page 1, line 1, following the first occurrence of "**the**":

Insert "**new**"

Page 1, line 5, following "**Sec. 35.40.225.**":

Insert "**William Jack Hernandez Sport Fish Hatchery.**"

Page 1, line 5:

Delete "located"

Insert "under construction"

Page 1, line 6, following "Anchorage":

Insert "scheduled to be completed in May 2011"

FISCAL NOTE

STATE OF ALASKA
2010 LEGISLATIVE SESSION

Fiscal Note Number: 1
Bill Version: **SB 274**
() Publish Date:

Identifier (file name): SB 274
Dept. Affected:
Title "An Act naming the state fish hatchery on Elmendorf Air Force Base the William Jack Hernandez Sport Fish Hatchery"
RDU
Component
Sponsor Senator Dyson
Requester Senate Resources
Component Number

Expenditures/Revenues (Thousands of Dollars)

Note: Amounts do not include inflation unless otherwise noted below.

	Appropriation Required	Information					
OPERATING EXPENDITURES	**FY 2011**	**FY 2011**	**FY 2012**	**FY 2013**	**FY 2014**	**FY 2015**	**FY 2016**
Personal Services							
Travel							
Contractual							
Supplies							
Equipment							
Land & Structures							
Grants & Claims							
Miscellaneous							
TOTAL OPERATING	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
CAPITAL EXPENDITURES							
CHANGE IN REVENUES ( )							

FUND SOURCE (Thousands of Dollars)

1002 Federal Receipts							
1003 GF Match							
1004 GF							
1005 GF/Program Receipts							
1037 GF/Mental Health							
Other Interagency Receipts							
TOTAL	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**

Estimate of any current year (FY2010) cost: 0.0

POSITIONS

Full-time							
Part-time							
Temporary							

ANALYSIS: *(Attach a separate page if necessary)*

This bill has no fiscal impact.

Prepared by: Shalon Szymanski, Senate Resources Committee Aide
Phone 907-465-2995
Division
Date/Time 3/8/10 1:51 PM
Approved by: Senator Lesil McGuire, Co-Chair of Senate Resources Committee
Date 3/8/2010

(Revised 11/6/2009 OMB)

ALASKA STATE LEGISLATURE

SENATOR LESIL McGUIRE
SENATOR BILL WIELECHOWSKI
Co-Chairs, Senate Resources Committee

MEMORANDUM

Memorandum

To: Leg. Legal

From: Shalon Szymanski, Committee Aide
Senate Resources Committee

Date: March 9, 2010

Re: Final CS Request

Please create a FINAL Senate Resources CS for SB 274 mirroring work order number 26-LS1449\A but also include the attached amendment.

If you have any questions or need further information, please feel free to contact me on my direct line, 465-4522

Thank you!

SENATOR FRED DYSON

SPONSOR STATEMENT

SB 274 – William Jack Hernandez Sport Fish Hatchery

The purpose of this bill is to name the new state fish hatchery on Elmendorf Air Force Base, the William Jack Hernandez Sport Fish Hatchery. Hernandez pioneered the fish rearing and fish hatchery program at Ft. Richardson.

William Jack "Bill" Hernandez served his country valiantly during WWII, serving as a civilian contractor on Wake Island in the South Pacific, building fortifications for USMC personnel. Wake Island was attacked by the Japanese on Dec. 7, 1941, the same day as the Pearl Harbor attack, and a violent 16 day struggle ensued between the Marine regiment and an overwhelming enemy force. On December 23, 1941, Wake Island was captured and Mr. Hernandez was taken as a prisoner of war. He was a POW for three years before being released following surrender of the Japanese forces in 1945.

In 1947 Mr. Hernandez enlisted in the US Army, and in 1956 his unit was transferred to Fort Richardson where he became a Fish and Wildlife Conservation NCO. His orders were to rehabilitate the lakes and streams on post. As a result of Mr. Hernandez efforts, in 1957 the Secretary of the Army approved a cooperative agreement between the Army, the Alaska Territorial Department of Fish and Game, and the Fort Richardson power plant, allowing the plant's cooling pond to be used for rearing fish. Mr. Hernandez ran the fish rearing project, and annual production reached 12,000 rainbow trout, 100,000 Chinook salmon smolt, and 200,000 Coho salmon smolt.

In 1968 Mr. Hernandez retired from the US Army and received an Army Commendation Medal for his efforts. Shortly after retirement, Hernandez was hired by the Alaska Department of Fish and Game as a Fish Culturist at the Fire Lake Hatchery. In a few years he returned to Fort Richardson to manage the large scale fish hatchery constructed at the cooling pond. He also worked at the nearby Elmendorf fish hatchery. In 1983, after 26 years of dedicated service raising salmon and trout, Hernandez retired.

Sadly, Hernandez died of cancer in 2003. The Veterans of Foreign Wars Post 7665 honored him with a 21-gun salute. He was the epitome of Tom Brokaw's "Greatest Generation." Without his drive and dedication, the fish rearing project at Fort Richardson would have never gotten off the ground. His life's work made an enormous contribution to the sport and commercial fishing industry of the Cook Inlet region. Please honor William Jack "Bill" Hernandez by supporting this legislation.

Contact: Chuck Kopp, Staff to Senator Dyson (907)465-6580

During Session (January - May): Alaska State Capitol • Juneau, Alaska 99801 • (800) 342-2199 • (907) 465-2199 • (907) 465-4587 (fax)
During Interim (June-December): 10928 Eagle River Road, Suite 238 • Eagle River, Alaska 99577 • (907) 694-6683 • (907) 694-1015 (fax)
senator.fred.dyson@legis.state.ak.us • www.akrepublicans.org

William Jack Hernandez

William Jack (Bill) Hernandez was born in Los Angeles, California on April 30, 1920 and died Aug. 31, 2003 in Wasilla. At the age of 21, Bill was employed by Morrison-Knudson Construction Co. building fortifications on Wake Island. After the attack on Pearl Harbor, he and other civilian contractor personnel were assigned to assist the Marine detachment defending the Wake Island. On Dec. 23, 1941, Wake Island was captured, and Bill was imprisoned in various POW camps in China. He survived an escape attempt, breaking his ankle while jumping from a train. He was subsequently recaptured, and this is described in several books on the battle of Wake Island, perhaps most notably "Jim's Journey: A Wake Island Civilian POW's Story" as well as a History Channel documentary: "Wake Island: Alamo of the Pacific."

After the war, Bill returned to California enlisting in the Army in 1947. He initially served as a foreign language interpreter, and his early military career took him to Korea and Europe. Bill honed his chess skills and became a Chess Master. At one point, Bill defeated Japan's top chess player. In 1956, his unit was transferred to Fort Richardson, where he became a Fish and Wildlife Conservation NCO. His orders were to rehabilitate the lakes and streams on post. In 1957, after several months of negotiating with the military and others, Bill received a letter from the Secretary of the Army approving a cooperative agreement between the Army, the Alaska Territorial Department of Fish and Game and the Fort Richardson power plant which allowed the plant's cooling pond to be utilized for rearing fish. Bill ran the fish rearing project, and annual production reached as high as 12,000 catchable-size rainbow trout, 100,000 Chinook smolt and 200,000 coho smolt. Bill retired from the Army in 1968 and received an Army Commendation Medal for his efforts: *"Through his perseverance, ingenuity, and scholarly research, he conceived and pioneered a process of rearing rainbow trout, silver salmon and king salmon from the fingerling stage to the migratory smolt, and in addition, accelerated the restocking of post and community lakes and streams.* ***By virtue of Sergeant Hernandez' diligent efforts coupled with his high sense of responsibility, the military conservation program in Alaska received successive official and recorded recognition by the State Legislature of Alaska and by the United States Senate.*** *His invaluable service to the military and civilian communities of Alaska earned him the worthy respect and admiration of all with whom he came in contact."*

Shortly after his Army retirement, Bill was hired by the Alaska Department of Fish and Game as a Fish Culturist at the Fire Lake Hatchery. He returned to Ft Richardson a few years later to manage the large scale hatchery constructed at the cooling pond. Bill also worked at the Elmendorf hatchery. In 1983, after 26 years of dedicated service raising salmon and trout, Bill retired again.

Bill then purchased a boat and fished commercially for seven seasons in Bristol Bay. When not fishing, Bill spent his time at his cabin on Lake Susitna and groomed snowmobile trails in the area. He was a member of the Wake Island Civilian Survivors Association, a Mason, and a Cooperative Weather Observer for NOAA. Though Bill never married, his many friends and dog Peggy were his Alaskan family. He was loved and respected by everyone who knew him.

Bill was buried in his native California, close to his twin sister Jewel with whom he shared a special bond. The Veterans of Foreign Wars Post 7665 honored him with a 21-gun salute. **Bill Hernandez was the epitome of Tom Brokaw's "Greatest Generation".**

5640 Portage Drive
Wasilla, AK 99654
aktn@gci.net
December 24, 2009

Representative Wes Keller
600 E. Railroad Avenue
Wasilla AK, 99654

Dear Representative Keller:

I am a retired ADF&G fisheries biologist, commercial fisherman and one of your constituents. I and various active and retired ADF&G biologists are requesting your assistance with legislation to name the new Elmendorf fish hatchery after the man who pioneered the fish rearing and hatchery program at the Ft Richardson: William Jack (Bill) Hernandez (biography, photos, news clippings and draft bill attached). The Elmendorf hatchery is under construction and is scheduled to be completed in May of 2011. I have written Representative Dahlstrom and Senator Dyson, who represent Elmendorf AFB, to sponsor legislation to name the hatchery after Mr. Hernandez.

Mr. Hernandez was a remarkable man who was a Wake Island civilian POW during WWII, enlisted in the U.S. Army after liberation, and, in 1957, while a sergeant in the Army, started the fish rearing program at Ft. Richardson. He ran the fish rearing facility for 11 years, with annual production reaching 12,000 catchable-size rainbow trout, 100,000 Chinook smolt and 200,000 coho smolt. Bill retired from the Army in 1968, and I was appointed to be his successor at Ft Richardson. Bill left huge "shoes" to fill. There was no hatchery at the site then but rather the pond was segregated into three areas for rearing fish. Two old Quonset huts served as living quarters, warehouse, office and lab. Trout were stocked in lakes on military land as well as Anchorage area lakes. Salmon smolt were released into Ship Creek, and returning adult salmon contributed to the commercial and sport fishery. Bill often worked seven days a week, with limited assistance from ADF&G or Army personnel. Bill was not immune from other duties regularly assigned to NCOs, and he spent one night a week as duty NCO at HQ Co. Bill was a busy guy! After Army retirement, Bill worked another 15 years as a fish culturist for ADF&G at the Fire Lake Hatchery and the new hatcheries on Ft. Richardson and Elmendorf AFB.

Sadly, Bill died of cancer in 2003. Without his drive and dedication, the fish rearing project at Ft. Richardson would have never gotten off the ground and the hatchery there probably would have never been constructed. He made an enormous contribution to Anchorage sport fishermen and Cook Inlet commercial fishermen. Please honor William Jack (Bill) Hernandez by helping with this legislation.

Respectfully,

Tom Namtvedt

We Alaskans

The Anchorage Daily News Magazine

April 17, 1983

- Satch: Ah, graft and corruption!
- Ski to Sea Relay: Fast, frantic fun
- General Delivery: Preparing for spring

Harvest days at the hatchery

Story by Andrew Perala / photos by Paul Brown

Bill Hernandez walks down the narrow steel pathway as he has for years, sideways and backwards, methodically pushing and pulling on the 10-foot aluminum pipe that is the business end of a powerful industrial vacuum cleaner.

The walkway is mounted on top of a six-inch-thick wall that separates two long, narrow fish ponds called raceways — two of the 20 raceways at the Elmendorf State Fish Hatchery, site of one of the greatest concentrations of rainbow trout in the world. Each walkway is 80 feet long by 10 feet wide and holds a single species of fish at a certain stage of growth: 6,000 fat adult rainbow trout in each tank at the east end, hundreds of thousands of finger-length silver salmon in the pond below Hernandez' feet.

Hernandez tugs at the 100 feet of hose now trailing behind him and guides the head of the vacuum cleaner back and forth along the concrete bottom. The four-inch hole at the end sweeps through a brown mix of fish food and fish excreta. The chore is performed weekly.

"It's not natural for the rainbows to jump from one pond to the other," says Hernandez. "But if a rainbow were to jump into a fingerling pond, well, we wouldn't have to feed him anymore."

There are more than a million fish in the Elmendorf hatchery, part of a carefully orchestrated plan to manipulate nature, to get maximum yield.

The six-year-old facility in Fish Heaven on Earth, a placental sind farm where baby rainbows eat, sleep and generate their lives away.

This year the hatchery, located just off the Elmendorf Access Road near Ship Creek, will produce 520,000 king salmon, 800,000 silver salmon and 3 million rainbow trout eggs.

From 3 million eggs come 2½ million fingerling survivors released in 140 lakes from Fairbanks to Kodiak.

All the Elmendorf fish are part of a plan to sate, at least temporarily, the appetites of Alaska sport fishermen.

More than 130,000 rainbow trout are released within the boundaries of the municipality of Anchorage each year. Few, if any, rainbows caught within city limits come from fish that are not hatchery-raised. Although there are no firm figures on how many hatchery-bred salmon are caught statewide, officials say they probably make up the majority.

Delivering the small fish is not a job for the Postal Service. Where there are roads, flatbed trucks with 400-gallon tanks drive up to the edge of the water and pour out the fingerlings. In more remote areas, fish are air-delivered. Converted army-surplus pickups and helicopters with modified pontoons haul the tanks that finally jostle the fish

this wild idea that the warm water from the power plant could be used to raise fish. Nobody believed him, so he went and did it himself. It took a couple of years for it to work, but then he got the hatchery he wanted."

Hernandez ran the hatchery from the early 1960s until last June. When his 20-year military hitch ended in 1969, he took a month off, then started working for the state at the same location.

"When Bill was the manager at Fort Rich," says Dewyl Klafter, the Elmendorf hatchery manager, "you couldn't keep him out of the ponds. Unlike some managers who sit in their offices all the time, Bill had to be hands-on with the fish."

Hernandez admits he probably views fish differently from most people, probably with more recognition and regard.

For the next few weeks he has been waist-deep in rainbow trout, right in the thick of the annual

Fish are scooped up in long-handled nets.

rainbow egg harvest in the hatchery raceways.

His half-dozen hatchery workers dress in heavily insulated waders and wool clothing, standard attire for fish farmers.

Hernandez wears a baseball cap, a bright yellow rain slicker, insulated waders and gloves. An unlit cigar juts from his mouth as he heads for the raceway.

He attacks his work with vigor. When not scooping fish, Hernandez keeps track of the [illegible] by jabbing the pond with the flat end of a [illegible] scraper.

hatchery

Continued from page 9

scooping up a few fish at a time in long-handled nets.

The nets are emptied into the tubs with a wild splashing that is stilled as the tranquilizer, called MC-222, takes effect. The drug tranquilizes voluntary muscle action without affecting the involuntary muscles, so a fish can breathe through its gills but cannot lift a fin to save its life.

Each fish is picked up by two hands. A gentle squeeze to the middle of the gut confirms the fish's status. Eggs will protrude from the underside of a ripe female. Males will squirt clear liquid or white milt.

Females with eggs are passed into a tub next to the doorway of a tent covering a length of the raceway. Males are transferred to a penned-off area at the far end of the raceway. Inside the Quonset-shaped tent two handlers work steadily.

One holds the fish upside down while the other picks up a metallic device shaped like a common garden hose nozzle. A brown hose trails off into the water and is attached to a large green cylinder of the same oxygen hospitals use. There is a trigger on the nozzle device and, at the end, a short, thick needle that looks as though it could fill a basketball. The needle is sharp, though, and a quick jab into the fish's body cavity just behind the dorsal fin produces no blood.

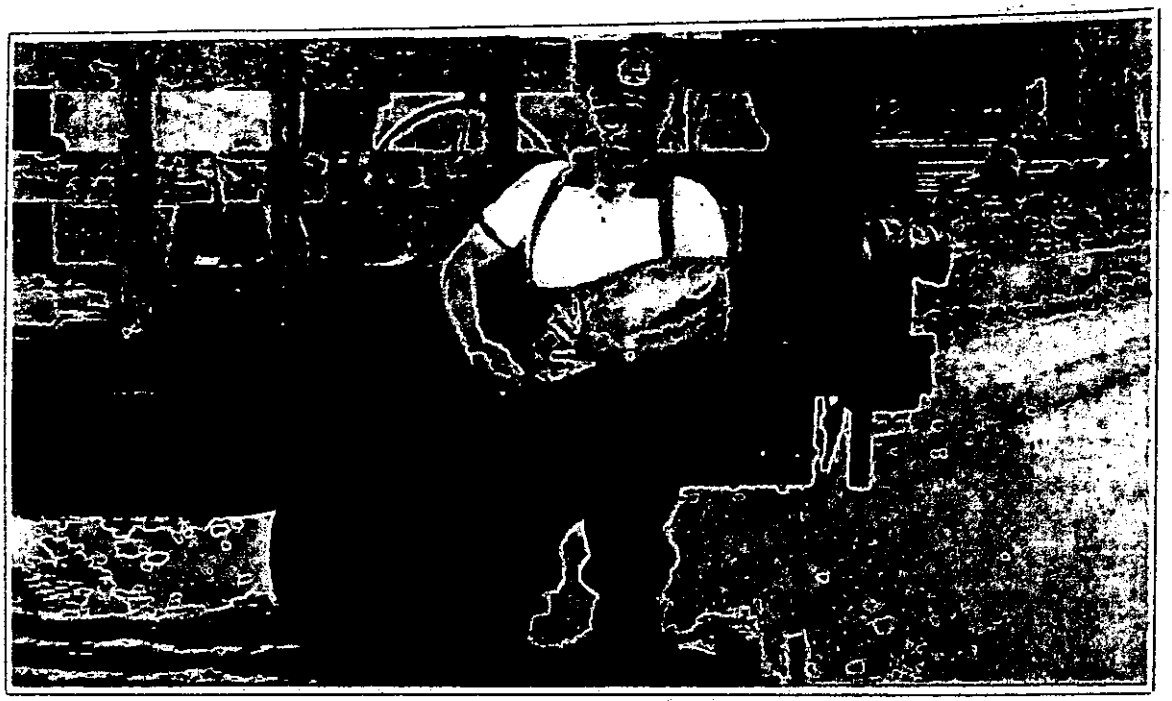
With a pull of the trigger, oxygen at low pressure flows into the fish, gently forcing out the bright orange eggs in a steady stream that spills into a round plastic tray. The eggs are checked to see if the color is normal and if there are any genetic mutations. Occasionally, bad eggs will be dark or green.

At one time eggs were harvested by squeezing the sides of the fish, a process that damaged the eggs and hurt the fish.

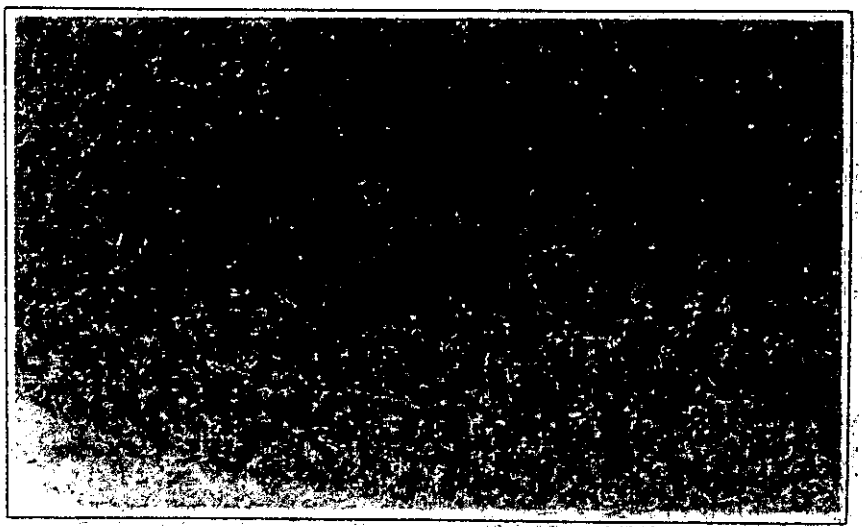
While one worker pours the eggs into a larger bucket, another tosses the rainbow into a penned-off section of the raceway inside the tent. The fish slips into the water like a limp torpedo and lies still for a minute or two, gills working in gulps. The constantly flowing water soon washes away the paralyzing drug. With little flicks of the tail and a few turns of the head, the fish rights itself and surges off into the distance.

Forty fish contribute 1,200 to 2,000 eggs apiece. The eggs are disinfected to kill germs from human contact and given to another worker for fertilization.

The process is quick. With the male fish held firmly in one hand, the handler squeezes a white stream of milt into the bucket. Unlike females, most males die after contributing to the genetic pool. It is the same in the wild. There is no natural reason for male fish to live another winter. Although winter water temperatures dip to as low as 34 degrees, virtually stopping all feeding and movement, the low oxygen content in the lakes would not support larger fish populations.



Bill Hernandez cradles the last fish he will handle at Fort Richardson. Now he plans to catch fish for himself.



This year the Elmendorf hatchery will produce 5 million rainbow trout eggs.

Elmendorf is able to function year-round as a hatchery because it receives from an Air Force generating plant a constant supply of 83-degree waste water that is piped half a mile to the hatchery. There it is mixed with Ship Creek water and brought to a stable temperature.

The temperatures are constantly monitored and alarms sound if there is a variance of more than a few degrees. Rainbows cannot live in water above 62 degrees without suffering from a killing form of stress. For salmon, the disaster brink is several degrees lower. Rainbows live in 42-degree water in the winter and 46-degree water in the spring when spawning.

Of the 19 fish hatcheries and rearing facilities in Alaska, Elmendorf is the only one that handles brood stock rainbow, the fish from which we get more fish. Other hatcheries trap wild salmon in streams and collect the eggs for rearing.

There are approximately 18,000 of the dark, fat trout in three raceways at Elmendorf, ranging in age from 1 to 4 years.

Watching thousands of them rolling in the water can arouse even the most casual fisherman, but catching these hand-fed beauties would be quite a trick.

An eight-foot-high chain link fence surrounds the property. Inside, eight large white plastic dishes create invisible barriers just inside the fence. Cross their line of fire and a shrieking alarm goes off outside the office and inside the newly constructed manager's house just a hundred yards away.

Casting a long line over the fence wouldn't work, either. A 20-foot moat of land separates the fence from the tanks. Reaching the ponds would be simple enough, but dragging a fighting trout overland and flipping it over the fence would be all but impossible.

There is more science than meets the eye inside the hatchery. Besides the electronically controlled warm water system, there is food that would captivate the most jaded readers of junk food wrappers.

Back in the 1940s, the early days of fisheries science, fish at hatcheries Outside were fed chopped cattle guts. Seemed like a good idea at the time. It was a waste product, the fish ate it voraciously, and it appealed to people who thought all that came from cattle was good.

But the diet soon caused epidemic disease and many early hatcheries were closed.

Today, fish food is a science itself. Bagged in 50-pound sacks like dog food, the Oregon mash used at Elmendorf contains 22 ingredients ranging from fish meal to vitamins. An abundance of herring oil makes the pellets soft. Mature fish are fed at least once a day and consume, Hernandez says, about 1 percent of their total body weight daily. Young fish are fed more often, up to seven times a day. The Elmendorf hatchery uses 700 pounds of fish food daily in the peak spring season.

Although he had the opportunity to advance in the Department of Fish and Game hierarchy and the later bureaucracies that came to control the hatcheries in Alaska, Hernandez never pursued those career avenues. This summer, after working more than 25 years for others in the handling of fish, Hernandez will harvest fish on his own. With his 32-foot boat, the Hernando II, he will head out into Bristol Bay in search of king salmon.

A home computer will help him keep track of catch rates, fish locations and feeding patterns. But out on the rolling bay, Hernandez will use his own instinct, gleaned from years of experience, to catch fish.

Andrew Pevela is a reporter for The Daily News.

3960

Who needs a tagging trailer (Bill 2nd from left)

SB 274 Notes

1. Director Charlie Swanton, ADF&G, Division of Sport Fish, states that he takes no official position with respect to naming a public facility. Swanton also states he has no objection to the proposed name (William Jack Hernandez) for the fish hatchery.

2. Director Swanton states the Division of Sport Fish has not received any additional recommendations for naming the fish hatchery, other than recommendations for naming it after William Jack Hernandez, and several former staff members have also recommended naming the new hatchery after Hernandez.

3. The new state fish hatchery will be completed May 2011.

4. Citizens (including current and former ADF&G employees) who strongly support this legislation and wish to testify via teleconference:

   Tom Namtvedt, 5640 Portage Drive, Wasilla, AK 99654 – (907)355-7403

   Larry Engel, 16341 E Vera Way, Palmer, AK 99645-8641 – (907)745-4132

   Darrell Keifer, 3709 Carleton Ave, Anchorage, AK 99517-1542 – (907)279-3187

   Fred Williams, PO Box 88, Copper Center, AK 99573 – (907)822-3922

   Gary A. Wall, PO Box 101007, Anchorage, AK 99510-1007 – (907)223-4640 cell/333-5901 hm

   Sidney Logan, PO Box 2589, Soldotna, AK 99669-2589 – (907)262-4048

   David A Watsjold, 2811 Cutwater Ct, Anchorage, AK 99516-3473 – (907)345-5166

   Robert (Bugs) McCartney, PO Box 91, Palmer, AK 99645 – (907)376-3551

Contact: Chuck Kopp, Staff to Senator Dyson (907)465-6580

SB 275

ALASKA STATE LEGISLATURE

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Senate Resources Committee

Member
Senate Judiciary Committee

SENATOR LESIL MCGUIRE

Sponsor Statement
Senate Bill 275

Senate Bill 275 addresses longstanding attempts to determine compensation to the State of Alaska for harvests of common property geoduck clams that may remain on aquatic farm sites. Farmers need to clear their sites of wild geoducks in preparation for planting geoduck seed and lack of resolution on this issue has been a substantial impediment to the development of Alaska's geoduck farming industry.

The Alaska Supreme Court decided on April 16, 2004, that aquatic farm sites should contain only insignificant populations of wild geoduck clams. The Legislature expedited a bill that defined "insignificant" populations of geoducks as less than 2,000 pounds per acre. Since it appeared some sites already leased to farmers might exceed that amount, the legislation allowed ADF&G to determine "reasonable compensation" to the state for the harvest of "significant" wild geoduck stocks.

The last-minute timing of the decision did not leave the legislature enough time to debate different rates of compensation. Consequently, this measure provides the legislature with the opportunity to regain its taxing authority by allowing the legislature to set rates of compensation for the taking of state resources.

The first section of SB275 directs the Alaska Department of Fish and Game to consider the economic health of aquatic farming as it develops regulations. This section was developed in recognition of Article 8, Section 15 of the Alaska Constitution which allows the state to "promote the efficient development of aquaculture in the State."

When the actual costs are included, the Department rate represents an approximate 75% tax rate on the ***net*** profits of harvesting these geoducks, far higher than any other tax rate on resources in Alaska. Therefore, SB275 sets the tax rate for live geoducks at 10% of the gross value. This figure was determined by using ADF&G's formula of providing the state with 50 percent of the net profits of the sales. ADF&G's figure was lower because the agency did not consider all the verifiable costs of the farmers in particular the 3.5% Fisheries Business Tax. In addition, farmers also are required to replace each wild geoduck harvested by planting five juvenile geoducks on the farm site.

The bill also sets a tax rate of 3% on processed geoducks. The 3% rate was suggested by geoduck farmers during the public comment period on the proposed regulations as a good faith offer to provide some compensation to the state, even though they would lose money if they had to sell processed geoducks.

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SECTIONAL ANALYSIS
SENATE BILL 275

Section 1 adds that the Commissioner of the Alaska Department of Fish & Game should consider the economic health and sustainability of the aquatic farming industry when it develops regulations for the aquatic farming industry.

Section 2 amends the statute stating that the commissioner may authorize the permittee to remove and sell the excess amount of the wild stock if the permittee pays the department compensation in the amount of 10 % of the ex-vessel value for live products and 3% of the ex-vessel value for a processed product on top of the 3.5% fisheries business tax.

Section 3 provides an effective date for this Act.

Information provided by Alaska Shellfish Growers Association
Rodger Painter 957-0704
Paul Fuhs 351-0407

Senate Bill 275

Reasonable compensation for significant wild geoducks on geoduck farms. Previous legislation required "reasonable compensation" but did not set a compensation rate.

The Association is proposing compensation to the state in the amount of 50% of the net profits from harvesting surplus wild geoducks from farm sites.

$3.50/lb average exvessel price provided by Fish and Game = gross revenue

Farmer costs for harvesting and replacing wild geoducks:

$2.00/lb payment to commercial divers for harvesting geoducks
$0.57/lb reseeding cost
$0.12/lb PSP testing
$0.11/lb State raw fish tax
$2.80/lb Total farmer harvesting cost

$3.50 minus $2.80 = $0.70/lb X 50% tax = $0.35

$3.50/lb ex vessel price divided by $0.35 = 10% of exvessel value

When this 10% is added to the raw fish tax, it would be a total of 13.5% in taxes paid to the state. **Return to State: $0.47/lb. Return to farmer: $0.35/lb.**

Is this reasonable?

This is four times the amount paid by the commercial geoduck divers. In addition, the farmers must replace and leave the same number of geoducks on the farm site at the end of their lease as were there when they started.

Comparison of Impacts of Different Geoduck Tax Rates

The following is a comparison of ADF&G's two attempts to set a tax rate for "reasonable compensation" for the taking of significant stocks of wild geoducks on aquatic farm sites with a 10% gross value tax. This would apply only to 7 farms leased by the state prior to changes in state law forced by a state supreme court ruling. Current pre-leasing surveys by ADF&G (paid by the applicant) will ensure no new sites with "significant" wild stocks are leased and permitted by the state.

	ADF&G	Farmers	
Harvest Cost (vessel, fuel, deckhand)	$ 1.62	$ 2.00	Veriified by farmers with receipts.
Testing Fees (PSP, water)	$ 0.27	$ 0.27	
Reseeding (hatchery seed)	$ -	$ 0.57	Used then eliminated by ADF&G. 5-1 replacement.
Fisheries Business Tax	$ 0.11	$ 0.11	
Totals	**$ 2.00**	**$ 2.95**	
2006-2007 Average Ex-vessel Value	$ 3.50	$ 3.50	
"Net" Profit per Lb.	$ 1.50	$ 0.55	
50% Gross Value Tax	**$ 1.75**	**$ 1.75**	
Farmer profit/loss	**$ (0.25)**	**$ (1.20)**	
21% Gross Value Tax	**$ 0.74**	**$ 0.74**	
Farmer Profit/Loss	**$ 0.77**	**$ (0.19)**	
10% Gross Value Tax	**$ 0.35**	**$ 0.35**	
Farmer Profit/Loss	**$ 1.15**	**$ 0.20**	

What the Public Gets Out of the 10% Tax

Gross Value Tax	10%
Fisheries Business Tax	3.50%
Effective Tax rate	13.50%
Tax Revenue per pound	**$ 0.47**

Plus five juvenile geoduck clams per wild adult harvested.

What the Farmer Gets/Lb. $ 0.20

SB 277

SENATE COMMITTEE REPORT
First Committee of Referral

DATE: 2/12/10

FURTHER: Judiciary

Date of 5-Day Notice: _____
(in accordance with Uniform Rule 23)

DATE TURNED IN TO OFFICE: _____

Resources Committee considered SENATE BILL NO. 277

SB 277 PUB. UTILITY EXEMPTION: RENEWABLE ENERGY

"An Act exempting from regulation by the Regulatory Commission of Alaska and by municipalities generators of electricity from renewable energy resources that sell electricity to regulated utilities."

and recommends:

[X] be **replaced** with [ ] **SCS** or [ ] **CS** SB 277/P (RES P)

[ ] adopt **previous** [ ] **SCS** or [ ] **CS** _____ (_____)

[ ] attached amendment(s)

[ ] adopt _____Letter of Intent

[ ] further referral to _____Committee

SENATE BILL:
[ ] Same Title
[ ] New Title

HOUSE BILL:
[ ] Same Title
[ ] Technical Title Change
[ ] New Title w/ SCR #_____

NEW FISCAL NOTE(S):

Department	Date	Fiscal	Indet.	Zero	FN#
DCCED	2-17-10			X	2417

PREVIOUS FISCAL NOTE(S):

Department	Date	Fiscal	Indet.	Zero	FN#

[ ] **APPROPRIATION - no fiscal note**

SIGNATURES AND RECOMMENDATIONS:	PRINTED LAST NAME	DO PASS	DO NOT PASS	NO REC	AMEND
	Stevens			X	
	French			X	
CO-CHAIR:	Wielechowski			✓	
CO-CHAIR:	McGuire	✓			

FISCAL NOTE

STATE OF ALASKA
2010 LEGISLATIVE SESSION

Fiscal Note Number: 1
Bill Version: **CSSB 277(RES)**
(S) Publish Date: 3/2/10

Identifier (file name): SB277-CED-RCA-02-19-10
Dept. Affected: DCCED
Title: Public Utility Exemption: Renewable Energy
RDU: Regulatory Commission of Alaska (399)
Component: Regulatory Commission of Alaska
Sponsor: Senate Energy
Requester: Senate Resources
Component Number: 2417

Expenditures/Revenues (Thousands of Dollars)

Note: Amounts do not include inflation unless otherwise noted below.

	Appropriation Required	Information					
OPERATING EXPENDITURES	**FY 2011**	**FY 2011**	**FY 2012**	**FY 2013**	**FY 2014**	**FY 2015**	**FY 2016**
Personal Services							
Travel							
Contractual							
Supplies							
Equipment							
Land & Structures							
Grants & Claims							
Miscellaneous							
TOTAL OPERATING	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
CAPITAL EXPENDITURES							
CHANGE IN REVENUES ( )							

FUND SOURCE (Thousands of Dollars)

1002 Federal Receipts	0.0		0.0	0.0	0.0	0.0	0.0
1003 GF Match							
1004 GF							
1005 GF/Program Receipts							
1037 GF/Mental Health							
Other Interagency Receipts							
TOTAL	**0.0**		**0.0**	**0.0**	**0.0**	**0.0**	**0.0**

Estimate of any current year (FY2010) cost: 0.0

POSITIONS

Full-time							
Part-time							
Temporary							

ANALYSIS: *(Attach a separate page if necessary)*

SB 277 would exempt the owners of renewable energy generation facilities from regulation by the Regulatory Commission of Alaska (RCA). The exempted entity would not be subject to RCA certification requirements or RCA regulation of rates and standards of service.

Since the RCA will not be required to certificate or regulate the owners of renewable energy generation facilities, the agency will not experience any increase in workload due to the passage of SB 277.

Prepared by: Robert M. Pickett, Chairman
Phone 907.276.6222
Division: Regulatory Commission of Alaska
Date/Time 2/19/10 10:30 AM
Approved by: Emil R. Notti, Commissioner
Date 2/19/2010
Commerce, Community, and Economic Development

(Revised 11/6/2009 OMB)

ALASKA STATE LEGISLATURE

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Senate Judiciary Committee

SENATOR LESIL MCGUIRE

Sponsor Statement for Senate Bill 277

"An Act exempting from regulation by the Regulatory Commission of Alaska and by municipalities generators of electricity from renewable energy resources that sell electricity to regulated utilities."

The electric demand of the relatively small and dispersed population in Alaska has traditionally been served by regulated utilities. The Regulatory Commission of Alaska (RCA) is charged with certifying utilities, regulating their rates, resolving disputes and protecting consumers. Throughout most of the State, electric utilities are not-for-profit and/or member owned cooperatives that serve a defined geographic area and customer base. Regulation of these utilities, given their monopoly status may certainly be appropriate.

However, regulation can pose obstacles to investment. In many states, the generation of electricity has been deregulated in order to provide an avenue for private sector investment in the sector. In a traditionally regulated model, the investment risk is born by ratepayers where in a deregulated environment the risk is born by investors. In markets that have been deregulated, investment in renewable energy is significantly higher than in strictly regulated markets. A study by the U.S. Energy Information Administration shows that the annual growth of renewable penetration in restructured electricity markets is 11.3% while it is a mere .6% in highly regulated markets. Recognizing the regulatory impediment to the development of renewables, the Federal government has provided avenues for renewable generators to escape state regulation through an application to the Federal Energy Regulatory Commission.

Senate Bill 277 attempts to find a middle ground between a thoroughly deregulated market and the highly regulated environment in Alaska. SB 277 exempts renewable generation from RCA regulation only if the power is sold to a regulated utility. This compromise maintains RCA oversight over the power sales agreements and thereby provides a layer of protection to ratepayers. SB 277 opens Alaska's electricity market to private sector investment in renewables and will encourage investment in a cleaner energy future for Alaska.

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MEMORANDUM February 12, 2010

SUBJECT: Definition of "public" in AS 42.05
(Work Order No. 26-LS1353\E)

TO: Senator Lesil McGuire
Attn: Mike Pawlowski

FROM: Brian J. Kane BJK
Legislative Counsel

You have asked the following: For the definition of "public" or "general public"[1] found at AS 42.05.990(3), does that definition include all three subparagraphs, (A), (B), and (C), so that all three must be satisfied to mean "public"? Or, are (A), (B), and (C) three different options for the meaning of "public," as in (A) or (B) or (C)?

Generally speaking, "and" should be used as a conjunctive and "or" as a disjunctive. Under ordinary circumstances, the literal meaning of the words "and" and "or" should be applied unless the literal meaning makes the statute inoperable or it becomes questionable. *Sutherland Statutory Construction*, sec. 21:14 (7th ed.). In the case at hand, though, it seems that using the word "and" as a conjunctive brings the subparagraphs in the definition into conflict. Assuming that all three things are required for the definition of "public," then you have a scenario where there is (1) a group of 10 or more customers, (2) one or more customers, and (3) a utility purchasing the product. If all three of these are a part of "public," then it is quite difficult to think of a situation where this definition would actually apply. On the one hand you are dealing with customers purchasing from a utility, and on the other hand you have a utility purchasing

---

[1] In full, AS 42.05.990(3) reads: (3) "public" or "general public" means

> (A) a group of 10 or more customers that purchase the service or commodity furnished by a public utility;
>
> (B) one or more customers that purchase electrical service for use within an area that is certificated to and presently or formerly served by an electric utility if the total annual compensation that the electrical utility receives for sales of electricity exceeds $50,000; and
>
> (C) a utility purchasing the product or service or paying for the transmission of electric energy, natural or manufactured gas, or petroleum products that are re-sold to a person or group included in (A) or (B) of this paragraph or that are used to produce the service or commodity sold to the public by the utility.

electricity to sell to a customer. These cannot both occur at once in order to fulfill the definition. Using the term "and" as a conjunctive appears to make this definition inoperable, as best I can surmise. Therefore, it appears that the second option for the definition that is offered is the correct interpretation for the definition of "public."Hence, the term "public" means (A), or it means (B), or it means (C).

In relation to the definition for "public utility" -- which has the line "furnishing, by generation, transmission, or distribution, electrical service *to the public* for compensation" -- you can, assuming that "and" is disjunctive, read "public" to mean any one of the three options available in (A), (B), or (C), which offers a more expansive inclusion into this section than a reading requiring all three paragraphs to be met.

The definition in question was amended in 1990.[2] Prior to 1990, the definition read as follows

> (3) "public" or "general public" means
>
> (A) any group of 10 or more customers that purchase the service or commodity furnished by a public utility as defined in (4) of this section; and
>
> (B) any utility purchasing the product or service or paying for the transmission of electric energy, natural or manufactured gas, or petroleum products which are re-sold to a group included in (A) of this paragraph or which are used to produce the service or commodity sold to the public by the utility.

With only two parts to the definition, it seems clearer that "public" either means what is described in (A) or it means what is described in (B). To fall under the definition of public, there does not have to be a scenario where there is a group of 10 or more customers *and* any utility purchasing the product. If that was the proper reading, then finding an entity that met that criteria would be very difficult. The change in the definition that occurred in 1990 added one more subparagraph to the definition (now (B)). Adding this third subparagraph did not change the definition to mean that the term "public" had to include all three paragraphs to be considered "public."

In conclusion, it appears that the term "public" can have the meaning listed in AS 42.05.990(3)(A) or (3)(B) or (3)(C) -- it does not have to meet all three at once. However, amending the definition to change the "and" to an "or" would relieve the definition of controversy.

If I may be of further assistance, please advise.

BJK:ljw
10-087.ljw

[2] The amending language an be found at sec. 4, ch. 140, SLA 1990.

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MEMORANDUM February 16, 2010

SUBJECT: Independent power producer (Work Order No. 26-LS1353\E)

TO: Senator Lesil McGuire
Attn: Mike Pawlowski

FROM: Brian J. Kane BJK
Legislative Counsel

As a follow-up to the memorandum I sent to your office on February 12, 2010, you have asked: If an independent power producer sells to less than 10 customers, would it be a utility and therefore subject to regulation under AS 42.05?

Assuming that the definition of "public" or "general public" in AS 42.05.990(3) is being read as (A) or (B) or (C), then the answer to your question is that it is possible the independent power producer described could be subject to regulation. AS 42.05.990(3) has an option for the definition of "public" that reads:

> (B) one or more customers that purchase electrical service for use within an area that is certificated to and presently or formerly served by an electric utility if the total annual compensation that the electrical utility receives for sales of electricity exceeds $50,000;

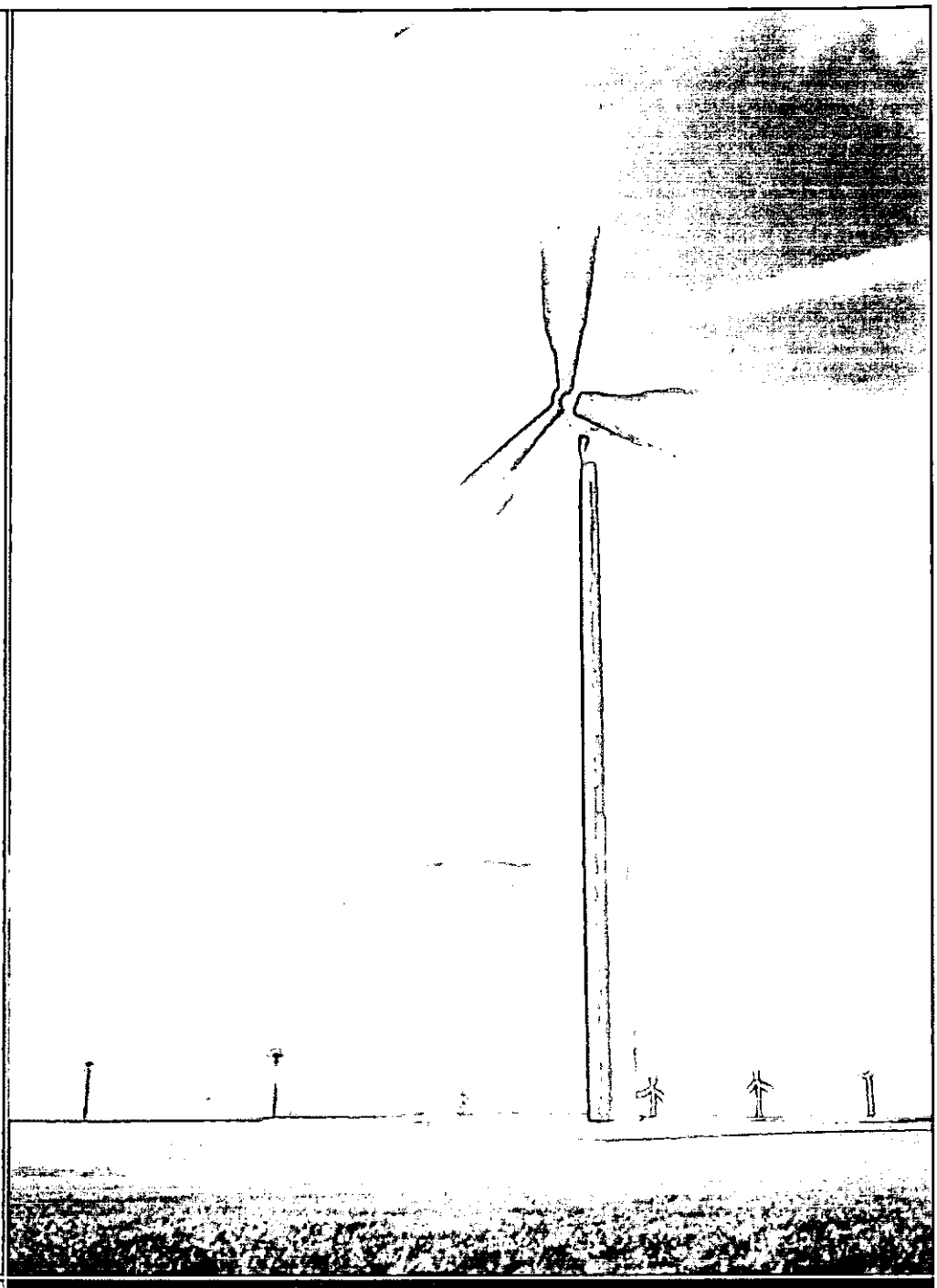
If an independent power producer has one or more customers but fewer than 10 *and* meets the other requirements of the definition in (B) -- namely receiving sales of electricity that exceed $50,000 -- then the independent power producer would be regulated under AS 42.05 since it sells to the "public." However, if the producer sells to fewer than 10 customers and does not exceed the $50,000 sales mark, then that producer is not subject to regulation under AS 42.05, as the producer would not be selling to the public, which is a requirement of AS 42.05.990(4)(A) to be a public utility.

BJK:ljw
10-101.ljw

U.S. Department of Energy

Energy Efficiency and Renewable Energy

Bringing you a prosperous future where energy is clean, abundant, reliable, and affordable



20% Wind Energy by 2030

Increasing Wind Energy's Contribution to U.S. Electricity Supply

Prepublication Version

May 2008

6.2.1 Electric Utilities

Approximately 200 investor-owned utilities (IOUs), 70 large municipal and federal or state systems, and 50 rural generation and transmission cooperatives supply power for 3,000 local distribution companies across the country. The largest of these utilities typically own power plants and generate much of the power they supply. They purchase the rest of the electricity needed to serve their customers from other utilities or from nonutility generators through power purchase agreements (PPAs).

Utilities serve a variety of customers with differing needs and priorities, both retail and wholesale. Retail customers are divided into three categories: residential, commercial, and industrial. Residential customers use energy in a single dwelling for personal service. Commercial customers often have multiple dwellings, offices, or business enterprises located in a multifunction building. Industrial customers are typically large manufacturing or assembly plants that have hundreds of workers and multiple electricity applications. Special forms of commercial and industrial customers include the federal, state, and local public sectors.

Retail electricity service to end-use customers is regulated by state commissions in many states and jurisdictions. Some states have implemented restructuring or deregulation of their electricity markets, resulting in increased competition among electricity providers and retailers. In states where competitive entities are vying to supply electric generation and to serve retail customers, wind developers have the opportunity to build wind projects and deliver wind energy. In states that have not restructured, wind developers can sell into wholesale markets or sell to the incumbent utilities under a PPA. Some utilities are pursuing options for owning and operating their own wind projects.

At the national level, FERC policies have been implemented to foster competitive wholesale electricity markets and spur innovation and efficiency improvements. FERC continues to review and modify, as appropriate, its policies concerning competition in wholesale power markets. FERC policies cover some of the nation's electricity grid system, which is made up of transmission lines. FERC treats transmission as a common carrier, meaning that it requires transmission providers to allow nondiscriminatory access to their wires. The large wholesale markets enable a more effective exchange of services and compensation for all electricity generators, including wind power generators, helping them compete for larger shares of generation markets.

To regulate their utilities, roughly half of the states in the country have integrated resource planning (IRP) policies in place. An IRP policy requires utilities to evaluate opportunities to serve loads through energy efficiency and demand reduction programs on the same basis they use to plan new generation. In addition, utilities must compare supply alternatives—including fossil and nonfossil resources—on a risk-adjusted basis. In some decisions made under the IRP process, local customer preference is considered and can influence decisions made by commissions in selecting generation options. As a result, the IRP process has been an important factor in establishing wind power markets.

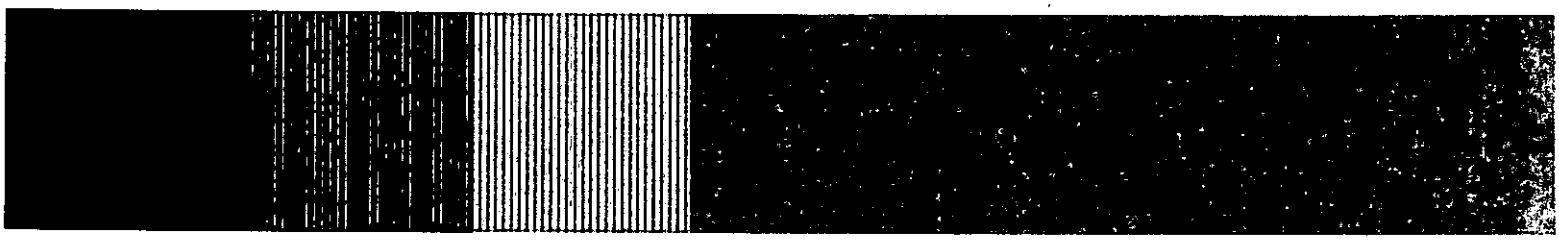
6.2.2 Federal Agencies

In aggregate, the federal government is the largest single consumer of electricity in the world. Federal agency electricity consumption in 2005 was more than 55,000 gigawatt-hours (GWh), which would equate to approximately 18 gigawatts (GW) of

3977

February 2008

Competitive Electricity Markets: The Benefits for Customers and the Environment



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This white paper was commissioned by the COMPETE Coalition, which represents electricity customers, retail suppliers, power marketers, and generators. This paper represents the views of its authors and not necessarily the views of the COMPETE Coalition, its members, or the employer of the authors.

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FOREWORD

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Students and serious practitioners of public utility regulation have long recognized what an imperfect institution it is. Grounded in the conception that these industries are naturally monopolistic—that is, that full achievement of their inherent economies of scale requires that they be organized as franchised monopolies—it followed that they had to be regulated in order to protect consumers from exploitation, while at the same time assuring investors recovery of their prudently (more precisely, in practice, their not-demonstrably-imprudently) incurred costs.

This essentially cost-plus system appeared to work well in electric power during the quarter century following the end of World War II, when technological progress and the progressive realization of economies of scale in generation and transmission, and the adoption of nuclear generation, converged to produce declining rates in real terms. In the decades following 1973, in contrast, two bouts of double-digit inflation in the economy at large, two quadruplings of the price of oil, sharp increases in the cost of capital—especially painful in so capital-intensive a business—and massive cost overruns in nuclear facilities all compelled dramatic rate increases throughout the 1980s, just when a slump in the real prices of oil and natural gas and the advent of combined-cycle gas generation made deregulation and competition look far more attractive to consumers than continued compliance with the historic regulatory bargain.

As this brief historical account demonstrates, the movement for deregulation in the last decades of the 20th century was clearly opportunistic—putting pressures on regulatory agencies to renege on their implicit promise to set rates sufficient to provide fair returns on invested capital—a "temptation of the kleptocrats," as I put it at the time.[1] Significantly, the pressures for deregulation were most insistent in states whose electric companies had invested heavily in nuclear plants and, at the other extreme, virtually nonexistent in states still relying heavily on coal, and particularly coal-fired generating plants that had long since been totally depreciated on the companies' books.

But, clearly, there were fundamental, not merely transient issues at stake as well. As I observed some seventeen years ago, in the context of reforming regulatory practice rather than deregulation:

> [A] consistent use of current competitive market valuations, for successful and unsuccessful investments alike, would be not only unobjectionable but desirable, because it would transfer the cost of failures, symmetrically with the profits of success, from ratepayers to investors.[2]

Manifestly, genuine deregulation would produce the same beneficent result.

Deregulation alone, however, would not take into account the especial importance, in this industry—in which only limited storage of its product is possible—of reliability of supply in the face of demand that fluctuates widely. Under regulation, this reliability was secured by requiring generators to maintain some stipulated margin of excess capacity sufficient to hold loss-of-load probabilities down to some acceptable minimum—the cost of which had to be distributed among all customer groups, since all benefited from it.

It was rarely recognized, however, that such a system was itself highly inefficient, because it failed to recognize that *individual customers* have widely differing needs for such assurances, because they differ correspondingly in the ability to adapt their consumption habits to the widely varying marginal costs. Only a system that provides customers with the choice of contracting with suppliers for such assurances as each of them requires—and its corollary, able instead to alter their consumption habits in response to changes in system marginal costs—can accomplish the purpose, on the one hand, of determining what margin of excess capacity is required in the aggregate and, second, how its costs will be distributed among customers. I commend to readers the authors' exposition of how restructured markets would, by confronting customers with prices varying hourly with contemporaneous marginal costs, give them the opportunity to react in real time, thereby giving each the opportunity to choose the level of reliability he or she wants and is willing to pay for.

Just as the move to restructuring was opportunistic, so too is the current sentiment to return to regulation a reaction to transient developments—in particular, the sharp increase in oil and gas prices—driving marginal costs above historic costs. But the choice of system should not be based, opportunistically, on transient events: the real defect of regulation is that rates set under it are based necessarily on averages—over time and among groups of customers. Ideally, the system would confront each customer with the proper price signals. And production efficiency is best realized when investors bear responsibility for investment decisions.

Policy makers confronting pressures to undo the restructuring of the electricity industry would be well advised to base their decisions on the longer-term benefits that will flow from properly implementing competitive markets, rather than on adventitious circumstances driving market prices temporarily above or below regulated rates.

Endnotes:

1. Alfred E. Kahn, *Letting Go: Deregulating the Process of Deregulation, or: Temptation of the Kleptocrats and the Political Economy of Regulatory Disingenuousness* (Institute of Public Utilities and Network Industries, Michigan State University, 1998).

2. Alfred E. Kahn, "The Changing Focus of Electric Utility Regulation," *Research in Law and Economics*, Vol. 13, p. 223 (1991)

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I. EXECUTIVE SUMMARY[1]

State policy makers are reviewing past decisions to promote competition in electricity markets and, in some cases, are debating whether to reverse course. Competitive electricity markets, also known as "restructured electricity markets," refer to the organization of the electric industry in states where utilities no longer have the obligation to plan and build generating capacity, and have often divested generation ownership. The purpose of this paper is to present an objective review of both traditional regulation and competitive electricity markets in order to assist policy makers as they critically assess their policy options.

The end of transition periods featuring rate caps and the onset of market-based retail rates has resulted in price increases for some states. While many have attributed these price increases to a failure of competition, the timing of the price increases is a coincidence and does not equate to causality. Electricity prices, driven by fuel costs, have risen in all states, not just those that restructured their electricity markets. As a result of these price increases, some states are examining their experiences with electric industry restructuring.

Prices derived by competitive markets and rates derived by traditional regulation[2] are fundamentally different, and will produce different outcomes. Over time, competitive markets are widely held to produce the most efficient results in our economy, providing the lowest costs to customers. Markets reward innovation—the search for and discovery, development, adoption, and commercialization of new products, services, organizational structures, processes, and procedures—that meets market demand. In a competitive environment, customers have more control over what they consume and what they pay, price levels will encourage more efficient use of energy, and market prices will encourage more demand response. Economists and experienced regulators, as well as national electricity policy, favor reliance on competitive markets when workable competition is feasible. It is important to evaluate the attributes of the competitive and cost-based regulatory models, and to critically analyze the strengths and weaknesses of each.

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[1] This white paper was prepared primarily by Eugene T. Meehan, a Senior Vice President at NERA, with Wayne P. Olson, a Senior Consultant at NERA. We thank Joshua Rogers for his research and editorial help. The opinions expressed herein are solely attributable to the authors and do not necessarily present a view of the firm or of other NERA professionals.

[2] Traditionally regulated utilities have an obligation to serve under traditional cost-of-service regulation, and to make and implement long-term generation plans in order to provide efficient, safe, adequate, and reliable service over time. It is important to note that even in restructured states, where such a model has been abandoned, there are many residual elements of traditional regulation. Transmission and distribution delivery service prices are regulated, and while customers receive a market-based generation price, the market procurement method is regulated.

Competition facilitates the most efficient means of production. Competitive market pricing provides significant benefits not found under traditional regulatory pricing. Among these benefits are the following:

- Market-based price signals are transparent and can stimulate appropriate infrastructure investment, energy conservation, and demand response.
- Competition provides customers with choices—i.e., customer sovereignty. Customers can exercise their own choices with respect to long-term risks, environmental concerns, and even reliability levels.
- Competitive market pricing allows sellers to tailor products and services to their customers' needs, and use demand-side solutions to avoid supply-side investment where appropriate.
- By pricing at market, prices will be similar for proximate utilities.
- Competition shifts risks from customers to investors.
- Competition produces more efficient results because the investor, not the ratepayer, assumes the generation investment risk.
- In competitive markets, poor producers fail and are acquired or replaced by those with more skill, foresight, and industry.

The electric utility industry pursued competition not for academic reasons, but because regulation was producing unacceptable outcomes, including large price differences between proximate utilities, large plant cost overruns, rate shocks and phase-ins, and customer dissatisfaction with lack of control over their electricity costs. Some innovative pricing concepts were studied, but they were rarely implemented on a large scale, and offerings were limited to a few standard tariffs. New generation built under regulation was considered too risky by both customers and investors, and power plants, particularly nuclear generators, demonstrated poor operating performance.

The differences between cost-of-service regulated rates and prices derived from competition are predictable and certain, and include the following:

- Regulated rates are founded on utilities' and regulators' judgment about the attributes of the product (e.g., reliability, environmental impacts) rather than the discipline of market forces.
- Regulated rates result in utilities and regulators imposing their choices on customers.
- Cost-based regulation makes it difficult for customers to make choices based on their own preferences and responses to market price signals.

- Cost-based regulated prices distort price signals necessary for efficient consumption, and undermine incentives for conservation and demand response. This creates a need to develop complicated and expensive conservation programs that "correct" the price signals through administrative means, when efficient results are obtained with simpler programs and market-derived prices.

Before undoing competitive markets, either intentionally or inadvertently, policy makers should consider the following facts:

- Regulated-monopoly generation imposed huge cost burdens on customers. These burdens, to which customers were exposed under the last significant non-gas capacity expansion, are what led many "high cost" states to restructure. In many states, cost-based regulation failed to produce reasonably priced electricity in the 1980s.

- States continuing with the regulated monopoly model are providing, and must continue to provide, iron-clad cost recovery guarantees for new generation investment.

- Transparent market prices derived in competitive markets are encouraging penetration of energy efficiency (conservation) and facilitating responsive consumer demand, lowering investment needs and providing environmental benefits.

- Innovations in end-use efficiency can potentially be created when customers control their own choices based on available information, and the market provides creative solutions. This can happen to the full extent only in a competitive market.

- Competitive electricity markets have led the way in developing renewable generation.

- Recent price increases are largely driven by fuel price increases, and have occurred in both competitive and traditionally regulated states.

While the promotion of competitive markets may not have been implemented perfectly, the points above suggest that customers would be better served by regulatory efforts directed at refining and improving the competitive model, rather than returning to cost-of-service regulation.

II. INTRODUCTION

Over $400 billion of electric industry infrastructure investment in generating plants will be required between 2006 and 2030.[3] Investments will be needed not only to accommodate the growth in population and the economy, but to replace aging facilities,[4] reduce emissions, fund research and development of innovative technologies, and lessen dependence on the use of liquid fuels from politically unstable foreign sources. In addition, all of these factors must be viewed in the context of heightened interest in renewable energy.[5] With such a large investment at stake, efficiency must be maximized and customers' interests must be protected. A failure to make this investment in the most efficient manner will: (1) make it difficult to ensure affordable and reliable electricity supply; (2) threaten the global competitiveness of the United States; and (3) risk having the country fall short of achieving environmental objectives.

To induce the needed investment, two economic models—that are markedly different both in terms of how they work and the incentives that they provide—can be used. The first is competition. In competitive markets, investors evaluate alternatives, make investment decisions, and place their capital at risk to market forces. Poor investment decisions lead to investor losses, even if such decisions were reasonable at the time they were made. The second model is cost-of-service regulation. In traditionally regulated markets, decisions about the type and timing of generating plant additions are generally determined by utilities, which are overseen by utility regulators. A utility builds, owns, and operates its system subject to oversight by the regulator through an open process that allows for significant input by stakeholders. While utility investors assume a limited set of investment risks, customers assume more, as they ultimately fund and support the investments through the rates they pay. Customers typically bear the risk when the selected investment incurs relatively higher costs, leading to rates that exceed market levels—so long as the utility's actions were prudent, meaning the actions were reasonable given available information.

At the national level, electricity policy is clear. Federal law provides for competition in wholesale generation markets and open access to transmission facilities. While this policy accommodates wholesale competition, it does not mandate or promote competition at the retail level. States have the choice to rely on vertically integrated utilities to plan, build, and own generating plants; to require utilities to use their monopoly position to underwrite long-term contracts that provide cost recovery without regard to how costs compare to the market in the future;[6] or, to transfer the responsibility for investment decisions and the risk of investment

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[3] "[T]otal of 258 gigawatts of new [generating] capacity is expected between 2006 and 2030, representing a total investment of approximately $412 billion (2005 dollars)," *Annual Energy Outlook* 2007, Energy Information Agency, DOE/EIA-0383, 2007.

[4] In the Northeastern US, about 41,000 megawatts of generation capacity are due to be retired, which is about one-quarter of generating plant in the region. *See*: Hugh Wynne, *U.S. Utilities: Capacity Retirements, Generation Investment and Technology Choice*, Bernstein Research, August 2006.

[5] Over the next five years, renewables comprise about 16 percent of the new generation that has been proposed; wind comprises 88 percent of proposed renewables. *See*: Dan Ford, *Just the Beginning*, Lehman Brothers (Power & Utilities), August 21, 2006, p. 8.

[6] The key phrase here is "in the future." Regulated monopolies have to reasonably plan in this day and age, but the standard by which they are judged is whether their decisions were reasonable based on what a prudent utility

decisions away from customers and on to investors by adopting a competitive model. These state decisions on whether to use cost-of-service regulation, competition, or some mix of the two are critical to achieving efficient investment, promoting environmental goals, and protecting customer interests.

Choosing between competition and cost-of-service regulation is not easy. It can be difficult to fully appreciate the consequences of these two options. Given the long-lived nature of utility assets, the choice will have long-term financial and environmental consequences for energy customers. The United States, with its federal system of government, is unique among nations in reserving this major economic choice for the individual states. Policy makers undoubtedly face difficult challenges in the current environment, with price increases largely driven by input price increases, which have little to do with whether or not there are competitive power markets in the state.

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management could have known at the time. If, in the future, the regulated utility's costs become uneconomic relative to the market price, the utility would still be able to recover its actual, prudently-incurred costs in rates.

III. THE CHOICE BETWEEN TRADITIONALLY REGULATED AND COMPETITIVE MARKETS IS CLEAR

Under competition, prices reflect the supply and demand conditions at the time, and customers have the ability to choose products and services that allow them to manage their individual electricity usage. Under cost-of-service regulation, customers enter into an ongoing long-term contract to support new generating investment through their local utilities, and have very little product choice. Prices reflect historical costs and historical investment decisions, not prevailing market prices.

Competitive market pricing provides many benefits not found under traditional regulatory pricing. First, because investors are compensated based on the market and not cost, they bear the risks and rewards of generation investment. Second, price signals are more accurate within competitive markets, and can stimulate appropriate infrastructure investment, energy conservation, and demand response. Markets use these price signals to evaluate solutions to current and future energy challenges. Third, competitive market pricing allows sellers to tailor products and services to their customers' needs, and use their ability to respond to prices in a way to avoid new investments where appropriate. Lastly, by pricing at market, prices will be similar for proximate utilities. Consequently, industries located in different utility territories will not be subject to arbitrary cost disadvantages relative to competitors, a balance that represents a change from cost-of-service regulation. Under the latter, if one utility decided to build a nuclear plant that resulted in a large but prudent cost overrun, while the neighboring utility decided on a coal plant that was built within budget, rates for the two utilities could differ sharply. This is not typical of functioning markets, and it is difficult for customers, particularly industrial competitors, to accept such arbitrary pricing.

Regulated prices are based on cost of service, and to the extent that different utilities make different investment decisions, prices for proximate utilities may be very different. Throughout the 1980s and 1990s, regulated prices were far above market. Once gas prices declined and technology developments in combined cycle generation lowered cost and heat rates, the cost of nuclear investments and Public Utility Regulatory Policies Act of 1978 (PURPA) qualifying facility (QF) contracts exceeded the cost of constructing and operating new combined cycle plants, or taking advantage of surplus capacity. Prices charged by proximate utilities differed based on the timing of their plant additions and construction cost outcomes.

Luck played a large factor in determining the rates that particular electricity customers paid. But one thing is certain: the major driver for the move to competitive electricity markets in the 1990s was the series of poor outcomes that occurred during the 1970s and 1980s, when the inclusion of "lumpy" investments in nuclear generating plants led to concerns about "rate shock," rate increase, phase-in plans, and automatic pass-through of fuel costs. Ratepayers and investors shared in the financial burden resulting from these investment decisions.[7]

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[7] The economic losses resulting from the mistakes of the 1970s and 1980s may have cost as much as $100 billion. *See*: Wald, "Nuclear Plant Drain Put at $100 Billion for U.S.," *New York Times*, February 1, 1988, p. D1. This article was cited in Richard Goldsmith, "Utility Rates and 'Takings,'" *Energy Law Journal*, Vol. 10, No. 2, 1989, p. 241.

There is little reason to believe that a return to traditional regulation would lead to prices that would be continually below or at market levels. The only assured outcome is that cost-of-service regulated prices will reflect historical costs, not the market. Regulated prices could be administratively set to be relatively stable, but this may come at the cost of consistently failing to reflect the actual costs incurred. It makes little sense to attempt to choose between a traditionally regulated and a competitive model based on expectations of future price level differences, as such a choice would be speculative.

In competitive markets, where larger customers face hourly market prices (and smaller customers may elect to do so), electricity providers in many instances offer creative packages to satisfy customers. These are tangible differences between the traditionally regulated and competitive models that are predictable and certain. It is also certain that under competition, customers will have more control over what they consume and what they pay, that price levels will become known and encourage more efficient use of energy, and market prices will encourage the development of more responsive demand. Moreover, the same benefits apply to supply as well as to demand alternatives. For example, in a traditionally regulated model, wind resources will be viable only to the extent that a utility chooses to build or buy wind. In a competitive market, wind developers will have access to regional transmission organization (RTO) transmission and integration service, and will see market incentives to develop projects that provide maximum market benefits. Correspondingly, consumers may elect to buy more energy from wind and other renewable resources.

In competitive markets, generation investment decisions are made by investors in response to customer needs. Investors bear the risk of those decisions. This is a fundamental and important difference between competitive markets and cost-of-service regulation. It is important to consider that bearing risk does not equate to simply absorbing losses. There is an upside and a downside to risk. In return for bearing losses on unsuccessful investment decisions, investors realize gains on successful investments. That is the competitive model that prevails throughout the US economy.

There are other differences between cost-of-service regulation and competition that are predictable and certain. For instance, regulation requires utilities and, in turn, regulators, to substitute their judgment about the attributes of the product (e.g., reliability, environmental impacts) for that of the market, and this makes it difficult for customers to make choices based on their own preferences. Competition gives customers greater choice and control through market-based innovation. Customers can exercise their own choices with respect to environmental attributes, long-term risks, and even reliability levels. Regulated prices also typically distort price signals that are necessary for efficient consumption, and undermine incentives for conservation and demand response. Since the mid-1970s, traditionally regulated utilities have investigated innovative pricing and demand control. Progress has been limited, as regulated tariffs are standard and creative pricing schemes reflecting individual circumstances are hard to implement.

IV. ELECTRICITY COMPETITION WAS PURSUED AS A SOLUTION TO LONG-TERM PROBLEMS

Policy makers should consider that electricity markets were restructured because regulation was producing high prices and generally unacceptable outcomes for both customers and shareholders. This section will explain the cost-of-service regulation problems that began in the mid-1970s, which include price differences between proximate utilities, plant cost overruns, rate shocks and phase-ins, PURPA excess costs, and customer dissatisfaction with the lack of control over their electricity costs. Power plants, particularly nuclear plants, demonstrated poor operating performance.[8] Demand side measures and innovative pricing were frequently discussed but rarely implemented successfully in the traditionally regulated environment. By the mid- to late-1980s, there was substantial dissatisfaction with the outcomes of the regulatory process, which led policy makers to pursue competition in the 1990s.

These well-known regulatory problems, which began in the mid-1970s, created a strong impetus for the industry to restructure. A significant component to the problems was price, which, as Professor Paul Joskow of MIT notes, "reflected the high capital costs and poor operating performance of nuclear power plants commissioned during the 1970s and 1980s, the high prices reflected in PURPA/QF contracts, and the costs of excess capacity which got rolled into regulated prices."[9] It is reasonable to assume that the same or similar problems could arise in states that revert to a system akin to traditional regulation. Problems with traditional, cost-of-service regulation of generation are still relevant in many parts of the United States.

US power systems were, for the most part, developed by vertically integrated utilities. These utilities built, owned, and operated distribution, transmission, and generation facilities. Traditionally, these utilities had exclusive service territories and the right to exclude other entities from the use of their distribution and, to a lesser extent, transmission facilities. The generation investment by these utilities was made pursuant to an obligation to serve all loads in the service territory. The legal framework provided for the right to charge rates that allowed the utility a reasonable opportunity to recover all prudent investments and costs incurred to meet that obligation, and further protected that investment with an exclusive service territory and the right to exclude others from the use of distribution facilities.

Major nuclear plant cost overruns received a large amount of press in the 1970s and 1980s. Regulators no longer wanted to deal with overseeing ratemaking issues years after an investment had been made in a plant. To cite some examples:

- In Ohio, construction of the Zimmer nuclear power plant began in 1969, with an estimated in operation date of 1975. Cincinnati Gas & Electric, Dayton Power & Light,

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[8] Statistics show that there has been substantial improvement in nuclear operating performance in recent years. This is most easily represented by the increase in average capacity factor across the US nuclear power industry. The Nuclear Energy Institute provides public access to these statistics on its website. Please *see*: http://www.nei.org/resourcesandstats/nuclear_statistics/usnuclearpowerplants/ (Accessed 11/28/07).

[9] Paul L. Joskow, *U.S Energy Policy During the 1990s*, prepared for the conference "American Economic Policy During the 1990s," sponsored by the John F. Kennedy School of Government, Harvard University, June 27 to June 30, 2001.

and Columbus and Southern Ohio Electric made up the ownership group, which predicted that the total cost of construction would be $240 million. There were massive cost overruns after construction began, and the estimated total cost rose to $3.5 billion, while the operating date became uncertain. Following allegations of mismanagement and intervention by the Nuclear Regulatory Commission, the owners announced that the plant would be converted to a coal-fired unit with an estimated completion date of 1991 at an additional cost of $1.7 billion.[10]

- In Michigan, construction of the Midland nuclear power plant was expected to be completed by 1975 at a cost of $276 million. Instead, construction of the plant was halted in 1984, after total costs had risen to $4.2 billion. In 1986, the Michigan Public Service Commission decided that the plant should be converted to a gas-fired unit, with a conversion cost of $600 million.[11]

- In New York, construction of the Nine Mile 2 plant began in 1970. The total cost for this project was initially estimated to be under $400 million, and the facility was projected to be operating by 1977. These estimates changed dramatically after construction began, with total costs reaching $3.7 billion and a completion date of 1986. The total cost of the plant after completion in 1986 was $5.4 billion, of which $4.45 billion was deemed recoverable by the New York Public Service Commission.[12]

There are many other examples of cost overruns, which led to a great deal of regulatory frustration over how to better deal with the construction and financing of generation. These frustrations stemmed from problems with nuclear power plants that experienced huge cost overruns, the aftermath of the energy crises of the 1970s, sharply reduced electricity demand growth rates, and the basic fact, that under the traditional regulatory compact, customers bore the vast majority of the risk.

In response to the regulatory issues, state regulators began to emphasize long-term "integrated resource planning" (IRP), which sought to improve on traditional *ex post* regulation by adding an *ex ante* component.[13] IRP began with the best of intentions—to do utility regulation "right," before the fact. Some regulators decided to use a forward-looking regulatory planning process in an attempt to acquire the least costly resources. At the same time, there was a redoubled emphasis on *ex post* scrutiny of the prudence of generation construction programs before new plants were allowed into the rate base.

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[10] Charles F. Phillips, Jr., *The Regulation of Public Utilities* (Arlington, VA: Public Utilities Reports, Inc., 1988), pp. 33-34.

[11] *Id.*

[12] Leonard S, Goodman, *The Process of Ratemaking* (Vienna, VA: Public Utilities Reports, Inc., 1998), pp. 866-867.

[13] Paul Joskow points out that PURPA was "accompanied by the creation of public 'integrated resource planning' (IRP) or 'least cost planning' (LCP) processes to determine 'appropriate' electric utility investment and contracting strategies which were eventually implemented with competitive bidding programs .... The rationale for and economic consequences of these programs were controversial." Joskow, *supra* note 9.

By the late 1980s, many utilities that needed new generation supply were required to procure this supply through competitive bid processes and IRPs. By 1990, 27 states had mandated or allowed the use of utility competitive bidding processes for generation resource procurement.[14] Utility participation in these bidding processes depended on state policy. In some cases, they were required to bid through an affiliate, submitting either a fixed-price bid or a proposal to build a rate-base generating facility, where the costs were not fixed. In either case, they would need to justify the selection of the winning bid to the regulator, and they were competing against non-utility providers.

Under traditional regulation, whether generation was built by the utility or by a new entrant, long-term commitments at ratepayer expense were provided to support the construction of long-term generating assets. If built by the utility, the assumption was that the asset would stay in the utility rate base until it was no longer used and useful, which could be 30-50 years. If built by an independent power producer under PURPA, with pricing based on avoided cost (the cost that the utility avoided by building the generation resource itself), the utility was frequently required to sign a long-term contract—sometimes as long as 15 to 30 years—to support the resource. Moreover, counter-party risk was not always adequately recognized, so the decisions that regulators made as part of the IRP process had major ramifications for utilities, new entrants, and electricity users over very long periods of time.

In addition to nuclear cost overruns, PURPA contracts were also burdening customers. As an example, Regulatory Research Associates notes that "[o]n March 10, 1997, NMK and 19 IPPs announced that a Master Restructuring Agreement was reached 'in principle' to restructure or terminate 44 purchased power contracts" and that "under the MRA, NMK would restructure or terminate the 44 power contracts in exchange for approximately $3.6 billion in cash and/or debt securities and 46 million common shares, representing about 25% of NMK's outstanding common shares."[15]

The experiences of the past are especially relevant today. Plant construction costs have escalated sharply as more utilities are adding generation, making it more important than ever that existing resources be used efficiently, and that demand response and energy efficiency programs be pursued when it is economical to do so. The expected cost of building a new nuclear plant, for example, is escalating as a result of "massive inflation in copper and nickel and stainless steel and concrete."[16] Part of the reason for the 25%-30% increase in the estimated cost of a coal-fired plant is the "huge price increases for the raw materials that plants are made from, including copper and nickel," as well as the cost of finishing those commodities into components.[17] Electricity prices are increasing and, just as in a competitive market, regulation does not shield

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[14] Steven Ferrey, *Law of Independent Power* (Deerfield, IL: Clark-Boardman, 1996), p. 9-3. Ferrey cites the National Independent Energy Producers, "Bidding for Power: The Emergence of Competitive Bidding in Electric Generation," March 1990, p. 11.

[15] Regulatory Research Associates, Inc., *Regulatory Focus – Niagara Mohawk Power Final Report*, April 23, 1998.

[16] *See*: Matthew L. Wald, "Costs Surge for Building Power Plants," *New York Times*, July 10, 2007.

[17] *Id.*

customers from rising input costs. Though costs may be deferred for a period of time due to the regulatory process, they will be recovered so long as they were prudently incurred.

V. COMPETITION HAS CLEAR ADVANTAGES OVER TRADITIONAL REGULATION AND HAS ALREADY BEGUN TO PROVIDE EFFICIENCY AND ENVIRONMENTAL BENEFITS

Competitive electricity markets allow consumers to choose among providers and service options. This combination of open entry for suppliers and choice for customers provides the benefits of competitive markets (e.g., efficient resource allocation, accurate price signals, and incentives for innovation) and limits competitors' ability to exercise market power. Customers are protected from open-ended commitments to pay above-market costs that would not be passed through in a competitive market. This does not mean that entry into markets will be costless or easy, but rather that all actual competitors, incumbents and new entrants alike, will have made (and potential competitors could make) the investments and commitments necessary for them to compete in the market. Under this system, customers are free to manage long-term risk, which, for example, could include entering into long-term contracts with electricity suppliers.

Under traditional regulation, vertically integrated utilities build new generating plants in order to serve customer demand. Through the regulatory least-cost planning process, utilities are given permission to pursue resource procurement strategies, which effectively commit the regulator to pass the resulting costs through to customers so long as the utility has acted prudently in incurring those costs. This type of utility regulation includes both: (1) an *ex ante* component, requiring the utility to use least-cost integrated resource planning, and to get permission from the regulator before it commits to build or purchase new generating resources; and (2) an *ex post* component, requiring the utility to ask for a rate increase that puts the new plant into the rate base, and allows it the opportunity to earn its opportunity cost of capital on that rate base. Given the utility's obligation to serve, there is a corresponding regulatory obligation to pass through prudently incurred costs to customers, regardless of what those costs would have been in a competitive market.

Table 1 includes a listing of significant differences between firms that operate in competitive and traditionally regulated models that policy makers should consider when deciding how to move forward.

Table 1: Competitive Versus Traditionally Regulated Markets

	Competition	Traditional Regulation
Funding	Company funds investments with the expectation that it will be able to charge customers prices that justify those costs.	Ratepayers fund prudently incurred investments in rate base with a virtual certainty of recovering the costs.
Price Determination	Prices set in a market by supply and demand with open-ended possibilities for pricing structures, which means choice for consumers.	Prices set based on cost with limited menu of regulated tariffs.
Market Concentration	Multiple firms compete with one another, with potential competitors providing competitive pressure as well.	Generally one firm, once with a franchise.
What Is Built	Companies, in response to customer demand, will be more likely to invest in less traditional and more energy-efficient forms of generation, including renewables.	Regulators approve what utilities build. This may or may not be the lowest cost investment, and may or may not be technologically innovative.
Capital Structure	Less use of leverage perhaps, reflecting greater investment risk, but more potential for innovative financing arrangements.	Traditional utility regulation accommodates the use of more debt, but limits innovation.
Who Bears Risk of Bad Investments?	Investors.	Consumers.
Market Activity	The competitive environment is dynamic and subject to entry and exit. This creates a powerful incentive for firms to increase operating efficiency.	Static. Subject to bureaucratic process.
Cost Allocation	Value branding. Independent power companies have a greater opportunity to market different services to different customers.	Cost averaging. Through the regulatory process, costs incurred are averaged out when determining rates, and the ratepayers that incur specific costs may not necessarily pay for them.
Keys To Success	Ability to compete on price, terms, and non-price attributes such as billing arrangements and product innovation (such as green power).	Prudence and accountability in decision making; competence working with regulatory and political policy. Ability to overcome market failures.
Vertical Integration	Greater vertical separation of regulated and competitive activities.	Typically vertically integrated, subject to an internal system of command.
Ownership And Investment	Risk and return expectations will be relatively higher. This will affect what types of entities hold ownership stakes.	Risk and return expectations will be relatively lower. This will affect what types of entities hold ownership stakes.
Marketing	Increased need for marketing, and development of innovative products. Focused on meeting individual customer needs through innovation.	Reduced need for marketing and business development. Largely focused on providing one-size-fits-all solutions for customers.
Price Stability	If price stability is desired by customers, competitive retailers will make such a product available.	The regulatory process eventually allows recovery of all prudent costs. Rates can be slow to respond to changing conditions due to regulatory lag.
Price Signals	Prices tend to reflect marginal costs, the most accurate representation of opportunity cost.	Retail prices can become distorted from marginal costs through the ratemaking process.

This table demonstrates the disparate characteristics of competitive and traditionally regulated markets. The fundamentals of a competitive market, such as having more than one supplier, feasible entry and exit, and enhanced price transparency, create these differences. These factors allow competition to spur reductions in operating expenses and increases in innovation.

Traditional regulation, although based on prudently incurred costs, can yield inefficient results, primarily due to the requirement that utility ratepayers bear the majority of risks, rather than investors.

A. Competition Shifts the Risk to Investors

One of the benefits of restructured markets is that the investment risk for generation plants is shifting from consumers to investors. For instance, after restructuring, there was a huge initial burst of merchant construction in most areas of the country which, despite leading to excess capacity, did not cost customers a dime. This was an especially pertinent topic at the time of restructuring, as there were various notable examples of major cost over-runs in plant construction, especially with nuclear facilities.

Now, with many parts of the country expressing concerns about the adequacy of generation supply, certain states are pursuing policies aimed at providing incentives to build new generation. In competitive markets, wholesale prices provide the incentives to build new infrastructure, with customers free from the obligation to fund those investments. Many traditionally regulated states have recently passed laws providing for prior review of plant—cost recovery guarantees not available to merchant generators—and construction work in progress (CWIP) in rate base.[18] For example:

- **Florida:** In June 2006, legislation that affects several aspects of the state's energy policy was enacted. Senate Bill (S.B.) 888 exempts nuclear power plants from the requirement of a competitive bid and provides for recovery of pre-construction costs and a cash return on CWIP during the construction period of a nuclear power plant. A similar bill, House Bill (H.B.) 549, was enacted on June 12, 2007. This legislation authorizes deferred accounting for the pre-construction costs of integrated gasification combined-cycle (IGCC) plants, and these costs are to accrue a carrying charge equal to the utility's AFUDC rate. All prudently incurred pre-construction costs are recoverable through the utility's capacity cost recovery clause, as is a current return on CWIP.

- **North Carolina:** Senate Bill (S.B.) 3, which was enacted on August 20, 2007, facilitates the NCUC's ability to allow a cash return on CWIP by removing statutory language that had permitted utilities to earn a cash return on CWIP only "to the extent [...] such inclusion is in the public interest and necessary to the financial stability of the utility in question." As an example, the NCUC recently approved the recovery of pre-construction development costs for the proposed Duke Energy Lee Nuclear Station, stating that "to the extent the Commission finds, in a future general rate case proceeding, the specific activities involved in, and the costs of pursuing such Development Work to be prudent and reasonable (whether or not the Lee Nuclear Station is constructed), Duke may

[18] CWIP in rate base, which provides cash before a plant operates, does not occur in competitive markets. For regulated utilities, there have been instances where commissions have allowed CWIP to be recovered when a regulated utility needs cash flow assistance or when Allowance for Funds Used During Construction (AFUDC) balances, which are "paper" earnings not "cash" earnings, grow large and become burdensome financially. Normally, however, CWIP in rate base is not allowed as the plant is not yet benefiting customers, but in order to induce utilities to build more states are formalizing CWIP allowances.

recover" the Development Work costs in rates.[19] These development costs are expected to total $125 million.

- **Nevada:** In 2004, the PUC adopted revised integrated resource planning rules that permit the Commission to approve an incentive mechanism for generation facilities designated as "critical." Under the rules, the PUC has the option to designate a project as critical if it protects reliability, promotes supply diversity, or utilizes renewable resources. For such a project, the utility may be awarded a financial incentive including: (1) an enhanced ROE on the designated critical facility over the life of the facility; (2) a cash return on CWIP associated with the facility; or (3) the deferral of costs incurred to construct the facility.

- **Wisconsin:** Through an ROE adder, the PSC generally allows a current return on 50 percent of a utility's electric and gas CWIP, except for major generation projects where the PSC generally allows a current return on 100 percent of the CWIP associated with that project.[20]

The trend is clear: the US needs to build new generating capacity, greatly increase energy efficiency, or initiate a combination of both in order to meet demand for electricity and diversify the supply mix away from old technology. Cost-of-service regulation could accomplish this, but going down that path will necessitate iron-clad cost recovery assurances for increasingly expensive generation assets.[21] Regulated entities may be volunteering to build new generation, but not without cost recovery guarantees and payments before plants are in service. While the prior building cycle proved that recovery assurances need to be provided to investors, the amount of price risk faced by consumers does not seem to have sunk in. Customers may not yet be aware of the long-term commitments that are being made on their behalf by utilities and their regulators.[22]

B. Economic Efficiency Gains

Reliance on competitive markets is based on the principle that firms with the most efficient production and the most value for consumers should and will prevail. Efficient competition leads to production at the lowest achievable costs in the long-term, which is a socially desirable outcome that results in an efficient use of society's resources. Currently, with

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[19] Regulatory Research Associates, Inc., Focus Notes, March 30, 2007. A similar approval was granted by the Ohio Public Utilities Commission to American Electric Power (AEP) in 2006, which allowed for the recovery of $24 million in pre-construction costs related to an IGCC facility. *See*: Regulatory Research Associates, Inc., Focus Notes, April 27, 2007.

[20] Regulatory Research Associates, Inc., State Commission Overviews, various dates.

[21] From May 2005 to October 2006, Duke Energy's estimate of construction costs for two new coal-fired plants at its Cliffside site went from $2 billion to $3 billion. The North Carolina Utility Commission ultimately approved a single plant for $1.8 billion, an 80 percent increase from the initial estimate—and that number is still just an estimate. Similarly, Entergy's cost to re-power its Little Gypsy site was estimated in April, 2007, to cost $1 billion; by July, 2007 this figure had increased by over 50 percent to $1.55 billion.

[22] We are not saying that such guarantees and cash flow allowances are unjustified or unnecessary. To the contrary they may be required in regulated situations. The point is that this is a major difference between the regulated and competitive solutions.

transition to competition periods beginning to end, it is too early to determine the ultimate success or failure of electricity competition—but it is possible to see some encouraging trends.

With competition, generation operators' incentives changed dramatically, leading to changes in microeconomic behaviour. Though they may not be immediately evident in prices, benefits are clear in non-price advantages such as greater service variety and the presence of a functioning market for capacity (which promotes efficient investment decisions).

Research papers that focus on measures of efficiency other than price, such as generator efficiency or operating cost reductions, offer a more complete indication of the impacts of competition in the current environment. Research has found that:

- Operating costs of generating plants in states that chose to restructure have been reduced relative to costs of generating plants in states that decided against implementing competition.[23] Plant operators affected by competition reduced labor and non-fuel expenses by about 3%-5% relative to other IOUs and 6%-12% relative to cooperatives or government-owned generation.[24] Similarly, divested generating plants and those subject to incentive regulation mechanisms improved their fuel efficiencies compared to their peers without high-powered incentives.[25]

- One of the benefits introduced by competition in generation was to improve the performance of previously existing generating assets in the face of competition. Availability, non-fuel operating costs, and heat rates improved significantly. Availability of generating capacity has increased over time in both New England and New York. Equivalent availability factors increased significantly in PJM from 1994 to 1998 and have been roughly constant since then with some year-to-year variability.[26] Relatively small efficiency gains—such as a two percent improvement in heat rates—can provide hundreds of millions of dollars of annual fuel savings.

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[23] Fabrizaio, K., N. Rose and C. Wolfram, "Do Markets Reduce Costs? Assessing the Impact of Regulatory Restructuring on US Electric Generation Efficiency," *The American Economic Review*, Vol. 97 No. 4, 2007.

[24] *Id.*

[25] Bushnell, J. and C. Wolfram, *Ownership Changes, Incentives and Plant Efficiency: The Divestiture of U.S. Electric Generating Plants*, University of California Center for the Study of Energy Markets, CSEM WP-140, March, 2004.

[26] Paul L. Joskow, "Restructuring, Competition and Regulatory Reform in the U.S. Electricity Sector," *Journal of Economic Perspectives*, 11(3): 119-138, 1997.

ISO New England, *2004 Annual Markets Report*, 2005, http://www.ksg.harvard.edu/hepg/Papers/ISONE_2004_annual_markets_report.pdf (Accessed 11/2/07).

New York ISO, *2004 State of the Markets Report*, prepared by David Patton, 2005, http://www.nyiso.com/public/webdocs/documents/market_advisor_reports/2004_patton_final_report.pdf (Accessed 11/2/07).

PJM Interconnection, *State of the Market Report 2004*, 2005, http://www.pjm.com/markets/market-monitor/downloads/mmu-reports/pjm-som-2004.pdf (Accessed 11/2/07).

Markets reward innovation—the search for and discovery, development, adoption, and commercialization of new products, services, organizational structures, processes, and procedures—that meets market demand. The role of competitors in the marketplace is to compete on the basis of price and value. While competing on the basis of price is obviously very important, successful competitors can also innovate and offer the customer something better than that offered by standard service. Some value-added services may be related to price, such as information services that improve a customer's ability to manage its energy usage. Value could also be provided in the form of green power, risk management (fixed prices for seasons or a year), bundling of services, or could take a form that is not currently anticipated.

C. Energy Efficiency and Renewables

Energy efficiency, distributed energy resources (DER) programs, and renewables (e.g., wind) all benefit from transparent markets and the competitive incentives that restructured markets provide. In a competitive situation (with an RTO or ISO), it is more likely that price signals for generation services (energy, capacity, and ancillary services) will be market based, and it is also more likely that service providers or retailers will be involved.

1. Market Transparency and Demand Response

Innovative RTO/ISO programs are providing incentives for a wide variety of needed generation and transmission-related resources. The ISO-RTO Council, made up of ISOs and RTOs serving two-thirds of the US market and half of the Canadian market, recently issued three reports documenting the success they have had in terms of managing demand response programs and encouraging renewable investment.[27] The reports note various ways in which RTOs can facilitate renewable development including clear, expeditious, and nondiscriminatory interconnection processes and market-based ancillary services.

Demand response programs that respond to real-time prices can also serve to moderate spot price spikes. Demand response programs work best in transparent markets, which eliminate the need to use an administered-type price, such as avoided cost pricing, which may give very misleading price signals. With a transparent market providing price signals, it becomes possible to fairly evaluate energy efficiency, demand response programs, and renewable resources. Furthermore, ISOs, by definition, have no stake in market outcomes. Because they own no generation, they are neutral with respect to the ownership and types of generating units that operate within their system. The same is not always true for utilities.

2. Availability of Information and Price Signals

It is imperative for potential investors in renewable sources of energy to have access to detailed pricing information so that they can judge the feasibility of their projects. In regard to this, and in support of competition, the ISO/RTO Council reported: "ISO and RTO wholesale markets provide price transparency to inform all market participants, including renewable

[27] For more information, please *see*: ISO/RTO Council, Increasing Renewable Resources, October 16, 2007; ISO/RTO Council, Progress of Organized Wholesale Electricity Markets in North America, October 16, 2007; Markets Committee of the ISO/RTO Council, Harnessing the Power of Demand, October 16, 2007.

generation owners, about the price and the value of their power."[28] In addition, the report notes: "[i]n wholesale electricity markets, developers have access to both historical data and forward price curves to estimate the future value of their generation."[29] This lies in stark contrast to projects not in ISO/RTO regions, where it is likely that the developer will negotiate price bilaterally with the utility, and will not have access to public price information.

The availability of time-based market prices and demand response capability can change the energy cost structure faced by certain utility customers during peak periods, resulting in increased consumer price responsiveness (i.e., elasticity). Thus, customers participating in demand response programs benefit from transparent market prices. Through the market process of numerous buyers and sellers making individual decisions, competitive markets allow consumer demands to be sorted out and aggregated by producers at the lowest possible cost. The price information provided by the market gives buyers and sellers the information they need to make their individual production and purchasing decisions. The Markets Committee of the ISO/RTO Council issued a positive review of ISO/RTO management of the demand response programs in the US and Canada, stating that:

> The markets these ISOs and RTOs administer, which represent approximately two-thirds of electricity demand across the United States and just over 40 percent in Canada, are playing an important and growing role in enabling demand response to reach its full potential. They provide visible price signals that will help consumers make rational decisions about expenditures on electricity in the same way they use market prices for deciding how to purchase other goods and services.[30]

Given the price signals provided by a transparent real-time spot market, demand response programs can be more effective in restructured jurisdictions. Efficiency investments are also spurred when customers see true market prices and can make decisions to use energy more efficiently based on those prices.

States with competitive markets can avoid relying heavily on administratively set credits that may not always adjust readily to reflect changes in costs. Administratively set credits have an important defect: they are *static* in nature, while wholesale power markets are inherently dynamic over time. In dynamic power markets, administratively set credits rapidly become stale and can trigger incorrect and outdated responses. One lesson from the implementation of PURPA in the 1980s is that, in the absence of market prices, setting avoided cost rates is a very difficult task to complete correctly. When wholesale market price information is readily available, these challenges are reduced.

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[28] ISO/RTO Council, *Increasing Renewable Resources*, October 16, 2007, p. 11.

[29] *Id.*

[30] Markets Committee of the ISO/RTO Council, *Harnessing the Power of Demand*, October 16, 2007, p. 1.

3. Renewable Generation Growth

The records on prices that are maintained by ISOs and RTOs can serve as valuable information to companies deciding whether or not to invest in renewable generation assets. But what has actually happened in recent times, in terms of the *growth* in generation from renewable resources in restructured vs. traditionally regulated states?

Table 2: Growth of Renewable Generation in Restructured and Traditional States 2000-2005

	Growth Rate
Restructured States	11.3%
Traditional States	0.6%

Source: EIA.

Total renewable generation increased in both markets during the period of time between 2000 and 2005. However, renewable net generation in restructured states increased by approximately 11.3 percent, while there has been an increase of less than one percent in traditionally regulated states. This is not to say that restructuring was completely responsible for the relatively larger increase in renewable net generation in restructured states. To prove this, a multitude of other variables would have to be considered, including overall trends in electricity demand, and separate state policies regarding renewables. These statistics are important, however, given the expectation that independent power providers compete based on short term marginal cost, and that renewables would therefore not be viable competitors. In addition, utilities in restructured markets are not mandated to purchase power from PURPA qualifying facilities.[31] At the very least, the growth in renewable net generation in restructured states shows that the transparent market prices, customer choice, and renewable standards that are available in restructured markets help to provide a favorable environment for renewables.

There have been many recent examples of renewables gaining a stronger foothold in restructured markets. For instance, in Maine, a proposed mountain ridge wind farm has already sold its first 10 years of renewable energy.[32] This project is expected to power 44,000 households and reduce daily air emissions in the region by 430 tons a day. Harley Lee, President of Endless Energy in Yarmouth, issued a statement that highlighted Constellation's role as a power marketer, noting that "[o]ur region has lagged behind other parts of the country in the use of

[31] As part of the Energy Policy Act of 2005, Congress substantially narrowed the applicability and scope of QF must-buy requirements. Thus, utilities in much of the US will be relieved from the Section 210 requirements applicable to new QF facilities, with a showing that a new QF has nondiscriminatory access to competitive wholesale markets that meet the applicable standard. For utilities that cannot show that the new QF has access to competitive wholesale markets that meet the Section 1253 standard, the PURPA "must buy" requirements will continue.

[32] Donna M. Perry, "Redington Wind Farm has Deal to Sell Power," *Sun Journal*, April 6, 2006.

wind energy. A major reason has been the lack of a power marketer willing to sign long-term contracts."[33]

Other positive examples of renewable energy in restructured states include an agreement between Constellation and Horizon Wind Energy for an 18-year renewable energy power purchase agreement,[34] a contract between Epuron LLC (Conergy) and Exelon Generation for a 20-year power purchase agreement for the energy produced at a proposed 3 megawatt (MW) solar energy power station in Morrisville, Pennsylvania,[35] and the success of PECO Wind in Pennsylvania.

VI. CONCLUSION

State policy makers face a difficult situation. Restructuring transition periods have ended or are ending as prices are rising across the country. Prices have generally been rising over the past several years, regardless of market structure, primarily because of rising input fuel prices. At the same time, investment needs are growing and environmentally beneficial renewables are being mandated by legislation. Carbon emissions, which are not limited at all now, could be limited moving forward, which will further increase prices. Upward pressure on natural gas and oil prices show no signs of relenting. Even generation equipment costs are rising as the metals needed for their manufacture increase in price, and as demand drives up engineering and construction labor costs. Price increases are unpopular, and in the search for a villain, it is easy to blame competition. The facts, however, do not support the hypothesis that competition is the cause of price increases. The rise in oil and gas prices, equipment costs, impending carbon control costs, and the mandate to replace older and dirtier generation with alternative units are the primary factors behind these price increases. Both competitive and traditionally regulated states are seeing the impact of input price increases.

It is true that restructuring was misunderstood and, in many cases, unrealistic expectations may have been set. The implication that restructuring would always lead to lower prices was not accompanied by the obvious "all else being equal" or "over the long term" provisions. Abstracting from oil and gas prices, renewable mandates, equipment cost increases, and carbon reduction costs, it is likely that prices in restructured states would have declined as transition periods ended. But that did not happen, and industry structure cannot compensate for sharp increases in input prices.

In theory and in practice, restructured markets are superior in providing production efficiency incentives, in encouraging efficient demand side activity, and in encouraging investment in alternative forms of generation. We also know that in competitive markets customers bear much less risk. These factors all point to a policy that favors competition over

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[33] *Id.*

[34] Constellation Energy, *Constellation Energy to Purchase Wind Power From Horizon Wind Energy's Twin Groves II Project*, July 25, 2007, http://ir.constellation.com/phoenix.zhtml?c=112182&p=irol-newsArticle&ID=1030961&highlight= (Accessed 11/2/07).

[35] *Epuron, Exelon Join Forces on 3 MW Pennsylvania Solar Facility,* RenewableEnergyAccess.com, September 4, 2007, http://www.renewableenergyaccess.com/rea/news/story?id=49828 (Accessed 11/2/07).

cost-of-service regulation. Electricity generation is a capital intensive industry with long lead times, and the benefits of competition cannot be expected to be seen overnight.

We also know that cost-of-service regulation performed poorly during the last major generation building cycle. However, these lessons, while very relevant, may not stand out to current policy makers who were not involved in the industry in the 1970s and 1980s. Competition, with all its imperfections and transitional problems, is too often compared to an idealized version of regulation that may exist in theory but not in practice.

Before rushing to judgment on restructuring and undoing competitive markets, policy makers should consider the following facts:

- Competition and cost-of-service regulation are fundamentally different and competition will shift risk from customers to investors.

- The risks borne by customers and the outcomes they were exposed to under the last significant non-gas capacity expansion are what led states to restructure. In many states, cost-of-service regulation failed in the 1980s.

- States continuing in the cost-of-service regulated model are providing iron-clad cost recovery guarantees for new generation investment and prudence pre-approval.

- The market prices seen in competitive markets will encourage efficient penetration of energy efficiency (conservation) and facilitate demand response, lowering investment needs, and providing environmental benefits.

- Competitive markets have led the way in renewable energy development.

- Recent price increases are largely driven by input price increases, and have occurred in both competitive and traditionally regulated states.

While restructuring may not have been perfectly implemented and there will always be room for improvement, the facts above suggest that regulatory efforts would be better directed at refining and improving the competition model rather than returning to the cost-of-service regulated model.

NERA
Economic Consulting

SB 287

SENATE COMMITTEE REPORT
First Committee of Referral

DATE: 2/22/10

FURTHER: Finance

Date of 5-Day Notice: _____
(in accordance with Uniform Rule 23)

DATE TURNED
IN TO OFFICE: _____

Resources Committee considered SENATE BILL NO. 287

SB 287 IN-STATE GAS PIPELINE

"An Act amending the powers and duties of the Alaska Railroad Corporation and the Alaska Housing Finance Corporation related to the exercise of authority to purchase, transport, and sell natural gas produced on the North Slope for in-state use, and transferring exclusive and primary responsibility for the initiation and development of that project from the Office of the Governor and the Department of Natural Resources to those corporations; and providing for an effective date."

and recommends:

[ ] be **replaced** with [ ] **SCS** or [✓] **CS** SB 287 (RES)

[ ] adopt **previous** [ ] **SCS** or [ ] **CS** _____ (_____)

[ ] attached amendment(s)

[ ] adopt _____Letter of Intent

[ ] further referral to _____Committee

SENATE BILL:
[ ] Same Title
[✓] New Title

HOUSE BILL:
[ ] Same Title
[ ] Technical Title Change
[ ] New Title w/ SCR #_____

NEW FISCAL NOTE(S):

Department	Date	Fiscal	Indet.	Zero	FN#
DCCED	03/19	✓			
REV	03/20			✓	

PREVIOUS FISCAL NOTE(S):

Department	Date	Fiscal	Indet.	Zero	FN#

[ ] **APPROPRIATION - no fiscal note**

SIGNATURES AND RECOMMENDATIONS:	PRINTED LAST NAME	DO PASS	DO NOT PASS	NO REC	AMEND
	Huggins	X		✓	
	Wielechowski			✓	!
	French				✓
CO-CHAIR:	Wielechowski				✓
CO-CHAIR:	McGuire	X			

26-LS1467\R.2
Chenoweth
3/19/10

AMENDMENT

OFFERED IN THE SENATE BY SENATOR WAGONER

TO: CSSB 287(RES), Draft Version "R"

Page 5, following line 13:

Insert a new subsection to read:

"(e) The exemption in AS 42.40.920(b)(6) does not apply to the North Slope natural gas pipeline project authorized by this section."

ALASKA STATE LEGISLATURE

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Chair
Senate Special Committee on Energy
Senate Committee on World Trade, Technology and Innovations

Co-Chair
Senate Resources Committee

Member
Senate Judiciary Committee

SENATOR LESIL MCGUIRE

Changes to Senate Bill 287: 26-LS 1467\R in CS SB 287: 26-LS1467\E

Please note that this analysis is not an authoritative interpretation of changes to the bill. The bill itself is the best statement of its contents.

The following references are to the R version of SB 287

Section 1 The following changes were made to the *Findings and Purposes* section:

1. Page 2, line 1: following "significant" inserted "short term"
2. Page 2, line 8: deleted "developing" and inserted "studying"
3. Page 2, line 14: deleted "will result in" and inserted "is necessary for"
4. Page 2, lines 26-29: deleted all material and renumbered accordingly.
5. Page 2, line 30: deleted "achieve construction of" and inserted "to advance to the point of project sanction"

Section 2 The following changes were made to AS 42.40.560

1. Page 3, line 22: following "either or both of these sources" inserted "or from any other source of natural gas."
2. Page 4, line 1: inserted a reference to AS 43.90 (AGIA)

Section 4 The following changes were made to AS 42.40.560

1. Page 4, inserted a new subsection (d)(1) directing the Alaska Railroad Corporation to establish a subsidiary of the corporation to perform the work described in this subsection.
2. Page 4, line 6: deleted "acquisitions" and inserted "authorizations"
3. Page 4, lines 20-31 through page 5, lines 1-13: inserted new language recommended by Department of Law regarding right-of-way issues.

Section 5 The following changes were made to the provisions in the uncodified law

1. Page 5, line 29: following "2010" inserted "any initial" and following "the project" inserted "to the Governor and the presiding officers of each house of the legislature."
2. Page 6, line 14-22: deleted all material.
3. Page 6, line 30: changed "and" to "or" and inserted new subsection (c)(1)(C) allowing the project to be cancelled due to "other circumstances."
4. Page 6, line 31: inserted a new subsection clarifying that the Legislature expresses its approval by a concurrent resolution.

NEW CS 03/22/10

26-LS1467\E
Chenoweth
3/22/10

CS FOR SENATE BILL NO. 287(RES)

IN THE LEGISLATURE OF THE STATE OF ALASKA

TWENTY-SIXTH LEGISLATURE - SECOND SESSION

BY THE SENATE RESOURCES COMMITTEE

Offered:
Referred:

Sponsor(s): SENATORS MCGUIRE, Davis

A BILL

FOR AN ACT ENTITLED

"An Act amending the powers and duties of the Alaska Railroad Corporation related to the exercise of authority to purchase, transport, and sell natural gas produced on the North Slope for in-state use, and transferring exclusive and primary responsibility for the initiation and development of that project to that corporation; and providing for an effective date."

BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF ALASKA:

*** Section 1.** The uncodified law of the State of Alaska is amended by adding a new section to read:

LEGISLATIVE FINDINGS AND PURPOSE. (a) The legislature finds that

(1) by 2018, declining oil flow through the Trans Alaska Pipeline System will seriously diminish state revenue;

(2) Cook Inlet natural gas reserves are depleting at a rate that could cause significant short-term shortages for residential and commercial gas users in Southcentral

Alaska by 2013;

(3) a proposed natural gas pipeline to deliver North Slope gas reserves to the North American domestic gas pipeline grid at a connection in central Alberta will not produce revenue for the benefit of the state before 2020;

(4) the state's significant reserves of natural gas should be made available on a priority basis in the state to enhance employment opportunities, expand the state's economy, and supply a significant portion of community energy needs;

(5) the Alaska Natural Gas Development Authority is studying a pipeline spur, aggregating in-state demand for natural gas, and facilitating delivery of natural gas and natural gas liquids to Alaskans; and

(6) in light of competing demands for future uses of the state's North Slope natural gas reserves, an aggressive effort involving planning, permitting, and coordination of information sharing, of necessary agreements and commitments, and commercial negotiations among interested parties is necessary for completion of construction of an in-state natural gas pipeline that will provide significant direct benefit to the people of the state at the earliest possible date.

(b) It is the purpose of this Act

(1) to give general direction to the Alaska Railroad Corporation, an agency that enjoys express authority to acquire, construct, improve, maintain, equip, and operate a natural gas pipeline and related facilities for the transportation of natural gas recovered from the North Slope without regard to whether the facilities are or will be owned in whole or in part by the corporation or located on land owned by the corporation, to plan and develop construction of a high pressure in-state natural gas pipeline of appropriate diameter between Alaska's North Slope and Cook Inlet sufficient to provide for the distribution of natural gas for residential and commercial purposes at locations along the pipeline route; and

(2) to advance to the point of project sanction an in-state natural gas pipeline that will provide significant direct benefit to the people of the state at the earliest possible date.

*** Sec. 2.** AS 42.40.460 is amended by adding a new subsection to read:

(l) The provisions of AS 42.40.560(d) prevail over the provisions of this section for the purpose of development of the North Slope natural gas pipeline project

described in that section.

* **Sec. 3.** AS 42.40.560 is amended to read:

Sec. 42.40.560. North Slope natural gas pipeline. The corporation may provide [FINANCING] for the acquisition, construction, improvement, maintenance, equipping, and operation of a natural gas pipeline and related facilities**, and for the financing of the pipeline project and related facilities,** for the transportation of natural gas recovered from the North Slope of this state without regard to whether the facilities are or will be owned in whole or in part by the corporation or located on land owned by the corporation. **The authority provided by this section is limited to the project popularly identified as the Stand-Alone Pipeline Project, or Stand-Alone Project, that**

(1) proposes to develop a gas pipeline system to transport natural gas, and possibly additional natural gas liquids to markets in the Anchorage bowl area, and the Kenai Peninsula, and to additional customers along the transportation route;

(2) contemplates the commercial development of two primary sources of natural gas, the Prudhoe Bay Central Gas Facility and the Gubik gas field located in the northern foothills of the Brooks Range, and allows for use of gas from either or both of those gas sources or from any other source of natural gas;

(3) projects a pipeline system routing generally along the state's existing transportation corridors between the North Slope and Southcentral Alaska, starting from each potential gas source location, making its way to the Trans Alaska Pipeline System and Dalton Highway corridor, generally paralleling that corridor from the North Slope to the vicinity of Livengood, north of Fairbanks, and continuing to the Cook Inlet area, using one of two routes that are the existing transportation corridors between Fairbanks and Cook Inlet: the Parks Highway and the Richardson and Glenn Highways; and

(4) is compatible but not competitive with the project described in and authorized by AS 41.41 or the project described in and authorized by AS 43.90.

* **Sec. 4.** AS 42.40.560 is amended by adding new subsections to read:

(b) In the exercise of its authority under (a) of this section for a North Slope natural gas pipeline project, the corporation shall

(1) establish, maintain, and operate a subsidiary of the corporation to perform the work described in this section;

(2) aggressively pursue the acquisition of all necessary federal permits and authorizations essential for the development and operation of the project;

(3) provide monthly reports to the presiding officers of each house of the legislature and to the governor on the corporation's activities relating to the project;

(4) initiate a cost study for construction of a gas-to-liquids facility; in the exercise of its authority under this paragraph, the corporation may arrange for essential engineering and design work; and

(5) initiate efforts to identify and develop in-state markets for the natural gas to be delivered by the project and, to the extent necessary to ensure the long-term feasibility of the project, work to identify and develop overseas markets for the gas.

(c) Subject to AS 36.30.015(e), the board may provide that all or any portion of the project described in this section shall be subject to competitive sealed bid or competitive sealed proposal procedures.

(d) To fulfill its obligations under this section, the corporation shall identify all or a portion of a proposed natural gas pipeline transportation corridor:

(1) to the maximum extent possible consistent with ensuring the long-term feasibility of the project, the corporation shall make reasonable efforts to locate the proposed corridor between Fairbanks and the Kenai Peninsula on its land;

(2) notwithstanding any contrary provision of law, the Department of Natural Resources shall grant the corporation a right-of-way lease under AS 38.35 for the transportation corridor identified under (1) of this subsection if

(A) the corporation submits a complete right-of-way lease application under AS 38.35.050;

(B) the lease application is made the subject of notice and other

reasonable and appropriate publication requirements under AS 38.35.070; and

(C) the corporation agrees to be bound by the right-of-way lease covenants set out in AS 38.35.120;

(3) notwithstanding any contrary provision of law, a right-of-way lease granted under (2) of this subsection is subject to AS 38.05, except that the best interest findings requirements of AS 38.05 do not apply to a lease made under this subsection.

*** Sec. 5.** The uncodified law of the State of Alaska is amended by adding a new section to read:

ALASKA RAILROAD CORPORATION: TRANSITIONAL PROVISIONS AFFECTING OBLIGATIONS UNDER AS 42.40.560. (a) Subject to (c) of this section, in discharging its obligations under AS 42.40.560(b)(2), enacted by sec. 4 of this Act, the Alaska Railroad Corporation shall

(1) initiate permit and acquisition applications in accordance with the federal permit schedule that was provided to the legislature by the Office of the Governor on or about December 15, 2009;

(2) seek letters of intent from buyers and sellers of natural gas to ship gas using the facilities of the project and, from information obtained, by February 15, 2011, define the project parameters that would allow the project to be commercially viable;

(3) seek letters of interest from private pipeline construction and operating companies to develop the project; the work under this paragraph should be initiated between November 15, 2010, and shall be completed by March 15, 2011;

(4) prepare and submit to the governor and the presiding officer of each house of the legislature, by December 15, 2010, any initial legislation necessary to advance the project;

(5) identify or define and submit to the legislature, not later than January 15, 2011, the corporation's estimates of any long-lead time cost items or work tasks to achieve an early start-up for the project;

(6) prepare a final bankable feasibility document; the work under this paragraph should be initiated by July 1, 2011, and shall be completed by June 30, 2012; and

(7) unless otherwise provided in the monthly report required by AS 42.40.560(b)(3), enacted by sec. 4 of this Act, prepare and submit a report at each of the

dates set out in (1) - (6) of this subsection to the governor, the speaker of the house of representatives, and the president of the senate.

(b) The parties having responsibility for contracts, permit and acquisition applications, and studies in progress on the effective date of this Act entered into by the Office of the Governor or a state agency shall transfer those obligations and initiatives to the Alaska Railroad Corporation. Transfer of those obligations and initiatives may not be unreasonably delayed.

(c) The corporation shall cease its activities under this section and AS 42.40.560, as amended by secs. 3 and 4 of this Act, if the corporation receives a communication that

(1) the governor, after setting out with particularity the reasons that support the decision, has entered a finding that

(A) an agreement has been entered into that will result in construction of the project described in AS 43.90;

(B) construction of the project described in this section would prevent initiation and completion of the project described in AS 43.90; or

(C) other circumstances warrant cessation of activities under this section and AS 42.40.560;

(2) the legislature expresses its approval of the finding of the governor made under (1) of this subsection by concurrent resolution.

*** Sec. 6.** This Act takes effect immediately under July 1, 2010.

amendment.

26-LS1467\E.1
Chenoweth
3/22/10

AMENDMENT

OFFERED IN THE SENATE

TO: CSSB 287(RES), Draft Version "E"

Page 4, line 13, following "work;":

Delete "and"

Page 4, line 17, following "gas":

Insert "; and

(6) commit to negotiate, before construction of the natural gas pipeline project begins, a project labor agreement to the maximum extent permitted by law; if the corporation determines that the natural gas pipeline project is to be constructed by a private pipeline construction company or companies, the corporation shall incorporate the requirements of this paragraph into its construction contract agreement as a binding commitment applicable to the corporation's contractors; in this paragraph, "project labor agreement" means a comprehensive collective bargaining agreement between the corporation or, if construction is to be undertaken by one or more private pipeline construction companies, the corporation's contractor or contractors and the appropriate labor representatives to ensure expedited construction with labor stability for the natural gas pipeline project by qualified residents of the state"

4015

26-LS1467\R.2
Chenoweth
3/19/10

AMENDMENT #3

OFFERED IN THE SENATE BY SENATOR WAGONER

TO: CSSB 287(RES), Draft Version "R"

Page 5, following line 13:

Insert a new subsection to read:

"(e) The exemption in AS 42.40.920(b)(6) does not apply to the North Slope natural gas pipeline project authorized by this section."

26-LS1467\R.1
Chenoweth
3/18/10

AMENDMENT

OFFERED IN THE SENATE

TO: CSSB 287(RES), Draft Version "R"

Page 4, line 12, following "work;":

Delete "and"

Page 4, line 16, following "gas":

Insert "; and

(5) commit to negotiate, before construction of the natural gas pipeline project begins, a project labor agreement to the maximum extent permitted by law; if the corporation determines that the natural gas pipeline project is to be constructed by a private pipeline construction company or companies, the corporation shall incorporate the requirements of this paragraph into its construction contract agreement as a binding commitment applicable to the corporation's contractors; in this paragraph, "project labor agreement" means a comprehensive collective bargaining agreement between the corporation or, if construction is to be undertaken by one or more private pipeline construction companies, the corporation's contractor or contractors and the appropriate labor representatives to ensure expedited construction with labor stability for the natural gas pipeline project by qualified residents of the state"

ALASKA STATE LEGISLATURE

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Chair
Senate Special Committee on Energy
Senate Committee on World Trade,
Technology and Innovations

Co-Chair
Senate Resources Committee

Member
Senate Judiciary Committee

SENATOR LESIL MCGUIRE

Sectional Analysis of Senate Bill 287: 26-LS 1467\A

Please note that a sectional analysis is not an authoritative interpretation of a bill. The bill itself is the best statement of its contents.

Section 1 of the bill establishes legislative findings and provides the general purpose of the act.

Section 2 of the bill amends AS 18.56.086 to authorize the Alaska Housing Finance Corporation to create subsidiary corporations to finance or facilitate the financing of the project described in section 5.

Section 3 of the bill provides a broad authority to the Alaska Housing Finance Corporation, or a subsidiary thereof, working with the Alaska Railroad, to finance or facilitate the financing of the project described in section 5.

Section 4 of the bill clarifies that the provisions in subsection (d) of section 5 supersede other land transfer processes set out in current law.

Section 5 of the bill expands the authority of the Alaska Railroad under AS 42.40.560 in relationship to financing a natural gas pipeline project, provides direction for the management of a project and directs the Railroad to identify a right-of-way for the project. Section 5 also directs the Department of Natural Resources to convey the selected land and waives the best interest findings of AS 38.05.

Section 6 of the bill amends uncodified law by providing further direction for the transfer of responsibility for the Alaska Stand Alone Pipeline project to the Alaska Railroad.

Section 7 of the bill provides an immediate effective date.

Prepared By: Michael Pawlowski, Aide to Senator McGuire

LATEST VERSION OF THE BILL

26-LS1467\R
Chenoweth
3/16/10

CS FOR SENATE BILL NO. 287(RES)

IN THE LEGISLATURE OF THE STATE OF ALASKA

TWENTY-SIXTH LEGISLATURE - SECOND SESSION

BY THE SENATE RESOURCES COMMITTEE

Offered:
Referred:

Sponsor(s): SENATORS MCGUIRE, Davis

A BILL

FOR AN ACT ENTITLED

"An Act amending the powers and duties of the Alaska Railroad Corporation related to the exercise of authority to purchase, transport, and sell natural gas produced on the North Slope for in-state use, and transferring exclusive and primary responsibility for the initiation and development of that project from the Office of the Governor and the Department of Natural Resources to that corporation; and providing for an effective date."

BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF ALASKA:

*** Section 1.** The uncodified law of the State of Alaska is amended by adding a new section to read:

LEGISLATIVE FINDINGS AND PURPOSE. (a) The legislature finds that

(1) by 2018, declining oil flow through the Trans Alaska Pipeline System will seriously diminish state revenue;

(2) Cook Inlet natural gas reserves are depleting at a rate that could cause

significant shortages for residential and commercial gas users in Southcentral Alaska by 2013;

(3) a proposed natural gas pipeline to deliver North Slope gas reserves to the North American domestic gas pipeline grid at a connection in central Alberta will not produce revenue for the benefit of the state before 2020;

(4) the state's significant reserves of natural gas should be made available on a priority basis in the state to enhance employment opportunities, expand the state's economy, and supply a significant portion of community energy needs;

(5) the Alaska Natural Gas Development Authority is developing a pipeline spur, aggregating in-state demand for natural gas, and facilitating delivery of natural gas and natural gas liquids to Alaskans; and

(6) in light of competing demands for future uses of the state's North Slope natural gas reserves, an aggressive effort involving planning, permitting, and coordination of information sharing, of necessary agreements and commitments, and commercial negotiations among interested parties will result in completion of construction of an in-state natural gas pipeline that will provide significant direct benefit to the people of the state at the earliest possible date.

(b) It is the purpose of this Act

(1) to give general direction to the Alaska Railroad Corporation, an agency that enjoys express authority to acquire, construct, improve, maintain, equip, and operate a natural gas pipeline and related facilities for the transportation of natural gas recovered from the North Slope without regard to whether the facilities are or will be owned in whole or in part by the corporation or located on land owned by the corporation, to plan and develop construction of a high pressure in-state natural gas pipeline of appropriate diameter between Alaska's North Slope and Cook Inlet sufficient to provide for the distribution of natural gas for residential and commercial purposes at locations along the pipeline route;

(2) to transfer the exclusive and primary responsibility for the development of the project described in (1) of this subsection, for which money was appropriated by sec. 19, ch. 14, SLA 2009, from the Office of the Governor and the Department of Natural Resources to the parties identified in this Act; and

(3) to achieve construction of an in-state natural gas pipeline that will provide significant direct benefit to the people of the state at the earliest possible date.

* **Sec. 2.** AS 42.40.460 is amended by adding a new subsection to read:

(*l*) The provisions of AS 42.40.560(d) prevail over the provisions of this section for the purpose of development of the North Slope natural gas pipeline project described in that section.

* **Sec. 3.** AS 42.40.560 is amended to read:

Sec. 42.40.560. North Slope natural gas pipeline. The corporation may provide [FINANCING] for the acquisition, construction, improvement, maintenance, equipping, and operation of a natural gas pipeline and related facilities**, and for the financing of the pipeline project and related facilities,** for the transportation of natural gas recovered from the North Slope of this state without regard to whether the facilities are or will be owned in whole or in part by the corporation or located on land owned by the corporation. **The authority provided by this section is limited to the project popularly identified as the Stand-Alone Pipeline Project, or Stand-Alone Project, that**

(1) proposes to develop a gas pipeline system to transport natural gas, and possibly additional natural gas liquids to markets in the Anchorage bowl area, and the Kenai Peninsula, and to additional customers along the transportation route;

(2) contemplates the commercial development of two primary sources of natural gas, the Prudhoe Bay Central Gas Facility and the Gubik gas field located in the northern foothills of the Brooks Range, and allows for use of gas from either or both of those gas sources;

(3) projects a pipeline system routing generally along the state's existing transportation corridors between the North Slope and Southcentral Alaska, starting from each potential gas source location, making its way to the Trans Alaska Pipeline System and Dalton Highway corridor, generally paralleling that corridor from the North Slope to the vicinity of Livengood, north of Fairbanks, and continuing to the Cook Inlet area, using one of two routes that are the existing transportation corridors between Fairbanks and Cook Inlet: the Parks Highway and the Richardson and Glenn Highways; and

(4) is compatible but not competitive with the project described in

AUTHORIZES CONSTRUCTION

and authorized by AS 41.41.

*** Sec. 4.** AS 42.40.560 is amended by adding new subsections to read:

(b) In the exercise of its authority under (a) of this section for a North Slope natural gas pipeline project, the corporation shall

(1) aggressively pursue the acquisition of all necessary federal permits and acquisitions essential for the development and operation of the project;

(2) provide monthly reports to the presiding officers of each house of the legislature and to the governor on the corporation's activities relating to the project;

(3) initiate a cost study for construction of a gas-to-liquids facility; in the exercise of its authority under this paragraph, the corporation may arrange for essential engineering and design work; and

(4) initiate efforts to identify and develop in-state markets for the natural gas to be delivered by the project and, to the extent necessary to ensure the long-term feasibility of the project, work to identify and develop overseas markets for the gas.

(c) Subject to AS 36.30.015(e), the board may provide that all or any portion of the project described in this section shall be subject to competitive sealed bid or competitive sealed proposal procedures.

(d) To fulfill its obligations under this section, the corporation shall identify all or a portion of a proposed natural gas pipeline transportation corridor. To the maximum extent possible consistent with ensuring the long-term feasibility of the project, the corporation shall make reasonable efforts to locate the proposed corridor between Fairbanks and the Kenai Peninsula, on its land. For land identified by the corporation under this subsection that is not then subject to the corporation's ownership,

(1) the Department of Natural Resources shall promptly reserve the entirety of the corridor across state land identified by the corporation, subject to valid existing rights and provisions of this section;

(2) on an interim basis, the Department of Natural Resources shall condition authorizations for activities on the reserved land to protect the right of the

corporation to initiate and undertake construction of the project or other uses identified for the land; and

(3) the Department of Natural Resources shall convey to the corporation the state's entire interest in the land within the pipeline corridor, subject to valid existing rights; in making the conveyance under this paragraph, the department may reserve to the state (A) the interests required by AS 38.05.125; (B) the right of the department to identify and reserve rights-of-way for potential future crossings under AS 42.40.460(g); and (C) the authority of the department to identify, reserve, authorize, and manage land within the pipeline corridor for future right-of-way leases and uses under AS 38.35; the conveyance of land under this paragraph shall be without cost to the corporation except for the direct administrative costs of the department; the best interest findings requirements of AS 38.05 do not apply to reservations and conveyances made under this subsection.

*** Sec. 5.** The uncodified law of the State of Alaska is amended by adding a new section to read:

ALASKA RAILROAD CORPORATION: TRANSITIONAL PROVISIONS AFFECTING OBLIGATIONS UNDER AS 42.40.560. (a) Subject to (d) of this section, in discharging its obligations under AS 42.40.560(b)(1), enacted by sec. 4 of this Act, the Alaska Railroad Corporation shall

(1) initiate permit and acquisition applications in accordance with the federal permit schedule that was provided to the legislature by the Office of the Governor on or about December 15, 2009;

(2) seek letters of intent from buyers and sellers of natural gas to ship gas using the facilities of the project and, from information obtained, by February 15, 2011, define the project parameters that would allow the project to be commercially viable;

(3) seek letters of interest from private pipeline construction and operating companies to develop the project; the work under this paragraph should be initiated between November 15, 2010, and shall be completed by March 15, 2011;

(4) prepare and submit, by December 15, 2010, legislation necessary to advance the project;

(5) identify or define and submit to the legislature, not later than January 15,

TIMELINE

2011, the corporation's estimates of any long-lead time cost items or work tasks to achieve an early start-up for the project;

(6) prepare a final bankable feasibility document; the work under this paragraph should be initiated by July 1, 2011, and shall be completed by June 30, 2012; and

(7) unless otherwise provided in the monthly report required by AS 42.40.560(b)(2), enacted by sec. 4 of this Act, prepare and submit a report at each of the dates set out in (1) - (6) of this subsection to the governor, the speaker of the house of representatives, and the president of the senate.

(b) The parties having responsibility for contracts, permit and acquisition applications, and studies in progress on the effective date of this Act entered into by the Office of the Governor or a state agency shall transfer those obligations and initiatives to the Alaska Railroad Corporation. Transfer of those obligations and initiatives may not be unreasonably delayed.

(c) Unless provision is made in legislation enacted in 2010 making and transferring appropriations to reappropriate unexpended appropriations made in 2009 to the Office of the Governor and executive branch agencies to support an in-state North Slope natural gas pipeline project, the Alaska Railroad Corporation may apply to the governor to transfer those unexpended balances of appropriations for uses described in AS 42.40.560(b), as enacted by sec. 4 of this Act. The governor may not unreasonably withhold approval of the request. AS 37.07.080(g) does not apply to an application made under this subsection. This subsection constitutes legislative approval to implement the transfer of responsibilities between the named entities as contemplated by AS 37.07.080(h).

(d) The corporation shall cease its activities under this section and AS 42.40.560, as amended by secs. 3 and 4 of this Act, if the corporation receives a communication that

(1) the governor, after setting out with particularity the reasons that support the decision, has entered a finding that

(A) an agreement has been entered into that will result in construction of the project described in AS 43.90; and

(B) construction of the project described in this section would prevent initiation and completion of the project described in AS 43.90; and

(2) the legislature expresses its approval of the finding of the governor made

- ESTABLISHES & DESCRIBES THE AUTHORITY OF THE EXECUTIVE BRANCH

under (1) of this subsection.

*** Sec. 6.** This Act takes effect immediately under AS 01.10.070(c).

26-LS1467\R
Chenoweth
3/16/10

CS FOR SENATE BILL NO. 287(RES)

IN THE LEGISLATURE OF THE STATE OF ALASKA

TWENTY-SIXTH LEGISLATURE - SECOND SESSION

BY THE SENATE RESOURCES COMMITTEE

Offered:
Referred:

Sponsor(s): SENATORS MCGUIRE, Davis

A BILL

FOR AN ACT ENTITLED

"An Act amending the powers and duties of the Alaska Railroad Corporation related to the exercise of authority to purchase, transport, and sell natural gas produced on the North Slope for in-state use, and transferring exclusive and primary responsibility for the initiation and development of that project from the Office of the Governor and the Department of Natural Resources to that corporation; and providing for an effective date."

BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF ALASKA:

*** Section 1.** The uncodified law of the State of Alaska is amended by adding a new section to read:

LEGISLATIVE FINDINGS AND PURPOSE. (a) The legislature finds that

(1) by 2018, declining oil flow through the Trans Alaska Pipeline System will seriously diminish state revenue;

(2) Cook Inlet natural gas reserves are depleting at a rate that could cause

significant shortages for residential and commercial gas users in Southcentral Alaska by 2013;

(3) a proposed natural gas pipeline to deliver North Slope gas reserves to the North American domestic gas pipeline grid at a connection in central Alberta will not produce revenue for the benefit of the state before 2020;

(4) the state's significant reserves of natural gas should be made available on a priority basis in the state to enhance employment opportunities, expand the state's economy, and supply a significant portion of community energy needs;

(5) the Alaska Natural Gas Development Authority is developing a pipeline spur, aggregating in-state demand for natural gas, and facilitating delivery of natural gas and natural gas liquids to Alaskans; and

(6) in light of competing demands for future uses of the state's North Slope natural gas reserves, an aggressive effort involving planning, permitting, and coordination of information sharing, of necessary agreements and commitments, and commercial negotiations among interested parties will result in completion of construction of an in-state natural gas pipeline that will provide significant direct benefit to the people of the state at the earliest possible date.

(b) It is the purpose of this Act

(1) to give general direction to the Alaska Railroad Corporation, an agency that enjoys express authority to acquire, construct, improve, maintain, equip, and operate a natural gas pipeline and related facilities for the transportation of natural gas recovered from the North Slope without regard to whether the facilities are or will be owned in whole or in part by the corporation or located on land owned by the corporation, to plan and develop construction of a high pressure in-state natural gas pipeline of appropriate diameter between Alaska's North Slope and Cook Inlet sufficient to provide for the distribution of natural gas for residential and commercial purposes at locations along the pipeline route;

(2) to transfer the exclusive and primary responsibility for the development of the project described in (1) of this subsection, for which money was appropriated by sec. 19, ch. 14, SLA 2009, from the Office of the Governor and the Department of Natural Resources to the parties identified in this Act; and

(3) to achieve construction of an in-state natural gas pipeline that will provide significant direct benefit to the people of the state at the earliest possible date.

* **Sec. 2.** AS 42.40.460 is amended by adding a new subsection to read:

(*l*) The provisions of AS 42.40.560(d) prevail over the provisions of this section for the purpose of development of the North Slope natural gas pipeline project described in that section.

* **Sec. 3.** AS 42.40.560 is amended to read:

Sec. 42.40.560. North Slope natural gas pipeline. The corporation may provide [FINANCING] for the acquisition, construction, improvement, maintenance, equipping, and operation of a natural gas pipeline and related facilities**, and for the financing of the pipeline project and related facilities,** for the transportation of natural gas recovered from the North Slope of this state without regard to whether the facilities are or will be owned in whole or in part by the corporation or located on land owned by the corporation. **The authority provided by this section is limited to the project popularly identified as the Stand-Alone Pipeline Project, or Stand-Alone Project, that**

(1) proposes to develop a gas pipeline system to transport natural gas, and possibly additional natural gas liquids to markets in the Anchorage bowl area, and the Kenai Peninsula, and to additional customers along the transportation route;

(2) contemplates the commercial development of two primary sources of natural gas, the Prudhoe Bay Central Gas Facility and the Gubik gas field located in the northern foothills of the Brooks Range, and allows for use of gas from either or both of those gas sources;

(3) projects a pipeline system routing generally along the state's existing transportation corridors between the North Slope and Southcentral Alaska, starting from each potential gas source location, making its way to the Trans Alaska Pipeline System and Dalton Highway corridor, generally paralleling that corridor from the North Slope to the vicinity of Livengood, north of Fairbanks, and continuing to the Cook Inlet area, using one of two routes that are the existing transportation corridors between Fairbanks and Cook Inlet: the Parks Highway and the Richardson and Glenn Highways; and

(4) is compatible but not competitive with the project described in

and authorized by AS 41.41.

*** Sec. 4.** AS 42.40.560 is amended by adding new subsections to read:

(b) In the exercise of its authority under (a) of this section for a North Slope natural gas pipeline project, the corporation shall

(1) aggressively pursue the acquisition of all necessary federal permits and acquisitions essential for the development and operation of the project;

(2) provide monthly reports to the presiding officers of each house of the legislature and to the governor on the corporation's activities relating to the project;

(3) initiate a cost study for construction of a gas-to-liquids facility; in the exercise of its authority under this paragraph, the corporation may arrange for essential engineering and design work; and

(4) initiate efforts to identify and develop in-state markets for the natural gas to be delivered by the project and, to the extent necessary to ensure the long-term feasibility of the project, work to identify and develop overseas markets for the gas.

(c) Subject to AS 36.30.015(e), the board may provide that all or any portion of the project described in this section shall be subject to competitive sealed bid or competitive sealed proposal procedures.

(d) To fulfill its obligations under this section, the corporation shall identify all or a portion of a proposed natural gas pipeline transportation corridor. To the maximum extent possible consistent with ensuring the long-term feasibility of the project, the corporation shall make reasonable efforts to locate the proposed corridor between Fairbanks and the Kenai Peninsula, on its land. For land identified by the corporation under this subsection that is not then subject to the corporation's ownership,

(1) the Department of Natural Resources shall promptly reserve the entirety of the corridor across state land identified by the corporation, subject to valid existing rights and provisions of this section;

(2) on an interim basis, the Department of Natural Resources shall condition authorizations for activities on the reserved land to protect the right of the

corporation to initiate and undertake construction of the project or other uses identified for the land; and

(3) the Department of Natural Resources shall convey to the corporation the state's entire interest in the land within the pipeline corridor, subject to valid existing rights; in making the conveyance under this paragraph, the department may reserve to the state (A) the interests required by AS 38.05.125; (B) the right of the department to identify and reserve rights-of-way for potential future crossings under AS 42.40.460(g); and (C) the authority of the department to identify, reserve, authorize, and manage land within the pipeline corridor for future right-of-way leases and uses under AS 38.35; the conveyance of land under this paragraph shall be without cost to the corporation except for the direct administrative costs of the department; the best interest findings requirements of AS 38.05 do not apply to reservations and conveyances made under this subsection.

* **Sec. 5.** The uncodified law of the State of Alaska is amended by adding a new section to read:

ALASKA RAILROAD CORPORATION: TRANSITIONAL PROVISIONS AFFECTING OBLIGATIONS UNDER AS 42.40.560. (a) Subject to (d) of this section, in discharging its obligations under AS 42.40.560(b)(1), enacted by sec. 4 of this Act, the Alaska Railroad Corporation shall

(1) initiate permit and acquisition applications in accordance with the federal permit schedule that was provided to the legislature by the Office of the Governor on or about December 15, 2009;

(2) seek letters of intent from buyers and sellers of natural gas to ship gas using the facilities of the project and, from information obtained, by February 15, 2011, define the project parameters that would allow the project to be commercially viable;

(3) seek letters of interest from private pipeline construction and operating companies to develop the project; the work under this paragraph should be initiated between November 15, 2010, and shall be completed by March 15, 2011;

(4) prepare and submit, by December 15, 2010, legislation necessary to advance the project;

(5) identify or define and submit to the legislature, not later than January 15,

2011, the corporation's estimates of any long-lead time cost items or work tasks to achieve an early start-up for the project;

(6) prepare a final bankable feasibility document; the work under this paragraph should be initiated by July 1, 2011, and shall be completed by June 30, 2012; and

(7) unless otherwise provided in the monthly report required by AS 42.40.560(b)(2), enacted by sec. 4 of this Act, prepare and submit a report at each of the dates set out in (1) - (6) of this subsection to the governor, the speaker of the house of representatives, and the president of the senate.

(b) The parties having responsibility for contracts, permit and acquisition applications, and studies in progress on the effective date of this Act entered into by the Office of the Governor or a state agency shall transfer those obligations and initiatives to the Alaska Railroad Corporation. Transfer of those obligations and initiatives may not be unreasonably delayed.

(c) Unless provision is made in legislation enacted in 2010 making and transferring appropriations to reappropriate unexpended appropriations made in 2009 to the Office of the Governor and executive branch agencies to support an in-state North Slope natural gas pipeline project, the Alaska Railroad Corporation may apply to the governor to transfer those unexpended balances of appropriations for uses described in AS 42.40.560(b), as enacted by sec. 4 of this Act. The governor may not unreasonably withhold approval of the request. AS 37.07.080(g) does not apply to an application made under this subsection. This subsection constitutes legislative approval to implement the transfer of responsibilities between the named entities as contemplated by AS 37.07.080(h).

(d) The corporation shall cease its activities under this section and AS 42.40.560, as amended by secs. 3 and 4 of this Act, if the corporation receives a communication that

(1) the governor, after setting out with particularity the reasons that support the decision, has entered a finding that

(A) an agreement has been entered into that will result in construction of the project described in AS 43.90; and

(B) construction of the project described in this section would prevent initiation and completion of the project described in AS 43.90; and

(2) the legislature expresses its approval of the finding of the governor made

under (1) of this subsection.

*** Sec. 6.** This Act takes effect immediately under AS 01.10.070(c).

FISCAL NOTE

STATE OF ALASKA
2010 LEGISLATIVE SESSION

Fiscal Note Number:
Bill Version: **SB 287**
() Publish Date:

Identifier (file name): SB287-REV-TAX-03-19-10
Dept. Affected: Revenue
Title: In State Gas Pipeline
RDU: Taxation and Treasury
Component: Tax Division
Sponsor: Senator Lesil McGuire
Requester: (S) Resources
Component Number: 2476

Expenditures/Revenues (Thousands of Dollars)

Note: Amounts do not include inflation unless otherwise noted below.

	Appropriation Required	Information					
OPERATING EXPENDITURES	**FY 2011**	**FY 2011**	**FY 2012**	**FY 2013**	**FY 2014**	**FY 2015**	**FY 2016**
Personal Services							
Travel							
Contractual							
Supplies							
Equipment							
Land & Structures							
Grants & Claims							
Miscellaneous							
TOTAL OPERATING	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
CAPITAL EXPENDITURES							
CHANGE IN REVENUES ( )							

FUND SOURCE (Thousands of Dollars)

1002 Federal Receipts							
1003 GF Match							
1004 GF							
1005 GF/Program Receipts							
1037 GF/Mental Health							
Other Interagency Receipts							
TOTAL	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**

Estimate of any current year (FY2010) cost:

POSITIONS

Full-time							
Part-time							
Temporary							

ANALYSIS: *(Attach a separate page if necessary)*

There is no fiscal impact to the Department of Revenue.

This bill amends the powers and duties of the Alaska Railroad Corporation (ARRC) and the Alaska Housing Finance Corporation (AHFC) related to the exercise of authority to purchase, transport, and sell natural gas produced on the North Slope for in state use. This bill also transfers exclusive and primary responsibility for the initiation and development of the project from the Office of the Governor and Department of Natural Resources to the Alaska Railroad Corporation and the Alaska Housing Finance Corporation.Under this bill, the ARRC and AHFC may apply to the governor to transfer unexpended balances and appropriations for use in support of the in-state North Slope natural gas pipeline project . The effective date of the bill would be immediately under AS 01.10.070(c).

Prepared by: Dona B. Keppers, Audit Master — Phone (907) 269-1034
Division: Tax Division — Date/Time 03-19-10; 6:32pm
Approved by: Ginger Blaisdell, Director — Date 03-20-10; 1:03pm
Administrative Services Division

(Revised 11/6/2009 OMB)

4033

FISCAL NOTE

STATE OF ALASKA
2010 LEGISLATIVE SESSION

Fiscal Note Number:
Bill Version: SB 287
() Publish Date:

Identifier (file name): SB287-CED-ARR-3-19-10
Dept. Affected: DCCED
Title: In-State Gas Pipeline
RDU
Component: Alaska Railroad
Sponsor: Senator McGuire
Requester: Senate Resources Committee
Component Number

Expenditures/Revenues (Thousands of Dollars)

Note: Amounts do not include inflation unless otherwise noted below.

	Appropriation Required	Information					
OPERATING EXPENDITURES	**FY 2011**	**FY 2011**	**FY 2012**	**FY 2013**	**FY 2014**	**FY 2015**	**FY 2016**
Personal Services							
Travel							
Contractual							
Supplies							
Equipment							
Land & Structures							
Grants & Claims							
Miscellaneous							
TOTAL OPERATING	**0.0**		**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
CAPITAL EXPENDITURES	**34,222.0**		**20,628.0**	**2,709.0**	**1,794.0**	**1,884.0**	**1,978.0**
CHANGE IN REVENUES ( )							

FUND SOURCE (Thousands of Dollars)

1002 Federal Receipts							
1003 GF Match							
1004 GF	34,222.0		20,628.0	2,709.0	1,794.0	1,884.0	1,978.0
1005 GF/Program Receipts							
1037 GF/Mental Health							
Other Interagency Receipts							
TOTAL	**34,222.0**		**20,628.0**	**2,709.0**	**1,794.0**	**1,884.0**	**1,978.0**

Estimate of any current year (FY2010) cost:

POSITIONS

Full-time							
Part-time							
Temporary							

ANALYSIS: *(Attach a separate page if necessary)*

SB 287 amends the Alaska Railroad Corporation's (ARRC or the corporation) enabling statute to require ARRC to initiate planning and development of construction of an in-state natural gas pipeline. The project is well outside ARRC's norms, both in type and size. Similar to the approach currently underway, this fiscal note addresses funding necessary for ARRC to bring the project through permitting and preliminary engineering phases. Construction costs are not included at this juncture. Also excluded from this analysis are estimated costs to be incurred by a pipeline company or other entity that would presumably complete design and build the project.

(Continued)

Prepared by: Wendy Lindskoog
Phone 907-265-2498
Division: Alaska Railroad Corporation
Date/Time 3/19/10 12:00 AM
Approved by: Emil Notti, Commissioner
Date 3/19/2010
Commerce, Community and Economic Development

(Revised 11/6/2009 OMB)

4034

FISCAL NOTE

STATE OF ALASKA **BILL NO.** SB 287
2010 LEGISLATIVE SESSION

ANALYSIS CONTINUATION

This fiscal note assumes the corporation will establish a project office, staffed mainly by newly hired ARRC employees. The office will function autonomously from other railroad operations and be funded by the State of Alaska, presumably out of the General Fund. Contractors will be used for all major project functions including engineering, permitting, right of way acquisition, cost estimation, and marketing activities.

ARRC's preliminary evaluation is that substantial progress has been made to date along the critical path to project completion. First, an Environmental Impact Statement (EIS) is well underway. The EIS is almost certainly the most important effort to meet an aggressive project schedule. Second, a well-founded cost estimate for construction is due in June, 2010. This is critical to determining the project financial feasibility and for development of both supplier and customer contracts.

The fiscal analysis summary below is predicated upon ARRC hiring seven new employees to support this effort. By statute, ARRC employees are not state employees; the corporation has a distinct employment system separate from the State of Alaska. The initial basis for the cost estimates shown below are derived from analysis performed by the Office of the Governor, Alaska In-State Gas Pipeline Project office.

	(Thousands)							
ARRC Funding Needs	2011	2012	2013	2014	2015	2016	2017	Totals
Internal Costs	1,550	1,628	1,709	1,794	1,884	1,978	2,077	12,620
RSA's DNR & JPO	1,172							1,172
Pipeline Engineering	8,500	1,000						9,500
Permitting/ ROW	20,000	10,000						30,000
Facilities		5,000						5,000
Commercial Analysis	3,000	3,000	1,000					7,000
Totals - ARRC	34,222	20,628	2,709	1,794	1,884	1,978	2,077	65,292

FISCAL NOTE

STATE OF ALASKA
2010 LEGISLATIVE SESSION

Fiscal Note Number: 1
Bill Version: CSSB 287(RES)
(S) Publish Date: 3/23/10

Identifier (file name): SB287-CED-ARR-3-19-10
Dept. Affected: DCCED
Title: In-State Gas Pipeline
RDU
Component: Alaska Railroad
Sponsor: Senator McGuire
Requester: Senate Resources Committee
Component Number

Expenditures/Revenues (Thousands of Dollars)

Note: Amounts do not include inflation unless otherwise noted below.

	Appropriation Required	Information					
OPERATING EXPENDITURES	**FY 2011**	**FY 2011**	**FY 2012**	**FY 2013**	**FY 2014**	**FY 2015**	**FY 2016**
Personal Services							
Travel							
Contractual							
Supplies							
Equipment							
Land & Structures							
Grants & Claims							
Miscellaneous							
TOTAL OPERATING	**0.0**		**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
CAPITAL EXPENDITURES	**34,222.0**		**20,628.0**	**2,709.0**	**1,794.0**	**1,884.0**	**1,978.0**
CHANGE IN REVENUES ( )							

FUND SOURCE (Thousands of Dollars)

1002 Federal Receipts							
1003 GF Match							
1004 GF	34,222.0		20,628.0	2,709.0	1,794.0	1,884.0	1,978.0
1005 GF/Program Receipts							
1037 GF/Mental Health							
Other Interagency Receipts							
TOTAL	**34,222.0**		**20,628.0**	**2,709.0**	**1,794.0**	**1,884.0**	**1,978.0**

Estimate of any current year (FY2010) cost:

POSITIONS

Full-time							
Part-time							
Temporary							

ANALYSIS: *(Attach a separate page if necessary)*

SB 287 amends the Alaska Railroad Corporation's (ARRC or the corporation) enabling statute to require ARRC to initiate planning and development of construction of an in-state natural gas pipeline. The project is well outside ARRC's norms, both in type and size. Similar to the approach currently underway, this fiscal note addresses funding necessary for ARRC to bring the project through permitting and preliminary engineering phases. Construction costs are not included at this juncture. Also excluded from this analysis are estimated costs to be incurred by a pipeline company or other entity that would presumably complete design and build the project.
(Continued)

Prepared by: Wendy Lindskoog
Phone 907-265-2498
Division: Alaska Railroad Corporation
Date/Time 3/19/10 12:00 AM
Approved by: Emil Notti, Commissioner
Date 3/19/2010
Commerce, Community and Economic Development

STATE OF ALASKA **BILL NO.** CSSB 287(RES)
2010 LEGISLATIVE SESSION

ANALYSIS CONTINUATION

This fiscal note assumes the corporation will establish a project office, staffed mainly by newly hired ARRC employees. The office will function autonomously from other railroad operations and be funded by the State of Alaska, presumably out of the General Fund. Contractors will be used for all major project functions including engineering, permitting, right of way acquisition, cost estimation, and marketing activities.

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The fiscal analysis summary below is predicated upon ARRC hiring seven new employees to support this effort. By statute, ARRC employees are not state employees; the corporation has a distinct employment system separate from the State of Alaska. The initial basis for the cost estimates shown below are derived from analysis performed by the Office of the Governor, Alaska In-State Gas Pipeline Project office.

	(Thousands)							
ARRC Funding Needs	2011	2012	2013	2014	2015	2016	2017	Totals
Internal Costs	1,550	1,628	1,709	1,794	1,884	1,978	2,077	12,620
RSA's DNR & JPO	1,172							1,172
Pipeline Engineering	8,500	1,000						9,500
Permitting/ ROW	20,000	10,000						30,000
Facilities		5,000						5,000
Commercial Analysis	3,000	3,000	1,000					7,000
Totals - ARRC	34,222	20,628	2,709	1,794	1,884	1,978	2,077	65,292

FISCAL NOTE

STATE OF ALASKA
2010 LEGISLATIVE SESSION

Fiscal Note Number: 2
Bill Version: CSSB 287(RES)
(S) Publish Date: 3/23/10

Identifier (file name): SB287-REV-TAX-03-19-10
Dept. Affected: Revenue
Title: In State Gas Pipeline
RDU: Taxation and Treasury
Component: Tax Division
Sponsor: Senator Lesil McGuire
Requester: (S) Resources
Component Number: 2476

Expenditures/Revenues (Thousands of Dollars)

Note: Amounts do not include inflation unless otherwise noted below.

	Appropriation Required	Information					
OPERATING EXPENDITURES	**FY 2011**	**FY 2011**	**FY 2012**	**FY 2013**	**FY 2014**	**FY 2015**	**FY 2016**
Personal Services							
Travel							
Contractual							
Supplies							
Equipment							
Land & Structures							
Grants & Claims							
Miscellaneous							
TOTAL OPERATING	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
CAPITAL EXPENDITURES							
CHANGE IN REVENUES ( )							

FUND SOURCE (Thousands of Dollars)

1002 Federal Receipts							
1003 GF Match							
1004 GF							
1005 GF/Program Receipts							
1037 GF/Mental Health							
Other Interagency Receipts							
TOTAL	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**

Estimate of any current year (FY2010) cost:

POSITIONS

Full-time							
Part-time							
Temporary							

ANALYSIS: *(Attach a separate page if necessary)*

There is no fiscal impact to the Department of Revenue.

This bill amends the powers and duties of the Alaska Railroad Corporation (ARRC) and the Alaska Housing Finance Corporation (AHFC) related to the exercise of authority to purchase, transport, and sell natural gas produced on the North Slope for in state use. This bill also transfers exclusive and primary responsibility for the initiation and development of the project from the Office of the Governor and Department of Natural Resources to the Alaska Railroad Corporation and the Alaska Housing Finance Corporation.Under this bill, the ARRC and AHFC may apply to the governor to transfer unexpended balances and appropriations for use in support of the in-state North Slope natural gas pipeline project . The effective date of the bill would be immediately under AS 01.10.070(c).

Prepared by: Dona B. Keppers, Audit Master — Phone (907) 269-1034
Division: Tax Division — Date/Time 03-19-10; 6:32pm
Approved by: Ginger Blaisdell, Director — Date 03-20-10; 1:03pm
Administrative Services Division

(Revised 11/6/2009 OMB)

ALASKA STATE LEGISLATURE

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SENATOR LESIL MCGUIRE

Chair
Senate Special Committee on Energy
Senate Special Committee on
World Trade, Technology, and Innovations

Co-Chair
Senate Resources Committee

Member
Senate Judiciary Committee
Joint Armed Services Committee

Senator.Lesil.McGuire@legis.state.ak.us

SPONSOR STATEMENT FOR SENATE BILL 287

"Act amending the powers and duties of the Alaska Railroad Corporation and the Alaska Housing Finance Corporation related to the exercise of authority to purchase, transport, and sell natural gas produced on the North Slope for in-state use, and transferring exclusive and primary responsibility for the initiation and development of that project from the Office of the Governor and the Department of Natural Resources to those corporations; and providing for an effective date."

Since the discovery of natural gas in Cook Inlet by Unocal in 1958, the residents of Southcentral Alaska have enjoyed relatively cheap and abundant energy. While the development of Cook Inlet natural gas reserves over the succeeding decades was eclipsed by the discovery of the mammoth reserves at Prudhoe Bay; the Inlet has provided gas to generations of Alaskans and fueled the growth of Southcentral since statehood. From the LNG export terminal to the value-added manufacturing facility producing fertilizer at Nikiski, natural gas created an industrial hub on the Kenai. Cheap gas also fueled electric generation throughout the Railbelt, heated homes and facilitated economic growth throughout the region.

Today however, gas supplies in Cook Inlet are declining; threatening the energy security of major segments of Alaska's population. The challenge facing Southcentral is certainly not new; the residents of interior and rural Alaska have faced similar circumstances for generations. That is why the solution lies not in meeting the needs of Southcentral through imported LNG or stop-gap measures, but in a broader strategy to deliver gas to Alaskans. The vast supplies of gas on the North Slope provide an opportunity to meet not only the existing needs in Cook Inlet, but to distribute gas more widely across the state. In communities as diverse as Bethel and Fairbanks, community leaders are working to develop ways to get gas to their community and their efforts ultimately depend on access to a stable supply of gas.

Senate Bill 287 takes an important step towards that goal by tasking the Alaska Railroad, a public corporation of the State of Alaska with developing the Alaska Stand Alone Pipeline (ASAP) project. Work on the ASAP project was started in the latter days of the 2009 legislative session, when language was attached to the Supplemental Appropriations bill (Ch. 14 SLA 09) authorizing work on an in-state natural gas pipeline. As the project has progressed, the need to accelerate its development has become more apparent as the discovery of large deposits of previously inaccessible natural gas reserves in the lower 48 have clouded the future of the American natural gas market. SB 287 moves the ASAP pipeline project beyond legislative intent language into a more enduring statutory framework that will enable the project to progress.

Bringing Alaskans' natural gas to Alaskans will invigorate the economy and should enable the development of value-added industries; providing jobs in-state and a strong economic legacy to Alaskans. While the future demand for gas in the Lower 48 is questionable, the need for gas in Alaska is self-evident. SB 287 focuses the attention on that need and takes a first step toward bringing the energy security Cook Inlet has enjoyed statewide.

* EXPLANATION OF CHANGES

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Member
Senate Judiciary Committee

SENATOR LESIL MCGUIRE

Changes to Senate Bill 287 in CS SB 287 (RES) 26-LS 1467\R

Please note that the following is not an authoritative list of changes to the bill. The current version of the bill itself is the best statement of its contents.

General: The Alaska Housing Finance Committee has been removed from the bill.

Section 1: Legislative Findings and Purpose

1. Inserted new language on P. 2, lines 8-10 that recognizes the work the Alaska Natural Gas Development Authority has conducted on a spur-pipeline and in-state demand and deliverability of natural gas.
2. Deleted "only" from subsection (6) on P. 2, line 12.
3. On P. 2, lines 27-28 language was inserted to clarify the "project" described in the bill is the Alaska Stand Alone Pipeline for which an appropriation was made in section 19, ch. 14, SLA 2009.
4. On P. 2, lines 30-31 a new subsection (3) is inserted clarifying the purpose of the act.

Section 3: AS 42.40.560

1. Substantial new language has been inserted expanding the authority of the Alaska Railroad beyond the financing of a natural gas pipeline and allowing for the Railroad to be involved in the permitting and/or construction of a pipeline.
2. The authorization is narrowed to the scope of the specific Alaska Stand Alone Pipeline project.
3. Language has been inserted on P.3, line 31 clarifying that the project is compatible with the authorities granted to the Alaska Natural Gas Development Authority.

Section 5: Uncodified Law

1. New language has been added on P. 5, lines 20-31 through P.6 line 8 establishing firm timelines for the project.
2. New language has been added on P. 6, lines 23 through P. 7 line 1 establishing and describing the authority of the executive branch to terminate the project in the event that an agreement has been entered into to construct the project described in AS 43.90 (AGIA).

Prepared By: Michael Pawlowski, Aide to Senator McGuire

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SENATOR LESIL MCGUIRE

Sectional Analysis of Senate Bill 287: 26-LS 1467\R

Please note that a sectional analysis is not an authoritative interpretation of a bill. The bill itself is the best statement of its contents.

Section 1 of the bill establishes legislative findings and provides the general purpose of the act.

Section 2 of the bill clarifies that the provisions in subsection (d) of section 5 supersede other land transfer processes set out in current law.

Section 3 of the bill clarifies that the authority granted in AS 42.40.560 includes the permitting and construction of the Alaska Stand Alone Pipeline project.

Section 4 of the bill expands on the authority of the Alaska Railroad under AS 42.40.560 in relationship to financing a natural gas pipeline project, provides direction for the management of a project and directs the Railroad to identify a right-of-way for the project. Section 5 also directs the Department of Natural Resources to convey the selected land and waives the best interest findings of AS 38.05.

Section 5 of the bill amends uncodified law by providing further direction for the transfer of responsibility for the Alaska Stand Alone Pipeline project to the Alaska Railroad, establishes milestones for the project and allows for the cessation of the project.

Section 6 of the bill provides an immediate effective date.

Prepared By: Michael Pawlowski, Aide to Senator McGuire

An entity managing the construction of a pipeline utilizing state funds may not require a contractor, subcontractor, or material supplier or carrier engaged in the construction of the pipeline construction project to execute or otherwise become a party to any project labor agreement, collective bargaining agreement, prehire agreement, or any other agreement with employees, their representatives, or any labor organization as a condition of bidding, negotiating, being awarded, or performing work on the pipeline project. This provision shall not prohibit a contractor after a contract award from voluntarily utilizing a collective bargaining agreement.

To the maximum extent permitted by law, a person managing a pipeline construction project utilizing state funds must commit to:

(A) hire qualified residents from throughout the state for management, engineering, construction, operations, maintenance, and other positions

(B) contract with businesses located in the state;

(C) establish hiring facilities or use existing hiring facilities in the state;

(D) use, as far as is practicable, the job centers and associated services operated by the Department of Labor and Workforce Development
and an Internet-based labor exchange system operated by the state;

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1. Inserted new language on P. 2, lines 8-10 that recognizes the work the Alaska Natural Gas Development Authority has conducted on a spur-pipeline and in-state demand and deliverability of natural gas.
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Section 3: AS 42.40.560

1. Substantial new language has been inserted expanding the authority of the Alaska Railroad beyond the financing of a natural gas pipeline and allowing for the Railroad to be involved in the permitting and/or construction of a pipeline.
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3. Language has been inserted on P.3, line 31 clarifying that the project is compatible with the authorities granted to the Alaska Natural Gas Development Authority.

Section 5: Uncodified Law

1. New language has been added on P. 5, lines 20-31 through P.6 line 8 establishing firm timelines for the project.
2. New language has been added on P. 6, lines 23 through P. 7 line 1 establishing and describing the authority of the executive branch to terminate the project in the event that an agreement has been entered into to construct the project described in AS 43.90 (AGIA).

Prepared By: Michael Pawlowski, Aide to Senator McGuire

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Section 6 of the bill provides an immediate effective date.

Prepared By: Michael Pawlowski, Aide to Senator McGuire

March 22, 2010

Re: Senate Bill 287

To Whom It May Concern:

My name is John McGrath and am a thirty year member of Ironworkers Local 751 of Alaska. I am writing this letter out of concern that I have seen no language pertaining to a Project Labor Agreement (PLA) on the Bullet Line from the North Slope to Southcentral Alaska.

I urge you to think about all the people a project of this magnitude would employ. One could only hope that a job of this importance being built for ***Alaskans*** would be built by ***Alaskans.***

Respectfully,

John P. McGrath

March 22, 2010

To:
Senate Resources Committee

From
Marc Zimmerman
36225 Mere Circle
Soldotna, Alaska 99669
907-260-6791
lmz@acsalaska.net

Re:
Senate Bill 287

To Whom It My Concern:

I am contacting you to support the PLA langrage in SB 287 that is before your committee.

My father, brother and I worked on the Trans-Alaska Pipeline, it had a PLA. Passage of this bill will have a huge positive impact on the people and the State of Alaska. It is without question, the right thing for Alaska!

Thank you for your attention in this matter.

Lifelong Alaskan,

Marc Zimmerman

Marc Zimmerman
36225 Mere Circle
Soldotna, Alaska 99669

March 22, 2010

Re: Senate Bill 287

To whom it may concern,

My name is James H. Brown and as a new Journeyman of I.W. Local 75[illegible], I am writing this letter to express my concern that there is no language pertaining to the Project Labor agreement on the Bullet Line from the North Slope to Southcentral Alaska.

This is a good job to be done by Alaskans for Alaskans.

James H. Brown

5100 N. Susbo Bluff Lp.
Wasilla, AK 99654

March 22, 2010

To the Senators of the Resource Committee,

I am asking for your support for the passing of Bill 287. This is the only way to ensure that Alaskans get fair treatment in regards to hiring. We cannot rely on the big oil companies to do the fair thing. When constructed, the Trans-Alaska Pipeline did have a PLA in place. We must do our part to ensure that Alaskans have the same, if not preferred rights to jobs, as we live here, raise our families here. We do not take the money provided and run to the lower 48. Alaskans must stand together, not on the sidelines to help preserve work for us. Please support Bill 287.

Thank you for your support.

Best regards,

Danny O'Leary
Local 751
North Pole, AK

March 22, 2010

To the Senate Recourses Committee:

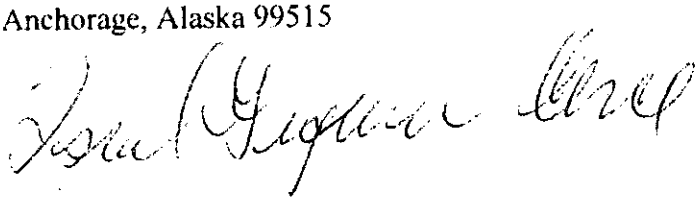
I am a resident of the State of Alaska since 1973. Over thirty years ago Alaska and our nation needed oil to support and maintain our infrastructure. Our state was on the forefront against other nations with the chokehold on oil supply.

A pipeline was needed and a pipeline was built with project labor agreement. Today this line still in operation because it was built with people that meet the requirements to do the work.

I respectfully request the passage of Bill 287.

Respectfully,

Israel Figueroa Arce
12541 Brandon St.
Anchorage, Alaska 99515



March 22, 2010

To the Senators of the Resource Committee,

I am asking for your support for the passing of Bill 287. This is the only way to ensure that Alaskans get fair treatment in regards to hiring. Otherwise, it will lead to more big companies hiring lower 48 workers, leaving Alaskans out in the cold. You must remember that the Trans-Alaskan pipeline did have a PLA in place. We cannot stand on the sidelines and let these jobs not be given away. We are isolated from the lower 48, meaning we must rely more on each other and the companies that come to Alaska to hire Alaskans.

Thank you for your support.

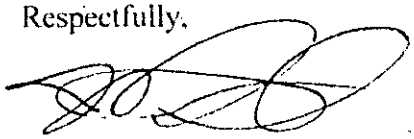
Best regards,

Amy O'Leary
North Pole, AK

To the Senate Resources Committee

I am Jake Rider I was born in Alaska and have lived in both Anchorage and Kenai. I have a worked for Spenard Builders, Sourdough Mining, and VECO's shop in Nikiski before I became an Ironworker. I just finished my Apprenticeship, passed my test to become a Journeyman. Now I need to go to work. This gas pipeline talk has since I was a kid. I am writing you because of the concern I have for Alaskan jobs and for that reason I would ask your committee to support an Amendment to insure that Project Labor Agreement language is part of Senate Bill 287 before it passes from you committee. PLA's are the best way to insure that Alaskans do the work on any Gas Pipeline big or bullet line. I have only been an IW for four years, but now have benefits Health & Welfare and a Pension and I here all the time how these funds need more contributions. Gas pipeline means contributions. Support the PLA please.

Respectfully,



Jake Rider

3-21-10

SENATOR COGHILL & ALL
LEGISLATORS OF AK.
RE: BILL 287:

I'm A RETIRED IRONWORKER FROM LOCAL
DISTRICT & LIVE @ MILE POST 53.5 -
GLENN HWY. PALMER.

PLEASE MAKE SURE WE INCLUDE A "PROJECT
LABOR AGREEMENT" IN THE BUILD LINE
BILL 287.

CURRENTLY MUCH OF THE EMPLOYMENT ON
THE N. SLOPE IS FROM OUTSIDE AK.
SOME STILL WOULD BUT A PLA WOULD
HELP TO LEVEL THE PLAYING FIELD.

IT MIGHT EVEN REDUCE THE NUMBER OF
P.F. DIV. CHECKS ISSUED TO NON-RES.
FALSELY REPRESENTING THEMSELVES.

WE NEED THIS PIPE LINE + TO KEEP THE
ECONOMY FROM IT AS SMOOTH
AS WE CAN.

THANKS FOR LISTENING

RICH GOLD
P.O. BOX 75 PALMER, AK. 99645

March 22, 2010

To Whom It May Concern:

My name is Vernon Zimmerman; this letter is in regard to a project labor agreement in Senate Bill 287. I am a 30-year member of Ironworkers Local Union 751. My father worked in Drift River, ran work on all but one of the platforms in Cook Inlet. I worked on the pipeline and many other projects from Prudhoe Bay to Valdez, Shemya, and parts in between.
If it weren't for trade labor these projects wouldn't be there. In fact, if you're reading this in Anchorage there is a real good chance I stood where you're sitting right now when the building was built. In my view a PLA is a MUST on any large project of this sort, not just for the skilled labor, but trade unions are one of the best ways to insure a large percentage of the work force involved are residents of the state.

Thank you for your time,

Sincerely,

Vernon Zimmerman

Vernon Zimmerman

Dear Senate Resources Committee:

My name is Robert J. Rodeheaver. I am a member of Ironworkers L.U. 751. I am writing you in the hope that you will support Alaskan families first. By supporting P.L.A. for the gas line project referenced in senate bill 287, you are making Alaskans your top priority.

This project would bring a lot of revenue to our pension and trust funds. I want the committee to realize the importance of a P.L.A. on a project of this magnitude for the workers of Alaska. We need to keep Alaskans working on Alaska's projects.

Thank you for your consideration.
Sincerely,

Robert J. Rodeheaver

Senate Resources Committee:

I am Anthony Ladd ironworker also work as an instructor for the Alaska Ironworkers local. I am writing you to urge you to support for my amendment of Senate bill 287 that includes P.L.A language the addition of project labor A will ensure that Alaskan build the Alaska Gas Pipeline. Whether it will be full scale or bullet line. Support the P.L.A amendment.

Respectfully yours,

Anthony Ladd

To the Senate Resources Committee:

My name is Brooks McCumby and I am a journeyman Ironworker in the local 751 I am writing you to ask you to support any amendment of senate bill 287 that includes P.L.A. Language I believe that a project labor agreement is the only way to Insure that Alaskans build the Alaska gas pipeline whether it be full scale or a bullet line please support the PLA amendment.

Truly yours,

Brooks McCumby

International Association of Bridge, Structural, Ornamental and Reinforcing Iron Workers
Local 751
John Lewis, President / Organizer
8141 Schoon Street Anchorage, AK 99518
(907) 563-4766 *office* (907) 563-2855 *fax*
iw751join@alaska.net *ironworkers751.org*

Dear Senator,

I would like to take a moment of your time to address my thoughts about SB 287 and how it will affect Alaskans. I think a recent event, which took place here in Anchorage, demonstrates the need for specific language that ensures jobs for Alaskans on any pipeline work.

The United States Air Force expanded their inventory of the F-22 fighter and recently built two hangars on Elmendorf Air Force Base. Great news for the local economy most thought at first. However, things did not look so promising for the locals after the contract to erect these multi-million dollar hangars was awarded to an out of state contractor. Disappointing to say the least, but not illegal. One only has to venture to the Anchorage Airport on a Sunday to watch hundreds of out of state workers as they commute to or from their place of employment.

In September, it was brought to the attention of the Alaska Workers Compensation Fraud Division that the California contractor erecting these hangars, had imported over 25 men to work on this project and was doing so without the required workers compensation coverage to work in Alaska. For a contractor to be in business and not carry workers compensation insurance is not only illegal, but also provides an enormous cost savings to that contractor and by virtue, allows them to significantly underbid any honest contractor.

U.S. Immigration and Customs Enforcement (I.C.E.) were notified that Steel System Erectors of California was employing undocumented aliens recently. Agents from the Anchorage office of ICE investigated and verified this company was employing men who were not supposed to be in the country, let alone working on a United States Air Force base constructing hangars for one of our most sophisticated fighter jets. ICE agents arrested a number of the employees and began deportation procedures.

Even as a disabled veteran, I find it a cumbersome process to be allowed access to Elmendorf, A.F.B. How is it a contractor is able to sneak workers onto our military base for months? ICE reported one of the apprehended workers had a criminal background in California. This criminal was allowed to steal employment for months from an American citizen. Through the illegal actions of this contractor they were able to "win" these jobs away from Alaskans who could surely have used the employment, while apparently receiving a pass for violations of state and federal law.

In the present contracting processes available, only one method of procuring a contract would guarantee local hire first and compliance with state and federal laws pertaining to workers comp insurance and prevailing wage requirements: utilization of a project labor agreement (PLA).

Unfortunately, those who typically argue against the virtues of PLAs are precisely the same ones whose "merit shop" philosophy is often defined by those who perpetuate illegal acts such as those committed in our back yard on Elmendorf AFB.

Ironically, because a Project Labor Agreement was not implemented, a select group of non-residents were able to secure this project through unlawful business practices and successfully implemented a "No Resident Hire" policy.

Senators, I respectfully request you support hiring Alaskans by supporting an amendment to SB 287, which would require a project labor agreement on a natural gas bullet line.

Sincerely,

John Lewis
President
Ironworkers Local Union 751

From ABC

83.3% of Construction Workers In Alaska are Not Affiliated With Organized Labor

Union Membership, Coverage, Density and Employment by State, 2009 (details in table note)

State Code	State	Sector	Obs	Employment	Members	Covered	%Mem	%Cov
94	**Alaska**	Total	2,366	292,917	65,198	69,165	22.3	23.6
94	Alaska	Private	1,689	211,445	21,725	23,025	10.3	10.9
94	Alaska	Public	677	81,472	43,473	46,140	53.4	56.6
94	Alaska	Priv. Construction	129	17,355	2,896	2,896	16.7	16.7
94	Alaska	Priv. Manufacturing	60	7,336	508	508	6.9	6.9

Data Sources: Current Population Survey (CPS) Outgoing Rotation Group (ORG) Earnings Files, 2009. Sample includes employed wage and salary workers, ages 16 and over. Variable definitions are: State Code=Census state code used in CPS, Obs=CPS sample size, Employment=wage and salary employment, Members=employed workers who are union members, Covered=workers covered by a collective bargaining agreement, %Mem=percent of employed workers who are union members, and %Cov=percent of employed workers who are covered by a collective bargaining agreement.

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Press Archive

Weekly Gasline Briefing #10 - Apr. 13th, 2007

Printer Friendly

Governor Sarah Palin Weekly Gasline Briefing #10 April 12, 2007

Thanks for joining us. I'm Tom Irwin, Commissioner of DNR, and a member of the state's gasline team. I am so proud to be a part of this team. And I want you to know that the Governor is on the right track and doing what's best for Alaska.

The gasline team, including myself, and the Governor have traveled the state listening to Alaskans at town hall meetings and during appearances at various public forums, including radio call-in shows. Alaskans recognize that passage of AGIA and forward movement of a gasline project is obviously the top concern of the state. One of the most talked about provisions of AGIA is its Alaska hire provision and I'd like to take a moment to talk about that during this week's gasline briefing.

We have long recognized that AGIA must not only induce a gasline, but also must provide Alaskans real opportunities for gasline-related employment. This means offering vocational programs to train Alaskans for pipeline jobs, as well as assuring that Alaskans will fill those jobs. AGIA fulfills these goals in six ways.

First, AGIA requires that applicants commit to hire Alaskans for management, engineering, construction, operations, maintenance, and other gasline-related positions, and to contract with Alaska businesses, to the extent permitted by law. We want Alaskans trained and experienced in all facets of this project, including its maintenance and management for the 40 or 50 years it is producing.

Second, AGIA requires that applicants commit to establishing local headquarters in Alaska. This is an important requirement, since project management will be coordinated in Alaska.

Third, applicants must commit to negotiate a project labor agreement. A project labor agreement is basically a pre-construction bargaining agreement between management and labor. Under a PLA, costs are established for labor, including wages, benefits, and working conditions. PLAs provide a host of assurances for both management and workers. Stability in labor cost estimates lessen cost overrun risks. And no-strike and lock-out agreements assure there are no management-labor disputes for the duration of the project. This promotes on-time delivery of project milestones. PLA language would allow bidding for any pipeline related work to be open to any qualified firm, union or non-union.

Fourth, AGIA requires the Commissioner of Labor and Workforce Development to develop a job training program for pipeline-related positions. A program like that serves as an inducement to the licensee, which would prefer the state handle this responsibility. We are pleased to do so.

Fifth, do not overlook the importance of the expansion provisions. If explorers get financial terms that enable them to economically explore for, discover, and transport new gas to and through the line, it opens the North Slope basin to not just marketing the known 35 trillion cubic feet of gas there, but to the additional hundreds of trillions of cubic feet of gas waiting to be discovered. A gasline that will transmit hundreds of trillions of cubic feet of gas for 40 or 50 years is a critical means to provide long-term careers to Alaska workers.

Last, AGIA requires that the applicant commit to provide for a minimum of five delivery points of gas in Alaska. Off-take points from the main line provide opportunities for spur lines to fuel Alaska homes and businesses with Alaska gas. In-state delivery also requires additional infrastructure, which in turn requires additional personnel to build and maintain the infrastructure.

The Governor and the gasline team strongly believe in offering Alaskans the best and most meaningful opportunities to capitalize on work generated by AGIA and the gasline it will facilitate. AGIA does that – it offers Alaskans not just jobs, but careers.

Thank you.

In other news: Lieutenant Governor Sean Parnell leads new Juneau Senator Dennis Egan through the oath of office in the presence of the Senate Democrats. **Full story >**

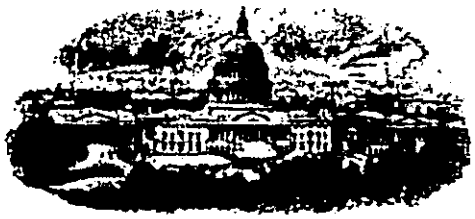
Governor's Office

- Office of the Lt. Governor
- Boards and Commissions
- Administrative Orders
- Proclamations
- Management and Budget
- Governor's Biography
- First Gentleman of Alaska
- Official Portraits
- Contacts/Locations

Links of Interest

- Status of the Flags
- Alaska Statehood Celebration Commission
- Alaska Gasline Inducement Act
- Human Rights Commission
- FY'09 Proposed Budget
- Alaska Export Report
- Homeland Security (DMVA)
- Find Gasline Jobs (DOLWD)
- Stimulus Plan Info (OMB)
- Energy Efficiency (GOV)

DON YOUNG
CONGRESSMAN FOR ALL ALASKA
WASHINGTON OFFICE
2111 RAYBURN BUILDING
TELEPHONE 202-225-5765



COMMITTEE ON RESOURCES
COMMITTEE ON TRANSPORTATION
REPUBLICAN POLICY COMMITTEE

Congress of the United States
House of Representatives
Washington, DC 20515

March 19, 2010

Sen. Lesil McGuire, Co-Chair
AK State Capitol, Room 125
Juneau, AK 99801

Rep. Craig Johnson, Co-Chair
State Capitol, Room 126
Juneau AK, 99801

Sen. Charlie Huggins, Co-Chair
State Capitol, Room 119
Juneau AK, 99801

Rep. Mark Neuman, Co-Chair
State Capitol, Room 432
Juneau AK, 99801

Dear Members of the Alaska State Legislature, In-State Gas Caucus,

Over three decades ago we built the Trans-Alaska Pipeline; one of the greatest achievements in Alaska's history. Unfortunately, since that time, Alaskans have seen few large-scale projects that would generate the economic activity needed to shape and guarantee the economic prosperity of our state for succeeding generations.

Today, our State finds itself in the unique position to unite around a project that will do just that. So on this historic occasion, I pledge my full support for your efforts in developing Alaska's natural gas for the in-state needs of Alaskans.

As deliverability shortfalls in Anchorage become imminent, and an explosion of natural gas reserves in the Lower 48 are already a reality, it is my view that the best way to bring Alaska's great natural gas potential to fruition is through the construction of an in-state line. An in-state gas line from the North Slope to Kenai or Valdez that also meets the local domestic and industrial needs of Fairbanks and Anchorage is the best option for developing Alaska's natural gas resources and shoring up Alaska's economy for decades to come.

An in-state gas line will fuel electric generation throughout the Railbelt, heating homes and facilitating economic growth throughout the region. Proposals such as Alaska Senate Bill 287, which tasks the Alaska Railroad with developing an in-state pipeline project, and Alaska House Bill 369, which creates an in-state gas development team, are positive steps towards this goal.

In Congress, I will help assist in these endeavors in any way possible beginning with a letter to the Secretary of Energy requesting a long-term extension for the export license of Liquefied Natural Gas. Now is the time to seize upon this opportunity to put Alaskans to work with a project that will carry our economy into the future.

Sincerely,

Don Young

DON YOUNG
Congressman for All Alaska

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HTTP://DONYOUNG.HOUSE.GOV

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CALL TOLL-FREE
1-866-990-5979

SEAN PARNELL
Governor

P.O. Box 110001
Juneau, Alaska 99811-0001
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Fax (907) 465-3532

STATE OF ALASKA
OFFICE OF THE GOVERNOR

January 28, 2010

The Honorable Jon Wellinghoff
Chairman
Federal Energy Regulatory Commission
888 First Street, NE
Washington, DC 20426

Dear Chairman Wellinghoff,

On November 19, 2009, Harry Noah, the former project manager for Alaska's in-state natural gas pipeline project, sent a letter requesting FERC's assistance in answering jurisdictional questions surrounding Alaska's investigation for in-state delivery of North Slope natural gas. Since then, however, there have been several new developments in the deliverability of Cook Inlet gas. Please accept this letter as an amended version of Mr. Noah's original letter to reflect these changes. As you know, Alaska is committed to the exploration of natural gas delivery, and we look forward to your response concerning the jurisdictional questions outlined below.

Alaska's desire for this study stems from the possibility of deliverability shortfalls in the Anchorage area that might arise in the future under certain scenarios. Historically, the demands for energy in the Anchorage area have been supplied by Cook Inlet production, but due to the natural decline of the reserves base, lack of significant drilling activity, and subsequent loss or potential loss of industrial base-load has resulted in a strain on the economics of maintaining deliverability capacity. In the future, meeting mid-winter demand spikes in the high-swing domestic market will require significant investment in wells and storage projects which will put upward pressure on consumer gas prices. A recently released study by the Alaska Department of Natural Resources outlines this current understanding of Cook Inlet gas resources[1]. The Federal Energy Regulatory Commission's (FERC) most recent report to Congress on the interstate Alaska gas pipeline project also references the State's investigation of in-state options[2].

A top priority of Governor Parnell and his administration is to see an interstate gas pipeline through to completion. An interstate gas pipeline is vital not only to Alaska's future, but also the energy future of our nation. My request for guidance from FERC on in-state pipeline issues in no way should be understood as detracting from that commitment. We want to make sure that Alaskans do not fall short in meeting their needs for natural gas.

---

[1] "Preliminary Engineering and Geological Evaluation of Remaining Cook Inlet Gas Reserves," report submitted to the Alaska Department of Natural Resources by the Alaska Division of Oil and Gas, December, 2009, 37p., available at http://www.dog.dnr.state.ak.us/oil/.

[2] "Eighth Report to Congress on Progress Made in Licensing and Constructing the Alaska Natural Gas Pipeline," report submitted to the United States Congress by the Federal Energy Regulatory Commission, August 26, 2009, pp 5-6.

Our overall question is to confirm and clarify under what circumstances FERC, as opposed to the Regulatory Commission of Alaska (RCA), would have jurisdiction. It is important for the State in evaluating the alternatives to understand what approval processes apply and which regulatory agencies will exercise jurisdiction over a completed in-state pipeline. I am writing, therefore, to ask if you can confirm our understanding regarding possible FERC jurisdiction with respect to the resource use scenarios that would result from delivering North Slope gas to the Cook Inlet basin on either of two possible pipeline routes.

The State of Alaska is currently investigating the cost components of a pipeline that parallels the route of the Dalton Highway from the North Slope and then follows the Parks Highway to the area of Cook Inlet. A second option is a pipeline that will parallel the route of the Dalton Highway from the North Slope and then follow the Richardson and Glenn Highways to the Cook Inlet area. In either case, the pipeline would commence at the outlet of a conditioning plant and end at or near tidewater in Cook Inlet where it would interconnect with an existing RCA-regulated intrastate pipeline in the Anchorage area.

In each case, the in-state pipeline would be a high-pressure pipeline (2500 psi) and would not receive gas from any interstate pipeline or foreign source of gas. The capacity of the line would be between ¼ and 1.0 bcf per day. Thus, physically the pipeline would begin and end in the state of Alaska and would never leave the state during the course of its journey from the North Slope to the Cook Inlet area. Nor would it directly connect to the existing FERC-regulated Kenai Liquefied Natural Gas (LNG) facility; although, given the nature of the Cook Inlet pipeline and distribution system, it might connect to existing pipelines that in turn connect to the Kenai LNG facility. During its journey on the in-state pipeline, North Slope gas might be withdrawn from the pipeline for consumption at intermediate destinations entirely within the state of Alaska as well as for the ultimate distribution in the Cook Inlet area and for export as LNG.

It should be noted that for more than four decades, and with the required federal approvals, Cook Inlet gas has been liquefied and shipped to Japan. Last January, your Commission clarified the scope of its jurisdiction under Section 3 of the Natural Gas Act over the Kenai LNG facility, confirming that FERC exercises jurisdiction over the siting, construction, operation, and maintenance of that LNG facility. The January order did not discuss, let alone assert, jurisdiction over the separate State-regulated pipelines that connect to the LNG terminal. The Kenai LNG facility factors into several of the scenarios where we seek your assistance. For the purpose of the questions being posed in this letter, none of the scenarios currently under investigation involve a new LNG terminal.

We appreciate that any export of gas would be subject to the U.S. Department of Energy (DOE) approval (under Section 3 of the Natural Gas Act), but our concerns are with the jurisdictional questions that may arise over a new in-state pipeline that transports gas – some, or much of which, depending on the time frame, may be exported through the Kenai LNG facility. Under these circumstances, we believe existing FERC precedent would recognize State, not federal, regulation of an intrastate pipeline that would connect to other pipelines that serve local distribution needs as well as LNG exports. We emphasize that, in each of the cases that follow, the primary objective of the in-state line is to serve local domestic and industrial needs in Alaska as those needs arise over time.

The first scenario with regard to the above pipelines would be the case where all of the gas flowing down the pipeline from the North Slope is sold to end-users who consume the gas entirely within the state of Alaska. We believe that, under this circumstance, there would be no question that the

proposed pipeline would be an intrastate pipeline not subject to regulation by FERC. Please confirm that this is correct.

A second scenario would be that, depending on local needs, some of the gas transported from the North Slope to the Cook Inlet area would be sold to and consumed by end-users within the state of Alaska. However, some, and potentially a majority, of that gas might be sold or re-sold to parties that would export it to foreign markets through the Kenai LNG facility. This resembles the current practice for the Cook Inlet natural gas market today. In *Yukon-Pacific*, 39 FERC ¶ 61,216 (1987), the Commission notes that a proposed in-state pipeline that would feed a proposed LNG terminal at Valdez for foreign exports would not be subject to the Commission's jurisdiction. That ruling was earlier than the 2005 amendments to the Natural Gas Act but its logic would still appear to apply to the scenarios we describe here that would not involve construction of a new LNG terminal and would involve an in-state pipeline that would not itself directly connect to the existing LNG terminal.

We ask that you confirm that the addition of a supply of North Slope gas into the Cook Inlet natural gas and foreign export markets would have no effect on the current jurisdictional framework. Again, since any such gas being exported to foreign markets through the Kenai LNG facility would be delivered to the Kenai LNG facility by way of RCA-regulated intrastate pipelines that already deliver gas to the Kenai LNG facility for export, we ask that you confirm that the new in-state pipeline that would in turn deliver the export gas to the intervening intrastate pipeline would not be classified as FERC jurisdictional.

A third scenario with regard to the potential new pipeline from the North Slope would be that some of the gas transported from the North Slope to the Cook Inlet area would be sold to and consumed by end-users within the state of Alaska, but the balance of the gas might be sold to parties that would export it to foreign or Lower 48 markets through the Kenai LNG facility. The third alternative assumes the availability of an operational LNG terminal on the west coast of the United States at some point during the operation of the in-state pipeline. In those circumstances, the ultimate destination of LNG exports from the Kenai terminal would likely depend on the comparative attractiveness at a future date of Lower 48 and overseas markets. The path of gas to those markers would first pass through the in-state pipeline, continue through existing gas pipelines that are regulated by the RCA and then through the existing Kenai LNG facility. Portions of the gas stream from the in-state line would flow respectively to intrastate, interstate, and foreign destinations as needs and markets dictate and accordingly the destination ratios would vary over time. In the totality of the circumstances, we believe a strong case may be made that the in-state line should not be jurisdictional, but we seek the Commission's guidance on this question as well.

On behalf of the State of Alaska, thank you for the support of the Commission's staff in moving the interstate Alaska gas pipeline project forward. The visit of the Commission's staff in August 2009 to meet with State and local agencies, and their tour of the prospective pipeline routes, was helpful in spurring progress in TransCanada Alaska's pre-filing process with your Commission. It is also our understanding that the FERC staff is taking the steps necessary to produce an Environmental Impact Study for the TransCanada Alaska and Denali projects on the timeline defined by the Alaska Natural Gas Pipeline Act. TransCanada Alaska and Denali are also busy preparing for open seasons during 2010.

We greatly appreciate your assistance, and look forward to your response. Please do not hesitate to contact me at (907) 257-1352 if I can further clarify.

Sincerely,

Robert Swenson
Project Manager
Alaska In-State Natural Gasline

cc: Mike Nizich, Chief of Staff, Office of the Governor
John W. Katz, Director of State/Federal Relations, Office of the Governor
The Honorable Gene Therriault, Senior Energy Advisor, Office of the Governor
Robert H. Loeffler, Morrison & Foerster LLP

FEDERAL ENERGY REGULATORY COMMISSION
WASHINGTON DC 20426

March 15, 2010

OFFICE OF THE CHAIRMAN

Robert Swenson
Project Manager
Alaska In-State Gas Resources
411 Fourth Street
Anchorage, AK 99501

Dear Mr. Swenson:

I am writing in response to your January 28, 2010 letter sent in your capacity as the project manager for the in-state natural gas pipeline project being studied by the State of Alaska. Your letter amended a November 19, 2009 letter from your predecessor as Project Manager, Mr. Harry Noah, describing options being considered for an in-state pipeline to bring natural gas from Alaska's North Slope to meet gas demand in southern Alaska, and seeking guidance regarding under what circumstances the Federal Energy Regulatory Commission, as opposed to the Regulatory Commission of Alaska, would have jurisdiction over the proposed facilities. I appreciate the opportunity to consult with Alaska authorities on the issue of an in-state natural gas pipeline, because I am well aware that the need to make economic energy supplies available to Alaska's residents is a matter of great concern within the state.

I have enclosed with this letter an analysis by my staff of the issues raised in your and Mr. Noah's letters. The analysis represents staff's best judgment, based on the scenarios presented in the letters. Of course, if and when the Commission itself is asked to rule formally on these or similar issues, the Commissioners will have to reach their own decisions on the matters presented to them. Please feel free to contact me and my staff at any time about matters of concern to Alaska. Should you have further questions regarding this response or staff's analysis, please contact Mr. John Katz, Deputy Associate General Counsel for Energy Projects, at (202) 502-8082.

Sincerely,

Jon Wellinghoff
Chairman

Enclosure

COMMISSION STAFF REVIEW OF JURISDICTIONAL ISSUES RELATING TO ALASKA IN-STATE NATURAL GASLINE

This document responds to the January 28, 2009 letter from Mr. Robert Swenson, Project Manager for the State of Alaska's study of a potential Alaska in-state natural gas pipeline (in-state pipeline), amending a November 19, 2009 letter from Mr. Swenson's predecessor, Mr. Harry Noah.

As explained in the letters, the primary purpose of the in-state pipeline would be to transport natural gas from Alaska's North Slope to serve local domestic and industrial needs in Alaska as those needs arise over time. Mr. Swenson seeks to confirm under what circumstances the Federal Energy Regulatory Commission (FERC), as opposed to the Regulatory Commission of Alaska (RCA), would have jurisdiction over the proposed facilities.

Mr. Swenson's letter provides the following information: Alaska is investigating the cost of a pipeline that would parallel the route of the Dalton Highway from the North Slope and then follow the Parks Highway to the area of Cook Inlet. A second option is a route that would parallel the Dalton Highway from the North Slope and then follow the Richardson and Glenn Highways to the Cook Inlet area. In either case, the pipeline would be a high-pressure facility (2500 pounds per square inch), with a capacity of between 0.25 and 1.0 billion cubic feet per day. The pipeline would commence at the outlet of a conditioning plant and terminate at or near tidewater in Cook Inlet, where it would interconnect with an RCA-regulated intrastate pipeline in the Anchorage area. The pipeline would not directly interconnect with the existing, FERC-regulated Kenai Liquefied Natural Gas (LNG) facility, although it might connect to existing pipelines that themselves connect to the Kenai facility.

Mr. Swenson's letter presents three scenarios with respect to the ultimate use of the natural gas transported on the in-state pipeline, and asks for confirmation of the jurisdictional implications of each hypothetical case. Commission staff describes and analyzes each scenario below in light of two sections of the Natural Gas Act (NGA) – NGA section 7, which establishes the Commission's jurisdiction over the construction and operation of interstate natural gas pipelines, and NGA section 3, which establishes the Commission's jurisdiction over facilities used for the import or export of natural gas in foreign commerce.

Scenario 1

In the first scenario, all of the North Slope gas transported by the in-state pipeline would be sold to end-users who would consume the gas entirely within Alaska.

Under these circumstances, Commission staff agrees with Mr. Swenson's conclusion that no authorization would be needed from the Commission for construction and operation of the in-state pipeline.

Scenario 2

Under the second scenario, while some of the North Slope gas transported by the in-state pipeline would be sold to, and consumed by, end-users in Alaska, depending on local needs, some, and potentially a majority of, the gas would be sold to parties who would have it delivered, via connections with the existing intrastate grid, to the Kenai LNG facility for export to foreign markets. As support for the conclusion that the in-state pipeline would not be subject to Commission jurisdiction under this scenario, Mr. Swenson's letter references the Commission's order addressing a somewhat, but not entirely, similar situation in *Yukon Pacific Corporation*.[1]

In that case, Yukon Pacific Corporation was developing a proposal to construct a project, to be known as the Trans-Alaska Gas System (TAGS), to transport gas from the North Slope of Alaska through an 800-mile-long pipeline to a liquefaction plant at Valdez, for export to Asian markets. All of the natural gas flowing through the TAGS pipeline would have been exported exclusively into foreign commerce.[2] In its declaratory order addressing its jurisdiction over the contemplated project, the Commission recognized that the court in *Distrigas Corp. v. F.P.C.*[3] had held "that to prevent gaps in jurisdiction the Commission has the discretion under section 3 'to impose on imports of natural gas the equivalent of Section 7 certification requirements'" but "decline[d] to exercise any discretionary authority it may have under section 3 of the NGA to regulate the siting, construction and operation of the [800-mile] TAGS pipeline,"[4] reasoning that the project would have no economic consequences to U.S. ratepayers (as the costs of the project would be borne by the project sponsors, its lenders and investors, and its foreign purchasers of the gas) and that the environmental review process associated with the Commission's authorization of the liquefaction plant would provide the Commission ample opportunity to consider the environmental and safety aspects of the pipeline.

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[1] *Yukon Pacific Corporation* (*Yukon Pacific*), 39 FERC ¶ 61,216 (1987).

[2] *Id.* at p. 61,753.

[3] 495 F.2d 1057, 1064 (D.C. Cir. 1974), *cert. denied*, 419 U.S. 834 (1974).

[4] *Id.* at p. 61,759.

Subsequent to the Commission's consideration of the jurisdictional implications of the Yukon Pacific project in 1987, Congress enacted the Energy Policy Act of 2005 (EPAct 2005),[5] which added a new section 3(e) to the NGA, providing, in part, that "[t]he Commission shall have the exclusive authority to approve or deny an application for the siting, construction, expansion, or operation of an LNG terminal." As defined in section 2(11) of the NGA, as added by EPAct 2005:

> "LNG terminal" includes all natural gas facilities located onshore or in State waters that are used to receive, unload, load, store, transport, gasify, liquefy, or process natural gas that is imported to the United States from a foreign country, exported to a foreign country from the United States, or transported in interstate commerce by waterborne vessel, but does not include –
>
> (A) waterborne vessels used to deliver natural gas to or from any such facility; or
> (B) any pipeline or storage facility subject to the jurisdiction of the Commission under section 7.

Were the Commission to be faced with a proposal like the Yukon Pacific project today, it would have to address whether the 800-mile-long pipeline would be considered a "natural gas facilit[y] . . . used to . . . transport . . . natural gas . . . exported from the United States."

That same question is raised by the circumstances presented in Scenario 2. On the one hand, an argument can be made that the in-state pipeline in Scenario 2 would "transport" natural gas "exported to a foreign country." However, unlike the project in *Yukon Pacific*, Scenario 2 does not involve the construction of a clearly jurisdictional new (or expanded) liquefaction terminal, nor would the hypothesized in-state pipeline interconnect directly with the existing Kenai terminal. Rather, the pipeline would interconnect with existing intrastate pipelines that would in turn connect to the terminal. In addition, notwithstanding that much of the gas transported by the in-state pipeline might be exported in foreign commerce, the impetus for construction of the in-state line in Scenario 2 nevertheless would be to ensure adequate supplies to meet in-state Alaska demand. Also, similar to the situation in *Yukon Pacific*, it appears such a project would have no economic consequences for any U.S. ratepayers outside of the State of Alaska. In the absence of Commission regulation, it would appear that the RCA would have authority to regulate the in-state pipeline as an intrastate pipeline. The Commission

[5]Pub. L. 109-58, 42 U.S.C. §15801 (2005).

would need to consider all of the foregoing in deciding whether it would be required to assert jurisdiction over the proposed pipeline.

Scenario 3

Under the third scenario described in Mr. Swenson's letter, some of the gas transported on the in-state pipeline would be sold to and consumed by Alaska end-users, but some be would sold to parties who would have it transported through existing intrastate pipelines to the Kenai facility, from whence it would be transported, as LNG, to foreign or lower 48 state markets (if an LNG receiving terminal were constructed on the U.S. west coast).

The distinction between Scenarios 2 and 3 is that in the former case, gas not used in Alaska is shipped to foreign markets, while in the latter some gas may be transported in domestic markets. The fact that some of the gas in Scenario 3 might be transported in interstate commerce (from Alaska to one or more of the lower 48 states) could result in the proposed in-state pipeline becoming fully subject to the Commission's NGA jurisdiction. The potential that the commingling of gas for intrastate use with gas that will flow out of the state of production could cause the entire gas stream (and facilities used to transport it) to become subject to section 7 of the NGA and the Commission's jurisdiction was first recognized in 1965 in *California v. LoVaca*.[6] At that time, the U. S. Supreme Court had already articulated in *Interstate Natural Gas Company Inc. v. FPC*[7] the principle that where the Commission has jurisdiction has over the interstate transmission of natural gas, that jurisdiction does not begin at the point at which gas first crosses a state line; rather, it begins at upstream points wherever NGA gathering ends.[8]

It is also possible that the Commission would exercise limited jurisdiction over the interstate service posited by Scenario 3, but not the facility itself, under section 311 of the Natural Gas Policy Act of 1978. Section 311(a)(2) of the NGPA provides that an intrastate pipeline can transport gas in interstate commerce without its facilities and intrastate services becoming subject to the Commission's NGA jurisdiction. That is because section 601(a)(2)(A) of the NGPA provides that for purposes of section 1(b) of the NGA, which sets forth the Commission's jurisdiction over the transportation of gas in interstate commerce:

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[6]379 U.S. 366 (1965).

[7]331 U.S. 682 (1947).

> the provisions of such Act and the jurisdiction of the Commission under such Act shall not apply to any transportation in interstate commerce of natural gas if such transportation is . . . (ii) authorized by the Commission under [NGPA] section 311(a).

However, the Commission has held that the NGPA's definition of "intrastate pipeline" excludes newly constructed pipelines, since prior to operation they could not qualify as "engaged in" transportation.[9] Thus, the Commission has never found that a company can qualify as an intrastate pipeline without having first established the intrastate character of existing operations in the state where the pipeline is located.[10] But the Commission has also never ruled on how long an intrastate pipeline must have been in operation as such in order to shield its status as an intrastate pipeline while also offering interstate services under section 311 of the NGPA. Nor has the Commission to date ruled that once an intrastate pipeline begins offering interstate services under section 311 of the NGPA, its continued intrastate pipeline status depends on its continuing to provide some specified level or percentage of intrastate service. Nevertheless, the Commission might have reason to question the jurisdictional nature of a new pipeline company that purportedly commenced service as an intrastate pipeline, only to undertake the provision of a substantial amount of service in interstate commerce shortly thereafter under section 311 of the NGPA.

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[9] *See Lee 8 Storage Partnership*, 73 FERC ¶ 61,159 at p. 61,477 (1995).

[10] *Id.* at p. 61,479, *citing Midcoast Ventures I*, 61 FERC ¶ 61,029 at p. 61,158 (1992).

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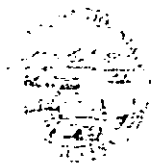

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Governor Sean Parnell
STATE OF ALASKA

March 18, 2010

The Honorable Lesil McGuire
Alaska State Legislature
State Capitol, Room 125
Juneau, AK 99801-1182

Re: SB 287/ Work Draft "R"

Dear Senator McGuire,

Thank you for speaking with me yesterday regarding SB 287 and Work Draft "R" of that legislation. I believe this legislation is on the right track to codifying the work being done by our bullet line gas team and I welcome the opportunity to work further with you on it.

Alaska's natural gas is a rich and abundant resource that must be commercialized for the benefit of Alaskans. To that end, the State is currently pursuing two paths, effectively leaving open more opportunities for a gasline than choosing only one pipeline at this time.

The State has a project team pursuing bullet line opportunities intended to bring natural gas to Alaskan homes and businesses. I instructed the engineering team to determine the cost of a pipeline from the Interior basins near Nenana, to the foothills of the North Slope, or if need be, all the way to the North Slope so that the least costly routing and long term gas supply can be identified.

Last year, the Legislature approved funding for the bullet line work and we are pleased with the progress to date. An Environmental Impact Statement is in progress, preliminary engineering and permitting is underway, and we anticipate the initial cost estimates will be available this summer. In addition, a commercial group of gas owners, utilities, and other private sector parties continue to meet to support our efforts to move forward.

On a parallel path, the Alaska Gas Pipeline Project being pursued by TC Alaska and ExxonMobil is scheduled to initiate its open season in the weeks ahead. These private sector companies are bringing their expertise and capital to the table to assure a gasline project moves forward. The Alaska Gas Pipeline Project has been fully engineered and tariffs established for gas delivery to Alaskan communities (including a tidewater LNG project) and throughout North America. I fully support maintaining this Alaskan private sector opportunity.

Earlier, I noted that your bill is headed in the right direction. We need to foster opportunities for a gasline, rather than limit our options by picking only one path that may or may not lead to a project. Because Work Draft "R" of SB 287 leaves open opportunities for Alaska jobs and Alaska energy for Alaskans, I will continue working with you on the merits of the bill.

Regards,

Sean Parnell
Governor

ALASKA STATE LEGISLATURE

SENATOR LESIL McGUIRE
SENATOR BILL WIELECHOWSKI
Co-Chairs, Senate Resources Committee

MEMORANDUM

Date: March 18, 2010

To: Kirsten Waid, Senate Secretary

From: Senator Lesil McGuire, Co-Chair
Senator Bill Wielechowski, Co-Chair
Senate Resources Committee

Re: Senate Resources Committee Schedule

Committee Schedule
Senate Resources
For the week of March 15-19

Unless otherwise noted, all meetings will be held in the Butrovich, Rm 205 @ 3:30 p.m.

Thursday, March 18th
+ * = SB 287: In-State Gas Pipeline
+ * = SB 228: Tax Incentives for Gas to Liquids
+ * = SB 242: Geothermal Resources Tax Credits
+ * = SB 243: No Royalty on Geothermal Resource
~~+ * SB 294: Sport Fish Guide License~~ – *Moved to Monday's Calendar*
+ = *Bill Previously Heard/Scheduled*

Friday, March 19th *(This meeting will be held JOINTLY with House Fisheries Committee)*
Overview: *Preliminary review of the Board of Fisheries request for a comprehensive evaluation of large-mine permitting and standards for protection of fish and game habitat in the Bristol Bay watershed.*
+ = *Bill Previously Heard/Scheduled*

* First Hearing in First Committee of Referral
\+ Teleconferenced
= Bill was previously Heard/Scheduled

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Office of Governor Sean Parnell
STATE OF ALASKA

November 18, 2009

Members of the Alaska State Legislature
State Capitol Building
Juneau, AK 99801-1182

Re: September/October Instate Gasline Report

Dear Legislators,

The State team and its contractors continue to work on permit applications, refine cost estimates, and review project alternatives toward the goal of having a final environmental impact statement by December 2010 for a possible in-state natural gas pipeline from the North Slope to tidewater at Cook Inlet. We are doing the preparatory work; the final project decision will be up to the Legislature, the Governor, and whether private interests see a need for the project. Our work is only to analyze and present the pipeline as an option.

Our work over the past couple of months has concentrated on:

- Completion of the hydraulic analysis for the gas pipeline in order to establish the best locations for compressor stations along the pipeline route. Compressor turbines operate most efficiently at colder temperatures, so the analysis included soil and ambient temperature analysis up and down the two potential pipeline routes from the North Slope to tidewater (the Parks Highway and the Glenn/Richardson Highway routes). The work included modeling the temperatures, compressor efficiency, and drop-off in pipeline pressure to determine the most effective locations for compressor stations. The work identified potential sites, within a four or five mile range, also considering ground composition, access, and wetlands issues. The exact number of compressor stations and precise location for each station would depend on the capacity of the gas line and would be a decision for the project developer.

- Preparation of right-of-way permit applications to State and federal agencies. The State team and its contractors expect to submit those permit applications later this month. The Alaska Department of Transportation and Public Facilities (DOT & PF) will be the permit applicant. Applications will be filed for both pipeline routes. A decision on which route to select will be up to the Legislature and the Governor, and a private developer, at a later date.

- Preparation of wetlands permits that will be submitted later this month to the U.S. Army Corps of Engineers.

- Working with the DOT & PF to identify potential gravel sites along the pipeline routes.

- Determining the need and cost for a gas treatment plant to remove carbon dioxide, hydrogen sulfide, and other impurities from the gas stream before it enters the pipeline. Though Enstar has shared with the State team its work on an in-state gas line, that effort did not include a review of gas treatment needs or costs. The State team will be talking with North Slope producers and others in the coming months to learn more about possible gas treatment plant configurations, costs, and operations. Certainly, the size and cost will depend on the volume of gas expected to move through the line, and planning for any possible expansions.

- And, we are continuing with cost and economic feasibility analysis of natural gas liquids extraction in Alaska, possible sites for an Natural Gas Liquids plant, and marketing issues.

The reference case for our work is a 24-inch line from Prudhoe Bay to tidewater at Cook Inlet, though the team also is looking at smaller pipe for a lower-capacity line. A 24-inch line could accommodate up to one billion cubic feet per day, depending on the number of compressor stations. The reference case would be a pipe capable of moving wet or dry gas, while we also look at a dry-gas only line as an option. Obtaining gas supplies from Gubik in the Brooks Range Foothills is another option that will be considered as the team models out all the alternatives in the coming months. Those alternatives will range from a pipeline capacity of 250 million cubic feet per day to one billion cubic feet per day.

Upcoming work will also include flow simulations and diagrams to help determine major equipment needs and costs for the line, including a component-by-component analysis of costs, investigating cost-reduction opportunities for the project, and conducting field work next summer to verify site data — particularly at river crossings, gravel sites, fault crossings — and to conduct a geotechnical borehole drilling program. The State's team includes Baker for engineering, design, and cost work, and Arctic Slope Regional Corporation for much of the permit work.

Assuming the State obtains all of the right-of-way permits, wetlands permits, and a final Environmental Impact Statement next winter, the State would be ready in the spring of 2011 to turn over (sell) the package of engineering work and permits to a private entity to build the line, if the Legislature and Governor decide that is the best option for Alaska.

Our expenses for September and October were $445,364 and $399,968 respectively. Total expenditures for the year-to-date are $1,826,859.

Please do not hesitate to contact me at 907-269-8656 if you have any questions. I will have another report in December.

Sincerely,

Harry Noah
Project Manager
In-state Gas Program

Amendment #1

Offered in the Senate By Senator McGuire

To: CS SB 287 (RES), Draft Version "R"

To Page 7, line 2:

Conceptual

Delete: "immediately under AS 01.10.070(C)"

Insert: July 1, 2010

Purpose: To allow the current work to continue through to the next fiscal year.

Amendment #2

Offered in the Senate By Senator McGuire

To: CS SB 287 (RES), Draft Version "R"

To Page 1, lines 4-5:

Conceptual

Delete "from the Office of the Governor and the Department of Natural Resources"

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An unconventional glut

Mar 11th 2010 | HOUSTON
From The Economist print edition

Newly economic, widely distributed sources are shifting the balance of power in the world's gas markets

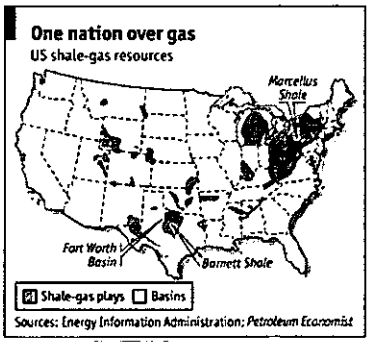
SOME time in 2014 natural gas will be condensed into liquid and loaded onto a tanker docked in Kitimat, on Canada's Pacific coast, about 650km (400 miles) north-west of Vancouver. The ship will probably take its cargo to Asia. This proposed liquefied natural gas (LNG) plant, to be built by Apache Corporation, an American energy company, will not be North America's first. Gas has been shipped from Alaska to Japan since 1969. But if it makes it past the planning stages, Kitimat LNG will be one of the continent's most significant energy developments in decades.

Five years ago Kitimat was intended to be a point of import, not export, one of many terminals that would dot the coast of North America. There was good economic sense behind the rush. Local production of natural gas was waning, prices were surging and an energy-hungry America was worried about the lights going out.

Now North America has an unforeseen surfeit of natural gas. The United States' purchases of LNG have dwindled. It has enough gas under its soil to inspire dreams of self-sufficiency. Other parts of the world may also be sitting on lots of gas. Those in the vanguard of this global gas revolution say it will transform the battle against carbon, threaten coal's domination of electricity generation and, by dramatically reducing the power of exporters of oil and conventional gas, turn the geopolitics of energy on its head.

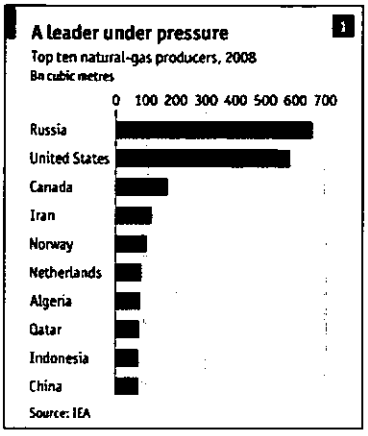
Deep in the heart of Texas

The source of America's transformation lies in the Barnett Shale, an underground geological structure near Fort Worth, Texas. It was there that a small firm of wildcat drillers, Mitchell Energy, pioneered the application of two oilfield techniques, hydraulic fracturing ("fracing", pronounced "fracking") and horizontal drilling, to release natural gas trapped in hardy shale-rock formations. Fracing involves blasting a cocktail of chemicals and other materials into the rock to shatter it into thousands of pieces, creating cracks that allow the gas to seep to the well for extraction. A "proppant", such as sand, stops the gas from escaping. Horizontal drilling allows the drill bit to penetrate the earth vertically before moving sideways for hundreds or thousands of metres.



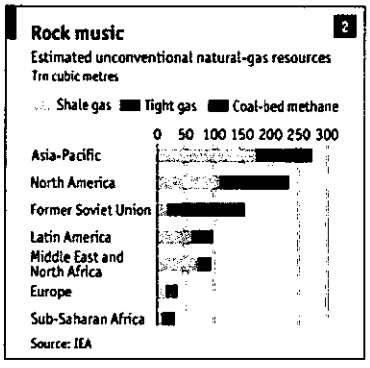
These techniques have unlocked vast tracts of gas-bearing shale in America (see map). Geologists had always known of it, and Mitchell had been working on exploiting it since the early 1990s. But only as prices surged in recent years did such drilling become commercially viable. Since then, economies of scale and improvements in techniques have halved the production costs of shale gas, making it cheaper even than some conventional sources.

The Barnett Shale alone accounts for 7% of American gas supplies. Shale and other reservoirs once considered unexploitable (coal-bed methane and "tight gas") now meet half the country's demand. New shale prospects are sprinkled across North America, from Texas to British Columbia. One authority says supplies will last 100 years; many think that is conservative. In 2008 Russia was the world's biggest gas producer (see chart 1); last year, with output of more than 600 billion cubic metres, America probably overhauled it. North American gas prices have slumped from more than $13 per million British thermal units in mid-2008 to less than $5. The "unconventional"—tricky and expensive, in the language of the oil industry—has become conventional.



The availability of abundant reserves in North America contrasts with the narrowing of Western firms' oil opportunities elsewhere in recent years. Politics was largely to blame, as surging commodity prices emboldened resource-rich countries such as Russia and Venezuela to restrict foreign access to their hydrocarbons. "Everyone would like to find more oil," says Richard Herbert, an executive at Talisman Energy, a Canadian firm using a conventional North Sea oil business to finance heavy investment in North American shale. "The problem is, where do you go? It's either in deep water or in countries that aren't accessible." This is forcing big oil companies to get gassier.

The oil majors watched from the sidelines as more entrepreneurial drillers proved shale's viability. Now they want to join in. In December Exxon Mobil paid $41 billion for XTO, a "pure-play" gas firm with a large shale business. BP, Statoil, Total and others are sniffing around the North American gas patch, signing joint ventures with producers such as Chesapeake Energy. A wave of consolidation is likely in the coming months, as gas prices remain low, the drillers seek capital and the majors hunt for the choicest acreage.



Shale is almost ubiquitous, so in theory North America's success can be repeated elsewhere. How plentiful unconventional resources might be in other regions, however, is far from established. The International Energy Agency (IEA) estimates the global total to be 921 trillion cubic metres (see chart 2), more than five times proven conventional reserves. Some think there is far more. No one will really know until companies explore and drill.

The drillers are already arriving in Europe and China, which are both expected to import increasing amounts of gas—and are therefore keen to produce their own. China has set its companies a target of producing 30 billion cubic metres a year from shale, equivalent to almost half the country's demand in 2008. Several foreign firms, including Shell, are already scouring Chinese shales. After a meeting between the American and Chinese presidents last November, the White House announced a "US-China shale gas initiative": American knowledge in exchange for investment opportunities. The IEA says China and India could have "large" reserves, far greater than the conventional resource.

Exploration is also under way in Austria, Germany, Hungary, Poland and other European countries. The oil industry's minnows led this scramble, but now the big firms are arriving too. Austria's OMV is working on a promising basin near Vienna. Exxon Mobil is drilling in Germany. Talisman recently signed a deal to explore for shale in Poland. ConocoPhillips is already there. The first results from wells being drilled in Poland, in what some analysts believe is a shale formation similar to Barnett, should be released this year.

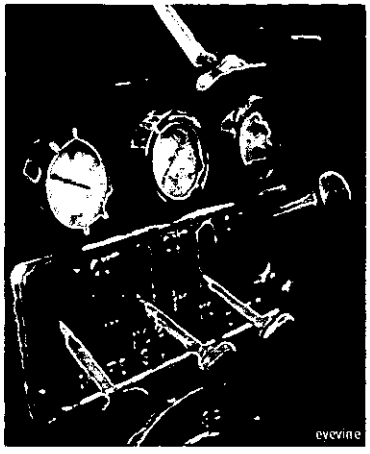
No one expects production of shale gas in Europe to make a material difference to the continent's supply for at least a decade. But the explorers in China and Europe present a long-term worry for those who have bet on exporting to these markets. Gazprom, Russia's gas giant, is the company most exposed to this threat, because its strategy relies on developing large—and costly—gasfields in inhospitable places. But Australia, Qatar and other exporters also face a shift in the basics of their business.

Choked

These producers are already getting a taste of the global gas glut. Almost in tandem with the surge in American production, recession brought a slump in world demand. The IEA says consumption in 2009 fell by 3%. In Europe, the drop was 7%. Consumption in the European Union will grow marginally if at all this year and will not be sufficient to clear an overhang of supplies, contracted through take-or-pay agreements signed in the dash for gas of the past decade. IHS Global Insight, a consultancy, reckons that the excess could amount to 110 billion cubic metres this year, almost a quarter of the EU's demand in 2008.

The glut has been exacerbated by the suddenly greater availability of LNG. Importers with the infrastructure to receive and regasify LNG can now easily tap the global market for spot cargoes. This is partly a product of the recession, which dampened demand from Japan and South Korea, the leading LNG buyers. But another cause is that many exporters, not least Qatar, the world's LNG powerhouse, spent the past decade ramping up supplies aimed at the American market. That now looks like a blunder.

America is still taking some of this LNG, but the exporters' bonanza is over before it ever really began. "You'll always find a buyer in North America," says Frank Harris, an analyst at Wood Mackenzie, a consultancy, "but you might not like the price." And LNG will grow increasingly abundant as new projects due to come on stream this year add another 80m tonnes to annual supply, almost 50% more than in 2008.



Gas out, money in

Qatar's low production costs mean it can still make money, even in North America. Others cannot. In February, for example, Gazprom postponed its Shtokman gasfield project by three years because of the change in the market. Some of the gas from that field, in the Barents Sea, was to be exported to America. But Shtokman's gas will be costly, because the field is complex and its location makes it one of the world's most difficult energy projects to execute. Some analysts now wonder whether gas will ever flow from Shtokman.

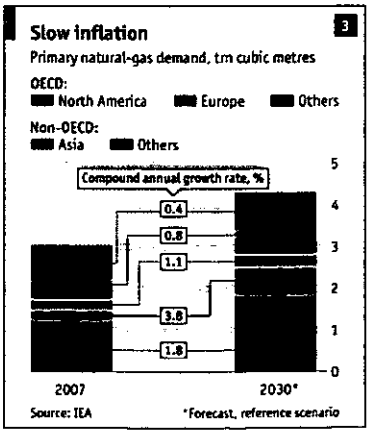
China offers some hope for ambitious exporters, but even there the outlook has become cloudier. The Chinese authorities want natural gas to account for at least 10% of the country's energy mix by 2020 and are building LNG import terminals. With that target in mind, Australia, which has its own burgeoning conventional and unconventional gas supplies, has been busily building an LNG export business. But warning lights are coming on. In January, PetroChina let a deal to buy gas from Australia's Browse LNG project expire. The original agreement was made in 2007, when LNG prices were soaring in Asia, but China can afford to be picky now. "Too many Australian LNG plants are chasing too little demand," says Mr Harris.

The shift in the global market has left China well-placed to dictate prices. This will be another blow to Gazprom, which has long talked of exporting gas to the country. Indeed, while the Chinese and the Russians have squabbled over the terms, Turkmenistan has quietly built its own export route to China. Even if Beijing's shale-gas plans come to nothing, supplies from Central Asia and new regasification terminals along its coast may allow China to reach its natural-gas consumption targets without pricey Siberian supplies.

The glut has weakened Gazprom's position in Europe, too. It has been losing market share to cheaper Norwegian and spot-market supplies. In 2007 Gazprom talked of increasing its annual exports to the EU to 250 billion cubic metres. Now, says Jonathan Stern, of the Oxford Institute for Energy Studies, Gazprom will probably only ever supply the EU with 200 billion cubic metres a year (it shipped about 130 billion in 2008). The company forecast in 2008 that its gas prices in Europe would triple, to around $1,500 per 1,000 cubic metres, on the back of rising oil prices, which help set prices in long-term contracts. But the price dropped to about $350 last year and is expected to fall again in 2010. The weak market could last for another five years, believes Wood Mackenzie. Gazprom has been renegotiating with leading customers, injecting elements of spot pricing into contracts to make them more attractive.

Shtokman shtymied

Moreover, Europe's need for new pipelines to guarantee supplies suddenly looks less pressing. Construction of Nord Stream, Gazprom's flagship project to export gas directly to Germany through the Baltic Sea, will begin next month. It is due to come on stream in 2011. The scheduled doubling of its capacity to 55 billion cubic metres a year is in doubt, says Mr Stern, because Shtokman was to have supplied the gas for it.



Demand is a bigger problem. Even without recession or European shale, the assumption that Europe's consumption will keep growing is looking shaky,

because the EU's efforts to boost efficiency and reduce carbon emissions are making gradual headway. Edward Christie, an economist at the Vienna Institute for International Economic Studies, says the EU could be importing a third less natural gas in 2030 than the European Commission forecast in 2005. That makes the case for additional supply lines much less compelling. The IEA expects rich European countries' demand to grow by only 0.8% a year in the next two decades, against 1.5% for the world as a whole (see chart 3).

An age of plenty for gas consumers and of worry for conventional-gas producers thus seems to be dawning. But two factors could reverse the picture again. The first surrounds the uncertainty about how fruitful shale exploration will be outside North America. A clearer understanding of the geology will emerge from pilot wells in the coming months. Second, there are reasons for caution above ground, too. Despite natural gas's greener credentials than oil's or coal's, shale drilling has critics among environmentalists, who worry that water sources will be poisoned and landscapes despoiled.

The industry says cement casing of wells and the depth to which they are drilled make the practice safe and relatively unobtrusive. But so far it has been drilling mainly in North America, where land is plentiful and people are accustomed to the sight of oilmen's detritus. In densely populated Europe, the rapacious rate at which shale plays must be drilled to sustain production is less likely to be tolerated.

Even in America, opposition to shale gas is rising. New York state has imposed a moratorium on drilling in its portion of the Marcellus Shale, which it shares with Pennsylvania. Lawmakers in Congress want to study the ecological impact of fracing. The Environmental Protection Agency, a federal body, also raised concerns about "potential risks" to the watershed.

The path of demand in gas's new age is hard to predict, but abundant new sources could bring about profound change in patterns of energy consumption. Some of the downward pressure on price will ease: despite sedate growth, the LNG glut should dissipate, probably by 2014, says Mr Harris; and low prices will kill more projects, clearing the inventory. France's Total thinks global demand will recover strongly enough to require another 100m tonnes a year of LNG by 2020, on top of plants already planned. However, the Energy Information Administration, the statistical arm of America's Department of Energy, predicts decades of relatively weak prices.

If this is correct, it makes sense, for both environmental and economic reasons, for the country to gasify its power generation, half of which comes from coal-fired plants. This could be done cheaply and quickly, because America's total gas-fired capacity (as opposed to production) already exceeds that for coal. Put a price of only $30 a tonne on carbon, say supporters, and natural gas would quickly displace coal, because gas-fired power stations emit about half as much carbon as the cleanest coal plants. The IEA agrees that penalising carbon emissions would benefit natural gas at the expense of dirtier fuels.

There would be political obstacles. The coal lobby remains strong in Washington, DC. Climate legislation struggling through Congress even includes provisions to protect "clean coal", a term covering an array of measures, so far uncommercial, to reduce emissions from burning the black stuff. Ironically, oil companies that were once suspicious of proposals to control carbon now regard a carbon price or even a carbon tax as a potential boon to their new gas businesses.

A more radical idea, and one that would have ramifications for the global oil sector, is to gasify transport. T. Boone Pickens, a corporate raider turned energy speculator, has launched a campaign to promote this, and has support from the gas industry. By converting North America's fleet of 18-wheeled trucks to natural gas, says Randy Eresman, boss of EnCana, a Canadian gas company, America could halve its imports of Middle Eastern oil. EnCana is promoting "natural gas transportation corridors": highways served by filling stations offering natural gas.

All this is some way off. The coal industry will not surrender the power sector without a fight. The gasification of transport, if it happens, could also take a less direct form, with cars fuelled by electricity generated from gas.

A gasified American economy would have profound effects on both international politics and the battle against climate change. Displacement of oil by natural gas would strengthen a trend away from crude in rich countries, where the IEA believes demand has already peaked as a result of the recent spike in oil prices. Another consequence of the energy market's bull run, the unearthing of vast new supplies of gas, could bring further upheaval. If the past decade was characterised by the energy-security concerns of consumers, the coming years could give even the world's powerful oil producers reason to worry, as a subterranean revolution shifts the geopolitics of global energy supply again.

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STATE OF ALASKA
OFFICE OF THE GOVERNOR
JUNEAU

July 17, 2009

Alaska State Legislature
Alaska State Capitol
Juneau, AK 99801

Dear Alaska Legislators:

In accordance with the legislative intent language of Section 19 of SCS CS HB113(FIN) directing me to submit monthly written reports to all legislators, this is the second monthly report on the evaluation and development of an in-state natural gas pipeline. I hope these short summaries are helpful and I certainly welcome any calls or e-mails with requests for additional information.

Much of the activity in June focused on the commercial working group's first meeting. Two dozen representatives - BP, ConocoPhillips, ExxonMobil, Anadarko, Chugach Electric Association, Golden Valley Electric Association, Agrium, Enstar, Barrick Gold Corporation and contractors and subcontractors on this effort - met for two days in Anchorage to review the project.

Baker, a worldwide engineering firm with offices in Anchorage, is the lead contractor for the evaluation and assessment project. The commercial working group listed the questions, the known and missing information, and the research and analysis needed to define the project. Work assignments were handed out with a schedule determining the order of the pieces for the project to proceed on schedule.

The work breaks down into several categories for planning and analysis - the pipeline and compressors along the route, the North Slope gas conditioning plant, other necessary North Slope infrastructure, a natural gas liquids extraction plant, permitting, Fairbanks and Interior Alaska needs, Southcentral customers (utilities and industry), other possible users around the state, and alternatives - to meet Alaska's natural gas needs.

This state-funded effort will prepare an estimate for the cost of moving gas down the pipe (pipeline tariff), not the cost of gas to consumers. That final cost will depend on the cost of production, distribution charges and market issues, all outside of this assessment.

Our work continues to focus on three principal aspects of the project: Define the project, determine the demand for gas, and calculate the cost of service (tariff) for the pipeline.

The project drivers are a stable, affordable energy supply for businesses, residential customers and to promote economic growth.

Baker is managing the work on the pipeline alternative route analysis, in addition to construction cost estimates for the project. The focus of their work will be to identify the capital cost of each option and the potential customers, in addition to potential environmental impacts. I expect to have cost comparisons and analysis by this fall of the two pipeline routes for moving North Slope gas south — the Parks Highway or Glenn Highway — so that a decision can be made on which route is best for the project and the people of Alaska.

Baker is working under a cost-plus fixed-fee contract, not to exceed $5 million. Payments to Baker were not included in June totals. These costs will be reflected in the July report.

The environmental services contract was awarded in June to ASRC, on a cost-plus basis not to exceed $2 million. ASRC's role will be to gather environmental data in support of the EIS process for the pipeline right-of-way application, looking at both the Glenn and Parks highway routes. The contract started in June; payments will be reflected in the July report.

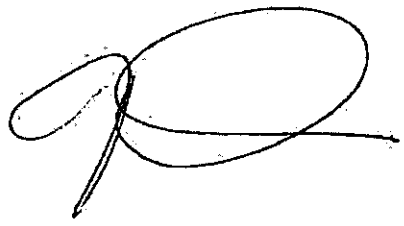
Administrative costs for June were $19,419; year to date they total $98,621. Other work last month included:

- Meetings with the federal lead agency (U.S. Army Corps of Engineers) to discuss how the permitting process would proceed.
- Planning work started on the option of a pipeline extension to the west to potentially serve the Donlin Creek mine.

The work program for July includes detailed review of a potential pipeline route around Denali National Park, completing a draft of the alternative routing analysis, a field trip with key state and federal agency personnel to plan permitting of the project, and starting site selection and analysis for the gas conditioning plant on the North Slope and also for a natural gas liquids extraction plant at tidewater. In addition, we will obtain mapping for a routing study of the pipeline to western Alaska

A long-term natural gas supply is important to Alaska and I appreciate your support as we move forward make this project a success. Please call on me if I can provide any additional information as we work toward answering that one big question for Alaskans.

Sincerely,



Harry Noah
Project Manager
Alaska In-state Natural Gasline

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Governor Sean Parnell
STATE OF ALASKA

August 21, 2009

Members of the Alaska State Legislature
Alaska State Capitol
Juneau, AK 99801-1182

Dear Legislators:

It has been a busy summer month for the team as we work to determine the costs and feasibility of a stand-alone Alaska natural gas pipeline project. Work continues on the route analysis for the gas pipeline from the North Slope, along with engineering work on a possible route for a pipeline extension toward Western Alaska and site selection for a natural gas liquids extraction plant. The engineering work that is currently being done will allow for cost estimates to be derived for any potential pipeline option potentially serving the railbelt area. This would include gas from the Foothills area of the North Slope, the Nenana basin, or Cook Inlet.

I expect to have the first summary report of the alternative route analysis completed by early September, and will promptly send a copy to legislators. The Baker engineering team continues to analyze the capital cost differences, environmental issues, and a number of potential customers for the two routes: from the North Slope to Fairbanks and down the Parks Highway to Southcentral Alaska versus the route to Fairbanks and then along the Richardson Highway over to Delta and down to Glennallen and along the Glenn Highway to Southcentral.

The summary report of the route analysis will not propose a decision but rather will set out the facts for policymakers to use in a future determination of the preferred route.

The current plan is to submit a right-of-way application for both routes in October. The right-of-way applications will go to the Alaska Department of Natural Resources, United States Bureau of Land Management, and the United States Army Corps of Engineers, with the Army Corps expected to serve as the lead federal agency in charge of the environmental impact statement process.

As part of the right-of-way preparations, we held field trips last month with state and federal agency personnel to familiarize everyone with some of the issues that will come up in the right-of-way and environmental impact statement process.

Our work this past month also included more detailed review of a potential pipeline route around Denali National Park to avoid the obvious problems with national park lands. We believe we have identified a possible route outside the park boundary, just east of the Parks Highway. It appears to offer an economic option to running the pipe through the park and the special permission that would be required for such an undertaking. Of course, the route could run along the highway in the park if the National Park Service were to prefer having the pipe closer to its main facilities. This

work is part of the route analysis between the two alternatives for a gas line from the North Slope to connect with the existing Southcentral pipeline system, as there are locational issues specific to each route.

Engineering work is also continuing on a possible extension toward Western Alaska to serve the proposed Donlin Creek mine, just north of the Middle Kuskokwim River village of Crooked Creek, about 280 miles northwest of Anchorage. One possible pipeline route would run from the west side of Cook Inlet to Donlin Creek, and another route under review would connect to the stand-alone pipe just south of Nenana and extend west from there.

The team just started work in July on site review for a possible natural gas liquids plant to extract the heavier gas liquids from the gas stream. The team is looking at sites in Cook Inlet.

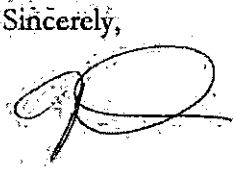
I have enclosed a copy of the stand-alone gas line project action plan, which the team put together in a meeting with engineers, North Slope producers, Southcentral utilities, potential natural gas customers, and others. It provides additional details on our scope of work, our objectives, infrastructure issues, and timelines for the project team's work assignments.

Our expense report is as follows:

> The project spent $321,040 during the month of July and has spent a total of $470,943 year to date.

Thank you for your support in this work. Please call on me if I can provide any additional information, and I will have another update for you in about 30 days.

Sincerely,



Harry Noah
Project Manager
In-state Gas Program

Enclosure

Action Plan for a Feasibility Analysis

of the

STAND-ALONE GAS PROJECT

State of Alaska

ORION*FPI

Baker

4088

ACTION PLAN for a **PREFEASIBILITY STUDY**
of the
STAND-ALONE GAS PROJECT
State of Alaska

SUMMARY

INTRODUCTION

The attached Action Plan was developed by representatives of the State of Alaska, with active participation of representatives of ExxonMobil, BP, ConocoPhillips, Anadarko, Enstar, Fairbanks Gas, Golden Valley Electric, Chugach Electric, Agrium, and Barrick Gold, and with technical support from representatives of Michael Baker Engineering, during a two-day VIP (Value-added Interactive Planning) Session held in the Opportunity Salon of the Embassy Suites in Anchorage on Thursday and Friday, June 18th and 19th, 2009.

The planning session was facilitated and documented by ORION Facilitated Planning Inc.

NAME OF PROJECT

The project is evolving, and a generic working name was selected for the early phases of the project: it will be known on an interim basis as the ***Stand-Alone Gas Project.***

OWNER

For purposes of this workshop, the Owner of the project was identified as the ***State of Alaska***.

OBJECTIVE OF PROJECT

The Owner's objective of the project was established as a desire " - - - for the development of a commercially-viable in-state natural gas system with these embedded characteristics:

- Producers to make a net profit equal to, or greater than, by exporting gas;
- Industrial users to be served at a cost that enables them to be competitive in a world market; and
- To turn the project over to a private developer who will recoup costs and make a profit on the operation of the pipeline."

It was noted that the State considers that it has the authority to be the Developer, if necessary.

OBJECTIVE OF VIP SESSION

The objective of the VIP Session was defined as a need " - - - to develop an action plan for a Prefeasibility Study of the Stand-Alone Gas Project."

ACTION PLAN for a **PREFEASIBILITY STUDY**
of the
STAND-ALONE GAS PROJECT
State of Alaska

SUMMARY

PLANNING TEAM

The Action Plan defined in this document was developed by the planning session participants identified below. The full planning team functioned on an interactive, participative basis, with an Owner-oriented focus. These same participants also wrote the scope descriptions in Section 2 of this document; there, their initials identify the authors of each work package. The corporate affiliation of each participant is indicated by a superscript following his or her name.

Planners		***Areas of Relevant Experience***
Ken Pohle [AK DNR]	KRP	*Mine Eng; Mine Ops Mgt & Admin; Proj Mgt*
Dan Clark [ConocoPhillips]	DMC	*Mech Eng; Nat Gas Processing; O&G Production Mgt*
Kate Lamal [GVEA]	KKL	*Geologist; Economics; Au Mines; Energy Mgt*
Vin Robinson [ENSTAR]	VLR	*Civil Eng; PL Studies & Design PL Projs TAPS*
Robert Wall [ExxonMobil]	RAW	*Mech Eng; Gas Processing & Treatment; Design; Risk Mgt*
Steve Wendt [Agrium]	SMW	*Nitrogen Fertilizer Operations; Proj Mgt*
Mike Metz [Baker Eng]	MCM	*Eng Geol; R&D; Cold Regions O&G Projects*
Keith Meyer [Baker Eng]	KJM	*Pipeline Eng; Nat Gas Transmission; Production Ops*
Ward Whitmore [Baker Eng]	WAW	*Chem Eng; O&G Operations; North Slope; Nat Gas Issues*
Terry Lee [ORION*FPI]	TDL	*Facilitator*

Sponsors		***Areas of Relevant Experience***
Harry Noah [AK DNR]	HAN	*Enviro; Mine Permitting*
John Lau [ENSTAR]	JJL	*Elec Eng; Conoco Eng & Field Mgt; Enstar; Pipeline Projects*
Marty Massey [ExxonMobil]	MWM	*Petroleum Eng; Commercial; Gas Project Marketing*
John Reeves [AK DOT]	JMR	*Business; Valdez Port; Gas Pipelines*
Brad Evans [CHUGACH]	BWE	*Elec Eng; Pipeline Projects; Heavy Const; Utilities Ops & Mtce*
Colleen Starring [ENSTAR]	MCS	*Nat Gas; User Management*
Dan Simpson [Baker Eng]	DGS	*Civil Eng; North Slope Projs; Heavy Civil Projs; Proj Mgt*

Supporters		***Areas of Relevant Experience***
Dave Anderson [Anadarko]	DBA	*Business; Gas Processing & Commercial; AK Gas Markets*
John Denis [BP]	JRD	*Geol; Resource Mgt; Tech Mgt*
Hiten Mehta [BP]	HM	*Chem Eng; MBA; Contract Negotiations; Commercial*
Eduardo Naranjo [ExxonMobil]	EJN	*Bus Admin; Gas Commercial; O&G Operations*
Stan Foo [Barrick]	STF	*Geology; Gold Mine Ops, NV & AK; Donlin Admin*
Dan Britton [Fairbanks Gas]	DWB	*Nat Gas Utilities; Gas & LNG Distribution*
Jerry Gallagher [AK DNR]	JLG	*Geol; Mines; Expl; Govt-Community Relations; Legislative Dir*
Larry Persily [AK]	LP	*O&G Tax Fiscal Issues; AK O&G Policy Issues*

ACTION PLAN for a **PREFEASIBILITY STUDY**
of the
STAND-ALONE GAS PROJECT
State of Alaska

SUMMARY

METHODOLOGY

The VIP process is an interactive, Owner-oriented, high-level planning process that focuses on development of a plan by a designated team to achieve the Owner's objectives for his project or program. The process is guided by an experienced Facilitator who records the aggregate input of the planning team, but does not influence the content, direction or technical viability of the plan.

For this project, the State's Sponsor (identified on the previous page) clearly identified the strategic objective of the project, and then identified the objective of the VIP Session. These objectives, coupled with other basic project information that was developed interactively during the Kickoff Portion of the workshop with the participation and endorsement of the Sponsors, are included in Section 1 of this Action Plan; they provided solid parameters for development of the plan.

The participants then developed their plan to achieve the stated project objectives. First, they developed a logic network that established the work packages and their logic-driven interactions. This part of the process largely ignored the durations of individual activities, and maintained an objective focus on the work process. As a wrap-up step, the participants made a thorough review of the logic network they had created -- they adjusted interactions if necessary and added durations to each of the work packages, remaining consciously objective through this vital phase of the planning process.

The result of the VIP Session was a plan that was developed by the team that, to large extent, will be involved with the execution of the program. This document records their plan to execute a Prefeasibility Study for the Stand-Alone Gas Project.

"COST OF SERVICE"

It was recognized that the phrase "cost of service" is potentially very misleading, that there are three significant and distinctly different components to the cost of gas, and that "cost" is not the same as "price". The participants resolved that the cost of the three components, as used in this study, should be referred to as follows:

- Production Cost
- Treatment & Pipeline Cost
- Distribution (incl Storage) Cost
- Total Cost = the Sum of these three cost elements

ACTION PLAN for a **PREFEASIBILITY STUDY**
of the
STAND-ALONE GAS PROJECT
State of Alaska

SUMMARY

ASSUMPTIONS

Two clarifying assumptions were discussed briefly during the planning session; they are included in this document to provide clarification to the context of this Action Plan:
Assumption #1: the major working assumption was that a stand-alone gas pipeline project would only be constructed if the 48-inch pipeline to the lower 48 states is either delayed from the planned 2019 start-up date, or will not be constructed at all.
Assumption #2: this action plan is focused on defining a cost of service for a stand-alone gas pipeline project. There are other aspects of the In-State gas project work that are not included in this document.

PROJECT DRIVERS

During a focused discussion, each of three groups identified the "drivers" for the project from their unique perspectives:

State of Alaska – wants the pipeline system

- to provide an energy supply to support economic growth;
- to provide a financial opportunity to the State; and
- to provide affordable natural gas service to home-owners.

Producers – want to

- sell all gas at highest possible net-back; and
- sell largest volume of gas possible.

Users – wants vary, depending on the User organization, as follows:

- Agrium: Could re-start its Kenai operations and operate at full capacity, if long-term gas service was available.
- Western Alaska: Residents of western Alaska could be served by a pipeline; the Donlin Creek mining project is one example of a major potential user.
- Utilities: Requires long-term, secure, reliable supply for existing and growing customer base; there is a sense of urgency for secure supply, and the pipeline option appears to be superior to current options.

ACTION PLAN for a **PREFEASIBILITY STUDY**
of the
STAND-ALONE GAS PROJECT
State of Alaska

SUMMARY

POTENTIAL OPPORTUNITIES

Two potentially-significant opportunities to improve the success potential for the project were identified by the participants:

- Develop opportunities to confirm and increase gas volume requirements; and
- Adopt a proactive approach to permitting by the State, to avoid project schedule delays.

POTENTIAL THREATS, RISKS & ISSUES

Six potentially-significant threats, risks or issues were identified and discussed briefly:

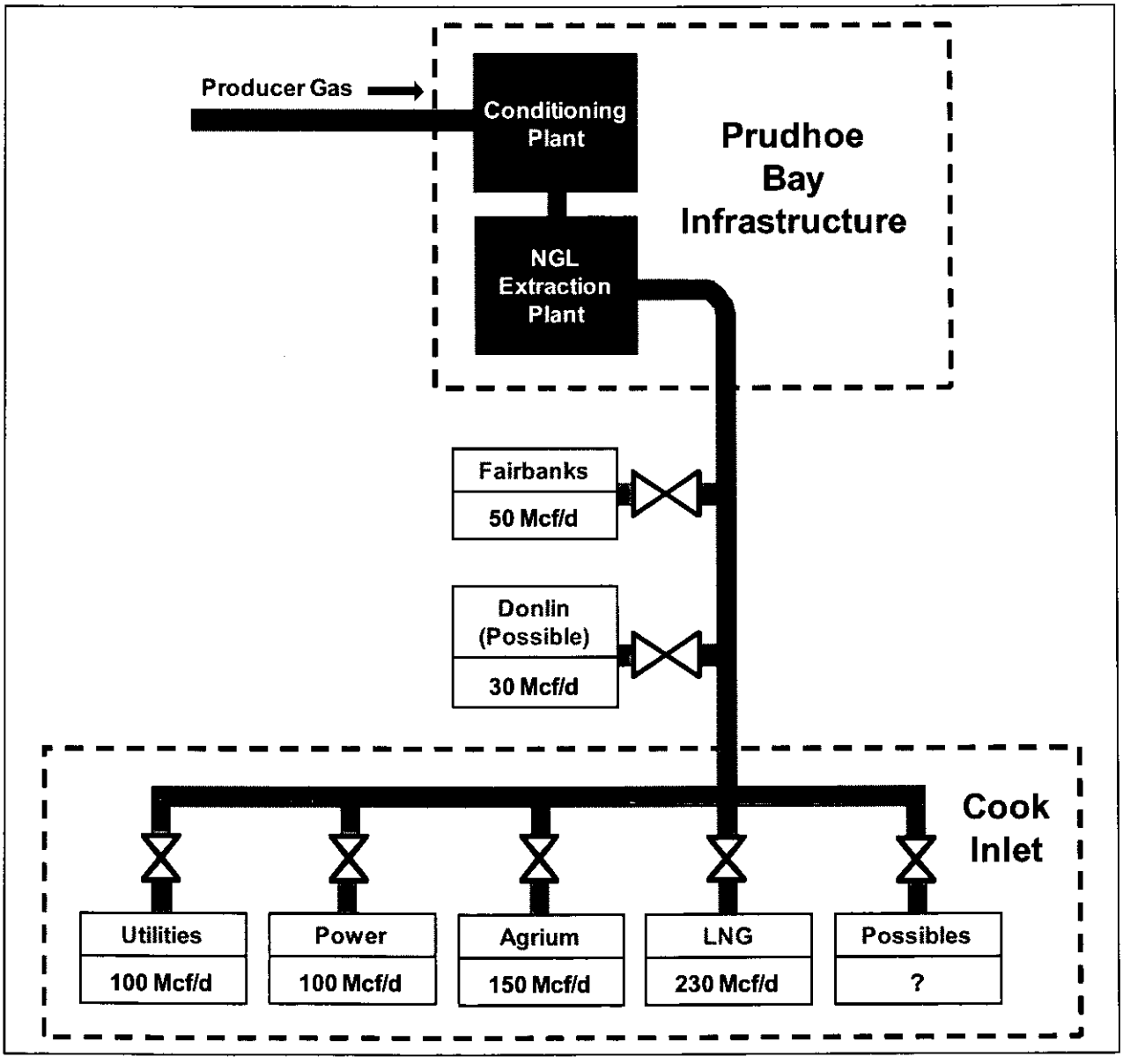
- Ramp-up may be slow, impacting the economics of the project;
- Industrial users (e.g., Agrium) may not commit if schedule is deferred;
- Possible users (e.g., Barrick) may not materialize;
- If the "big line" proceeds, this project would not be viable in the current configuration;
- If a major discovery is made in Cook Inlet, this line would not be necessary; and
- High pricing would threaten the economics of the project.

ACTION PLAN for a **PREFEASIBILITY STUDY**
of the
STAND-ALONE GAS PROJECT
State of Alaska

SUMMARY

REFERENCE CASE

Prior to development of their plan, the participants established a "reference case" to describe the scope of the project in simple graphic format:

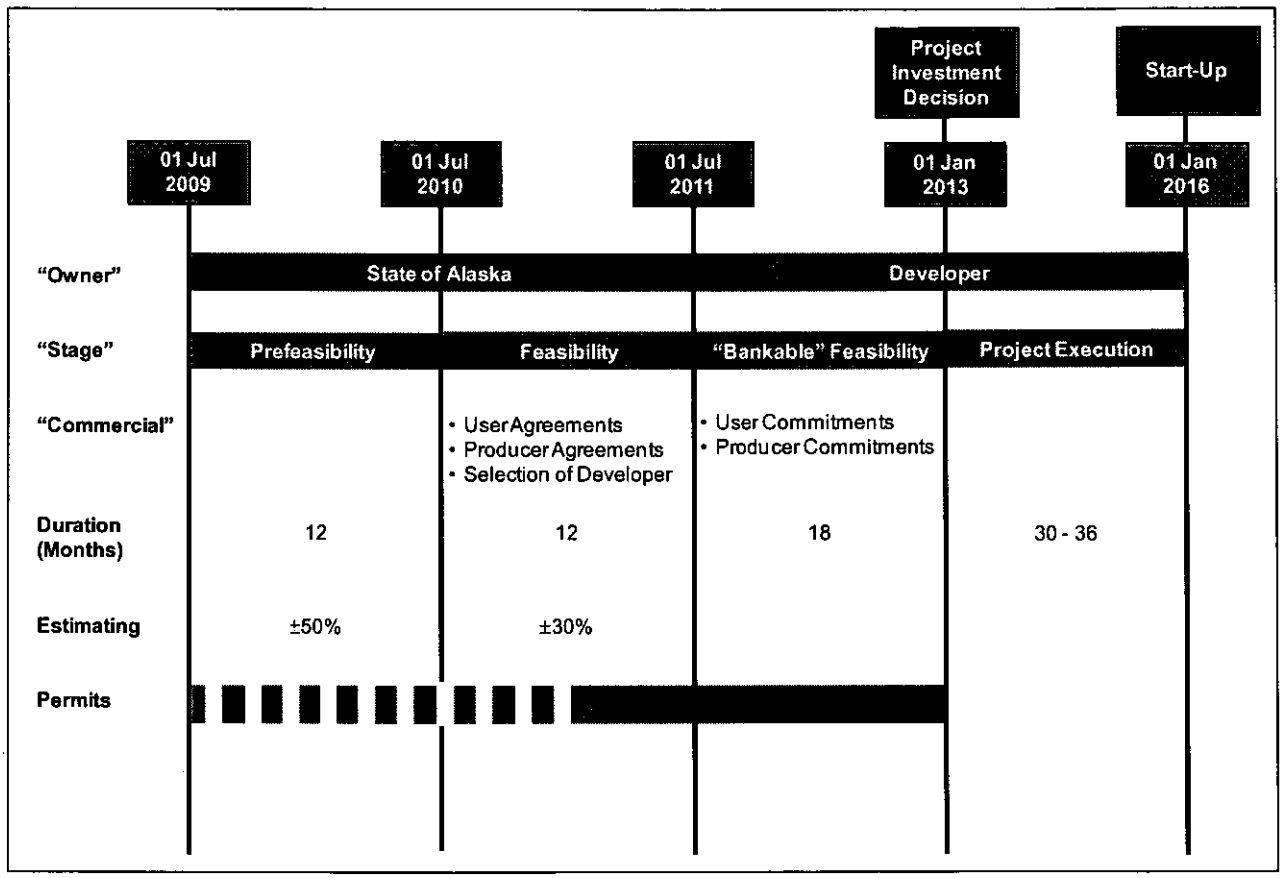


ACTION PLAN for a **PREFEASIBILITY STUDY**
of the
STAND-ALONE GAS PROJECT
State of Alaska

SUMMARY

PROJECT OVERVIEW SCHEDULE

Prior to commencement of planning, the participants developed and reviewed a simple overview schedule of the project, to understand the State's perspective of a possible advancement program for the Stand-Alone Gas Project. The numbers under the bars identify the number of months each activity could require. It is emphasized that this conceptual sketch does not represent a committed program – it was developed simply to provide a vehicle for discussion.



ACTION PLAN for a **PREFEASIBILITY STUDY**
of the
STAND-ALONE GAS PROJECT
State of Alaska

SUMMARY

WORK BREAKDOWN STRUCTURE (WBS)

The Stand-Alone Gas Project has numerous asset or administrative themes. These themes, or Work Areas, were defined by the planning team at the start of the active planning session; they form the primary structure of this action plan:

A	Program Administration
B	Conditioning Plant
C	NGL Plant
D	North Slope Infrastructure
E	Pipeline & Compressors
F	Fairbanks
G	Cook Inlet – Utilities
H	Cook Inlet – Industrial
J	Possible Users
K	Permitting
L	Alternatives

ACTION PLAN for a **PREFEASIBILITY STUDY**
of the
STAND-ALONE GAS PROJECT
State of Alaska

SUMMARY

SCHEDULE CALENDAR

The schedules in this document were prepared using the Primavera software package. They were based on the precedence [logic] network developed during the planning session, and used a start date of June 22nd, 2009

The schedules use one-day time units, with five days per calendar week. No allowances were provided for statutory holidays or vacation periods, apart from a nominal two-week lost time allowance over the Christmas period.

SCHEDULE RESULTS

The as-developed schedule indicated that the Prefeasibility Report would not be finalized and issued until August 18th, 2010 – about two months beyond the milestone date of June 30th, 2010.

The development of a logic network using the VIP process tends to create a schedule that can be reduced by some amount while staying faithful to the content of the workshop and the intent of the participants. In this case, ORION*FPI's Facilitator subsequently made a total of five carefully-considered adjustments to the schedule to enable the Prefeasibility Report to be issued on June 9th. This post-workshop pattern is a normal follow-up to an VIP Session. Only one duration was changed; the balance of the improvement was achieved by creating or extending the "overlaps" between adjacent work packages.

The schedule included in this action plan incorporates these five adjustments:

ITEM	WP – or – RELATIONSHIP	ADJUSTMENT	
		From	To
1	A-08 / A-09	FF15	FF10
2	A-16 / A-17	FF10	FF5
3	E-03 / E-04	FS	SS10
4	E-04	90	70
5	E-04 / A-07	FF10	FF5

SUMMARY

SCHEDULE FORMATS

The ***Prefeasibility Master Schedule*** for the ***Stand-Alone Gas Project*** is presented in this report in three different formats:

- A 2-page tabulation of the work packages which describes the early start and finish dates, the late start and finish dates, the duration, and the total float for each activity; it is included on Pages 3-02 to 3-03 of this report.

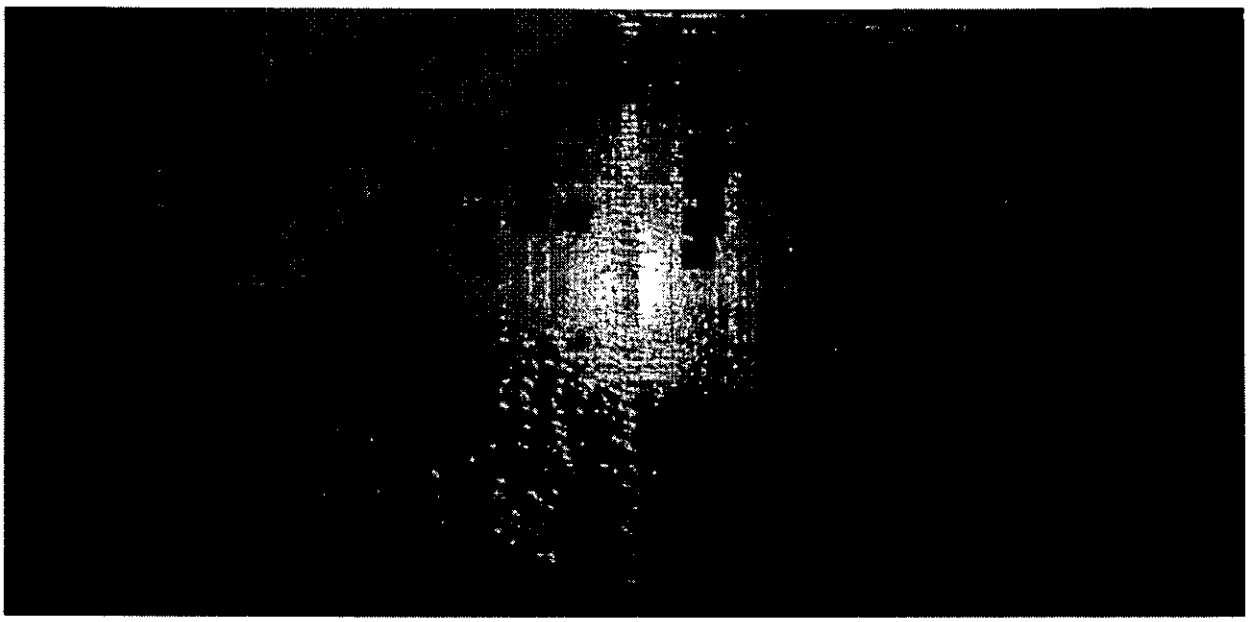
- A 4-page detailed bar chart, in color, of all work packages sorted by program areas. It is a simple and clear presentation of all of the work packages, sorted in the usual early-start, early-finish fashion; it can be found following Page 3-03.

- A large Time-Scaled Logic Diagram of all work packages, grouped by Work Areas. This format is similar to the bar charts above, but it is a large, fold-out version. It is included in a plastic pocket in the back of certain Action Plan reports, flagged by an asterisk (*) behind the names on the Letter of Transmittal.

SUMMARY

PHOTOGRAPH

The following photograph shows the logic network, as developed at the VIP Session – although not legible in this format, it will serve as a visual reminder of shape of the plan.



ACTION PLAN for a **PREFEASIBILITY STUDY**
of the
STAND-ALONE GAS PROJECT
State of Alaska

SCOPE DESCRIPTION

The scope description of each work package on the following pages is brief, but it highlights the essential content and context of the work for each activity. The key persons who attended the planning session also wrote the scope descriptions for the individual work packages. For convenience, the initials of each Planner have been placed adjacent to the scope descriptions which he or she prepared; note that the initials are not intended to imply a responsibility for execution of the work package. The write-ups have been edited by the Facilitator to achieve similarity of format and presentation, and to stay within the context of the VIP Session; in cases where the edits have been significant, the Facilitator's initials have been inserted following those of the primary author.

* * * * *

A PROJECT ADMINISTRATION

A-01 **Develop Project OrChart** (KRP)

An organization chart will be produced to show the relationship of the private and public entities participating in the project.

A-02 **Develop Points of Contact** (KRP)

An individual will be identified within each organization to handle inquiries and determine subordinate participation in the gas project.

A-03 **Develop RASCI Matrix** (KRP)

A grid system (responsibility matrix) will be established assigning roles and responsibilities within the team, bringing structure and clarity to the system, and ensuring everything the team will need to do will be taken care of. The matrix will establish interacting responsibilities regarding deliverables, processes and procedures.

A-04 **Develop Level 2 Schedules** (KJM/TDL)

This action plan includes a Level 1 (or "Master") schedule, and provides an overview of the Prefeasibility program. Level 2 schedules, including significantly more detail, will be developed with continuing reference to the Level 1 schedule, and expected inconsistencies will be rationalized. The product will be a tier of schedules, from the overview-level master schedule to the detailed Level 2 and 3 schedules that will be used to manage the program effectively.

SCOPE DESCRIPTION

A-05 **Develop Project Execution Strategy** (DGS/TDL)

An owner-oriented project execution strategy will be developed to establish the parameters within which the capital project will be implemented. To ensure the project's success, a clear vision of the purpose and objectives will be developed so that the general work activities can be identified. A project organization chart will be developed to manage the resources.

A-06 **Execute Contructability Review** (DGS)

A detailed field review of the route and conceptual plans will be performed by experienced pipeline construction personnel to identify significant factors for consideration such as routing, terrain and geotechnical issues, appropriate construction techniques and materials, logistical constraints, and cost saving measures. The proposed construction schedule will be analyzed for feasibility and significant risk factors will be identified. A similar process will address the construction of the conditioning plant and the NGL extraction plant at the north end of the pipeline, and the gas compressor stations. The results of the reviews will be fed forward into the design process.

A-07 **Develop Project Execution Plan** (DGS/TDL)

A number of detailed project execution plan components will be developed to define the execution phase of the project. Level 2 EPCM schedules will be prepared for the capital program. Critical assumptions and constraints will be identified. Quality assurance and quality control procedures will be documented. A Safety Plan will identify proper field conduct and procedures. These elements will support the development of the Basis of Estimates.

A-08 **Develop Logistics Plan** (DGS)

A Logistics Plan will be developed for the project. It will provide a time and spatial reference addressing the major elements of material and personnel transportation for the project. In conjunction with the construction schedule, likely material sources will be identified and matched with transportation modes such as air, shipping, railroads, and trucking – and perhaps sea-lifts for the facilities on the north slope. Camp and material storage locations and capacities will be identified. Water and fuel requirements will be estimated. Other material preparation or handling sites such as pipe coating and double jointing yards will be located. This plan will form the basis of transportation costs for the construction cost estimate.

SCOPE DESCRIPTION

A-09 **Establish Basis of Estimates** (DGS)

All relevant information for the pipeline, compressor stations and the conditioning plant/NGL extraction plant will be assembled and the unit costs required for the project construction cost estimate will be documented. Prevailing union labor rates and equipment rental rates will be collected. An estimating system will be set up for manpower by craft, equipment by units, fuel consumption, consumables and supplies. A crew-up type estimating system will be assembled to factor union labor rates and fringes, equipment rental rates, equipment operation and maintenance costs, cost of supplies/consumables, small tools mark-up system, applicable payroll taxes, and insurance and personnel per diem cost. Collectively, these elements will establish the basis for estimating the direct and indirect costs of the project by work area.

A-10 **Assemble Cost Estimates** (DGS)

Using the prefeasibility-level project description, unit quantities will have been determined and construction cost estimates will be prepared for the Gas Treatment Plant, the NGL Extraction Facility, and the pipeline system. Ideally, two estimates for each facility will have been prepared for comparison purposes. Conflicts will be reconciled and GTP and NGL costs will be compiled with pipeline costs into one package. The estimates that were developed by work area will be assembled and reviewed to avoid gaps and overlaps.

A-11 **Establish Commercial Parameters** (EJN)

A listing of pipeline commercial parameters will be developed including return on investment, debt-equity ratio, depreciation methodology, financing costs, pipeline access terms, and methods for allocation of cost overruns. To develop these parameters, a comparison to other pipelines will be established for relevant benchmarks. The overall return of the pipeline investment will be assessed to ensure the pipeline investment can be financed.

A-12 **Estimate Reference Project Cost** (DGS)

The "reference project" has been defined as a no-frills baseline (see sketch on Page 1-06). The project cost will be calculated from the sum of the component costs (design costs, owner-supplied long-lead time items, infrastructure development, project management, quality assurance, contingency, construction, environmental restoration and as-built costs).

SCOPE DESCRIPTION

A-13 **Execute Reference Project Cost Reviews** (KJM)

An interactive workshop will be prepared for review of the capital costs developed for the reference case. The workshop participants will have a background in developing detailed greenfield pipeline and related facility cost estimates. The workshop will have the unit cost basis of estimate, the work breakdown, crew development, as well as related production factors. As appropriate, the information will be compared and calibrated against other project cost estimates and/or relevant cost estimate items. A similar review will be conducted for evaluation of the operational costs.

A-14 **Execute Reference Project Commercial Reviews** (EJN)

An expert review of commercial terms will be performed to assess if the commercial parameters selected are appropriate. An estimation of the gas treatment and pipeline costs will be presented at this review.

A-15 **Develop Project Scenario Matrix** (KJM)

Using developed information from prior work tasks, the relevant project data and completed costs will be assembled into a scenario matrix that will succinctly describe the base elements of the project, especially as they relate to the cost of service of the project. A narrative description of significant items in the completed matrix will be developed with reference to reports that further explain these differences, especially as these items may affect the cost of service.

A-16 **Develop Alternate Scenario Cost Estimates** (KJM)

Using the same format as for the reference case, the completed information for the studied alternatives will be assembled into an analogous matrix. Along with this, a narrative description of significant differences in the completed matrix will be developed with reference to reports that will further explain these differences.

A-17 **Develop Draft Prefeasibility Report** (KJM)

The information from work tasks will be compiled into a draft prefeasibility report on an evolutionary basis throughout the study period. The report will reference completed prior reports as appropriate and summarize the findings. It will explain the matrix for comparison of the reference and alternate scenarios and will outline the significant conclusions.

A-18 **Review Draft Prefeasibility Report** (KJM)

A review of the draft prefeasibility report will be completed by the entire Working Group as well as interested personnel in the Client Group. The comments and edits will be assembled in a spreadsheet with resolution of each item noted.

SCOPE DESCRIPTION

A-19 **Finalize & Issue Prefeasibility Report** (KJM)

As appropriate, the developed actions from the review of the draft report will be incorporated into the final document. The report will be attributed with appropriate project description as a contract deliverable and prepared for further distribution as a paper report and an electronic version.

SCOPE DESCRIPTION

B CONDITIONING PLANT

B-01 Develop Conditioning Design Basis (WAW)

A design basis will be developed to describe major components of a Gas Conditioning Plant to remove carbon dioxide, hydrogen sulfide and water from source gas and deliver it to the inlet of the NGL Extraction Plant on the North Slope per the reference case scenario. Flow rates and compositions of all GCP sources, products and by-products will be identified. Applicable codes and standards will be identified. Facilities and supporting infrastructure will be described to a level only as required to support project permitting and cost estimation.

B-02 Develop Conditioning Plant Specifications (WAW)

Specifications for major components of the Gas Conditioning Plant will be developed from information in the GCP design basis. Specifications will be developed in conjunction with cost estimation and project permitting only to the detail required to support these activities. Specifications will include a block flow diagram and process flow diagram with overall material balance including fuel. A preliminary site plan showing connections to existing infrastructure will be developed. A preliminary design will not be done, but a. preliminary module layout will be developed.

B-03 Estimate Conditioning Plant Costs (WAW)

A +/- 50% capital cost estimate, with a corresponding non-fuel operating cost estimate, will be developed for the Gas Conditioning Plant based upon GCP specifications. Capital costs will be based on use of modules typical of North Slope construction and will include module transport to the site.

SCOPE DESCRIPTION

C NGL EXTRACTION

C-01 Establish NGL Extraction Design Basis (WAW)

A design basis will be developed to describe major components of the NGL Extraction Plant to be located immediately downstream of the Gas Conditioning Plant on the North Slope per the reference case. The design basis will include all facilities necessary to deliver compressed and chilled utility grade natural gas to the pipeline inlet. Flow rates and compositions of all feed, product, and by-product streams will be identified. Applicable codes and standards will be identified. Facilities and supporting infrastructure will be described to a level only as required to support project permitting and cost estimation.

C-02 Develop NGL Extraction Specifications (WAW)

Specifications for major components of the NGL Extraction Plant will be developed from information in the NGL plant design basis. Specifications will be developed in conjunction with cost estimation and project permitting only to the detail required to support these activities. Specifications will include a block flow diagram and process flow diagram with overall material balance including fuel. A rough site plan showing module layout and connections to existing infrastructure will be developed. A preliminary design will not be done.

C-03 Estimate NGL Extraction Costs (WAW)

A ±50% capital cost estimate with corresponding non-fuel operating cost estimate will be developed for the NGL Extraction Plant based upon NGL Plant specifications. Capital costs will be based on use of modules typical of North Slope construction and will include module transport to the site.

SCOPE DESCRIPTION

D NORTH SLOPE INFRASTRUCTURE

D-01 Develop North Slope Infrastructure Design Basis (DGS)

A design basis will be developed for the north slope infrastructure that will be associated with the conditioning plant and the NGL extraction plant. It will follow standard practice for BP operations near the existing gas handling facilities. A review of these design standards will be performed in consultation with BP.

D-02 Develop North Slope Infrastructure Concepts (DGS)

Infrastructure design will support the main GTP and NGL Extraction Facility complex and will be dependent on the layout of those facilities. Features that will drive the design include main and injection pipeline routing, access to the road system and power grid, proximity to existing facilities, and permitting issues. Photogrammetric level mapping will be required for the layouts. The conceptual design process will be iterative and may require several cycles and several concepts to settle the design. A basic cost estimate will be developed to aid in decision making, but the main facility cost will overshadow infrastructure cost.

D-03 Develop North Slope Infrastructure Design (DGS)

Prefeasibility-level design efforts will involve a modest improvement of the conceptual level design. Some local, up-to-date as-builts may be required to determine tie-in points of existing facilities. Plans will be developed to the level necessary to determine quantity takeoffs.

D-04 Estimate North Slope Infrastructure Costs (DGS)

For the associated pipelines, pads, roads, injection wells, power generation, and other necessary infrastructure facilities, relevant unit quantities will be determined and tabulated. Capital and operating costs will be calculated on a unit cost basis from historical cost databases for the North Slope.

SCOPE DESCRIPTION

E PIPELINE & COMPRESSORS

E-01 **Develop Gas Market Projection** (JJL)

A gas-needs market projection will be prepared for use in sizing the Alaska Stand-Alone Gas Pipeline. Information from this summary will be used to determine the throughput and ramp-up requirements of the system. In general, the pipeline throughput will be the difference between the estimated market projections (Fairbanks/Interior AK, Cook Inlet Utilities, LNG-Nikiski, Agrium-Nikiski, and other potential prospects) and existing gas contracts for Cook Inlet area gas, projected annually over the life of the pipeline. One key assumption is that annual usage will be normalized across each year through storage adequate to address peak usage and backup supply needs.

E-02 **Establish Reference Flow Rate** (WAW)

A schedule of annual pipeline flow rates for the reference case will be developed for use in pipeline hydraulic simulations and specification of attendant gas handling facilities. Annual pipeline flow will be estimated as the difference between projected Cook Inlet demand and supply, both of which will be developed via other items in the Action Plan. Annual flows will be expressed in volumetric and thermal (BTU) rates to allow adjustment based on pipeline gas heating value. Reference case flow will include gas to Fairbanks.

E-03 **Establish Pipeline Design Basis** (MCM)

A pipeline design basis will be established for a reference case from Prudhoe Bay to Cook Inlet. The basis for design will address the basic criteria and general guidelines under which the gas pipeline will be designed and constructed. The document will include average daily gas flow rate, pipe diameter, operating pressure, grade of steel, compressor and metering facilities, routing criteria, environmental data, hydrologic data, geotechnical data, construction and operational philosophy, construction scheduling and seasonal constraints. Additionally, the design basis will include a listing of applicable regulations, codes, and standards.

SCOPE DESCRIPTION

E-04 **Design Pipeline System** (MCM)

The pipeline conceptual design will utilize the pipeline design basis to complete a mile-by-mile conceptual design for input to a +/- 30% defensible cost estimate. The pipeline design will be based on terrain unit/landform mapping, permafrost mapping, digital elevation model, longitudinal slopes, cross slopes, and other derived data. The mile-by-mile design will be summarized to include compressor station locations, recommended construction season, anticipated soil and thermal conditions, pressure profile, temperature profile, ditch type, erosion control, civil grading requirements and quantities, material sites, temporary facilities sites, river crossings, road crossings, facility crossings, and an assessment of geohazards. The format of the final document will be coordinated with the pipeline cost estimate team, but will include alignment sheets and design segment summary.

E-05 **Estimate Pipeline System Costs** (MCM)

A prefeasibility level cost estimate will be developed using the mile-by-mile pipeline design. The pipeline design will be provided as alignment sheets and in a spreadsheet format to facilitate the development of a defensible cost estimate. The cost estimate format will be itemized and as a crewed-up estimate.

SCOPE DESCRIPTION

F FAIRBANKS

F-01 Develop Fairbanks & Interior Projection (JJL)

A summary of the expected gas use for Fairbanks and interior Alaska will be assembled to be used for input to the overall gas needs for the Alaska Stand-Alone Gas Pipeline. Estimation of loads for the Fairbanks area will be based on quantities provided directly from the Fairbanks area utilities (Fairbanks Natural Gas, Golden Valley Electric Association, University of Alaska Fairbanks, and the local military bases), a study of the potential gas customers along each potential pipeline corridor (Parks Highway and Richardson/Glenn Highway), and work that has been compiled by Northern Economics. Information from this projection will feed into the overall market projection for the project.

SCOPE DESCRIPTION

G COOK INLET - UTILITIES

G-01 Develop Cook Inlet Utilities Projection (JJL)

A summary of the expected gas use in the Cook Inlet area will be prepared for use in estimating the overall gas needs for the Alaska Stand-Alone Gas Pipeline. This summary will include demand projections that have been assembled from ENSTAR and the local power utilities (Matanuska Electric Association, Chugach Electric Association, Municipal Light and Power, and Homer Electric Association). Information from this projection will feed into the overall market projection for the project.

SCOPE DESCRIPTION

H COOK INLET - INDUSTRIAL

H-01 Establish Projection Criteria (JJL)

Criteria will be established to use as a guideline when projecting the gas requirements for areas where gas service will be provided from the proposed Alaska Stand-Alone Gas Pipeline. The criteria will establish the assumed user growth rates as well as a build-out schedule. Assumptions are that the gas storage necessary to allow utility loads to be consistent throughout the year will be in place.

H-02 Develop Agrium Projection (SMW)

A preliminary plan will be developed that will establishe baseline projections for gas usage at the Agrium's Kenai Nitrogen Operations facility. The plan will include daily as well as annual projections and corresponding delivery schedules.

H-03 Develop LNG Export Projection (DMC)

The potential capacity of the LNG Plant that could be available beginning in the 2016 timeframe will be determined. It will be assumed that the LNG Plant could take supplies from either the pipeline from the North Slope or Cook Inlet area fields. The described capacity will reflect what could be achieved assuming that necessary investments are made and customer support through appropriate commercial arrangements.

H-04 Develop Cook Inlet Supply Projection (JJL)

A summary of Cook Inlet gas reserves will be assembled for use in the determination of gas needs for south-central and interior Alaska. Data will be first compiled from current reserve information sources. Second, future supply/reserve projections will be developed by assigning a probability to geotechnical estimates. This information will be used to help determine the gas flow ramp-up for the Alaska Stand-Alone Gas Pipeline.

SCOPE DESCRIPTION

J POSSIBLE USERS

J-01 **Develop Possible Users Projection** (KRP)

Possible major natural gas users not already active in the Stand-Alone Gas Project will be identified. The associated gas specifications and projected annual consumption will be determined. Possible delivery methods and infrastructure needed to deliver the gas will be identified. It is anticipated this data will be used for inclusion in a ramp-up schedule for the pipeline under the future possibility category.

SCOPE DESCRIPTION

K PERMITTING

K-01 **Execute Alternative Routing Analysis** (HAN)

There are two major pipeline route alternatives south of Fairbanks, following either the Richardson Highway or the Parks Highway. An alternative routing analysis will compare the capital costs, people served, and potential environmental impacts of each route and a report will be produced.

K-02 **Define Alternatives** (HAN)

A specific report along with drawings will be produced to identify localized routing options. Those areas include the Minto Flats area, Denaili Park area and Sheep Mountain. The best route option will be determined.

K-03 **Establish Reference Project Footprint** (HAN)

A pipeline corridor will be established from Prudhoe Bay to the Cook Inlet. This corridor will be 2500 ft wide and will include both major pipeline route alternatives. Support facilities such as compressor stations, construction camps, and lay-down areas will be described but not specifically sited.

K-04 **Develop Project Description** (HAN)

A permitting level project description will be prepared to present an overview of the project including alternatives considered and rejected, pipeline routing, and general description of support facilities needed to operate the pipeline. In addition, this document will describe the general approach to construction and it will include a schedule.

K-05 **Develop Regulatory & Environmental Strategy** (HAN)

A report outlining the Permitting Plan for the project will be produced. The key element will be the role of the FERC. The second major issue will be the level of detail needed for information during the EIS process.

K-06 **Request FERC Jurisdictional Determination** (HAN)

A formal request will be made to the FERC to define their jurisdiction.

K-07 **Obtain EIS Memorandum of Understanding** (HAN)

A MOU will be written between the Federal lead agency and the applicant. The MOU will define how the permit process will be managed, the schedule, and how the other Federal and State agencies will be involved in the process.

SCOPE DESCRIPTION

K-08 **Execute EIS Process** (HAN)

The EIS process will include scoping, preparation of a draft and final EIS, and a record of the decision.

K-09 **Estimate Enviro-Permitting Costs** (KRP)

The scope of major environmental permitting activities will be established according to the outcome of FERC versus RCA determination. Ongoing environmental tasks required for permit maintenance during the operating phase of the pipe line will be identified. The level of project decommissioning for final close-out will be described. Estimates will be prepared for the initial permitting for capital cost purposes, the ongoing environmental costs for operating cost purposes, and the closure costs. The level of precision will be the same as the Stand-Alone Gas Project Report. The estimates will be included in the capital estimates.

SCOPE DESCRIPTION

L ALTERNATIVES

L-01 **Develop Liquid Demand Forecast** (MWM)

A liquid demand forecast will be developed that will describe a most likely 30-year outlook for in-State liquid and export opportunities. The forecast will include high-side and low-side outlooks based on existing demand and the probability of additional demand developing. The liquid forecast will also consider the potential location of each potential demand.

L-02 **Develop Alternate Gas Market Projections** (DMC)

A projection of possible markets in which to place ethane will be determined based on the potential volumes that could be supplied by the Stand-Alone Gas Project. Both domestic and export markets will be considered. Existing methane markets will be investigated as to their ability to take this heavier hydrocarbon component.

L-03 **Develop Alternate Project Scenarios** (WAW)

Alternate project scenarios to the reference case will be developed in conjunction with the Commercial Team with the goal of enhancing project viability. Alternates will address gas markets and potentially new gas supplies in the interior of Alaska as well as transport of North Slope NGL if this becomes available in the future. Overall project material balances will be developed for alternate scenarios. Capital and operating costs for alternate scenarios will be factored from capital costs developed for the reference case. New facility capital and operating costs will be developed if alternatives differ significantly from the reference case.

SCHEDULE

SCHEDULE FORMATS

The ***Prefeasibility Master Schedule*** for the ***Stand-Alone Gas Project*** is presented in this report in three different formats:

- A 2-page tabulation of the work packages which describes the early start and finish dates, the late start and finish dates, the duration, and the total float for each activity; it is included on Pages 3-02 to 3-03 of this report.

- A 4-page detailed bar chart, in color, of all work packages sorted by program areas. It is a simple and clear presentation of all of the work packages, sorted in the usual early-start, early-finish fashion; it can be found following Page 3-03.

- A large Time-Scaled Logic Diagram of all work packages, grouped by Work Areas. This format is similar to the bar charts above, but it is a large, fold-out version. It is included in a plastic pocket in the back of certain Action Plan reports, flagged by an asterisk (*) behind the names on the Letter of Transmittal.

ACTION PLAN for a **PREFEASIBILITY STUDY**
of the
STAND-ALONE GAS PROJECT
State of Alaska

SCHEDULE

Activity ID	Activity Description	Early Start	Early Finish	Late Start	Late Finish	Original Duration	Total Float
A	**PROJECT ADMINISTRATION**						
A-01	Develop Project OrChart	22-Jun-09	03-Jul-09	22-Jun-09	03-Jul-09	10	0
A-02	Develop Points of Contact	22-Jun-09	03-Jul-09	22-Jun-09	03-Jul-09	10	0
A-03	Develop RASCI Matrix	29-Jun-09	17-Jul-09	29-Jun-09	17-Jul-09	15	0
A-04	Develop Level 2 Schedules	22-Jun-09	03-Jul-09	22-Jun-09	03-Jul-09	10	0
A-05	Develop Project Execution Strategy	22-Jun-09	24-Jul-09	01-Oct-09	04-Nov-09	25	73
A-06	Execute Contructability Review	22-Jun-09	14-Aug-09	17-Sep-09	11-Nov-09	40	63
A-07	Develop Project Execution Plan	05-Nov-09	09-Dec-09	05-Nov-09	09-Dec-09	25	0
A-08	Develop Logistics Plan	24-Sep-09	16-Dec-09	24-Sep-09	16-Dec-09	60	0
A-09	Establish Basis of Estimates	19-Nov-09	13-Jan-10	19-Nov-09	13-Jan-10	30	0
A-10	Assemble Cost Estimates	25-Feb-10	10-Mar-10	25-Feb-10	10-Mar-10	10	0
A-11	Establish Commercial Parameters	22-Jun-09	17-Jul-09	11-Feb-10	10-Mar-10	20	158
A-12	Estimate Reference Project Cost	11-Mar-10	24-Mar-10	11-Mar-10	24-Mar-10	10	0
A-13	Execute Reference Project Cost Reviews	25-Mar-10	31-Mar-10	25-Mar-10	31-Mar-10	5	0
A-14	Execute Reference Project Commercial Reviews	25-Mar-10	31-Mar-10	25-Mar-10	31-Mar-10	5	0
A-15	Develop Project Scenario Matrix	01-Apr-10	21-Apr-10	01-Apr-10	21-Apr-10	15	0
A-16	Develop Alternate Scenario Cost Estimates	22-Apr-10	05-May-10	22-Apr-10	05-May-10	10	0
A-17	Develop Draft Prefeasibility Report	04-Feb-10	12-May-10	04-Feb-10	12-May-10	70	0
A-18	Review Draft Prefeasibility Report	13-May-10	26-May-10	13-May-10	26-May-10	10	0
A-19	Finalize & Issue Prefeasibility Report	27-May-10	09-Jun-10	27-May-10	09-Jun-10	10	0
B	**CONDITIONING PLANT**						
B-01	Develop Conditioning Design Basis	13-Aug-09	26-Aug-09	10-Sep-09	23-Sep-09	10	20
B-02	Develop Conditioning Plant Specifications	27-Aug-09	23-Sep-09	29-Oct-09	25-Nov-09	20	45
B-03	Estimate Conditioning Plant Costs	14-Jan-10	24-Feb-10	14-Jan-10	24-Feb-10	30	0
C	**NGL EXTRACTION**						
C-01	Establish NGL Extraction Design Basis	13-Aug-09	26-Aug-09	10-Sep-09	23-Sep-09	10	20
C-02	Develop NGL Extraction Specifications	27-Aug-09	23-Sep-09	29-Oct-09	25-Nov-09	20	45
C-03	Estimate NGL Extraction Costs	14-Jan-10	24-Feb-10	14-Jan-10	24-Feb-10	30	0
D	**NORTH SLOPE INFRASTRUCTURE**						
D-01	Develop North Slope Infrastructure Design Basis	16-Jul-09	09-Sep-09	13-Aug-09	07-Oct-09	40	20
D-02	Develop North Slope Infrastructure Concepts	10-Sep-09	07-Oct-09	08-Oct-09	04-Nov-09	20	20
D-03	Develop North Slope Infrastructure Design	17-Sep-09	28-Oct-09	15-Oct-09	25-Nov-09	30	20
D-04	Estimate North Slope Infrastructure Costs	14-Jan-10	24-Feb-10	14-Jan-10	24-Feb-10	30	0
E	**PIPELINE & COMPRESSORS**						
E-01	Develop Gas Market Projection	02-Jul-09	15-Jul-09	02-Jul-09	15-Jul-09	10	0
E-02	Establish Reference Flow Rate	16-Jul-09	12-Aug-09	16-Jul-09	12-Aug-09	20	0
E-03	Establish Pipeline Design Basis	13-Aug-09	16-Sep-09	13-Aug-09	16-Sep-09	25	0
E-04	Design Pipeline System	27-Aug-09	02-Dec-09	27-Aug-09	02-Dec-09	70	0
E-05	Estimate Pipeline System Costs	14-Jan-10	10-Feb-10	28-Jan-10	24-Feb-10	20	10

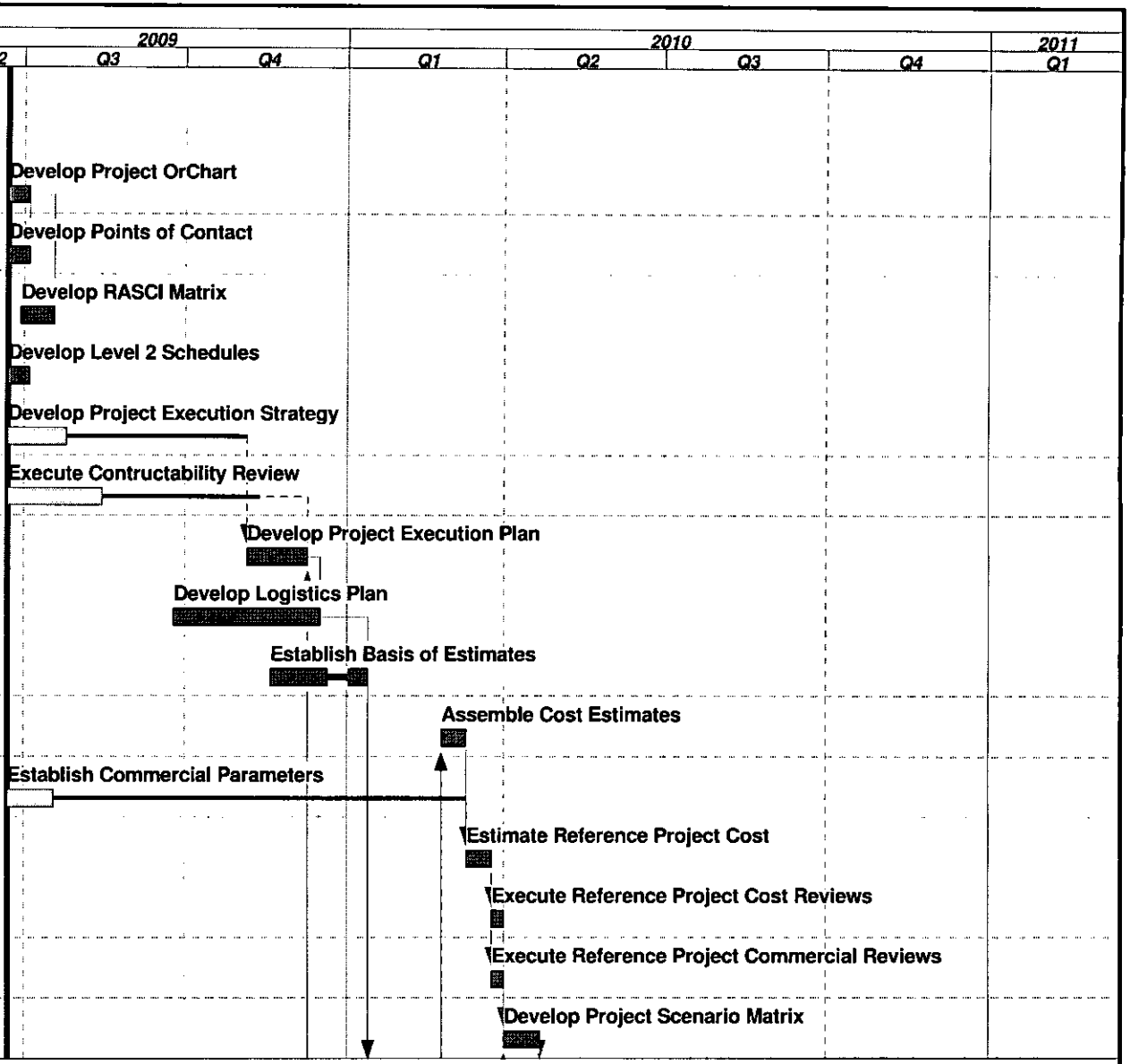
ACTION PLAN for a **PREFEASIBILITY STUDY**
of the
STAND-ALONE GAS PROJECT
State of Alaska

SCHEDULE

Activity ID	Activity Description	Early Start	Early Finish	Late Start	Late Finish	Original Duration	Total Float
F	**FAIRBANKS**						
F-01	Develop Fairbanks & Interior Projection	06-Jul-09	08-Jul-09	06-Jul-09	08-Jul-09	3	0
G	**COOK INLET -- UTILITIES**						
G-01	Develop Cook Inlet Utilities Projection	06-Jul-09	08-Jul-09	06-Jul-09	08-Jul-09	3	0
H	**COOK INLET -- INDUSTRIAL**						
H-01	Establish Projection Criteria	22-Jun-09	03-Jul-09	22-Jun-09	03-Jul-09	10	0
H-02	Develop Agrium Projection	06-Jul-09	08-Jul-09	06-Jul-09	08-Jul-09	3	0
H-03	Develop LNG Export Projection	06-Jul-09	08-Jul-09	06-Jul-09	08-Jul-09	3	0
H-04	Develop Cook Inlet Supply Projection	06-Jul-09	08-Jul-09	06-Jul-09	08-Jul-09	3	0
J	**POSSIBLE USERS**						
J-01	Develop Possible Users Projection	06-Jul-09	08-Jul-09	06-Jul-09	08-Jul-09	3	0
K	**PERMITTING**						
K-01	Execute Alternative Routing Analysis	22-Jun-09	14-Aug-09	26-Oct-09	18-Dec-09	40	90
K-02	Define Alternatives	22-Jun-09	17-Jul-09	23-Nov-09	18-Dec-09	20	110
K-03	Establish Reference Project Footprint	22-Jun-09	14-Aug-09	26-Oct-09	18-Dec-09	40	90
K-04	Develop Project Description	26-Oct-09	29-Jan-10	26-Oct-09	29-Jan-10	60	0
K-05	Develop Regulatory & Environmental Strategy	22-Jun-09	14-Aug-09	21-Sep-09	13-Nov-09	40	65
K-06	Request FERC Jurisditional Determination	20-Jul-09	09-Oct-09	19-Oct-09	22-Jan-10	60	65
K-07	Obtain EIS Memorandum of Understanding	21-Sep-09	16-Oct-09	04-Jan-10	29-Jan-10	20	65
K-08	Execute EIS Process	01-Feb-10	28-Jan-11	01-Feb-10	28-Jan-11	250	0
K-09	Estimate Enviro-Permitting Costs	14-Jan-10	10-Feb-10	28-Jan-10	24-Feb-10	20	10
L	**ALTERNATIVES**						
L-01	Develop Liquid Demand Forecast	22-Jun-09	11-Sep-09	22-Jun-09	11-Sep-09	60	0
L-02	Develop Alternate Gas Market Projections	14-Sep-09	09-Oct-09	14-Sep-09	09-Oct-09	20	0
L-03	Develop Alternate Project Scenarios	12-Oct-09	18-Dec-09	12-Oct-09	18-Dec-09	50	0

4120

Activity ID	Orig Dur	Early Start	Early Finish	Total Float
STAND-ALONE GAS PROJECT				
A PROJECT ADMINISTRATION				
A-01	10	22JUN09	03JUL09	0
A-02	10	22JUN09	03JUL09	0
A-03	15	29JUN09	17JUL09	0
A-04	10	22JUN09	03JUL09	0
A-05	25	22JUN09	24JUL09	73
A-06	40	22JUN09	14AUG09	63
A-07	25	05NOV09	09DEC09	0
A-08	60	24SEP09	16DEC09	0
A-09	30	19NOV09	13JAN10	0
A-10	10	25FEB10	10MAR10	0
A-11	20	22JUN09	17JUL09	158
A-12	10	11MAR10	24MAR10	0
A-13	5	25MAR10	31MAR10	0
A-14	5	25MAR10	31MAR10	0
A-15	15	01APR10	21APR10	0



Start Date 22JUN09
Finish Date 28JAN11
Data Date 22JUN09
Run Date 25JUN09 08:55

Early Bar
Float Bar
Progress Bar
Critical Activity

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STA2 Sheet 1 of 4

STAND-ALONE GAS PROJECT

State of Alaska

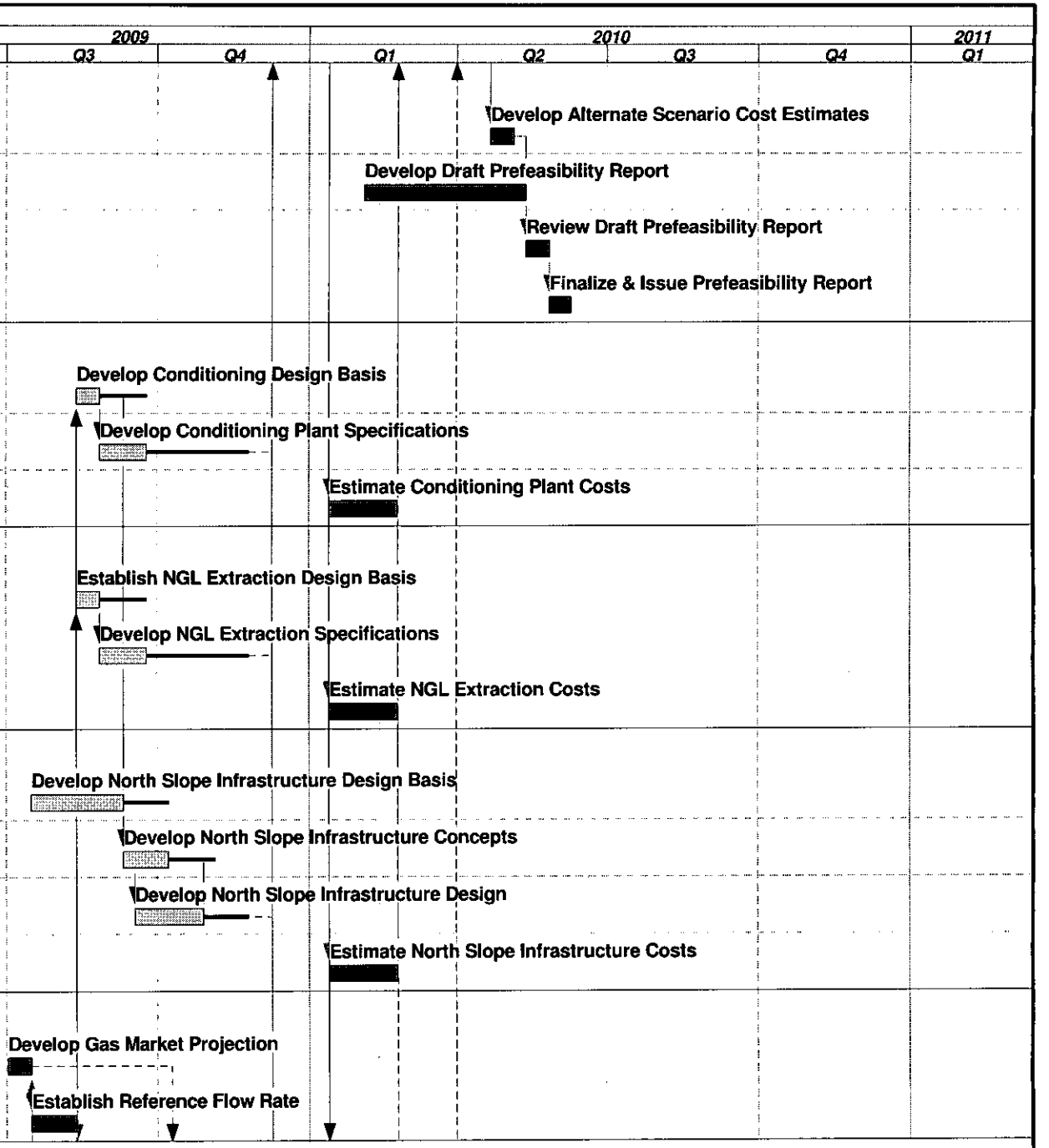
PREFEASIBILITY MASTER SCHEDULE

Baker

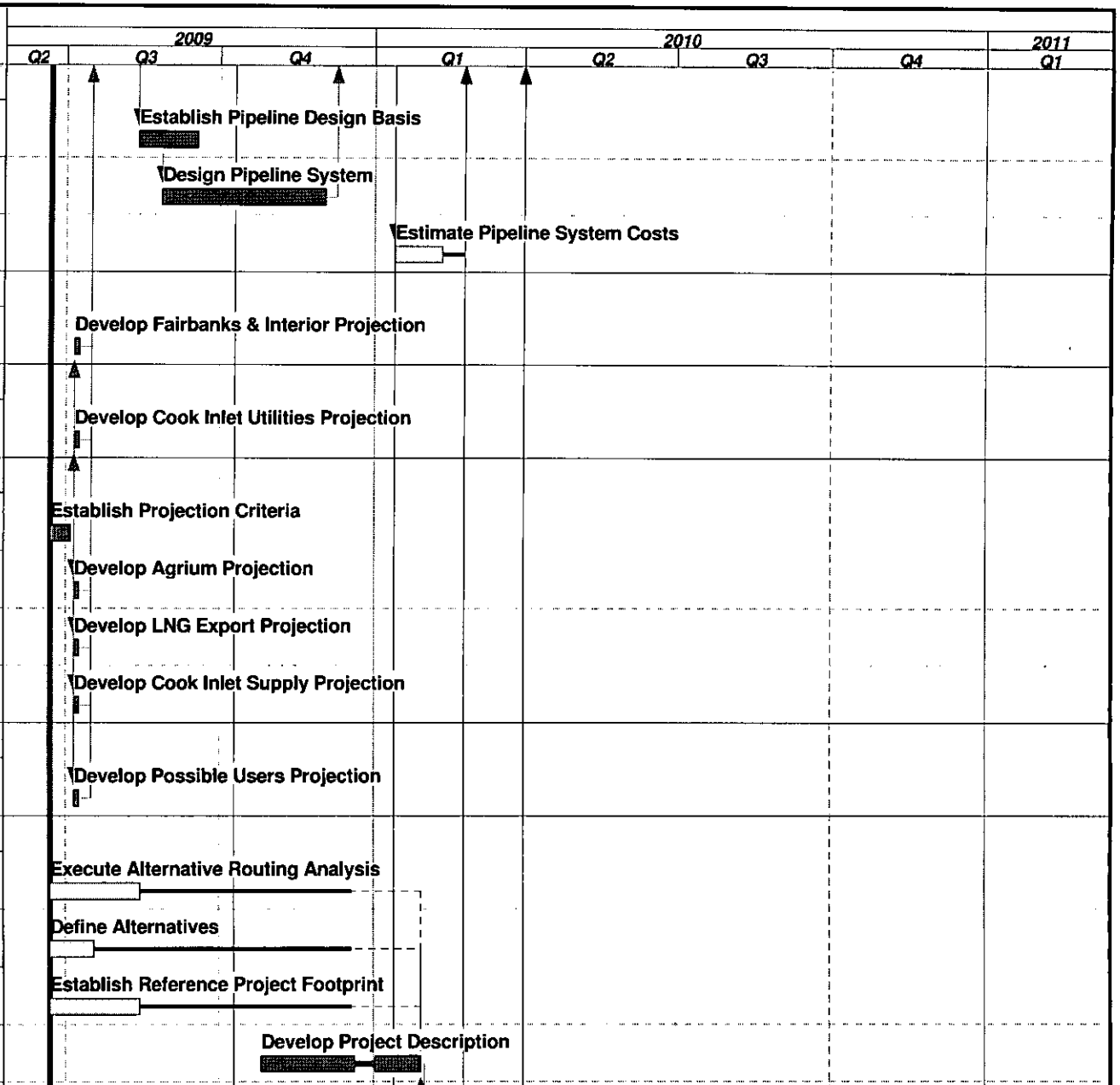
ORION*FPI

4121

Activity ID	Orig Dur	Early Start	Early Finish	Total Float
A	**PROJECT ADMINISTRATION**			
A-16	10	22APR10	05MAY10	0
A-17	70	04FEB10	12MAY10	0
A-18	10	13MAY10	26MAY10	0
A-19	10	27MAY10	09JUN10	0
B	**CONDITIONING PLANT**			
B-01	10	13AUG09	26AUG09	20
B-02	20	27AUG09	23SEP09	45
B-03	30	14JAN10	24FEB10	0
C	**NGL EXTRACTION**			
C-01	10	13AUG09	26AUG09	20
C-02	20	27AUG09	23SEP09	45
C-03	30	14JAN10	24FEB10	0
D	**NORTH SLOPE INFRASTRUCTURE**			
D-01	40	16JUL09	09SEP09	20
D-02	20	10SEP09	07OCT09	20
D-03	30	17SEP09	28OCT09	20
D-04	30	14JAN10	24FEB10	0
E	**PIPELINE & COMPRESSORS**			
E-01	10	02JUL09	15JUL09	0
E-02	20	16JUL09	12AUG09	0

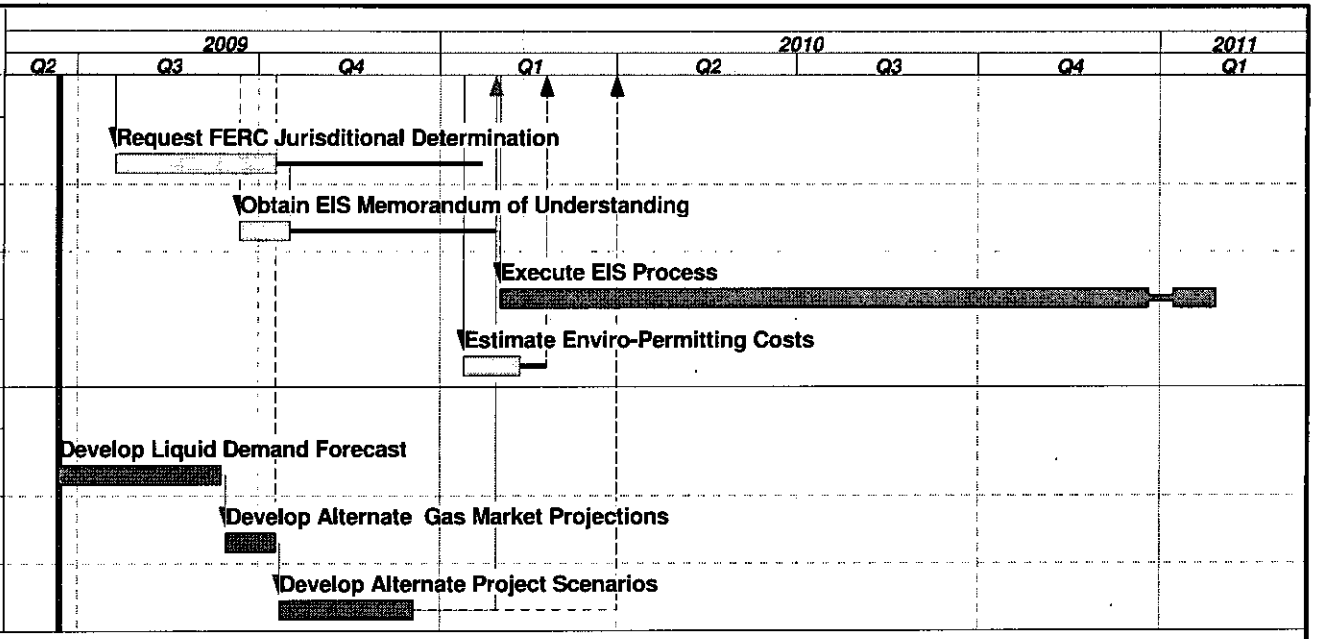


Activity ID	Orig Dur	Early Start	Early Finish	Total Float
E PIPELINE & COMPRESSORS				
E-03	25	13AUG09	16SEP09	0
E-04	70	27AUG09	02DEC09	0
E-05	20	14JAN10	10FEB10	10
F FAIRBANKS				
F-01	3	06JUL09	08JUL09	0
G COOK INLET - UTILITIES				
G-01	3	06JUL09	08JUL09	0
H COOK INLET - INDUSTRIAL				
H-01	10	22JUN09	03JUL09	0
H-02	3	06JUL09	08JUL09	0
H-03	3	06JUL09	08JUL09	0
H-04	3	06JUL09	08JUL09	0
J POSSIBLE USERS				
J-01	3	06JUL09	08JUL09	0
K PERMITTING				
K-01	40	22JUN09	14AUG09	90
K-02	20	22JUN09	17JUL09	110
K-03	40	22JUN09	14AUG09	90
K-04	60	26OCT09	29JAN10	0
K-05	40	22JUN09	14AUG09	65



4123

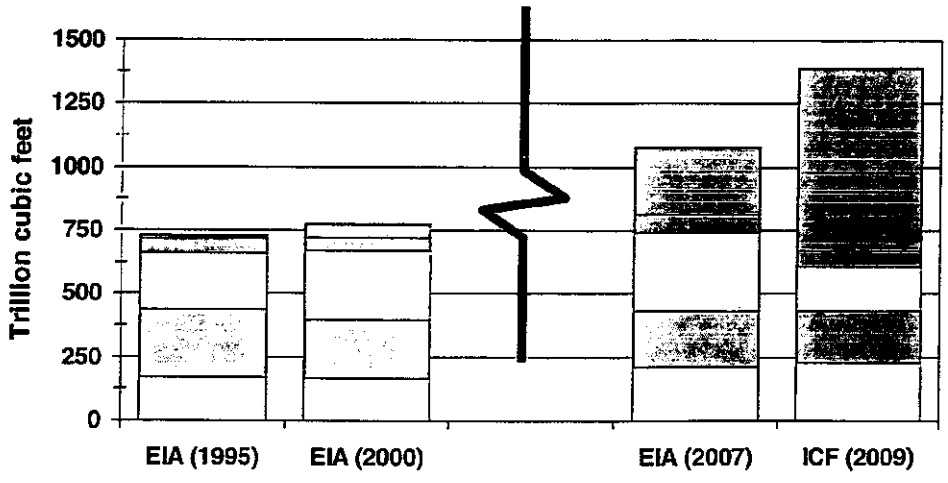
Activity ID	Orig Dur	Early Start	Early Finish	Total Float
K PERMITTING				
K-06	60	20JUL09	09OCT09	65
K-07	20	21SEP09	16OCT09	65
K-08	250	01FEB10	28JAN11	0
K-09	20	14JAN10	10FEB10	10
L ALTERNATIVES				
L-01	60	22JUN09	11SEP09	0
L-02	20	14SEP09	09OCT09	0
L-03	50	12OCT09	18DEC09	0



The Future of Alaska's Natural Gas

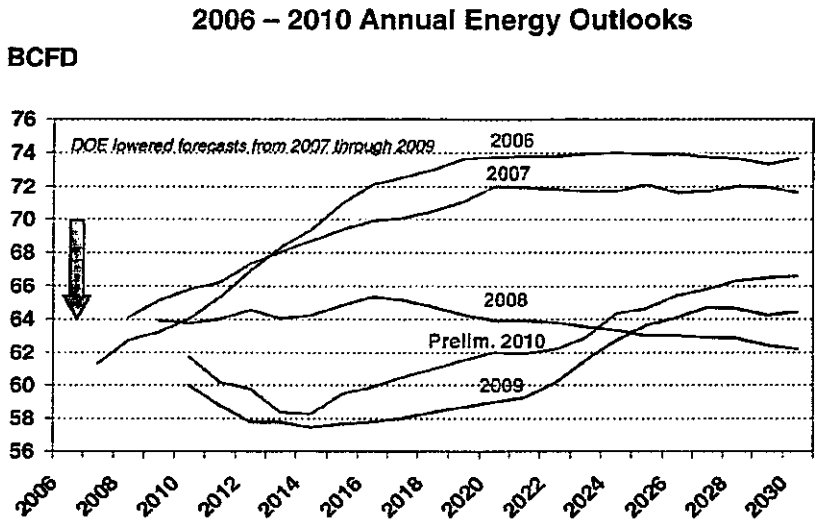
By Ted Stevens
March 12, 2010
Briefing to the members of
Commonwealth North

U.S. Natural Gas Reserves and Resources
(Excluding Alaska, Undiscovered and Associated Gas)



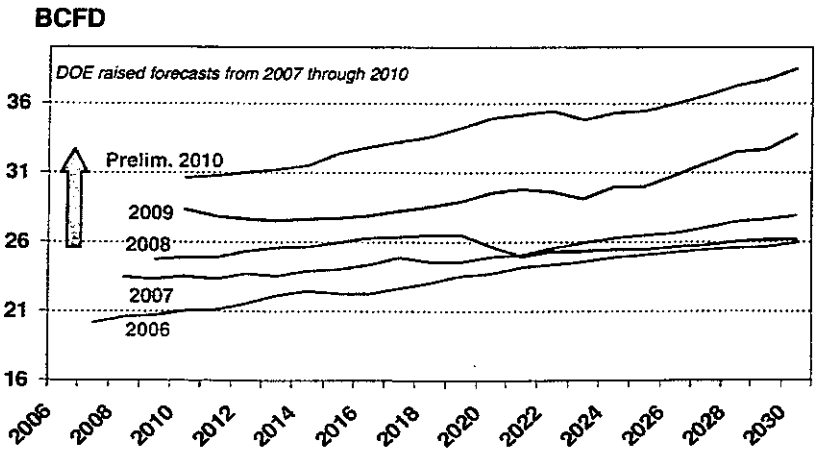
"Proven" = SEC Proven reserves; all other categories shown are technically recoverable resources
EIA = Data from U.S. Department of Energy, Energy Information Agency "Annual Energy Outlook"; data are as of January 1 of year indicated; 2007 data published in 2009 report
ICF = Data from March 2009 "ICG U.S. Play Level Gas Development Resource Cost" report

DOE U.S. Natural Gas Demand Forecasts



Source: U.S. Department of Energy, EIA Annual Energy Outlooks, 2006-2010

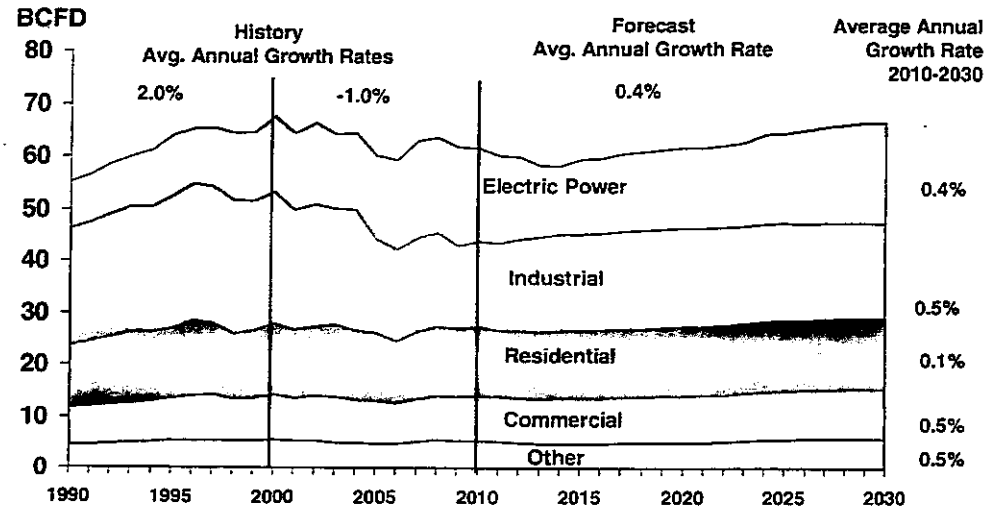
DOE U.S. Lower 48 Unconventional Natural Gas Production Forecasts



Source: U.S. Department of Energy, EIA Annual Energy Outlooks, 2006-2010

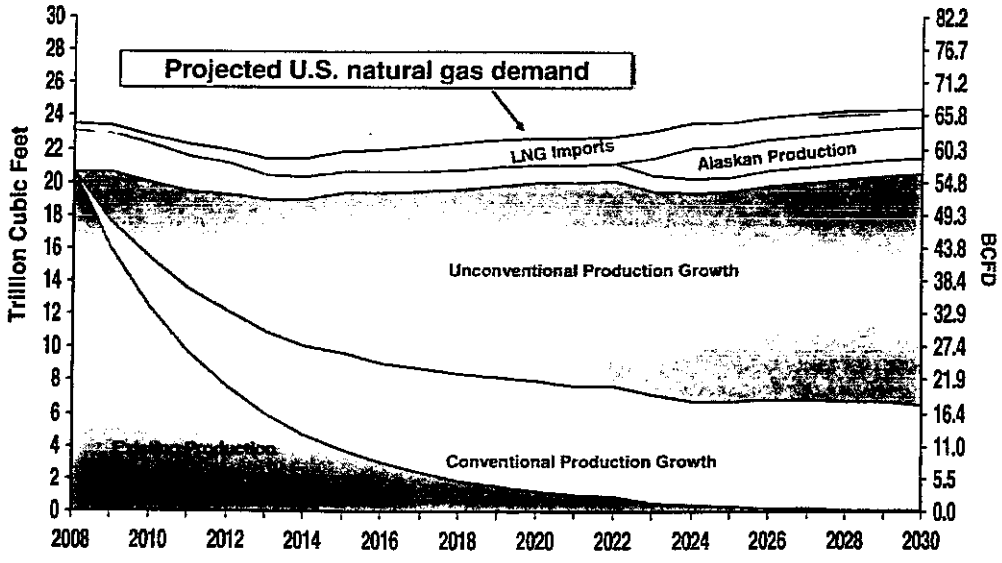
U.S. Natural Gas Demand By Sector

Case w/o Carbon Regulation



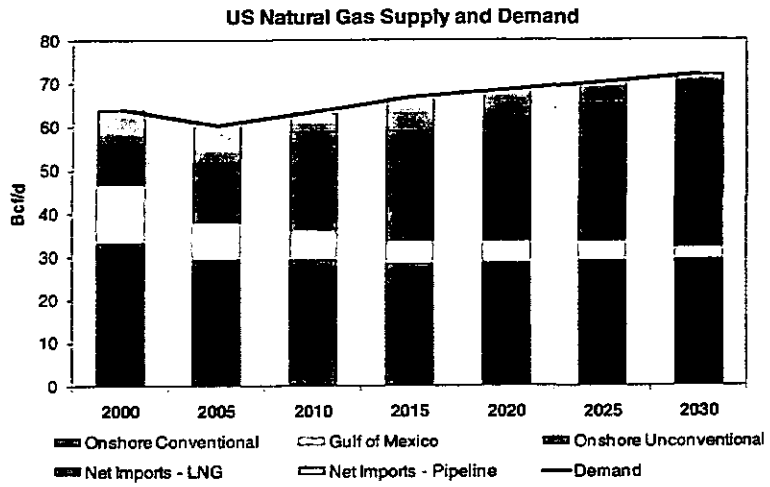
Source: U.S. DOE, EIA , Annual Energy Outlook 2010

Natural Gas Supply Sources



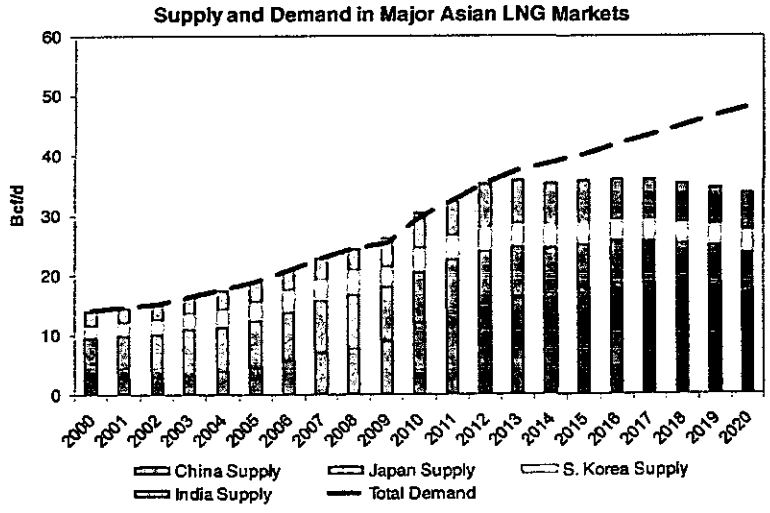
Source: U.S. DOE, EIA Annual Energy Outlook, 2010

US Production Growth Will Continue, Driven by Unconventional Gas



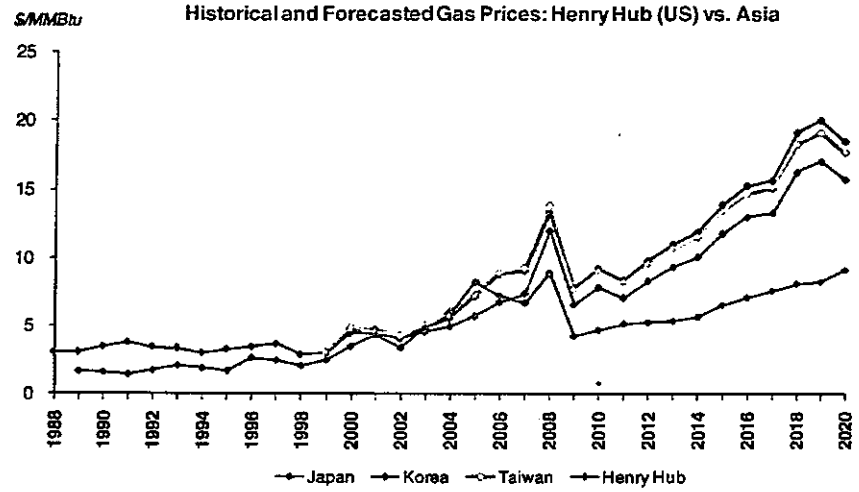
- Growth in unconventional gas production is expected to allow the US to meet demand despite declines in conventional onshore and the Gulf of Mexico (GOM)
- LNG imports are expected to grow as pipeline imports from Canada decline, but the overall need for imports is forecasted to decline

Asia: Forecasted Gas Supply and Demand



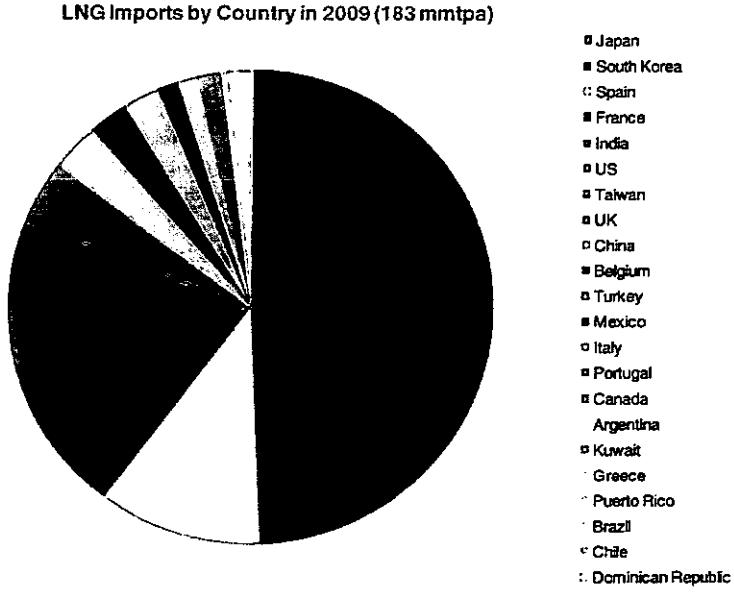
- Overall, the gap between forecasted demand and currently contracted supply in the major Pacific Basin LNG markets is ~14 bcf/d by 2020

Higher Gas Prices in Asia Make LNG the Better Value Proposition

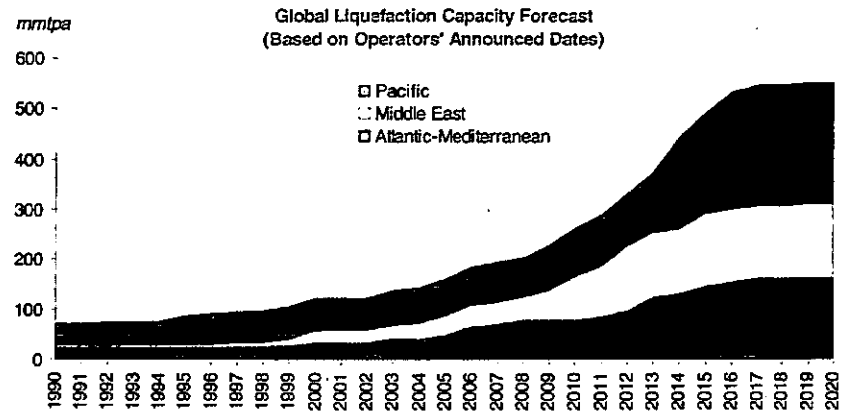


- In the US, gas is a traded commodity with robust growth on the supply side, while in Asia LNG prices are defined by long-term contracts linked to the price of oil
- The price differential between the US and Japan, currently ~$2.00/MMBtu, is forecasted to grow to ~$6.00-$8.00/MMBtu by 2020

Japan and South Korea Import Nearly Half of the World's LNG; China and India are the Fastest-Growing Markets

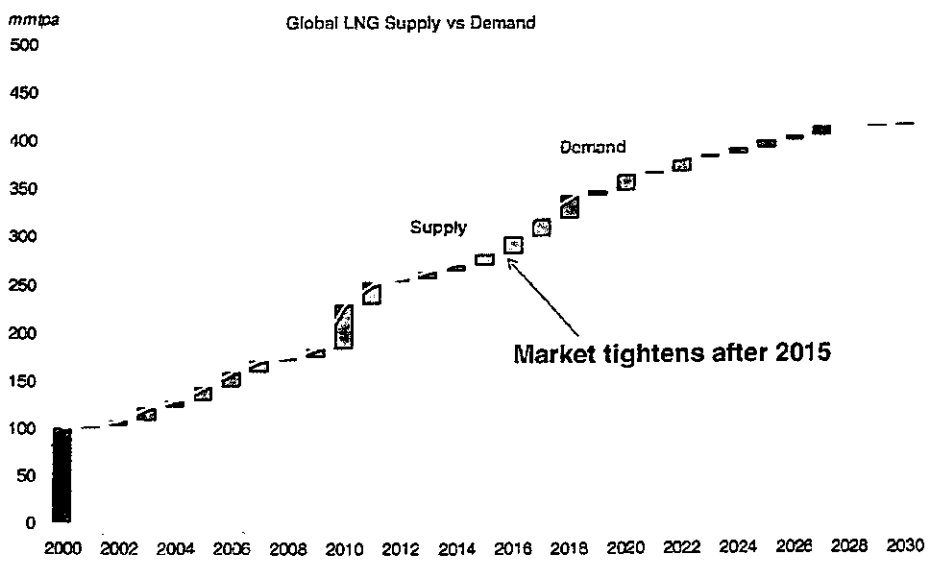


Global Liquefaction Capacity Forecast

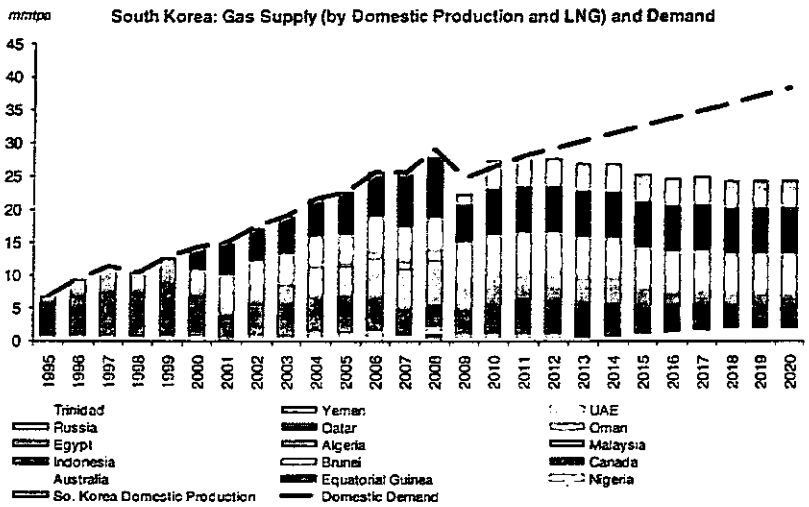


According to company plans, global liquefaction capacity will grow from 262 mmtpa in 2010 to over 550 mmtpa in 2020

LNG Supply / Demand Balance

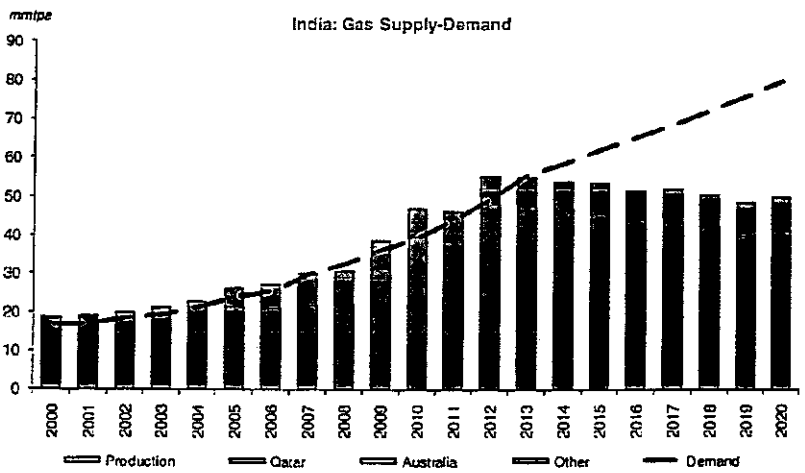


South Korea: Forecasted Gas Supply and Demand



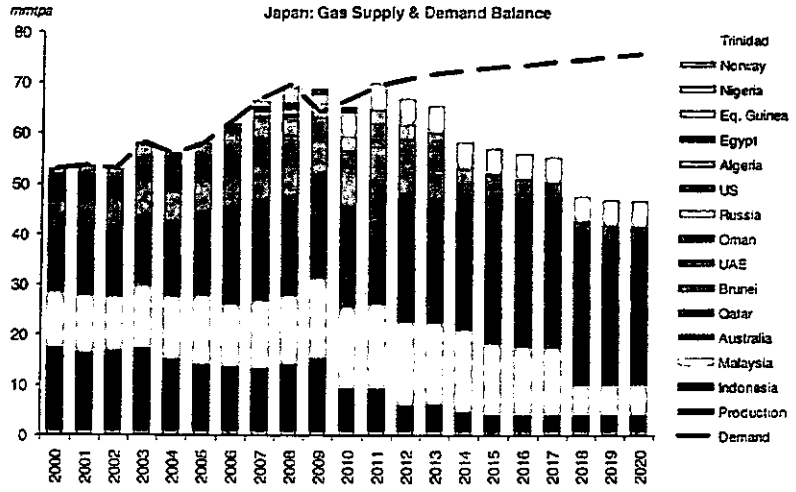
- Korea is supplied almost exclusively by LNG, which it buys primarily under long-term contracts from a variety of suppliers
- Contracted LNG supply declines after 2011, leaving a projected gap of ~14 mmtpa (~1.8 bcf/d) by 2020

India: Forecasted Gas Supply and Demand



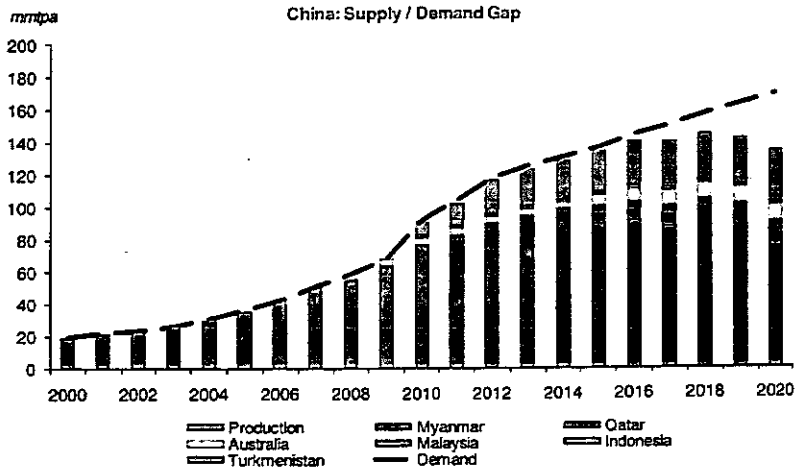
- Indian gas production is rising via Reliance's KG Basin fields, limiting short-term LNG demand
- However, a gap of ~30 mmtpa (~4 bcf/d) is forecasted by 2020

Japan: Forecasted Gas Supply and Demand



- Japan is supplied almost exclusively by LNG, which it buys primarily under long-term contracts from a variety of suppliers (including Alaska)
- Contracted LNG supply declines after 2011, leaving a projected gap of ~44 mmtpa (~5.8 bcf/d) by 2020

China: Forecasted Gas Supply and Demand



- Chinese domestic gas production is forecasted to plateau at ~80 mmtpa (~11 bcf/d)
- Contracted gas imports are increasing, but a supply gap begins to develop after 2015, reaching ~35 mmtpa (~4.6 bcf/d) by 2020

The Future of Alaska's Natural Gas

By Ted Stevens

March 12, 2010

Briefing to the members of
Commonwealth North

SEAN PARNELL
Governor

P.O. Box 110001
Juneau, Alaska 99811-0001
(907) 465-3500
Fax (907) 465-3532

STATE OF ALASKA
OFFICE OF THE GOVERNOR

February 19, 2010

Alaska State Legislature
Alaska State Capitol
Juneau, AK 99801

Dear Legislators,

This is my first opportunity to address a full month of program activity for the in-state gas line project. The new reporting format below is designed to help you easily track activities and progress. As always, I welcome your feedback.

In January, I was focused on the necessary review of this complex program, and the work team remained focused on moving critical action items forward. I congratulate them for their diligence in staying on task, on time, and under budget.

In my initial review, I identified a number of project risks requiring immediate attention. As a result, a significant amount of time and effort was expended to reduce or mitigate any potential detrimental affects posed by the risks. Nevertheless, the team worked hard to stay on task, and to date, no deadlines or milestones were missed as a result of this extended transition period. I am pleased to report that forward progress was significant and we remain on track.

The outline below provides an executive summary of in-state gas project activities that occurred during the month of January. Furthermore, I have included an overview of planned project activities over the coming months.

I. **Project Results for January 2010:**

- We are making significant progress on the final Project Description. This involves calculating the pipeline configurations and material quantities in preparation for pipeline and facilities cost estimating phase, beginning on March 15. Also, development of capital cost quantity calculations, analysis of civil quantity, construction logistics, and material costs have been initiated.

- Subcontractors are working on finalizing facilities schematic variations that will provide data for cost modeling efforts by Larkspur. This information is the first estimate of over 40 separate facilities construction cost estimates that will feed into the final project cost matrix.

- The project team has continued work for the Environmental Impact Study (EIS) being conducted under the oversight of the U.S. Army Corps of Engineers. The information that has been collected and updated includes extensive landowner and stakeholder databases, the transcripts and comments of all scoping meetings held, and the drafting of the scoping report.

- Coordination for establishing an agreement with the Office of History and Archaeology so that we may share our Alaska Heritage Resource Survey data.

- Continued to incorporate data into the electronic library for use by contractors and regulators.

The project expenses for the month of January were $511,872. Total expenditures for the project to date are $3,175,710.

II. Below is an overview of planned activities:

- Finalize data agreement with ENSTAR Natural Gas Company; coordinate permitting and Right-of-Way (ROW) application efforts with the Alaska Natural Gas Development Authority and work with federal and State regulatory bodies to minimize duplication of effort; identify additional data-mining opportunities so pertinent information from previous permitting efforts is used where appropriate (these two activities have the potential to save over a million dollars of State funds); and prepare work plans for summer 2010 environmental and geohazards field work.

- Hold two-day workshop to calibrate cost of transportation analysis and further refine remaining FY10 program focus; re-initiate and broaden contacts with commercial working group to identify potential upstream supply and downstream market opportunities; meet with potential pipeline companies to overview program progress and solicit feedback; and initiate cost of service modeling and refine construction schedules for commercial and economic feasibility modeling.

- Support on-going EIS and ROW activity and address project concerns and questions; continue to refine project and permit schedules as necessary; address scoping extension reports; provide background for purpose and need reports; finalize draft wetlands report; and finalize contract for new engineering project oversight manager.

Like any review of this magnitude, communication and collaboration with other agencies will be a huge component for success. The Governor's goal of consistently evaluating all potential energy projects will be accomplished through attention to details and diligence in providing consistent peer-reviewed work product. Focused plans and transparency of scope in the near term will ultimately pay significant dividends as Alaska defines its bright energy future.

Sincerely,

Robert Swenson
Project Manager
Alaska In-State Natural Gas Line

Enclosures

Alaska In-State Gas Pipeline Project January 2010

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ASRC Energy Services – Project Activity Detail – January 2010 2
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ENTRIX, Inc. – Project Activity Report – January 2010 6

Summary of Project Activities for January 2010

ASRC

- Continued work on the Environmental Impact Study throughout the month of January.
- Plans for the 2010 field seasons and pre-mapping completed and submitted for approval.
- Coordinated to establish agreement from the Office of History and Archaeology so that we may share our Alaska Heritage Resource Survey data.
- Continued to incorporate data into the electronic library for use by contractors and regulators.
- Finalizing draft Wetland Technical Report.

Baker

- Significant progress was made on the final Project Description. This involved the calculation of the pipeline configurations and material quantities in preparation for beginning the pipeline cost estimating phase beginning on March 15. This included:
    - developing capital cost quantity calculations;
    - preparing spreadsheets for distribution to capital cost estimators and GIS; and
    - analyzing civil quantity, pipeline class locations, ditch load locations, buoyancy control, construction logistics, material costs.
- Subcontractors worked to finalize facilities schematic variations that will provide data for cost modeling efforts by Larkspur. They have completed the first estimate of over 40 separate facilities construction cost estimates that will feed into the project cost matrix.
- Moved forward to request authorization Task 10, EIS Support to ensure adequate response to the requests for analysis, data and GIS support of the EIS effort.
- Ongoing property ownership data gathering.
- Worked to incorporate property ownership data into GIS database.
- Worked to incorporate Harvested JPO Data into Data Library.

ENTRIX

- Compiled transcripts from scoping meetings.

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- Uploaded comments and scoping meeting transcripts to stakeholder database.
- Cleaned up landowner mailing list to a usable document.
- Uploaded mailings and email information into stakeholder database.
- Compiled existing information into draft scoping report.
- Identified issues that need clarification for project description, purpose and need, resource analysis.
- Identified, located, acquired, and reviewed project and resources data; began data gap analysis.

ASRC Energy Services – Project Activity Detail – January 2010
Stand Alone Pipeline – Environmental Support

Milestones:

- Participated in weekly Project Team team meetings.
- Attended USACE EIS scoping meetings as the ADNR consultant representative.
- Continued to work with ENTRIX to provide data and information for the EIS.

TASK LEVEL DETAILS

Task 1 –	**Project Management**
Current Activity:	Attend weekly Project Team meetings with engineering and environmental. Track USACE EIS scoping meetings as the ADNR consultant representative. Provide budgetary information presentation by State Project staff to the Office of Management and Budget.
Look Ahead:	Continue to be available to BLM, State of Alaska Joint Pipeline Office, and USACE regarding draft permit applications and questions regarding information provided. Task orders for pre-planning of 2010 field seasons and pre-mapping submitted to ADNR for approval. Work on budget for 2010-2011 legislative approval process.
Concerns:	**Resolve the data ownership with ENSTAR.** **Clarification from FERC on jurisdictional opinion.** Approval of task orders so that planning for the 2010 wetland, cultural resources, stream studies, and lake surveys will be adequately resourced.

Task 2 –	**Cultural Resources**
Current Activity:	Communication with Paul Lawrence, Stephen R. Braund and Associates, was initiated and has continued into February. SRBA is working on the cultural resource piece for the USACE EIS. Working on the 2009 report and predictive model with Michael Yarborough. Coordinated on establishing agreement from the Office of History and Archaeology so that we may share our Alaska Heritage Resource Survey data.
Look Ahead:	Continue to work with CRC on the predictive model, and circling back with CRC and GIS where needed. Lack of tools and need for GIS to provide GIS model so

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CRC and Shawna can develop and test the predictive model. Jason Rogers, is waiting for a first run of at least a test area in order to exam the applicability of variables he defined, and to draft a narrative for the model. GIS had just started in December, and lacked necessary data. Looking into a GIS module that would do a *chi* square test on the model.

Task 3 – Wetlands Analysis

Current Activity: Continue work on draft Wetland Technical Report, which should be available in February 2010. Prepared 2010 Field Work Order Tasks. Prepared PowerPoint slide presentation for Bob Swenson held at Baker's office.
Met with USACE Project Manager to discuss permit application.

Look Ahead: Continue to coordinate with the USACE re the draft permit.

Task 4 – Project Library

Current Activity: Completed library tasks assigned for this task order.

Look Ahead: New task order and budget, discussed in January 2010. Determination not made yes as to whether more work is required to support EIS 3rd Party Contractor.
All library reference materials are ready to be entered into the SharePoint system.

Concerns: Need to discuss copyright requirements for hard-copy and access to library information with ADNR.

Task 5 – Permitting

Current Activity: Continue to support ADNR ROW permits and Section 404 permits with BLM, ADNR, and USACE as needed.

Look Ahead: Will attend and present the project description as the ADNR consultant representative.

Concerns: None at this time.

Task 6 – GIS Support

Current Activity: Task Work Order approved by ADNR in late November. Purpose is to support ADNR through permitting and EIS as needed/requested.

Look Ahead: Land ownership information is supposed to be available in early February from M. Baker, Jr. Work with M. Baker, Jr. to ensure that proper data transfer of GIS information is made to ENTRIX.

Concerns: None at this time.

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Michael Baker, Inc. - Project Activity Detail – January 2010

Milestones

Past Monthly Narrative

Task 1 Project Management:

- Ongoing Internal Project Coordination/Planning
- Weekly Project Meetings
- Accounting activities, preparing invoices
- Preparing sub-consulting scopes, schedules and budgets
- Reviewing sub-invoices
- Reviewing project expenditures, budget
- Reporting activities

Task 2 Data Management/Library:

- Data gathering from federal, state and borough databases
- Geo database compilation
- Quality control activities
- Ongoing GIS database layers; material sites, land ownership and cost of service elements
- Ongoing JPO ANGTS data evaluation / incorporation into GIS

Task 3 Outreach:

- Legislative Outreach Support

Task 4 Alternative Analysis:

- Complete

Task 5 Supply/Demand Analysis:

- Reviewed TCPL Report
- Reviewed DGGS Report

Task 6 Project Description:

- Additional Mapping Discussions
- Developing capital cost quantity calculations
- Preparing spreadsheets for distribution to capital cost estimators and GIS.
- Analyzing civil quantity, pipeline class locations, ditch load locations, buoyancy control, construction logistics, material costs

Task 7 Cost of Service:

- Gathering and incorporating data for cost modeling
- Formatting Cost Estimating System
- Weekly COS team progress meetings
- Ongoing Facilities Scenario Modeling by Doyon Emerald
- Ongoing facilities cost estimate by Larkspur

Task 8 ROW Application:

- Ongoing property ownership data gathering
- Incorporating property ownership data into GIS database

Task 9 Construction Planning: NTP not received

Task 10 EIS Support: NTP not received

Forecast Narrative

Task 1 Project Management:

- Ongoing Internal Project Coordination/Planning
- Refine Project Schedule, Refine Scope
- Weekly Project Meetings

Task 2 Data Management/Library:

- Incorporating Harvested JPO Data into Data Library
- Data Management Committee ongoing meeting
- Building GIS Database
- Sharepoint Updating and Maintenance

Task 3 Outreach:

- Support USACOE activities and requests

Task 4 Alternative Analysis:

- Complete

Task 5 Supply/Demand Analysis:

- Redevelop scope to incorporate NGL

Task 6 Project Description:

- Compiling final project description due 7/1/10

Task 7 Cost of Service:

- Gathering and incorporating data for cost modeling
- Formatting Cost Estimating System
- Weekly COS team progress meetings
- Ongoing Facilities Scenario Modeling by Doyon Emerald
- Ongoing facilities cost estimate by Larkspur

Task 8 ROW Application:

- Ongoing property ownership data gathering
- Incorporating property ownership data into GIS database

Task 9 Construction Planning: NTP not received

Task 10 EIS Support: NTP not received

Actual vs. work order Dollars

Task	Estimate	Actual Labor	Actual Expense	Actual Subs
1-Project Management	$549,313	$229,603	$4,755	$0
2-Data Management/Library	$219,548	$82,589	$36,941	$0
3-Outreach	$268,154	$33,743	$28,114	$74,496
4-Alternative Analysis	$269,221	$221,361	$10,633	$31,742
5-Supply/Demand Analysis	$104,200	$0	$450	$24,909
6-Project Description	$2,179,606	$882,877	$36,302	$181,682
7-Cost of Service	$1,022,328	$0	$1,358	$22,781
8-ROW Application	$54,632	$0	$0	$0
9-Construction Planning	NTP not received			
10-EIS Support	NTP not received			
Total				

Monthly man-hours (cumulative man-hour vs. budget)

Task	Budget Man-Hours	Baker Cumulative Man-Hours
1-Project Management		1207.5
2-Data Management/Library		620.5
3-Outreach		258.0
4-Alternative Analysis		1,625.0
5-Supply/Demand Analysis		0
6-Project Description		7,079.7
7-Cost of Service		0
8-ROW Application		0
9-Construction Planning		
10-EIS Support		
Total		

Narrative comparing actual vs. budget of overall project completion

The project is progressing under budget and on schedule.

Short written discussion addressing upcoming work order packages

Significant progress is being accomplished weekly on the Task 6 Project Description as we calculate pipeline configurations and material quantities in preparation for beginning the pipeline cost estimating phase beginning on March 15. We are also completing the facilities schematics for estimating by Larkspur. They have completed the first estimate of over 40 separate facilities construction cost estimates that will feed into the project cost matrix. Baker will request authorization Task 10, EIS Support to ensure adequate response to the requests for analysis, data and GIS support of the EIS effort.

ENTRIX, Inc. – Project Activity Report – January 2010

The following project activities were conducted during the month of January 2010:

- Developed and obtained advertising for reminder of the close of the formal scoping period in/on the Anchorage Daily News website, Frontiersman, Fairbanks Daily Newsminer, Delta Wind, Copper River Record and Arctic Sounder.
- Submitted announcement to What's Up website.
- Compiled transcripts from scoping meetings.
- Uploaded comments and scoping meeting transcripts to stakeholder database.
- Organized landowner mailing list into a usable document.
- Uploaded mailings and email information into stakeholder database.
- Compiled existing information into draft scoping report.
- Conducted project team meeting to discuss work plan for PDEIS.
- Met with USACE to discuss scoping process issues.
- Identified issues that need clarification for project description, purpose and need, resource analysis.

- Met with USACE and Bob Swenson to discuss project.
- Identified, located, acquired, and reviewed project and resources data; began data gap analysis.
- Maintained stakeholder database; Maintained project website and updated documents as available.

The following activities are planned for the month of February 2010:

- Develop and publish/distribute additional notices regarding scoping period extension
- Update and maintain interested parties mailing list from scoping responses and property owner information provided by ASRC.
- Collect and review scoping comments, develop scoping report.
- Develop EIS annotated outline; develop more detailed work plan and schedule.
- Conducted meetings with lead and cooperating agencies and applicant to define purposes and need, project description and alternatives.
- Draft Purpose and Need Section; continue data gap analysis; develop information requests.

Outstanding Issues:

- A clear understanding of purpose and need, project description, and path forward needs to be established with the applicant and cooperating agencies by the end of February.
- ENTRIX conducted or is conducting several out of scope items at the request of USACE: Dec 09; translator at the Barrow scoping meeting; additional advertising regarding the close of the formal scoping period. Feb 10; Develop and publish/distribute additional notices regarding scoping period extension.

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LAWS OF ALASKA

2009

Source
SCS CSHB 113(FIN)(brf sup maj fld H)

Chapter No.
_____

AN ACT

Making supplemental appropriations, capital appropriations, and other appropriations; amending appropriations; making appropriations to capitalize funds; and providing for an effective date.

BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF ALASKA:

THE ACT FOLLOWS ON PAGE 1

(23) sec. 100, ch. 2, FSSLA 1999, page 69, lines 29 - 30, and allocated on page 69, lines 31 - 32 (Department of Transportation and Public Facilities, National Highway System (NHS) state match - $22,602,059).

(b) The unexpended and unobligated balance, not to exceed $98,056, of the appropriation made in sec. 60, ch. 3, FSSLA 2005, page 140, lines 24 - 26 (Alaska Gateway, Dot Lake School mechanical upgrade - $1,087,118) is reappropriated to the Alaska capital income fund (AS 37.05.565).

(c) The unexpended and unobligated balance, not to exceed $54,753, of the appropriation made in sec. 60, ch. 3, FSSLA 2005, page 142, lines 13 - 14 (Southeast Island, Thorne Bay house access ramp - $141,415) is reappropriated to the Alaska capital income fund (AS 37.05.565).

* **Sec. 19.** NATURAL GAS PIPELINE. (a) The sum of $4,322,000 is appropriated from the Alaska capital income fund (AS 37.05.565) to the Office of the Governor for the development of an in-state natural gas pipeline.

(b) The unexpended and unobligated balance, estimated to be $2,700,000, of the appropriation made in sec. 8, ch. 1, 4SSLA 2008 (Department of Natural Resources, gas pipeline implementation - $5,500,000) is reappropriated to the Office of the Governor for the development of an in-state natural gas pipeline.

(c) For the appropriations made in (a) and (b) of this section, it is the intent of the legislature that

(1) the funds be used solely to plan, coordinate, and facilitate construction, ownership, and management of a natural gas pipeline serving Fairbanks, the Southcentral region of the state, and other communities wherever practicable, connecting with or enhancing the existing gas pipeline system, and reaching to tidewater;

(2) the funds be used for a full alternative analysis of possible routes;

(3) an economically feasible in-state pipeline and any connecting lines serve industrial, residential, and utility customers along the entire route, including any other regions of the state that could be served at commercially feasible rates;

(4) the Office of the Governor use the appropriations to

(A) coordinate with entities that could build, own, and operate the line;

(B) assist with preparing cost estimates for the project to determine its

economic feasibility and cost to consumers;

(C) apply for and obtain right-of-way permits for the project route, with the intent that the state would transfer the permits to, and receive compensation for the permits from, the entity best able to complete the project;

(D) work with other entities to promote the gas supply and gas purchase contracts that would be required for the project to be commercially viable;

(5) the coordination effort by the Office of the Governor use, to the fullest extent possible, any and all existing work by other state agencies before contracting for new reports, research, and analyses, and that the coordination effort by the Office of the Governor not expand beyond the scope of coordinating interests to build, own, and operate the gas pipeline;

(6) the Office of the Governor submit written monthly reports to the president of the senate, the speaker of the house of representatives, and all legislators, listing all current and future contracts executed for development of an in-state natural gas pipeline and specifying the scope of work and contract amount, a cumulative total monthly of all funds spent for development of an in-state natural gas pipeline, reporting progress to date on the project work plan, and presenting a work plan for each subsequent month.

*** Sec. 20.** FUND TRANSFER. An amount equal to 20 percent of the revenue collected under AS 43.55.011(g), not to exceed $60,000,000, is appropriated from the general fund to the community revenue sharing fund (AS 29.60.850).

*** Sec. 21.** CONTINGENCIES. (a) Sections 14(f) and 14(g) of this Act are contingent on ratification by the members of the respective collective bargaining unit of its collective bargaining agreement.

(b) Section 7(e) of this Act is contingent on passage by the Twenty-Sixth Alaska State Legislature in the First Regular Session and enactment into law of a version of HB 172 relating to the education loan fund.

(c) Section 11(b) of this Act is contingent on passage by the Twenty-Sixth Alaska State Legislature in the First Regular Session and enactment into law of a version of SB 89 relating to retirement benefits for members of the Alaska Territorial Guard.

(d) Section 8(f) of this Act is contingent on passage by the Twenty-Sixth Alaska State Legislature in the First Regular Session and enactment into law of a version of HB 141

SB 290

ALASKA STATE LEGISLATURE

SENATOR THOMAS H. WAGONER

- Member, Resources
- Member, Community & Regional Affairs
- Member, World Trade

Official Business

Session: January – May
State Capitol, #427
Juneau, AK 99801
Phone: 907-465-2828 Fax: 907-465-4779

Interim: May – December
145 Main Street Loop; Suite 226
Kenai, AK 99611
Phone: 907-283-7996 Fax 907--283-8127

Sponsor Statement
SB 290 – Tax Credit to Drill Wells in Cook Inlet

Sub-Cretaceous (or Jurassic zone) drilling, often referred to as "deep drilling" is one area that has not been explored offshore in the Cook Inlet, due in large part to the extremely high costs involved and lack of equipment available for deep drilling.

This bill establishes an exploration credit for the first three persons (explorers) and further defines that the explorers repay the state, in the event of successful development, 50% of those tax credits.

There are only two sections to this bill.

Section one amends the existing credits by establishing a "stampede" for 50%, 75% and finally 100% credit for exploration in the Cook Inlet.

Section two adds a new subsection to the statutes which establishes the rules for the "Cook Inlet Stampede". Only the first three qualified and unaffiliated persons (explorers) that bore into the sub-Cretaceous zone get the credits.

- First one gets 100%, second one gets 75%, and third one gets 50%.
- Can only get credit for one well per person (explorer)
- Commissioner makes determination on amount of credit if more than one person is eligible for a credit
- If exploration results in production, person will repay 50% of the credit they received.
- Determination of "sub-Cretaceous" drilling is to be made by the commissioner.

SS SB 290: 3/29/10: maj

ALASKA STATE LEGISLATURE

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Sectional Analysis
SB 290 – Tax Credit to Drill Wells in Cook Inlet

Section 1. Amends AS 43.55.025(a) (tax credits against the production tax for exploration) by adding a new subsection (5) 50, 75 or 100 percent of total exploration expenditures.

Section 2. Amends AS 43.55.025 by adding a new subsection (m) that provides for the new tax credits in Section 1 (new subsection (5)) for exploration drilling into the sub-Cretaceous zone by the first three persons.

Sets out that the first person receives 100% exploration expenditures credit, the second receives 75% exploration expenditures credit and the third receives 50% exploration expenditures credit.

Further establishes that a person can receive credit for not more than one exploration well.

In the event that more than one person qualifies, authorizes the commissioner to identify credit amounts for each person.

Also sets out circumstances for repayment of 50% of the credit if the exploration results in development.

Finally, establishes that determination of whether it is in the sub-Cretaceous zone rests with the Commissioner of Natural Resources.

SA SB 290: 3-29-10: maj

ALASKA STATE LEGISLATURE

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SB 290 – Tax Credit to Drill Wells in Cook Inlet

Identified Issues with SB 290 (3-29-10)

1. Clarify that credits are to apply only to offshore exploration.
2. Change definition from "Sub-Cretaceous" to "pre-Tertiary".
3. Consideration of expanding exploration credits to total of 6: 3 for activities from Jack-up Rig and 3 for activities from existing structure (platform).
4. Consideration of defining "transportation" as exploration cost to clarify transport of jack-up rig to/from field as allowable cost.

Credits & Deducts available for a jackup rig brought to Cook Inlet.

1. Exploration Tax Credit under AS 43.55.025:

a. 30% of the cost of surface prep, drilling, casing, cementing and logging an exploration well in Cook Inlet if the well is three miles or more from an existing well, or the well target is certified by DNR as a distinctly separate exploration target, before the well is spudded.

or

b. 30% of the cost of surface prep, drilling, casing, cementing and logging an exploration well in Cook Inlet if the well is not less than 10 miles outside the outer boundary as delineated on July 1, 2003, of any unit that is under a plan of development, certified by DNR before the well is spudded. If a dry hole, abandonment costs within 18 months after the well was spudded,.

or

c. 40% of those costs, if both conditions above are met.

The Reg's at 15 AAC 55.360(b)(4) distinguish whether or not the explorer owns the drilling rig. If the explorer does not own the rig, transportation costs to bring the rig to the state, including mob & de-mob and rig operating costs at the contract rates paid are eligible for the credit, if the well otherwise qualifies.

If the explorer owns the rig, the transportation costs to bring the rig to the state are added to the net book value of the rig, which is charged to eligible wells based on hours or days of use for all wells drilled by the rig. (This means if the explorer owns the rig, or owns a part of it – they don't get to write off the whole rig cost on one well.)

A rig owner who operates the rig on contract to other explorers would not be eligible for the credits under AS 43.55.025. The explorer must hold an interest in the well or exploration project. Explorers "renting" a jackup rig and crew would be eligible for the credit for the contract amounts actually paid and for the cost of supplies, fuel, etc. actually paid for by the explorer in connection with a given exploration well. General administrative, management and overhead costs are not eligible for the exploration credit.

Testing, stimulation and completion costs are now eligible costs for the credit under changes enacted by ACES. There are proposed draft regulations by the department to clarify these as allowable for the credit if necessary to appraise the well for its oil or gas production potential.

Transportation of the rig back out of the state after completion of exploration work might be an issue under current regulations.

October 1, 2009
Gary A. Rogers

2. Qualified Capital Expenditure Credit under AS 43.55.23 – 20% of qualified capital expenditures.

If a well does not qualify for the AS 43.55.025 credit, it might still qualify for the 20% qualified capital expenditure credit. Under proposed Lease Expenditure Regulations, de-mob out of the state does not qualify.

If the AS 43.55.025 credit of 30% or 40% is claimed for the well, then the 20% credit would not apply.

3. Deduction as a lease expenditure: transportation of the rig to the state, mobilization and rig operating costs would qualify as a deductible lease expenditure at contract rates paid, or based on net book value allocated to the activities the rig is employed in, if owned outright. The tax rate is 25%, in addition to the value of the credits above, so there is a potential of 65% cost recovery from the State – 40% credit plus 25% tax deduction or loss carry-forward credit.

If no other taxable oil or gas production, the 25% deduction may be converted to a carried-forward loss credit under AS 43.55.023 and used in a subsequent year.

4. Small Producer Credit. If the explorer has taxable production, but less than 50,000 BOE's per day, the explorer is eligible for a $12,000,000 small producer credit under AS 43.55.024(c).

5. Cash Repurchase of Credits by the State. The exploration credits, the qualified capital expenditure credits and the carried-forward loss credits may be purchased by the state for cash, if the requirements under AS 43.55.028 are met (no unpaid delinquent taxes owed the state, no production tax liability under AS 43.55.011(e), average daily production of less than 50,000 BOEs, additional qualified capital investment or successful bids on state leases equal to or credit than the credits being purchased, for example).

6. Other. A recent Advisory Bulletin (# 2009-02) allows a company that acquires through a merger or acquisition, transferable tax credit certificates held by a dissolved company, may also qualify for the cash purchase by the State, if the acquiring company meets all the conditions and stands in the shoes of the company that originally obtained the tax credit certificates.

October 1, 2009
Gary A. Rogers

escopeta oil
Oil & Gas Development

March 30, 2010

Senator Thomas Wagoner
26th Alaska Legislature
State Capital – Room 427
Juneau, Alaska 99801-1182

Email: Senator_Tom_Wagoner@legis.state.ak.us

RE: Senate Bill No. 290

Dear Senator Wagoner,

Escopeta Oil Company ("EOC") is very excited to learn about the referenced Bill that you have introduced. As you know, one of the largest impediments to new exploration is the financial risk of the first well. Your Bill will significantly reduce that risk and spur new era of exploration and production in the Cook Inlet.

EOC is the lessee and unit operator of the Kitchen Lights Unit ("KLU") in the mid-Cook Inlet, just south of the producing North Cook Inlet Gas Field. Both of these offshore units are in the Kenai Peninsula Borough. The KLU is currently the largest unit in the Cook Inlet, encompassing nearly 84,000 acres. Escopeta predicts the KLU contains approximately 440 million barrels of recoverable oil and 5 trillion cubic feet of natural gas. In addition to these recoverable reserves, it is estimated that the Kitchen Thrust Fault Trap (located in the western part of the KLU) to have an additional 830 million barrels of oil and 4 trillion cubic feet of natural gas of possible reserves. Initial production after platform and infrastructure implementation could be approximately 75,000 barrels of oil and 300 million cubic feet of gas per day, from the KLU anticlinal feature alone.

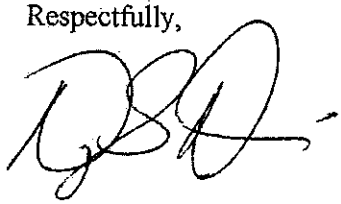
EOC has the majority of all permits already in place to drill the first KLU well to a depth sufficient enough to test the Cretaceous and Jurassic as required by SB 290. Should SB 290 be passed, EOC will amend its plans on the drilling depth to a bottom-hole depth that will penetrate and test these formations. With the passage of SB 290, EOC will commit to the delivery of a jack-up drilling rig to the Cook Inlet by August 1, 2010. The jack-up drilling rig will be mobilized from West Africa and will take approximately 45 days to reach the Cook Inlet, allowing ample time to drill the first well before the end of this year. Please allow this letter to register Escopeta Oil as the first entity that will quality for the 100% credit provided for by SB 290.

5005 Riverway, Suite 440 • Houston, Texas 77056 Office • 713.623.2219 • Fax 713.439.1205 • E-mail escopeta@swbell.net

As you are aware, there has not been an offshore exploration-drilling rig in the Cook Inlet for close to 20 years. Once this jack-up rig reaches the Cook Inlet, it is likely to remain for several years, drilling much-needed offshore exploration and development wells. I sincerely believe this Bill will result in new exploration, jobs to Alaskans, and much-needed deliverability from new oil and gas reserves.

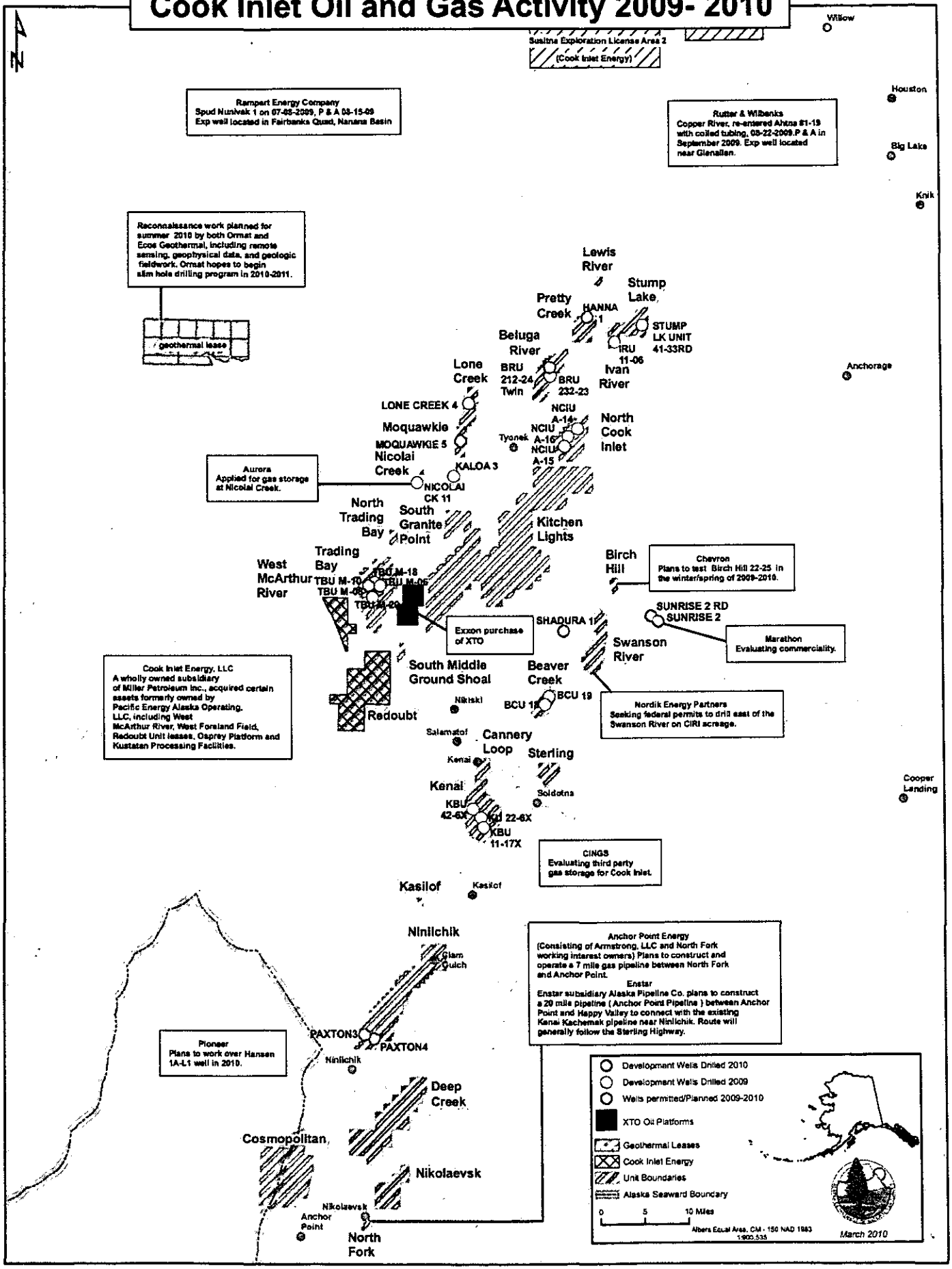
Thank you for your foresight and service to Alaska and its people. Pleas feel free to forward this letter to your colleagues in support of this Bill.

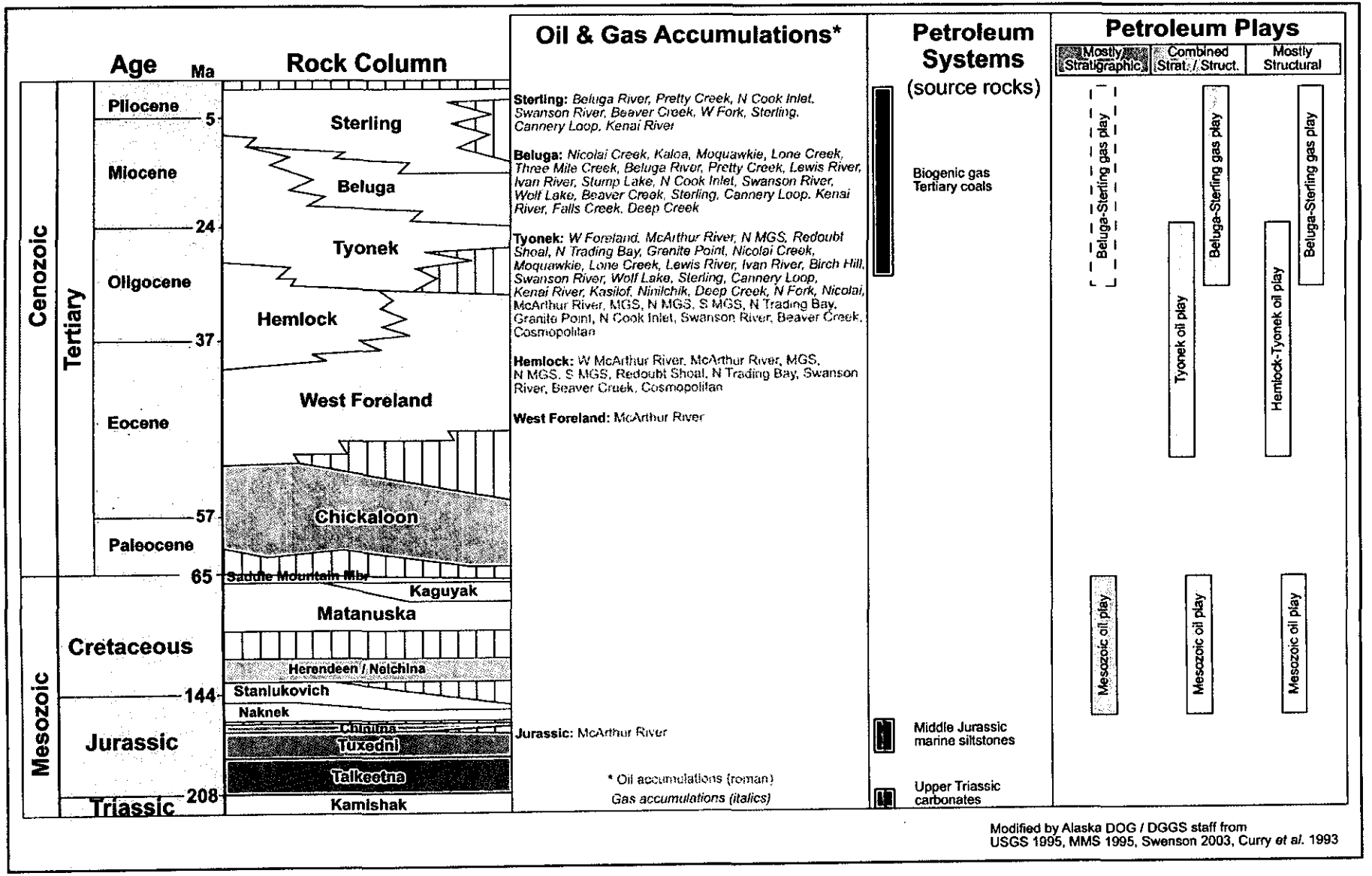
Respectfully,



Danny S. Davis
President

Cook Inlet Oil and Gas Activity 2009- 2010





Modified by Alaska DOG / DGGS staff from
USGS 1995, MMS 1995, Swenson 2003, Curry *et al.* 1993

SB 294

SENATE COMMITTEE REPORT
First Committee of Referral

DATE: 2/24/10

FURTHER: Finance

Date of 5-Day Notice: _____
(in accordance with Uniform Rule 23)

DATE TURNED
IN TO OFFICE: _____

Resources Committee considered SENATE BILL NO. 294

SB 294 SPORT FISH GUIDE LICENSES

"An Act repealing the termination date of the licensing of sport fishing operators and sport fishing guides; and providing for an effective date."

and recommends:

[ ] be **replaced** with [ ] **SCS** or [ ] **CS** _____ (_____)

[ ] adopt **previous** [ ] **SCS** or [ ] **CS** _____ (_____)

[ ] attached amendment(s)

[ ] adopt _____Letter of Intent

[ ] further referral to _____Committee

SENATE BILL:
[ ] Same Title
[ ] New Title

HOUSE BILL:
[ ] Same Title
[ ] Technical Title Change
[ ] New Title w/ SCR #_____

NEW FISCAL NOTE(S):

Department	Date	Fiscal	Indet	Zero	FN#
ADFG	3/11	✓			

PREVIOUS FISCAL NOTE(S):

Department	Date	Fiscal	Indet	Zero	FN#

[ ] **APPROPRIATION - no fiscal note**

SIGNATURES AND RECOMMENDATIONS:	PRINTED LAST NAME	DO PASS	DO NOT PASS	NO REC	AMEND
	Huggins			✓	
	Stevens	X			
	French			✓	
	Wagoner	X			
CO-CHAIR:	McGuire	✓			
CO-CHAIR:					

FISCAL NOTE

STATE OF ALASKA
2010 LEGISLATIVE SESSION

Fiscal Note Number:
Bill Version: **SB294**
() Publish Date:

Identifier (file name): SB294-DFG-SFD-03-10-10
Dept. Affected: ADFG
Title: An act repealing the termination of the sport fish operator/guide/vessel program
RDU: Sport Fisheries
Component: Sport Fisheries
Sponsor: Senator McGuire
Requester: Resources, Finance
Component Number: 464

Expenditures/Revenues (Thousands of Dollars)

Note: Amounts do not include inflation unless otherwise noted below.

	Appropriation Required	Information					
OPERATING EXPENDITURES	**FY 2011**	**FY 2011**	**FY 2012**	**FY 2013**	**FY 2014**	**FY 2015**	**FY 2016**
Personal Services		337.1	337.1	337.1	337.1	337.1	337.1
Travel		10.0	10.0	10.0	10.0	10.0	10.0
Contractual		83.5	83.5	83.5	83.5	83.5	83.5
Supplies		7.0	7.0	7.0	7.0	7.0	7.0
Equipment							
Land & Structures							
Grants & Claims							
Miscellaneous							
TOTAL OPERATING	**0.0**	**437.6**	**437.6**	**437.6**	**437.6**	**437.6**	**437.6**
CAPITAL EXPENDITURES							
CHANGE IN REVENUES ( )							

FUND SOURCE (Thousands of Dollars)

1002 Federal Receipts							
1003 GF Match							
1004 GF							
1005 GF/Program Receipts							
1037 GF/Mental Health							
Other Interagency Receipts		437.6	437.6	437.6	437.6	437.6	437.6
TOTAL	**0.0**	**437.6**	**437.6**	**437.6**	**437.6**	**437.6**	**437.6**

Estimate of any current year (FY2010) cost: 0.0

POSITIONS

Full-time							
Part-time							
Temporary							

ANALYSIS: *(Attach a separate page if necessary)*

The division has budgeted $437.6 in the FY11 Governor's budget to administer the Sport Fish operator/guide/vessel program. The program generates average Fish & Game Fund revenues of $242.8, with the balance of program expenditures funded with Sport Fishing license sale revenue. Although potential cost savings measures are being implemented, it is untenable at this time to make accurate projections on what monetary savings will be realized for this program over the upcoming years.

Prepared by: Charles O. Swanton, Director — Phone 465-6184
Division: Sport Fisheries — Date/Time 3/10/10 4:00 PM
Approved by: Tom Lawson, Director — Date 3/11/2010
Administrative Services

(Revised 11/6/2009 OMB)

ALASKA STATE LEGISLATURE

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Chair
Senate Special Committee on Energy
Senate Special Committee on
World Trade, Technology, and Innovations

Co-Chair
Senate Resources Committee

Member
Senate Judiciary Committee
Joint Armed Services Committee

Senator.Lesil.McGuire@legis.state.ak.us

SENATOR LESIL MCGUIRE

SPONSOR STATEMENT FOR SENATE BILL 294

"An Act repealing the termination date of the licensing of sport fishing operators and sport fishing guides; and providing for an effective date."

Senate Bill 294 will ensure the continuation of Alaska's sport fish guide licensing and reporting program. Legislation authorizing the program was passed in 2004 and the program has proven beneficial to both the sport fishing industry and resource managers. With more than 1.8 million clients, 88% of whom are nonresidents, taking more than 460,000 guided fishing trips in Alaska annually; guided sport fishing has become an integral part of Alaska's tourism economy. In fact, a study commissioned by the Alaska Department of Fish and Game estimated that nonresident spending on sport fishing was more than $650 million in 2007.

Since the program's inception, an average of 1,670 sport fishing business licenses and 1,981 sport fishing guide licenses have been sold annually. 90% of license holders are Alaska residents and the professionalization of the sport fishing guide industry has benefitted both the industry and the resource. The data collected through the program provides the information state and federal managers need to sustainably manage sport fish populations. The program also allows Alaska to receive an exemption from the National Saltwater Angler Registry; a federal program that would begin levying fees for registration in 2011.

Recognizing the importance of the program, the Alaska legislature extended the program's termination date for one year in 2009; SB 294 proposes to permanently repeal the program's associated termination language in existing statutes in order to allow this valuable program to continue serving Alaskans and their valuable fishery resources.

Brief for HB 143: NO REPEAL SPORT FISH GUIDE LICENSE (Reauthorization of Sport Fish-Guide Licensing Legislation) March 10, 2009

Alaska Department of Fish and Game Contacts:
Charlie Swanton- Charles.Swanton@alaska.gov; phone: 465-6184 or 321-0955
Jennifer Yuhas- Jennifer.Yuhas@alaska.gov; phone: 465-6137 or 388-7951.

Background:

- Original legislation passed in May, 2004; effective January 1, 2005.

- Proposed by the Department for three main reasons:
  1. Information on guide numbers and their fishing activities was either not available or limited in many parts of the state;
  2. Establish minimum standards to operate a business or contract as a guide (safety, liability insurance, US Coast Guard license, etc.) as a means to increase professionalism and reduce speculative entry; and
  3. Provide comprehensive and credible data on guided sport fishing activities to regulatory agencies: Alaska Board of Fisheries (BOF), International Pacific Halibut Commission (IPHC), and North Pacific Fisheries Management Council (NPFMC).

Legislation:

Sec.16.40.260 Sport fishing operator license;
Sec.16.40.270 Sport fishing guide license;
Sec.16.40.280 Reports;
Sec.16.40.290 Penalties for violations.

These legislative sections include licensing provisions and fees (AS. 16.05.340(a)) for sport fishing business owners ($100), sport fishing guides working for the business ($50), and business owners who are also a guide (owner/operator combo $100). The mandatory reporting requirements, logbooks, are for both fresh and saltwater guide activities (freshwater logbooks were instituted in 2005). The penalties for sport fish guiding violations by business owners and guides include possible revocation of their license.

Companion Regulations:

5 AAC 75.075 Sport fishing services and sport fishing guide services; license requirements; regulation of activities.

5 AAC 75.076. Sport fishing services and sport fishing guides reporting requirements.

5 AAC 75.077. Sport fishing guide vessel registration requirements.

Present Benefits and Utility

- A comprehensive list of all sport fishing guides working in salt water is part of the data requirements that will allow Alaska to receive an exemption from participating in the National Saltwater Angler Registry (up to $25/saltwater angler in 2011).

- The logbook data for saltwater anglers has been used extensively within the IPHC and NPFMC for rule making on Pacific Halibut.

- Both freshwater and saltwater logbook harvest data has been presented and utilized by the Alaska Board of Fisheries. Harvest estimate verification studies are being conducted comparing logbook, statewide sport fish harvest survey, and dock side creel programs.

Participation Statistics

- An average of **1,670 sport fishing business licenses** (including owner/operator combo) have been sold (2005-2008); 90% of owners are Alaskan residents.

- An average of **1,981 sport fishing guide licenses** have been sold (2005-2008); 73% of guides are Alaskan residents.

- Based on logbook data, over **1.8 million clients took 453, 611 guided fishing trips** (from 2005 through 2008); 67% of clients fished in saltwater, 33% fished in freshwater and 88% of all clients were nonresidents.

- An average of **2,061 vessels in freshwater and 1,628 vessels in saltwater** were used for guided fishing trips (2005-2008).

Electronic Reporting (Modernization initiative)

- One of Commissioner Lloyd's initiatives is modernization and timelier reporting of recreational harvest data. We are actively working on this task:

    - On July 1, 2009 the point of sale hunting and fishing licensing program will tentatively be launched- this is the first phase of modernization.

    - By October 30, 2009 we will have identified the critical components necessary for electronic logbook reporting.

    - December 31, 2009 we will have completed and published a report on comparison of the 2006-2008 logbook data to statewide harvest survey data regarding harvest estimate precision.

Alaska Department of Fish & Game

2010 Saltwater Sport Fishing Charter Trip Logbook Page

RETURN TO: 333 RASPBERRY ROAD, ANCHORAGE, ALASKA 99518-1565 • QUESTIONS: CALL (907) 267-2369

100001 – 01
LOGBOOK PAGE

TRIP INFORMATION

Complete this section for every trip. Continue on additional pages for trips with more than eight anglers in the same day.

DATE FISHED: ____ / ____ / 2010 ____ ○ AM ○ PM
Month Day Hour Started

2010 FISH & GAME GUIDE LICENSE #:
(assigned to you by ADF&G)

COMMUNITY OR PORT OF OFF-LOADING:
(where fish or clients were off-loaded from vessel)

Targeted Species	Primary Stat. Area Where most fish were caught	No. Of Boat Hours Fished
Salmon:		
Bottomfish:		

INSTRUCTIONS: Complete one row below for each angler who fished on this trip.

INDIVIDUAL ANGLER AND CATCH INFORMATION

Record sport fishing license number, printed name AND AK residency status for each angler that fished this trip.

Include birthdate (e.g. 8/28/1998) for all anglers under 16.

AK Resident | Non - Resident | Comped Crew

SALMON: Kept / Released | King (28" & larger) | King (under 28") | Coho | Sockeye | Other Salmon

BOTTOMFISH: Halibut | Lingcod | Pelagic Rockfish | Yelloweye Rockfish | Nonpelagic Rockfish (excluding Yelloweye) | Sablefish (Black Cod) | Salmon Shark | All Other Fish

	License Number	First / Last Name (and birthdate for angler under 16)	AK Resident	Non - Resident	Comped Crew	Kept / Released	King (28" & larger)	King (under 28")	Coho	Sockeye	Other Salmon	Halibut	Lingcod	Pelagic Rockfish	Yelloweye Rockfish	Nonpelagic Rockfish	Sablefish (Black Cod)	Salmon Shark	All Other Fish
1.			○	○	○	K ▸													
						R ▸													
2.			○	○	○	K ▸													
						R ▸													
3.			○	○	○	K ▸													
						R ▸													
4.			○	○	○	K ▸													
						R ▸													
5.			○	○	○	K ▸													
						R ▸													
6.			○	○	○	K ▸													
						R ▸													
7.			○	○	○	K ▸													
						R ▸													
8.			○	○	○	K ▸													
						R ▸													

CERTIFICATION: I certify that the information contained in this document is true and correct to the best of my knowledge.

X GUIDE SIGNATURE

PAGE ____ OF ____

Form 11-340 (01-2010)

4162

Special Publication No. 09-11

Participation, Effort, and Harvest in the Sport Fish Business/Guide Licensing and Logbook Programs, 2006-2008

by

Dora Sigurdsson

and

Bob Powers

September 2009

Alaska Department of Fish and Game

Divisions of Sport Fish and Commercial Fisheries

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Symbols and Abbreviations

The following symbols and abbreviations, and others approved for the Système International d'Unités (SI), are used without definition in the following reports by the Divisions of Sport Fish and of Commercial Fisheries: Fishery Manuscripts, Fishery Data Series Reports, Fishery Management Reports, and Special Publications. All others, including deviations from definitions listed below, are noted in the text at first mention, as well as in the titles or footnotes of tables, and in figure or figure captions.

Weights and measures (metric)

centimeter	cm
deciliter	dL
gram	g
hectare	ha
kilogram	kg
kilometer	km
liter	L
meter	m
milliliter	mL
millimeter	mm

Weights and measures (English)

cubic feet per second	ft^3/s
foot	ft
gallon	gal
inch	in
mile	mi
nautical mile	nmi
ounce	oz
pound	lb
quart	qt
yard	yd

Time and temperature

day	d
degrees Celsius	°C
degrees Fahrenheit	°F
degrees kelvin	K
hour	h
minute	min
second	s

Physics and chemistry

all atomic symbols	
alternating current	AC
ampere	A
calorie	cal
direct current	DC
hertz	Hz
horsepower	hp
hydrogen ion activity (negative log of)	pH
parts per million	ppm
parts per thousand	ppt, ‰
volts	V
watts	W

General

Alaska Administrative Code	AAC
all commonly accepted abbreviations	e.g., Mr., Mrs., AM, PM, etc.
all commonly accepted professional titles	e.g., Dr., Ph.D., R.N., etc.
at	@
compass directions:	
east	E
north	N
south	S
west	W
copyright	©
corporate suffixes:	
Company	Co.
Corporation	Corp.
Incorporated	Inc.
Limited	Ltd.
District of Columbia	D.C.
et alii (and others)	et al.
et cetera (and so forth)	etc.
exempli gratia (for example)	e.g.
Federal Information Code	FIC
id est (that is)	i.e.
latitude or longitude	lat. or long.
monetary symbols (U.S.)	$, ¢
months (tables and figures): first three letters	Jan,...,Dec
registered trademark	®
trademark	™
United States (adjective)	U.S.
United States of America (noun)	USA
U.S.C.	United States Code
U.S. state	use two-letter abbreviations (e.g., AK, WA)

Measures (fisheries)

fork length	FL
mideye to fork	MEF
mideye to tail fork	METF
standard length	SL
total length	TL

Mathematics, statistics

all standard mathematical signs, symbols and abbreviations	
alternate hypothesis	H_A
base of natural logarithm	e
catch per unit effort	CPUE
coefficient of variation	CV
common test statistics	(F, t, χ^2, etc.)
confidence interval	CI
correlation coefficient (multiple)	R
correlation coefficient (simple)	r
covariance	cov
degree (angular)	°
degrees of freedom	df
expected value	E
greater than	>
greater than or equal to	≥
harvest per unit effort	HPUE
less than	<
less than or equal to	≤
logarithm (natural)	ln
logarithm (base 10)	log
logarithm (specify base)	$\log_2$, etc.
minute (angular)	'
not significant	NS
null hypothesis	H_O
percent	%
probability	P
probability of a type I error (rejection of the null hypothesis when true)	α
probability of a type II error (acceptance of the null hypothesis when false)	β
second (angular)	"
standard deviation	SD
standard error	SE
variance	
population	Var
sample	var

SPECIAL PUBLICATION NO. 09-11

PARTICIPATION, EFFORT, AND HARVEST IN THE SPORT FISH BUSINESS/GUIDE LICENSING AND LOGBOOK PROGRAMS, 2006-2008

by

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Division of Sport Fish, Research and Technical Services
333 Raspberry Road, Anchorage, Alaska, 99518-1599

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The Special Publication series was established by the Division of Sport Fish in 1991 for the publication of techniques and procedures manuals, informational pamphlets, special subject reports to decision-making bodies, symposia and workshop proceedings, application software documentation, in-house lectures, and became a joint divisional series in 2004 with the Division of Commercial Fisheries. Special Publications are intended for fishery and other technical professionals. Special Publications are available through the Alaska State Library, Alaska Resources Library and Information Services (ARLIS) and on the Internet: http://www.sf.adfg.state.ak.us/statewide/divreports/html/intersearch.cfm. This publication has undergone editorial and peer review.

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ABSTRACT

In 2006, 1,677 sport fishing businesses and 3,454 guides licensed under the Alaska Department of Fish and Game guide and business registration program, signifying intent to provide sport fishing services in Alaska. The program licensed 1,695 businesses and 3,531 guides in 2007, and 1,659 sport fishing businesses and 3,522 sport fishing guides in 2008. Of the 1,659 sport fishing businesses registered in 2008, 1,525 were combination owner/guide licenses. Based on the 2008 physical addresses of both the businesses and guides, 90% of the businesses were residents of Alaska, and 10% were from other residency strata (defined as nonresidents), 72% of the guides were residents and 28% were nonresidents.

Of the 2,553 saltwater logbooks issued in 2008, 2,089 were activated, and of the 2,538 freshwater logbooks issued in 2008, 1,785 were activated. Of those businesses that submitted logbook information in 2008, 58% offered saltwater services, and 42% offered freshwater guided services. In 2006, logbook records show that 1,368 saltwater vessels were active, 1,409 were active in 2007 and 1,355 were active in 2008. On average during those three years, 55% of the saltwater vessels were active in Southeast Alaska and 45% were active in Southcentral Alaska.

A total of 65,671 saltwater charter trips were conducted in 2006, 67,152 trips in 2007, and 62,006 trips in 2008 statewide. On average, 84% of the saltwater angler days were nonresidents, 12% were residents and 4% were crew, comped fishing or unknown residency. In freshwater, 46,781 trips were taken in 2006, 48,697 in 2007, and 48,501 in 2008. Of the statewide freshwater trips, 90% of the angler days were nonresidents, 8% were residents, and 2% were crew fishing or unknown residency.

Average saltwater salmon harvests between 2006 and 2008 show that coho and king salmon were the predominant species, consisting of 67% and 15% of the harvest respectively statewide. Saltwater bottomfish harvests between 2006 and 2008 show that Pacific halibut were the predominant species with 68% of the total saltwater harvest statewide. Total halibut harvest statewide ranged from 379,473 fish in 2007 to a low of 339,718 fish in 2008. In freshwater, coho salmon were the predominant harvested species, followed by sockeye and then king salmon.

Key words: Sport fishing, guide and business registration, freshwater logbook, saltwater logbook, participation, effort, harvest, sport fishing vessel, Pacific halibut, salmon, bottomfish, Southeast Alaska, Southcentral Alaska

BACKGROUND

The Alaska Department of Fish and Game (ADF&G) Division of Sport Fish (DSF) has operated a program since 1998 to register and license both sport fishing guides and sport fishing guide businesses and to collect information on sport fishing participation, effort, and harvest by saltwater and freshwater guided clients. This report briefly summarizes the approach, history, and results of this program for 2006 through 2008.

GUIDE AND BUSINESS REGISTRATION AND LICENSING

The activities of the guided sport fishing industry in Alaska have significantly increased in recent years with implications to fish allocation and management decisions. Resolution of related issues was hampered by lack of information regarding the industry and its impact on fishery resources in many parts of Alaska. The sport fishing guide and business registration and licensing programs were designed to provide a comprehensive system to better define this diverse industry throughout Alaska. A brief history of the statewide registration and licensing process follows.

Beginning in May 1995 the owner(s) of any business that engaged in sport fish guiding of anglers anywhere in Alaska were required to register their business information, employees acting as sport fishing guides for the business, and listing all vessels used for guiding. In 1997 sport fishing guides were required to register and provide information about the employing business (Dean 2001; Dean and Howe 1999).

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In 1998, the Alaska Board of Fisheries (BOF) adopted new statewide sport fishing guide registration regulations and definitions during their February Statewide Finfish meeting in Girdwood, Alaska (5 AAC 75.075: *Sport Fishing Services and Sport Fishing Guide Services; License Requirements; Regulations of Activities).* It should be stressed that this was a registration process, not a licensing process. No fees were required and businesses and guides were allowed to provide services in any area of the state, assuming other regulatory requirements were met. In 1998 ADF&G registered guide businesses and guides and stopped registering charter vessels, because the Commercial Fisheries Entry Commission (CFEC) implemented a licensing program for all vessels to be used for guided sport fishing. From 1998 through 2004, ADF&G continued to register sport fishing businesses and sport fishing guides.

On May 11, 2004, the Alaska Legislature adopted House Bill 452 (HB 452), that established licensing requirements for sport fishing guide business owners and sport fishing guides on a statewide basis. This bill was created to establish minimum professional standards that were required of both freshwater and saltwater sport fish guides and business owners before a license could be obtained. The standards were established to protect consumers and to promote the viability and legitimacy of a professional sport fish guide industry. Businesses providing sport fish guided services were now required to obtain a State of Alaska Occupational Business License and hold liability insurance with a minimum of $300,000 coverage for all incidents in a year (AS 16.40.260). Licensed sport fishing guides were required (1) to be citizens of the United States, Canada, or Mexico, (2) hold a current first aid card, (3) have a current year Alaska sport fishing license and (4) have a valid U.S. Coast Guard operator's license if they were to operate a motorized vessel in navigable waters. License application forms and the information collected have remained consistent in design from 2006 through 2008 (Appendix A).

LOGBOOKS

In February, 1998 the BOF adopted regulations (5 AAC 75.076) requiring logbooks for saltwater charter vessels statewide. Information on the amounts and locations of charter activity and actual participation and harvest by individual vessels and businesses was needed by the BOF for allocation and management of Chinook salmon *Oncorhynchus tshawytscha*, rockfish *Sebastes* spp., and lingcod *Ophiodon elongatus*, and by the North Pacific Fisheries Management Council (NPFMC) for allocation of Pacific halibut *Hippoglossus stenolepis*. To meet these information needs ADF&G implemented a saltwater sport fishing charter vessel logbook program for DSF Region I, Southeast Alaska (Southeast), and Region II, Southcentral Alaska (Southcentral; Table 1; Figure 1).

In 1999, the NPFMC was considering proposals to limit the guided sport halibut harvest. Their concerns were: (1) that growth in this fishery was reallocating resources away from the individual fishing quota (IFQ) commercial longline fishery, and (2) that in some areas there was overcapitalization and localized depletion of the halibut resource. NPFMC endorsed a two-prong approach to resolve the perceived impact of increased guided charter halibut fishing. The first was establishment of guideline harvest limits (GHL) for International Pacific Halibut Commission (IPHC) Areas 2C and 3A (Figure 2), and the second was a process to establish local area management plans for halibut fisheries in coastal communities.

Since 1998, the logbook design has undergone annual revisions, driven primarily by changes or improvements in the collection of halibut, lingcod and rockfish data through the logbook program, Statewide Harvest Survey (SWHS), and expanded port sampling programs. House Bill

452, adopted in 2004, not only established new licensing requirements, but also established a logbook reporting requirement for all freshwater businesses in addition to the existing saltwater reporting requirements. For various reasons, both technical and policy-based, information on halibut harvests was not collected from 2002 through 2005. The collection of halibut data was resumed in 2006. In addition, the 2006 logbook was redesigned to require reporting of angler license numbers and the harvest and release numbers by angler in an effort to improve reporting and facilitate evaluation of the quality of logbook data (Appendix C).

The data from logbooks are compiled to show where fishing effort occurs, the extent of participation, and the species and numbers of fish kept and released by individual clients. This information is used for regulation and the development and management of fisheries, for project evaluation, and for formulation of department policies and priorities that reflect angler needs, concerns, and preferences. It also provides ADF&G with a tool to promote management of Alaska's resources for sustained yield.

Table 1.–Division of Sport Fish regions and management areas.

Regions	
SE	Southeast Alaska
SC	Southcentral Alaska
AYK	Arctic-Yukon-Kuskokwim
Areas	
Southeast Alaska	
A	Ketchikan
B	Prince of Wales Island
C	Kake, Petersburg, Wrangell, Stikine
D	Sitka
E	Juneau
F	Haines-Skagway
G	Glacier Bay
H	Yakutat
Southcentral Alaska	
J	North Gulf Coast/Prince William Sound
K	Knik Arm Drainage
L	Anchorage
M	Susitna River Drainage
N	West Side Cook Inlet
P	Kenai Peninsula
Q	Kodiak
R	Naknek River Drainage/Alaska Peninsula Area
S	Kvichak River Drainage
T	Nushagak, Wood River and Togiak
Arctic-Yukon-Kuskokwim	
I	Upper Copper River Drainage
U	Tanana River Drainage
V	Kuskokwim River/Kuskokwim Bay Drainages
W	Norton Sound/Seward Peninsula
X	Northwest Alaska
Y	Yukon River Drainage
Z	North Slope/Brooks Range

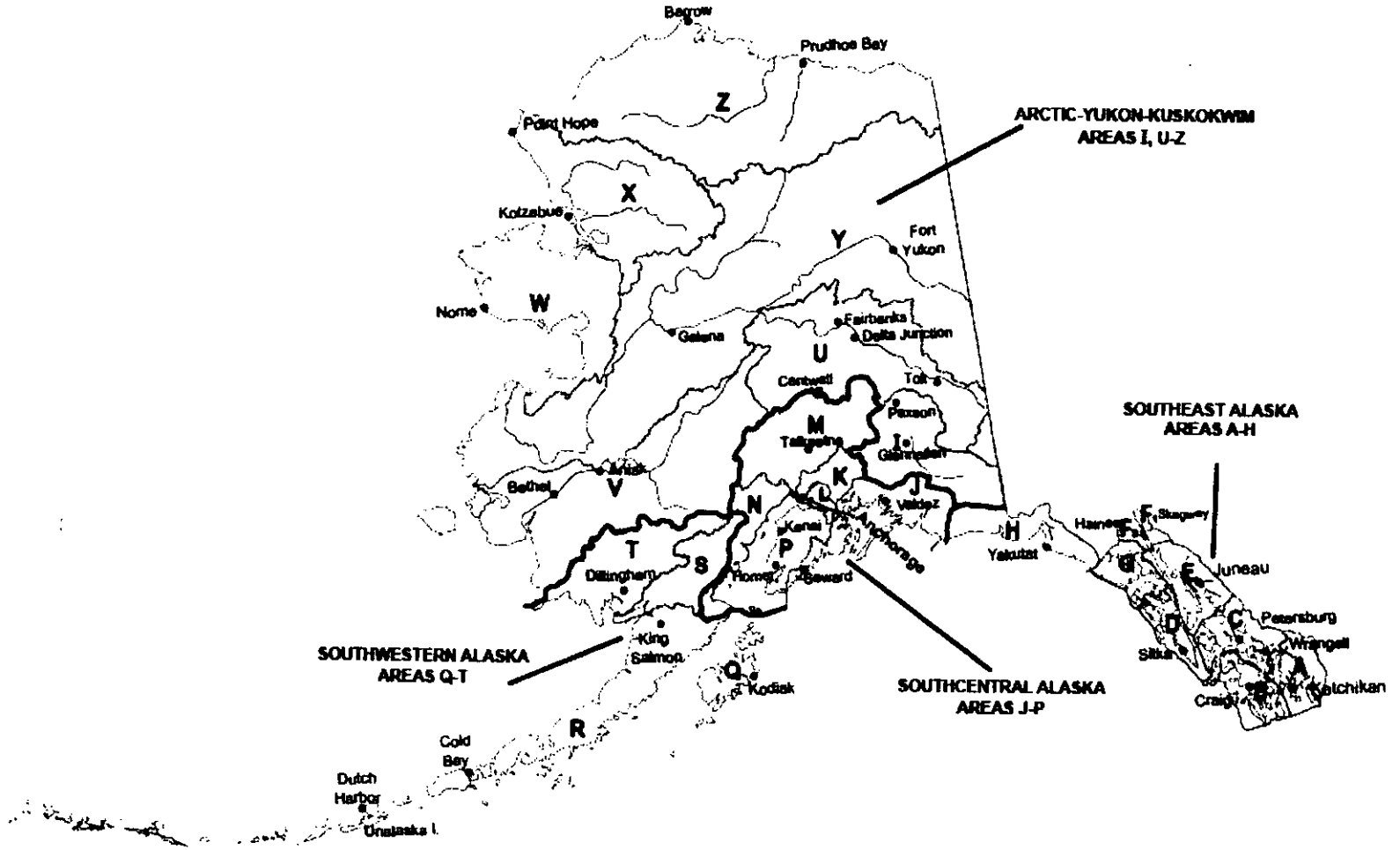

Figure 1.–Map of Alaska and Division of Sport Fish regions and management areas.

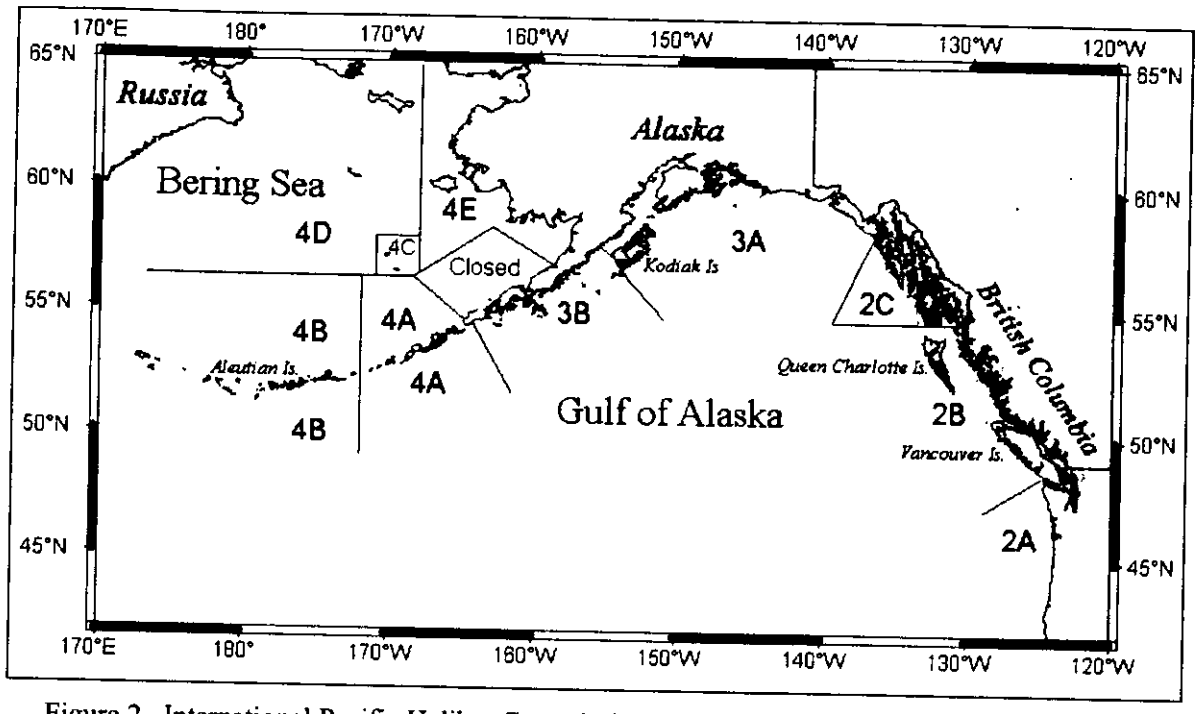

Figure 2.–International Pacific Halibut Commission (IPHC) regulatory areas.

Currently, a logbook record is required for every chartered or guided trip taken with clients, defined as an outing with one group of clients that ends when the clients and their fish (if fish were kept) are offloaded. Each trip is associated with an individual licensed business and guide.

VESSEL REGISTRATION

In addition to establishing a licensing program and statewide freshwater logbook requirement, HB 452 included establishment of a vessel registration program to be conducted by ADF&G as part of the logbook program to monitor the number of vessels used in the guided marine and freshwater fisheries. All boats used in marine or fresh water were referred to as "charter or guide boats" regardless of their size or the manner in which they are used. All vessels used in the charter guide industry were required to be registered with ADF&G. Vessel registration information was collected when logbooks were issued to a business. Registration information included the Department of Motor Vehicles or DMV number or the U.S. Coast Guard vessel documentation number. Upon completion of vessel registration with ADF&G, each vessel was provided with two decals and year tags to indicate that the vessel is used in the guide industry (Appendix B3 and B4). Decals must be applied and visible on both sides of the vessel.

METHODS

GUIDE AND BUSINESS LICENSING

Businesses and guides can be licensed to provide sport fishing guided services if they meet the minimum qualifications specified in regulation (AS 16.40.260 and AS 16.40.270).

During the month of January from 2006 through 2008, the Division of Sport Fish mailed renewal license applications to each sport fishing guide and sport fishing business that was licensed in the previous year. In addition, guides and businesses could obtain a license in person at local

ADF&G offices or through the Internet. The license applications could be used in any of three ways (Appendix A):

- To license a business only,
- To license a guide only,
- To license a combination business and guide (an owner/operator where the owner also conducted the guiding).

The licensing process collected business owner or guide name, permanent mailing information, permanent and inseason phone number if applicable. Additionally, the name of the business, name of the business owner, occupational business license number, insurance company information and insurance binder or policy number and effective dates were required. A guide is required to be a citizen of the United States, Canada, or Mexico, hold a current first aid card and have a current year Alaska sport fishing license along with any tags or permits required for specific fisheries. If a guide planned to operate a motorized vessel on navigable waters with clients on board, the guide was required to have a current U.S. Coast Guard Operator's License and provide that number and expiration date on the license application.

Unique license numbers were assigned according to how licensing occurred. License numbers did not remain the same in subsequent years. If an operator or guide licensed at an ADF&G office, a pre-numbered application was used and that number became the license number for that year. Renewal or internet license applications were randomly assigned numbers by the computer database that processed the information

Once the license applications were reviewed for completeness and accuracy, DSF mailed a wallet-sized license to each guide or business. Those applicants who licensed by going to an ADF&G office received a copy of their license, which allowed them to operate immediately. Those who licensed using the renewal application or by applying through the Internet, were required to wait until they received their license in the mail prior to operating or providing guiding services.

LOGBOOK DATA COLLECTION

A standard statewide saltwater logbook design was used from 2006 through 2008 (Appendix B). The freshwater logbook underwent very few changes between 2006 and 2008. Logbook reporting is a mandatory process governed by regulation (AS 16.40.280). As such, the reporting process was considered to be a census of all charter/guided trips. Logbooks were available and issued from ADF&G area offices located statewide, in addition to vendors located in Valdez and Seward.

Other than a few minor design changes, both the saltwater and freshwater logbooks collected the same information during all three years. Some changes were made to improve or simplify the use of the forms based on operator input, and to improve the capture of client and crew harvest information. Some of the annual design changes in the saltwater logbook were driven primarily by changes or improvements in the collection of halibut and rockfish data, and by requests from the NPFMC for information needed for allocation of halibut. In 2006, both logbooks were redesigned to require reporting of angler license numbers and the harvest and release numbers by angler in an effort to improve reporting and facilitate evaluation of the quality of logbook data. The most significant changes made to the saltwater logbook occurred between 2005 and 2006 (Appendix C).

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Changes between the 2005 and 2006 saltwater logbooks included:

- The data page design went from a single page designed to collect information from nine different trips to a data page that collected information from one unique trip per page.
- A section to collect Business and Vessel Information was added. Business and Guide license numbers along with the Alaska Boat Registration number (AK. #) or U.S.C.G. documentation number was recorded on every data page. This information was intended to confirm that the information was associated with the correct business on record, and to validate the vessel registration information.
- A section to collect Trip information was added. Trip information collected the date fished, port or community where clients or fish were off-loaded, total number of clients on the vessel including those that did not fish, targeted species (salmon or bottomfish), primary statistical area fished, maximum number of rods fished, and number of boat hours fished. This design change resulted in more detailed information unique to each trip taken with a group of clients.
- A section to collect Individual Angler and Catch Information was added. In 2006, the collection of halibut information resumed. The new design also required the reporting of individual angler license numbers along with harvest and release numbers by angler in an effort to improve reporting and facilitate evaluation of the quality of logbook data.
- A signature line was added that required the guide who led the trip to sign their name certifying that the information was true and correct to the best of their knowledge.
- A notice statement drafted by the NPFMC was printed within the front cover of the 2006 saltwater logbook. The notice announced that a control date of December 9, 2005 was being established. Those businesses and guides not participating in the Southeast or Southcentral charter halibut industry by this date might not be eligible for future access and/or quota in these fisheries.

No significant changes took place in the freshwater logbook design between 2005 and 2006 (Appendix D).

Changes between the 2006 and 2007 saltwater logbooks include:

- Additional client information was obtained, to indicate if "comped" anglers fished. A "comped" angler was an angler who did not compensate the guide for that charter trip. By including "comped" anglers, the data captured by onsite dockside samplers and data from the logbook census were more comparable, since all anglers on board a charter vessel and their catches were now being counted.
- Vessel AK # or U.S.C.G. documentation numbers were no longer being collected on each data page. The vessel information collected during the logbook assignment to a business on the sign-out sheet was adequate.

No significant changes took place in the freshwater logbook design between 2006 and 2007 (Appendix D).

The changes to the saltwater logbook forms between 2007 and 2008 were in response to requests by the NPFMC in an effort to continue improvement in the collection of halibut information in preparation for a potential IFQ or moratorium program. Changes between the 2007 and 2008 saltwater logbooks include:

- A request to collect information on the port or community where the fishing trip began.
- Indicate the IPHC area fished: 2C, 3A, 3B or 4.
- The collection of the angler's first and last name in addition to the angler license number.
- The number of halibut kept year-to-date (YTD) in IPHC area 2C in anticipation of an annual limit on guided halibut harvest per client. The annual limit was never implemented but this column had already been added and logbooks distributed prior to the decision to not implement an annual halibut limit.
- The signature of an angler on the back side of each trip sheet if that angler kept halibut in 2C as verification of the information provided on the data page.

No significant changes took place in the freshwater logbook between 2007 and 2008 (Appendix D).

Saltwater Logbook Forms

A saltwater logbook consisted of the cover page, schedule of reporting deadlines, one logbook check out sheet to show the business to which the logbook was issued and register the saltwater vessel, a set of instructions for filling out the information on the logbook sheets, and 50 data sheets to record trip information. Data collection on each of the 50 pages consisted of:

- ADF&G business owner license number;
- ADF&G guide license number for the guide leading the trip;
- Date that fishing took place;
- Port or community where fishing began;
- Port or community of off loading,
- Total number of paying clients on the vessel (including those that did not fish, but not including "comped" anglers or crew members that fished);
- Primary statistical area fished while targeting salmon or bottomfish;
- Number of boat hours fished;
- Crew, client, and "comped" angler's current ADF&G sport fishing license or PID (permanent fishing license) number, birthdate of youth anglers under the age of 16;
- First and last name of each client and youth angler;
- Client residency(Alaska resident/nonresident of Alaska);
- A breakdown by fish species kept (and/or released) by each individual angler.

During a saltwater charter trip, the operator must decide if his/her gear or fishing methods are effectively targeting bottomfish, salmon or both. A 6-digit statistical code where most of the fish were caught or targeted is logged for each trip. Statistical maps were provided to the operator upon logbook issuance.

Saltwater species information collected included kept and released information for "large" Chinook (king salmon) 28" and longer and for "small" Chinook (king salmon) less than 28". Also recorded were coho *O. kisutch*, sockeye *O. nerka*, pink *O. gorbuscha*, and chum *O. keta*

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salmon, halibut, lingcod, pelagic rockfish, yelloweye, and other nonpelagic rockfish, salmon shark *Lamna ditropis*, and a category for the number of all other species not already listed (Appendix C).

To determine the number of businesses and guides that were "active" in the industry, a cross reference is made to the logbooks to determine if actual guided trips were provided. If ADF&G received at least one charter vessel trip form that reported targeted effort, the charter operation turning in the form was considered an "active" bottomfish or salmon charter operator with an "active" vessel.

Freshwater Logbook Forms

A freshwater logbook consisted of the cover page, schedule of reporting deadlines, one logbook check out sheet to show the business to which the logbook was issued, a freshwater vessel registration page that collects the unique AK # assigned by the Department of Motor Vehicles (DMV) or a United States Coast Guard (USCG) documentation number and primary drainage, a set of instructions for filling out the information on the logbook sheets, and 50 data sheets to record trip information. Data collection on each of the 50 pages consisted of:

- ADF&G guide license number,
- Date that fishing took place,
- Specific name of river, stream or lake fished,
- Site code of site fished as reference within a list provided with each logbook,
- Number of logbook pages used for a specific trip,
- Name of any other species kept,
- Crew, client, and "comped" angler's current ADF&G sport fishing license number, and a youth angler designation for anglers under 16 years of age.
- Client residency,
- A breakdown by fish species kept and released.

Upon acquiring a freshwater logbook, the operator registers all vessels that may be used during the course of the fishing season. Freshwater vessel registration requires that the vessel already have a unique AK # assigned by DMV or a USCG documentation number. Freshwater vessels primarily have AK #'s. The operator must provide the AK # and indicate the primary freshwater drainage where the vessel will operate.

The freshwater logbook does not collect targeted species information like the saltwater logbook, it collects information on species kept and released regardless of what was targeted or sought after. A trip is counted if a logbook data page is submitted with effort information regardless of catch. Freshwater trips are assigned a region of the state based on the name of the site fished, each freshwater site is assigned a unique regional alpha code followed by a numeric code within the region in which it is located (Table 1).

Freshwater information collected were: kept and released numbers for king, coho, and sockeye salmon, cutthroat *O. clarkii*, rainbow and steelhead trout *O. mykiss*, lake trout *Salvelinus namaycush*, Dolly Varden *S. malma*, Arctic grayling *Thymallus arcticus*, northern pike *Esox lucius*, sheefish *Stenodus leucichthys* and a category for the number of all other fish not already listed (Appendix D).

Business operators are allowed to and even encouraged to pick up as many logbooks as they anticipated needing during the course of the season. The ability to acquire as many logbooks as are needed prevents them from having to make multiple trips to an ADF&G office. As a result, numerous businesses ended up getting more logbooks than were eventually used. Because of this, ADF&G differentiates between the number of logbooks issued versus the number that are actually used or activated.

LOGBOOK OUTREACH AND VERIFICATION

In December 2005, the Commissioner of the ADF&G issued a statement that detailed the strategies for assuring the accuracy of reporting of Pacific halibut harvest for the saltwater charter logbook. (Appendix E).

Outreach

An outreach program was initiated to reach as many operators as possible to field questions and to ensure compliance with the reporting requirements. The outreach program was conducted on-site (in the field) by ADF&G employees and off-site from the Anchorage ADF&G office.

On-site Logbook Inspections

Logbook outreach occurred in parts of Southeast and Southcentral regions in conjunction with existing creel survey and port sampling programs. "Courtesy logbook inspections" were conducted as time allowed by ADF&G creel and port sampling technicians during their regular dockside checks of the primary fisheries from May through September. In addition, management staff conducted periodic checks of charter logbooks, mostly in 2006. Logbooks were inspected to make sure that they were filled out correctly, and staff answered any questions about how they should be filled out. These checks were not intended for enforcement or for evaluating the accuracy of data but rather as another opportunity to encourage compliance and completeness and as an indicator of how important logbook data are to ADF&G. These inspections were conducted as time allowed by ADF&G creel and port sampling technicians during their regular dockside checks for the primary fisheries from May through September.

Off-site Logbook Review

The goal of the outreach program was to ensure compliance with all reporting requirements, by emphasizing education early in the season. Off-site outreach was conducted by the Division of Sport Fish, Research and Technical Services (RTS) staff in the Anchorage office. All logbook trip data was subject to a reporting deadline. Logbook data pages were required to be completed and returned to ADF&G on a weekly basis as specified in the instructions of both the saltwater and freshwater logbooks. Timely submission was a requirement to facilitate recall and to allow ADF&G staff to review each data page for completeness and legibility. All logbook data sheets were received by RTS in Anchorage where ADF&G data entry staff date-stamped each data page with the date received, reviewed each page for incomplete, illegible or erroneous information, and conducted phone calls to business owners and guides for follow up and clarification. Calls early in the season were intended to alleviate repeat errors in reporting which were thought to result in fewer calls being necessary later in the fishing season.

As logbook data sheets were received, RTS staff conducted reviews by monitoring all data for completion and legibility prior to data entry. In the event that some of the logbook data sheets required verification from the operator or guide, staff would place phone calls

Phone calls to the business owners and guides significantly improved the quality of the data, minimized reoccurring mistakes by the guide, increased compliance, and contributed to the outreach portion of this program. Logbook data entry staff contacted charter operators to resolve logbook reporting issues and to improve future reporting. These calls were intended to improve data quality and reinforce the message to the guide industry that logbook data are important and are consistently being reviewed. In 2006, 3,011 calls were made to operators, 1,415 in 2007 and 2,160 in 2008. Follow up phone calls have become a valuable outreach tool and will continue to be a standard procedure in the future.

Verification

Logbook data were compared to actual counts of harvested fish (verified) and to reported harvest data (unverified) from onsite interviews. These comparisons are ongoing and are part of a more comprehensive evaluation of logbook data quality (Meyer et al. 2008).

Two unique methods were used to conduct post-season verification of logbook data:

1. A comparison was made between logbook data and guided trip information collected from the Alaska Statewide Harvest Survey (SWHS; Jennings et al. 2007).
2. The data collected from the logbooks was compared to the data collected in the saltwater creel programs administered through ADF&G. Saltwater creel programs include the *Assessment of Recreational Halibut and Groundfish Harvest in Southcentral Alaska* program in Homer, the *Haines Marine Sport Fishery Harvest in Southeast Alaska*(Chapell *In prep*), and the *Harvest estimates for selected marine sport fisheries in Southeast Alaska* (Wendt and Jaenicke *In prep*).

RESULTS

GUIDE AND BUSINESS LICENSING

In 2006, 1,677 sport fishing businesses and 3,454 guides were licensed with ADF&G. In 2007, 1,695 businesses and 3,531 guides were licensed, and in 2008, 1,659 sport fishing businesses and 3,522 sport fishing guides were licensed with ADF&G to provide sport fishing services in Alaska. The total number of businesses and guides includes all saltwater and freshwater operators. Of the 1,659 sport fishing businesses licensed in 2008, 1,525 were combination owner/guide licenses. Physical addresses of both the businesses and guides in 2008 indicated that 90% of the businesses were Alaska residents, and 10% were from other residency strata (defined as nonresidents), 72% of the guides were residents and 28% were nonresidents.

The licensed businesses and guides were subtotaled by region for Southeast, Southcentral, and Other Alaska, including the Arctic-Yukon-Kuskokwim area and nonresident license applicants.

From 2006 through 2008, an average of 28% of the licensed businesses had physical addresses in Southeast, 57% in Southcentral, 5% had permanent addresses in other parts of Alaska, and 10% had nonresident addresses based on their license applications. From 2006 through 2008, an average of 22% of the licensed guides had permanent addresses in Southeast, while 47% in Southcentral, 4% in other parts of Alaska and 27% had nonresident addresses based on their license applications (Table 2).

Based on the submission of saltwater logbook data pages with trip information in 2006, 777 businesses provided saltwater services and 503 provided freshwater services, and 140 businesses

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provided both freshwater and saltwater services. In 2007, 786 businesses provided saltwater services and 513 provided freshwater services and 132 businesses provided both freshwater and saltwater services. In 2008, 766 businesses provided saltwater services and 508 provided freshwater services and 122 businesses provided both freshwater and saltwater services (Table 3 and Table 4).

Table 2.–Number of licensed businesses and guides by region, 2006–2008.

Licensed Businesses [a]			
Region [b]	2006	2007	2008
Southeast	38	39	43
Southcentral	62	70	66
Other Alaska	5	2	2
Resident Total	105	111	111
Other U.S.	25	18	23
Foreign	0	0	0
Nonresident Total	25	18	23
Total business only licenses	130	129	134
Combination Licenses [c]			
Region			
Southeast	432	422	413
Southcentral	891	910	887
Other Alaska	71	74	75
Resident Total	1,394	1,406	1,375
Other U.S.	153	160	150
Foreign	0	0	0
Nonresident Total	153	160	150
Total	1,547	1,566	1,525
Total business only and combination business/guide licenses	1,677	1,695	1,659
Licensed Guides [d]			
Region			
Southeast	346	334	319
Southcentral	731	777	765
Other Alaska	66	75	80
Resident Total	1,143	1,186	1,164
Other U.S.	762	779	831
Foreign	2	0	2
Nonresident Total	764	779	833
Total	1,907	1,965	1,997
Total licensed guides	3,454	3,531	3,522

Note: Data are current as of 07/08/09.

[a] Business only licenses that do not include the owner as a guide.

[b] Region assigned based on physical address indicated at time of licensing.

[c] Combination licenses that include the business and the business owner as the guide.

[d] Guide license only, no business license.

Table 3.–Number of active saltwater businesses and guides by region, 2006–2008.

	Active Businesses[a]			Active Guides[b]		
Region[c]	2006	2007	2008	2006	2007	2008
SE	439	430	429	881	873	860
SC	479	488	459	772	766	740
Total[d]	917	918	888	1,603	1,602	1,562

Note: Data are current as of 07/16/09.

[a] Business counts are based on the business number listed on the signout sheet of a logbook (this can be a business only or a combined business/guide license).

[b] Guide counts are based on the guide number written on each log page (this can be a guide only or a combined business/guide license).

[c] Region is based on the port of offloading, salmon stat area and bottomfish stat area.

[d] Total is not additive because a business or guide could operate in both areas. Includes businesses and guides that offered both saltwater and freshwater services.

Table 4.–Number of active freshwater businesses and guides by region, 2006–2008.

	Active Businesses[a]			Active Guides[b]		
Region[c]	2006	2007	2008	2006	2007	2008
SE	69	73	70	173	177	178
SC	528	528	512	1,224	1,272	1,305
AYK	71	68	69	194	224	222
Site code missing	0	4	7	0	4	7
Total[d]	643	645	630	1,518	1,581	1,636

Note: Data are current as of 07/16/09.

[a] Business counts are based on the business number listed on the signout sheet of a logbook (this can be a business only or a combined business/guide license).

[b] Guide counts are based on the guide number written on each log page (this can be a guide only or a combined business/guide license).

[c] Region is based on the site code provided for the site fished on each log page.

[d] Total is not additive because a business or guide could operate in both areas. Includes businesses and guides that offered both saltwater and freshwater services.

VESSELS

Saltwater

The number of vessels registered to provide saltwater sport fishing charter services was 1,671 in 2006, 1,666 in 2007, and 1,604 in 2008. A vessel, though registered, is not considered "active" unless that vessel was used on a guided trip as indicated by the submission of a logbook data page. Of the 1,671 saltwater vessels registered in 2006, 1,368 were active, of the 1,666 vessels registered in 2007, 1,409 were active, and in 2008 of the 1,604 registered vessels, 1,355 were active in saltwater. Based on the primary port of operation indicated at registration and port of offloading, 746 saltwater vessels operated in Southeast, 621 operated in Southcentral, and 1 vessel operated in both Southeast and Southcentral in 2006. In 2007, 768 saltwater vessels operated in Southeast, 641 operated in Southcentral, and 0 vessels operated in both Southeast and Southcentral. In 2008, 759 saltwater vessels operated in Southeast, 596 operated in Southcentral, and 0 vessels operated in both Southeast and Southcentral (Table 5).

Logbook data indicate that vessels will target all possible species; bottomfish, salmon and both during the course of a fishing season (Table 6).

Table 5.–Number of registered and active saltwater vessels by region, 2006–2008.

	Registered Vessels			Active Vessels		
Region[a]	2006	2007	2008	2006	2007	2008
SE	926	918	907	747	768	759
SC	745	748	697	622	641	596
Total[b]	1,671	1,666	1,604	1,368	1,409	1,355

Note: Data are current as of 07/09/09.

[a] Region is based on primary port of operation listed on sign-out sheet and port of off loading, active is determined by the salmon or bottomfish statistical area.

[b] Total is not additive because vessels can operate in both areas.

Table 6.–Number of active saltwater vessels that made at least one trip in each target category, by region, 2006–2008.

		Target[a]			
Year	Region[b]	Salmon	Bottomfish	Both	No Statistical Area
2006	SE	631	495	637	5
	SC	383	551	486	6
	Total	1,014	1,046	1,123	11
2007	SE	637	494	676	49
	SC	377	576	495	32
	Total	1,014	1,070	1,171	81
2008	SE	623	534	649	56
	SC	325	546	441	22
	Total	948	1,080	1,090	78

Note: Data are current as of 07/09/09.

[a] Target is based on salmon and bottomfish statistical areas.

[b] Region is based on primary port of off loading, salmon statistical area and bottomfish statistical area.

Freshwater

Based on the primary drainage and sites fished, many more freshwater vessels operate in Southcentral than in other regions (Table 7).

Table 7.–Number of registered freshwater vessels by year and region, 2006–2008.

Year	SE	SC	AYK	Unknown	Total[a]
2006	131	1,640	219	98	2,086
2007	131	1,657	239	15	2,041
2008	122	1,738	261	8	2,128

Note: Data are current as of 07/14/09.

[a] Total not additive because a vessel could be registered and operate in more than one region.

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TRIPS

Saltwater

Logbook data indicate that 65,671 saltwater charter trips were conducted statewide in 2006, 67,152 trips were conducted in 2007, and 62,006 trips were conducted in 2008. During all three years, a majority of the trips that targeted salmon only occurred in Southeast, whereas, the majority of trips that targeted bottomfish only occurred in Southcentral. During the same three years, operators in Southeast conducted significantly more trips in which both salmon and bottomfish were targeted on the same trip. If a statistical area fished was not provided, no targeted species was assigned (Table 8).

Table 8.–Number of saltwater trips by targeted species by region, 2006–2008.

		Species Targeted[a]				
Year	Region[b]	Salmon[c]	Bottomfish[c]	Both[c]	No Statistical Area	Total
2006	SE	14,309	6,146	18,628	5	39,088
	SC	3,481	15,555	7,537	10	26,583
	Total	17,791	21,702	26,165	15	65,671
2007	SE	12,759	6,144	20,633	62	39,598
	SC	2,876	16,489	8,145	44	27,554
	Total	15,635	22,633	28,778	106	67,152
2008	SE	11,338	7,368	18,634	109	37,449
	SC	2,135	15,733	6,617	72	24,557
	Total	13,473	23,101	25,251	181	62,006

Note: Data are current as of 07/09/09.

[a] Species targeted is based on the provision of salmon and bottomfish statistical areas.

[b] Region is based on the port of offloading, and salmon or bottomfish statistical areas.

[c] The same vessel can make multiple trips targeting either salmon, bottomfish or both.

Freshwater

In 2006, 46,781 freshwater guided fishing trips were taken, 48,697 were taken in 2007, and 48,501 taken in 2008. On average, 84% of the freshwater trips took place in Southcentral, 10% in the Arctic-Yukon-Kuskokwim (AYK) area, and 6% in Southeast (Table 9).

Table 9.–Number of freshwater trips by region, 2006–2008.

	Region[a]			
Year	SE	SC	AYK	Total
2006	3,038	39,512	4,231	46,781
2007	3,256	40,543	4,898	48,697
2008	3,113	40,587	4,801	48,501

Note: Data are current as of 07/16/09.

[a] Region is based on the area code on the site code listed on each log page.

[b] Unknown means the record didn't have a site code listed, thus a region could not be determined.

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LOGBOOK TRIP EFFORT AND HARVEST

Statewide saltwater charter trips appear to have decreased in 2008 after a steady increase between 2006 and 2007, the number of angler days fished declined steadily since 2006. For freshwater guided fishing statewide, the number of trips and angler days fished appeared to remain steady with very slight adjustments (Table 10).

SALTWATER

An average of 82% of the saltwater logbooks that were issued were activated (effort or catch reported) each year. From 2006 through 2008, the saltwater logbook collected client residency. Records show that for those three years, 90% of the angler days of effort in the saltwater charter salmon fishery were conducted by nonresident anglers, compared with 8% by residents and 2% by crew, comped anglers or those of unknown residency. Records also indicate that for those three years, 82% of the angler days of effort in the saltwater charter bottomfish fishery were conducted by nonresident anglers, 14% by residents and 4% by crew fishing, comped anglers or those of unknown residency (Tables 11-16).

Based on the number of angler days fished from 2006 through 2008, 69% of the salmon participation took place in Southeast, and 31% in Southcentral. Within that same time period, 42% of the bottomfish participation took place in Southeast, and 58% occurred in Southcentral (Tables 11-16).

From 2006 through 2008 coho and king salmon were the predominant salmon species harvested, making up 67% and 15% respectively of the harvest statewide, with the remaining 18% consisting of a combination of other salmon (Tables 11, 13, 15).

Halibut were the most harvested bottomfish from 2006–2008, with 68% of the total harvest statewide Halibut harvests were 377,366 fish in 2006, 379,473 fish in 2007, and a low of 339,718 fish in 2008. Statewide, 32% of the halibut harvest occurred in Southeast and 68% occurred in Southcentral (Tables 12, 14, 16).

FRESHWATER

On average, 71% of the freshwater logbooks that were issued were actually activated. From 2006 through 2008, 8% of the freshwater participation occurred in Southeast, 84% occurred in Southcentral, and 8% took place in the Alaska-Yukon-Kuskokwim (AYK) or interior Alaska.

For those three years, 90% of the angler days of effort in the freshwater guided fishery were conducted by nonresident anglers, 8% were residents and 2% were crew fishing, comped anglers or those of unknown residency. The highest percent of nonresident fishing occurred in Southcentral.

From 2006 through 2008 coho, sockeye and king salmon were the predominent salmon species, making up 45%, 29% and 20% respectively on average of the harvest statewide, with the remaining 7% consisting of a combination of other salmon (Tables 17-19).

Table 10.–Saltwater and freshwater trips and angler days by region, 2006–2008.

Year	Region[a]	Saltwater		Freshwater	
		Trips	Angler Days	Trips	Angler Days
2006	SE	39,088	154,549	3,038	11,464
	SC	26,583	175,695	39,512	125,055
	AYK	0	0	4,231	10,888
	Total	65,671	330,244	46,781	147,407
2007	SE	39,599	158,551	3,256	11,671
	SC	27,553	163,964	40,543	126,387
	AYK	0	0	4,898	12,262
	Total	67,152	322,515	48,697	150,320
2008	SE	37,449	150,793	3,113	10,730
	SC	24,557	146,717	40,587	126,596
	AYK	0	0	4,801	11,833
	Total	62,006	297,510	48,501	149,159

Note: Data are current as of 08/28/09.

Table 11.–Saltwater salmon effort and harvest by region, 2006.

Region[a]	Type of Angler	Angler Days[b]	King salmon		Coho	Sockeye	Pink	Chum
			Large ≥ 28"	Small < 28"				
SE	Resident	2,028	1,676	29	2,021	7	254	50
	Nonresident	126,010	54,034	1,018	131,943	831	26,738	2556
	Crew	503	30	0	41	56	11	7
	Unknown	1,697	808	15	1,825	4	453	30
	Total	130,238	56,548	1,062	135,830	898	27,456	2,643
SC	Resident	13,250	1,613	102	15,670	106	662	33
	Nonresident	44,086	8,292	476	57,340	619	4,574	287
	Crew	7,560	532	57	3,643	100	227	10
	Unknown	468	26	1	718	14	89	0
	Total	65,364	10,463	636	77,371	839	5,552	330
Total	Resident	15,278	3,289	131	17,691	113	916	83
	Nonresident	170,096	62,326	1,494	189,283	1,450	31,312	2,843
	Crew	8,063	562	57	3,684	156	238	17
	Unknown	2,165	834	16	2,543	18	542	30
	Total	195,602	67,011	1,698	213,201	1,737	33,008	2,973

Note: Data are current as of 07/09/09.

[a] Region is based on the port of offloading, salmon statistical area and bottomfish statistical area.

[b] Angler days totals all anglers who fished on a day when a salmon statistical area was entered, plus angler days where an angler harvested a salmon when a bottomfish statistical area was provided.

Table 12.–Saltwater bottomfish effort and harvest by region, 2006.

Region[a]	Type of Angler	Angler Days[b]	Halibut	Lingcod	Rockfish			Salmon Shark
					Pelagic	Yelloweye	Other Non-Pelagic	
SE	Resident	1,973	2,425	239	433	284	260	0
	Nonresident	100,311	110,050	12,313	37,004	20,255	16,006	60
	Crew	592	176	37	70	6	19	0
	Unknown	1,421	1,771	172	704	222	230	0
	Total	104,297	114,422	12,761	38,211	20,767	16,515	60
SC	Resident	34,662	58,727	2,814	8,123	2,362	917	117
	Nonresident	104,143	175,281	6,835	24,846	4,893	2,072	104
	Crew	19,655	27,708	715	2,182	552	149	3
	Unknown	854	1,228	45	244	64	31	0
	Total	159,314	262,944	10,409	35,395	7,871	3,169	224
Total	Resident	36,635	61,152	3,053	8,556	2,646	1,177	117
	Nonresident	204,454	285,331	19,148	61,850	25,148	18,078	164
	Crew	20,247	27,884	752	2,252	558	168	3
	Unknown	2,275	2,999	217	948	286	261	0
	Total	263,611	377,366	23,170	73,606	28,638	19,684	284

Note: Data are current as of 07/09/09.

[a] Region is based on the port of offloading, bottomfish statistical area and salmon statistical area.

[b] Angler days totals all anglers who fished on a day when a bottomfish statistical area was entered, plus angler days where an angler harvested a bottomfish when a salmon statistical area was provided.

Table 13.–Saltwater salmon effort and harvest by region, 2007.

Region[a]	Type of Angler	Angler Days[b]	King salmon		Coho	Sockeye	Pink	Chum
			Large ≥ 28"	Small < 28"				
SE	Resident	1,892	1,332	13	2,454	4	545	97
	Nonresident	131,423	48,331	1,559	192,163	1,226	68,117	7772
	Comped	206	75	0	181	0	48	2
	Crew	193	27	0	122	8	10	3
	Unknown	476	70	4	576	3	233	32
	Total	134,190	49,835	1,576	195,496	1,241	68,953	7,906
SC	Resident	12,924	1,175	97	20,722	262	720	20
	Nonresident	45,803	6,947	468	70,041	1,196	3,846	204
	Comped	426	60	1	403	4	12	0
	Crew	579	4	0	131	0	8	0
	Unknown	267	15	0	473	1	33	0
	Total	59,999	8,201	566	91,770	1,463	4,619	224
Total	Resident	14,816	2,507	110	23,176	266	1,265	117
	Nonresident	177,226	55,278	2,027	262,204	2,422	71,963	7,976
	Comped	632	135	1	584	4	60	2
	Crew	772	31	0	253	8	18	3
	Unknown	743	85	4	1,049	4	266	32
	Total	194,189	58,036	2,142	287,266	2,704	73,572	8,130

Note: Data are current as of 07/09/09.

[a] Region is based on the port of offloading, salmon statistical area and bottomfish statistical area.

[b] Angler days totals all anglers who fished on a day when a salmon statistical area was entered, plus angler days where an angler harvested a salmon when a bottomfish statistical area was provided.

Table 14.–Saltwater bottomfish effort and harvest by region, 2007.

Region[a]	Type of Angler	Angler Days[b]	Halibut	Lingcod	Rockfish			Salmon Shark
					Pelagic	Yelloweye	Other Non-Pelagic	
SE	Resident	1,747	2,204	159	535	229	286	0
	Nonresident	109,487	120,798	8,429	46,267	19,155	18,078	54
	Comped	176	138	11	48	11	13	0
	Crew	227	79	9	28	18	11	0
	Unknown	314	352	8	92	41	73	0
	Total	111,951	123,571	8,616	46,970	19,454	18,461	54
SC	Resident	34,979	60,016	3,343	11,210	2,475	963	94
	Nonresident	113,337	193,271	11,044	40,488	6,601	2,529	95
	Comped	1,064	1,553	98	393	63	22	0
	Crew	1,166	259	21	60	12	4	0
	Unknown	518	803	66	179	39	8	1
	Total	151,064	255,902	14,572	52,330	9,190	3,526	190
Total	Resident	36,726	62,220	3,502	11,745	2,704	1,249	94
	Nonresident	222,824	314,069	19,473	86,755	25,756	20,607	149
	Comped	1,240	1,691	109	441	74	35	0
	Crew	1,393	338	30	88	30	15	0
	Unknown	832	1,155	74	271	80	81	1
	Total	263,015	379,473	23,188	99,300	28,644	21,987	244

Note: Data are current as of 07/09/09.

[a] Region is based on the port of offloading, bottomfish statistical area and salmon statistical area.

[b] Angler days totals all anglers who fished on a day when a bottomfish statistical area was entered, plus angler days where an angler harvested a bottomfish when a salmon statistical area was provided.

Table 15.–Saltwater salmon effort and harvest by region, 2008.

Region[a]	Type of Angler	Angler Days[b]	King salmon		Coho	Sockeye	Pink	Chum
			Large ≥ 28"	Small < 28"				
SE	Resident	1,762	427	6	1,762	1	371	22
	Nonresident	119,183	20,076	664	122,787	725	46,620	3323
	Comped	129	19	0	81	0	34	3
	Crew	136	6	0	99	0	7	0
	Unknown	476	24	2	343	4	260	9
	Total	121,686	20,552	672	125,072	730	47,292	3,357
SC	Resident	10,336	834	96	12,933	74	904	79
	Nonresident	36,752	4,437	505	47,005	678	4,907	118
	Comped	464	37	9	335	19	44	1
	Crew	763	19	0	164	2	8	1
	Unknown	194	4	2	260	8	10	0
	Total	48,509	5,331	612	60,697	781	5,873	199
Total	Resident	12,098	1,261	102	14,695	75	1,275	101
	Nonresident	155,935	24,513	1,169	169,792	1,403	51,527	3,441
	Comped	593	56	9	416	19	78	4
	Crew	899	25	0	263	2	15	1
	Unknown	670	28	4	603	12	270	9
	Total	170,195	25,883	1,284	185,769	1,511	53,165	3,556

Note: Data are current as of 07/09/09.

[a] Region is based on the port of offloading, salmon statistical area and bottomfish statistical area.

[b] Angler days totals all anglers who fished on a day when a bottomfish statistical area was entered, plus angler days were an angler harvested a salmon when a bottomfish statistical area was provided.

Table 16.–Saltwater bottomfish effort and harvest by region, 2008.

Region[a]	Type of Angler	Angler Days[b]	Halibut	Lingcod	Rockfish			Salmon Shark
					Pelagic	Yelloweye	Other Non-Pelagic	
SE	Resident	1,710	1,819	161	746	265	288	0
	Nonresident	107,631	108,155	7,307	67,901	17,991	20,420	26
	Comped	142	127	7	37	16	30	0
	Crew	164	67	4	92	8	23	0
	Unknown	409	386	20	187	48	149	0
	Total	110,056	110,554	7,499	68,963	18,328	20,910	26
SC	Resident	30,751	52,345	3,538	10,931	2,456	966	37
	Nonresident	102,876	172,889	12,718	39,881	6,458	2,580	31
	Comped	1,374	2,044	232	501	102	53	0
	Crew	1,781	1,281	46	230	34	7	0
	Unknown	391	605	32	138	19	16	0
	Total	137,173	229,164	16,566	51,681	9,069	3,622	68
Total	Resident	32,461	54,164	3,699	11,677	2,721	1,254	37
	Nonresident	210,507	281,044	20,025	107,782	24,449	23,000	57
	Comped	1,516	2,171	239	538	118	83	0
	Crew	1,945	1,348	50	322	42	30	0
	Unknown	800	991	52	325	67	165	0
	Total	247,229	339,718	24,065	120,644	27,397	24,532	94

Note: Data are current as of 07/09/09.

[a] Region is based on the port of offloading, bottomfish statistical area and salmon statistical area.

[b] Angler days counts all anglers who fished on a day when a bottomfish statistical area was entered plus any angler who harvested a bottomfish regardless of whether a bottomfish statistical area was provided.

Table 17.–Freshwater effort and harvest by region, 2006.

Region[a]	Type of Angler	Angler Days	Number Kept							
			King	Coho	Sockeye	Cutthroat	Rainbow	Steelhead	Grayling	Dolly Varden
SE	Resident	106	4	41	30	3	0	0	0	2
	Nonresident	10,970	174	6,849	2,132	109	19	4	25	621
	Crew	179	15	103	91	1	0	0	0	1
	Unknown	209	0	178	21	0	0	0	0	7
	Total	11,464	193	7,171	2,274	113	19	4	25	631
SC	Resident	9,742	2,529	2,467	1,145	0	73	1	0	153
	Nonresident	111,956	20,988	40,480	26,207	6	1426	19	321	1961
	Crew	2,123	55	548	276	1	6	2	0	56
	Unknown	1,234	231	641	448	0	7	0	3	38
	Total	125,055	23,803	44,136	28,076	7	1,512	22	324	2,208
AYK	Resident	883	389	77	255	0	4	0	23	45
	Nonresident	9,573	1,786	3,277	1,013	0	23	0	184	535
	Crew	291	7	5	55	0	0	0	0	14
	Unknown	141	16	79	30	0	0	0	3	0
	Total	10,888	2,198	3,438	1,353	0	27	0	210	594
Total	Resident	10,731	2,922	2,585	1,430	3	77	1	23	200
	Nonresident	132,499	22,948	50,606	29,352	115	1,468	23	530	3,117
	Crew	2,593	77	656	422	2	6	2	0	71
	Unknown	1,584	247	898	499	0	7	0	6	45
	Total	147,407	26,194	54,745	31,703	120	1,558	26	559	3,433

Note: Data are current as of 07/10/09.

[a] Region is based on the SWHS area listed as the first character in the site code.

Table 18.–Freshwater effort and harvest by region, 2007.

Region[a]	Type of Angler	Angler Days	Number Kept										
			King	Coho	Sockeye	Cutthroat	Rainbow	Steelhead	Lake Trout	Grayling	Dolly Varden	Pike	Sheefish
SE	Resident	300	15	205	41	4	0	0	0	0	1	0	0
	Nonresident	11,156	102	6,817	1,979	86	21	27	0	0	1598	0	0
	Comped	44	0	26	28	0	0	0	0	0	0	0	0
	Crew	117	3	105	27	1	0	0	0	0	0	0	0
	Unknown	54	2	25	5	0	0	0	0	0	1	0	0
	Total	11,671	122	7,178	2,080	91	21	27	0	0	1,600	0	0
SC	Resident	11,278	2,429	2,902	1,715	0	198	0	6	4	157	25	0
	Nonresident	112,358	18,675	36,019	35,189	22	2526	62	128	631	3621	147	2
	Comped	572	86	46	107	0	24	0	0	2	69	18	0
	Crew	1,296	52	237	460	1	51	0	0	7	38	4	0
	Unknown	883	131	220	274	0	26	0	0	0	63	2	0
	Total	126,387	21,373	39,424	37,745	23	2,825	62	134	644	3,948	196	2
AYK	Resident	928	426	38	216	0	5	0	2	52	38	40	1
	Nonresident	11,006	1,812	2,660	1,133	0	200	0	10	333	433	101	16
	Comped	125	47	39	20	0	1	0	0	20	17	117	0
	Crew	169	21	35	35	0	24	0	0	3	16	7	0
	Unknown	34	12	0	1	0	1	0	0	6	0	0	0
	Total	12,262	2,318	2,772	1,405	0	231	0	12	414	504	265	17
Total	Resident	12,506	2,870	3,145	1,972	4	203	0	8	56	196	65	1
	Nonresident	134,520	20,589	45,496	38,301	108	2,747	89	138	964	5,652	248	18
	Comped	741	133	111	155	0	25	0	0	22	86	135	0
	Crew	1,582	76	377	522	2	75	0	0	10	54	11	0
	Unknown	971	145	245	280	0	27	0	0	6	64	2	0
	Total	150,320	23,813	49,374	41,230	114	3,077	89	146	1,058	6,052	461	19

Note: Data are current as of 07/10/09.

[a] Region is based on the SWHS area listed as the first character in the site code.

Table 19.–Freshwater effort and harvest by region, 2008.

Region[a]	Type of Angler	Angler Days	Number Kept										
			King	Coho	Sockeye	Cutthroat	Rainbow	Steelhead	Lake Trout	Grayling	Dolly Varden	Pike	Sheefish
SE	Resident	320	16	136	11	5	0	1	0	1	4	0	0
	Nonresident	10,143	69	5,686	1,069	20	7	1	0	0	586	0	0
	Comped	19	0	10	1	0	0	0	0	0	3	0	0
	Crew	197	7	94	4	0	0	0	0	0	4	0	0
	Unknown	51	0	5	2	0	0	0	0	0	5	0	0
	Total	10,730	92	5,931	1,087	25	7	2	0	1	602	0	0
SC	Resident	11,059	2,096	3,388	1,459	0	55	0	3	4	143	179	0
	Nonresident	113,089	16,967	47,724	30,937	0	614	9	159	254	1925	290	1
	Comped	299	38	97	59	0	0	0	0	0	12	3	0
	Crew	1,306	36	344	143	0	3	0	1	1	44	24	0
	Unknown	843	175	243	208	0	2	0	1	0	9	0	0
	Total	126,596	19,312	51,796	32,806	0	674	9	164	259	2,133	496	1
AYK	Resident	860	285	45	46	0	11	0	2	17	14	17	6
	Nonresident	10,828	1,569	2,676	573	0	57	2	3	61	404	52	54
	Comped	7	3	12	2	0	0	0	0	0	3	0	0
	Crew	112	8	30	26	0	10	0	0	5	10	0	0
	Unknown	26	5	0	1	0	0	0	0	0	0	0	0
	Total	11,833	1,870	2,763	648	0	78	2	5	83	431	69	60
Total	Resident	12,239	2,397	3,569	1,516	5	66	1	5	22	161	196	6
	Nonresident	134,060	18,605	56,086	32,579	20	678	12	162	315	2,915	342	55
	Comped	325	41	119	62	0	0	0	0	0	18	3	0
	Crew	1,615	51	468	173	0	13	0	1	6	58	24	0
	Unknown	920	180	248	211	0	2	0	1	0	14	0	0
	Total	149,159	21,274	60,490	34,541	25	759	13	169	343	3,166	565	61

Note: Data are current as of 07/10/09.

[a] Region is based on the SWHS area listed as the first character in the site code.

DISCUSSION

GUIDE AND BUSINESS LICENSING

The 2006 through 2008 ADF&G guide and business licensing process differed from the registration process prior to 2005 in terms of the approach used, fees, and the information collected on license applications. The current licensing approach reflects changes made in 2005 to reflect the new minimum requirements established by HB 452. Guides and businesses offering guided fishing services are now held to a higher standard of compliance than previous to 2005. Violations of the guide licensing statutes or regulations adopted under HB 452 are either violations or misdemeanors, and courts are authorized to revoke the license of the guide or business under certain conditions, such as repeated convictions within a three-year period.

ADF&G no longer collects the information collected in earlier years on the type (saltwater vs. freshwater) and location (regions/subareas) of services. The 2006-2008 licensing processes have been similar and provide a basis for establishing a long-term database of licensed businesses and guides. Charter/guide business and guide licensing still reflects the intent to operate, while actual activity is confirmed by the submission of logbook trip data.

LOGBOOKS

ADF&G initiated a mandatory saltwater charter logbook program in 1998. The BOF adopted regulations requiring annual registration of sport fishing guides and businesses, and logbook reporting. The logbook and registration/licensing program was intended to provide information on actual participation and harvest by individual vessels and businesses.

Recent emphasis from ADF&G management staff and NPFMC on more timely saltwater data spurred discussions on how to hasten logbook data availability. Currently, logbook data entry involves collecting logbook sheets from the guide, entering the logbook data into a logbook database, and editing the data. This process can take RTS from six to eight weeks. Discussions included the possibility of an electronic submission option that would provide data to ADF&G and NPFMC staff in a more timely manner. Any option for a logbook change would have to include a design that is appealing and easy for the guide industry to use, such that they would perceive it as beneficial to a process that they already consider "burdensome." Electronic reporting options were, at first, appealing to fulfill both management needs and halibut management needs for more timely information. Further discussions concluded that electronic reporting would still necessitate the use of a paper version of the logbook due to enforcement and trip recording requirements. Data would still need to be verified for errors, be entered accurately into a database, and be available for onsite inspection. There are currently no options for going "paperless", and no perceived benefit to managers or the industry that would result from the process. The "paperless" approach would require a change in regulation for reporting requirements along with extensive research into the cost of electronic reporting. The discussion for going "paperless" will continue however.

Upon further discussion and research, an alternative approach was considered. ADF&G programmers researched the option of developing a system that would electronically scan the image of a redesigned logbook data page. Scanned images would minimize data entry time but allow for data entry personnel to fix images flagged as unrecognizable, thus maintaining data accuracy and quality. This option is not any more "burdensome" to the industry and would

likely make the weekly reporting requirement more palatable knowing that the data would be more immediately available.

In 2010, a field test of the redesigned saltwater logbooks will be conducted to test the new scannable saltwater logbook data page and scanning software. Upon review of the test data pages and likely adjustments to the design, it is hoped that this new design will be fully adopted and implemented by 2011.

Preliminary results from verification studies comparing the accuracy of logbook harvest data with the statewide harvest survey estimates, and onsite creel programs are favorable. Logbook data will continue to be compared to counts from those two programs. Comparisons are ongoing and are part of a more comprehensive evaluation of logbook data quality. Logbook halibut data has been used extensively. Saltwater and freshwater logbook data have also been used for a variety of regulatory analyses for state managed species.

ACKNOWLEDGEMENTS

Southeast and Southcentral regional and area staff, especially numerous front counter personnel, have been critical to the success of the ADF&G sport fishing guide and business licensing and logbook program. The above staff along with Rob Bentz, Bob Chadwick and Mike Jaenicke from Southeast, Scott Meyer, Matt Miller and Tom Vania from Southcentral, and Tom Taube from Fairbanks have also provided valuable comments during the process of registration and logbook form design.

Doug Vincent-Lang has provided valuable insight on the history of the program and facilitated numerous discussions with NOAA and IPHC. Bob Clark's thoughtful insight and direction has been very much appreciated. We also acknowledge the expertise and infinite patience exhibited by Joanne MacClellan in preparing this report. Her knowledge and willingness to assist is invaluable.

Kirk Brogdon of the division's Research and Technical Services section deserves considerable credit for designing and implementing efficient information management systems for data capture, cleaning, storage, and reporting. These systems, accessible via the division's Intranet, allowed area staff statewide to query the most up-to-date registration and logbook databases via their Internet browser.

Kathy Kush should be acknowledged for her incredible skills in streamlining the licensing process and making sure that all license applications are processed in a timely manner that has allowed the guides and businesses to start operation without delay.

Margaret Nussbaum, Diane Novinska, Jennifer Bond, Mary Yanagawa and several seasonal technicians deserve credit for receiving, entering, and filing the licensing and logbooks forms. With their perseverance, we met reporting deadlines that seemed nearly impossible with available staffing and workloads.

We also acknowledge the cooperation of the thousands of sport fishing guides and sport fishing businesses that licensed and completed their logbooks in a timely and compliant manner.

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ECONOMIC IMPACTS AND CONTRIBUTIONS OF SPORTFISHING IN ALASKA

2007 REPORT

4197

A Message from the Director

CHARLIE SWANTON, DIRECTOR
ADF&G, DIVISION OF SPORT FISH

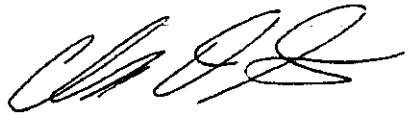
Alaska supports arguably some of the finest and most diverse sportfishing in the world. These opportunities provide Alaskans with a significant and sustainable source of food, relaxation, and social benefits. Additionally, the money spent by residents and visitors who participate in sportfishing activities produces significant economic benefits to Alaska.

The Division of Sport Fish is committed to providing an array of biological, social and economic information to fishery managers and fishery regulators who plan and evaluate fishery projects and make informed decisions about the management of fishery resources.

This report summarizes a recent effort by the Division to provide estimates of angler spending in Alaska and the contribution it makes to Alaska's economy. The results are based on an extensive statewide study of resident and nonresident anglers who went sportfishing in Alaska during 2007. The report contains estimates of the total expenditures on sportfishing by anglers and estimates of the subsequent economic effects this spending had in terms of employment, wages, salaries and tax receipts.

A key objective of this project was to establish a consistent and repeatable methodology for collecting and reporting estimates of economic contribution in Alaska such that reasonably precise estimates would be routinely available to agency personnel, fisheries decision-makers, and the public.

We hope that you find the following information useful and that it contributes to well-informed decision making.



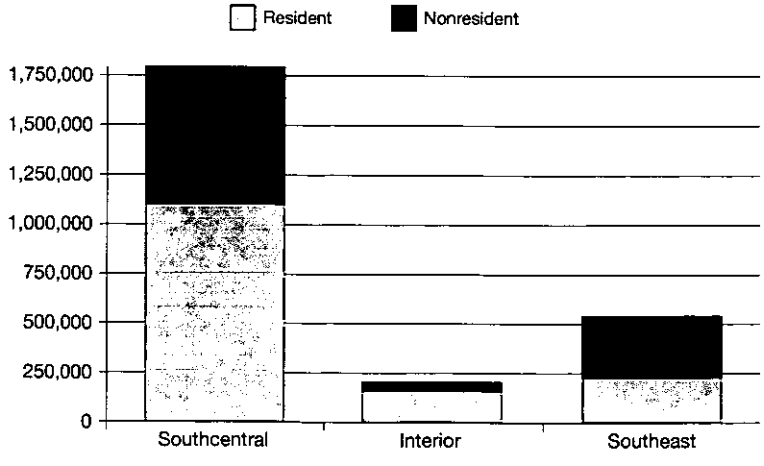
Sportfishing in ALASKA

Sportfishing is an important component of the Alaskan economy. It contributes to the well-being of Alaskans as recreation, as a source of food, and as part of the state's collective economic fabric. In 2007, 190,644 Alaska residents bought a fishing license, along with 284,890 nonresidents.

Spending a day fishing with rod and reel usually involves spending at least some money for travel, equipment, and supplies. Because a large number of anglers—both resident and nonresident—spend many days each year enjoying Alaska's diverse fishing opportunities, the annual total of that spending is substantial.

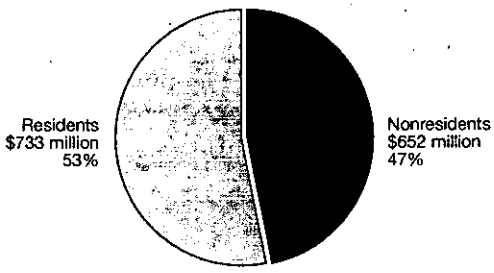
The money spent by anglers in turn helps to support thousands of Alaskan jobs in industries ranging from fishing tackle sales to hospitality and lodging to air taxi and guide services which are an important part of the economy in many of Alaska's local communities. At the same time, angler spending is also creating federal, state and local tax revenues which support local and borough governments and help pay for fisheries management in Alaska.

DAYS OF SPORTFISHING IN ALASKA BY REGIONS AND RESIDENCY, 2007

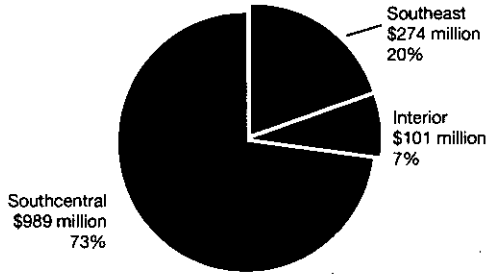


TOTAL SPORTFISHING EXPENDITURES, All ANGLERS

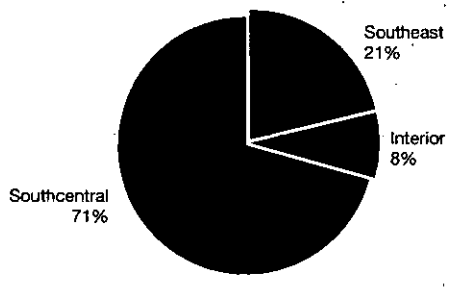
$1.4 billion



SPORTFISHING EXPENDITURES BY REGION, ALL ANGLERS



DAYS OF SPORTFISHING BY REGION, ALL ANGLERS



4199

Economic IMPACTS & Contributions

Economic Impact vs. Economic Contribution

This project measured and reported the economic impacts and contributions of licensed anglers to Alaska's state and regional economies. The words "impact" and "contribution" are not necessarily synonymous.

Economic impact typically refers to the effects of money being brought in from outside the state or region. It was possible to estimate the total amount of resident and nonresident spending in Alaska as a whole and within specific regions by combining the economic survey results with the ADF&G Statewide Harvest Survey results.

Economic contribution refers to in-state spending by all anglers. In theory, if the dollars spent by resident anglers were not spent on sportfishing, the same money would be spent on other things and would still stimulate economic activity. It isn't possible to accurately predict whether these local dollars would be spent in or outside of Alaska.

This study generated both economic impact estimates (non-resident spending) as well as estimates of the economic contributions of spending by Alaska anglers in 2007.

The purpose of the study was to obtain current estimates of the economic contribution of sportfishing activities to the Alaska economy and to develop a consistent method for producing such estimates on a regular basis. This project provides a survey-based process that can now be updated periodically at reasonable cost.

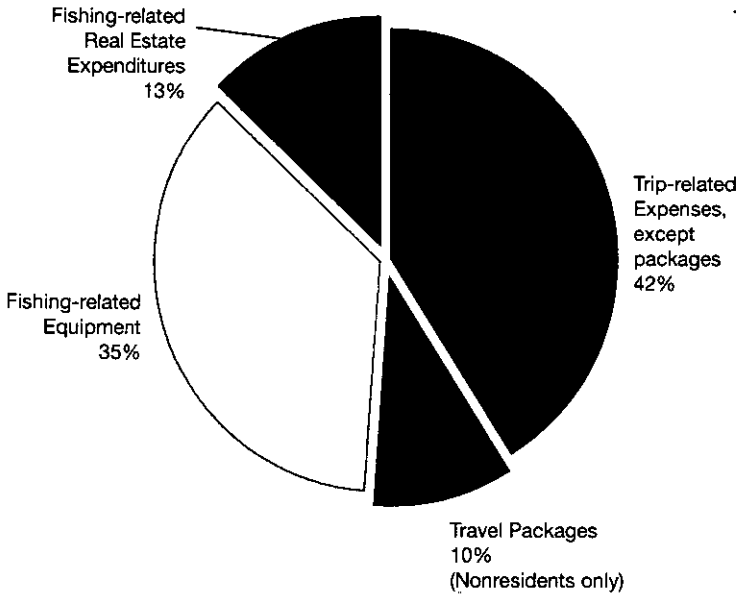
For 2007, the year covered by this report, 1,163 resident and 1,807 nonresident surveys were completed by anglers who fished in Alaska. From the survey responses collected, estimates of how much each angler spends per day of fishing and per year on fishing-related equipment were produced. These survey results were combined with the total number of licensed anglers in 2007 and the total days of fishing in Alaska as estimated by the Division's Statewide Harvest Survey. This survey, conducted every year by the Division, tracks annual sportfishing participation and harvest. By combining the economic survey results with the Statewide Harvest Survey results, it was possible to estimate the total amount of resident and nonresident spending in Alaska as a whole and within specific regions of the state.

An economic model was then used to estimate the additional economic effects that angler spending produced within each region of the state. Using the collective dollars spent by anglers, an economic model known as IMPLAN estimated the total jobs, tax revenues and other economic contributions. Regional as well as statewide totals can be determined and are summarized in the following pages. Information on the dollars associated with guided fishing trips and with nonresident fishing is also included. First, here are some statewide highlights.

Total Resident and Nonresident Sportfishing Expenditures, by Category

	Resident Anglers	Nonresident Anglers	All Anglers
Licenses and Fees	$6,627,558	$16,536,955	$23,164,513
Trip Expenditures (non-package)	$219,829,151	$347,358,999	$567,188,150
Package Expenditures	n/a	$137,519,700	$137,519,700
Equipment Expenditures	$433,693,104	$41,385,450	$475,078,554
Real Estate Expenditures	$73,139,537	$109,697,619	$182,837,156
Total Expenditures	**$733,289,349**	**$652,498,723**	**$1,385,788,072**

TOTAL ANGLER SPENDING BY CATEGORY



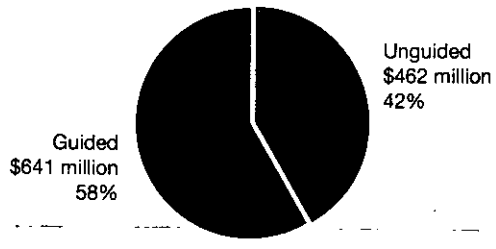
Average Per Day Expenditure for Trip-Related Items Only, Including Package Trips

(Lodging, fuel, food, travel packages, etc.)

	Per Day
All Alaska Fishing Combined	**$277.46**
Residents Only	$150.63
Non-Residents Only	$448.78
Saltwater	
Residents, Unguided	$162.81
Residents, Guided	$466.53
Non-Residents, Unguided	$209.40
Non-Residents, Guided	$744.03
Freshwater	
Residents, Unguided	$91.73
Residents, Guided	$509.56
Non-Residents, Unguided	$213.24
Non-Residents, Guided	$790.41

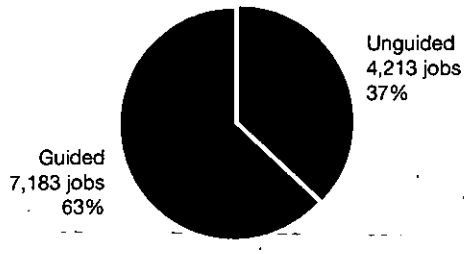
ECONOMIC ACTIVITY, OR MULTIPLIER EFFECT: SUPPORTED BY GUIDED AND UNGUIDED FISHING TRIPS

Trip-related and Package Expenditures*



JOBS: SUPPORTED BY GUIDED AND UNGUIDED FISHING TRIPS

Trip-related and Package Expenditures*



*Only trip related expenditures (food, fuel, lodging, etc.) could be divided into guided and unguided portions. It was not possible to divide equipment expenditures in such a manner.

How Economic Effects Occur

While the economic effects of sportfishing occur on a large scale statewide, it's important to note that they happen one angler at a time.

Suppose, for example, that a construction worker in downtown Anchorage decides to go fishing on his day off. He stops after work at the local tackle shop and spends $250 for a rod and reel along with some line, lures, a knife and cooler. Sandwiches, soda, and ice for the trip come from the local grocery store, and he spends still more money to fill his vehicle with gas on the way home. Very early the next morning, he starts the 150-mile drive out the Seward and Sterling highways to the Kenai River where he'll fish for king or coho salmon.

Meanwhile, the money he left behind goes to work. Some of the money he spent for fishing gear helps to pay the wages of a sales clerk, for example, who in turn spends some that evening at a local restaurant, to buy groceries, or pays his utility bill at the local light and power company. These payments, known collectively as the "multiplier effect", help to support still other jobs as the money our angler spent ripples outward in many directions through the local economy, even to those sectors not directly related to fishing. See page 11 for more definitions.

Regional Economic EFFECTS

Economic effects can be measured regionally and locally as well as statewide. Alaska has several distinct regions, each with its own characteristic sport fisheries that show different patterns in angling participation, spending, and economic effects.

STATEWIDE RESULTS

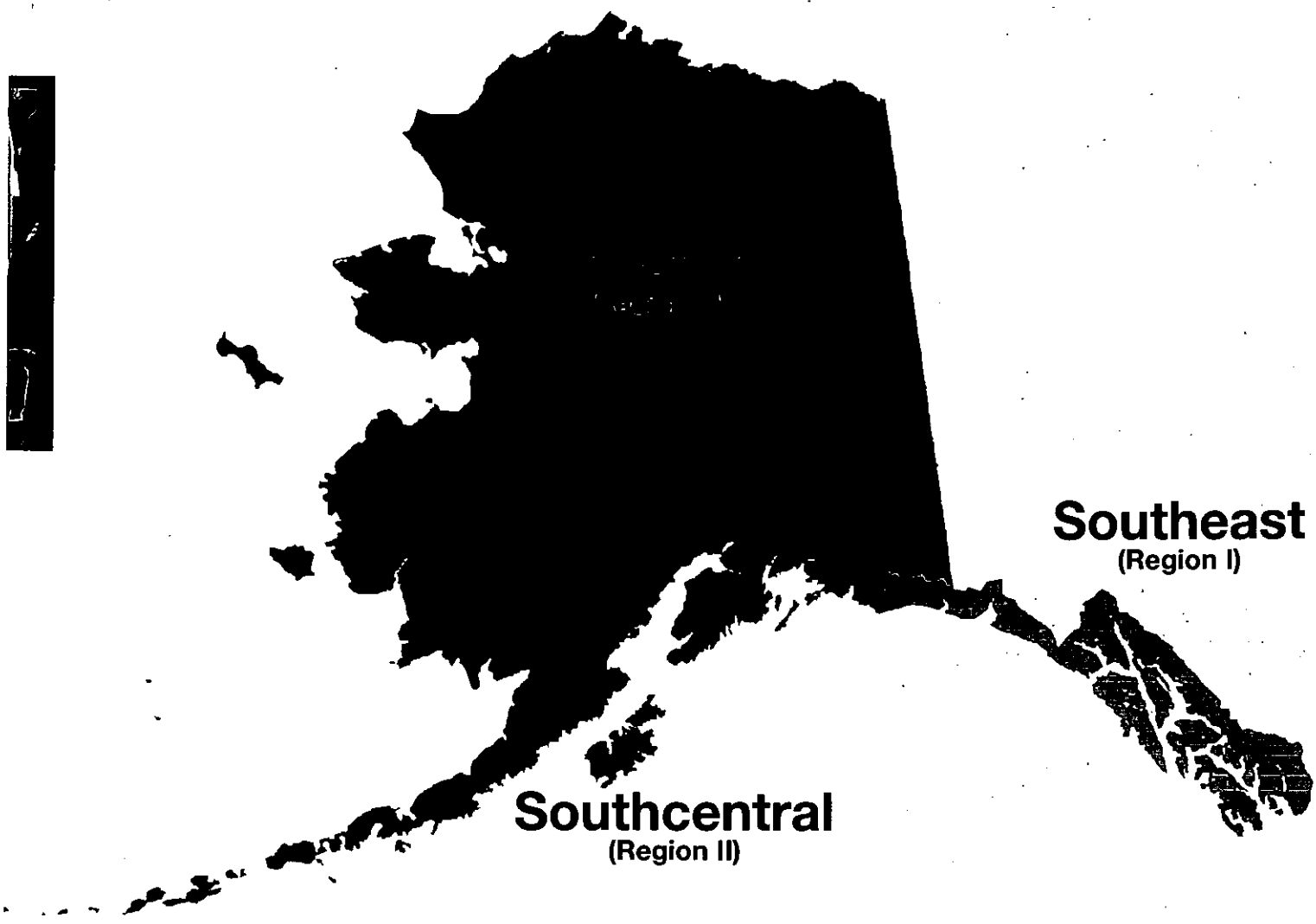
Alaska is blessed with many world-class freshwater and marine fisheries. In 2007, resident and nonresident anglers spent nearly $1.4 billion on equipment, boats, and trip-related and other items. Alaska anglers on average spent $2,914 on sportfishing trip expenses, fishing-related equipment, licenses, and other items in 2007. The actual amount spent per angler varies based on his or her preferred fishing locations, region, and more. Details are available in the technical report (see sidebar on page 8).

As anglers' expenditures exchange hands, economic contributions are generated statewide. In 2007, these contributions amounted to 15,879 jobs, $246 million in tax revenues and $545 million in income. Economic output, which is the value of all goods and services produced by businesses as a result of anglers' expenditures, was just over $1.6 billion.

SOUTHEAST (REGION I)

The so-called Panhandle area extending roughly from Yakutat south-southwest through Juneau and Ketchikan to the British Columbia border is a complex maze of islands, straits, and mountains. The saltwater salmon fishing here is outstanding, although some anglers find steelhead, along with river-resident trout, to be just as appealing.

Total spending by all anglers, resident and nonresident combined, for Southeast Alaska in 2007 was estimated to be $274 million. The total economic output came to $295 million, which supported 3,063 jobs and generated $22 million in state and local taxes.



SOUTHEAST MARINE (SUBREGION)

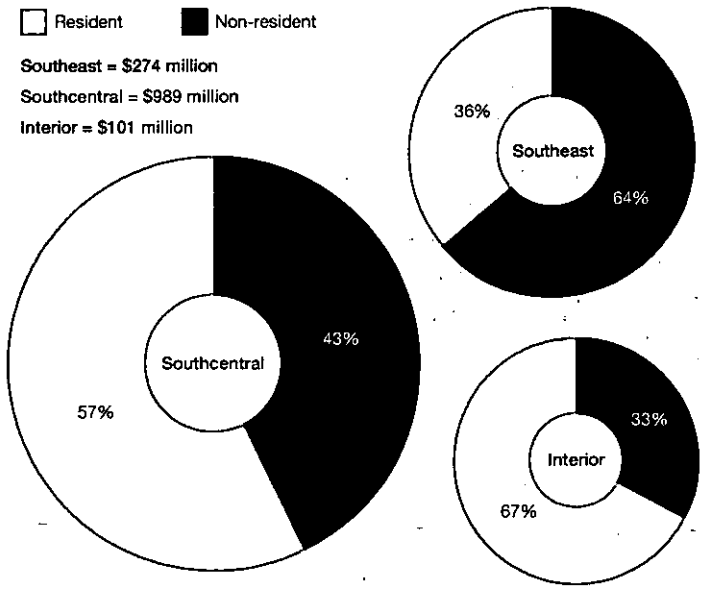
Within southeast Alaska, the popularity of salt-water fishing accounted for almost half of all angler spending. Saltwater anglers in southeast Alaska spent $132 million of the $274 million spent on sportfishing in southeast Alaska in 2007, which supported 1,897 jobs and created $14 million in state and local tax revenues.

SOUTHCENTRAL (REGION II)

This is by far the most popular angling region in Alaska as measured in total angler days. It includes Prince William Sound, Cook Inlet and the Anchorage area, as well as Kodiak Island and the Bristol Bay area to the west of Cook Inlet. All five salmon species are fished widely here in both salt- and fresh-water, along with halibut and other saltwater species. Trophy rainbow trout in the various Bristol Bay drainages are world-famous.

Anglers spent $989 million in the Southcentral region in 2007, supporting 11,535 area jobs and creating $91 million in state and local taxes.

RESIDENT AND NONRESIDENT EXPENDITURES BY REGION



Economic measures reported in this chart are based on regional IMPLAN model outputs using 2007 angler expenditures.

For More Details...

This report is a summary of a 300 page technical report available free from the Alaska Department of Fish and Game, Division of Sport Fish. The complete report presents detailed descriptions of the methods and data sources used in the study, as well as the complete results. Visit ***www.sf.adfg.state.ak.us/statewide/economics*** *to download a copy in PDF form. You may also contact the Department at (907) 267-2366, or william.romberg@alaska.gov, to request a printed copy of the report.*

Regional Economic EFFECTS *(cont.)*

COOK INLET (SUBREGION)

Notably, much of Southcentral's economic activity centers around the Cook Inlet area, partly because Anchorage and the Matanuska-Susitna valley are such large population centers with good fishing nearby. The Kenai River, for example, is an easy drive from Anchorage and is widely known among anglers as one of the world's foremost salmon rivers. In addition, there are large sport fisheries for halibut and other groundfish that are accessed from several communities that border Cook Inlet. In the Cook Inlet subregion alone (a subset of Southcentral region), anglers spent about $733 million in 2007, which supported 8,056 jobs and generated $55 million in state and local taxes.

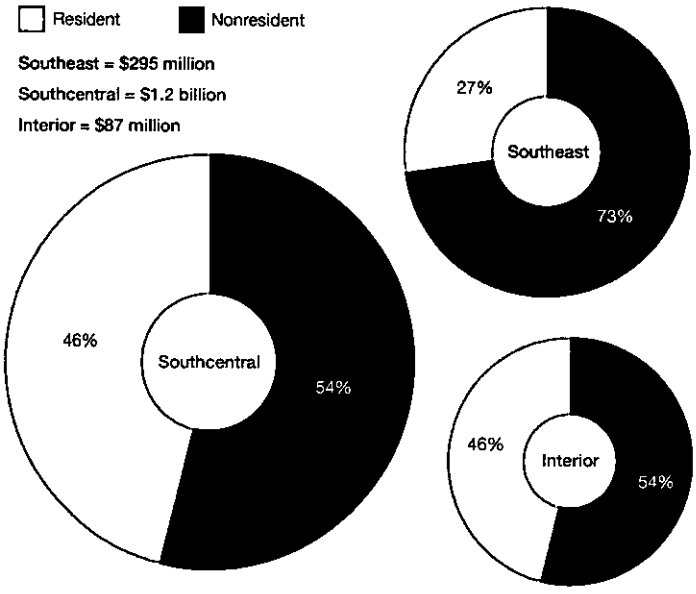
INTERIOR (REGION III)

Among anglers, the northern two-thirds of the state could be called the road less traveled. This vast area contains many small communities and sport fisheries located off the road system with fisheries less accessible than places farther south in the state. However, the fishing is none the less exceptional, and in addition to salmon and trout there are fisheries for unique species such as sheefish, arctic char, and burbot, as well as huge northern pike found in the "flats" region of the lower Yukon River.

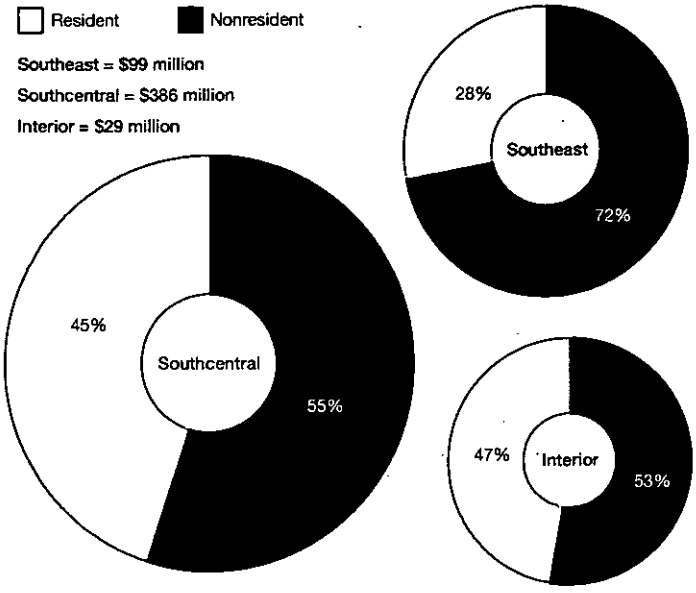
Angling traffic here is lighter than in other regions of the state but still significant. Total regional spending by all anglers in this region topped $101 million in 2007 and directly or indirectly supported 923 area jobs and $7 million in state and local taxes.

Total Angler Expenditures
$1.4 Billion

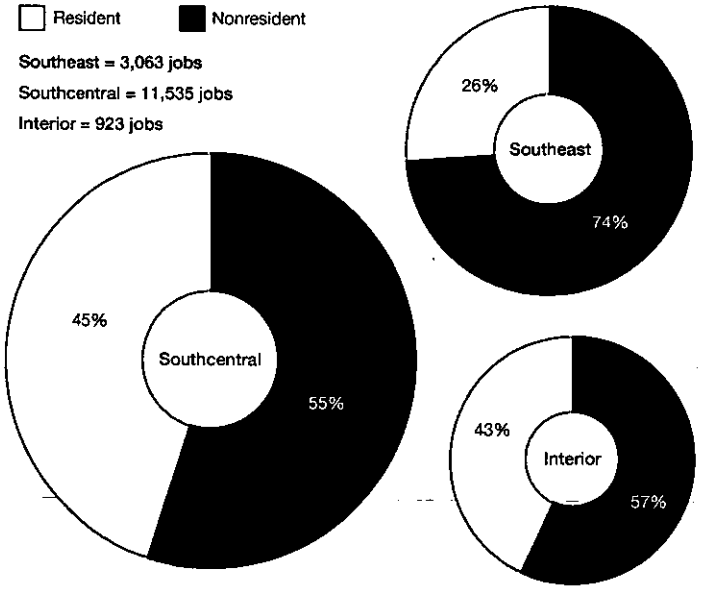
RESIDENT AND NONRESIDENT OUTPUT BY REGION



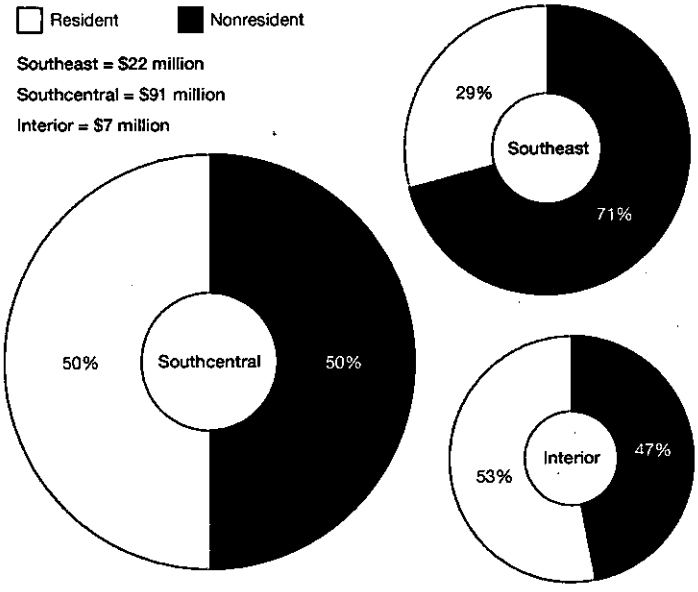
RESIDENT AND NONRESIDENT INCOME BY REGION



RESIDENT AND NONRESIDENT EMPLOYMENT BY REGION



RESIDENT AND NONRESIDENT STATE & LOCAL TAX REVENUES BY REGION



Sportfishing-related Jobs
15,879

Economic measures reported in these charts are based on regional IMPLAN model outputs using 2007 angler expenditures.

See page 11 for definitions of terms used on this page.

Economic Contributions of Sportfishing in Alaska, by Residency & Region, 2007

	Resident Anglers	Nonresident Anglers	All Anglers
ALASKA - STATEWIDE RESULTS			
Anglers' expenditures	$733,289,349	$652,498,723	$1,385,788,072
Output	$668,729,829	$938,863,856	$1,607,593,685
Income	$223,373,937	$321,882,151	$545,256,088
Jobs	6,442	9,437	15,879
Tax Revenues	$107,433,533	$138,881,701	$246,315,114
Local & State	*$56,509,573*	*$66,632,831*	*$123,142,404*
Federal	*$50,923,959*	*$72,248,870*	*$123,172,709*
SOUTHEAST REGION			
Anglers' expenditures	$98,613,993	$174,890,811	$273,504,804
Output	$79,385,025	$215,874,985	$295,260,010
Income	$27,316,008	$71,825,686	$99,141,694
Jobs	791	2,273	3,063
Tax Revenues	$12,227,368	$31,368,564	$43,595,932
Local & State	*$6,376,236*	*$15,686,783*	*$22,063,019*
Federal	*$5,851,132*	*$15,681,782*	*$21,532,913*
SOUTHCENTRAL REGION			
Anglers' expenditures	$560,955,071	$427,603,048	$988,558,119
Output	$534,838,006	$630,707,507	$1,165,545,513
Income	$174,829,996	$211,633,737	$386,463,733
Jobs	5,170	6,365	11,535
Tax Revenues	$86,563,199	$93,692,068	$180,255,267
Local & State	*$45,612,530*	*$45,187,101*	*$90,799,631*
Federal	*$40,950,668*	*$48,504,967*	*$89,455,636*
INTERIOR REGION			
Anglers' expenditures	$67,092,727	$33,467,910	$100,560,637
Output	$40,133,830	$46,578,879	$86,712,709
Income	$13,263,706	$15,300,176	$28,563,882
Jobs	399	524	923
Tax Revenues	$6,710,270	$6,708,875	$13,419,146
Local & State	*$3,825,310*	*$3,396,831*	*$7,222,141*
Federal	*$2,884,961*	*$3,312,044*	*$6,197,005*

Output = total economic activity generated by angler spending
Income = salaries, wages, employee benefits and proprietors' profits stimulated by anglers
Jobs = same as employment, these are the total number of both full-time and part-time jobs supported by angler spending
Tax Revenues = the total personal and business tax revenues earned by local, state, and federal government that are generated by angler spending

Economic Contributions of Sportfishing for Specific Subregions, 2007

	Resident Anglers	Nonresident Anglers	All Anglers
COOK INLET (A SUBREGION OF THE SOUTHCENTRAL REGION)			
Anglers' expenditures	$457,938,464	$275,030,511	$732,968,975
Output	$413,287,612	$414,602,226	$827,889,838
Income	$136,650,136	$142,124,416	$278,774,552
Employment	4,010	4,046	8,056
Tax Revenues	$67,097,024	$44,445,496	$111,542,520
Local & State	*$35,189,444*	*$20,091,926*	*$55,281,369*
Federal	*$31,907,580*	*$24,353,570*	*$56,261,150*
SOUTHEAST REGION - MARINE FISHING ONLY†			
Anglers' expenditures	$21,268,271	$110,345,177	$131,613,448
Output	$28,244,412	$138,794,141	$167,038,552
Income	$9,132,220	$44,692,671	$53,824,891
Employment	301	1,595	1,897
Tax Revenues	$4,791,024	$21,577,534	$26,368,559
Local & State	*$2,713,584*	*$11,473,357*	*$14,186,941*
Federal	*$2,077,440*	*$10,104,178*	*$12,181,618*

Output = total economic activity generated by angler spending
Income = salaries, wages, employee benefits and proprietors' profits stimulated by anglers
Jobs = same as employment, these are the total number of both full-time and part-time jobs supported by angler spending
Tax Revenues = the total personal and business tax revenues earned by local, state, and federal government that are generated by angler spending
†The contributions are for trip spending only, including travel packages. It was not possible to allocate equipment and real estate expenditures by type of water fished.

Definitions of Terms Used in this Report

Angler Expenditures: the dollars spent for the primary reason of sportfishing. Such expenditures include trip-related expenses for fishing (fuel, guide services, lodging, etc.), fishing tackle and other fishing equipment, the portion of ancillary equipment used for fishing that may have multiple uses (e.g., coolers, binoculars), and real estate maintenance and construction expenditures if used primarily for the pursuit of sportfishing.

Total Multiplier Effect (also known as Total Economic Activity): the results (measured in output, income, jobs and taxes) of the total rounds of business and consumer spending stimulated by anglers' original expenditures.

Income: generated as a result of anglers' expenditures, this includes total payroll, including salaries and wages, as well as benefits such as insurance, and retirement benefits paid to employees and business proprietors.

Employment: the total number of both full-time and part-time jobs supported as a result of anglers' expenditures.

Tax Revenues: the total tax revenues earned by local, state and federal governments as a result of anglers' expenditures. All forms of local, state and federal taxes are included.

ACKNOWLEDGEMENTS

Funding for this study was provided by the Alaska Legislature which approved a $229,800 Fish and Game Fund increment and a $200,000 General Fund increment to the Division of Sport Fish FY-2008 budget. The Division of Sport Fish would like to thank Southwick Associates for their dedicated work on this project as well as the many anglers and guide businesses who participated in this study by providing detailed information on their sportfishing-related expenditures in 2007.

Southwick Associates, based in Fernandina Beach, FL, was founded in 1989 to serve state fish and wildlife agencies and the sportfishing and hunting industries. From our north Florida offices, we continue to serve this core group, and now provide economic and business intelligence to many more.

SOUTHWICK ASSOCIATES
FISH AND WILDLIFE ECONOMICS AND STATISTICS

Citation: Economic Impacts and Contributions of Sportfishing in Alaska, Summary Report 2007. Alaska Department of Fish and Game, Division of Sport Fish. January, 2009. Anchorage, Alaska.

For more information, contact Bill Romberg, Alaska Department of Fish and Game, (907) 267-2366 or william.romberg@alaska.gov.

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LAWS OF ALASKA

2004

Source
SCS CSHB 452(RES)

Chapter No.
_____

AN ACT

Relating to licensing and regulation of sport fishing operators and sport fishing guides; relating to licensing and registration of sport fishing vessels; authorizing the Department of Fish and Game and the Alaska Commercial Fisheries Entry Commission to release records and reports to the Department of Natural Resources and the Department of Public Safety; and providing for an effective date.

BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF ALASKA:

THE ACT FOLLOWS ON PAGE 1

AN ACT

Relating to licensing and regulation of sport fishing operators and sport fishing guides; relating to licensing and registration of sport fishing vessels; authorizing the Department of Fish and Game and the Alaska Commercial Fisheries Entry Commission to release records and reports to the Department of Natural Resources and the Department of Public Safety; and providing for an effective date.

*** Section 1.** AS 16.05.340(a) is amended by adding a new paragraph to read:

(26) Fishing services licenses

(A) Sport fishing operator license $100

(B) Sport fishing guide license 50

(C) Sport fishing operator and sport fishing guide combined license 100

*** Sec. 2.** AS 16.05 is amended by adding a new section to read:

Sec. 16.05.395. Sport fishing vessel registration. For calendar year 2005 and subsequent calendar years, a person may not use a vessel to provide sport fishing services under AS 16.40.260 - 16.40.299 unless the vessel is registered with the department and proof of registration is attached to and clearly visible on the vessel while the vessel is used to provide sport fishing services. The department shall register vessels used to provide sport fishing services, and provide proof of registration, without charge. The department may adopt regulations as the department finds necessary to implement this section.

*** Sec. 3.** AS 16.05.420 is amended to read:

Sec. 16.05.420. License, tag, [AND] permit, and registration violations. (a) A false statement of a material fact in an application for a license, tag, [OR] permit, **and sport fishing vessel registration** issued under AS 16.05.330 - 16.05.430 voids the license, tag, [OR] permit, **or registration** for which the application is made.

(b) A person may not make a false statement, or omit a material fact, in an application for a license, tag, [OR] permit, **or sport fishing vessel registration** issued under AS 16.05.330 - 16.05.430. A person who without any culpable mental state makes a false statement as to the person's identity or residency in an application for a license, tag, [OR] permit, **or sport fishing vessel registration** issued under AS 16.05.330 - 16.05.430 is guilty of a violation and upon conviction is punishable by a fine of not more than $300. A person who knowingly violates this subsection is guilty of a class A misdemeanor.

(c) A person to whom a license, [OR] tag, **or sport fishing vessel registration** has been issued under this chapter may not alter, change, loan, or transfer the license, [OR] tag, **or sport fishing vessel registration**. A person may not use a license, [OR] tag, **or sport fishing vessel registration** that has been issued under this chapter to another person.

*** Sec. 4.** AS 16.05.490(a) is amended to read:

(a) As a condition to delivery or landing of fish or engaging in commercial fishing in the state, a license is required for a commercial vessel [, INCLUDING A VESSEL USED IN CHARTER SERVICE FOR THE RECREATIONAL TAKING OF FISH AND SHELLFISH].

* **Sec. 5.** AS 16.05.815(a) is amended to read:

(a) Except as provided in (b) and (c) of this section, records required by regulations of the department concerning the landings of fish, shellfish, or fishery products, and annual statistical reports of fishermen, buyers, and processors required by regulation of the department are confidential and may not be released by the department or by the Alaska Commercial Fisheries Entry Commission except as set out in this subsection. The department may release the records and reports set out in this subsection to the Alaska Commercial Fisheries Entry Commission. The department and the Alaska Commercial Fisheries Entry Commission may release the records and reports set out in this subsection to the recipients identified in this subsection if the recipient, other than a recipient under (5) - (9) of this subsection, agrees to maintain the confidentiality of the records and reports. The department and the Alaska Commercial Fisheries Entry Commission may release

(1) any of the records and reports to the National Marine Fisheries Service and the professional staff of the North Pacific Fishery Management Council as required for preparation and implementation of the fishery management plans of the North Pacific Fishery Management Council within the exclusive economic zone;

(2) any of the records and reports to the professional staff of the Pacific States Marine Fisheries Commission who are employed in the Alaska Fisheries Information Network project for the purpose of exchanging information with users authorized by the department;

(3) any of the records and reports to the Department of Revenue to assist the **department** [DEPARTMENT OF REVENUE] in carrying out its statutory responsibilities;

(4) records or reports of the total value purchased by each buyer to a municipality that levies and collects a tax on fish, shellfish, or fishery products if the municipality requires records of the landings of fish, shellfish, or fishery products to be submitted to it for purposes of verification of taxes payable;

(5) such records and reports as necessary to be in conformity with a court order;

(6) on request, the report of a person to the person whose fishing

activity is the subject of the report, or to a designee of the person whose fishing activity is the subject of the report;

(7) on request, annual statistical reports of a fisherman, buyer, or processor to the fisherman, buyer, or processor whose activity is the subject of the report, or to a designee of the fisherman, buyer, or processor whose activity is the subject of the report;

(8) **any of the records and reports** [FISH TICKETS, FISH TICKET INFORMATION, SALTWATER CHARTER LOGBOOKS, SALTWATER CHARTER LOGBOOK INFORMATION, AND ANNUAL STATISTICAL REPORTS OF FISHERMEN, BUYERS, AND PROCESSORS AND INFORMATION IN THOSE REPORTS] to the Department of Public Safety **for law enforcement purposes**;

(9) fish tickets, fish ticket information, and annual statistical reports of fishermen, buyers, and processors and information in those reports to the law enforcement personnel of the National Marine Fisheries Service and the National Oceanic and Atmospheric Administration for the purpose of enforcing fishery laws in waters of this state and in waters of the exclusive economic zone adjacent to this state;

(10) fish tickets and fish ticket information regarding halibut to the International Pacific Halibut Commission; [AND]

(11) any of the records and reports to the child support enforcement agency created in AS 25.27.010, or the child support enforcement agency of another state, for child support purposes authorized under law**; and**

(12) any of the records and reports to the Department of Natural Resources to assist the department in carrying out its statutory responsibilities in regard to sport fishing operations and sport fishing guides within the Kenai River Special Management Area under AS 41.21.500 - 41.21.514.

*** Sec. 6.** AS 16.40 is amended by adding new sections to read:

Article 6. Sport Fishing Services.

Sec. 16.40.260. Sport fishing operator license. (a) The department shall issue an annual sport fishing operator license to a person who

(1) holds a current business license under AS 43.70 to provide services

to sport fishermen;

(2) presents proof satisfactory to the department of a general liability insurance policy or marine protection and indemnity insurance policy, covering the services provided by the person and the person's employees to sport fishermen, that provides coverage of at least $100,000 for each incident, and $300,000 for all incidents in a year;

(3) pays the license fee prescribed by AS 16.05.340(a); and

(4) satisfies all additional requirements adopted in regulation by the Board of Fisheries.

(b) A person may not provide sport fishing services unless the person holds a current sport fishing operator license and has current insurance coverage as required in (a)(2) of this section.

(c) A person who holds a current sport fishing operator license may contract to provide sport fishing guide services to a sport fisherman through an employee who holds a current sport fishing guide license under AS 16.40.270.

(d) A person who holds a current sport fishing operator license may not directly provide sport fishing guide services to a sport fisherman unless the person also holds a current sport fishing guide license under AS 16.40.270(b).

(e) A person who holds a sport fishing operator license may not aid in the commission of a violation of AS 16.05 - AS 16.40 or a regulation adopted under AS 16.05 - AS 16.40, including regulations relating to the proper method to release fish, by a sport fishing guide who is employed by the person or by a sport fisherman who is a client of the person.

Sec. 16.40.270. Sport fishing guide license. (a) A natural person may obtain an annual sport fishing guide license if the person

(1) is a citizen of the United States, Canada, or Mexico, or is a resident alien;

(2) is certified in first aid by the American Red Cross or a similar organization;

(3) holds a license to carry passengers for hire issued by the United States Coast Guard if the person operates a vessel in the provision of sport fishing

guide services and the license is required by the United States Coast Guard for the area in which the fishing guide provides fishing guide services;

(4) holds a current sport fishing license from this state;

(5) pays the license fee prescribed by AS 16.05.340(a); and

(6) satisfies all additional requirements adopted in regulation by the Board of Fisheries.

(b) A natural person may obtain an annual sport fishing operator and sport fishing guide combined license if the person satisfies the requirements for a sport fishing operator license under AS 16.40.260 and for a sport fishing guide license under this section and pays the license fee prescribed by AS 16.05.340(a).

(c) A person may not provide sport fishing guide services unless the person

(1) holds a current sport fishing guide license; and

(2) holds a current sport fishing operator license or is an employee of a person who holds a current sport fishing operator license.

(d) A sport fishing guide may provide sport fishing guide services only to persons who have engaged the services of the sport fishing operator by whom the sport fishing guide is employed. A sport fishing guide may not contract directly with a person to provide sport fishing guide services to a person unless the sport fishing guide also holds a current sport fishing operator license.

(e) While engaged in providing sport fishing guide services, a sport fishing guide shall have readily available for inspection

(1) a current sport fishing guide license;

(2) the current licenses, tags, and permits that are required to engage in the sport fishery for which the sport fishing guide services are being provided;

(3) a driver's license or similar identification card that is issued by a state or federal agency and that bears a photograph of the fishing guide; and

(4) proof of

(A) employment as a sport fishing guide by a person who holds a current sport fishing operator license; or

(B) current licensure as a sport fishing operator.

(f) A sport fishing guide may not

(1) aid in the commission of a violation of AS 16.05 - AS 16.40 or a regulation adopted under AS 16.05 - AS 16.40 by a client of the sport fishing guide; or

(2) permit the commission by a client of the sport fishing guide of a violation of AS 16.05 - AS 16.40 or a regulation adopted under AS 16.05 - AS 16.40 that the sport fishing guide knows or reasonably believes is being or will be committed without

(A) attempting to prevent it, short of using force; and

(B) reporting the violation.

Sec. 16.40.280. Reports. (a) The department may collect information from sport fishing guides, including

(1) the name and license number of each vessel licensed under AS 16.05.490 that is used in providing sport fishing guide services;

(2) the amount of fishing effort, catch, and harvest by clients of a sport fishing guide;

(3) the locations fished during the provision of sport fishing guide services; and

(4) other information that the department or board requires by regulation.

(b) A person who holds a license issued under AS 16.40.260 or 16.40.270 shall comply with the reporting requirements in this section and reporting requirements adopted in regulation by the department or board. The department and the board may adopt by regulation requirements for timely submission of reports required under this section or under regulations adopted by the department or board.

(c) A person who is required to complete reports under this section may not provide false information or omit material facts in a report.

(d) A person who is required to complete reports under this section may not be issued a new license under AS 16.40.260 or 16.40.270 unless the department has received all reports required under this section for the preceding year.

(e) Information collected under this section is confidential to the extent provided under AS 16.05.815.

(f) The department or board may adopt regulations under AS 44.62

(Administrative Procedure Act) that it considers necessary to implement this section.

Sec. 16.40.290. Penalty. (a) Except as provided in (b) and (c) of this section, a person who knowingly violates AS 16.40.260 - 16.40.299 or a regulation adopted under AS 16.40.260 - 16.40.299 is guilty of a class A misdemeanor.

(b) A person who, without any culpable mental state, violates AS 16.40.270(e) is guilty of a violation.

(c) A person who knowingly violates AS 16.40.270(e) or who knowingly fails to comply with a requirement for timely submission of reports required by a regulation adopted under AS 16.40.280(b) is, for a

(1) first offense in a three-year period, guilty of a violation; and

(2) second or subsequent offense in a three-year period, guilty of a class B misdemeanor.

(d) In addition to any other penalty provided by law, a court may revoke the sport fishing guide license of a person who is convicted under (a) or (c)(2) of this section.

(e) In this section, "knowingly" has the meaning given in AS 11.81.900.

Sec. 16.40.299. Definitions. In AS 16.40.260 - 16.40.299,

(1) "sport fishing guide" means a person who is licensed to provide sport fishing guide services to persons who are engaged in sport fishing;

(2) "sport fishing guide services" means assistance, for compensation or with the intent to receive compensation, to a sport fisherman to take or to attempt to take fish by accompanying or physically directing the sport fisherman in sport fishing activities during any part of a sport fishing trip; "sport fishing guide services" does not include

(A) sport fishing services; or

(B) services provided by an assistant, deckhand, or similar person who works directly under the supervision of and on the same vessel as a sport fishing guide;

(3) "sport fishing services" means the indirect provision of assistance, for compensation or with the intent to receive compensation, to a person engaged in sport fishing in taking or attempting to take fish or shellfish by a business that

employs a sport fishing guide to provide sport fishing guide services to the person during any portion of a sport fishing trip; "sport fishing services" does not include

(A) an activity for which a sport fishing guide license is required; or

(B) booking and other ancillary services provided by a tour broker or agent to a sport fishing services operator.

*** Sec. 7.** AS 25.27.244(s)(2)(A) is amended by adding new sub-subparagraphs to read:

(xviii) sport fishing operator license under AS 16.40.260;

(xix) sport fishing guide license under AS 16.40.270;

*** Sec. 8.** AS 16.05.340(a)(26); AS 16.40.260, 16.40.270, 16.40.280, 16.40.290, 16.40.299; AS 25.27.244(s)(2)(A)(xviii), and 25.27.244(s)(2)(A)(xix) are repealed January 1, 2010.

*** Sec. 9.** The uncodified law of the State of Alaska is amended by adding a new section to read:

TRANSITION; REGULATIONS. The Board of Fisheries and the Department of Fish and Game each may proceed to adopt regulations necessary to implement the changes made by secs. 1, 3, 4, 5, and 6 of this Act. The regulations take effect under AS 44.62 (Administrative Procedure Act), but not before the effective date of the statutory changes.

*** Sec. 10.** Sections 2 and 9 of this Act take effect immediately under AS 01.10.070(c).

*** Sec. 11.** Except as provided in sec. 10 of this Act, this Act takes effect January 1, 2005.

SB 301

FISCAL NOTE

STATE OF ALASKA
2010 LEGISLATIVE SESSION

Fiscal Note Number:
Bill Version: **SB 301**
() Publish Date:

Identifier (file name): SB301-CED-AIDEA-3-2-10
Dept. Affected: DCCED
Title: Power Project Fund Loan Portfolio Sale
RDU: 125
Component: AIDEA Operations
Sponsor: Rules by Request of the Governor
Requester: Senate Resources Committee
Component Number: 1234

Expenditures/Revenues (Thousands of Dollars)

Note: Amounts do not include inflation unless otherwise noted below.

	Appropriation Required	Information					
OPERATING EXPENDITURES	**FY 2011**	**FY 2011**	**FY 2012**	**FY 2013**	**FY 2014**	**FY 2015**	**FY 2016**
Personal Services							
Travel							
Contractual							
Supplies							
Equipment							
Land & Structures							
Grants & Claims							
Miscellaneous							
TOTAL OPERATING	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
CAPITAL EXPENDITURES							
CHANGE IN REVENUES ()							

FUND SOURCE (Thousands of Dollars)

1002 Federal Receipts							
1003 GF Match							
1004 GF							
1005 GF/Program Receipts							
1037 GF/Mental Health							
Other Interagency Receipts							
TOTAL	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**

Estimate of any current year (FY2010) cost:

POSITIONS

Full-time							
Part-time							
Temporary							

ANALYSIS: *(Attach a separate page if necessary)*

This bill authorizes the Alaska Energy Authority (AEA) to charge and collect fees relating to the power project fund (PPF.) See AEA's fiscal note for details.

In addition to authorizing the collection of fees, this bill allows AEA to sell and the Alaska Industrial Development and Export Authority to make a one-time purchase of substantially all loans from the PPF loan portfolio.

Prepared by: Sara Fisher-Goad, Deputy Director-Operations
Phone 907-771-3012
Division: Alaska Industrial Development and Export Authority
Date/Time 2/17/10 12:00 AM
Approved by: Emil Notti, Commissioner
Date 3/2/2010
Department of Commerce, Community and Economic Development

(Revised 11/6/2009 OMB)

FISCAL NOTE

STATE OF ALASKA
2010 LEGISLATIVE SESSION

BILL NO. SB 301

ANALYSIS CONTINUATION

AEA and AIDEA have developed a memorandum of understanding outlining the terms of the sale. AIDEA will purchase outstanding loans at a discount rate equivalent to 6.02%, its return on investments for the 3-year period ended September 30, 2009. To maximize the price paid, AEA agrees to repurchase from AIDEA loans which later default. Estimated sale proceeds are approximately $20.6 million. The closing date of the sale is anticipated to be in July 2010.

No additional operating costs are anticipated with this legislation.

FISCAL NOTE

STATE OF ALASKA
2010 LEGISLATIVE SESSION

Fiscal Note Number:
Bill Version: **SB 301**
() Publish Date:

Identifier (file name): SB301-CED-AEA-3-2-10
Dept. Affected: DCCED
Title: Power Project Fund Loan Portfolio Sale
RDU: 453
Component: Statewide Project Development
Sponsor: Rules by Request of the Governor
Requester: Senate Resources Committee
Component Number: 2888

Expenditures/Revenues (Thousands of Dollars)

Note: Amounts do not include inflation unless otherwise noted below.

	Appropriation Required	Information					
OPERATING EXPENDITURES	**FY 2011**	**FY 2011**	**FY 2012**	**FY 2013**	**FY 2014**	**FY 2015**	**FY 2016**
Personal Services							
Travel							
Contractual							
Supplies							
Equipment							
Land & Structures							
Grants & Claims							
Miscellaneous							
TOTAL OPERATING	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
CAPITAL EXPENDITURES							
CHANGE IN REVENUES ()	**						

FUND SOURCE (Thousands of Dollars)

1002 Federal Receipts							
1003 GF Match							
1004 GF							
1005 GF/Program Receipts							
1037 GF/Mental Health							
Other Interagency Receipts							
TOTAL	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**

Estimate of any current year (FY2010) cost:

POSITIONS

Full-time							
Part-time							
Temporary							

ANALYSIS: *(Attach a separate page if necessary)*

This bill authorizes the Alaska Energy Authority (AEA) to charge and collect fees relating to the power project fund (PPF.) Currently, AEA only collects funds from applicants relating to the direct cost of analyzing the feasibility of a project. All fees would be deposited into the general fund; however, AEA will request an annual appropriation to have collected fees be deposited into the PPF. A similar annual appropriation is requested for fees collected from bulk fuel loans. ** Estimated fees are indeterminate until regulations are adopted; however, as a reference, AEA charges a $25 application fee and a .5% origination fee for loans from the Bulk Fuel Revolving Loan Fund.

In addition to authorizing the collection of fees, this bill allows AEA to sell and the Alaska Industrial Development
(continued on page 2)

Prepared by: Sara Fisher-Goad, Deputy Director-Operations
Phone 907-771-3012
Division: Alaska Energy Authority
Date/Time 2/17/10 12:00 AM
Approved by: Emil Notti, Commissioner
Date 3/2/2010
Department of Commerce, Community and Economic Development

FISCAL NOTE

STATE OF ALASKA
2010 LEGISLATIVE SESSION

BILL NO. SB 301

ANALYSIS CONTINUATION

and Export Authority to make a one-time purchase of substantially all loans from the PPF loan portfolio. AEA and AIDEA have developed a memorandum of understanding outlining the terms of the sale. AIDEA will purchase outstanding loans at a discount rate equivalent to 6.02%, its return on investments for the 3-year period ended September 30, 2009. To maximize the price paid, AEA agrees to repurchase from AIDEA loans which later default. Estimated sale proceeds are approximately $20.6 million. The closing date of the sale is anticipated to be in July 2010.

No additional operating costs are anticipated with this legislation.

HB 301

An Act relating to the power project fund

Sectional Analysis

Section	Analysis
1	AS 42.45.010(a) is amended to allow proceeds from the sale of power project loans to be deposited into the power project fund (PPF).
2	AS 42.45.010(d) repeals and reenacts AEA authority to adopt regulations relating to the loan program by specifically allowing AEA to establish fees for applications and loan originations.
3	AS 42.45.010 is amended by adding new subsections – (k) to provide that fees collected will be deposited into the general fund. (l) provides authority to AEA to sell loans of the PPF with legislative approval, allows AEA to repurchase loans sold under this subsection which default, allows proceeds received to be deposited into the fund.
4	AS 44.88.080 is amended by adding new subsection (30) allowing AIDEA to purchase from AEA, as an investment of the revolving fund, PPF loans.
5	Uncodified law is amended by adding a new section providing for legislative approval for AEA to sell and AIDEA to purchase certain power project fund loans. This section references the 2/17/10 MOU between AIDEA and AEA that memorializes the proposed terms of the sale and purchase.
6	Provides for an immediate effective date

Prepared by AEA

AIDEA Alaska Industrial Development and Export Authority

ALASKA ENERGY AUTHORITY

March 9, 2010

The Honorable Lesil McGuire
The Honorable Bill Wielechowski
Co-Chairs, Senate Resources Committee
Alaska State Legislature
State Capitol, Room 125
Juneau, Alaska 99801-1182

RE: SB 301, "An Act relating to the Power Project Fund"

Dear Senators McGuire and Wielechowski:

On February 26, 2010, SB 301 (Companion Bill HB 411) was introduced by the Governor through the Senate Rules committee and referred to your committee. This legislation is intended to allow the Alaska Energy Authority (AEA) to charge and collect fees relating to the Power Project Fund (PPF) and authorize AEA to sell and authorize the Alaska Industrial Development and Export Authority (AIDEA) to purchase loans of the PPF.

SB 301 allows AEA to charge and collect fees in administering the PPF, similar to the authority AEA has to charge and collect fees in administering the Bulk Fuel Revolving Loan Fund (BFRLF.) AEA charges an application fee and an origination fee for a loan of the BFRLF; AEA proposes to charge similar fees for a PPF loan application and loan.

SB 301 also authorizes AEA to sell and AIDEA to purchase certain loans from the PPF. The proposed sale of existing loans will recapitalize the PPF with approximately $20.6 million. To maximize the price paid to AEA for the sale of the loans, the bill includes provisions for AEA to repurchase from AIDEA loans which later default. This repurchase provision substantially reduces financial risk to AIDEA and allows AIDEA to purchase the loans without significant discount.

We respectfully request you to schedule SB 301 for hearing in your committee, and we urge favorable action on this bill. A copy of the Memorandum of Understanding between AIDEA and AEA, fiscal notes and sectional analysis are attached. We will be happy to meet with you and other members of the committee to provide any other information you may require. Thank you for considering our request.

Sincerely,

ALASKA ENERGY AUTHORITY

M.C. Haag

for Steve Haagenson
Executive Director

Attachments (4)

cc: Ted Leonard, AIDEA Executive Director

Memorandum of Understanding

This Memorandum of Understanding ("MOU") is entered into this 17th day of February, 2010, between the Alaska Energy Authority ("AEA") and the Alaska Industrial Development and Export Authority ("AIDEA").

Recitals

A. The power project fund ("PPF") is established as a separate fund of AEA under AS 42.45.010(a).

B. AEA may make PPF loans for financing various activities related to the development of energy generation and transmission projects, bulk fuel storage facilities, waste energy, energy conservation, or alternative energy facilities, or may make loans to the bulk fuel revolving loan fund for the purposes described in AS 42.45.250(l).

C. The Renewable Energy Grant Fund was established under AS 42.45.045 to finance certain energy projects in Alaska, with an emphasis on feasible energy projects that provide a cost benefit to Alaska ratepayers, and projects that will serve areas in which the average cost of energy exceeds the average cost of energy in other areas of the state.

D. AEA makes PPF loans available to assist project developers meet their matching fund obligations under the Renewable Energy Fund Grant Recommendation Program. By doing so, AEA is able to leverage the funding available from each program to better promote the development of cost efficient, renewable energy projects for the benefit of Alaska ratepayers.

E. The PPF currently has less than $5,000,000 available for serving the purposes of the fund.

F. AEA desires to sell, and AIDEA desires to purchase, the outstanding PPF loans identified in the attached Exhibit A.

G. In this MOU, in order to maximize the amount AIDEA would be willing to pay for the PPF loans identified in Exhibit A and minimize financial risk to AIDEA from purchasing the PPF loans, AEA agrees to repurchase from AIDEA any outstanding loan if the borrower has a payment default after the sale.

H. The outstanding PPF loans identified in Exhibit A have a combined current balance as of February 9, 2010, of $24,700,452.23, and earn interest at annual rates that range from 0% to 6.16%.

Memorandum of Understanding

This Memorandum of Understanding ("MOU") is entered into this 17th day of February, 2010, between the Alaska Energy Authority ("AEA") and the Alaska Industrial Development and Export Authority ("AIDEA").

Recitals

A. The power project fund ("PPF") is established as a separate fund of AEA under AS 42.45.010(a).

B. AEA may make PPF loans for financing various activities related to the development of energy generation and transmission projects, bulk fuel storage facilities, waste energy, energy conservation, or alternative energy facilities, or may make loans to the bulk fuel revolving loan fund for the purposes described in AS 42.45.250(l).

C. The Renewable Energy Grant Fund was established under AS 42.45.045 to finance certain energy projects in Alaska, with an emphasis on feasible energy projects that provide a cost benefit to Alaska ratepayers, and projects that will serve areas in which the average cost of energy exceeds the average cost of energy in other areas of the state.

D. AEA makes PPF loans available to assist project developers meet their matching fund obligations under the Renewable Energy Fund Grant Recommendation Program. By doing so, AEA is able to leverage the funding available from each program to better promote the development of cost efficient, renewable energy projects for the benefit of Alaska ratepayers.

E. The PPF currently has less than $5,000,000 available for serving the purposes of the fund.

F. AEA desires to sell, and AIDEA desires to purchase, the outstanding PPF loans identified in the attached Exhibit A.

G. In this MOU, in order to maximize the amount AIDEA would be willing to pay for the PPF loans identified in Exhibit A and minimize financial risk to AIDEA from purchasing the PPF loans, AEA agrees to repurchase from AIDEA any outstanding loan if the borrower has a payment default after the sale.

H. The outstanding PPF loans identified in Exhibit A have a combined current balance as of February 9, 2010, of $24,700,452.23, and earn interest at annual rates that range from 0% to 6.16%.

I. AEA and AIDEA agree that the outstanding loans identified in Exhibit A have a projected present value as of the closing date (expected to be in July 2010) of approximately $20.6 million. This present value is the value of projected loan payments over the life of the outstanding loans, discounted at 6.02%, which was AIDEA's return on investments for the three year period ended September 30, 2009.

J. AEA and AIDEA agree that the sale and purchase of the outstanding PPF loans identified in Exhibit A at the present value of the loans will both adequately capitalize the Power Project Fund and provide a reasonable investment for the revolving fund of AIDEA.

K. The sale and purchase of the outstanding PPF loans identified in Exhibit A will require, among other things, the enactment of legislation approving the sale and purchase.

L. This MOU is intended to set forth the principal terms and conditions under which AEA would sell, and AIDEA would purchase, the outstanding PPF loans identified in Exhibit A. The parties intend that this MOU be incorporated into legislation to be submitted to the Alaska State Legislature authorizing the sale and purchase of the loans.

NOW, THEREFORE, in exchange for the mutual promises contained herein and for other consideration the receipt and adequacy of which is hereby acknowledged, the parties agree as follows:

1. AEA agrees to sell, and AIDEA agrees to purchase, the outstanding PPF loans identified in Exhibit A on the closing date, expected to be in July 2010, for a purchase price equal to the present value as of the closing date of all PPF loans identified in Exhibit A.

2. In this MOU, the "present value" of a PPF loan means the present value of all scheduled loan payments on the PPF loan over the entire remaining life of the PPF loan, using a discount rate of 6.02%.

3. Based upon the definition of "present value," AIDEA and AEA estimate that the purchase price of all PPF loans identified in Exhibit A on the closing date will be approximately $20.6 million.

4. AEA shall repurchase from AIDEA any outstanding PPF loan if the borrower defaults on payment after the sale. The repurchase price shall equal the present value of the loan determined on the date of the payment default by the borrower, less any payments received by AIDEA after the payment default date. AIDEA may exercise the right to have AEA repurchase a PPF loan by sending notice to AEA of the payment default.

AEA shall pay AIDEA within 30 days of the notice of payment default from unencumbered and uncommitted funds in the Power Project Fund. If the PPF has an inadequate amount of unencumbered and uncommitted funds to repurchase the PPF loan from AIDEA within 30 days of the notice of default, AEA shall make payments to AIDEA with unencumbered and uncommitted funds as they become available in the Power Project Fund (through repayments from other PPF loans or otherwise), with interest on the unpaid balance at the annual rate of four percent (4%) from the date 30 days after the notice of default. Nothing in this paragraph precludes AIDEA from rescinding a notice of default.

WHEREFORE the parties have executed this Agreement as of the date first written above.

Alaska Energy Authority

by: Steve Haagenson
Executive Director

Alaska Industrial Development and Export Authority

by: Ted Leonard
Executive Director

Exhibit A

Alaska Energy Authority
Power Project Loans
as of 2/9/10

Payment Period	Loan #	Loan Name	Outstanding Commitment	Current Balance	Next Due Date	Interest Rate	Payment Amount	Maturity Date
Annually								
	40901044	QINARMIUT CORP	$0.00	$84,841.03	10/1/10	0.00	$12,266.17	10/1/16
	40901045	CORDOVA ELEC CO OP	$0.00	$742,857.13	6/11/10	0.00	$28,571.43	6/11/35
	40901047	ST PAUL, CITY OF	$0.00	$97,306.42	10/1/10	3.00	$8,614.18	10/1/23
	40901048	WRANGELL, CITY OF	$0.00	$78,553.50	7/1/10	2.00	$27,238.92	7/1/12
	40901050	PELICAN UTILITY DISTRICT	$0.00	$15,161.70	7/1/10	5.61	$2,191.43	7/1/19
	40901057	ST PAUL, CITY OF	$0.00	$1,260,000.00	10/1/10	0.00	$90,000.00	10/1/23
Total for Annually				**$2,278,719.78**			**$168,882.13**	
SemiAnnually								
	40901009	SITKA, CITY OF	$0.00	$9,178,074.93	7/1/10	4.00	$307,037.96	1/1/33
	40901049	GWITCHYAA ZHEE UTILITY	$0.00	$145,384.29	7/1/10	6.16	$9,844.52	1/1/20
	40901051	AP&T TOK DOT LAKE	$0.00	$232,837.77	7/1/10	0.00	$12,254.63	7/1/19
	40901052	AP&T (TETLIN)	$0.00	$172,614.56	7/1/10	4.20	$11,121.71	7/1/19
	40901059	AP&T (PRINCE OF WALES PROJECT)	$0.00	$893,333.30	7/1/10	0.00	$20,000.00	1/1/37
	40901060	ELFIN COVE, COMMUNITY OF	$0.00	$550,325.15	7/1/10	0.00	$13,102.98	1/1/31
	40901061	SOUTHERN ENERGY	$0.00	$517,673.38	7/1/10	5.60	$21,480.18	7/1/30
	40901062	YAKUTAT, CITY & BOROUGH OF	$0.00	$125,792.95	7/1/10	3.00	$7,325.59	1/1/20
	40901065	AVEC NIGHTMUTE	$0.00	$205,283.22	7/1/10	0.00	$10,804.38	7/1/19
	40901068	AP&T (SKAGWAY)DYEA LINE EXTENSION	$0.00	$114,153.48	7/1/10	2.00	$6,052.95	7/1/20
	40901071	TUNTUTULIAK COMMUNITY SERVICES A	$0.00	$129,509.64	7/1/10	0.00	$5,396.23	1/1/22
	40901072	GUSTAVUS ELECTRIC COMPANY	$0.00	$118,626.84	7/1/10	5.40	$10,288.01	1/1/17
	40901076	NAPASKIAK ELEC UTILITY	$0.00	$6,304.97	7/1/10	5.80	$1,669.45	1/1/12
	40901079	TDX SAND POINT GENERATING INC	$0.00	$203,984.12	7/1/10	4.00	$10,109.49	1/1/23
	40901080	AK POWER CO-POW SWITHGEAR PROJ.	$0.00	$167,889.70	7/1/10	5.45	$7,639.46	1/1/27
	40901081	AK POWER CO-SKAGWAY LINE EXT	$0.00	$187,093.47	7/1/10	5.45	$6,660.67	1/1/37
	40901084	AK POWER CO-SOUTH FORK HYDRO	$0.00	$1,576,590.23	7/1/10	5.45	$57,000.66	1/1/36
	40901085	ADAK, CITY OF (DOWNSIZE GEN)	$0.00	$85,577.88	7/1/10	5.39	$6,648.22	1/1/18
	40901086	TDX NORTH SLOPE GENERATING INC	$0.00	$796,539.85	7/1/10	3.00	$34,972.27	1/1/24
	40901090	TDX NORTH SLOPE GENERATING INC	$0.00	$746,334.45	7/1/10	5.15	$35,901.66	1/1/25
	40901091	TDX SAND POINT GENERATING INC	$0.00	$120,251.45	7/1/10	5.11	$5,454.25	7/1/26
	40901092	AK POWER CO	$0.00	$63,010.57	7/1/10	5.11	$2,912.94	1/1/26
	40901093	PORT HEIDEN, CITY OF	$0.00	$38,730.34	7/1/10	5.09	$2,403.24	7/1/20
	40901094	YAKUTAT, CITY & BOROUGH OF	$0.00	$224,977.15	7/1/10	4.92	$17,225.39	1/1/18
	40901095	TDX NORTH SLOPEGENERATING, INC	$0.00	$1,193,582.30	7/1/10	4.92	$53,356.61	7/1/26
	40901096	CHENA POWER LLC	$0.00	$530,138.84	7/1/10	5.02	$23,729.86	7/1/26
	40901097	CRAIG, CITY OF	$0.00	$482,653.23	7/1/10	5.05	$19,908.31	1/1/29
	40901100	GUSTAVUS ELECTRIC, INC	$0.00	$928,029.76	7/1/10	4.69	$29,659.32	7/1/38
	40901102	CHIGNIK LAGOON POWER UTILITY	$0.00	$30,920.85	7/1/10	4.62	$5,599.19	1/1/13
	40901104	ALASKA WIND POWER, LLC	$0.00	$143,502.81	7/1/10	4.88	$7,176.84	1/1/14
	40901106	NUSHAGAK ELECTRIC & TELEPHONE CO(	$0.00	$12,010.97	7/1/10	4.99	$4,820.30	1/1/15
	40901107	TDX NORTH SLOPE GENERATING, INC.	$0.00	$2,500,000.00	7/1/10	5.46	$104,892.75	1/1/30
Total for SemiAnnually				**$22,421,732.45**			**$872,450.02**	
Grand Total				**$24,700,452.23**				

Prepared by AEA

SB 309

SENATE COMMITTEE REPORT
First Committee of Referral

DATE: 3/25/10

FURTHER: Finance

Date of 5-Day Notice: _____
(in accordance with Uniform Rule 23)

DATE TURNED
IN TO OFFICE: _____

Resources Committee considered SENATE BILL NO. 309

SB 309 GAS EXPLORATION\DEVELOPMENT TAX CREDIT

"An Act amending and extending the exploration and development incentive tax credit under the Alaska Net Income Tax Act for operators and working interest owners directly engaged in the exploration for and development of gas from a lease or property in the state; providing for an effective date by amending the effective date for sec. 2, ch. 61, SLA 2003; and providing for an effective date."

and recommends:

[ ] be **replaced** with [ ] **SCS** or [✓] **CS** SB 309 (RES)

[ ] adopt **previous** [ ] **SCS** or [ ] **CS** _____ (_____)

[ ] attached amendment(s)

[ ] adopt _____ Letter of Intent

[ ] further referral to _____ Committee

SENATE BILL:
[ ] Same Title
[✓] New Title

HOUSE BILL:
[ ] Same Title
[ ] Technical Title Change
[ ] New Title w/ SCR #____

NEW FISCAL NOTE(S):

Department	Date	Fiscal	Indet.	Zero	FN#
REV	4/10		✓		

PREVIOUS FISCAL NOTE(S):

Department	Date	Fiscal	Indet.	Zero	FN#

[ ] **APPROPRIATION - no fiscal note**

SIGNATURES AND RECOMMENDATIONS:	PRINTED LAST NAME	DO PASS	DO NOT PASS	NO REC	AMEND
	STEVENS			✓	
	FRENCH				✓
	WAGONER JR	X			
CO-CHAIR	McGuire	✓			
CO-CHAIR:	wielechowski				✓

26-LS1629\R
Bullock
4/8/10

CS FOR SENATE BILL NO. 309(RES)

IN THE LEGISLATURE OF THE STATE OF ALASKA

TWENTY-SIXTH LEGISLATURE - SECOND SESSION

BY THE SENATE RESOURCES COMMITTEE

Offered:
Referred:

Sponsor(s): SENATE RULES COMMITTEE BY REQUEST

FOR AN ACT ENTITLED

"An Act amending and extending the exploration and development incentive tax credit under the Alaska Net Income Tax Act for operators and working interest owners directly engaged in the exploration for and development of gas from a lease or property in the state; relating to a credit against the tax on the production of oil and gas for a qualified capital expenditure and for certain losses and expenditures; providing a credit against the tax on the production of oil and gas for drilling certain exploration wells in the Cook Inlet sedimentary basin; providing for an effective date by amending the effective date for sec. 2, ch. 61, SLA 2003; and providing for an effective date."

BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF ALASKA:

*** Section 1.** AS 43.20.043(a) is amended to read:

(a) Subject to the terms and conditions of this section, and in addition to any other credit authorized to the taxpayer by this chapter, a taxpayer that is an operator or

working interest owner directly engaging in the exploration for and development of gas may apply as a credit against the state tax liability that may be imposed on the taxpayer under this chapter,

(1) for a tax year beginning after December 31, 2002, **and before January 1, 2010,**

(A) [(1)] 10 percent of the taxpayer's qualified capital investment; and

(B) [(2)] 10 percent of the annual cost incurred by the taxpayer for qualified services in the state during each tax year for which a credit is allowable for a qualified capital investment **for any gas reserve of the taxpayer or for each year that qualified costs are incurred for a gas reserve for which the taxpayer previously elected to claim a credit(A) of this paragraph; and**

(2) for a tax year beginning after December 31, 2009,

(A) 25 percent of the taxpayer's qualified capital investment; and

(B) 25 percent of the annual cost incurred by the taxpayer for qualified services in the state during each tax year for which a credit is allowable for a qualified capital investment for any gas reserve of the taxpayer or for each year that qualified costs are incurred for a gas reserve for which the taxpayer previously elected to claim a credit under (A) of this paragraph [UNDER (1) OF THIS SUBSECTION].

*** Sec. 2.** AS 43.20.043(b) is amended to read:

(b) Expenditures qualifying for the taxpayer's qualified investment credit under **(a)(1)(A) or (a)(2)(A)** [(a)(1)] of this section must be

(1) cash expenditures or binding payment agreements entered into after

(A) June 30, 2003**, and before January 1, 2010, if the claim of the credit is made under (a)(1)(A) of this section; or**

(B) December 31, 2009, if the claim of the credit is made under (a)(2)(A) of this section; and

(2) made for assets first placed in service in the state in or before the

tax year in which the credit is claimed through the date the

(A) wells [RESERVES] produce gas for sale and delivery; for purposes of this **subparagraph** [PARAGRAPH], "placed in service in the state" means that the first use of the qualified investment is in this state; if the property on which the claim of the credit is based has been used elsewhere in the tax year of acquisition and is brought to this state during that year or a subsequent year, the property does not qualify for the investment credit; **or**

(B) a gas well is determined not to be capable of production in commercial quantities.

* **Sec. 3.** AS 43.20.043(c) is amended to read:

(c) The credit **each** [PER] tax year allowed by (a) of this section may not exceed [50 PERCENT OF] the taxpayer's total tax liability under this chapter, but shall be calculated before the application of any other credits allowed under this chapter. An unused portion of the credit for the tax year

(1) may be carried forward into one or more of the following tax years, except that the unused credit from one tax year may not be carried forward for more than five following tax years;

(2) shall be applied to the taxpayer's tax liability under this chapter during the following tax year before allowance of a credit allowed by (a) of this section for that following tax year.

* **Sec. 4.** AS 43.20.043(e) is amended to read:

(e) A taxpayer entitled to a credit under this section

(1) may not convey, assign, or transfer the credit to another taxpayer or business entity unless the conveyance, assignment, or transfer of the credit is part of the conveyance, assignment, or transfer of the taxpayer's business;

(2) forfeits the credit to which the taxpayer is entitled during the tax year and any carryover of it under (c) of this section, but does not forfeit the portion of the credit that accrued in a previous taxable year that may be carried over under (c) of this section, if the taxpayer

(A) disposes of the qualified capital investment;

(B) takes the qualified investment out of service; or

(C) transfers the qualified investment out of this state;

(3) may not include in any rate base for a regulated facility submitted to a regulatory agency charged with determining an appropriate tariff the cost of any qualified capital investment or qualified service that has been offset by receipt of a credit under this chapter.

*** Sec. 5.** AS 43.20.043(f) is amended to read:

(f) A taxpayer is not entitled to a credit under this section for expenditures that are made or incurred for the qualified capital investment or for ~~qualified services made~~ for exploration and development of gas ~~that occur~~ in the area of Alaska lying north of 68 degrees North latitude ~~or that are made~~ or incurred to transport gas from reserves located in ~~the~~ area of Alaska lying north of 68 ~~degrees~~ North latitude **or for the delivery of Alaska North Slope natural gas to tidewater below 68 degrees North latitude.**

*** Sec. 6.** AS 43.20.043(g) is amended to read:

(g) A taxpayer **that** [WHO] obtains a credit **for a qualified capital investment or cost incurred for qualified services** under this section may not **also** claim a tax credit or royalty modification **for the same qualified capital investment or cost incurred for qualified services under AS 38.05.180(i), AS 41.09.010, AS 43.55.023, or 43.55.025** [PROVIDED FOR UNDER ANY OTHER TITLE]. However, a taxpayer may **elect not to obtain** [, AT THE TAXPAYER'S ELECTION, FORGO] a credit under this section in order [TO CONTINUE] to qualify for a credit provided **under AS 38.05.180(i), AS 41.09.010, AS 43.55.023, or 43.55.025** [FOR IN ANOTHER TITLE].

*** Sec. 7.** AS 43.20.043(i)(1) is amended to read:

(1) "qualified capital investment" means a cash expenditure or binding payment agreement, as described in (b)(1) of this section, for real property or tangible personal property used in this state in the exploration and development of **any** gas **reserve regardless of whether there has been commercial production in the area or whether the exploration and development activity results in the production of gas or a well not capable of production in commercial quantities** [RESERVES IN A GAS RESERVOIR FOR WHICH THERE HAS NOT BEEN COMMERCIAL

PRODUCTION IF THE RESERVES PRODUCE GAS FOR SALE AND DELIVERY]; in this paragraph, "property" includes

(A) property used in the operation or maintenance of facilities for exploration or development of gas;

(B) property that is placed in use under a capitalized lease or an operating lease; and

(C) the following property used for the exploration and development of gas:

(i) machinery, appliances, supplies, and equipment;

(ii) drilling rigs, wells, gathering lines and transmission lines, pumping stations, compressor stations, power plants **designed for field operations, gas processing plants, and gas treatment plants, but not including liquefied natural gas or manufacturing plants** [, TOPPING PLANTS, AND PROCESSING UNITS];

(iii) roads, docks and other port facilities, and helicopter pads;

(iv) maintenance equipment and facilities, and maintenance camps and other related facilities; and

(v) communications facilities owned by a person whose principal business in the state is the exploration for or development of gas and whose operation of the communications facilities directly relates to the conduct of that business;

*** Sec. 8.** AS 43.20.043 is amended by adding a new subsection to read:

(j) A taxpayer shall claim the credit authorized in (a) of this section on a timely filed tax return for the year in which the qualified capital investment is made, on a timely filed amended tax return, or on a timely filed tax return for the year immediately following the year in which the qualified capital investment is made. The election to apply the credit authorized in (a) of this section may not be an irrevocable election.

*** Sec. 9.** AS 43.55.023(a) is amended to read:

(a) A producer or explorer may take a tax credit for a qualified capital

expenditure as follows:

(1) notwithstanding that a qualified capital expenditure may be a deductible lease expenditure for purposes of calculating the production tax value of oil and gas under AS 43.55.160(a), unless a credit for that expenditure is taken under AS 38.05.180(i), AS 41.09.010, AS 43.20.043, or AS 43.55.025, a producer or explorer that incurs a qualified capital expenditure may also elect to apply a tax credit against a tax levied by AS 43.55.011(e) in the amount of 20 percent of that expenditure; [HOWEVER, NOT MORE THAN HALF OF THE TAX CREDIT MAY BE APPLIED FOR A SINGLE CALENDAR YEAR;]

(2) a producer or explorer may take a credit for a qualified capital expenditure incurred in connection with geological or geophysical exploration or in connection with an exploration well only if the producer or explorer

(A) agrees, in writing, to the applicable provisions of AS 43.55.025(f)(2);

(B) submits to the Department of Natural Resources all data that would be required to be submitted under AS 43.55.025(f)(2).

*** Sec. 10.** AS 43.55.023(d) is amended to read:

(d) Except as limited by (i) of this section, a person that is entitled to take a tax credit under this section that wishes to transfer the unused credit to another person or obtain a cash payment under AS 43.55.028 may apply to the department for **a** transferable tax credit **certificate** [CERTIFICATES]. An application under this subsection must be in a form prescribed by the department and must include supporting information and documentation that the department reasonably requires. The department shall grant or deny an application, or grant an application as to a lesser amount than that claimed and deny it as to the excess, not later than 120 days after the latest of (1) March 31 of the year following the calendar year in which the qualified capital expenditure or carried-forward annual loss for which the credit is claimed was incurred; (2) the date the statement required under AS 43.55.030(a) or (e) was filed for the calendar year in which the qualified capital expenditure or carried-forward annual loss for which the credit is claimed was incurred; or (3) the date the application was received by the department. If, based on the information then available to it, the

department is reasonably satisfied that the applicant is entitled to a credit, the department shall issue the applicant **a** [TWO TRANSFERABLE] tax credit **certificate** [CERTIFICATES, EACH FOR HALF OF THE AMOUNT OF THE CREDIT]. The credit shown on [ONE OF] the **certificate** [TWO CERTIFICATES] is available for immediate use. [THE CREDIT SHOWN ON THE SECOND OF THE TWO CERTIFICATES MAY NOT BE APPLIED AGAINST A TAX FOR A CALENDAR YEAR EARLIER THAN THE CALENDAR YEAR FOLLOWING THE CALENDAR YEAR IN WHICH THE CERTIFICATE IS ISSUED, AND THE CERTIFICATE MUST CONTAIN A CONSPICUOUS STATEMENT TO THAT EFFECT.] A certificate issued under this subsection does not expire.

*** Sec. 11.** AS 43.55.025(a) is amended to read:

(a) Subject to the terms and conditions of this section, a credit against the production tax levied by AS 43.55.011(e) is allowed for exploration expenditures that qualify under (b) of this section in an amount equal to one of the following:

(1) 30 percent of the total exploration expenditures that qualify only under (b) and (c) of this section;

(2) 30 percent of the total exploration expenditures that qualify only under (b) and (d) of this section;

(3) 40 percent of the total exploration expenditures that qualify under (b), (c), and (d) of this section; [OR]

(4) 40 percent of the total exploration expenditures that qualify only under (b) and (e) of this section**; or**

(5) 80, 90, or 100 percent, or a lesser amount described in (m) of this section, of the total exploration expenditures described in (b)(1) and (2) of this section and not excluded by (b)(3) and (4) of this section that qualify only under (m) of this section.

*** Sec. 12.** AS 43.55.025 is amended by adding a new subsection to read:

(m) The first three unaffiliated persons that each drill an offshore exploration well for the purpose of discovering oil or gas in Cook Inlet that penetrates and evaluates a prospect in the pre-Tertiary zone using a jack-up drill rig are eligible for the credit under this subsection. The person that drills the first exploration well is

entitled to a credit in the amount of 100 percent of its exploration expenditures or $25,000,000, whichever is less; the person that drills the second exploration well using the same jack-up drill rig is entitled to a credit in the amount of 90 percent of its exploration expenditures or $22,500,000, whichever is less; and the person that drills the third exploration well using the same jack-up drill rig is entitled to a credit in the amount of 80 percent of its exploration expenditures or $20,000,000, whichever is less. A person or an affiliate of a person drilling an exploration well is not entitled to a credit for more than one exploration well under this subsection. The department shall make a determination of the order in which the wells are drilled based on the date and time that the drill bit first turns to the right against the seafloor for the purpose of drilling the well. Exploration expenditures eligible for the credit in this subsection may include the necessary and reasonable costs to modify an existing jack-up rig for use in Cook Inlet, may not include the cost to construct or manufacture a jack-up rig, and, notwithstanding (b) of this section, must be incurred for work performed after June 30, 2010. If the exploration well for which a credit is received under this subsection results in sustained production of oil or gas from a reservoir discovered by the exploration well, and notwithstanding that the credit may have been transferred under (g) of this section, 50 percent of the amount of the credit received shall be repaid to the department by the person that received the credit in equal monthly installments over a 10-year period commencing 60 days after the start of sustained production of oil or gas. Whether the exploration well for which a credit is requested under this subsection penetrated and evaluated a prospect in the pre-Tertiary zone and the exploration well resulted in sustained production of oil or gas from a reservoir discovered by the exploration well shall be determined by the commissioner of natural resources and reported to the commissioner. A taxpayer that obtains a credit under this subsection may not claim a tax credit under AS 43.55.023 or another provision in this section for the same exploration expenditure. In this subsection,

(1) "jack-up rig" means a mobile drilling platform with extendible legs for support on the ocean floor;

(2) "reservoir" means an oil and gas accumulation, discovered and evaluated by testing, that is separate from any other accumulation of oil and gas;

(3) "sustained production" means production of oil or gas from a reservoir into a pipeline or other means of transportation to market, but does not include testing, evaluation, or pilot production.

*** Sec. 13.** The uncodified law of the State of Alaska enacted by sec. 3, ch. 61, SLA 2003, is amended to read:

Sec. 3. CLAIM OF GAS EXPLORATION AND DEVELOPMENT TAX CREDIT CONTINUED. A taxpayer who, on the effective date of repeal of AS 43.20.043 by **secs. 2 and 5, ch. 61, SLA 2003, as amended by sec. 15** [SEC. 2] of this **2010** Act, claims the balance of any unused portion of the gas exploration and development tax credit as a carry-forward under AS 43.20.043(c), may, notwithstanding the repeal of that subsection, continue to claim the balance of the credit until the claim of the credit is exhausted or until the tax year ending December 31, **2024** [2017], whichever occurs earlier. The provisions of AS 43.20.043 as they read on the day immediately preceding the effective date of the repeal of that section apply to the claim of the credit if carried forward under this section.

*** Sec. 14.** AS 43.55.028(e)(2) and 43.55.028(e)(3) are repealed.

*** Sec. 15.** Section 5, ch. 61, SLA 2003, is amended to read:

Sec. 5. Section 2**, ch. 61, SLA 2003,** [OF THIS ACT] takes effect January 1, **2020** [2013].

*** Sec. 16.** This Act takes effect immediately under AS 01.10.070(c).

ALASKA STATE LEGISLATURE

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Chair
Senate Special Committee on Energy
Senate Committee on World Trade, Technology and Innovations

Co-Chair
Senate Resources Committee

Member
Senate Judiciary Committee

SENATOR LESIL MCGUIRE

Sectional Analysis of Senate Bill 309: 26-LS 1629\A

Please note that a sectional analysis is not an authoritative interpretation of a bill. The bill itself is the best statement of its contents.

Section 1 amends AS 43.20.043(a) to increase the tax credit for qualified expenditures and annual costs to 25 percent for tax years following December 31, 2009 from the current 10 percent.

Section 2 amends AS 43.20.043(b) to clarify the application of the proposed credits and that "wells" rather than "reserves" are developed.

Section 3 amends AS 43.20.043(c) to remove the 50% cap on the application of a credit against a taxpayer's liability.

Section 4 amends AS 43.20.043(f) to clarify that the credit does not apply to gas delivered from the Alaska North Slope.

Section 5 amends AS 43.20.043(i)(1) to include development activity in the definition of qualified investment.

Section 6 amends AS 43.20.043 by adding a new subsection to specify when a taxpayer may claim the credit.

Section 7 amends the uncodified law enacted by sec. 3, ch. 61, SLA 2003 to extend the repeal of the provisions related to the exhaustion of credits.

Section 8 extends the sunset of the tax credit to January 1, 2020.

Section 9 provides an immediate effective date.

Prepared By: Michael Pawlowski, Aide to Senator McGuire

FISCAL NOTE

STATE OF ALASKA
2010 LEGISLATIVE SESSION

Fiscal Note Number: 1
Bill Version: CSSB 309(RES)
(S) Publish Date: 4/10/10

Identifier (file name): CSSB309(RES)-REV-TAX-04-10-10
Title: Gas Exploration / Development Tax Credit
Sponsor: Rules by Request
Requester: Senate Resources Committee

Dept. Affected: Revenue
RDU: Taxation and Treasury
Component: Tax Division
Component Number: 2476

Expenditures/Revenues (Thousands of Dollars)

Note: Amounts do not include inflation unless otherwise noted below.

	Appropriation Required	Information					
OPERATING EXPENDITURES	**FY 2011**	**FY 2011**	**FY 2012**	**FY 2013**	**FY 2014**	**FY 2015**	**FY 2016**
Personal Services							
Travel							
Contractual							
Supplies							
Equipment							
Land & Structures							
Grants & Claims							
Miscellaneous							
TOTAL OPERATING	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
CAPITAL EXPENDITURES							
CHANGE IN REVENUES ( )	***	***	***	***	***	***	***

FUND SOURCE (Thousands of Dollars)

1002 Federal Receipts							
1003 GF Match							
1004 GF							
1005 GF/Program Receipts							
1037 GF/Mental Health							
Other Interagency Receipts							
TOTAL	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**

Estimate of any current year (FY2010) cost:

POSITIONS

Full-time							
Part-time							
Temporary							

ANALYSIS: *(Attach a separate page if necessary)*

*** Revenue impact is indeterminate. Please see attached for analysis.

Prepared by: Cherie Nienhuis, Petroleum Economist/Johanna Bales, Deputy Director — Phone (907) 269-1019
Division: Tax Division — Date/Time 04-10-10; 12:25am
Approved by: Ginger Blaisdell, Director — Date 04-10-10; 8:39am
Administrative Services Division, Department of Revenue

(Revised 11/6/2009 OMB)

STATE OF ALASKA
2010 LEGISLATIVE SESSION

BILL NO. CSSB 309(RES)

ANALYSIS CONTINUATION

Bill Language:

This bill makes several changes to credits to both the production tax system and the oil and gas corporate income tax system as follows.

The bill extends the existing Gas Exploration and Development tax credit for investment in qualified capital expenditures and related qualified services, dealing with those capital expenditures. The Gas Exploration and Development tax credit is taken against the Corporate Income Tax (CIT), before any other federal or state credits are taken. One hundred percent of a company's tax liability can be offset by this credit in a given tax year. Additionally, credits from prior years must be used before current year credits can be used. A credit must be used within five years, otherwise it expires.

Currently, 10% of qualifying capital expenditures and operating expenditures can be taken as capital credits, sunsetting in 2013. The bill would increase the credit rate to 25% for qualifying capital and service expenditures incurred after June 30, 2011 for tax years beginning after December 31, 2010. The 25% rate would sunset on January 1, 2020. Under existing law all remaining tax credits under AS 43.20.043 expire December 31, 2017. This bill would change the sunset date to expire the tax year ending December 31, 2024.

In order for an expenditure to qualify for the 10% rate, cash expenditures or binding payment agreements must be made between June 30, 2003 and before July 1, 2011. Expenditures qualify for the 25% rate cash expenditures or binding payment agreements must be made after June 30, 2011.

The credit is limited to activities south of 68 degrees North latitude and exempts delivery of Alaska North Slope natural gas to tidewater.

It is difficult to determine the number of taxpayers who would take advantage of the corporate income tax credit, the degree to which the credit would be utilized, and other exogenous variables impacting the revenues the state would collect. Reduction in CIT are indeterminate at this time.

The bill also expands the production tax credit authorized at AS 43.55.025 to a maximum credit of 100 percent of the total exploration expenditures for drilling in the Cook Inlet basin. The bill proposes to grant the full 100 percent credit of exploration expenditures to the first person to qualify under this credit, 90 percent to the second person, and 80 percent to the third person. Only expenditures occuring after July 1, 2010 and before July 1, 2016 would qualify under the bill. If the exploration well for which credit is received results in paying quantities of production, the person who received the credit will pay back to the state 50 percent of the credit received in monthly installments over 10 years.

The fiscal impact of this provision of the bill is indeterminate. Several companies have sought credits under the .025 exploration incentive credit in the Cook Inlet basin, for which the state has reimbursed up to 40 percent of the companies' capital costs. Our records indicate that total costs for drilling in the Cook Inlet basin could be as high as $5 million or more. A recent study by the Petrotechnical Resources of Alaska (PRA) indicates that the cost of drilling 128 wells in the Cook Inlet basin over the period from 2001 through 2009 cost between $1.0 and $1.2 billion. This figure includes not just exploration wells, but presumably cheaper development wells. At the high end of the range, this amounts to a per-well cost of $9.4 million. PRA further reports that over the next decade 185 new wells will need to be drilled to meet demand, and that capital costs will increase to $1.85 to 2.8 billion, with per-well costs of $10-$15 million. If their report is correct, three persons receiving credit under this provision will cost the state up to $40 million in tax credits. If all three of the persons found paying quantities of oil or gas, the state could be reimbursed about $20 milion of the $40 million in credits.

(continued on next page)

STATE OF ALASKA
2010 LEGISLATIVE SESSION

BILL NO. CSSB 309(RES)

ANALYSIS CONTINUATION

The bill also removes from law two existing requirements relating to production tax credits. First, it removes the limitation that credits received for capital expenditures for oil and gas operations be taken over two years. The calculation of the revenue impact for this provision is difficult for two reasons: (1) the timing of the revenue impact will depend upon when the bill is signed into law; and (2) the amount the state may potentially be expected to pay to purchase credits is conditioned in part on removing the reinvestment requirement discussed in #2 above, and the timing of the payment will depend on whether companies will immediately seek reimbursement for their credits.

We assume for this provision a worse-case scenario where all credits held by companies with production tax liabilities are used in FY 2010 or FY 2011. This would cost the state approximately $225 million in reduced taxes between the two years. For companies that are holding credit certificates and are not expected to incur a tax liability in FY 2010 or FY 2011, we estimate an additional liability of up to $150 million over previous expectations for the two fiscal years. These impacts could spill into FY 2012, should companies delay seeking reimbursement. Beyond FY 2012, revenue impacts are expected to be negligible.

Second, it removes the requirement that companies that seek cash refunds from the state for credits reinvest in capital expenditures an amount equivalent to the cash reimbursement sought. This provision is expected to be revenue neutral, as credits are either taken against tax liabilities or as a refund in full, with no differential impact to the state.

Expenditures: The provisions of this bill could be implemented with existing state resources. No additional personnel or resources would be needed, since the DOR is already performing these duties.

Cook Inlet Gas Study - An Analysis for Meeting the Natural Gas Needs of Cook Inlet Utility Customers

prepared for

ENSTAR Natural Gas Company

CHUGACH POWERING ALASKA'S FUTURE

MLP ANCHORAGE, A SEVENTY-FIVE YEARS

March 2010

Peter J. Stokes, PE
William Grether & Thomas P. Walsh

Petrotechnical Resources of Alaska
3601 C Street Suite 822
Anchorage, AK 99503
(907) 272-1232

PRA Petrotechnical Resources Alaska

Due to the uncertainties of drilling and producing activities of operating and exploration companies and what Alaska state agencies do and do not do in influencing those activities, this study should be considered a best estimate based on current data. It was prepared using generally accepted engineering and geological predictive methods. As such, Petrotechnical Resources of Alaska can make no warranty as to actual future Cook Inlet gas drilling and production.

4246

Executive Summary prepared by Cook Inlet Utilities

ENSTAR Natural Gas Company, Chugach Electric Association, and Anchorage Municipal Light and Power (Cook Inlet Utilities) commissioned Petrotechnical Resources of Alaska (PRA) to study Cook Inlet natural gas reserves and forecast annual natural gas production. We asked PRA to estimate the cost of the development necessary to meet the immediate needs of Cook Inlet utility customers from 2010 to 2020. The PRA study includes a review of estimated reserves and deliverability of Cook Inlet gas wells drilled between 2001 and 2009, scenarios for potential development activity, a review of a December 2009 Alaska Department of Natural Resources (DNR) reserves analysis, and an analysis of when it might be necessary to rely on non-Cook Inlet natural gas sources, such as liquefied natural gas (LNG) imports or other in-state resources.

In the future, Cook Inlet utility customers should expect to pay more for the gas used by Cook Inlet Utilities to generate heat and electricity. PRA examined results from all of the gas wells drilled in Cook Inlet between 2001 and 2009 and determined that producers spent approximately $1.0 to $1.2 billion in development costs to add reserves of approximately 519 billion cubic feet (Bcf) of natural gas. If the current trends for well success rates and costs continue, producers will need to spend two to three times that amount, an estimated $1.9 to $2.8 billion, to meet projected Cook Inlet utility demand from 2010 to 2020. Producers will invest the necessary capital in future drilling activity only if they have a reasonable expectation of a return that is competitive with other investment opportunities. In order to assure continued drilling activities, increased development costs must be reflected in the market price utilities pay for the gas and ultimately pass onto their customers. Cook Inlet Utilities will also require storage services to deliver gas to their customers on the coldest days and enable producers to optimize gas production rates. The estimated cost of a storage facility is $150 to $200 million[1]. These storage costs will also be borne by utility customers.

[1] Storage cost estimates based on ENSTAR's development assessment.

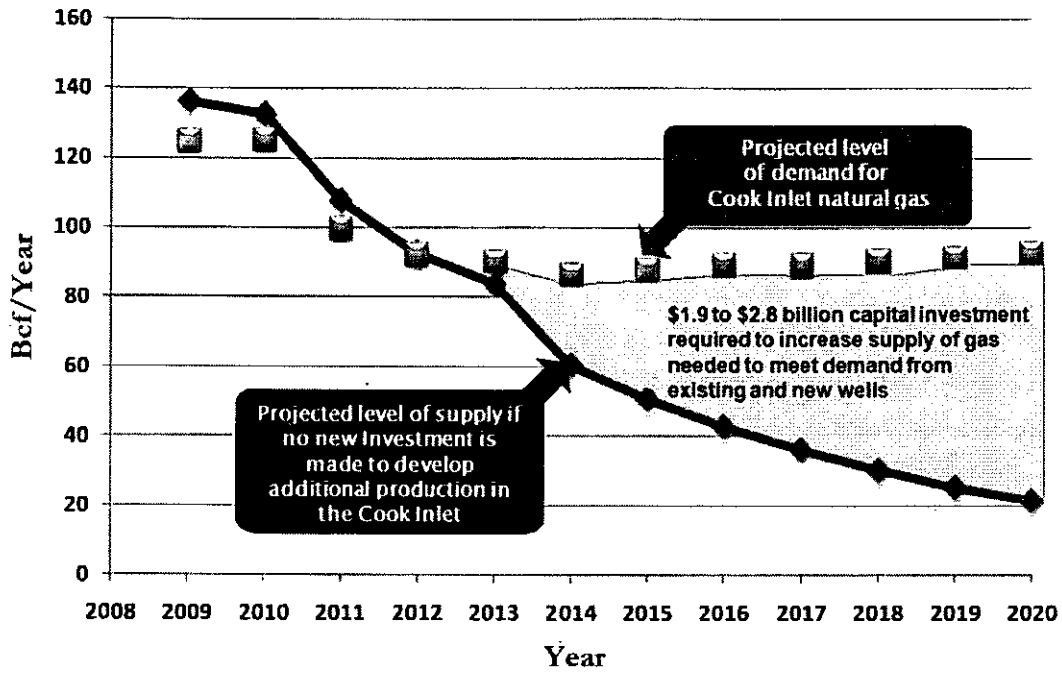

Figure 1 – Cook Inlet Supply & Demand

PRA used a decline curve analysis to review the same underlying data analyzed in the 2009 DNR reserves study and reached a similar conclusion regarding when the supply of gas from existing wells will not meet demand[2]. The PRA study took the next step, estimating the cost of bringing the undeveloped gas resources to market[3]. PRA determined that if significant efforts are undertaken to develop gas from the resources identified by DNR and if the current trends in drilling success rates continue, gas might be available through 2020. However, even if an aggressive development effort were undertaken immediately, that effort may fail to bring new gas to market quickly enough to provide needed gas when demand is projected to exceed supply as soon as 2013. Utilities need to plan for an alternative supply to meet their customers' needs. Having undeveloped gas resources in the ground will not enable Cook Inlet Utilities to provide heat and power to their customers. The gas resources will only be developed and brought to market at prices that incentivize the producers to justify their investment. Contracts with these higher prices will require RCA approval.

Cook Inlet Utilities need a viable option if additional Cook Inlet development does not materialize. To provide a stable gas supply, non-Cook Inlet sources such as gas delivered from the North Slope or LNG imports, are alternatives that must be pursued. The "easy" gas has been found in the challenging geology of Cook Inlet. The future costs of developing additional reserves will be substantial. As the cost of continued Cook Inlet gas production increases, alternative gas supply sources may become more economically attractive. Regulatory uncertainty has also discouraged Cook Inlet producers from exploring for and developing Cook

[2] PRA's study estimates remaining reserves of 729 Bcf from existing wells, compared with DNR's forecast of 863 Bcf of Proven Developed Producing reserves.

[3] The DNR study did not address the cost of bringing undeveloped resources to the market. (see DNR Study Figure 14 Description)

Inlet reserves[4]. In the current regulatory environment, two of the three major Cook Inlet producers have publicly stated that they intend to drill only to meet current contract obligations. Future development depends on a change in the regulatory climate to one where consistent standards are applied to approve negotiated utility gas supply agreements, even if those agreements reflect the increased costs of resource development.

The Cook Inlet market is in transition. Current gas fields are in decline and the loss of industrial customers has reduced the producers' incentives to do anything but meet existing contractual obligations. In order for utilities to be able to continue to supply current customers and to accommodate future growth, Cook Inlet Utilities and others must take action.

Immediate Actions Needed:

- New gas supply agreements between Cook Inlet Utilities and Producers must be signed to ensure continued development of Cook Inlet reserves.

- There must be predictable timelines and standards for regulatory approval of gas supply agreements. The Regulatory Commission of Alaska must be willing to approve gas supply contracts negotiated at arm's length, even if prices under those contracts increase.

- Cook Inlet Utilities must develop gas storage to assure deliverability on the coldest days and optimize gas production throughout the year.

- Cook Inlet Utilities should continue raising customer awareness, conservation efforts, and curtailment plans, to prepare for potential shortfalls.

- Additional well-capitalized exploration and development companies must commit to develop Cook Inlet and other Alaska gas reserves.

- To assure certainty of supply, Cook Inlet Utilities must determine how they will bring gas into Cook Inlet within the next five years to ensure the needs of their customers are met. Alternative gas supply sources include LNG imports and North Slope gas delivered by pipeline to south central Alaska.

- Additional regional industrial gas demand must be found to encourage the development of Cook Inlet reserves and spread the increased costs of production.

- Land management processes must be streamlined to encourage and accelerate reserve and infrastructure development.

[4] Recent favorable regulatory decisions on utility gas supply agreements may be a positive sign.

Technical Summary

ENSTAR Natural Gas Company, Chugach Electric Association, and Anchorage Municipal Light and Power (Cook Inlet Utilities) hired Petrotechnical Resources of Alaska (PRA) to perform a study of Cook Inlet reserves and deliverability. The components of the study included:

- Review the deliverability of Cook Inlet gas wells drilled between 2001 and 2009
- Forecast potential deliverability of future drilled gas wells
- Review Alaska Department of Natural Resources (DNR) reserves analysis
- Analyze timing of demand for a delivery of potential non-Cook Inlet gas sources, such as liquefied natural gas (LNG) imports or other in-state resources

High level findings of the study are:

Cook Inlet Well Drilling Results – 2001 to 2009

- Drivers for Cook Inlet well drilling between 2001 and 2009 included:
  - Newly executed gas contracts
  - Reserves development associated with negotiated gas contracts rejected by the RCA
  - LNG Exports and License Extensions
  - Increasing Regional Natural Gas Prices
  - Industrial Fertilizer Operations
- Results for Cook Inlet well drilling between 2001 and 2009:
  - 128 gas wells were drilled between 2001 and 2009, of which, 105 were completed with an average rate of 3.6 MMSCF/D for the first 12 months of production
    - 97 wells were permitted and drilled as Gas Development wells; 88 of these were completed as gas wells, for a 90.7% success rate
    - 31 wells were permitted and drilled as Gas Exploration wells; 18 were completed as gas wells, for a 58.1% success rate
    - An estimated 519 BCF of gas was developed by these wells
    - Ninilchik, Kenai and Deep Creek Units had the most drilling activity during this period; Ninilchik was very successful; Kenai wells were average and Deep Creek wells were marginal
    - The estimated costs for drilling and facilities of these 128 gas wells are between $1.0 and $1.2 billion

Review of DNR Analysis of Available Reserves

- The DNR completed a Cook Inlet Gas Reserves Study in December 2009
- In the DNR study, reserves and resources are systematically estimated, but as stated in the report, the timing of the development of undeveloped reserves is only an estimate as shown in DNR's Figure 14, a "Hypothetical production forecast for Cook Inlet basin showing increments of reserves and resources identified by engineering and geological analysis discussed in text."
- In the DNR study, the only firm deliverabilities are for reserves estimated by decline curve analysis and material balance. The material balance resources would be realized

through the spending of additional capital for development (Beaver Creek) or for compression (Ninilchik). Timing is determined by economic drivers.

- The DNR study forecasted 863 BCF of Proven Developed Producing reserves compared to the decline curve analysis performed by PRA forecasting 729 BCF[5] of reserves.
    - A major difference in decline curve analysis performed by PRA was apparent at Beluga River Field where the DNR study estimated 377 BCF remaining reserves and PRA estimated 207 BCF.
    - The predicted production from decline curve analysis was similar in both studies; both DNR and PRA showed decline curve analysis predictions from existing wells falling below projected demand in the 2012-2013 timeframe.
- The DNR study forecasted Additional Probable Reserves of 279 BCF based on material balance calculations, while PRA did not perform material balance calculations.
- In both studies, the four (4) Fields identified as having greatest remaining potential and selected for detailed geological analysis were: Beluga River, North Cook Inlet, Ninilchik, and McArthur River Grayling gas sands.
  Reported were:
    - Potential gas resources (from geologic analysis of 4 fields above) estimated to be 353 BCF
    - Possible gas resources of 643 BCF (50% Risked case) estimated from lower confidence pay intervals

<u>Potential of Future Gas Wells in Cook Inlet:</u>

- Drivers required for future Cook Inlet reserve development include:
    - Execution and RCA approval of gas contracts
    - Predictable timeline and standard for regulatory approval of negotiated gas pricing structures
    - Additional regional industrial gas demand, including LNG exports.
    - Additional well-capitalized exploration and development companies committed to develop Alaskan resources
    - Government action to facilitate and accelerate development of necessary infrastructure and permitting
- Challenges facing future Cook Inlet development include:
    - Possible discontinuation of LNG exports from the region
    - Reduced industrial demand (e.g., regional fertilizer manufacturing)
    - Success rates in exploration and development
    - Higher relative regional costs for exploration, development, and production
    - High level of activity in reserve development needed to meet demand
    - Probable decline in production rates from future wells in existing fields
- Minimum requirements to meet demand in Cook Inlet gas market until 2020:
    - A new source of gas, such as imported LNG or other in-state reserves, could be required as early as 2013, if ongoing drilling or drilling success does not continue at the 2007-2009 pace.

[5] 762 BCF in Report included 33.7 BCF estimated for 4 remaining 2009 Wells

- Gas storage will maximize Cook Inlet gas deliverability potential and more closely match local demand curves and production rates.
- To meet projected demand for the next decade, 185 new wells will be needed, which is a 45% increase over the number of wells drilled in the 2001-2009 period
- Development costs for this time period are estimated at $1.85 to $2.8 billion, an increase in total capital investment of 54-180%
- To incent this substantive increase in investment levels, or to bring a new source of gas to Cook Inlet, utility customers should expect to pay significantly higher gas prices

Figure 2 shows recent history and future wells estimated to meet CI gas demands through 2020. The well count assumes average well performance of 2007-2009 wells, with initial rates and developed reserves degraded by 4.3% per year.

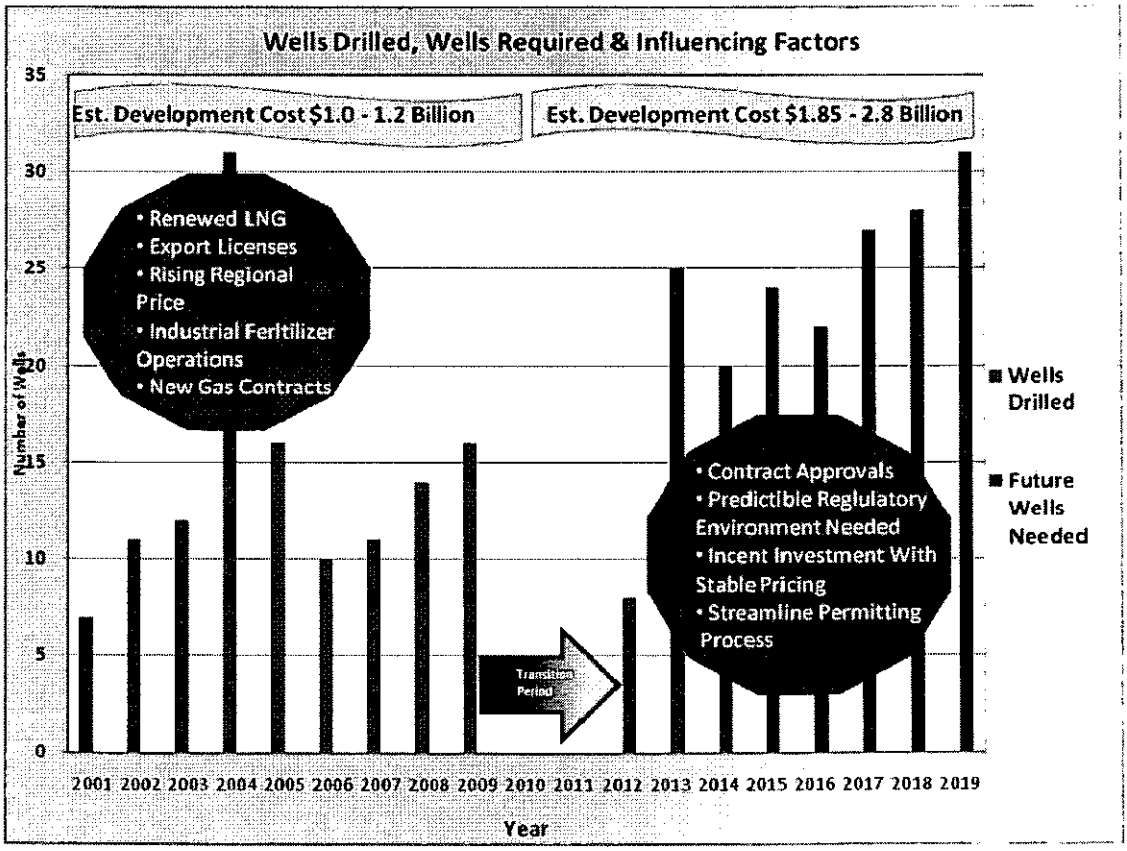

Figure 2:Wells Drilled, Future Wells Required & Influencing Factors

LAWS OF ALASKA

2003

Source
SCS CSHB 61(RES)

Chapter No.
_____

AN ACT

Establishing an exploration and development incentive tax credit for operators and working interest owners directly engaged in the exploration for and development of gas for sale and delivery without reference to volume from a lease or property in the state; and providing for an effective date.

BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF ALASKA:

THE ACT FOLLOWS ON PAGE 1

AN ACT

Establishing an exploration and development incentive tax credit for operators and working interest owners directly engaged in the exploration for and development of gas for sale and delivery without reference to volume from a lease or property in the state; and providing for an effective date.

*** Section 1.** AS 43.20 is amended by adding a new section to read:

Sec. 43.20.043. Gas exploration and development tax credit. (a) Subject to the terms and conditions of this section, and in addition to any other credit authorized to the taxpayer by this chapter, a taxpayer that is an operator or working interest owner directly engaging in the exploration for and development of gas may apply as a credit against the state tax liability that may be imposed on the taxpayer under this chapter, for a tax year beginning after December 31, 2002,

(1) 10 percent of the taxpayer's qualified capital investment; and

(2) 10 percent of the annual cost incurred by the taxpayer for qualified

services in the state during each tax year for which a credit is allowable for a qualified capital investment under (1) of this subsection.

(b) Expenditures qualifying for the taxpayer's qualified investment credit under (a)(1) of this section must be

(1) cash expenditures or binding payment agreements entered into after June 30, 2003; and

(2) made for assets first placed in service in the state in or before the tax year in which the credit is claimed through the date the reserves produce gas for sale and delivery; for purposes of this paragraph, "placed in service in the state" means that the first use of the qualified investment is in this state; if the property on which the claim of the credit is based has been used elsewhere in the tax year of acquisition and is brought to this state during that year or a subsequent year, the property does not qualify for the investment credit.

(c) The credit per tax year allowed by (a) of this section may not exceed 50 percent of the taxpayer's total tax liability under this chapter, but shall be calculated before the application of any other credits allowed under this chapter. An unused portion of the credit for the tax year

(1) may be carried forward into one or more of the following tax years, except that the unused credit from one tax year may not be carried forward for more than five following tax years;

(2) shall be applied to the taxpayer's tax liability under this chapter during the following tax year before allowance of a credit allowed by (a) of this section for that following tax year.

(d) To obtain the credit allowed by this section, the taxpayer shall, with the taxpayer's tax return, submit, on a form prescribed by the department, information that demonstrates that the taxpayer is eligible for the credit and evidence of the expenses that are the basis of the claim of the credit. The taxpayer has the burden of demonstrating compliance with the requirements of this section to entitle the taxpayer to the claim of and the amount of the credit.

(e) A taxpayer entitled to a credit under this section

(1) may not convey, assign, or transfer the credit to another taxpayer or

business entity unless the conveyance, assignment, or transfer of the credit is part of the conveyance, assignment, or transfer of the taxpayer's business;

(2) forfeits the credit to which the taxpayer is entitled during the tax year and any carryover of it under (c) of this section, but does not forfeit the portion of the credit that accrued in a previous taxable year that may be carried over under (c) of this section, if the taxpayer

(A) disposes of the qualified capital investment;

(B) takes the qualified investment out of service; or

(C) transfers the qualified investment out of this state.

(f) A taxpayer is not entitled to a credit under this section for expenditures that are made or incurred for the qualified capital investment or for qualified services made for exploration and development of gas that occur in the area of Alaska lying north of 68 degrees North latitude or that are made or incurred to transport gas from reserves located in the area of Alaska lying north of 68 degrees North latitude.

(g) A taxpayer who obtains a credit under this section may not claim a tax credit or royalty modification provided for under any other title. However, a taxpayer may, at the taxpayer's election, forgo a credit under this section in order to continue to qualify for a credit provided for in another title.

(h) For purposes of determining allowable credits under this section, the department shall allow only expenditures and payments that are not inconsistent with the expenditures authorized under 26 U.S.C. (Internal Revenue Code) for exploration and development of natural resources.

(i) In this section,

(1) "qualified capital investment" means a cash expenditure or binding payment agreement, as described in (b)(1) of this section, for real property or tangible personal property used in this state in the exploration and development of gas reserves in a gas reservoir for which there has not been commercial production if the reserves produce gas for sale and delivery; in this paragraph, "property" includes

(A) property used in the operation or maintenance of facilities for exploration or development of gas;

(B) property that is placed in use under a capitalized lease or an

operating lease; and

(C) the following property used for the exploration and development of gas:

(i) machinery, appliances, supplies, and equipment;

(ii) drilling rigs, wells, gathering lines and transmission lines, pumping stations, compressor stations, power plants, topping plants, and processing units;

(iii) roads, docks and other port facilities, and helicopter pads;

(iv) maintenance equipment and facilities, and maintenance camps and other related facilities; and

(v) communications facilities owned by a person whose principal business in the state is the exploration for or development of gas and whose operation of the communications facilities directly relates to the conduct of that business;

(2) "qualified services"

(A) means expenditures for labor, seismic, and other services that are directly applicable to a qualified capital investment;

(B) does not include lease operating expenses.

*** Sec. 2.** AS 43.20.043 is repealed.

*** Sec. 3.** The uncodified law of the State of Alaska is amended by adding a new section to read:

CLAIM OF GAS EXPLORATION AND DEVELOPMENT TAX CREDIT CONTINUED. A taxpayer who, on the effective date of repeal of AS 43.20.043 by sec. 2 of this Act, claims the balance of any unused portion of the gas exploration and development tax credit as a carry-forward under AS 43.20.043(c), may, notwithstanding the repeal of that subsection, continue to claim the balance of the credit until the claim of the credit is exhausted or until the tax year ending December 31, 2017, whichever occurs earlier. The provisions of AS 43.20.043 as they read on the day immediately preceding the effective date of the repeal of that section apply to the claim of the credit if carried forward under this section.

*** Sec. 4.** The uncodified law of the State of Alaska is amended by adding a new section to

read:

REPORT ON EFFECT OF GAS EXPLORATION AND DEVELOPMENT TAX CREDIT. Not later than November 30, 2008, the Department of Revenue shall prepare and publish a report on the effect of the gas exploration and development tax credit authorized by AS 43.20.043, added by sec. 1 of this Act. The department shall advise the legislature of the availability of the report and, within the first 10 days of the First Regular Session of the Twenty-Sixth Alaska State Legislature, transmit copies of the report to the chairs or co-chairs of the House and Senate Resources Committees and the chairs or co-chairs of the House and Senate Special Committees on Oil and Gas, if established. The report must address

(1) the number of successful gas discoveries for which a tax credit is provided under AS 43.20.043;

(2) the volume or amount of new gas reserves brought into production for which a tax credit is provided under AS 43.20.043;

(3) the total credits allowed under AS 43.20.043 that are applied to the tax liability through the date of preparation of the report;

(4) the total credits applied for under AS 43.20.043 that are not yet approved as of the date of preparation of the report;

(5) royalties obtained and oil and gas property production taxes paid from new gas production and anticipated from gas production for production for which credits are allowed under AS 43.20.043; and

(6) any other information that, in the judgment of the commissioner of revenue, would evaluate the effectiveness of the gas exploration and development tax credit authorized under AS 43.20.043.

*** Sec. 5.** Section 2 of this Act takes effect January 1, 2013.

*** Sec. 6.** Except as provided in sec. 5 of this Act, this Act takes effect immediately under AS 01.10.070(c).

26-LS1629\R.1
Bullock
4/10/10

AMENDMENT

OFFERED IN THE SENATE BY SENATOR WIELECHOWSKI

TO: CSSB 309(RES)

Page 4, line 5, following "**chapter**":

Insert "**;**

(4) shall agree, in writing, to the applicable provisions of AS 43.55.025(f)(2) and shall submit to the Department of Natural Resources all data that would be required to be submitted under AS 43.55.025(f)(2) for a credit under AS 43.55.025"

Y	11
N	1111

26-LS1629\R.1
Bullock
4/10/10

AMENDMENT

FAILS

OFFERED IN THE SENATE BY SENATOR WIELECHOWSKI

TO: CSSB 309(RES)

Page 4, line 5, following "**chapter**":

Insert "**:**

(4) shall agree, in writing, to the applicable provisions of AS 43.55.025(f)(2) and shall submit to the Department of Natural Resources all data that would be required to be submitted under AS 43.55.025(f)(2) for a credit under AS 43.55.025"

AMENDMENT

OFFERED IN THE SENATE

TO: SB 309

Page 1, line 4, following "**state;**":

Insert "**relating to credits for certain losses and expenditures against the oil and gas production tax;**"

Page 4, following line 28:

Insert new bill sections to read:

"* **Sec. 7.** AS 43.55.023(d) is amended to read:

(d) Except as limited by (i) of this section, a person that is entitled to take a tax credit under this section that wishes to transfer the unused credit to another person or obtain a cash payment under AS 43.55.028 may apply to the department for **a** transferable tax credit **certificate** [CERTIFICATES]. An application under this subsection must be in a form prescribed by the department and must include supporting information and documentation that the department reasonably requires. The department shall grant or deny an application, or grant an application as to a lesser amount than that claimed and deny it as to the excess, not later than 120 days after the latest of (1) March 31 of the year following the calendar year in which the qualified capital expenditure or carried-forward annual loss for which the credit is claimed was incurred; (2) the date the statement required under AS 43.55.030(a) or (e) was filed for the calendar year in which the qualified capital expenditure or carried-forward annual loss for which the credit is claimed was incurred; or (3) the date the application was received by the department. If, based on the information then available to it, the department is reasonably satisfied that the applicant is entitled to a credit, the department shall issue the applicant **a** [TWO TRANSFERABLE] tax credit **certificate**

[CERTIFICATES, EACH FOR HALF OF THE AMOUNT OF THE CREDIT]. The credit shown on [ONE OF] the **certificate** [TWO CERTIFICATES] is available for immediate use. [THE CREDIT SHOWN ON THE SECOND OF THE TWO CERTIFICATES MAY NOT BE APPLIED AGAINST A TAX FOR A CALENDAR YEAR EARLIER THAN THE CALENDAR YEAR FOLLOWING THE CALENDAR YEAR IN WHICH THE CERTIFICATE IS ISSUED, AND THE CERTIFICATE MUST CONTAIN A CONSPICUOUS STATEMENT TO THAT EFFECT.] A certificate issued under this subsection does not expire.

*** Sec. 8.** AS 43.55.028(e)(2) and 43.55.028(e)(3) are repealed."

Renumber the following bill sections accordingly.

Page 5, line 2:

Delete "**sec. 8**"

Insert "**sec. 10**"

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Senate Committee on World Trade, Technology and Innovations

Co-Chair
Senate Resources Committee

Member
Senate Judiciary Committee

SENATOR LESIL MCGUIRE

SPONSOR STATEMENT FOR SENATE BILL 309

"An Act amending and extending the exploration and development incentive tax credit under the Alaska Net Income Tax Act for operators and working interest owners directly engaged in the exploration for and development of gas from a lease or property in the state; providing for an effective date by amending the effective date for sec. 2, ch. 61, SLA 2003; and providing for an effective date."

Senate Bill 309 amends and extends the exploration and development incentive tax credit that was originally enacted in 2003 by the 23rd legislature. This tax credit continues to be applicable, under the Alaska Net Income Tax Act, to operators and working interest owners directly engaged in the exploration for and development of natural gas, primarily in the Cook Inlet area.

To more strongly encourage companies to invest additional capital in exploring for and developing new natural gas reserves, this legislation makes five significant changes to current law:

- Expands the application of the credit to development drilling within an existing field.
- Increases the amount of the credit to 25% (from 10%) of the amount of qualified capital investment and qualified services spending.
- Removes the 50% limitation on the amount of credits that can apply in a single year.
- Removes the "successful efforts" requirement that developers must find and deliver new gas resources to market to qualify for the credit.
- Extends the sunset date of the investment tax credit from January 1, 2013 to January 1, 2020.

Annual natural gas production and supply in the Cook Inlet area have been declining for a number of years. During the same time, domestic demand has been increasing steadily. Therefore, a sharp increase in drilling to find new reserves is drastically needed. The Department of Natural Resources projects that most of the new gas needed will be found in existing fields. The original Investment Tax Credit enacted in 2003, while modestly successful in stimulating new drilling, did not incentivize development drilling in existing fields. These changes will go a long way toward achieving that goal.

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Changes to SB 309 in CS SB 309 (RES) Version 26-LS1629\R

Please note that this analysis is not an authoritative interpretation of changes to the bill. The bill itself is the best statement of its contents.

Title Inserted language on page 1, lines 4-7 to reflect the addition of language from Senate Bill 290 in the bill.

Section 1 No changes.

Section 2 No changes.

Section 3 No changes.

Section 4 Added a new subsection that amends AS 43.20.043 (e) that prohibits the use of the qualified investment in a rate base for a regulated facility.

Section 5 No changes.

Section 6 Added new language clarifying that a taxpayer who claims a credit under AS 43.20.043 may not claim any other credit or royalty modification for the same investment.

Section 7 Added a new subsection amending the definition of "property" in AS 43.20.043(i)(1) to exclude LNG facilities, topping plants and processing units.

Section 8 No changes.

Section 9 Added a new section amending AS 43.55.023 (a) allowing a capital investment tax credit to be taken in a single calendar year.

Section 10 Added a new section amending AS 43.55.023 (d) to conform to the changes made in section 9.

Section 11 Added a new section creating a new credit for exploration expenses in the Cook Inlet.

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Section 12 Added a new section clarifying the application and qualifications for the credit established in section 11.

Section 13 No changes (previously section 7).

Section 14 Added new language repealing AS 43.55.028(e)(2) [requiring expenditures within 24 months] and AS 43.55.028(e)(3) [requiring expenditures equal to the credits] in the section related to use of the oil and gas tax credit fund for the purchase of credits from small producers.

Section 15 No changes (previously section 8).

Section 16 No changes (previously section 9).

Issues Surrounding Requiring Geologic and Geophysical Data Submissions for ITC Credits

Inclusion of AS 43.55.025 (f)(2) into HB 229 and/or SB 309 will damage the incentives intended in either bill. Under ACES, the statute requires proprietary data sets to be released to the DNR to qualify for the production tax credit. Such data will serve no purpose in assessing qualification in investment tax credit included in HB 229 and SB 309. Rather, the language will create a disincentive instead of delivering an incentive for further resource development to improve the reliability of natural gas production in Cook Inlet – a benefit to all stakeholders and area constituents. Language in the aforementioned statute is very problematic for specific reasons including:

1. The data set as defined is not limited to the data collected as part of the investment used in qualifying for the credit. The required data extends well beyond to include data collected over the entire area, including data collected over non-state leases and proprietary interpretations of the data.

   AS 43.55.025(f)(2)(B)
   (i) a seismic or geophysical data set includes the data for an entire seismic survey, irrespective of whether the survey area covers nonstate land in addition to state land or land in a unit in addition to land outside a unit;
   (ii) well data include all analyses conducted on physical material, and well logs collected from the well, results, and copies of data collected and data analyses for the well, including well logs; sample analyses; testing geophysical and velocity data including seismic profiles and check shot surveys; testing data and analyses; age data; geochemical analyses; and tangible material

2. Companies have invested millions of dollars in geologic assessments and sub-surface data over the years. This highly proprietary and very costly data will be released to the public domain within 24 months for well data and 10 years for seismic data. The release of such highly competitive and confidential data will provide other parties access to such data for free allowing them to undesirably encroach in the field operations, creating distractions for the producing entities. Ten years may seem lengthy however it is actually quite short considering the life cycle of a field. For example, Kenai Gas Field has been producing for over 50 years.
3. Due to the confined area of the Cook Inlet and the highly competitive nature of the local environment and market situation, applying this provision to the Cook Inlet would result in a disincentive for pursuing these credits.

Simply put, the requirements under AS 43.55.025 (f)(2)(B) will very likely outweigh any benefits provided for in these investment tax credit bills. This will not be an aid in the solution to the overall natural gas issues in Cook Inlet.

State of Alaska
Department of Natural Resources
Division of Oil and Gas
and
Division of Geological & Geophysical Surveys

Sean Parnell, *Governor*
Tom Irwin, *Commissioner*
Kevin Banks, *Director*[1]
Robert Swenson, *Director*[2]

Preliminary Engineering and Geological Evaluation of Remaining Cook Inlet Gas Reserves

by

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December, 2009

THIS REPORT HAS NOT RECEIVED EXTERNAL REVIEW FOR TECHNICAL CONTENT OR FOR CONFORMITY TO THE EDITORIAL STANDARDS OF THE STATE OF ALASKA, THE DIVISION OF OIL AND GAS, OR THE DIVISION OF GEOLOGICAL & GEOPHYSICAL SURVEYS

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EXECUTIVE SUMMARY

Over the past year, there has been widespread concern over whether the existing system of natural gas production and delivery in the Cook Inlet basin can continue to meet the energy demands of south-central Alaska. Of most immediate concern is whether there may soon be shortfalls during brief spikes in peak gas demand brought about by severe winter weather. A thorough understanding of the problem requires consideration of at least two major sets of issues. The first set includes geologic and engineering details regarding how much gas remains to be recovered from Cook Inlet fields, and what steps are required to access it. The other is a complex set of commercial and infrastructure factors that determine the ability to provide gas to the end user. This report addresses geologic and engineering issues regarding gas reserves and resources. Issues regarding the economics of drilling additional wells, recompleting existing wells, optimizing infrastructure, and the ability to sell the gas into the Cook Inlet market are beyond the scope of this paper. Nevertheless, as is the case with most maturing gas provinces, the costs and financial risk associated with accessing and producing the additional reserves and potential reserves identified by this study will increase with time, likely contributing to increases in the price of gas.

Reservoir engineering and geological analyses were undertaken independently of one another to evaluate the volumes of gas remaining in existing fields. These analyses are preliminary, based on data currently available to the Division of Oil and Gas. All 28 of the currently producing Cook Inlet gas fields were evaluated by applying decline curve analysis and material balance engineering methods to publicly available production data obtained from the Alaska Oil and Gas Conservation Commission (AOGCC). Based on extrapolations of production trends, these engineering techniques were used to derive estimates of remaining proved and probable reserves.

Four of the gas fields judged from engineering analyses to have the greatest remaining potential were selected for further study via detailed geologic analyses: Beluga River, North Cook Inlet, Ninilchik, and the McArthur River Grayling gas sands. Development geology techniques yielded volumetric estimates of original gas-in-place and initial recoverable gas (estimated ultimate recovery) for these four large fields, drawing and preserving important distinctions between gas volumes in known pay intervals versus gas in potential pay intervals. Comparison of geologically based recoverable gas with cumulative production yielded estimates of the remaining recoverable gas in the four fields.

The independent engineering and geologic approaches pursued in this study allow the reporting of remaining gas volumes at varying levels of production certainty and readiness. The total proved, developed, producing (PDP) reserves remaining to be produced from all existing fields in the Cook Inlet is estimated at 863 BCF. This volume was identified by decline curve analyses and assumes sufficient investment to maintain existing wells. Additional probable reserves that would be recoverable by increasing investment in existing fields are estimated at 279 BCF. This volume is identified as the basin-wide difference in the results of material balance methods and decline curve analyses. Geologic evaluations of the Beluga River, North Cook Inlet, Ninilchik, and the McArthur River Grayling gas sands reservoirs indicate the potential for an additional increment of 353 BCF in high-confidence pay intervals, and another

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possible increment of 643 BCF (in the 50 percent-risked case) from lower-confidence pay intervals, both of which are arguably not in communication with existing wellbores, and thus cannot be estimated from the engineering methods. These incremental volumes are the difference, for these four gas fields, between the remaining recoverable gas estimated in geologically identified high-confidence pay and potential pay minus that estimated by material balance analyses.

These geologically identified volumes of known and potential nonproducing gas represent a significant energy resource, which if developed, have the potential to supply local demand well into the next decade. This forecast assumes that exports of gas from the basin will be curtailed during demand shortfalls, and cease altogether at the closure date of the current export license (March 31, 2011). It also assumes that no new significant demand will be developed until additional resources are discovered in new fields.

We also discuss higher-risk contingent resources that await confirmation and delineation in exploration prospects outside of producing areas where previous well penetrations suggest follow-up drilling may be warranted. Finally, we recognize, but have not attempted to quantify, potential undiscovered gas resources in unexplored areas or underexplored plays within the Cook Inlet basin. Significant work is underway by government and industry stakeholders to analyze this exploration potential, which could be an integral part of the region's energy portfolio well into the future. The findings of this study suggest there are a variety of short-, medium-, and long-term opportunities that have the potential to meet the energy demands of south-central Alaska over the next decade or more.

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Section Two: Royalty Production and Revenue

Introduction

The state of Alaska receives a royalty of approximately 12.5 percent of the oil and gas produced from its leases. The state may take its share of oil production "in-kind" or "in-value." When the state takes its royalty share in-kind (RIK), it assumes possession of the oil or gas. The commissioner of Natural Resources may sell the RIK oil or gas in a competitive auction or through a noncompetitive sale negotiated with a single buyer. When the state takes its royalty in-value (RIV), the state's lessees who produce the oil or gas market the state's share along with their own share of production. The lessees remit cash payments on a monthly basis for the state's RIV share.

Over the last 30 years the state has taken about one-half of its royalty oil as RIK. The state has sold nearly 800 million barrels of RIK oil during this time, nearly all of it in-state. Pricing terms have been targeted to provide the state at least as great a price as would have been received had the royalty been taken in value. Volumes to be delivered are typically cast as targets within a defined range, rather than precise specifications of barrels. Lease terms require that when the state elects to take RIK it must provide 90-180 days notice (depending upon the lease) of a percentage of royalty to be taken in kind, rather than a specific number of barrels to be taken in kind; the uncertainty as to future production volumes makes a precise specification of RIK deliveries impossible."

These in-state sales have provided an important supply security, thereby stimulating Alaska's refining industry by providing long-term supplies of oil to each of the state's four refineries. Over the years, state RIK sales fueled many controversies and policy debates over the appropriate use of the state's natural resources.

Cook Inlet

In 1969 the commissioner of Natural Resources negotiated a sale of 100 percent of the state's royalty from Cook Inlet to the Alaska Oil and Refining Company. Within months of signing the contract, Alaska Oil and Refining Company merged with the Tesoro Petroleum Company. Tesoro subsequently built a new refinery in Nikiski on the Kenai Peninsula next to Chevron's refinery, built in 1964. Between 1969 and 1985 the state sold all of its Cook Inlet royalty oil to the Tesoro refinery. By 1980, the production decline in Cook Inlet prompted Tesoro to negotiate the first of several sales contracts with the state for supplies of RIK oil from the North Slope. By the end of 1985 Tesoro had replaced its Cook Inlet RIK volumes with supplies of RIK from the North Slope.

In 1987 the state began to export Cook Inlet RIK oil to the Chinese Petroleum Company. These volumes were produced from fields on the west side of the Cook Inlet after the federal government exempted Cook Inlet production from export administration regulations. The state sold 97 percent of the royalty production from the McArthur River, Trading Bay, North Trading Bay, and Granite Point fields in a series of one-year competitive auctions. In 1991 deliveries under the last Chinese Petroleum contract were halted under force majeure following the December 1989 eruption of the Mount Redoubt volcano. There have been no Cook Inlet RIK sales since (See Table IV.8.).

North Slope

Over the past 25 years, the state has held nine RIK sales involving portions of its Alaska North Slope (ANS) royalty oil production. These sales are summarized in Table IV.7 and Figure IV.3. In 1976, the state signed a six-year contract with Golden Valley Electric Association (GVEA), the electric utility in Fairbanks, to sell approximately 3,300 barrels of ANS crude oil per day as turbine fuel. GVEA did not exercise its option to take RIK until 1981 and it traded these volumes with Mapco (now Williams Alaska) in exchange for refined fuel. The state subsequently sold RIK ANS to GVEA in two other contracts until 1992. As in the first contract, GVEA traded these volumes with Mapco.

In 1978 the state contracted with Earth Resources Company of Alaska, predecessor to Mapco Alaska and Williams Alaska Petroleum Company, to supply 15 percent of Prudhoe Bay RIK oil production less the quantity dedicated to GVEA. This 25-year contract expired in December 2003. Williams received a maximum of 35,000 barrels per day of RIK

oil produced from the Prudhoe Bay Unit under this contract and supplemented this supply with new agreements for another 28,000 barrels per day.

Tesoro has been an important North Slope RIK customer. Tesoro negotiated and bid for several contracts that supplied it with RIK supplies from 1980 to 1998. Chevron was another big purchaser of North Slope RIK for oil supplied to its Nikiski refinery from 1980 through 1991, when it finally shut down its Nikiski refinery. Petro Star Inc. purchased North Slope RIK from 1986 through 1991 for its new refinery at North Pole. In 1992 Petro Star negotiated a 10-year contract with the state for a supply of RIK from the Kuparuk River Unit. With this contract in hand, Petro Star was able to build the state's newest refinery in Valdez. As it happened, Petro Star elected to take no oil under this contract and the contract expired automatically nine months after it had been signed.

The state also held competitive auctions of RIK oil during the early 1980s as part of a program to routinely offer RIK short-term contracts. Winners of these sales included in-state refineries but also several refineries located outside the state. Many of these buyers were also ANS producers. About 46 million barrels of Alaska North Slope RIK crude oil were sold in these auctions but the program was interrupted after the general collapse of oil prices in the mid-1980s. In January 2000, the Division of Oil and Gas published a Notice of Interest in Sale of State Royalty Oil. The response to this notice by prospective RIK purchasers prompted the division to plan for a competitive bid auction for volumes of RIK oil produced from several North Slope fields. The sale was subsequently held in August 2000 but no bids were offered.

In September 2003, the state negotiated a temporary contract with Williams for the period January 1, 2004, through March 31, 2004. The state also negotiated a new 10-year contract with Flint Hills Resources Alaska, LLC (FHR), signed by the Governor on March 9, 2004, enabling FHR to take over the Williams' North Pole refinery on March 31. Deliveries of royalty oil under the new RIK contract began April 1, 2004. The state sold approximately 57,537 barrels per day to FHR, or more than 64 percent of the total royalty oil produced on the North Slope for the period January 1 through December 31, 2008.

The contract contained special conditions which serve as additional consideration for FHR's purchase of the state's royalty oil. FHR will maintain gasoline wholesale rack price parity between Anchorage and Fairbanks. FHR has invested approximately $100 million to install clean fuels processing equipment and facilities in the North Pole Refinery and/or elsewhere in Alaska. It has fulfilled and enhanced the previous commitments made by Williams to the Government Hill Community Council in Anchorage to address concerns about gasoline storage tanks near Government Hill and has undertaken additional projects to improve the Anchorage Tank Farm Facility. FHR will also continue to ship refined products to Anchorage via the Alaska Railroad, (FHR shipments represented 41 percent of the total freight loadings for the Alaska Railroad for 2008).

In Fairbanks, FHR has studied the use and viability of the hydrant fueling system at the Fairbanks International airport (FIA), concentrating on promoting FIA to cargo carriers, evaluating and upgrading FIA fuel distribution facilities, and charging a jet fuel customer in Fairbanks the same or lower price as FHR charges that same customer in Anchorage. FHR met all of these conditions for 2008 and has performed upgrades of their fueling facilities at FIA, primarily related to environmental remediation and compliance on their lease lot.

Royalty-in-Kind Policy

The earliest RIK sales, notably Tesoro's first Cook Inlet contract, the first GVEA contract, and the Alpetco contract, generated controversy and debate in the state. Several issues arose as the RIK program evolved. Is the state better off negotiating sales one-on-one or auctioning RIK through competitive tenders? How much public input should be encouraged? Should the state subsidize the local refining industry through price breaks? What kind of oversight should be required? The debates of these questions led to the present program as set out in statutes and regulations.

When disposing royalty oil or gas, the commissioner is bound by AS 38.05.182 and AS 38.05.183. Further, the Legislature established the Alaska Royalty Oil and Gas Development Board (Royalty Board) under AS 38.06 to oversee the department's RIK program. Regulations under Title 11, Chapters 3 and 26 govern the actual disposition of royalty and the sale of RIK. (See http://www.legis.state.ak.us/folhome.htm for more information).

The rules that govern the sale of RIK may be reduced to a few principles:

- Any disposition of the state's royalty must be in the state's best interest. The state should sell its royalty rather than take it in-value as long as the best interests of the state are served.

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- The state must receive a price for its RIK that is at least as much as it receives when the state takes its royalty in-value.
- Under certain circumstances, the state may sell its oil in a negotiated sale, but competitive sales are preferred.
- Although the price of RIK must equal or exceed the price of RIV, a review of each sale must consider economic, social, and environmental effects. In this way, benefits may be attributed to the sale of RIK to local refineries that would not be generated by sales to outside purchases.
- The public is a part of the process. Depending on the terms of the sale, the commissioner will publish best interest findings and solicit comments on the sale from the public.
- The Royalty Board must be notified of any disposition of RIK. For supply contracts of more than one year, the Royalty Board must evaluate the economic, social, and environmental effects of the sale, convene a public hearing, and recommend approval of the sale to the Legislature.
- The Legislature approves long-term contracts by enacting legislation
- The near-universal practice of the Department is to make its sales at or near the location of production. The RIK buyers take title upstream of necessary transportation infrastructure, and must arrange for transportation themselves. In this way, transportation risks are borne by the purchaser, and the state minimizes its need for staffing to administer RIK sales.

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Table II.1 Recent Royalty Oil Production & Revenues

	Lease Operation	Badami Unit RIV	Badami Unit RIK	TOTAL Badami Unit	Colville River Unit RIV	Colville River Unit RIK	TOTAL Colville River Unit	Duck Island Unit RIV	"Duck Island Unit RIK"	"TOTAL Duck Island Unit"	"Kuparuk River Unit RIV "	"Kuparuk River Unit RIK"	"TOTAL Kuparuk River Unit"
Production (Thousands of Barrels)													
1997	-	-	-	-	-	-	-	3,324.4	-	3,324.4	10,978.3	-	10,978.3
1998	-	106.1	-	106.1	-	-	-	2,692.5	-	2,692.5	10,886.2	-	10,886.2
1999	-	179.2	-	179.2	1.3	-	1.3	2,263.3	-	2,263.3	10,822.0	-	10,822.0
2000	-	144.6	-	144.6	196.6	-	196.6	1,943.1	-	1,943.1	9,897.9	-	9,897.9
2001	-	104.0	-	104.0	2,785.5	-	2,785.5	1,696.9	-	1,696.9	9,076.4	-	9,076.4
2002	-	87.0	-	87.0	3,403.4	-	3,403.4	1,483.5	-	1,483.5	8,921.6	-	8,921.6
2003	0.6	42.1	-	42.1	3,777.1	-	3,777.1	1,535.1	-	1,535.1	8,905.8	-	8,905.8
2004	-	-	-	-	3,642.3	-	3,642.3	834.3	390.2	1,224.5	7,976.8	305.3	8,282.1
2005	2.1	22.2	-	22.2	4,262.4	-	4,262.4	51.2	1,026.3	1,077.5	4,498.6	3,138.0	7,636.6
2006	-	56.3	15.9	72.2	3,273.9	404.6	3,678.5	43.8	819.3	863.1	2,120.3	5,080.6	7,200.8
2007	-	33.7	-	33.7	3,469.1	936.4	4,405.5	27.1	752.1	779.3	918.0	5,693.7	6,611.7
2008	-	-	-	-	2,320.5	1,587.3	3,907.8	29.1	761.9	790.9	402.0	5,695.7	6,097.7
Revenues (Thousands of Dollars)													
1997	-	-	-	-	-	-	-	$42,866	-	$42,866	$150,137	-	$150,137
1998	-	$572	-	$572	-	-	-	$18,147	-	$18,147	$82,772	-	$82,772
1999	-	$1,992	-	$1,992	$57	-	$57	$26,461	-	$26,461	$136,802	-	$136,802
2000	-	$2,612	-	$2,612	$4,539	-	$4,539	$42,350	-	$42,350	$220,539	-	$220,539
2001	-	$1,051	-	$1,051	$47,972	-	$47,972	$31,796	-	$31,796	$160,694	-	$160,694
2002	-	$108	-	$108	$62,818	-	$62,818	$27,128	-	$27,128	$173,379	-	$173,379
2003	$15	$46	-	$46	$89,684	-	$89,684	$35,753	-	$35,753	$211,369	-	$211,369
2004	-	-$0	-	-$0	$122,667	-	$122,667	$24,455	$14,219	$38,674	$255,120	$11,578	$266,699
2005	$85	$876	-	$876	$201,866	-	$201,866	$6,831	$47,365	$54,197	$186,238	$159,863	$346,101
2006	-	$2,070	$484	$2,554	$193,449	$21,825	$215,274	-$2,937	$46,279	$43,343	$109,198	$295,880	$405,078
2007	$25	$899	-	$899	$248,989	$72,853	$321,843	$1,451	$48,036	$49,486	$56,131	$373,458	$429,589
2008	-	$273	$1	$274	$207,408	$155,372	$362,779	$7,161	$71,112	$78,273	$47,425	$515,948	$563,372

Revenues include interest from revisions and settlements in the year received.

	"Milne Point Unit RIV"	"Milne Point Unit RIK"	"TOTAL Milne Point Unit"	Northstar Unit RIV	Northstar Unit RIK	TOTAL Northstar Unit	"Prudhoe Bay Unit RIV"	"Prudhoe Bay Unit RIK"	"TOTAL Prudhoe Bay Unit"	"TOTAL North Slope"
Production (Thousands of Barrels)										
1997	2,657.0	-	2,657.0	-	-	-	18,399.6	26,139.6	44,539.2	61,498.8
1998	2,833.4	-	2,833.4	-	-	-	11,810.5	27,981.6	39,792.1	56,310.2
1999	2,699.2	-	2,699.2	-	-	-	15,508.5	19,070.7	34,579.2	50,544.1
2000	2,613.9	-	2,613.9	-	-	-	13,053.5	19,290.3	32,343.8	47,140.0
2001	2,687.9	-	2,687.9	212.9	-	212.9	13,643.5	15,187.0	28,830.6	45,394.3
2002	2,570.7	-	2,570.7	4,009.3	-	4,009.3	11,794.8	15,509.5	27,304.4	47,779.8
2003	2,569.7	-	2,569.7	5,236.7	-	5,236.7	5,489.2	20,630.5	26,119.8	48,186.9
2004	1,534.2	1,039.7	2,573.9	2,661.6	3,004.6	5,666.2	5,641.0	18,478.1	24,119.2	45,508.2
2005	111.5	2,088.1	2,199.7	5,065.9	-	5,065.9	5,547.1	16,545.2	22,092.3	42,358.7
2006	193.4	1,635.8	1,829.2	1,235.8	3,030.4	4,266.2	6,467.6	11,287.2	17,754.8	35,665.0
2007	527.4	1,158.0	1,685.3	1,786.3	1,349.1	3,135.4	345,910.4	846,510.8	18,286.2	34,937.2
2008	58.7	1,563.1	1,621.7	2,325.1	-	2,325.1	568,727.7	1,054,475.7	18,025.0	32,800.3
Revenues (Thousands of Dollars)										
1997	$33,777	-	$33,777	-	-	-	$242,341	$383,701	$626,042	$852,822
1998	$18,608	-	$18,608	-	-	-	$73,462	$227,032	$296,313	$416,413
1999	$31,596	-	$31,596	-	-	-	$170,204	$259,246	$429,450	$626,358
2000	$56,730	-	$56,730	-	-	-	$275,928	$461,464	$737,392	$1,064,162
2001	$47,356	-	$47,356	$1,584	-	$1,584	$236,464	$279,804	$516,268	$806,722
2002	$48,818	-	$48,818	$75,797	-	$75,797	$201,726	$320,378	$522,104	$910,151
2003	$61,255	-	$61,255	$123,753	-	$123,753	$114,558	$507,952	$622,509	$1,144,385
2004	$44,971	$37,287	$82,258	87,502	109,196	196,698	$172,637	$631,864	$804,501	$1,511,495
2005	$4,786	$94,638	$99,424	243,095	104	243,199	$239,535	$805,939	$1,045,474	$1,991,222
2006	$9,858	$92,003	$101,860	73,483	183,156	256,639	$369,888	$651,728	$1,021,616	$2,046,364
2007	$35,921	$69,239	$105,160	148,025	88,623	236,647	$345,910	$846,511	$1,192,421	$2,336,071
2008	$12,494	$142,604	$155,098	221,582	2,184	223,767	$568,728	$1,054,476	$1,623,203	$3,008,793

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Table II.1 Recent Royalty Oil Production & Revenues

	"Granite Point Field"	"South Granite Point Unit"	"North Middle Ground Shoal"	"Middle Ground Shoal"	"South Middle Ground Shoal"	"Trading Bay Field"	"Trading Bay Unit"	"West McArthur Unit"	Redoubt Unit	Cosmopolitan Unit	"TOTAL Cook Inlet"	TOTAL STATE
Production (Thousands of Barrels)												
1997	303.5	-	42.0	150.6	26.8	75.1	632.4	80.6	-	-	1,311.0	62,809.8
1998	259.8	-	44.7	196.0	28.8	87.1	602.4	116.2	-	-	1,335.0	57,645.2
1999	172.4	51.0	38.2	181.9	24.6	82.7	587.2	114.3	-	-	1,252.2	51,796.3
2000	119.2	98.5	43.5	170.5	22.8	79.6	602.8	111.6	-	-	1,248.6	48,388.5
2001	109.3	92.9	39.7	194.4	19.8	72.3	671.1	152.9	-	-	1,352.4	46,746.7
2002	105.2	85.8	27.1	197.1	20.8	74.6	697.0	127.3	2.3	-	1,337.2	49,117.1
2003	98.8	80.0	11.8	177.4	-	68.7	538.6	106.1	45.5	1.0	1,127.9	49,314.8
2004	84.0	77.4	-	165.3	-	58.0	424.6	83.7	28.0	-	920.8	46,429.0
2005	75.2	67.5	-	164.7	-	51.8	340.3	64.6	15.6	-	779.7	43,138.4
2006	73.7	46.9	-	148.9	-	49.1	284.0	54.6	13.4	-	670.6	36,335.5
2007	64.1	48.6	-	114.0	-	34.4	230.5	48.1	7.7	-	547.3	35,484.5
2008	61.3	44.9	-	109.2	-	19.9	174.7	39.6	4.7	-	454.4	33,254.7
Revenues (Thousands of Dollars)												
1997	$5,175	-	$764	$3,655	$490	$1,192	$10,561	$1,795	-	-	$23,633	$876,456
1998	$2,813	-	$544	$2,244	$346	$853	$5,902	$1,107	-	-	$13,809	$430,222
1999	$2,090	$1,388	$662	$3,073	$406	$1,261	$8,917	$1,583	-	-	$19,380	$645,738
2000	$4,201	$3,840	$1,491	$4,647	$821	$2,632	$17,073	$2,790	-	-	$37,495	$1,101,657
2001	$2,515	$2,051	$959	$4,338	$476	$1,522	$13,908	$2,941	-	-	$28,710	$835,432
2002	$2,337	$1,850	$619	$5,428	$494	$1,609	$14,992	$2,680	$54	-	$30,062	$940,214
2003	$2,633	$2,249	$349	$5,103	$2	$1,876	$14,693	$2,736	$1,140	$19	$30,801	$1,175,186
2004	$3,066	$2,764	-	$11,544	-	$2,021	$14,732	$2,807	$900	-	$37,835	$1,549,330
2005	$3,712	$3,354	-	$8,710	-	$2,509	$16,641	$3,089	$802	-	$38,819	$2,030,041
2006	$4,287	$2,855	-	$9,328	-	$2,905	$17,020	$3,299	$754	-	$40,449	$2,086,813
2007	$4,591	$3,259	-	$8,028	-	$1,632	$15,851	$3,098	$485	-	$36,944	$2,373,015
2008	$5,974	$4,485	-	$10,880	-	$2,104	$17,483	$3,929	$521	-	$45,406	$3,054,199

Revenues include interest from revisions and settlements in the year received.

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Table II.2 Recent Royalty Oil Production by Lessee

NORTH SLOPE

Production (Thousands of Barrels)

	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Amerada Hess	-	-	-	-	-	-	-	-	-	-	-	-
Amoco	297	237	199	119	-	-	-	-	-	-	-	-
Anadarko	-	-	$0	43	613	749	831	801	938	720	763	511
Arco	11,120	9,522	10,729	-	-	-	-	-	-	-	-	-
Armstrong	-	-	-	-	-	-	<1	<1	1	-	-	-
BPAmerica Prod Co.	-	-	-	-	-	95	165	-	-	-	-	-
BP Exploration	16,683	13,595	14,233	11,869	11,075	14,451	13,898	9,555	8,527	4,109	4,282	4,409
Chevron	99	64	91	77	81	116	66	60	59	66	52	69
CIRI	30	1	-	-	-	-	-	-	-	-	-	-
ConocoPhillips AK	-	-	-	-	-	11,225	9,250	9,145	7,912	6,269	5,363	4,571
DOYON	6	5	4	4	3	3	3	1	<1	<1	<1	$0
ENI Petroleum US LLC											<1	$10
Exxon	5,571	3,563	4,815	-	-	-	-	-	-	-	-	-
ExxonMobil	-	-	-	4,596	5,287	4,284	-	-	-	-	-	-
ExxonMobil AK Production	-	-	-	-	-	-	1,926	1,899	1,886	2,118	1,649	2,192
Forest Oil	5	3	4	2	2	2	1	1	1	1	-	-
Kerr McGee	-	-	-	-	-	-	-	1	1	-	5	1
Mapco 1978 Contract	12,652	11,148	12,442	12,718	12,522	12,167	12,583	-	-	-	-	-
Mapco 1997 Contract	466	4,451	-	-	-	-	-	-	-	-	-	-
Marathon	-	-	-	-	-	-	-	-	-	-	-	-
Mobil	237	155	195	-	-	-	-	-	-	-	-	-
NANA	18	14	12	11	8	8	8	4	<1	<1	<1	$0
Oxy	208	224	212	189	-	-	-	-	-	-	-	-
Petrofina	-	32	54	43	31	-	-	-	-	-	-	-
Phuntilc	190	113	151	10,201	12,482	-	-	-	-	<1	<1	$0
Phillips	-	-	-	-	-	-	-	-	-	-	-	-
Phillips Alpine Alaska	-	-	-	-	-	749	831	352	-	-	-	-
Pioneer	-	-	-	-	-	-	<1	-	-	-	-	-
Tesoro	13,022	11,498	-	-	-	-	-	-	-	-	-	-
Texaco	52	31	41	35	38	18	-	-	-	-	-	-
TotalFina ELF	-	-	-	-	-	-	-	-	-	-	-	-
Union Texas Petroleum	-	-	-	-	-	-	-	-	-	-	-	-
Unocal	842	771	732	659	587	570	576	468	227	108	85	23
Williams 98 Contract	-	884	6,628	6,572	2,665	3,342	8,056	5,582	-	-	-	-
Flint Hills Resources AK, LLC	-	-	-	-	-	-	-	17,632	22,797	22,274	22,775	20,993
XTOE	-	-	-	-	-	-	-	2	-	-		
North Slope TOTAL	61,499	56,312	50,544	47,140	45,394	47,780	48,194	45,505	42,349	35,665	34,974	32,778

COOK INLET

Production (Thousands of Barrels)

	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Conoco Phillips AK	-	-	-	-	-	-	1	-	-	-	-	-
Cross Timbers/XTO	-	-	182	170	194	197	177	165	165	149	114	109
Devon	-	-	-	-	-	-	<1	-	-	-	-	-
Forcenergy/Forest Oil	377	436	425	428	495	491	436	337	264	224	180	-
Marathon	-	-	-	-	-	-	-	-	-	-	-	-
Mobil/Exxon Mobil AK Prod	110	91	76	74	70	64	60	58	51	35	36	34
Pacific Energy AK	-	-	-	-	-	-	-	-	-	-	-	142
Pioneer	-	-	-	-	-	-	-	-	-	-	-	<1
Shell	151	196	-	-	-	-	-	-	-	-	-	-
Stewart	30	-	-	-	-	-	-	-	-	-	-	-
Unocal	643	612	569	576	593	585	454	360	301	263	217	169
XTOE	-	-	-	-	-	-	-	-	-	-	-	-
Cook Inlet TOTAL	1,311	1,335	1,252	1,249	1,352	1,337	1,128	921	780	671	547	454

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Table II.3 Recent Royalty Oil Revenues by Lessee

NORTH SLOPE

Revenues (Thousands of Dollars)

	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Amerada Hess	$34	-	-	-	-	-	-	-	-	-	-	-
Amoco	$3,674	$1,556	$2,404	$2,562	-$0	-	-	-	-	-	-	-
Anadarko	-	-	$12	$982	$10,374	$14,180	$20,057	$27,427	$45,375	$43,352	$44,825	$44,803
Arco	$155,281	$72,786	$135,879	-	-	-	-	-	-	-	-	-
Armstrong	-	-	-	-	-	-	$4	-	$26	-	-	-
BPAmerica Prod Co.	-	-	-	-	-	-	$3,934	-	-	-	-$266	$399
BP Exploration	$216,022	$85,263	$158,955	$249,682	$208,250	$267,287	$325,241	$301,848	$391,141	$318,659	$295,849	$463,851
Chevron	$1,274	$368	$1,044	$1,608	$1,422	$2,070	$1,437	$1,745	$2,650	$10,694	$2,834	$6,452
CIRI	$423	$12	-	-	-	$160	-	-	-	-	-	-
ConocoPhillips AK	-	-	-	-	-	$211,239	$214,806	$297,445	$353,413	$337,580	$329,594	$414,119
DOYON	$83	$41	$39	$82	$54	$44	$64	$40	$4	$125	$3	$5
ENI Petroleum US LLC											$8	$516
Exxon	$71,707	$19,733	$52,342	-	-	-	-	-	-	-	$7	$34
ExxonMobil	-	-	-	$98,415	$83,945	-	-	-	-	-	$5,312	-$1,899
ExxonMobil AK Production	-	-	-	-	-	$69,780	$37,737	$54,093	$81,549	$130,038	$86,726	$200,463
Forest Oil	$63	$17	$43	$50	$38	$37	$18	$29	$43	$19,759	-	-
Kerr McGee	-	-	-	-	-	-	-	$22	$60	-	$372	$46
Mapco 1978 Contract	$185,000	$90,752	$166,427	$304,389	$223,123	$247,246	$310,960	-$179	-	-	-	-
Mapco 1997 Contract	$6,032	$38,590	-$60	$90	$1,075	-	-	-	-	-	-	-
Marathon	$1	-	-	-	-	-	-	-	-	-	-	-
Mobil	$3,026	$851	$2,166	-	-	-	-	-	-	-	-	-
NANA	$255	$122	$120	$220	$163	$131	$221	$121	$12	$455	$78	$14
Oxy	$2,778	$1,533	$2,626	$4,290	-	-	-	-	-	-	-	-
Petrofina	-	$185	$616	$807	$284	-	-	-	-	-		
Phuntlic	$2,377	$752	$1,379	$228,306	$211,865	-	-	-	-	$97	$7	$11
Phillips	-	-	-	-	-	-	-	-	-	-		
Phillips Alpine Alaska	-	-	-	-	-	$13,718	$19,638	$10,244	-	-	$4,274	-
Pioneer	-$5	-	-	-	-	-	$10	-	-	-	-	$1,231
Tesoro	$192,669	$92,288	$191	-$623	$1,632	$887	-	-	-	-	-	-
Texaco	$664	$149	$398	$842	$653	$270	-	-	-	-	$7	$38
TotalFina ELF	-	-	-	-	-	-	-	-	-	-	-	-
Union Texas Petroleum	-	-	$12	-	-	-	-	-	-	-	-	-
Unocal	$11,463	$6,013	$9,078	$14,851	$9,868	$10,858	$13,265	$14,250	$8,962	$5,897	$4,694	$2,509
Williams 98 Contract	-	$5,402	$92,688	$157,608	$53,975	$72,245	$196,991	$162,716	-	-	$15,012	$21,895
Flint Hills Resources AK, LLC	-	-	-	-	-	-	-	$641,607	$1,107,909	$1,179,502	$1,483,777	$1,933,190
XTOE	-	-	-	-	-	-	-	$87	$78	$205	$6	-
North Slope TOTAL	$852,822	$416,412	$626,358	$1,064,162	$806,721	$910,151	$1,144,385	$1,511,495	$1,991,222	$2,046,364	$2,273,118	$3,087,678

COOK INLET

Revenues (Thousands of Dollars)

	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2007
Conoco Phillips AK	-	-	-	-	-	-	$13	-	-	-	-	-
Cross Timbers/XTO	-	-	$3,073	$4,647	$4,338	$5,428	$5,103	$6,406	$8,710	$8,695	-	-
Devon	-	-	-	-	-	-	$1	-	-	-	-	-
Forcenergy/Forest Oil	$6,166	$4,209	$6,296	$10,950	$9,831	$10,522	$11,521	$11,509	$12,867	$13,696	$7,318	$767
Marathon	-$7	-	-	-	-	-	-	-	-	-	-	-
Mobil/Exxon Mobil AK Prod	$1,882	$1,094	$1,165	$1,824	$1,525	$1,348	$1,692	$2,068	$2,511	$2,253	$2,361	$3,542
Pacific Energy AK	-	-	-	-	-	-	-	-	-	-	$4,685	$14,565
Pioneer	-	-	-	-	-	-	-	-	-	-	-	<1
Shell	$3,655	$2,244	-	-	-	-	-	$5,138	-	-	-	-
Stewart	$1,104	-	-	-	-	-	-	-	-	-	-	-
Unocal	$10,834	$6,262	$8,846	$20,074	$13,016	$12,764	$12,471	$12,714	$14,731	$15,805	$13,933	$17,637
XTOE	-	-	-	-	-	-	-	-	-	-	$7,879	$11,370
Cook Inlet TOTAL	$23,633	$13,809	$19,380	$37,495	$28,710	$30,062	$30,801	$37,835	$38,819	$40,449	$36,177	$47,880

Revenues include principal and interest from revisions and settlements in the year received.

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Table II.4 Recent Royalty Gas Production and Revenues

NORTH SLOPE

	Duck Island Unit	Colville River Unit	Kuparuk River Unit	Milne Point Unit	Prudhoe Bay Unit	TOTAL North Slope
Production (Thousand Cubic Feet)						
1997	35,605	-	90,487	26,034	1,337,301	1,489,427
1998	36,255	-	79,552	27,156	1,178,761	1,321,724
1999	168,919	-	78,783	27,611	1,092,217	1,367,530
2000	31,785	-	135,929	27,436	1,061,761	1,256,911
2001	30,780	-	98,806	28,978	1,341,442	1,500,006
2002	32,108	-	82,610	29,718	3,711,424	3,855,861
2003	33,192	-	79,039	28,845	5,572,705	5,713,781
2004	29,424	-	76,746	29,639	5,260,659	5,396,467
2005	36,975	-	70,082	29,362	4,872,422	5,008,840
2006	33,750	56,501	56,033	28,612	4,509,689	4,684,585
2007	45,234	53,053	57,481	28,273	3,854,182	4,038,223
2008	35,722	58,797	74,246	29,664	3,011,092	3,209,521
Revenues (Thousands of Dollars)						
1997	$31	-	$63	$28	$1,155	$1,278
1998	$28	-	$32	$24	$950	$1,033
1999	$150	-	$51	$26	$938	$1,165
2000	$40	-	$161	$34	$1,156	$1,390
2001	$33	-	$119	$32	$1,114	$1,298
2002	$37	-	$79	$34	$3,592	$3,742
2003	$45	-	$91	$40	$6,508	$6,685
2004	$57	-	$123	$54	$8,296	$8,529
2005	$87	-	$163	$72	$10,801	$11,123
2006	$104	$33	$154	$84	$11,943	$12,318
2007	$127	$102	$184	$95	$11,395	$11,903
2008	$162	$78	$343	$132	$12,110	$12,825

Revenues include principal and interest from revisions and settlements in the year received.

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Table II.4 Recent Royalty Gas Production and Revenues

COOK INLET

	Beluga River Unit	Cannery Loop Unit	South Granite Point Unit	Granite Point Field	Ivan River Unit	Kenai Unit	Lewis River Unit	Nicolai Creek Unit	Kasilof Unit	North Middle Ground Shoal Unit	North Cook Inlet Unit	Pretty Creek Unit
Production (Thousand Cubic Feet)												
1997	2,628,297	186,477	-	141,763	935,228	140,655	7,057	-	-	17,965	6,490,318	53,928
1998	2,508,785	163,775	1,127	162,690	800,046	111,751	11,959	-	-	131,092	6,665,243	61,640
1999	2,704,980	167,759	28,102	67,573	631,597	111,459	29,916	-	-	246,030	6,372,036	3,982
2000	2,913,658	236,492	55,787	73,754	461,437	149,187	16,232	-	-	72,167	6,548,758	-
2001	3,143,083	318,033	5,491	59,671	667,307	234,786	26,852	32,297	-	52,739	6,732,002	11,471
2002	3,313,302	286,118	3,859	34,936	756,028	233,375	111,535	28,957	-	14,404	6,537,260	193,370
2003	4,236,014	395,810	2,042	10,580	432,649	321,372	71,284	9,601	-	11,688	5,773,799	60,292
2004	4,339,085	745,310	169	15,573	289,865	191,573	45,255	29,235	-	-	5,012,401	93,122
2005	4,206,401	767,320	-	5,717	206,552	170,820	39,710	5,369	-	-	5,457,333	57,945
2006	4,167,893	593,894	-	4,374	191,634	136,643	5,227	15,193	107,898	-	4,566,013	1,311
2007	3,573,844	455,194	-	753	157,080	105,502	-	17,367	217,101	-	3,457,438	8,643
2008	3,181,489	323,424	-	-	80,285	40,391	28,718	7,102	63,813	-	2,776,690	3,737
Revenues (Thousands of Dollars)												
1997	$4,598	$325	-	$192	$1,319	$249	$10	-	-	$24	$12,054	$76
1998	$4,265	$232	$1	$221	$1,071	$157	$16	-	-	$160	$8,874	$82
1999	$3,783	$272	$30	$82	$758	$294	$36	-	-	$301	$8,914	$5
2000	$4,657	$483	$58	$215	$5,339	$298	$508	-	-	$808	$14,058	$678
2001	$6,947	$1,216	$6	$82	$933	$476	$38	$62	-	$89	$14,301	$18
2002	$7,586	$748	$4	$50	$1,057	$454	$160	$18	-	$21	$12,562	$276
2003	$9,479	$836	$6	$179	$2,904	$701	$335	$17	-	$60	$12,159	$379
2004	$11,706	$1,984	$1	$44	$814	$460	$126	$38	-	-	$11,600	$263
2005	$15,257	$2,837	<1	$20	$742	$534	$139	$35	-	-	$14,987	$196
2006	$15,275	$3,139	-	$19	$1,171	$502	$18	$60	$463	-	$14,546	$13
2007	$14,892	$1,991	-	$4	$1,249	$467	-	$105	$877	-	$8,601	$158
2008	$14,263	$1,609	-	-$0	$618	$197	$221	$42	$129	-	$13,564	$29

	Spark Platform	Sterling Unit	North Trading Bay Unit	Stump Lake Unit	Trading Bay Field	Trading Bay Unit	Redoubt Unit	Ninilchik Unit	West Mcarthur River Unit	Deep Creek Unit	Three Mile Creek Unit	TOTAL Cook Inlet	TOTAL State
Production													
1997	62,872	81	-	30,942	19,031	6,982,452	-	-	-	-	-	17,697,067	19,186,494
1998	85,882	4	-	18,332	-	7,841,950	-	-	-	-	-	18,564,277	19,886,001
1999	28,044	15	-	11,978	-	7,333,019	-	-	-	-	-	17,736,489	19,104,019
2000	-	4,384	18,632	6,839	-	6,802,700	-	-	-	-	-	17,360,027	18,616,938
2001	-	8,820	-	56	-	6,509,275	-	-	-	-	-	17,801,883	19,301,889
2002	-	11,655	-	-	-	5,198,621	-	-	2,655	-	-	16,726,074	20,581,934
2003	-	7,195	11,954	69	-	4,016,601	12,954	287,241	19,673	-	-	15,680,818	21,394,599
2004	-	6,921	2,130	-	-	3,360,804	-	1,094,310	22,119	4,191	-	15,252,063	20,648,530
2005	-	60,491	50,616	-	-	3,155,258	5,299	1,225,767	38,432	54,600	48,533	15,556,163	20,565,004
2006	-	71,748	210	-	-	2,500,006	29,082	1,701,051	58,436	48,568	67,010	14,266,190	18,950,775
2007	-	56,191	92	-	-	2,116,402	5,664	1,877,107	34,700	42,572	33,253	12,158,901	16,197,125
2008	-	41,873	-	-	-	2,112,878	1,600	1,841,946	15,785	34,557	28,275	10,582,563	13,792,084
Revenues													
1997	$94	$0	-	-	$23	$10,148	-	-	-	-	-	29,112	$30,390
1998	$118	$8	-	$0	-	$10,769	-	-	-	-	-	25,974	$27,007
1999	$32	$0	-	$13	-	$8,918	-	-	-	-	-	23,436	$24,601
2000	-	$7	$26	$1,254	$2	$10,743	-	-	-	-	-	39,134	$40,524
2001	-	$16	$6	$0	-	$12,636	-	-	-	-	-	36,826	$38,124
2002	-	$26	-	-	-	$9,632	-	-	-	-	-	32,595	$36,337
2003	-	$16	$28	$5	-	$14,806	$16	$681	-	-	-	42,606	$49,290
2004	-	$19	$5	-	-	$9,042	-	$3,165	$90	$17	-	39,373	$47,903
2005	-	$209	$161	-	-	$10,787	$19	$4,302	$117	$235	$143	50,721	$61,844
2006	-	$337	$4	-	-	$10,761	$128	$8,014	$247	$240	$221	55,157	$67,475
2007	-	$304	$0	-	-	$10,808	$31	$10,833	$188	$313	$233	51,055	$62,958
2008	-	-$288	-	-	-	$12,105	$9	$8,528	$144	$211	$113	51,492	$64,316

Revenues include principal and interest from revisions and settlements in the year received.

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Table II.5 Recent Royalty Gas Production by Lessee

NORTH SLOPE

Revenue (Thousands of Dollars)

	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Anadarko	-	-	-	-	-	-	-	-	-	$7	$15	$17
Arco	$325	$297	$344	-	-	-	-	-	-	-	-	-
BP Am Prod. Co	-	-	-	-	-	-	$3	-	-	-	-	-
BPXA	$543	$451	$540	$539	$593	$3,054	$5,844	$7,527	$9,750	$10,835	$9,868	$11,225
Chevron	$33	$7	-	-	<1	<1	<1	<1	-	-	-	-
ConocoPhillips AK	-	-	-	-	-	$446	$538	$643	$865	$983	$1,187	$1,679
Exxon	$207	$183	$185	-	-	-	-	-	-	-	-	-
ExxonMobil	-	-	-	$318	$265	$242	$300	$360	$508	$493	$526	$704
Forest Oil	-	-	-	-	-	-	-	-	-	-	-	-
Kerr-McGee											$1	$1
Mobil	$128	$80	$87	-	-	-	-	-	-	-	-	-
NANA	$23	-	-	-	-	-	-	-	-	-	-	-
Oxy	$2	$2	$2	$2	-	-	-	-	-	-	-	-
PetroHunt										<1	-	-
Phillips	$15	$13	$7	$531	$440	-	-	-	-	-	-	-
Unocal	-	-	-	-	-	-	<1	<1	<1	<1	-	-
North Slope TOTAL	$1,278	$1,033	$1,165	$1,390	$1,298	$3,742	$6,685	$8,529	$11,123	$12,318	$11,596	$13,625

COOK INLET

Revenue (Thousands of Dollars)

	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Arco	$1,411	$1,262	$1,170	-	-	-	-	-	-	-	-	-
Aurora Power	-	-	-	-	$62	$18	$17	$38	$135	$222	$289	$113
Chevron	$1,551	$1,560	$1,605	$1,698	$3,136	$3,740	$4,373	$5,020	$6,293	$5,516	$6,725	$4,354
ConocoPhillips AK	-	-	-	-	-	$2,530	$3,747	$4,562	$6,766	$6,491	$5,070	$5,318
Conoco Phillips Co.			-	-	-	-	$12,159	$11,600	$14,987	$14,546	$8,870	$12,926
Forest Oil	-	-	-	-	-	-	$16	$90	$179	$433	$219	$39
Marathon	$6,061	$5,737	$5,557	$6,795	$10,429	$7,433	$6,777	$8,761	$12,113	$14,982	$14,708	$11,104
ExxonMobil	$47	$55	$22	-$0	$4	$3	$2	$0	-	-	-	-
Anchorage M, L & P	-	$1,443	$1,008	$1,082	$1,416	$1,316	$1,358	$2,022	$2,198	$3,268	$3,251	$4,398
Pacific Energy AK											$80	$157
Phillips	$12,054	$8,874	$8,914	$15,934	$16,697	$12,562	-	-	-	-	-	-
Shell	$1,636	-	-	-	-	-	-	$103	-		-	-
Unocal	$6,351	$7,035	$5,161	$13,624	$5,083	$4,993	$14,157	$7,178	$8,050	$9,699	$12,412	$12,599
Cook Inlet TOTAL	$29,112	$25,966	$23,436	$39,134	$36,826	$32,595	$42,606	$39,373	$50,721	$55,157	$51,622	$51,008

Revenues include principal and interest from revisions and settlements in the year received.

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Table II.6 Recent Royalty Gas Revenues by Lessee

NORTH SLOPE

Revenue (Thousands of Dollars)

	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Anadarko	-	-	-	-	-	-	-	-	-	$7	$15	$17
Arco	$325	$297	$344	-	-	-	-	-	-	-	-	-
BP Am Prod. Co	-	-	-	-	-	-	$3	-	-	-	-	-
BPXA	$543	$451	$540	$539	$593	$3,054	$5,844	$7,527	$9,750	$10,835	$9,868	$11,225
Chevron	$33	$7	-	-	<1	<1	<1	<1	-	-	-	-
ConocoPhillips AK	-	-	-	-	-	$446	$538	$643	$865	$983	$1,187	$1,679
Exxon	$207	$183	$185	-	-	-	-	-	-	-	-	-
ExxonMobil	-	-	-	$318	$265	$242	$300	$360	$508	$493	$526	$704
Forest Oil	-	-	-	-	-	-	-	-	-	-	-	-
Kerr-McGee											$1	$1
Mobil	$128	$80	$87	-	-	-	-	-	-	-	-	-
NANA	$23	-	-	-	-	-	-	-	-	-	-	-
Oxy	$2	$2	$2	$2	-	-	-	-	-	-	-	-
PetroHunt										<1	-	-
Phillips	$15	$13	$7	$531	$440	-	-	-	-	-	-	-
Unocal	-	-	-	-	-	-	<1	<1	<1	<1	-	-
North Slope TOTAL	$1,278	$1,033	$1,165	$1,390	$1,298	$3,742	$6,685		$11,123	$12,318	$11,596	$13,625

COOK INLET

Revenue (Thousands of Dollars)

	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Arco	$1,411	$1,262	$1,170	-	-	-	-	-	-	-	-	-
Aurora Power	-	-	-	-	$62	$18	$17	$38	$135	$222	$289	$113
Chevron	$1,551	$1,560	$1,605	$1,698	$3,136	$3,740	$4,373	$5,020	$6,293	$5,516	$6,725	$4,354
ConocoPhillips AK	-	-	-	-	-	$2,530	$3,747	$4,562	$6,766	$6,491	$5,070	$5,318
Conoco Phillips Co.			-	-	-	-	$12,159	$11,600	$14,987	$14,546	$8,870	$12,926
Forest Oil	-	-	-	-	-	-	$16	$90	$179	$433	$219	$39
Marathon	$6,061	$5,737	$5,557	$6,795	$10,429	$7,433	$6,777	$8,761	$12,113	$14,982	$14,708	$11,104
ExxonMobil	$47	$55	$22	-$0	$4	$3	$2	$0	-	-	-	-
Anchorage M, L & P	-	$1,443	$1,008	$1,082	$1,416	$1,316	$1,358	$2,022	$2,198	$3,268	$3,251	$4,398
Pacific Energy AK											$80	$157
Phillips	$12,054	$8,874	$8,914	$15,934	$16,697	$12,562	-	-	-	-	-	-
Shell	$1,636	-	-	-	-	-	-	$103	-		-	-
Unocal	$6,351	$7,035	$5,161	$13,624	$5,083	$4,993	$14,157	$7,178	$8,050	$9,699	$12,412	$12,599
Cook Inlet TOTAL	$29,112	$25,966	$23,436	$39,134	$36,826	$32,595	$42,606	$39,373	$50,721	$55,157	$51,622	$51,008

Revenues include principal and interest from revisions and settlements in the year received.

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Table II.7 North Slope Royalty-in-Kind Sales

	Alpetco	Chevron	Total GVEA	Total Williams (Mapco)	Flint Hills Resources, (FHR)	Tesoro	PetroStar	1st Competitive Sale	2nd Competitive Sale	Quasi-Competitive Sale	Total ANS RIK by year
1979	0	0	0	446,996	0	0	0	0	0	0	446,996
1980	12,020,950	882,414	0	5,976,024	0	3,427,388	0	0	0	0	22,306,777
1981	26,046,878	859,928	398,051	8,808,400	0	1,661,385	0	14,046,953	0	0	51,821,595
1982	898,714	0	764,762	9,632,099	0	36,841	0	1,432,108	0	0	12,764,524
1983	0	11,674,998	1,208,406	11,723,755	0	5,793,973	0	0	0	0	30,401,132
1984	0	14,053,279	1,870,505	13,093,397	0	7,531,155	0	0	0	0	36,548,337
1985	0	7,804,392	1,928,544	13,260,754	0	17,218,912	0	0	22,511,409	1,716,754	64,440,765
1986	0	6,934,482	1,881,232	13,168,483	0	23,538,192	52,667	0	4,686,801	1,862,051	52,123,908
1987	0	9,330,563	2,013,539	14,094,537	0	18,404,806	539,575	0	0	0	44,383,020
1988	0	9,315,264	1,981,998	13,814,522	0	18,307,014	590,833	0	0	0	44,009,631
1989	0	8,611,606	1,784,782	12,529,175	0	16,387,093	607,467	0	0	0	39,920,122
1990	0	8,099,292	1,670,494	12,735,412	0	15,368,565	621,220	0	0	0	38,494,983
1991	0	6,290,546	1,670,699	11,183,462	0	15,336,301	618,247	0	0	0	35,099,255
1992	0	0	803,407	6,285,005	0	14,412,460	0	0	0	0	21,500,872
1993	0	0	0	9,086,282	0	9,812,084	0	0	0	0	18,898,367
1994	0	0	0	11,986,495	0	10,452,726	0	0	0	0	22,439,220
1995	0	0	0	12,680,470	0	13,703,946	0	0	0	0	26,384,415
1996	0	0	0	13,027,646	0	14,345,621	0	0	0	0	27,373,267
1997	0	0	0	13,117,503	0	13,021,628	0	0	0	0	26,139,130
1998	0	0	0	16,483,695	0	11,497,629	0	0	0	0	27,981,324
1999	0	0	0	19,070,664	0	0	0	0	0	0	19,070,664
2000	0	0	0	19,290,297	0	0	0	0	0	0	19,290,297
2001	0	0	0	15,187,012	0	0	0	0	0	0	15,187,012
2002	0	0	0	15,509,591	0	0	0	0	0	0	15,509,591
2003	0	0	0	22,749,221	0	0	0	0	0	0	22,749,221
2004	0	0	0	5,582,299	17,639,276	0	0	0	0	0	23,221,574
2005	0	0	0	0	22,803,644	0	0	0	0	0	22,803,644
2006	0	0	0	0	22,186,071	0	0	0	0	0	22,186,071
2007	0	0	0	0	22,779,999	0	0	0	0	0	22,779,999
2008					21,001,166						21,001,166
Cumulative	38,966,543	83,856,765	17,976,419	320,523,196	106,410,155	230,257,719	3,030,009	15,479,061	27,198,210	3,578,805	847,276,881

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Figure II.1 ANS Royalty-in-Kind Contract Volumes

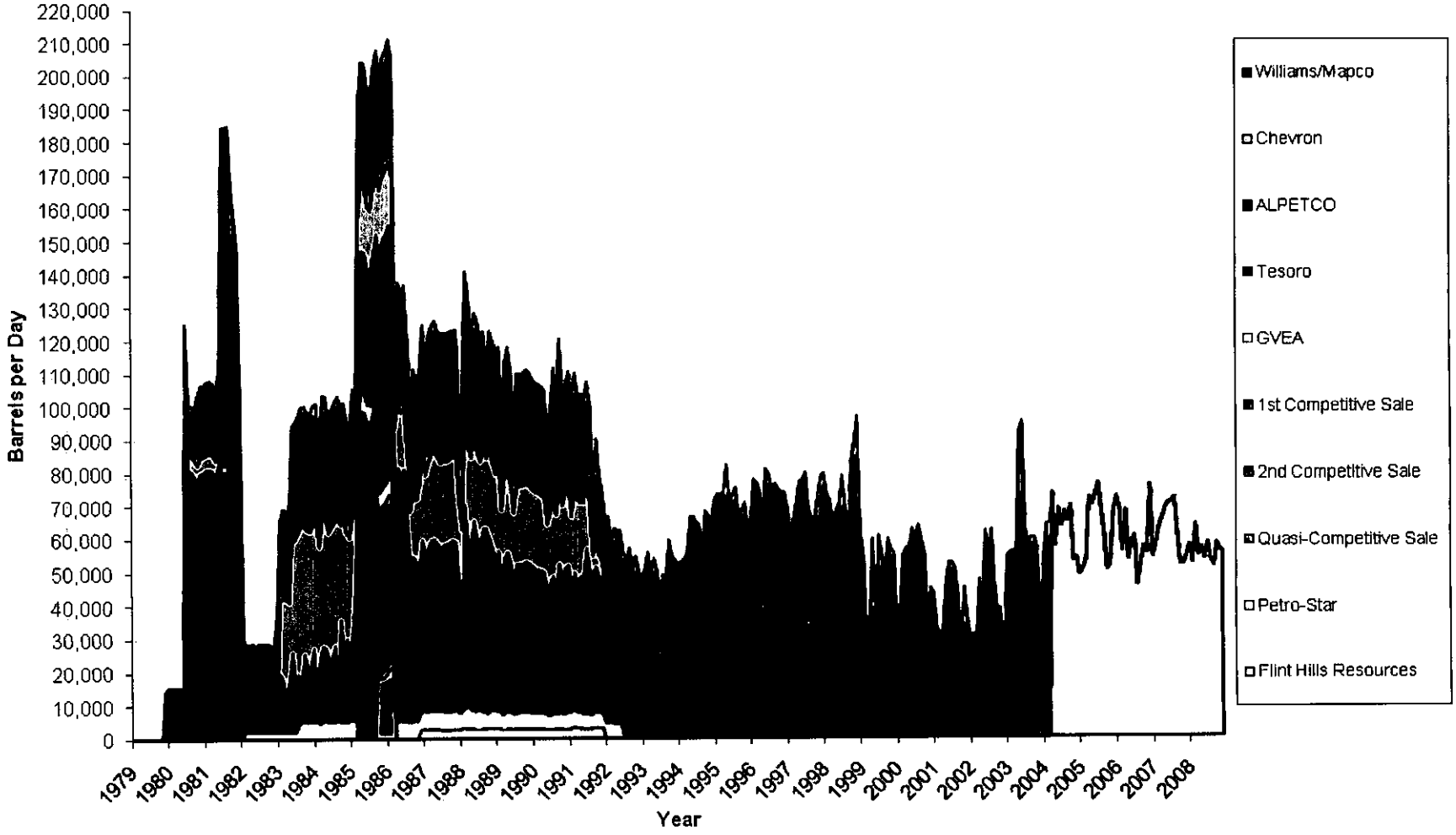

Figure II.2 State of Alaska Royalty Contract Volumes

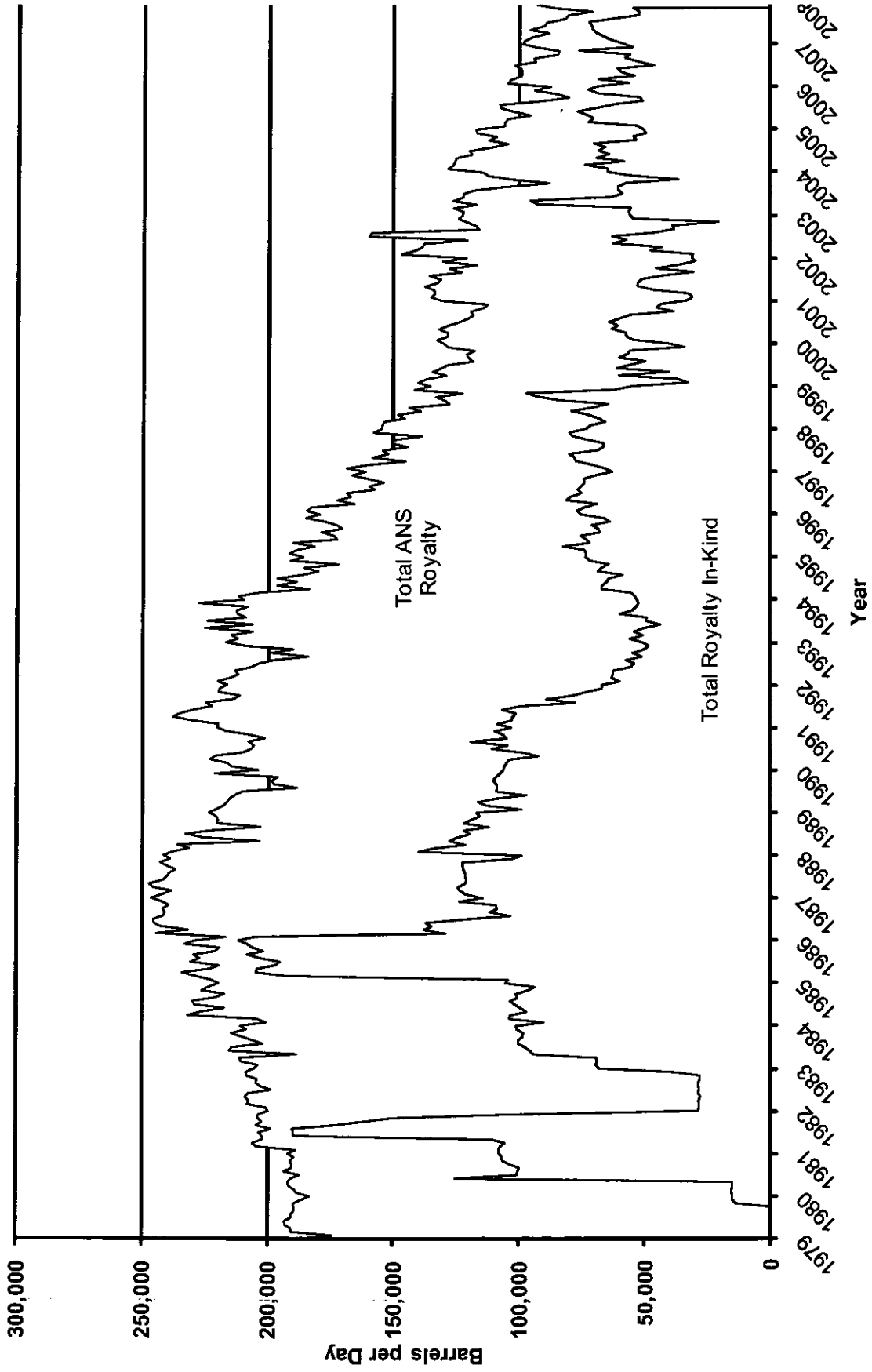

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Table II.8 Cook Inlet & Statewide Royalty-in-Kind Sales

	COOK INLET					STATEWIDE		
	Tesoro[1]	Chinese Petroleum[2]	Cook Inlet RIK	Cook Inlet RIV	Cook Inlet Total Royalty Volume	ALASKA RIK	ALASKA RIV	ALASKA Total Royalty Volume
1979	4,849,631	-	4,849,631	-	4,849,631	5,296,627	10,584,481	15,881,108
1980	4,094,229	-	4,094,229	-	4,094,229	26,401,006	47,047,583	73,448,589
1981	3,560,736	-	3,560,736	-	3,560,736	55,382,331	17,666,128	73,048,459
1982	3,065,159	-	3,065,159	-	3,065,159	15,829,683	61,136,212	76,965,895
1983	2,719,044	-	2,719,044	-	2,719,044	33,120,176	44,599,235	77,719,411
1984	2,431,987	-	2,431,987	-	2,431,987	38,980,324	39,396,031	78,376,356
1985	1,382,740	-	1,382,740	462,245	1,844,985	65,823,504	17,095,491	82,918,995
1986	-	-	-	1,922,101	1,922,101	52,123,907	32,184,762	84,308,669
1987	-	615,305	615,305	1,113,805	1,729,110	44,998,325	45,013,116	90,011,441
1988	-	799,938	799,938	917,208	1,717,146	44,809,569	44,986,179	89,795,748
1989	-	1,274,479	1,274,479	392,313	1,666,792	41,194,601	41,225,959	82,420,561
1990	-	566,825	566,825	522,456	1,089,282	39,061,808	37,764,947	76,826,755
1991	-	330,540	330,540	1,357,687	1,688,227	35,429,795	43,895,049	79,324,844
1992	-	-	-	1,661,526	1,661,526	21,500,871	54,415,748	75,916,620
1993	-	-	-	1,514,651	1,514,651	18,898,364	50,783,693	69,682,057
1994	-	-	-	1,717,758	1,717,758	22,439,221	52,375,662	74,814,882
1995	-	-	-	1,718,805	1,718,805	26,384,415	45,383,358	71,767,773
1996	-	-	-	1,618,157	1,618,157	27,373,267	41,014,672	68,387,940
1997	-	-	-	1,369,478	1,369,478	26,139,130	36,729,326	62,868,456
1998	-	-	-	1,335,030	1,335,030	27,981,324	29,651,924	57,633,248
1999	-	-	-	1,252,231	1,252,231	19,070,664	32,725,432	51,796,096
2000	-	-	-	1,248,564	1,248,564	19,290,298	29,098,368	48,388,666
2001	-	-	-	1,273,518	1,273,518	15,187,012	31,480,769	46,667,780
2002	-	-	-	1,320,281	1,320,281	15,509,592	33,607,528	49,117,120
2003	-	-	-	1,127,749	1,127,749	22,749,221	26,464,082	49,213,303
2004	-	-	-	920,535	920,535	23,221,574	23,180,685	46,402,259
2005	-	-	-	779,749	779,749	22,803,644	20,332,163	43,135,806
2006	-	-	-	669,212	669,212	22,186,071	13,938,500	36,124,570
2007	-	-	-	551,302	551,302	22,779,999	12,719,397	35,499,396
2008	-	-	-	454,367	454,367	21,001,166	12,260,768	33,261,934
	22,103,526	3,587,088	25,690,614	27,220,729	52,911,342	872,967,491	1,028,757,247	1,901,724,738

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Figure II.2A Composition of Total North Slope Royalty Dispositions 1979-2008

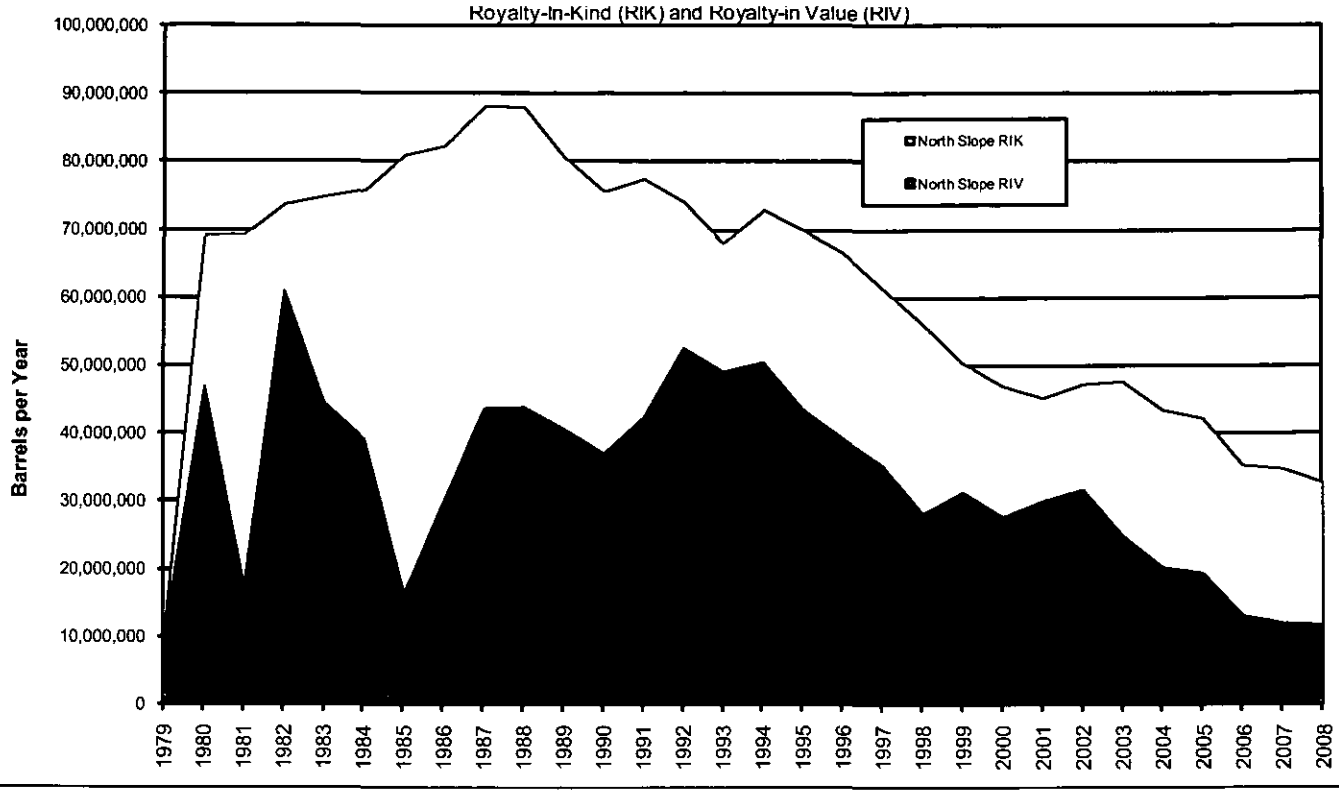
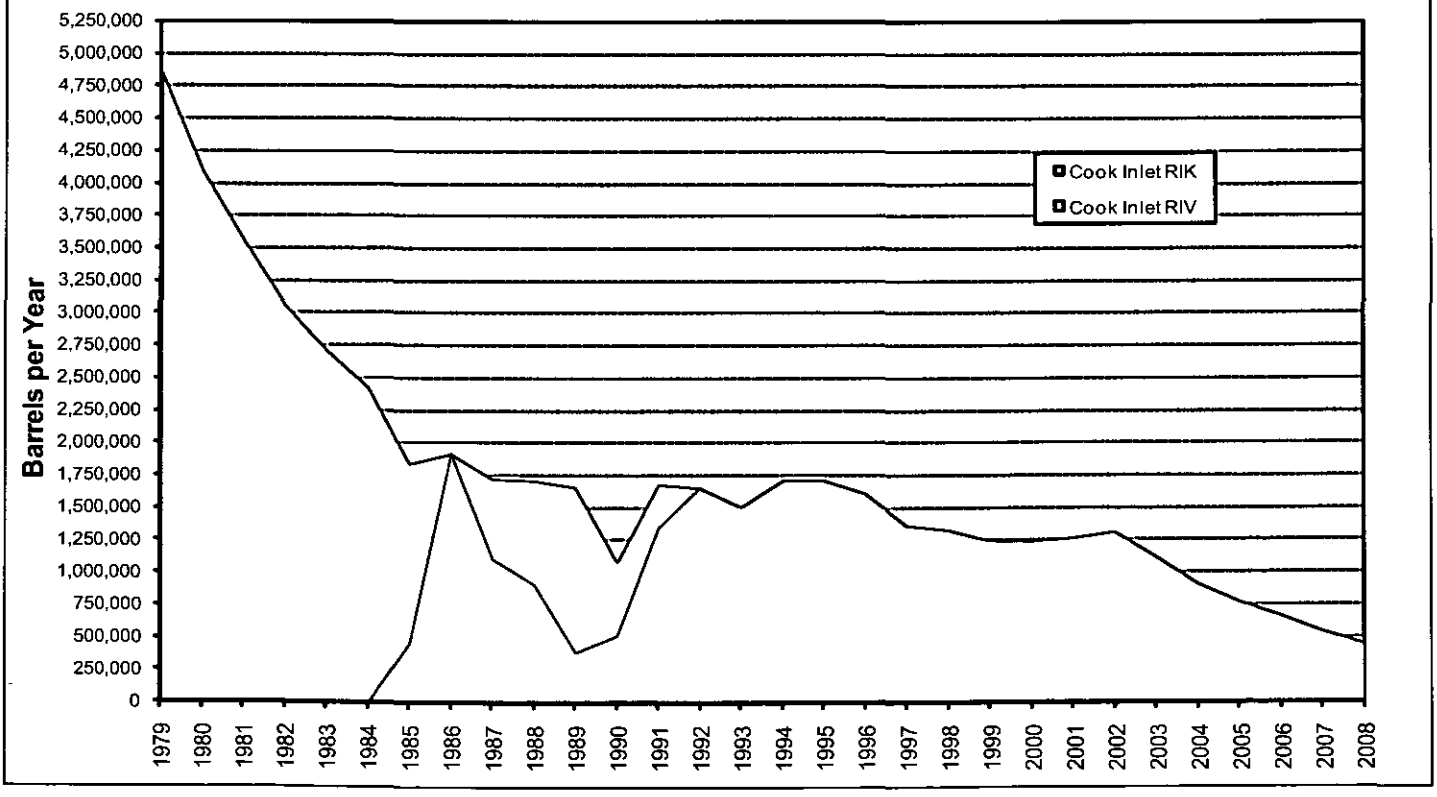


Figure II.2B Composition of Total Cook Inlet Royalty Dispositions 1979-2008

Royalty-In-Kind (RIK) and Royalty-in Value (RIV)



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SCR

3

Senator Con Bunde
SPONSOR STATEMENT

SCR 3 - Urging the Governor to Sue to Protect the State's Sovereign Right to Navigable Waters

Under the Equal Footing Doctrine, Statehood Act, and Submerged Lands Act, the state assumed ownership at statehood of the submerged lands of navigable waterways between the ordinary high water marks and below mean high tide. The state acquired the full power and control over its navigable waters, regardless of the upland owners for watercraft use, mining, recreation, commerce, etc. Alaska's Constitution, statutes and regulations clearly say that the state owns and manages these submerged lands and navigable waters and that its citizens have free and unrestricted access unless restricted under regulations authorized by the State Legislature. Even the 1980 Alaska National Interest Lands Conservation Act states that regulations adopted for our national parks only apply to federal lands.

Beginning in 1996, the National Park Service (NPS) placed another layer of regulations over the State of Alaska's management on navigable waterways. Some incidences to note on the Yukon River are: (1) NPS is enforcing national prohibitions on the use of certain types of watercraft that are authorized by the state; (2) NPS have cited placer miners with legitimate permits from the state; (3) NPS required commercial operators of riverboat and dog mushing tours to secure federal permits. On other rivers in the state, NPS is restricting the methods and means used by sport and subsistence fishermen. Each year they become more embolden and their restrictions on our use of navigable waters continue to grow. The NPS actions, in effect, void the state's legitimate jurisdiction on its navigable waters and diminish the rights of all Alaskans to use these waterways for fishing, hunting, boating, aircraft landing, rafting, placer mining, camping and commerce to name just a few.

The State of Alaska is incrementally losing one of it most cherished and valuable sovereign rights; the right to manage its navigable waters. Management of portions of rivers, such as the Yukon River, is being taken over by the Federal Government. The State of Alaska must take strong and decisive action or watch while it loses control forever over hundreds of miles of rivers, thousands of lakes and thousands of miles of tidelands.

SCR 3 urges the Governor to protect the State of Alaska's sovereign right to manage the submerged land of its navigable rivers. SCR 3 asks the Administration to legally redress this situation and regain our sovereign rights.

26th ALASKA STATE LEGISLATURE
SENATE REPUBLICAN CAUCUS
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SENATOR GENE THERRIAULT, MINORITY LEADER
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SENATOR CON BUNDE
SENATOR FRED DYSON
SENATOR TOM WAGONER

For Immediate Release: February 4, 2009 **Contact: John Manly, Press Officer: 907-465-5369**

Bunde Resolution (SCR 3) Urges Governor to Sue Feds to Protect State's Right to Navigable Waterways

JUNEAU – The Alaska State Senate today is considering a resolution to ask Governor Sarah Palin to file suit against the U.S. Department of Interior, National Park Service, to assert Alaska's rights to control navigable waters within the state. Senate Concurrent Resolution 3, introduced by Sen. Con Bunde, R-Anchorage, describes growing problems the state is experiencing with the NPS, as that agency usurps control of activities on water bodies that belong to the state.

"It is absolutely critical that the State of Alaska stand up for its rights under the Statehood Compact and the equal footing doctrine," Bunde said. "These bodies of water, including the Yukon River, belong to the state, so when the Park Service attempts to dictate who can run a boat on them, or land an airplane, or use them to fish or hunt, we have a real problem with that."

Bunde's resolution notes that the foundational documents under which Alaska entered the Union clearly give control and ownership of navigable waters to the state, and this was reiterated in the Alaska National Interest Lands Conservation Act (ANILCA) in 1980. However, the NPS began usurping the state's sovereign rights over waterways inside National Parks in 1996. The resolution also notes that the state has attempted for the past 12 years to resolve the conflict without success.

"I am convinced that the only way to resolve this issue is through the courts, because the federal managers and bureaucrats have a vested interest to continue to build their empires at the expense of the state," Bunde said. "There are hundreds of thousands of acres of submerged lands at stake, under rivers, lakes and tidal waters. Access to Alaska's lands was guaranteed under ANILCA, but it is slowly but surely being denied by federal employees."

SCR 3 also urges the Governor to allocate sufficient resources to the Department of Law, the Department of Natural Resources, and the Department of Fish and Game to fund and support a legal challenge to protect the state's sovereign right to manage the public use of its navigable waters. The resolution was referred to the Senate Resources Committee.

###

REPORT ON IDENTIFIED R.S. 2477 RIGHTS-OF-WAY

INTRODUCTION

This report fulfills the requirement under AS 19.30.400(b) for the Department of Natural Resources (DNR) to report its identification, research, and adjudication of R.S. 2477 rights-of-way. RS 2477, a federal law by which the U.S. government granted rights-of-way across federal lands not otherwise reserved for public use, to encourage miners and settlers to expand into the Western states and Alaska. Although Congress repealed RS 2477 in 1976, existing rights-of-way created under it are valid existing rights preserved under federal law. DNR provides detailed information and answers to frequently asked questions involving RS 2477 rights-of-way online at: http://www.dnr.state.ak.us/mlw/trails/rs2477/

PUBLIC ACCESS ASSERTION AND DEFENSE UNIT

In FY 05 the DNR Division of Mining, Land and Water (DMLW) established the Public Access Assertion and Defense Unit (PAAD) to proactively address the increasing conflicts with public access issues to public lands and waters. The PAAD Unit is funded through both federal and state sources. The unit is divided into two sub-units, Easements and Navigability.

The Easement sub-unit's primary mission is to review all federal land conveyances under the Alaska Native Claims Settlement Act (ANCSA) to ensure that public access to public lands and water is protected when conveyances may block such access. Reserving easements is a requirement of Section 17(b) of ANCSA. The state has nominated and recommended 17(b) easements that overlay existing RS 2477 routes noting that the state asserts these are valid existing rights.

The secondary mission of the Easement Sub-unit is to research existing trails to determine if they qualify for RS 2477 codification in the statute. The Easement Sub-unit also reviews subdivision plats, state land transfers to municipalities and the University of Alaska to ensure that RS 2477s and other easements are identified and reserved. The PAAD Unit does not manage easements on a day-to-day basis, as that is the responsibility of the MLW's Regional offices.

From DNR
2009 Report to the Legislature

RS 2477 ASSERTIONS AND RESEARCH

In 2008, the Easement subunit's primary focus was to review ANCSA Conveyances, particularly in the Doyon and Ahtna regions. This emphasis is required because the federal Bureau of Land Management (BLM) has accelerated land transfers to ANCSA corporations in order to more rapidly complete land entitlements. This has diverted attention away from the RS 2477 project. Regarding RS 2477, the sub-unit focused its RS 2477 research attention on two trails, Equinox trail near Fairbanks and the Fox River trail near Homer. Since inception, a substantial amount of staff time has been devoted to researching and asserting new RS 2477s. The Legislature has not acted upon any new RS 2477s that have been submitted.

Identified RS 2477 Rights of Way previously submitted:

Routes First Reported to the Legislature in January 2001

Interior

RST 1801	Lost Chicken - Wall Street Creek	RST 1968	Davidson Ditch Access Roads: Camp Creek - Ptarmigan Creek
RST 1967	Davidson Ditch Access Roads: Elliott Highway		

Routes First Reported to the Legislature in January 2000

Interior

RST 625	Cantwell Small Tracts Road (Lovers Lane)	RST 732	Rennies Landing – Cripple Landing (South) – Bear Creek
RST 695	Donnelly Dome: Old Valdez Trail Segment		
RST 815	Birch Creek Trail		*Southcentral*
RST 1604	Frying Pan Creek Trail	RST 1359	Keystone Canyon – Thompson Pass
RST 1926	Fairbanks Creek – Fish Creek		
RST 1959	Dictator Creek Trail		
RST 1966	Caro-Coldfoot – West Fork Route		

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DEPARTMENT OF NATURAL RESOURCES

DIVISION OF MINING, LAND & WATER
Public Access Assertion & Defense Unit

PUBLIC TRUST DOCTRINE

9/26/07

ALASKA CONSTITUTION

Alaska Constitution Article VIII, section 3 states:

Wherever occurring in their natural state, fish, wildlife, and waters are reserved to the people for common use.

Alaska Constitution Article VIII, section 13 states:

All surface and subsurface waters reserved to the people for common use, except mineral and medicinal waters, are subject to appropriation. Priority of appropriation shall give prior right. Except for public water supply, an appropriation of water shall be limited to stated purposes and subject to preferences among beneficial uses, concurrent or otherwise, as prescribed by law, and to the general reservation of fish and wildlife.

Alaska Constitution Article VIII, section 14 states:

Free access to the navigable or public waters of the State, as defined by the legislature, shall not be denied any citizen of the United States or resident of the State, except that the legislature may by general law regulate and limit such access for other beneficial uses or public purposes.

Alaska Constitution Article VIII, section 15 provides, in pertinent part:

No exclusive right of special privilege of fishery shall be created or authorized in the natural waters of the State…

Alaska Statute 38.05.965(13) defined navigable waters:

"navigable water" means any water of the state forming a river, stream, lake, pond, slough, creek, bay, sound, estuary, inlet, strait, passage, canal, sea or ocean, or any other body of water or waterway within the territorial limits of the state or subject to its jurisdiction, that is navigable in fact for any useful public purpose, including but not limited to water suitable for commercial navigation, floating of logs, landing and takeoff of aircraft, and public boating, trapping, hunting waterfowl and aquatic animals, fishing, or other public recreational purposes;

LEGISLATIVE INTENT

The Legislature further interpreted the constitutional protections for public use of the waters in an act relating to the navigable or public waters of the state, declaring in the preamble (85 SLA ch.82):

(a) The people of the state have a constitutional right to free access to the navigable or public waters of the state.

(b) Subject to the federal navigational servitude, the state has full power and control of all of the navigable or public waters of the state both meandered and unmeandered, and it holds and controls all navigable or public waters in trust for the use of the people of the state.

(c) Ownership of land bordering navigable or public waters does not grant an exclusive right to the use of the water and any rights of title to the land below the ordinary high water mark are subject to the rights of the people of the state to use and have access to the water for recreational purposes or any other public purpose for which the water is used or capable of being used consistent with the public trust.

(d) This Act may not be construed to affect or abridge valid existing rights or create any right or privilege of the public to cross or enter private land.

ALASKA STATUTES

38.05.126. Navigable and public water.

(a) The people of the state have a constitutional right to free access to and use of the navigable or public water of the state.

(b) The state has full power and control of all of the navigable or public water of the state, both meandered and un-meandered, and the state holds and controls all navigable or public water in trust for the use of the people of the state.

(c) Ownership of land bordering navigable or public water does not grant an exclusive right to the use of the water and a right of title to the land below the ordinary high water mark is subject to the rights of the people of the state to use and have access to the water for recreational purposes or other public purposes for which the water is used or capable of being used consistent with the public trust.

(d) This section may not be construed to affect or abridge valid existing rights or create a right or privilege of the public to cross or enter private land.

Sec. 38.05.127. Access to navigable or public water.

(a) Before the sale, lease, grant, or other disposal of any interest in state land adjacent to a body of water or waterway, the commissioner shall,

(1) determine if the body of water or waterway is navigable water, public water, or neither;

(2) upon finding that the body of water or waterway is navigable or public water, provide for the specific easements or rights-of-way necessary to ensure free access to and along the body of water.

unless the commissioner finds that regulating or limiting access is necessary for other beneficial uses or public purposes.
(b) The department shall adopt regulations implementing this section.
(c) Nothing in this section affects valid existing rights or limits in any way the constitutional right of the public to use and have free access to the navigable or public waters of the state.
(d) Upon application by a municipality or an affected owner of land, the department may vacate, release, modify, or relocate an easement and right-of-way for public access to or along navigable or public waters reserved by the department in a patent issued under AS 29.65 or former AS 29.18, if the commissioner determines the action is consistent with the public interest.
(e) The establishment of easements or rights-of-way for oil and gas and mineral leases under (a) of this section need not be made until the leases are ready to be developed.
(f) Rights-of-way or easements to waterways established under (a)(2) of this section shall be established approximately once each mile unless the commissioner makes a written finding that regulating or limiting access is necessary for other beneficial uses or public purposes.
(g) The commissioner may exchange land under AS 38.50 to create access to public water of the state.

Sec. 38.05.128. Obstructions to navigable water.
(a) A person may not obstruct or interfere with the free passage or use by a person of any navigable water unless the obstruction or interference is
(1) authorized by a federal agency and a state agency;
(2) authorized under a federal or state law or permit;
(3) exempt under 33 U.S.C. 1344(f) (Clean Water Act);
(4) caused by the normal operation of freight barging that is otherwise consistent with law; or
(5) authorized by the commissioner after reasonable public notice.
(b) An unauthorized obstruction or interference is a public nuisance and is subject to abatement. The cost of abatement shall be borne by the violator and is in addition to any penalty imposed by the court.
(c) This section may not be construed to affect or abridge valid existing rights.
(d) Free passage or use of any navigable water includes the right to use land below the ordinary high water mark to the extent reasonably necessary to use the navigable water consistent with the public trust.
(e) Free passage or use of any navigable water includes the right to enter adjacent land above the ordinary high water mark as necessary to portage around obstacles or obstructions to travel on the water, provided
(1) entry is made without injury or damage to the land;
(2) entry is made in the least obtrusive manner possible;
(3) there is no reasonable alternative available to avoid the use of the adjacent land above the ordinary high water mark; and
(4) the navigable water is reentered immediately below the obstacle or obstruction at the nearest point where it is safe to do so.
(f) A violation of (a) of this section is a class B misdemeanor.

State Policy on Navigability

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Policies and Proceduces on Ownership and Management of Navigable and Public Waters

June 18,1996 State ownership of the beds of navigable waters is an inherent attribute of state sovereignty protected by the United States Constitution. Utah v. United States, 482 U.S. 193 (1987). Under the doctrine, all states enter the Union on an equal footing with respect to sovereign rights and powers, title to the beds of navigable waters in Alaska vested in the newly formed State of Alaska in 1959. In addition, under the Alaska Constitution and the public trust doctrine, all waters in the state are held and managed by the state in trust for the use of the people, regardless of navigability and ownership of the submerged lands under the Equal Footing Doctrine.

The purpose of this paper is to describe the State of Alaska's policies and procedures for identifying and protecting the state's title to the beds of navigable waters. In addition, this paper outlines the legal and policy considerations which guide the ownership and management of submerged lands and public waters.

I. IDENTIFYING AND PROTECTING STATE TITLE TO THE BEDS OF NAVIGABLE WATERS

Identification and management of the beds of navigable waters is an important policy of the State of Alaska. In 1980, the state established a comprehensive navigability program to respond to federal land conveyances and land management activities under the Alaska Statehood act, the Alaska Native Claims Settlement Act (ANCSA), and the Alaska National Interest Lands Conservation Act (ANILCA). Pursuant to the provisions of those acts, the federal government has issued navigability determinations for thousands of lakes, rivers, and streams throughout the state in an effort to determine whether the state or federal government owns the submerged lands. Navigability determinations are also made prior to many state land disposals to insure that adequate public use easements are reserved.

The basic purpose of the state's program is to protect the public rights associated with navigable waters, including, in particular, the state's title to the submerged lands. Because state and native land selections and federal conservation units blanket the state, navigability questions have arisen for rivers, lakes, and streams throughout Alaska. The navigability of many of those waterbodies has a lready been established.

There are hundreds of others, however, where navigability is not yet determined.

To help resolve these navigability disputes, a major goal of the state's navigability program is to identify the proper criteria for determining title navigability in Alaska and to gather sufficient information about the uses and physical characteristics of individual waterbodies so that accurate navigability determinations can be made as disputes arise. Other important aspects of the program include monitoring federal land conveyance and management programs to identify particular navigability disputes, seeking cooperative resolution of navigability problems through negotiations and legislation, and preparing for statewide navigability litigation.

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RIPARIAN RIGHTS AND STATUTE OF LIMITATIONS

Disputes over ownership of submerged lands in Alaska have arisen under a variety of circumstances. The principal source of the disputes in Alaska is the survey and acreage accounting system used by the federal government for conveying land to the state and native corporations.

The standard procedures for surveying and conveying federal land are found in the Manual of Instructions for the Survey of the Public Lands of the United States, generally known as the BLM Manual of Surveying Instructions. Under those procedures, consistently used in every public land state except Alaska, only uplands are surveyed and conveyed in fulfillment of acreage entitlements, not submerged lands. The survey rules require that all lakes 50 acres or larger, and rivers and streams three chains (198 feet) in width or wider, regardless of navigability, be meandered and segregated (excluded) from the surveyed public lands. Only the surveyed uplands are conveyed. The acreage of meandered rivers, lakes, and streams is not included in computing the amount of land involved in the conveyance.

In Alaska, however, the federal government had not consistently followed these survey rules. Until 1983, the federal government treated submerged lands the same as uplands. All bodies of water that were considered non-navigable by the federal government, regardless of size, were surveyed as though they were uplands and the acreage of submerged lands was charged against the total acreage entitlement.

Because of these conveyance procedures, the navigability of waterbodies in Alaska has been an issue of contention since the enactment of the Alaska Statehood Act and ANCSA. In addition to the problems caused by a lack of information about many waterbodies, the situation was exacerbated by the narrow definition of navigability used by the federal government. Hundreds of rivers, lakes, and streams considered navigable by the state were determined non-navigable by the federal government.

In 1983, following years of negotiations, lawsuits and legislative attempts to solve the navigability problems created by the unusual survey and conveyance procedures in Alaska, the State of Alaska, the United States Department of the Interior and the Alaska Federation of Natives (AFN) agreed that the standard rules of survey should be followed for land conveyances in Alaska. The effect of that decision was to treat Alaska surveys and land conveyances like federal land surveys and conveyances in other states. The recipients of conveyances from the federal government are charged only for the amount of public land that is calculated by the survey, which does not include the areas of meandered rivers, lakes and streams.

The use of these survey procedures has eliminated many of the problems associated with the federal land conveyance programs in Alaska. Submerged lands are no longer being conveyed to fulfill acreage entitlements. With the exception of lakes smaller than 50 acres and streams narrower than 198 feet, navigability determinations are no longer being made prior to federal land conveyances. Determinations of ownership of submerged lands can be put off until a natural resource use or conflict requires resolution, such as issuance of an oil and gas lease, mining claim, or a gravel sale.

Through the joint efforts of the State of Alaska, AFN, and the Department of the Interior, the 1983 decision to use the standard survey procedures for land conveyances in Alaska was legislatively approved in August 1988 when the United States Congress passed legislation (94 Stat. 2430) amending Section 901 of the Alaska National Interest Lands Conservation Act, codified at 43 U.S.C. 1631. The 1988 amendment, sometimes referred to as the Alaska Submerged Lands Act, requires that the standard rules of survey in the BLM Manual of Surveying Instructions be used for all federal surveys under the Alaska Statehood Act and ANCSA. The 1988 amendment also repealed the Section 901 statute of limitations that would have required the state to file a lawsuit within a very short period of time in order to preserve its title to the beds of navigable waters conveyed to native corporations by the federal government as a result of erroneous navigability determinations, poor maps, surveys or whatever. Even with this legislation, a major problem

concerning navigability decisions made by the federal government under the old system remains unresolved. At issue are the hundreds of erroneous non-navigability decisions and the resulting submerged land conveyances made to ANCSA corporations in previous years. In addition, to comply with the meandering requirements of the BLM Survey Manual, the federal government is still required to make navigability determinations for lakes smaller than 50 acres and rivers or streams narrower than 198 feet in width to determine if these waters must be meandered.

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NAVIGABILITY CRITERIA

The greatest hurdle to overcome in the state's efforts to identify and manage navigable waters has been the long- standing differences of opinion between the State of Alaska and the United States regarding the application of the test for determining title navigability. Navigability is a question of fact, not a simple legal formula. Variations in waterbody use that result from different physical characteristics and transportation methods and needs must be taken into account. There are many legal precedents for determining navigability in other states based upon the particular facts presented in those cases. In Alaska, though, we are just beginning to get the final court decisions that are necessary to provide legal guidance for accurate navigability determinations.

The physical characteristics and uses of a waterbody used by the state for asserting navigability, commonly referred to as navigability "criteria", are based upon legal principles that have been established by the federal courts. These criteria are applied to rivers, lakes, and streams throughout the state and take into account Alaska's geography, economy, customary modes of water-based transportation, and the particular physical characteristics of the waterbody under consideration.

The federal test for determining navigability was established over a hundred years ago. In the landmark decision of The Daniel Ball, 77 U.S. (19 Wall.) 557, 563, (1870), the Supreme Court declared:

Those rivers must be regarded as public navigable rivers in law which are navigable in fact. And they are navigable in fact when they are used, or are susceptible of being used, in their ordinary condition, as highways of commerce, over which trade and travel are or may be conducted in the customary modes of trade and travel on water.

Although The Daniel Ball test is accepted as the correct standard for determining navigability, there has been a lot of disagreement over application of many of the terms and phrases used in The Daniel Ball test to the specific uses of Alaska's lakes, rivers and streams. The State of Alaska uses the following interpretation of that test as the basis for its navigability program.

The Waterbody Must Be Usable As a Highway For the Transportation of People or Goods. Interpreting the requirements that navigable waterbodies be used or usable as "highways of commerce", the courts have ruled that the central theme of title navigability is that the waterbody be capable of use as a highway which people can use for transporting goods or for travel. Neither the types of goods being transported nor the purpose of the travel are important in determining navigability. Transportation on water associated with recognized commercial activities in Alaska, such as mining, timber harvesting, and trapping is, evidence of navigability. The use of waterbodies for transportation in connection with natural resources exploration or development, government land management, management of fish and game resources, or scientific research is also evidence of navigability. Travel by local residents or visitors for the purpose of hunting, fishing, and trapping, or as a means of access to an area can be used to establish navigability. The same holds for recreational transportation, including personal travel and professionally guided trips.

Waters Which Are Capable of Being Used For Transporting Persons and Goods, Although Not Actually Used, Are Navigable. It is not necessary that a waterbody be actually used for transportation to be found navigable. It is enough that it is susceptible, or physically capable, of being used. Whether a waterbody is susceptible of use for transportation depends upon the physical characteristics of the water course such as length, width, depth, and, for a river, current and gradient. If those physical characteristics demonstrate that a waterbody could be used for the transportation of persons or goods, it is legally navigable.

The susceptibility element of title navigability is very important for the identification of navigable waterbodies in Alaska. Because of Alaska's sparse population and lack of development, there are hundreds of remote rivers, lakes, and streams where there is little or no evidence of actual use. Because of their physical characteristics, however, many of these remote waterbodies could be used for transporting people or goods if there was a need. Under these circumstances, they are considered legally navigable.

Transportation Must Be Conducted In the Customary Modes of Trade and Travel On Water. A finding of navigability does not require use or capability of use by any particular mode of transportation, only that the mode be customary. The courts have held that customary modes of transportation on water include all recognized types and methods of water carriage. Unusual or freak contrivances adapted for use only on a particular stream are excluded. Customary modes of trade and travel on water in Alaska include, but are not limited to, barges, scows, tunnel boats, flat-bottom boats, poling boats, river boats, boats propelled by jet units, inflatable boats, and canoes. In places suitable for harvesting timber, the flotation of logs is considered a customary mode of transportation.

The mode of travel must also be primarily waterborne. Boats which may be taken for short, overland portages qualify. The courts have ruled that the use of a lake for takeoffs and landings by floatplanes is insufficient, in and of itself, to establish navigability.

Without expressly rejecting the claim, at least two court decisions in Alaska have suggested that winter travel on the surface of a frozen river or lake is probably not evidence of navigability. The rivers involved in the two adjudicated cases were both found navigable based upon summer use by boats, however, and it appears likely that most waterbodies in Alaska that are used as highways in winter can also be travelled by at least small boats in the summer. Because of this, the state need not rely upon winter travel to support navigability.

Waters Must Be Navigable In Their Natural and Ordinary Condition. A waterbody which can be used for transportation only because of substantial man-made improvements to the condition of the watercourse is not navigable for title purposes. However, if transportation does or could occur on the waterbody even without the improvements and the improvements would only make transportation easier or faster or possible for larger boats (e.g., dredging), it is still considered navigable for title purposes.

The presence of physical obstructions to navigation (rapids, falls, log-jams, etc.) does not render a waterway non- navigable if the obstruction can be navigated despite the difficulties or if the obstruction can be avoided by other means, such as portaging, lining, or poling. A waterbody is also navigable even if seasonal fluctuations do not allow it to be navigated at all times of the year. However, a waterbody which is only navigable at infrequent and unpredictable periods of high water is not normally considered navigable. The fact that a waterbody may be frozen for several months of the year does not render it non-navigable if it is navigable in its unfrozen condition.

Title Navigability Is Determined As Of The Date Of Statehood. To be considered navigable for title purposes, the waterbody must have been navigable in 1959 (when Alaska became a state). This element of the navigability test focuses on the physical characteristics of the waterbody and whether those characteristics have changed significantly since statehood. Most waterbodies have not physically changed enough since statehood to alter their navigability. Assuming there have been no significant changes in the physical characteristics of the waterbody, a waterbody that is navigable today would be considered legally navigable in 1959 as well. Exceptions might include the creation, by natural or man-made causes after statehood, of a totally new lake, river, or canal now used for navigation. Such a waterbody would not be considered navigable for title purposes. Conversely, a waterbody which was navigable in 1959 but, because of natural or man-made physical changes, is no longer navigable in fact would still be considered navigable for title purposes.

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NAVIGABILITY CRITERIA DISPUTES

Because of differing legal interpretations of court navigability decisions, several aspects of the criteria used by the state to determine navigability have been disputed by the federal government. As a direct result of these criteria disputes, many waterbodies considered navigable by the state have been determined non-navigable by the federal government.

The major criteria dispute has been over the type or purpose of the transportation required to establish navigability. The federal government has asserted that a waterway must be used, or capable of use, for transporting commerce to be considered navigable. Other, "noncommercial" transportation uses are not considered sufficient to establish navigability. In this context, the federal government has claimed that the only relevant "commercial" transportation is the distribution of goods for sale or barter, or the transportation for hire of people or things. The federal government has admitted that professionally guided transportation on Alaska's rivers, lakes and streams constitutes commerce, but nevertheless has argued that the waters are not being used as a navigable "highway" when recreation is involved, but rather more

as an amusement park. The federal government has therefore claimed that waters used only for commercial recreation are legally nonnavigable even though they may be navigable in fact.

Through the work of the state's navigability program, this definition has been repeatedly rejected by the courts, most recently in the Gulkana River case. Alaska v. United States, 662 F.Supp.455 (D.Alaska 1987), affirmed sub nom. Alaska v. Ahtna, Inc., 891 F.2d 1401 (9th Cir. 1989). Applying the correct definition of navigability, many of the submerged lands that the federal government attempted to convey to ANCSA corporations should have been recognized as belonging to the state. The state appealed many conveyances to protect its title. As occurred in the Kandik-Nation Rivers appeal, Appeal of Doyon, 86 I.D. 692 (ANCAB 1979), Alaska Native Corporations also found it necessary to challenge erroneous federal determinations of non-navigability to insure they would not be deprived of any portion of their entitlement by being charged for submerged land owned by the state.

The federal government has also argued that aluminum boats, boats propelled by jet units, inflatable boats, and canoes are not customary modes of travel for the purpose of determining navigability in Alaska. As a result, many waterbodies navigated by these types of watercraft have been found legally non-navigable by the federal government. The claim is that these boats represent post-statehood technological advances, are too small to be considered "commercial", or that most "commercial" use of the watercraft developed after statehood.

Another navigability dispute involves remote, isolated lakes. The federal government has found many of these lakes legally non-navigable, even though they are physically capable of being navigated. The federal government's contention is that a navigable connection to another area is necessary to make travel on a remote lake worthwhile. Otherwise, the federal government views the lack of development in the area around the isolated lake as an indication that the lake will never be used for commercial transportation.

To resolve these navigability criteria disputes, the state has actively pursued a limited number of court cases challenging particular findings of non-navigability by the federal government. With the sole exception of floatplanes, the courts have agreed with the navigability criteria presented by the State of Alaska and have rejected the limitations suggested by the federal government. These cases include:

Gulkana River. In this case, both in the U.S. District Court and on appeal to the U.S. Court of Appeals, the federal courts rejected the federal government's restrictive interpretation of the phrase " highway of commerce" in the title navigability test. The federal district court stated that to demonstrate navigability, it is only necessary to show that the waterbody is physically capable of "the most basic form of commercial use: the transportation of people or goods." Because the Gulkana River can be used for the transportation of people or goods, the Gulkana River was found navigable. Alaska v. United States, 662 F.Supp.455 (D.Alaska 1987). On appeal, the court of appeals affirmed the district court's finding of navigability. Alaska v. Ahtna, Inc., 892 F.2d 1401 (9th Cir. 1989). The court of appeals found that the modern use of the Gulkana River for guided hunting, fishing, and sightseeing trips is a commercial use and, since the physical characteristics of the river have not significantly changed since 1959, provides conclusive evidence that the river was susceptible of commercial use at statehood. The court also found that modern inflatable rafts can be used to establish navigability. In April 1990, the United States Supreme court denied a request by Ahtna, Inc. to reconsider and overturn the court of appeals decision. The Gulkana River precedent is now binding on all future navigability determinations in Alaska.

Kandik and Nation Rivers. In this administrative appeal, the State of Alaska and Doyon Limited, an ANCSA regional corporation, successfully established that the use or susceptibility of use of a river or stream by an 18-24 foot wooden riverboat capable of carrying at least 1,000 pounds of gear or supplies is sufficient to establish navigability. Based upon the use of these types of boats for the transportation of goods and supplies by fur trappers, as well as extensive historic and contemporary canoe use, the court found the Kandik and Nation rivers, in Interior Alaska, navigable. Appeal of Doyon, 86 I.D.692 (ANCAB 1979).

Alagnak River. In this federal district court case, the Alagnak River, the Nonvianuk River, Kukaklek Lake and Nonvianuk Lake were all found navigable. These interconnected waterbodies are located in the Bristol Bay region of Alaska, south of Lake Iliamna. Their primary transportation use is for commercially guided hunting, fishing, and sightseeing and for government research and management. They also serve as a means of access for local residents to their homes and to the surrounding areas for subsistence hunting and fishing. After several years of litigation, the federal government conceded that these rivers and lakes are navigable. Alaska v. United States, No. 82-201 (D.Alaska Feb. 2, 1985).

Mataniska River. The recommended decision in this administrative appeal agreed with the State of Alaska's position that post-statehood commercial river rafting operations are sufficient to establish navigability. Based upon that type of use, the administrative law judge who heard the case recommended that the

Matanuska River, in Southcentral Alaska, be found navigable. The Secretary of Interior, over the state's objections, assumed jurisdiction over the case and stayed implementation of the recommended decision. No action has been taken in the case since that time. Appeal of Alaska, No. 82-1133 (IBLA Rec. Decision Aug. 18, 1983)

Slopbucket Lake. The state claimed that the extensive use of floatplanes on Slopbucket Lake, a twenty acre lake adjacent to Lake Iliamna, was sufficient to establish navigability. The federal courts rejected this view. The courts reasoned that floatplanes do not use the lake as a navigable highway; they just take off and land there. Alaska v. United States, 754 F.2d 851 (9th Cir.) cert denied, 106 S. Ct. 333 (1985).

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IDENTIFICATION OF NAVIGABLE WATERS

Even if the criteria for determining navigability in Alaska were totally agreed upon, it still would be difficult to prepare a complete list of all of the navigable lakes, rivers, and streams in the state. Much of Alaska has not yet been surveyed and many maps are inaccurate and out-of-date. It is an immense and complex task simply to identify and locate all of the thousands of named and unnamed lakes, rivers, and streams in the state which might be considered navigable. Furthermore, once a potentially navigable lake, river, or stream has been identified, detailed information about its size and uses is necessary for an accurate navigability determination. Because of Alaska's undeveloped and remote character, gathering navigability information is both time consuming and expensive. Finally, administrative navigability determinations made by the state or the federal government are always subject to legal challenge, since only the courts can authoritatively determine title to submerged lands.

Despite these difficulties, both the state and the federal government are frequently called upon to issue navigability determinations. Although the requirement that BLM adhere to the meandering requirements of the BLM Survey Manual has eliminated the need for navigability determinations on the larger rivers, lakes, and streams, which must now be meandered regardless of navigability, navigability determinations are still required for the smaller rivers, lakes, and streams to determine if they are to be meandered at the time of survey. Because of this, some navigability determinations are still made for nearly every federal land conveyance under ANCSA or the Alaska Statehood Act. The management plan for nearly every federal Conservation System Unit (CSU) also addresses the navigability issue.

Federal navigability determinations are reviewed by the state to insure that available information sources were used and interpreted correctly. Where the federal government determines non-navigable a waterbody which is considered navigable by the state, the state may provide the government with supplemental information about the uses and characteristics of the waterbody to obtain a redetermination of navigability. Under some circumstances the state needs to make its own navigability determinations, such as for a oil and gas lease sale, land disposal, material sale, mining claim, or another use of state land or resources requiring a determination of ownership of submerged lands within the affected area.

For large, undeveloped regions of Alaska there may be little or no accurate waterbody use or physical characteristics information available for making navigability determinations. When information is lacking, and it must make a navigability determination, the state is forced to rely solely upon the physical characteristics shown on maps and aerial photographs. In these cases, the state identifies as navigable all streams depicted on the U.S.G.S. maps with double lines (generally at least 70 feet wide) and having an average gradient over the length of the stream of no more than 50 feet per mile. With rare exceptions, the state's experience has been that streams of this type are deep enough and wide enough to be navigable by boats carrying persons or goods and must, therefore, be considered legally navigable. Streams depicted with single lines, although narrower in width, may also be listed as potentially navigable if they have gradients of substantially less than 50 feet per mile and are at least 10 miles.

If there is no public use or physical characteristics information readily available for lakes, those lakes which are shown on maps and aerial photographs as having a navigable water connection with other navigable waters, or which are accessible by short overland portages, are considered navigable regardless of the size of the lake. These lakes are part of a system of interconnected navigable waters. If a lake is totally isolated, it will be included on the state's navigability maps if it is at least 1 1/2 miles long. That length insures that the lake can be used as a "highway". Future judicial decisions interpreting the "highway" requirement for isolated lakes could shorten or lengthen this 1 1/2 mile "rule of thumb."

The state recognizes that, under some circumstances, lakes smaller than 1 1/2 miles long can be and are used as navigable highways. In those cases, when known, these smaller lakes are also depicted on the

state's navigability map. Moreover, as a matter of administrative policy and convenience only, the state may sometimes make an exception to the 1 1/2 mile standard in the extremely wet regions of the state, including some areas in the Yukon- Kuskokwim Delta, Yukon Flats, and on the North Slope. In these areas, an isolated lake might need to be 2-3 miles long to be included on the state's navigability maps. Although smaller lakes in these areas are capable of being used for transportation and should be found navigable by the courts, the state has decided to concentrate its limited resources in protecting the larger waterbodies first.

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NAVIGABLE WATERS WITHIN PRE-STATEHOOD FEDERAL WITHDRAWALS

Although disputes over which waters in Alaska are navigable are the most frequent cause of submerged land ownership disputes, there is another major legal issue which poses a threat to Alaska's sovereign claim to the beds of navigable waters. Even where navigability is conceded, the federal government often contends that title to the submerged lands did not vest in the state if the area was withdrawn or reserved by the federal government on the date of statehood. Within native conveyance areas, the federal government has used this claim of "reserved submerged lands" to justify its attempts to convey the beds of navigable waters in fulfillment of the native entitlements. Within state selections, the federal government has used the same claim to charge the acreage of submerged lands against the state's entitlement.

The state strongly disagrees with this federal claim and has actively pursued a number of court challenges to resolve the issue. In addition to numerous appeals from federal decisions to convey or charge for the beds of navigable waters, the state was actively involved as a friend of the court in one case before the United States Supreme Court and continues to be involved in another Supreme Court case which presents this issue. The pending case is United States v. Alaska, U.S. Supreme Court 84 Original (filed June, 1979).

On June 8, 1987 the Court issued its decision in Utah v. United States, No. 85-1772 (filed Oct. 14, 1986). In this case the federal government, in 1976, issued oil and gas leases for land underlying Utah Lake, a navigable waterbody located in Utah. The suit sought a declaratory judgement that Utah, rather than the United States, holds the lands under navigable waters in the territories in trust for future states, and, absent a prior conveyance by the federal government to third parties, a state acquires title to such land upon entering the Union on an "equal footing" with the original 13 states.

The Supreme Court held that title did pass to the state upon Utah's admission to the Union. They held that there is a strong presumption against finding congressional intent to defeat a state's title, and, that in light of the longstanding policy of the federal government's holding land under navigable waters for the ultimate benefit of future state absent exceptional circumstances, an intent to defeat a state's equal footing entitlement could not be inferred from the mere act of the reservation itself. The United States would not merely be required to establish that Congress clearly intended to include land under navigable waters within the federal reservation, but would additionally have to establish that Congress affirmatively intended to defeat the future state's title to such land.

This decision has significant ramifications within Alaska, since over 95 million acres - more than 25% of the total area of the state - was enclosed within various federal withdrawals and reservations at the time Alaska became a state.

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NAVIGABLE WATERS WITHIN ANILCA CONSERVATION SYSTEM UNITS

On December 2, 1980, the Alaska National Interest Lands Conservation Act became law. This act created or added 104.3 million acres to various federal conservation system units. Because these "withdrawals" occurred after the date of statehood, there is no disagreement between the state and federal governments that navigable waters within the various CSU's are owned by the state. However, there is some disagreement on the amount of authority the federal land managers may have to regulate these state owned submerged lands.

The U.S. Constitution gives Congress certain limited powers to control uses on state owned submerged land. These are known as the Property Clause, Navigational Servitude and the Commerce Clause. The extent of these powers involves complex legal questions. However, even assuming that Congress has the power to regulate state-owned submerged lands in Alaska, the United States Supreme Court has ruled that Congress may choose not to exercise that power, thus leaving regulation totally up to the state. Escanaba

Co. v. Chicago, 107 U.S. (17 Otto.) 678 (1883). Whether Congress has done that can only be determined by examining the federal laws passed by Congress dealing with Alaska lands. Another possibility is that the state and federal governments have concurrent jurisdiction, sharing the authority to regulate submerged lands.

In ANILCA, Congress did not take away the state's power to regulate state-owned submerged lands within federal CSU's in Alaska. Numerous provisions in ANILCA recognize and respect the state's authority over state-owned land. In some cases, however, Congress may have attempted to give the federal land managers some concurrent authority to regulate navigable waters within CSU's.

The state, where possible, cooperates with rather than confronts the federal land managers. This cooperation often takes the form of a memorandum of understanding that discusses management issues and how they will be resolved. Differences do occur, however, over issues such as column management and restrictions on mining.

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II. LEGAL AND POLICY GUIDELINES GOVERNING MANAGEMENT OF SUBMERGED LANDS AND PUBLIC WATERS

PUBLIC TRUST DOCTRINE

The state has special duties and management constraints with respect to state-owned land underlying navigable waters. These special duties and management constraints arise from the Alaska Constitution. The Alaska Constitution contains numerous provisions embracing the principles commonly known as the public trust doctrine. The public trust doctrine is remarkable both for its age and for its vigor. Rooted in the customs of the seafaring Greeks and Romans, it has evolved to become one of the most effective safeguards of public rights. Basically, the trust reflects an understanding of the ancient concept that navigable waters, their beds and their banks, should be enjoyed by all the people because they are too important to be reserved for private use.

In America, the concept of public rights to public waters was recognized since the early days of the Massachusetts Bay Colony where the great Pond Ordinance of 1641 guaranteed the right to fish and fowl in ponds greater than 10 acres, along with the freedom to pass through private property to do so.

By 1821, American courts were pronouncing the law of public trust as we know it today. This does not mean that no water-related development can take place. The public trust doctrine permits states to improve waterways by constructing ports, docks and wharves, thus furthering the purposes of the trust. Generally speaking, the people's trust rights may be alienated only in ways that further overall trust uses, and in relatively small parcels.

Illinois Central Railroad Company v. Illinois, 146 U.S. 387,452 (1982), involved a grant by the State of Illinois of one thousand acres of the bed of Lake Michigan, constituting the entire harbor of the City of Chicago, to the Illinois Central Railroad. The U.S. Supreme Court held that the grant was revocable, that the state held the land in trust for the public, and that it was powerless to relinquish its rights as trustee.

The court went on to say that land underlying navigable waters is much more than a simple property right.

[I]t is a title different in character from that which the state holds in lands intended for sale. It is different from the title which the United States holds in the public lands which are open to preemption and sale. It is a title held in trust for the people of the state that they may enjoy the navigation of the waters, carry on commerce over them, and have liberty of fishing therein freed from the obstruction or interference of private parties... The trust devolving upon the state for the public, and which can only be discharged by the management and control of property in which the public has an interest, cannot be relinquished by a transfer of the property.

In the 19th century the purposes of the trust were generally described as "commerce, navigation and fishery." This was logical because the major waterways were essential highways of commerce. But as other values became increasingly important, courts began to recognize recreation and environmental protection among the purposes for which the trust exists. As a California court said in 1971, "with our ever increasing leisure time...and the ever increasing need for recreational areas it is extremely important that the public need not be denied use of recreational water...the rule is that a navigable stream may be used by the public for boating, swimming, fishing, hunting and all recreational purposes." People ex rel. Baker v. Mack,

19 Cal. App. 3d 1040, 1044 (1971).

The Alaska constitution provides protections similar to the public trust doctrine protections that cannot be disregarded by the legislature or overruled by the courts. Article VIII, Sec. 3 provides; "Wherever occurring in their natural state, fish, wildlife and waters are reserved to the people for common use." After reviewing the public trust doctrine in Owsichek v. State, Guide Licensing, 763 P.2d 488 (Alaska 1988), the Alaska Supreme Court explained that "the common use clause was intended to engraft in our constitution certain trust principles guaranteeing access to the fish, wildlife and water resources of the state."

In CWC Fisheries, Inc. v. Bunker, 755 P2.d 1115 (Alaska 1988), the Alaska Supreme Court applied the public trust doctrine to tidelands, holding that, even after conveyance, the title remains subject to continuing public easements for purposes of navigation, commerce and fishery.

The 1985 Alaska legislature recognized the constitution application of public trust doctrine principles in Alaska. In an Act relating to the public or navigable waters of the state, the legislature found that "the people of the state have a constitutional right to free access to the navigable or public waters of the state" and that the state "holds and controls all navigable or public waters in trust for the use of the people of the state". 85 SLA Ch. 82. In the same act, the legislature ruled that submerged lands are "subject to the rights of the people of the state to use and have access to the water for recreational purposes or any other public purpose for which the water is used or capable of being used consistent with the public trust."

Courts in other states over the years have defined in somewhat different ways the public uses that are permitted and protected by the public trust as it applies to submerged lands. In reviewing these other cases, it can clearly be seen that through time an ever expanding definition of the public uses protected by the public trust doctrine is being adopted. The California Supreme Court recently held that:

Although early cases had expressed the scope of the public's right in (lands subject to the public trust) as encompassing navigation, commerce and fishing, the permissible range of public uses is far broader, including the right to hunt, bathe or swim, and the right to preserve the (public trust) lands in their natural state as ecological units for scientific study. City of Berkeley v. Superior Court of Alameda, 606 P.2d 362, 365 (Cal. 1980)

It is clear under the Alaska Constitution that the State of Alaska has the responsibilities of a trustee with respect to management of land underlying navigable waters. Moreover, the Alaska legislature has adopted a broad view of the public uses protected or permitted by the public trust. Accordingly, the Alaska Attorney General's Office has determined that, until the Alaska Supreme Court rules on the question, the state should assume that a broad definition of public rights protected by the Alaska Constitution and the public trust doctrine applies in Alaska, similar to the one adopted by the California Supreme Court. 1982 Atty. Gen. Op. No. 3 (June 10, 1982).

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PUBLIC WATERS

It is not only the beds of navigable waters in Alaska that are reserved in public ownership for public use. Under article VIII, Section 3 of the Alaska Constitution, all waters occurring in their natural state are reserved to the people for common use. Article VIII, Section 14 of the Alaska Constitution also provides for the broadest possible access to and use of state waters by the general public.

Section 14. Access to Navigable Waters. Free access to the navigable or public waters of the state, as defined by the legislature, shall not be denied any citizen of the United States or resident of the state, except that the legislature may by general law regulate and limit such access for other beneficial uses or public purposes.

Pursuant to this grant of authority, the Alaska State Legislature, in AS 38.05.365(12), defined "navigable waters" as follows:

"navigable waters" means any water of the state forming a river, stream, lake, pond, slough, creek, bay, sound, estuary, inlet, strait, passage, canal sea or ocean, or any other body of water or waterway within the territorial limits of the state or subject to its jurisdiction, that is navigable in fact for any useful public purpose, including but not limited to water suitable for commercial navigation, floating of logs, landing and takeoff of aircraft, and public boating, trapping, hunting waterfowl and aquatic animals, fishing, or other public recreational purposes.

This definition of navigable waters does not define state ownership of submerged land in Alaska. The definition of navigability for ownership purposes was discussed earlier in this paper. This definition, however, does define what types of waterbodies in Alaska are available for public use under the Alaska statutes.

The Alaska State Legislature has broadly construed the constitutional protections for public use of the waters of the state. In an Act (85 SLA chap. 82, codified as AS 38.05.128) relating to the navigable or public waters of the state, the state legislature found:

(a)The people of the state have a constitutional right to free access to the navigable or public waters of the state.

(b) Subject to the federal navigational servitude, the state has full power and control of all of the navigable or public waters of the state, both meandered and unmeandered, and it holds and controls all navigable or public waters in trust for the use of the people of the state.

(c) Ownership of land bordering navigable or public waters does not grant an exclusive right to the use of the water and any rights of title to the land below the ordinary high water mark are subject to the rights of the people of the state to use and have access to the water for recreational purposes or any other public purposes for which the water is used or capable of being used consistent with the public trust.

(d) This Act may not be construed to affect or abridge valid existing rights or create any right or privilege of the public to cross or enter private land.

AS 38.05.128 provides:

OBSTRUCTIONS TO NAVIGABLE WATER

(a) A person may not obstruct or interfere with the free passage or use by a person of any navigable water unless the obstruction or interference is:

(1) authorized by a federal agency and a state agency; (2) authorized under a federal or state law or permit; (3) exempt under 33 U.S.C. 1344(f) (Clean Water Act); (4) caused by the normal operation of freight barging that is otherwise consistent with law; or (5) authorized by the commissioner after reasonable public notice.

(b) An unauthorized obstruction or interference is a public nuisance and is subject to abatement. The cost of abatement shall be borne by the violator and is in addition to any penalty imposed by the court.

(c) This section may not be construed to affect or abridge valid existing rights.

(d) Free passage or use of any navigable water includes the right to use land below the ordinary high water mark to the extent reasonably necessary to use the navigable water consistent with the public trust.

(e) Free passage or use of any navigable water includes the right to enter adjacent land above the ordinary high water mark as necessary to portage around obstacles or obstructions to travel on the water, provided:

(1) entry is made without injury or damage to the land; (2) entry is made in the least obtrusive manner possible; (3) there is no reasonable alternative available to avoid the use of the adjacent land above the ordinary high water mark; and (4) the navigable water is reentered immediately below the obstacle or obstruction at the nearest point where it is safe to do so.

(f) A violation of (a) of this section is a class B misdemeanor.

Thus, under the Alaska Constitution and this statute, any surface waters capable of use by the public defined in AS 38.05.365(12) are available to the public, irrespective of streambed ownership. Further, such public use is not considered a taking and is not subject to inverse condemnation action. Private ownership is subject to the public rights that are protected by the public trust.

In two Montana Supreme Court cases involving the nature of public rights where the submerged lands are privately owned, the court rules that public portaging, anchoring, and other uses incidental to the use of the water are allowed. The court also found that if travel on the water or streambed is obstructed, the public is

allowed to use the adjacent private land to portage around the barrier in the least intrusive way possible, avoiding damage to the property holder's rights. However, the public does not have the right to enter into or trespass across private property in order to enjoy the recreational use of state-owned waters. The State of Alaska agrees with this ruling and believes a similar ruling would be made by our state courts.

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BOUNDARIES OF NAVIGABLE WATERS

The state is often asked where public ownership of water bodies ends and private ownership begins. There are two types of water body boundaries to address: 1) non-tidal water boundaries and 2) tidal water boundaries. Non-tidal boundaries are boundaries of lakes, rivers, and streams. Tidal boundaries are the boundaries along any body of water which is influenced by the rise and fall of the tides.

1. Non-tidal Water Boundaries The boundary between public and private ownership is the "Ordinary High Water Mark" which is defined in 11 AAC 53.900(23) as being - The mark along the bank or shore up to which the presence and action of the non-tidal water are so common and usual, and so long continued in all ordinary years, as to leave a natural line impressed on the bank or shore and indicated by erosion, shelving, vegetation, or other distinctive physical characteristics. Also see the Alaska State Supreme Court definition in Department of Natural Resources v. Pankrantz 538 P.2d 984, 988-89 (Alaska 1975). The ordinary high water line can usually be observed by the laymen simply by noting the vegetation line or well defined stream banks.

2. Tidal Water Boundaries The boundary between tidal water bodies and private/public owned uplands is the Mean High Water Line. Mean high water line as defined by 11 AAC 53.900(15) is: The tidal datum plane of the average of all the high tides, as would be established by the National Geodetic Survey, at any place subject to tidal influence.

This line is not readily observable because it is a line of known elevation which intersects the land surface. The mean high water line can be a considerable distance below the vegetation line because extreme high water will denude the beach above the line of mean high water. The only way that the location of mean high water line can be accurately determined is by differential leveling from known bench marks or by operating a tide gauge for a sufficient period of time to determine the mean high water elevation. The line of mean high water line can be approximated by time coordinated observations of the daily predictions for high and low waters, predicted by NOAA, as they relate to the published mean high water elevation. This method can be highly unreliable because small errors in the predictions or observations can transform into large errors in the horizontal location; this is especially true in areas where the beach gradient is very flat.

It is important to note that in some areas, such as Prince William Sound, the mean high water line boundary is considerably higher than the current mean high water line because the boundary became fixed at the 1964 pre-quake location. In this instance the boundary between state-owned tidelands and the uplands would be established at an elevation which equals the sum of the mean high water elevation plus the published amount of uplift or, in some cases, submergence.

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CONCLUSION

This paper describes the state's policies and procedures for managing and protecting state submerged lands and public waters. As further legal and practical developments occur in this area, these policies and procedures will be reexamined by the state and, if necessary, appropriate changes will be made.

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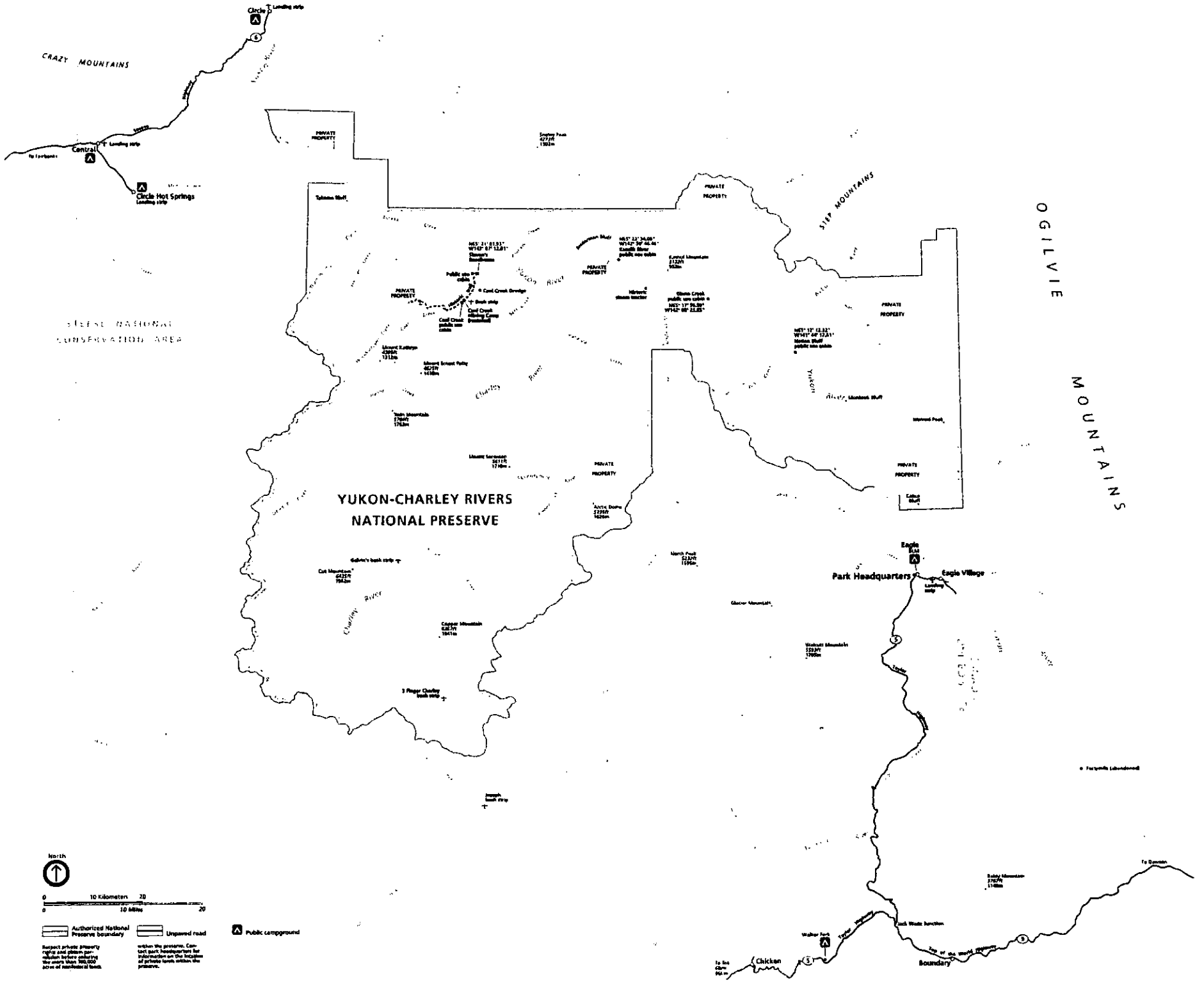
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Central
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To Fairbanks
Circle Hot Springs
Landing strip
STEESE NATIONAL CONSERVATION AREA
PRIVATE PROPERTY
Sheep Peak
Tahkahna Bluff
Public use log cabin
Coal Creek Bridge
Coal Creek
Coal Creek public use cabin
Mount Kathryn
Mount Ernest Patty
Twin Mountains
Mount Sarnoski
Cut Mountain
Copper Mountain
Slaven's Roadhouse
Mastodon Bluff
Caribou Mountain
Glacier Mountain
Illinois Creek public use cabin
Mount Prindle
Arctic Dome
North Peak
Eagle
Park Headquarters
Eagle Village
Walker Mountain
Bailey Mountain
STEP MOUNTAINS
OGILVIE MOUNTAINS
YUKON-CHARLEY RIVERS NATIONAL PRESERVE
Yukon River
Charley River
Taylor Highway
Walker Fork
Jack Wade Junction
Top of the World Highway
Chicken
Boundary
To Dawson
North
0 10 Kilometers 20
0 10 Miles 20
Authorized National Preserve boundary
Unpaved road
Public campground

TITLE 36--PARKS, FORESTS, AND PUBLIC PROPERTY

CHAPTER I--NATIONAL PARK SERVICE, DEPARTMENT OF THE INTERIOR

PART 1_GENERAL PROVISIONS--Table of Contents

Sec. 1.2 Applicability and scope.

(a) The regulations contained in this chapter apply to all persons entering, using, visiting, or otherwise within:

(1) The boundaries of federally owned lands and waters administered by the National Park Service;

(2) The boundaries of lands and waters administered by the National Park Service for public-use purposes pursuant to the terms of a written instrument;

(3) Waters subject to the jurisdiction of the United States located within the boundaries of the National Park System, including navigable waters and areas within their ordinary reach (up to the mean high water line in places subject to the ebb and flow of the tide and up to the ordinary high water mark in other places) and without regard to the ownership of submerged lands, tidelands, or lowlands;

(4) Lands and waters in the environs of the District of Columbia, policed with the approval or concurrence of the head of the agency having jurisdiction or control over such reservations, pursuant to the provisions of the Act of March 17, 1948 (62 Stat. 81);

(5) Other lands and waters over which the United States holds a less-than-fee interest, to the extent necessary to fulfill the purpose of the National Park Service administered interest and compatible with the nonfederal interest.

(b) The regulations contained in parts 1 through 5, part 7, and part 13 of this chapter do not apply on non-federally owned lands and waters or on Indian tribal trust lands located within National Park System boundaries, except as provided in paragraph (a) or in regulations specifically written to be applicable on such lands and waters.

(c) The regulations contained in part 7 and part 13 of this chapter are special regulations prescribed for specific park areas. Those regulations may amend, modify, relax or make more stringent the regulations contained in parts 1 through 5 and part 12 of this chapter.

(d) The regulations contained in parts 2 through 5, part 7, and part 13 of this section shall not be construed to prohibit administrative activities conducted by the National Park Service, or its agents, in accordance with approved general management and resource management plans, or in emergency operations involving threats to life, property, or park resources.

(e) The regulations in this chapter are intended to treat a mobility-impaired person using a manual or motorized wheelchair as a pedestrian, and are not intended to restrict the activities of such a person beyond the degree that the activities of a pedestrian are restricted by the same regulations.

[51 FR 37010, Oct. 17, 1986, as amended at 52 FR 10683, Apr. 2, 1987; 52 FR 35239, Sept. 18, 1987; 61 FR 35136, July 5, 1996]

36 CFR 1.2(a)(3)—NPS Jurisdiction Over Navigable Waters Within Unit Boundaries

Issue: The State of Alaska disputes that the National Park Service (NPS) has authority to apply federal regulations at 36 CFR to state-owned submerged lands and related waters and resources (navigable waters).

NPS position: Jurisdictional regulations in 36 CFR 1.2 specify where and under what circumstances NPS regulations in 36 CFR apply. Among these jurisdictional regulations is a provision adopted in 1996, which makes Title 36 regulations apply within park areas to areas below mean high water line (mean high tide) or ordinary high water mark regardless of ownership of the submerged lands.[1] The authority for this regulation is based on 16 USC 1a-2(h), 3.[2] Other nonfederal lands are not subject to regulation under 36 CFR,[3] except in certain circumstances in the former Mt. McKinley National Park[4] and in some cases where the federal government holds a less than fee interest.[5]

State's position: The State of Alaska believes the NPS is unjustifiably extending 36 CFR to state-owned submerged lands, related waters and resources for two independent reasons: 1) Congress did not intend to delegate this broad authority to the NPS under 16 USC 1a-2(h), but instead intended only to grant authority for boating and related activities subject to US Coast Guard regulations;[6] and 2) even if Congress did intend to delegate this authority, ANILCA section 103(c)[7] supersedes the more general law in 16 USC 1a-2(h) by excluding lands and waters to which the federal government does not hold title and which are not subject to regulations applicable solely to the public lands within the park area.[8]

NPS Message to Park Visitors

- The NPS generally does not dispute state ownership of the submerged lands beneath navigable waters; rather, the NPS has jurisdiction over these areas.
- The NPS is aware of the State's position; however, both the State[9] and the NPS consider this a disagreement between governments and that it is inappropriate to put the public in the middle.
- The NPS cannot choose to ignore the NPS regulations applicable to waters within park boundaries. Park visitors need to understand the NPS must follow its regulations and violating NPS regulations may result in a fine, jail, or both.

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[1] See 61 FR 35135. "The regulations contained in this chapter apply to all persons entering, using, visiting, or otherwise within . . . waters subject to the jurisdiction of the United States located within the boundaries of the National Park System, including navigable waters and areas within their ordinary reach (up to the mean high water line in places subject to the ebb and flow of the tide and up to the ordinary high water mark in other places) and without regard to the ownership of the submerged lands, tidelands, or lowlands...." 36 CFR 1.2(a)(3).

[2] "In order to facilitate the administration of the National Park System, the Secretary of the Interior is authorized, under such terms and conditions as he may deem advisable, to carry out the following activities: . . . Promulgate and enforce regulations concerning boating and other activities on or relating to waters located within areas of the National Park System, including waters subject to the jurisdiction of the United States: Provided, That any regulations shall be complementary to, and not in derogation of, the authority of the United States Coast Guard to regulate the use of waters subject to the jurisdiction of the United States." 16 USC 1a-2(h). Section 3 of title 16 is the general NPS authority to promulgate regulations for park management.

[3] 36 CFR 1.2(b).

[4] *See, e.g.* 36 CFR 2.2(c), 2.32(b.

[5] *See, e.g.,* 36 CFR 1.2(a)(5).

[6] The State of Alaska's position is that pursuant to the Equal Footing Doctrine, the 1953 Submerged Lands Act (67 Stat. 29, 43 U.S.C. §§ 130-1315), and Section 6(m) of the Alaska Statehood Act (Pub. L. No. 85-508, 72 Stat. 339 (1958)), title to, ownership of, and dominion over the lands beneath navigable waters, both freshwater and marine, within the exterior boundaries of the State, and the natural resources within such lands and waters, were granted to the State, with few exceptions not applicable to NPS's assertion of authority in this instance. See 43 U.S.C. §§ 1301-1315; United States v. California, 436 U.S. 32 (1978); Utah Division of State Lands v. United States, 482 U.S. 193, 195-198 (1987); State of Alaska v. Ahtna, Inc., 891 F.2d 1401, 1403-04, 1406 (9th Cir. 1989). The State of Alaska Navigability Policy at http://www.dnr.state.ak.us/mlw/nav/nav_policy.htm#ANILCA (11/5/07) also provides: "The U.S. Constitution gives Congress certain limited powers to control uses on state owned submerged land. These are known as the Property Clause, Navigational Servitude and the Commerce Clause. The extent of these powers involves complex legal questions. However, even assuming that Congress has the power to regulate state-owned submerged lands in Alaska, the United States Supreme Court has ruled that Congress may choose not to exercise that power, thus leaving regulation totally up to the state. Escanaba Co. v. Chicago, 107 U.S. (17 Otto.) 678 (1883). Whether Congress has done that can only be determined by examining the federal laws passed by Congress dealing with Alaska lands...."

[7] ANILCA § 103(c) provides: "Only those lands within the boundaries of any conservation system unit which are public lands (as such term is defined in this Act) shall be deemed to be included as a portion of such unit. No lands which, before, on, or after the date of enactment of this Act, are conveyed to the State ... shall be subject to the regulations applicable solely to public lands within such units." In addition, under ANILCA "Public lands" means "federal land", which in turn means only such lands, waters, and interests to which the United States holds title. See ANILCA § 102(1)-(3).

[8] "In ANILCA, Congress did not take away the state's power to regulate state-owned submerged lands within federal CSUs in Alaska. Numerous provisions in ANILCA recognize and respect the state's authority over state-owned land...." State of Alaska Navigability Policy at http://www.dnr.state.ak.us/mlw/nav/nav_policy.htm#ANILCA (11/5/07).

[9] "The state, where possible, cooperates with rather than confronts the federal land managers. This cooperation often takes the form of a memorandum of understanding that discusses management issues and how they will be resolved. Differences do occur, however, over issues such as column management and restrictions on mining [and applicability of CUA requirements, hunting and fishing, etc.]" State of Alaska Navigability Policy at http://www.dnr.state.ak.us/mlw/nav/nav_policy.htm#ANILCA (11/5/07).

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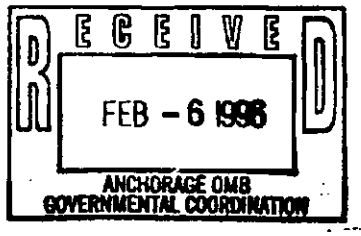

February 2, 1996

Ms. Maureen Finnerty
Associate Director, Operations
National Park Service
Department of the Interior
18th and C Streets, N.W.
Washington, D.C. 20240

Re: State of Alaska's Comments on the Proposed Rule at 60 Federal Register 62233 (December 5, 1995)

Dear Ms. Finnerty:

The State of Alaska has reviewed the proposed rule published December 5, 1995, at 60 Fed. Reg. 62233. These comments represent the consolidated views of various state agencies and replace the overview of comments previously provided to Solicitor Leshy.

The proposed rule would revise portions of the National Park Service's (NPS) general regulations, as well as certain provisions governing National Park System units in Alaska. Primarily at issue is whether NPS should extend regulatory jurisdiction over all navigable waters within park boundaries, regardless of ownership of the submerged lands. The proposed rule is not a simple "clarification" of prior law as the NPS has attempted to portray. The regulations would substantively and inappropriately extend NPS jurisdiction.

The State opposes the proposed rule and urges that it be withdrawn for the following reasons:

- The Federal Register notice fails to adequately address potential effects of this rulemaking in light of the draft NPS subsistence policy and management in Alaska and the State of Alaska v. Babbitt case.

- The federal government has no authority to regulate waters within the boundaries of conservation system units where Alaska owns the submerged lands.

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- The proposed rule is premature given that the Alaska National Interest Lands Conservation Act's definition of "public lands" is still in question.

- The NPS has failed to show other authority, e.g. the Commerce Clause, for its proposed action.

- Proposed definitional changes are inconsistent with existing law.

For these reasons, the NPS does not have the authority to extend its regulatory jurisdiction to all navigable waters within park boundaries, regardless of ownership of the submerged lands. These and other issues are documented in greater detail in the attachment, which should be considered part of the State's formal comments.

If NPS has concerns about particular activities occurring on navigable waters within park boundaries in Alaska, the State encourages NPS to discuss these concerns with the appropriate state representatives. We believe that many issues of particular concern to NPS can be resolved through ongoing cooperative efforts.

Thank you for your consideration of this letter and the attachment.

Very truly yours,

Bruce Botelho
Attorney General

Attachment

cc: Robert Barbee, Field Director, NPS
John Katz, Governor's Office, Washington, D.C.
Marilyn Heiman, Governor's Office, Juneau
Diane Mayer, Director, Division of Governmental Coordination
John Shively, Commissioner, Department of Natural Resources
Frank Rue, Commissioner, Department of Fish and Game
Joseph Perkins, Commissioner, Department of Transportation and Public Facilities
Michele Brown, Commissioner, Department of Environmental Conservation
William Hensley, Commissioner, Department of Commerce and Economic Development

ATTACHMENT

State of Alaska's Comments on the Proposed Rule at 60 Fed. Reg. 62233, December 5, 1995:

A. The Federal Register notice fails to adequately address potential effects of this rulemaking in light of the draft NPS subsistence policy and management in Alaska and the State of Alaska v. Babbitt case.

At the present time, an extensive statewide review of subsistence management and policy is underway within NPS. In fact, NPS has requested public review and comment until May 1, 1996 on its "Draft Review of Subsistence Law and National Park Service Regulations." In light of this ongoing internal review, the State believes the present rulemaking is premature and recommends that this rulemaking be postponed in order to consider the outcome of the subsistence program review. Remaining comments are provided without the benefit of this information.

B. The proposed rule is more than a "clarification" of prior law; it substantively extends NPS jurisdiction.

In the Federal Register notice, NPS states that the proposed rulemaking is designed to "clarify" that existing NPS regulations apply on navigable waters within National Park System units regardless of ownership of the submerged lands, and that the proposed rule does not create new or additional regulatory controls.

NPS claims this "clarification" of previous regulatory intent was made necessary by a seal hunting case in Glacier Bay National Park. United States v. Greg Brown. NPS states the seal hunting case made it aware that 36 C.F.R. § 1.2(b) "inadvertently incorporated language that seems ambiguous and could preclude park regulation of 'non-federally owned . . . waters.'" However, the proposed rule does not "clarify" existing regulations; it substantively extends NPS jurisdiction to areas not previously regulated.

Despite NPS' representations, 36 C.F.R. § 1.2(b) is not ambiguous. It clearly states that NPS regulations do not apply on non-federally owned waters.[1] The only exception

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1 Section 1.2(b) states:

> Except for regulations containing provisions that are specifically applicable, regardless of land ownership, on lands and waters within a park area that are under the legislative jurisdiction of the United States, the regulations contained in parts 1 through 5 and part 7 of this chapter do not apply on non-federally owned

to this rule is for non-federally owned lands and waters under the legislative jurisdiction of the United States. For areas under the legislative jurisdiction of the United States, NPS regulations apply only when the regulations are made specifically applicable regardless of land ownership. 36 C.F.R. § 1.2(b). There is no dispute that state owned lands and waters within Glacier Bay National Park, and most every other park system unit in Alaska, are not within the legislative jurisdiction of the United States.

Other NPS regulations reaffirm the unambiguous language and intention of 36 C.F.R. § 1.2(b). For example, the regulations applying to park units in Alaska state: "The regulations contained in this part 13 are applicable only on federally owned lands within the boundaries of any park area. . . ." 36 C.F.R. § 13.2(e).[2] See also 36 C.F.R. § 13.1(p) (defining "public lands" to mean lands in Alaska "which are federally owned lands"); 36 C.F.R. § 13.65(a) (humpback whale protection regulations, expressly stating they are an exception to §§ 1.2(b) and 13.2(e) and therefore apply on all navigable waters within Glacier Bay National Park).

Indeed, in the Glacier Bay seal hunting case, the United States openly acknowledged the express limitation in 36 C.F.R. § 1.2(b) on its regulatory jurisdiction. See United States v. Brown, No. 94-30019, United States' brief to the Ninth Circuit Court of Appeals at 5-6, 9 (submitted May 12, 1994) (conceding that, for NPS general regulations to be enforceable against Mr. Brown, 36 C.F.R. § 1.2(b) requires that the United States prove either legislative jurisdiction over Glacier Bay National Park or ownership of the submerged lands in question). Thus, in dismissing the Brown prosecution, the United States recognized the unambiguous language of its regulations. The United States conceded it does not have legislative jurisdiction over Glacier Bay National Park, see id. at 5, and decided not to attempt to prove ownership of the submerged lands in that case.

Contrary to NPS' assertion in the Federal Register, both the language and intent of its 1983 and 1987 regulatory revisions were that NPS regulations did not apply to non-federally owned lands and waters, unless those lands and waters were under the legislative jurisdiction of the United States. See 48 Fed. Reg. 30252 at 30261, 30275 (June 30, 1983) (regulations do not apply to state owned inholdings within national park boundaries unless those areas are under the legislative jurisdiction of the United States).

The regulatory revision in 1987 simply "clarified" that state owned lands would

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lands and waters . . . within the boundaries of a park area.

2 For the reasons discussed in these comments, the State opposes the proposed deletion of this statement in 36 C.F.R. § 13.2(e).

be treated like privately owned lands, and NPS regulations would not apply as a matter of course to either private or state lands and waters within park boundaries. See 52 Fed. Reg. 12037 (April 14, 1987) (proposing to clarify that NPS regulations only would apply to state owned lands and waters within park boundaries if those areas were under the legislative jurisdiction of the United States); 52 Fed. Reg. 35238, 35239 (Sept. 18, 1987) (certain NPS regulations apply to non-federally owned lands and waters within park boundaries only if those areas are under the legislative jurisdiction of the United States).

For these reasons, it is at best misleading for NPS to characterize the proposed rule as a "clarification" and not a substantive extension of regulatory jurisdiction. The proposed action substantially extends NPS jurisdiction to areas not previously covered by its regulations. The exclusion of state owned lands and waters from prior and existing regulations was not "inadvertent" but by express design. By not acknowledging these facts in its December 5, 1995 Federal Register notice, NPS significantly understates the effect of its proposed rule.

C. The federal government has no authority to regulate waters within the boundaries of conservation system units where Alaska owns the submerged lands.

On the substance of NPS' proposed action, the State disagrees that NPS has authority to extend its regulatory jurisdiction to all waters within park system boundaries, including navigable waters, and without regard to ownership of submerged lands.

The State has consistently objected to previous attempts by NPS to grant itself such extraterritorial authority in proposed rulemaking, e.g., Alaska's comments dated Nov. 1, 1991 (regarding proposed rule published Aug. 5, 1991). We reiterate our objections to NPS' efforts to extend regulatory jurisdiction to lands and waters lawfully owned and managed by the State.[3]

The proposed extension of NPS authority appears to be particularly dramatic in Alaska. Numerous navigable waterways run through the exterior boundaries of nearly all of the thirteen multi-million acre park units in the state. These waterways are often used for transportation and for many other activities. Under the proposed rule, NPS would apparently

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3 Under the constitutional doctrine of equal footing and confirmed by the Submerged Lands Act of May 22, 1953, the Alaska Statehood Act of July 7, 1958, and the Alaska Constitution, the State of Alaska owns and therefore is responsible for the management of all water columns, shorelands, tidelands, and submerged lands, including the resources located within or on such lands and waters.

intend to regulate these activities. For example, under the proposed rule, NPS might require an NPS Commercial Use Permit for the commercial barging and ferry service interests currently operating on the navigable Yukon River as it passes through the Yukon-Charley Rivers Preserve, despite the fact that the State presently manages water uses, access and activities on those waters. Such an assertion of general jurisdiction is not permitted by the Alaska National Interest Lands Conservation Act (ANILCA) or other applicable law.

One of Congress' primary purposes in enacting ANILCA was to preserve vast quantities of lands and waters in Alaska. 16 U.S.C. § 3101. Congress implemented this purpose in part by creating "conservation system units" (CSUs). By definition, CSUs include any unit in Alaska of the National Park System. 16 U.S.C. § 3102(4).

However, not all lands within Glacier Bay National Park or other national park units in Alaska are included as part of the CSU. ANILCA section 103(c) states in relevant part:

> Only those lands within the boundaries of any conservation system unit which are public lands (as such term is defined in this Act) shall be deemed to be included as a portion of such unit.
>
> 16 U.S.C. § 3103(c).[4]

Similarly, in coastal areas, ANILCA section 103(a) excludes lands seaward of the mean high tide line from the boundaries of areas added by ANILCA to the National Park System. 16 U.S.C. § 3103(a).

ANILCA Section 103(c) further provides that those lands not included within the conservation system unit are not subject to federal regulation:

> No lands which, before, on, or after the date of enactment of this Act, are conveyed to the State, to any Native Corporation, or to any private party shall be subject to the regulations applicable solely to public lands within such units.
>
> 16 U.S.C. § 3103(c).

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4 The legislative history of ANILCA § 103(c) makes clear Congress' intent to exclude lands which are not owned by the U.S. from conservation system unit regulations. The history specifies that "only public lands (and not State or private lands) are to be subject to the conservation system unit regulations applying to public lands." 126 Cong. Rec. S15129-32 (daily ed. Dec. 1, 1980) (statement of Sen. Stevens).

Legislative history establishes that Congress took this action fully aware of Kleppe v. New Mexico, 426 U.S. 529 (1976) and its progeny, which might arguably support extension of federal regulatory control over non-federally owned lands.[5] Congress directly and knowingly limited federal regulatory authority to "public lands" within conservation system units and specifically exempted inholdings from regulation. 16 U.S.C. § 3103(c). NPS recognized this fact in promulgating 36 C.F.R. § 13.2(e). See 46 Fed. Reg. 31836, 31843 (June 17, 1981) (ANILCA §§ 103(c) and 906(o) restrict the applicability of NPS regulations to federally owned lands within park boundaries; therefore, 36 C.F.R. § 13.2(e) applies only to federally owned lands).

In the case of parks in Alaska, any submerged lands underlying navigable waters within park boundaries are "inholdings" belonging to the State of Alaska. See Submerged Lands Act of 1953, 43 U.S.C. § 1311(a); Utah Div. of State Lands v. United States, 482 U.S. 193 (1987). Federal regulation does not apply to these waters.[6] The NPS therefore does not have authority to regulate navigable waters within park boundaries regardless of ownership.

If identical regulations addressing both state and federally owned lands or waters are particularly desirable in certain instances or for certain issues, the State encourages NPS to discuss these with the appropriate state regulatory entity. Through a cooperative effort, the goal of consistent regulation of especially significant issues can be lawfully achieved. Without State consent and cooperation, however, NPS may not extend its regulatory jurisdiction as proposed.

D. The proposed rule is premature given that the definition of "public lands," over which ANILCA permits some federal regulation, is still in question.

As noted earlier, the Federal Register notice does not address the proposed rule's potential effect on the implementation of ANILCA's Title VIII subsistence priority, and the State requests that NPS address the rule's implications for subsistence management and

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5 The State does not concede this authority. While there is case law in the Eighth Circuit that appears to support this contention, the question of extra-territorial regulation is not yet resolved. In any event, NPS does not purport to rely on Congress' Property Clause power to justify this proposed action.

6 The fact that ANILCA (and existing NPS regulations) specifically exclude state lands and waters from NPS general jurisdiction is also reflected in the General Management Plans adopted for park units in Alaska.

policy.[7]

ANILCA specifically limits federal regulatory authority in conservation system units to "public lands." Accordingly, federal jurisdiction depends on whether the waters in question constitute "public lands" as defined in ANILCA.

Although the State asserts the definition of "public lands" does not include any navigable waters where the state owns the submerged lands, this question is currently unresolved. The Alaska Supreme Court's decision in Totemoff v. State, as well as Judge Hall's dissent from the Ninth Circuit opinion in State of Alaska v. Babbitt (also commonly known as the "Katie John" case), conclude that navigable waters are not "public lands" under ANILCA. See Totemoff v. State, 905 P.2d 954 (Alaska 1995); State of Alaska v. Babbitt, ___ F.3d ___, 1995 WL 749795 (9th Cir., Dec. 19, 1995). This issue is presently before the U.S. Supreme Court on a petition for certiorari. Accordingly, the NPS should withdraw these regulations until they can be reassessed in light of the Babbitt litigation once it has been finalized.

E. The NPS has failed to show other authority for its proposed action.

NPS asserts that Congress' Commerce Clause power provides authority for NPS' regulation of non-federally owned lands and waters within park boundaries. However, NPS fails to explain where it derives its Commerce Clause power, and how its power is co-extensive with Congress' Commerce Clause powers.

Moreover, even assuming NPS has some authority to regulate pursuant to the Commerce Clause, the United States Supreme Court has confirmed that the Commerce Clause power is not unlimited. See United States v. Lopez, ___ U.S. ___, 115 S. Ct. 1624 (1995). To rely on this power, NPS must satisfy traditional Commerce Clause analysis, including a showing as to how the regulated activities "substantially affect" interstate commerce. Id. at 1629-30.

NPS' Federal Register notice makes no effort to undertake a Commerce Clause analysis, and the state does not agree that the Commerce Clause permits the proposed action. Cf. State of Alaska v. Babbitt, ___ F.3d ___, 1995 WL 749795 (9th Cir., Dec. 19, 1995) (majority opinion concludes that Congress did not intend to exercise its Commerce Clause authority to regulate subsistence fishing in Alaska's navigable waters; dissenting opinion

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7 Along this line, we note that the proposed revision to 36 C.F.R. § 13.2(c) deletes Sitka National Historical Park from the list of park units where subsistence activities are prohibited. This change is not addressed by NPS in its notice.

concludes that subsistence fishing in navigable waters does not "substantially affect" interstate commerce).[8]

Nor does NPS otherwise justify its authority to extend general regulatory jurisdiction over non-federally owned waters within park boundaries. NPS cites to 16 U.S.C. § 1a-2(h); however, the authority set forth therein is limited. That section permits NPS to promulgate and enforce regulations concerning boating and related activities; it does not provide general jurisdiction over non-federally owned waters within park boundaries. Likewise, the fact that NPS may enforce Coast Guard regulations on navigable waters within park boundaries does not provide authority over navigable waters for other purposes.

As examples of its asserted authority, NPS cites park-specific regulations that have applied on navigable waters within certain parks. However, these limited instances do not justify this proposed rule. In the case of Glacier Bay National Park, the State cooperated with the National Marine Fisheries Service and NPS in the adoption of regulations deemed necessary to protect whales. These special whale regulations were identified as an exception to NPS' general regulatory authority. See 13 C.F.R. §13.65(a), (b)(2). This example does not imply that NPS has jurisdiction to enact other regulations applying to waters owned by the State.

F. Proposed definitional changes are inconsistent with existing law.

Though the State's objections to NPS' proposed definitional changes should be clear from the preceding comments, we address the following comments specifically to NPS' proposed definitional revisions.

NPS' proposed revision of "boundary" at 36 C.F.R. § 1.4 would broadly include "the limits of lands or waters administered by the National Park Service" as "published or posted by the National Park Service." This definition grants to NPS the ability to define "boundaries" essentially as it chooses, on a case-by-case basis.

This definition is not permissible under ANILCA. ANILCA Section 103 directs that the conservation system units created by ANILCA shall have specific and defined boundaries. 16 U.S.C. § 3103 (a), (b), (c). Pursuant to the mandate in ANILCA § 103(b),

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8 In any case, even if the proposed action could be justified under a Commerce Clause analysis, the Submerged Lands Act expressly limits that authority as it applies to this situation. See 43 U.S.C. § 1311(a) (confirming state title and ownership of lands beneath the navigable waters within the states, as well as the natural resources within those lands and waters, and providing states rights to manage those lands and natural resources).

NPS published in 1992 a legal description of the external boundaries of national park units established or expanded by ANILCA. 57 Fed. Reg. 45166 (Sept. 30, 1992).

As a result of these authorities, the proposed definition of "boundary" would conflict with the determined boundaries of park units and with ANILCA's defined areas of NPS authority. NPS is not free to ignore these existing legal boundaries, nor may it grant itself authority to amend park boundaries simply by posting a notice of intent. Accordingly, NPS may not broadly revise "boundary" as proposed.[9]

The proposed revision to 36 C.F.R. § 13.2(e), including the revised definition of "federally owned lands," likewise is not permitted by ANILCA. Under ANILCA, "federally owned lands" include lands, title to which is in the Untied States. 16 U.S.C. § 3102. Thus, State and privately owned lands cannot be defined as "federally owned lands," as they apparently would be under the proposed rule. ANILCA prohibits this definitional change, as well as NPS' attempt to extend its jurisdiction to state owned lands and waters.

G. No notice of the proposed rule was provided to the State despite ongoing meetings with NPS regarding Glacier Bay National Park.

To promote cooperation between state and federal resource managers, Alaska agency representatives participate in quarterly meetings with the NPS field director to discuss issues involving park units in Alaska. In addition, state representatives and commercial fishing interests have embarked upon good faith discussions with NPS to resolve potential conflicts arising from activities on state waters adjacent to Glacier Bay. In fact, on December 5, 1995, the day this proposed rule was published in the Federal Register, the Superintendent of Glacier Bay National Park met with state representatives, fishermen, special interest groups and others to seek cooperative resolution of problems related to activities on waters adjacent to the park.

The State is troubled that, despite these ongoing meetings, NPS provided no notice of the proposed extension of NPS regulations over all navigable waters within park boundaries, regardless of ownership, especially since the seal hunting case in Glacier Bay inspired the proposed rulemaking.

To avoid compromising the effectiveness of these ongoing cooperative efforts,

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9 Similarly, NPS may not use such a broadened definition of "boundary" to assert general jurisdiction over state-owned lands and waters administered by NPS pursuant to a cooperative agreement. NPS and the State have entered into several cooperative agreements which grant NPS some limited administrative authority over state lands or waters. We do not contemplate that these agreements can be construed to permit broader federal authority over these areas.

the State urges the NPS field office to alert us of pending rulemakings in the future and to promote discussion of the issues involved.

Conclusion

The State disagrees that NPS has authority to extend its regulatory jurisdiction to all navigable waters within park boundaries regardless of ownership of the submerged lands. Consistent with the above discussion, the state requests that NPS withdraw the proposed rule.

HOUSE CS FOR SENATE JOINT RESOLUTION NO. 30(RES)

IN THE LEGISLATURE OF THE STATE OF ALASKA

TWENTY-SECOND LEGISLATURE - FIRST SESSION

BY THE HOUSE RESOURCES COMMITTEE

Offered: 5/3/01
Referred: Labor and Commerce, Judiciary

Sponsor(s): SENATE TRANSPORTATION COMMITTEE

A RESOLUTION

Urging the United States Forest Service to acknowledge all of the rights of the state to rights-of-way to state highways that pass through federal land.

BE IT RESOLVED BY THE LEGISLATURE OF THE STATE OF ALASKA:

WHEREAS the State of Alaska owns, maintains, and operates hundreds of miles of state roads and highways that pass through federal land; and

WHEREAS some federal agencies, through aggressive, unwarranted, and unlawful actions, have attempted to erode the state's ownership and authority over the use of these highways and appurtenant public facilities located within the rights-of-way; and

WHEREAS the most recent and egregious instance of this aggressive federal action occurred in Yakutat, where the United States Forest Service has attempted to require a permit for commercial hauling on that portion of Forest Highway 10 in the north Tongass National Forest, over which the state has for decades had exclusive management and maintenance authority; and

WHEREAS the Forest Service has attempted to control access to one of the state's navigable waterways by limiting use of a boat launch located entirely within the right-of-way of Forest Highway 10; and

4322

2001 Previous Legislation

WHEREAS the aggressive assertion of authority by the Forest Service in Yakutat bodes ill for state highways and appurtenant facilities located within the state's rights-of-way throughout the Tongass and Chugach National Forests; and

WHEREAS a precedent set by the Forest Service at Yakutat could provide an open door for it and other aggressive federal agencies that control land surrounding state highways and facilities throughout Alaska;

BE IT RESOLVED that the Alaska State Legislature urges the United States Forest Service to recognize that the State of Alaska has sole authority to control public access and use of rights-of-way for all state highways passing through Forest Service lands.

COPIES of this resolution shall be sent to the Honorable Ann Veneman, United States Secretary of Agriculture; the Honorable Gale Norton, United States Secretary of the Interior; and to the Honorable Ted Stevens and the Honorable Frank Murkowski, U.S. Senators, and the Honorable Don Young, U.S. Representative, members of the Alaska delegation in Congress.

SJR

13

Shalon Szymanski

From: LIO Tok
Sent: Monday, March 30, 2009 12:07 PM
To: Michelle Sydeman; Shalon Szymanski
Subject: FW: SJR-13 Written Testimony for Mar 30 RES Meeting

Hello Senate Resource Committee aides!

Can you ensure that Mr. Floyd's testimony is placed in the committee folders for SJR13? As you can see, Mr. Floyd emailed his testimony to all committee members' individual email addresses, but he would like to know that the testimony also resides in the committee folders. The SRES will hear SJR13 today at 330pm. Thank you kindly and I hope you both have a good week.

~~~~~~~~~~~~~~~~~~~~~~~~~~

Jan Jackson
Tok Legislative Information Officer
Tok_LIO@legis.state.ak.us
(907) 883-5020

From: J Floyd [mailto:j.floyd.usaf.ret@hotmail.com]
Sent: Monday, March 30, 2009 11:59 AM
To: Sen. Lesil McGuire; Sen. Bill Wielechowski; Sen. Charlie Huggins; Sen. Hollis French; Sen. Bert Stedman; Sen. Gary Stevens; Sen. Tom Wagoner
Cc: LIO Tok; Sen. Albert Kookesh; Rep. Woodie Salmon
Subject: SJR-13 Written Testimony for Mar 30 RES Meeting

Dear Sir/Ma'am

SJR-13 urges ratification of the international Law of the Sea Treaty (LOST). Of primary concern to many of the critics of this treaty is US sovereignty. I strongly urge the Alaskan Senate Resources Committee to investigate the arguments against LOST before recommending ratification of a treaty that would hold the same legal weight as the US Constitution and to investigate why attempts to ratify this treaty failed in 2004, and again in 2007.

Some of the more alarming revelations about this United Nations treaty came from the US Senate Committee on Foreign Relations itself in 2007. Entire news articles were written back then based on this information. I've included a transcript of Senator Vitter questioning United States Deputy Secretary of State John Negroponte and others for your consideration.

Thank you for the opportunity to provide input to those that represent the people of the great state of Alaska.

James Floyd
Tok, AK
j.floyd.usaf.ret@hotmail.com

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http://frwebgate.access.gpo.gov/cgi-bin/getdoc.cgi?dbname=110_senate_hearings&docid=f:45282.wais
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Transcript of Senator Vitter questions on Sep 27, 2007 in US Senate Committee on Foreign Relations

Participants:
--Deputy Secretary of Defense Gordon England

--United States Deputy Secretary of State John Negroponte

--John Bellinger III, Legal Adviser to the U.S. Secretary of State

--U.S. Sen. David Vitter

--Senator Webb, sitting for Joseph R. Biden, Jr-Chairman, Senate Foreign Relations Committee

[transcript follows]
Senator Webb. Senator Vitter.
Senator Vitter. Thank you all for being here and, more importantly, thank you all for your service.
My concerns about the treaty concern our military and our sovereignty. We have discussed, and you made a very important point earlier, that military activities are not subject to review by arbitration panels or the International tribunal of Law of the Sea under the treaty. However, I still have a significant outstanding concern that has not been addressed: Who decides what is, and what is not, a military activity?
Mr. Negroponte. We will decide that.
Senator Vitter. Where does----
Mr. Negroponte. We consider that within our sovereign prerogative.
Senator Vitter. Where does the treaty say that we determine what constitutes a military activity and that an arbitral body does not have the authority to rule on this as a term of the treaty?
Mr. England. My understanding, and I'll ask, I guess, my lower behind me, that that's in the treaty, that we make that determination and that's not subject to review by anyone else.
Senator Vitter. It's not in the treaty. I'd like to point you to Article 298(1)(B), where it simply says, ``Disputes concerning military activities are not subject to dispute resolution.'' What the treaty fails to address is who has the authority to determine what is and what is not in fact a military activity.
Mr. England. No; you're right. In my confusion, I believe as in the resolution, the basic consent that in 2003--is that correct--it went, came before the Senate, so that would be a provision of approval. So, we would reserve that right as part of our approval of this Convention. Have I said that right?
Senator Vitter. But that provision, which is in the Resolution of Ratification, is our language. This language is not included in the treaty. And the treaty says, specifically in article 309, that the treaty is the treaty; no reservations or exceptions may be made to the treaty's provisions. The fact that we are concerned enough about the issue of military activities that we've included it in the Resolution of Ratification only heightens my concern.
Mr. Bellinger. Could I take a crack at that?

Senator Vitter. Including an exception insisting that only we can define what constitutes military activities for our own military in the resolution simply serves to highlight that it's not in the treaty.

Mr. Bellinger. With respect to almost all treaties, there are vague terms in the treaties. And if they're not defined, then a country will take understandings as to how it understands certain terms to be accepted. And this is a regular thing that this committee does. So in this case, with military activities not defined in the treaty, it is up to the countries to decide what that is going to mean.

And in this case, we are sufficiently concerned that we want to make clear, that we decide, that we would put that in as an understanding, as part of the Senate's understanding. And this is a very common practice, almost all treaties that the Senate approves have got some understandings as to what the shared understanding between the Executive and the Senate is, with respect to particular terms.

Senator Vitter. Right. My point is, just because this may be our understanding, it does not necessarily follow that it is the understanding of other signatories to the treaty. Is that correct?

Mr. England. Can I ask the Admiral to make a comment, who's behind me, who is our legal counsel. Because I believe there are declarations that are allowed and this is one of the declarations. Could I have my legal just comment?

Senator Vitter. Sure.

Mr. England. Because this is a technical but hugely important point.

Rear Admiral MacDonald. Senator, you're correct in saying that the treaty doesn't allow reservations to be taken. It specifically says you can not take a reservation to the treaty. But it does specifically provide that you can take, you can make a declaration. And that's what we're going to take if the Senate approves the treaty and the Resolution of Advice and Consent, we would make this a declaration, that the United States alone determines what is or is not a military activity. Other nations have taken the military activities exemption. When this was debated back in 2004, this was an issue in 2004, and after the debate, the PRC, the Chinese came in, and took the military activities exemption.

Senator Vitter. Let me rephrase my concern another way. Isn't it true that there would be nothing to prevent another country, with a different understanding about U.S. military activities, to bring a dispute regarding what is, or is not, a U.S. military activity to this mandatory arbitral process, to which we would be bound?

Mr. Bellinger. Senator, they can always try, but the treaty specifically states that parties may opt out of any disputes having to do with military activity. All other major countries have done that and we would do that.

Senator Vitter. The other country does not agree that the matter concerns a military activity. The disagreement would be about defining what is, and what is not, a military activity as a term in the treaty about which two members disagree. This type of dispute falls under the treaty.

Mr. Bellinger. It is up to countries to decide what are their own military activities.

Senator Vitter. That was my first question, Where does it say that in the treaty?

Mr. Bellinger. Unless an interpretation is contrary to the object and purpose of a treaty, it is going to be up to a country to decide what those terms mean. And this is, in fact, an issue that we've thought about. It's one reason why the administration recommended in the Resolution of Advice and Consent that we be very clear on this point. But I would defer to my military contacts when they say its a risk.

Senator Vitter. I have limited time, so I want to go on to some other things.

I would just say that the fact that this is actually included in the Resolution for Ratification heightens my concern. It underscores the fact that the treaty doesn't include this protection. We attempt to tack it on in the resolution.

But let me go on to some other points and related issues: Are intelligence activities included as military activities?

Mr. England. The question: Are they affected?

Senator Vitter. Are intelligence activities considered to be excluded from the treaty's jurisdiction as a military activity?

Mr. England. To the best of my knowledge they are. Again, Bruce, do you have a--can you help me specifically to the language. You need to answer.

Mr. Bellinger. Senator, why don't I take a crack at that also? It would be up to us to determine that there's nothing in the treaty that limits our intelligence collection activities.

Senator Vitter. No.

Mr. Bellinger. It would be up to us, if we considered an intelligence activity to be a military activity. And you've heard the Senate Intelligence Committee assure us that they do not think it would interfere with our intelligence activities.

Senator Vitter. Well again, this has heightened my concern, because we say it would be up to us, yet no other treaty signatory has agreed to this. And to help demonstrate about how parties can disagree on this point, around Capitol Hill, for instance, in terms of committee jurisdiction, we consider intelligence a distinct category separate from the military issues. So, that's really heightening my concern.

If I could have 1 or 2 more minutes, Mr. Chairman.

Senator Webb. Certainly.

Senator Vitter. Thank you very much.

Another concern is regulation of domestic activity. It seems to me the treaty clearly states jurisdiction over land-based pollution sources. Why do we want to open that Pandora's Box?

Mr. Bellinger. Senator, **I think it clearly does not allow regulation over land-based pollution sources. That would stop at the water's edge.** As far as, at least dispute resolution involving them, there can be limitations on the pollution that could emanate, but as far as the ability of any other country to complain and bring us to dispute resolution over pollution that would come from land, **that's not permitted under the treaty.**

Senator Vitter. **Well Article 213 says, ``States shall enforce their law on and shall--shall,'' mandatory, ``adopt laws and regulations and take other measures necessary to implement applicable international rules and standards established through competent international organizations or diplomatic conference to prevent, reduce, and control pollution.'' Well, it sounds to me like the Kyoto Protocol is**

an international standard and we shall pass laws to enforce that.

Mr. Bellinger. Well, this is not a backdoor way to subject us to the Kyoto Protocol. There is no way that the standard, that those standards could be standards that someone could subject us to in dispute resolutions.

Senator Vitter. Why? The treaty states we shall pass laws to enforce international environmental standards. So why couldn't a state clearly take us before the Tribunal or Arbitration Panel to say, ``You're not doing that. You need to heighten environmental laws A, B, C, D, and E.''

Mr. Negroponte. There are some environmental issues that are the subject of international agreements, such as ocean dumping, for example. But the--**when you talk about land-based pollution, our view is that that's just not covered by the treaty, Senator. I think that's the point, that we believe that there is no jurisdiction over marine pollution disputes involving land-based sources.**

Senator Vitter. **If it is not covered by the treaty, why is there a section entitled, ``Pollution From Land-Based Sources''?**

Mr. Bellinger. It's just the dispute resolution. The treaty has got a number of general hortatory provisions, but the dispute resolution mechanisms are extremely limited for this very reason. We wanted dispute resolution to have things we could use in our favor. If our vessels were seized, people didn't let us go through their territorial seas.

Senator Vitter. **Let me follow up on your answer, because section 6, specifically and directly deals with enforcement of the treaty's land-based pollution provisions. You said it's not part of the dispute resolution process, but section 6, is titled ``Enforcement.'' The article is titled, ``Enforcement With Respect to Pollution From Land-Based Sources.'' Why is that article there if there is no enforcement, with regard to pollution from land-based sources?**

Mr. Bellinger. I think this gets sufficiently technical. We have worked our way through the treaty, we are confident that pollution from land-based sources would not be subject to the jurisdiction of the tribunals or arbitral panels, but we're happy to write it down for you on paper and get it to you, Senator.

Senator Vitter. **Well, I would point you to section 6, article 213, page 176, which is about enforcement, with respect to pollution from land-based sources. It seems to me, the very title of that article at least sets up a prima facie case that your statement isn't correct.**

Mr. Bellinger. We will have a look at it, Senator. Although again, the bigger picture of the enormous national security benefits of the treaty, and certainly our military will tell you that they would not enter into anything where they thought there would be legal risks to the military. But we will--we will have a close look at the provision on land-based pollution.

Senator Webb. Would the Senator----

Senator Vitter. Thank you.

Senator Webb [continuing]. Be amenable to receiving a response in writing, within a reasonable--like a really reasonable period of time addressing this point?

Senator Vitter. Sure.

[The submitted written response by Mr. Bellinger to the

requested information follows:]

The Convention addresses various forms of marine pollution, including pollution from land-based sources (for example, article 207).

However, alleged marine pollution by the United States from land-based sources is not subject to dispute settlement under the Convention, whether by the Tribunal, arbitration, or otherwise. Because of the sensitivities of coastal states concerning their land-based (and certain other) activities, the Convention sets forth limitations on the obligations related to marine pollution that can be subject to dispute settlement.

Specifically, article 297(1)(c) provides that only certain coastal state obligations related to marine pollution are subject to dispute settlement. Among other things, there needs to be a ``specified'' international rule or standard ``applicable'' to the coastal state.

In the case of land-based sources of marine pollution, the Convention does not obligate the coastal state to follow an international rule or standard, much less a specified one. On the contrary, recognizing the sensitivity surrounding land-based activities, under article 207, coastal states are merely to ``take into account'' internationally agreed rules, standards, etc.

Thus, there are no specified rules regarding land-based sources that are applicable to the United States that would be subject to dispute settlement. (It should be noted that, even if there were specified rules/standards applicable to the United States, article 207 would not require the coastal state to follow such standards, just to take them into account.)

The ``enforcement'' provisions in part XII (such as article 213) do not address party-to-party dispute settlement. Rather, they either allocate enforcement responsibilities as among flag states, port states, and coastal states or they address enforcement by parties vis-a-vis private actors, such as their flag vessels or foreign flag vessels.

In the case of land-based sources, article 213 provides for parties to enforce their respective land-based sources laws and to implement ``applicable'' international rules. It does not address party-to-party dispute settlement, which is covered by article 297 and other provisions in the dispute settlement chapter.

Senator Webb. All right. Thank you. And on one follow-on question before we close the hearing. I want to make sure that, for the record, your position on the other point that Senator Vitter mentioned, is clearly stated. Let me just ask you if my understanding is correct. I believe what you were saying, if, looking at article 298. It basically exempts disputes concerning military activities, but from my reading of it, is silent as to what the enforcement mechanism would be. And as someone who used to draft legislation here, I'm not sure this directly applies, but I want to, this is my understanding, what your position is, that anytime legislation is silent, existing law prevails. And anytime this sort of treaty provision is silent, it goes back to the law of the individual country involved. Is that essentially what you're saying?

Mr. Bellinger. Yes, sir. We specifically negotiated the treaty and at--we had the same interests as other major powers, like the Russians or Chinese, who certainly did not want to have their military activities subject to dispute resolution. So we had a commonality of interests here, to have a provision that allowed us in the treaty, to opt out of any dispute resolution involving our military activities. That's a right

you have under the treaty and we would do that. Then, the Senator has raised a fair question, as to, who decides what's a military activity. It's not defined in the treaty, so under general treaty practice, if it's not contrary to language in the treaty, it would be up to us to decide.

Senator Webb. Right.

Mr. Bellinger. And I'm sure that other major countries would take exactly the same position.

Senator Webb. That was my understanding of what you were saying. I wanted to make sure we had that clear for the record.

Senator Vitter. Mr. Chairman, if I can follow up----

Senator Webb. Yes.

Senator Vitter [continuing]. On that very briefly. First, I am concerned that, when the treaty is silent about defining what constitutes military activities, and the treaty sets up, specifically, a mandatory dispute resolution mechanism to settle differences regarding interpretation of the treaty's terms, it would be a very reasonable position to assert that the dispute resolution mechanism can be utilized to determine what constitutes a military, and a nonmilitary activity.

Second, I'm particularly concerned that we think, and hope, intelligence is considered military, but that this certainly isn't stated in the treaty text. And around here, just again to use Capitol Hill as an example, with committee jurisdictions et cetera, intelligence is treated as a very distinct smokestack from military activities.

Senator Webb. Well, the Senator has made his point. And again, we have the letters from the chairman of the Intelligence Committee and the ranking member, but his point is appreciated and we will examine it.

This series of hearings will continue next week with other witnesses. Gentlemen, we thank you very much for your time today.

And the hearing is adjourned.

[Whereupon, at 4:24 p.m., the hearing was adjourned.]

Referenced Articles of LOST in this transcript:
http://www.un.org/Depts/los/convention_agreements/texts/unclos/closindx.htm

SECTION 6. ENFORCEMENT

Article 213

Enforcement with respect to pollution from land-based sources

States shall enforce their laws and regulations adopted in accordance with article 207 and shall adopt laws and regulations and take other measures necessary to implement applicable international rules and standards established through competent international organizations or diplomatic conference to prevent, reduce and control pollution of the marine environment from land-based sources.

Article 298

Optional exceptions to applicability of section 2

1. When signing, ratifying or acceding to this Convention or at any time thereafter, a State may, without prejudice to the obligations arising under section 1, declare in writing that it does not accept any one or more of the procedures provided for in section 2 with respect to one or more of the following categories of disputes:

//snip//

ALASKA STATE LEGISLATURE

Sponsor Statement: SJR 13

SJR 13 urges the United States Senate to ratify the United Nations Convention on the Law of the Seas. Ratification of this treaty will protect American interests related to use and development of the seas off the coast of Alaska, with significant potential benefits to the state of Alaska.

The Law of the Seas was established in 1982 to update outdated laws governing the world's oceans. The Law of the Seas Treaty provides a legal framework for ocean activities including economic development, claim disputes, scientific research, environmental protection, and defense.

Estimates suggest that the Arctic contains 25% of the world's undiscovered oil and gas resources. With high energy prices and a dwindling oil supply, the Arctic offers great potential to meet future energy demands. Of the 155 countries that have ratified the treaty, Russia, Norway, Denmark and Canada have made Arctic claims, giving the United States incentive to do the same.

In 1994 President Bill Clinton signed the treaty; however, the Senate has yet to ratify it, rendering the U.S. the only Arctic nation which hadn't signed. In 2007 President George W. Bush called on the Senate to ratify the treaty, and the Senate Foreign Relations Committee demonstrated overwhelming support with a 17-4 vote. Senators Lisa Murkowski and Mark Begich both favor ratification. Earlier this year, Senator Lisa Murkowski announced her support for ratification, highlighting the great economic potential Alaska's interests. It is likely the United States Senate will vote soon on its ratification.

Recent geological surveys suggest that there could be a seabed extension the size of California that lies beyond Alaska's 200 nautical mile exclusive economic zone. The Law of the Seas Treaty permits countries the right to expand beyond their 200 exclusive economic zone, under certain conditions. If the United States ratifies the Law of the Seas treaty, it is possible the 200 nautical mile exclusive economic zone could be extended.

Without ratification United States will be denied opportunities to make claims as well as participate in future policy decisions.

Background on the Law of the Sea Treaty:

- The Law of the Sea Treaty recognizes countries' sovereign rights over a 200-nautical-mile exclusive economic zone for resource development, exploration, conservation, and energy production.

- Since 1983 the United States has been in voluntary compliance with the Law of the Sea Treaty; however, mere compliance does not allow U.S. participation in treaty processes or protection under treaty terms.

- Member nations may expand their 200-nautical-mile exclusive economic zone if they meet certain provisions, such as proving that their continental seabed extends beyond this area.

- In 1994, amendments were made to this treaty which addressed President Ronald Reagan's concerns regarding deep seabed mining provisions, including a guaranteed position for the U.S. on the International Seabed Authority and elimination of mandatory technology transfers and non-market based controls on levels of mineral production.

- Ratifying the treaty does not weaken U.S. sovereignty; it actually increases it by allowing more jurisdiction over claims and permits the U.S. to participate in policymaking as a member of the International Seabed Authority.

- In 2001, a study conducted by the University of New Hampshire found that the continental shelf off Alaska may permit the U.S. to lay claim to an area approximately the size of California.

- The U.S. is the only Arctic nation that has not ratified the Law of the Sea Treaty. Currently 155 countries worldwide are signatories.

- Ratification supporters include President Bill Clinton, President George W. Bush, President Barack Obama, Senators Lisa Murkowski and Mark Begich, the International Association of Drilling Contractors, the National Fisheries Institute, Former Chairman of the Joint Chiefs of staff General Richard Meyers, the Navy League of the United States, Oceana and others.

- Until the U.S. ratifies the Law of the Seas Treaty, it will remain an observer to the International Seabed Authority, rather than a participant.

Ratifying the Law of the Sea Treaty offers Alaska tremendous benefits associated with an extended exclusive economic zone. If we do not sign, we risk surrendering our interests to other countries.

Myths and Realities of the Convention on the Law of the Sea

Taken from the written testimony of John D. Negroponte, Deputy Secretary of State, before the Senate Foreign Relations Committee, 9/27/2007

Certain arguments against U.S. accession are simply inaccurate. And other arguments are outdated, in the sense that they may have been true before the deep seabed mining provisions were fixed and thus are no longer true. I would like to address some of these "myths" surrounding the Convention:

Myth: Joining the Convention would surrender U.S. sovereignty.

Reality: On the contrary. Some have called the Convention a "U.S. land grab." It expands U.S. sovereignty and sovereign rights over extensive maritime territory and natural resources off its coast, as described earlier in my testimony. It is rare that a treaty actually increases the area over which a country exercises sovereign rights, but this treaty does. The Convention does not harm U.S. sovereignty in any respect. As sought by the United States, the dispute resolution mechanisms provide appropriate flexibility in terms of both the forum and the exclusion of sensitive subject matter. The deep seabed mining provisions do not apply to any areas in which the United States has sovereignty or sovereign rights; further, these rules will facilitate mining activities by U.S. companies. And the navigational provisions affirm the freedoms that are important to the worldwide mobility of U.S. military and commercial vessels.

Myth: The Convention is a "UN" treaty and therefore does not serve our interests.

Reality: The Convention is not the United Nations - it was merely negotiated there, as are many agreements, and negotiated by States, not by UN bureaucrats. Further, just because a treaty was drawn up at the UN does not mean it does not serve our interests. For example, the United States benefits from UN treaties such as the Convention Against Corruption and the Convention for the Suppression of Terrorist Bombings. The Law of the Sea Convention is another such treaty that serves U.S. interests.

Myth: The International Seabed Authority (ISA) has the power to regulate seven-tenths of the Earth's surface.

Reality: The Convention addresses seven-tenths of the earth's surface; the ISA does not. First, the ISA does not address activities in the water column, such as navigation. Second, the ISA has nothing to do with the ocean floor that is

subject to the sovereignty or sovereign rights of any country, including that of the United States. Third, the ISA only addresses deep seabed mining. Thus, its role is limited to mining activities in areas of the ocean floor beyond national jurisdiction. It has no other role and no general authority over the uses of the oceans, including freedom of navigation and overflight.

Myth: The Convention gives the UN its first opportunity to levy taxes.

Reality: Although the Convention was negotiated under UN auspices, it is separate from the UN and its institutions are not UN bodies. Further, there are no taxes of any kind on individuals or corporations or others. Concerning oil/gas production within 200 nautical miles of shore, the United States gets exclusive sovereign rights to seabed resources within the largest such area in the world. There are no finance-related requirements in the EEZ. Concerning oil/gas production beyond 200 nautical miles of shore, the United States is one of a group of countries potentially entitled to extensive continental shelf beyond its EEZ. Countries that benefit from an Extended Continental Shelf have no requirements for the first five years of production at a site; in the sixth year of production, they are to make payments equal to 1% of production, increasing by 1% a year until capped at 7% in the twelfth year of production. If the United States were to pay royalties, it would be because U.S. oil and gas companies are engaged in successful production beyond 200 nautical miles. But if the United States does not become a party, U.S. companies will likely not be willing or able to engage in oil/gas activities in such areas, as I explained earlier.

Concerning mineral activities in the deep seabed, which is beyond U.S. jurisdiction, an interested company would pay an application fee for the administrative expenses of processing the application. Any amount that did not get used for processing the application would be returned to the applicant. The Convention does not set forth any royalty requirements for production; the United States would need to agree to establish any such requirements.

In no event would any payments go to the UN, but rather would be distributed to countries in accordance with a formula to which the United States would have to agree.

Myth: The Convention would permit an international tribunal to second-guess the U.S. Navy.

Reality: No international tribunal would have jurisdiction over the U.S. Navy. U.S. military activities, including those of the U.S. Navy, would not be subject to any form of dispute resolution. The Convention expressly permits a party to

exclude from dispute settlement those disputes that concern "military activities." The United States will have the exclusive right to determine what constitutes a military activity.

Myth: The International Tribunal for the Law of the Sea could order the release of a vessel apprehended by the U.S. military.

Reality: The Tribunal has no jurisdiction to order release in such a case. Its authority to address the prompt release of vessels applies only to two types of cases: fishing and protection of the marine environment. Further, even if its mandate did extend further - which it does not - the United States will be taking advantage of the optional exclusion of military activities from dispute settlement. As such, in no event would the Tribunal have any authority to direct the release of a vessel apprehended by the U.S. military.

Myth: The Convention was drafted before - and without regard to - the war on terror and what the United States must do to wage it successfully.

Reality: The Convention enhances, rather than undermines, our ability to wage the war on terror. Maximum maritime naval and air mobility is essential for our military forces to operate effectively. The Convention provides the necessary stability and framework for our forces, weapons, and materiel to get to the fight without hindrance. It is essential that key sea and air lanes remain open as a matter of international legal right and not be contingent upon approval from nations along those routes. The senior U.S. military leadership - the Joint Chiefs of Staff - has recently confirmed the continuing importance of U.S. accession to the Convention in a letter to the Committee.

Myth: The Convention would prohibit or impair U.S. intelligence and submarine activities.

Reality: The Convention does not prohibit or impair intelligence or submarine activities. Joining the Convention would not affect the conduct of intelligence activities in any way. This issue was the subject of extensive hearings in 2004 before the Senate Select Committee on Intelligence. Witnesses from Defense, CIA, and State all confirmed that U.S. intelligence and submarine activities are not adversely affected by the Convention. We follow the navigational provisions of the Convention today and are not adversely affected; similarly, we would not be adversely affected by joining.

Myth: The United States can rely on use or threat of force to protect its navigational interests fully.

Reality: The United States has utilized diplomatic and operational challenges to resist the excessive maritime claims of other countries that interfere with U.S. navigational rights. But these operations entail a certain degree of risk, as well as resources. Being a party to the Convention would significantly enhance our efforts to roll back these claims by, among other things, putting the United States in a stronger position to assert our rights.

Myth: Joining the Convention would hurt U.S. maritime interdiction efforts under the Proliferation Security Initiative (PSI).

Reality: Joining the Convention would not affect applicable maritime law or policy regarding the interdiction of weapons of mass destruction. PSI specifically requires participating countries to act consistent with international law, which includes the law reflected in the Convention. Almost all PSI partners are parties to the Convention. Further, joining the Convention is likely to strengthen PSI by attracting new cooperative partners.

Myth: President Reagan thought the treaty was irremediably defective.

Reality: As explained above, President Reagan identified only certain deep seabed mining provisions of the Convention as flawed. His 1983 Ocean Policy Statement demonstrates that he embraced the non-deep-seabed provisions and established them as official U.S. policy. The 1994 Agreement overcomes each of the objections to the deep seabed mining provisions identified by President Reagan. As President Reagan's Secretary of State, George P. Shultz, noted in his recent letter to Senator Lugar, "It surprises me to learn that opponents of the treaty are invoking President Reagan's name, arguing that he would have opposed ratification despite having succeeded on the deep sea-bed issue. During his administration, with full clearance and support from President Reagan, we made it very clear that we would support ratification if our position on the sea-bed issue were accepted."

Myth: The Convention provides for mandatory technology transfer.

Reality: Mandatory technology transfer was eliminated by the 1994 Agreement that modified the original Convention.

Myth: The United States could and should renegotiate a new law of the sea agreement, confined to the provisions on navigational freedoms.

Reality: Assuming, for the sake of argument, that this were a desirable outcome, other countries would have no reason or incentive to enter into such a negotiation. The Convention is widely accepted, having been joined by over

150 parties including all other major maritime powers and most other industrialized nations. Those parties are generally satisfied with the entirety of the treaty and would be unwilling to sacrifice other provisions of the Convention, such as benefits associated with exclusive economic zones and sovereign rights over the resources they contain, as well as continental shelves out to 200 nautical miles and in some cases far beyond. And parties that would like to impose new constraints on our navigational freedoms certainly would not accept the 1982 version of those freedoms.

http://www.betterworldcampaign.org/issues/international-security/law-of-the-sea-treaty.html

Stakeholder Endorsements of US Accession to the UN Convention on the Law of the Sea and the 1994 Agreement on Implementation

Endorsements categorized as follows:

- Obama Administration
- Bush Administration
- Current Military Service Chiefs and Legal Advisers(9)
- Former Secretaries of State (8)
- Other Former Cabinet and Sub-Cabinet Officers (12)
- Former UN Representatives and Ambassadors (5)
- Former National Security Advisors (4)
- Former EPA Administrators (4)
- Former Senators (6)
- State and City Officials (14)
- Business and Industry (20)
- Oceans and Environmental Organizations (21)
- Academia (25)
- Joint Ocean Commissions Initiative (3)
- Research and Science Organizations (7)
- International Affairs (4)
- Legal Societies and Organizations (5)
- Chairmen of the Joint Chiefs of Staff (7)
- Chiefs of Naval Operations (11)
- Commandants of the US Coast Guard (5)
- Additional Retired Navy and Coast Guard (12)
- Legal Advisers of the Department of State (10)
- Church Support (4)
- Other (31)

(Endorsements as contained in letters, commentary articles, letters to the editor and testimony)

Obama Administration

Barack Obama
President-Elect of the United States

Joseph Biden
Vice-President of the United States

Hillary Clinton
Secretary of State

Bush Administration

George W. Bush
President of the United States

Stephen Hadley,
National Security Advisor

James L. Connaughton
Director, Council on Environmental Quality

Condoleezza Rice
Secretary of State

Carlos Gutierrez
Secretary of Commerce

Dirk Kempthorne
Secretary of the Interior

Michael Chertoff
Secretary of Homeland Security

John Negroponte
Deputy Secretary of State

Gordon England
Deputy Secretary of Defense

Donald C. Winter
Secretary of the Navy

VAdm. Conrad Lautenbacher, USN (ret.)
Under Secretary of Commerce for Oceans and Atmosphere & Administrator of NOAA

John Bellinger
Legal Adviser, Dept. of State

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Joseph A. Benkert
Assistant Secretary (nominee)
Global Security Affairs
Department of Defense

Current Military Service Chiefs and Legal Advisors

Adm. Mike Mullen
Chairman, Joint Chiefs of Staff

Adm. Gary Roughead
Chief of Naval Operations

Gen. James T. Conway
Commandant of the Marine Corps

Gen. George W. Casey
Chief of Staff of the Army

Gen. T. Michael Moseley
Chief of Staff of the Air Force

Adm. Thad Allen
Commandant of the US Coast Guard

Adm. Patrick Walsh
Vice Chief of Naval Operations

RAdm. McDonald
Judge Advocate General
U.S. Navy

RAdm, William D. Baumgarter
Judge Advocate General
U.S. Coast Guard

Former Secretaries of State

Condoleezza Rice
former Secretary of State

Colin Powell
former Secretary of State
former Chairman, JCS

Madeline Albright
Former Secretary of State
former US Representative to the United Nations
Chairman, Board of Directors
The Democratic Institute for International Affairs

Warren Christopher
former Secretary of State

James A. Baker, III
Former Secretary of State
Senior Partner, Baker Botts, LLP

Larry Eagleberger
former Secretary of State

George P. Shultz
former Secretary of State

Alexander M. Haig, Jr.
Former Secretary of State
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Former Secretary of Defense

Michael Kantor
Former Secretary of Commerce

Donald L. Evans
Former Secretary of Commerce

Carla A. Hills
Former U.S. Trade Representative
Chairman and CEO, Hills & Company

Richard Armitage
former Deputy Secretary of State

William Taft, IV
former Deputy Secretary of Defense
former Legal Adviser, Dept. of State

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President, Brookings Institution
former Deputy Secretary of State

John C. Whitehead
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former Chairman, Goldman Sachs

Sean O'Keefe
Former Secretary of the Navy
Chancellor, Louisiana State University

Antonia Chayes
former Under Secretary of the Air Force
Visiting Professor of International Politics & Law
Tufts University

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former Under Secretary of Commerce for Ocean Affairs and Administrator, National Oceanic and Atmospheric Administration
Director, Global Carbon Measurement Program
The William J. Clinton Foundation

John Knauss
former Under Secretary of Commerce for Ocean Affairs and Administrator, National Oceanic and Atmospheric Administration

John V. Byrne
former Administrator, National Oceanic and Atmospheric Administration

Former Ambassadors and UN Representatives

Amb. Kenneth Adelman
Director, US Arms Control Agency

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John C. Danforth
former Senator
former US Representative to the United Nations
Bryan Cave LLP

Amb. Thomas Graham, Jr.
former General Counsel,
Arms Control and DIsarmament Agency and
former Special Representative of the President of the United States for Arms Control, Non-Proliferation, and Disarmament,

Thomas R. Pickering
Former Under Secretary for Public Affairs
former US Representative to the United Nations
U.S. Department of State
Vice Chairman, Hills & Company

see also: Madeline Albright, former Secretary of State and US Representative. to the UN

National Security Advisors

Stephen Hadley
National Security Advisor to President George W. Bush

Robert C. McFarlane
National Security Advisor
to President Ronald Reagan

Colin Powell
National Security Advisor
to President George H.W. Bush

see also, Condoleezza Rice (2001-2004)

Former EPA Administrators

William D. Ruckelshaus
Strategic Director
Madrona Venture Group

William K. Reilly
Former EPA Administrator
Chairman Emeritus, World Wildlife Fund

Russell E. Train
Chairman Emeritus
World Wildlife Fund

Christine Todd Whitman
Whitman Strategy Group

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Patton Boggs LLP

Ernest Hollings (D-SC)

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Senator Sam Nunn
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Senator Tim Wirth
President UN Foundation

see also, Senator John Danforth (R-MO), former US Representative to the UN

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Governor Ruth Ann Minner
State of Delaware

Governor Linda Lingle
State of Hawaii

Governor John Baldacci
State of Maine

Governor Ted Kulongoski
State of Oregon

Governor Donald Carcieri
State of Rhode Island

Governor Christine Gregoire
State of Washington

Governor Felix Camacho
Territory of Guam

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Kansas Department of Wildlife and Parks

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Former Assistant Executive Director
Port Authority of New York and New Jersey

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Sarah Chassis
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Institute for Fisheries Resources

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The Nature Conservancy

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University of California, Berkley

Joint Ocean Commissions Initiative

James D. Watkins
Admiral, U.S. Navy (Retired)
Chairman, U.S. Commission on Ocean Policy
Co-Chair, Joint Ocean Commission Initiative

The Honorable Leon E. Panetta
Chair, Pew Oceans Commission
Co-Chair, Joint Ocean Commission Initiative

Ann D'Amato
Commissioner
U.S. Commission on Ocean Policy

Research and Science Organizations

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Harte Research Institute for Gulf of Mexico Studies

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American Chemistry Council

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Editor in Chief, Science Magazine, American Association for the Advancement of Science

P. Patrick Leahy
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International Affairs

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Bettina B. Plevan
President
Association of the Bar of New York City

Margaret Tomlinson
Law of the Sea Committee
American Bar Association

Caitlyn Antrim
Executive Director
Rule of Law Committee for the Oceans

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General Henry H. Shelton, USAF
General Colin Powell, US Army
Admiral William Crowe, US Navy

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Admiral Mike Mullen (now Chairman, JCS)
Admiral Vern Clark
Admiral Jay Johnson
Admiral Frank Kelso
Admiral C. A. H. Trost

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Admiral James D. Watkins
Admiral T. B. Hayward
Admiral J. L. Holloway
Admiral Elmo R. Zumwalt
Admiral Thomas E. Moorer

Commandants of the US Coast Guard

Admiral Thad Allen, USCG
Admiral Thomas Collins, USCG (Ret.)
Admiral James M. Loy, USCG (Ret.)
Admiral Robert E. Kramek, USCG (Ret.)
Admiral Paul Yost, USCG (Ret.)

Legal Advisers of the Department of State

John Bellinger (2005-2009)
William H. Taft IV (2001-2005)
David R. Andrews (1997-2000)
Conrad K. Harper (1993-1996)
Edwin D. Williamson (1990-1993)
Abraham D. Sofar (1985-1990)
Davis R, Robinson (1981-1985)
Roberts B. Owen (1979-1981)
Herbert L, Hansell (1977-1979)
Michael J. Matheson, acting Legal Advisor on multiple occasions

Church Support

United Methodist Church
American Baptist Church
Friends Committee for National Legislation
Unitarian Universalists

Additional Retired Navy and Coast Guard

Admiral Joseph W. Prueher
U.S. Navy (Retired)

Vice Admiral James Doyle
U.S. Navy (Retired)

RAdm William L. Schachte, Jr.
U.S. Navy, JAGC (Retired)

RAdm James McPherson
U.S. Navy, JAGC (Retired)

RAdm William O. Miller
US Navy JAGC (Retired)

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RAdm Horace Robertson
US Navy, JAGC (Retired)

Vice Admiral Roger T. Rufe, Jr.
U.S. Coast Guard (Retired)

Rear Admiral John W. Lockwood
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Patten D. White
CEO, Maine Lobstermen's Association

U.S. Extended Continental Shelf Project

Since 2001, the United States has been engaged in gathering and analyzing data to determine the outer limits of its extended continental shelf (ECS). Under the Convention on the Law of the Sea, every coastal State has a continental shelf out to 200 nautical miles from its coastal baselines (or out to a maritime boundary with another coastal State), and beyond that distance if certain criteria are met. Article 76 of the Convention sets forth the criteria upon which a coastal State may determine a continental shelf that extends beyond 200 nautical miles. The ECS is that portion of the continental shelf that lies beyond this 200 nautical mile limit. Beginning in 2007 the effort to delimit the U.S. ECS became the Extended Continental Shelf Project, directed by an interagency task force.

Defining the U.S. Extended Continental Shelf

The process to determine the outer limits of a State's ECS requires the collection and analysis of data that describe the depth, shape, and geophysical characteristics of the seabed and sub-sea floor. Particularly important is bathymetric and sediment thickness data.

The U.S. Extended Continental Shelf Task Force, an interagency body headed by the U.S. Department of State, coordinates the work to define the limits of the U.S. continental shelf. Participants in this Task Force include: State Department, NOAA (National Oceanic and Atmospheric Administration), the U.S. Geological Survey, the Executive Office of the President, the Joint Chiefs of Staff, the U.S. Navy, the U.S. Coast Guard, the Department of Energy, the National Science Foundation, the Environmental Protection Agency, the Minerals Management Service, and the Arctic Research Commission.

Why define the U.S. extended continental shelf?

A coastal State can exercise certain sovereign rights over its continental shelf, including: exploration, exploitation, conservation, and management of non-living resources of the seabed and subsoil of the continental shelf, such as ferromanganese crusts, ferromanganese nodules, gas hydrate deposits, and petroleum; and exploration,

exploitation, conservation, and management of living, "sedentary" resources, such as clams, crabs, scallops, sponges, and mollusks.

While a continental shelf is coincident with the exclusive economic zone (EEZ) out to 200 nautical miles, the ECS is not an extension of the EEZ. Sovereign rights that apply to the EEZ, especially rights to the resources of the water column (e.g., pelagic fisheries) do not apply to the ECS.

Establishing ECS limits will define the U.S. continental shelf in concrete geographical terms. Moreover, the United States has an inherent national interest in knowing, and declaring to others with specificity and certainty, the extent of sovereign rights with regard to the U.S. continental shelf beyond 200 nautical miles. Such certainty and international recognition is important to establishing the stability necessary for development and conservation of these potentially resource-rich areas.

The collection and analysis of the data necessary to support the establishment of the U.S. ECS will, in itself, serve a range of other environmental, geologic, engineering, and resource management needs. The data will provide a better scientific understanding of formation and transformation processes of our continental margins. The United States will gain specific insights related to such areas as climate variability, marine ecosystems, undiscovered or unconventional energy, mineral resources, and hazards resulting from extreme events, such as earthquakes and tsunamis. Finally, exploration of little known areas, particularly in the ice-covered Arctic, will advance our operational capabilities and open new windows on this remote and inaccessible environment.

Data Collection and Analysis

In late 2001, Congress directed the University of New Hampshire's Joint Hydrographic Center (JHC) -- a partnership with NOAA -- to conduct a study that evaluated current data holdings relevant to establishing the U.S. ECS, and to recommend what additional data would be needed. This study identified a number of areas where the United States may have extended continental shelf: the Atlantic East Coast, the Gulf of Mexico, the Gulf of Alaska, the Bering Sea, the Arctic Ocean, Kingman Reef/Palmyra Atoll, and the Mariana Islands/Guam.

This amounts to about one million square kilometers or approximately twice the size of California. Roughly half of that area is likely to exist off Alaska. Additional analyses and data collection suggest an even

larger ECS, in these and possibly other areas. As additional data are collected and existing data analyzed, we will begin to come to a more definitive conclusion as to the extent of the U.S. ECS.

Since 2002, the JHC has continued to receive grants from NOAA as directed by Congress to collect the bathymetric data specified in the study. The JHC has collected more than one million square kilometers of bathymetric data from eleven cruises: Arctic Ocean (2003, 2004, 2007), Gulf of Alaska (2005), Gulf of Mexico (2007), Atlantic Ocean (2004, 2005, 2008), Northern Mariana Islands and Guam (2006, 2007), and Bering Sea (2003). A cruise is planned for an area off Kingman Reef and Palmyra Atoll in 2008 or early 2009.

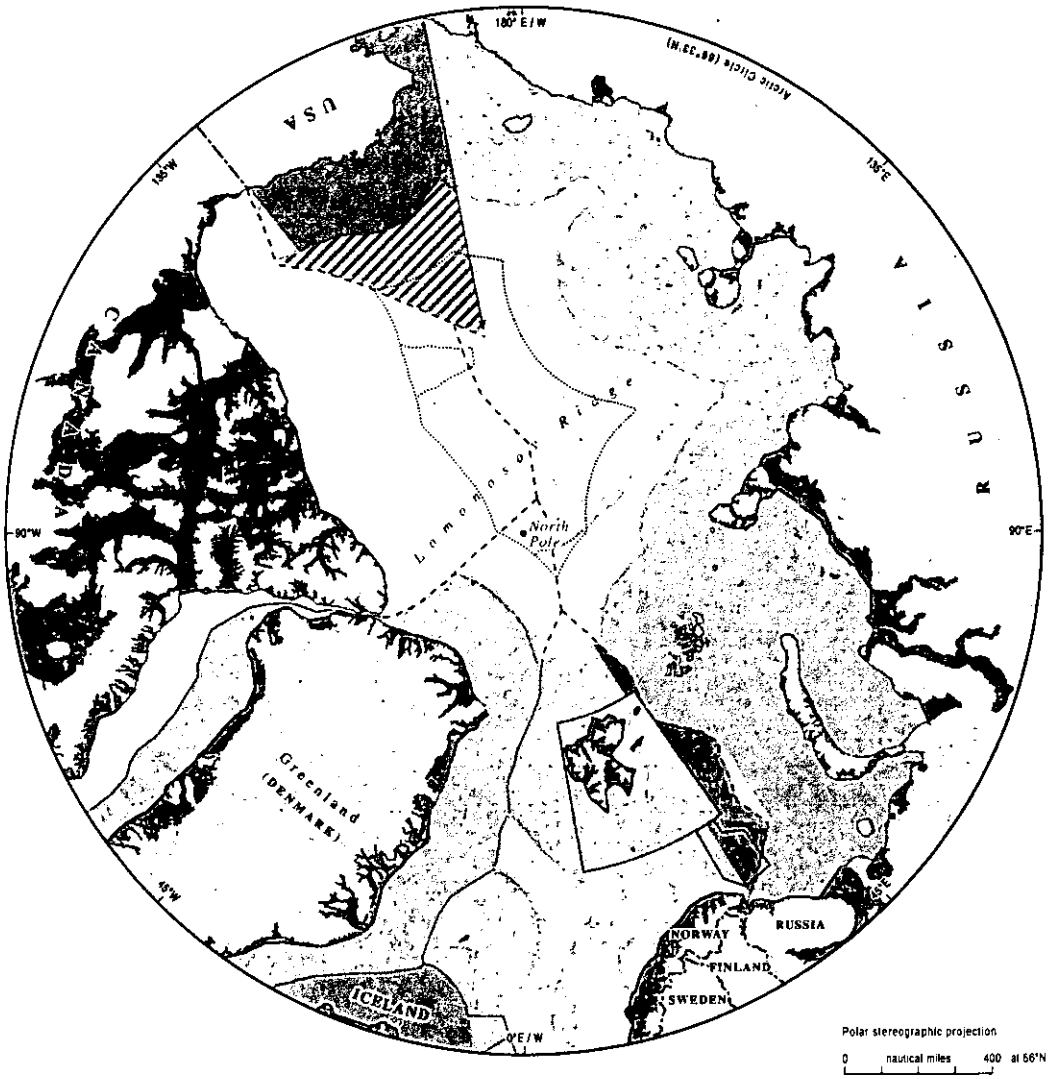
All data collected thus far by the United States in support of defining its continental shelf have been released to the public. The bathymetric data is available from the National Geophysical Data Center and the Joint Hydrographic Center

http://www.state.gov/g/oes/continentalshelf/

IBRU
International Boundaries

Durham University

Maritime jurisdiction and boundaries in the Arctic region



- Internal waters
- Canada territorial sea and EEZ
- Potential Canada continental shelf beyond 200 nm
- Denmark territorial sea and EEZ
- Denmark claimed continental shelf beyond 200 nm
- Potential Denmark continental shelf beyond 200 nm)
- Iceland EEZ
- Iceland claimed continental shelf beyond 200 nm
- Norway territorial sea and EEZ / Fishery zone Jan Mayen) / Fishery protection zone (Svalbard)
- Norway claimed continental shelf beyond 200 nm
- Russia territorial sea and EEZ
- Russia claimed continental shelf beyond 200 nm
- Overlapping Norway / Russia EEZ
- Overlapping Norway EEZ / Russia claimed continental shelf beyond 200 nm
- Overlapping Norway / Russia claimed continental shelf beyond 200 nm
- USA territorial sea and EEZ
- Potential USA continental shelf beyond 200 nm
- Overlapping Canada / USA EEZ
- Straight baselines
- Agreed boundary
- Median line
- 350 nm from baselines
- 100 nm from 2500 m isobath (beyond 350 nm from baselines)
- Svalbard treaty area
- Iceland - Norway joint zone
- Norway - Russia 'Grey Area' (agreed fishing regime)
- Canada EEZ boundary claim
- Eastern Special Area

NATIONAL GEOGRAPHIC NEWS
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New Seafloor Maps May Bolster U.S. Arctic Claims

Jeannette J. Lee in Anchorage, Alaska
Associated Press

February 12, 2008

New seafloor mapping data show the foot of Alaska's continental slope extends more than 100 nautical miles (185 kilometers) farther from the U.S. coast than previously believed, U.S. federal scientists said Monday.

The National Oceanic and Atmospheric Administration (NOAA) data could bolster claims the U.S. might make in the Arctic, as nations in the region compete for potentially rich reserves of oil, gas, and minerals buried beneath the sea floor.

(Related story: Arctic Oil Rush Sparks Battles Over Seafloor [August 23, 2007])

Federal officials said the data would support the U.S. if the country chooses to jockey with Russia, Canada, and other circumpolar nations under the international Law of the Sea treaty to carve out boundaries off their northern coasts. (See a map of the Arctic Ocean.)

The Law of the Sea confers sovereign rights over a country's continental shelf beyond the normal boundary of 200 nautical miles (370 kilometers) if the country can substantiate its claims through scientific evidence.

The U.S. is the only Arctic nation not party to the Law of the Sea treaty, which is a contentious issue in Congress. The Bush administration has been pushing for its approval.

A Partial Answer

"We found evidence that the foot of the slope was much farther out than we thought," said Larry Mayer, the chief scientist for the expedition last year. "That was the big discovery."

Scientists said their findings do not completely settle the question of where the U.S. could set a plausible boundary.

"There's no question that the potential U.S. continental shelf and the potential shelf from Canada will have some overlap," said Andy Armstrong, NOAA co-director of the Joint Hydrographic Center at the University of New Hampshire. "We'll have to work with bordering nations to sort out any potential overlaps."

Mayer said the boundary with Russia is "just about established."

Bottom of the Ocean

The expedition, which cost at least 1.2 million U.S. dollars, focused on a section of the Chukchi Sea about 400 to 600 miles (645 to 965 kilometers) north of Alaska.

Scientists covered more than 6,200 miles (about 10,000 kilomters), taking bathymetric soundings using multibeam sonar from the deck of an icebreaker, the U.S. Coast Guard cutter *Healy*, said Mayer, who is also co-director of the Joint Hydrographic Center at the university in Durham, New Hampshire.

The resulting images of the relatively unexplored region are the most detailed ever collected and will be applied to a variety of research topics, said Capt. Steve Barnum director of NOAA's Office of Coast Survey.

"These are entirely new insights into what the ocean bottom looks like," Barnum said. "The data will be used to gain a better understanding of many things, including ecosystems and climate circulation models."

The next expedition is planned for mid-August through early September, Mayer said, and will follow a geologic feature that could extend the foot of the slope to the north and east.

A U.S. study suggests as much as 25 percent of the world's undiscovered oil and gas could be hidden beneath the Arctic seabed.

Growing evidence that global warming is shrinking polar ice (see story)—opening up resource development and new shipping lanes—has added to the urgency of the claims.

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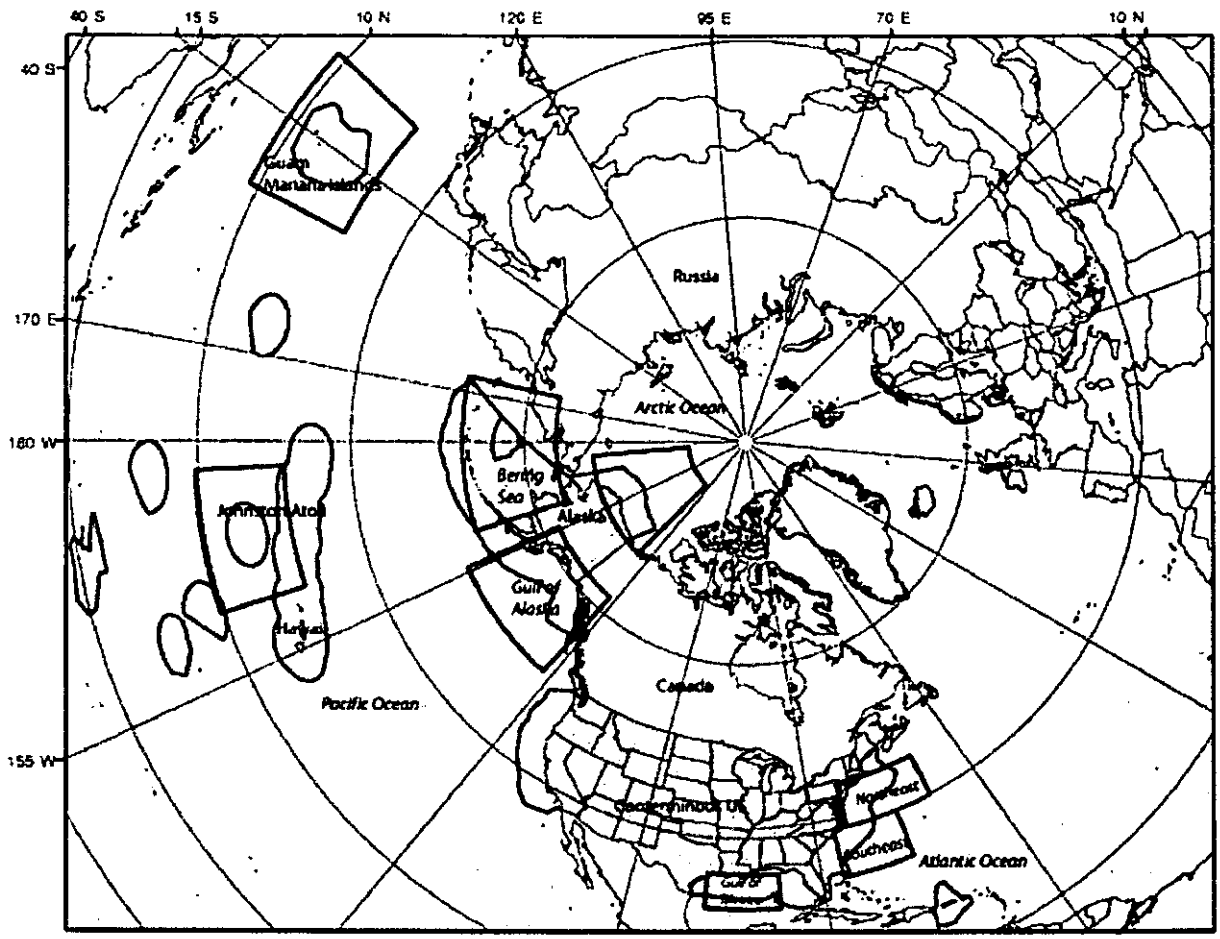

Figure 2: Eight regions (in red) adjacent to the United States and its dependences, where there likely exists extended continental shelf (ECS) beyond 200 nautical miles (in blue) identified by Mayer et al.(2002), The compilation and analysis of data relevant to a U.S. Claim under the United Nations Law of the Sea Article 76: A Preliminary Report. The regions presented in this figure are the result of an academic study, do not represent a formal position of the United States, and are without prejudice to any rights that the United States has with respect to its continental shelf.

US Department of State
Extended Continental Shelf Project

Senator Lisa Murkowski

CSIS – Arctic Forum

Wednesday, July 23, 2008

• Thank you for the invitation to speak to you about one of my favorite topics, the Arctic. The United States has been an Arctic nation since the purchase of Alaska from Russia in 1867. While I am fairly confident that each of you were already aware of this, the challenge is getting the general public to understand not only that the United States has land in the Arctic, but this area is critically important for many reasons.

• The heightened focus on the Arctic of late is primarily due to the impacts of climate change and the fact that these changes are occurring at an unprecedented rate in this region. This makes the Arctic the most vital place to be studying how climate change can affect the entire planet.

• This past summer we saw the Northwest Passage completely ice free for the first time in recorded history. Canada responded by announcing plans for an Arctic military training facility and deep-water port on the Northwest Passage. They followed that up by calling for the construction of 6 to 8 ice strengthened patrol boats, to be in operation by 2014, to assert their sovereignty claim in the Arctic.

- In an expedition some have compared to the United States planting a flag on the moon, a Russian-led team descended 13,000 feet to the seabed on August 2 of last year and planted a Russian flag directly on the North Pole.

- This intense interest in claiming Arctic territory is primarily driven by the quest for Arctic resources. Until recently, the resources of the Arctic were deemed to be too difficult and expensive to develop. But with increasing access and high energy prices, the Arctic's wealth, which is conservatively estimated to contain up to 25% of the world's remaining oil and gas reserves, including over 100 billion barrels of oil, is now being explored and developed at an unprecedented rate.

- Russia is turning its eye to the Arctic's vast energy reserves as they are building the first offshore oil rig that can withstand temperatures as low as minus 50 degrees Celsius and heavy pack ice. They are also reducing taxes and bureaucratic hurdles in order to encourage new oil development in the Arctic.

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- Maritime activities relating to the transportation of goods, oil and gas, tourism and research will surely increase as access to the Arctic Ocean increases. Work is underway to determine the way forward in the development of a shipping regime through the Northern Sea Route, Northwest Passage, and even directly over the pole.

  • The dramatic retreat of Arctic sea ice has focused much attention on the development of these routes, but in order to be viable options to the Suez and Panama canals, the need for a comprehensive plan addressing safety, security, navigation, environmental protection, vessel standards and economics must be developed and in place.

  • The Arctic is truly the last frontier. One of the few places on earth where all the borders aren't drawn on the map yet and some of those that are, are disputed. A recent article in Parade magazine entitled, " The Race to Own the Arctic", will certainly bring more attention to the region, given its readership of approximately 70 million Americans. But the title of the article emphasizes the competition underway to own the resources by extending continental shelf claims. While the anticipated claims do overlap in many cases, there exists an opportunity to address these claims and many of the other key issues in the Arctic, cooperatively and multi-laterally.

  • On May 28th, representatives of the 5 coastal states bordering the Arctic-Canada, Denmark, Norway, Russia and the United States met in Ilulissat (Ill-you-lis-at), Greenland, and adopted a declaration of cooperation in the Arctic. The representatives recognized the undeniable uniqueness of the region and the dramatic changes occurring there, with the potential for profound effects on the environment and indigenous people of the region.

  • The Ilulissat Declaration recognizes the responsibilities of the Arctic nations to be good stewards and to work together to protect the fragile Arctic ecosystem. The Arctic is a marine environment surrounded by continents and a shipping disaster or oil spill would not just effect the local area, but could jeopardize the entire Arctic ecosystem and cause irreversible damage.

  • The Declaration supports the Law of the Sea Treaty as the legal framework for governance in the Arctic, saying that a new international legal regime is not needed to govern this region. If the Law of the Sea is the overarching legal mechanism, then it is even more crucial that the United States ratify this treaty.

  • Russia submitted an extended continental shelf claim in 2002 that would grant them 460,000 square miles of the Arctic Ocean's bottom resources. That is an area the size of Texas, California and Indiana combined. Their claim was rejected for lack of technical data, but they have since resubmitted their claim with new data following their flag planting expedition last summer.

  • Denmark and Canada are anxious to establish their own claims in the Arctic and

Norway's claim is currently under review by the Commission on the Limits of the Continental Shelf.

- But here in the United States, we are not able to make a claim until we ratify the Convention. There are some who do not see the point in joining the rest of the world in ratifying the treaty. They say that the U.S. already enjoys the benefits of the Treaty even though we are not a member and that by not becoming a party to the Treaty, we can pick and choose which sections we abide by, while not subjecting our actions to international review.

  • But I believe it is very important for the United States to be a party to this Treaty and be a player in the process, rather then an outsider hoping our interests are not damaged. Accession to the Convention would give current and future administrations both enhanced credibility and leverage in calling upon other nations to meet Convention responsibilities. Given the support for the Treaty by Arctic nations and the drive to develop natural resources, the Treaty will also provide the environmental framework to develop these resources while minimizing environmental impacts.

  • According to the U.S. Arctic Research Commission, if the United States were to become a party to the Treaty, we could lay claim to an area in the Arctic of about 450,000 square kilometers-or approximately the size of California. But if we do not become a party to the Treaty, our opportunity to make this claim, and have the international community respect it, diminishes considerably-as does our ability to prevent claims like Russia's from coming to fruition.

  • The Administration has shown strong leadership in being a party to the Ilulissat Declaration and our intentions to work cooperatively with the other Arctic nations. It is time for the United States Senate to show the leadership to ratify the treaty.

  • There are a number of other areas where the United States is leading the way in the Arctic. Our science budget for Arctic research is the most of any country and through efforts like the International Polar Year, American scientists are working on well over 100 projects with scientists from around the world. It is my hope that IPY will usher in a new era of scientific cooperation and collaboration in the Arctic.

  • Congress recently passed a resolution, which the President signed into law, to develop an international fisheries regime for the Arctic. Alaska, like Norway and Iceland, has been very successful in managing our fisheries and there is every reason to believe that this will continue with a very precautionary approach in the Arctic. In fact, the North Pacific Fisheries Management Council, the advisory body for the federal fisheries off of Alaska, proactively closed all fisheries in the Arctic until an assessment of the fish stocks could be made and a management plan developed.

  • Although the United States is a world leader in some facets of the Arctic, there are

many others areas that the question must be asked: Is the United States a leader in addressing climate change? For the first time the Senate started the legislative debate on the issue of climate change. We are far from an end-game, but movement is afoot. What about sustainable energy development? Alternative energy? Environmental protection? We need to be leaders in each of these areas.

• We have an incredible opportunity to develop an international policy and cooperative regime in the Arctic. With such a fragile ecosystem, however, our first effort may be our last chance to get it right. We sit on the edge of the precipice, with continued change projected to occur whether we are prepared or not. How we address this challenge and adapt in the Arctic will be an example for the rest of the world.

• The Ilulissat Declaration gives us hope that international cooperation among Arctic nations is possible and by working together to develop a framework for governing the region, we can mutually provide for its' protection and preservation.

• We will only succeed in the Arctic if it is a commitment that all nations share and undertake together. The future of the Arctic depends on it. Thank you.

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CHAIRMAN OF THE JOINT CHIEFS OF STAFF

WASHINGTON, D.C. 20318-9999

26 June 2007

The Honorable Joseph Biden, Jr.
Chairman, Committee on Foreign
Relations
United States Senate
Washington, D.C. 20510-6225

Dear Mr. Chairman,

As the world's preeminent maritime power, leader in the War on Terrorism, and Nation with the largest exclusive economic zone, the United States should accede to the Law of the Sea Convention during this session of Congress. No country has a greater interest in public order for the world's oceans. Becoming a Party to the Convention will ensure our leadership role in the continuing development of oceans law and policy.

The Convention codifies navigation and overflight rights and high seas freedoms that are essential for the global mobility of our Armed Forces. It furthers our National Security Strategy, strengthens the coalition, and supports the President's Proliferation Security Initiative.

From sustaining forward deployed military forces, to ensuring the security of our ports and waters as well as advancing our most important economic and foreign policy objectives, it is important that the United States become a Party to the Convention.

In closing, we offer our gratitude for your efforts and those of Senator Lugar to bring this important Convention to the Senate for consideration.

Very Respectfully,

E. P. GIAMBASTIANI
Admiral, U.S. Navy
Vice Chairman
of the Joint Chiefs of Staff

PETER PACE
General, United States Marine Corps
Chairman
of the Joint Chiefs of Staff

M. G. MULLEN
Admiral, U.S. Navy
Chief of Naval Operations

T. MICHAEL MOSELEY
General, USAF
Chief of Staff

J. T. CONWAY
General, U.S. Marine Corps
Commandant of the Marine Corps

GEORGE W. CASEY
General, U.S. Army
Chief of Staff, U.S. Army

Copy to:
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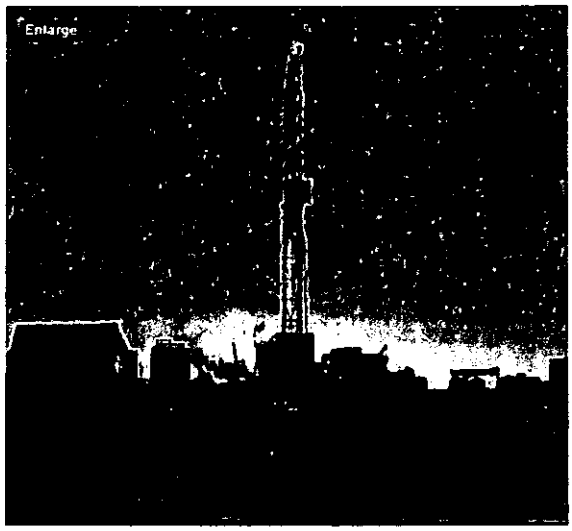
USGS Arctic Oil and Gas Report

Estimates of Undiscovered Oil and Gas North of the Arctic Circle

A USGS fact sheet from July 2008

The U.S. Geological Survey (USGS) has completed an assessment of undiscovered conventional oil and gas resources in all areas north of the Arctic Circle. Using a geology-based probabilistic methodology, the USGS estimated the occurrence of undiscovered oil and gas in 33 geologic provinces thought to be prospective for petroleum. The sum of the mean estimates for each province indicates that 90 billion barrels of oil, 1,669 trillion cubic feet of natural gas, and 44 billion barrels of natural gas liquids may remain to be found in the Arctic, of which approximately 84 percent is expected to occur in offshore areas.



Malik Project Drill Rig on the Mackenzie Delta of the Canadian Arctic. USGS Image

Introduction

In May 2008 a team of U.S. Geological Survey (USGS) scientists completed an appraisal of possible future additions to world oil and gas reserves from new field discoveries in the Arctic. This Circum-Arctic Resource Appraisal (CARA) evaluated the petroleum potential of all areas north of the Arctic Circle (66.56° north latitude); quantitative assessments were conducted in those geologic areas considered to have at least a 10-percent chance of one or more significant oil or gas accumulations. For the purposes of the study, a significant accumulation contains recoverable volumes of at least 50 million barrels of oil and/or oil-equivalent natural gas. The study included only those resources believed to be recoverable using existing technology, but with the important assumptions for offshore areas that the resources would be recoverable even in the presence of permanent sea ice and oceanic water depth. No economic considerations are included in these initial estimates; results are presented without reference to costs of exploration and development, which will be important in many of the assessed areas. So-called nonconventional resources, such as coal bed methane, gas hydrate, oil shale, and tar sand, were explicitly excluded from the study. Full details of the CARA study will be published later.

A number of onshore areas in Canada, Russia, and Alaska already have been explored for petroleum, resulting in the discovery of more than 400 oil and gas fields north of the Arctic Circle. These fields account for approximately 240 billion barrels (BBOE) of oil and oil-equivalent natural gas, which is almost 10 percent of the world's known conventional petroleum resources (cumulative production and remaining proved reserves). Nevertheless, most of the Arctic, especially offshore, is essentially unexplored with respect to petroleum. The Arctic Circle encompasses about 6 percent of the Earth's surface, an area of more than 21 million km2 (8.2 million mi2), of which almost 8 million km2 (3.1 million mi2) is onshore and more than 7 million km2 (2.7 million mi2) is on continental shelves under less than 500 m of water. The extensive Arctic continental shelves may constitute the geographically largest unexplored prospective area for petroleum remaining on Earth.

Methodology

A newly compiled map of Arctic sedimentary basins (Arthur Grantz and others, unpublished work) was used to define geologic provinces, each containing more than 3 km of sedimentary strata. Assessment units (AUs)—mappable volumes of rock with common geologic traits—were identified within each province and quantitatively assessed for petroleum potential. Because of the sparse seismic and drilling data in much of the Arctic, the usual tools and techniques used in USGS resource assessments, such as discovery process modeling, prospect delineation, and deposit simulation, were not generally applicable. Therefore, the CARA relied on a probabilistic methodology of geological analysis and analog modeling. A world analog database (Charpentier and others, 2008) was developed using the AUs defined in the USGS World Petroleum Assessment 2000 (USGS World Assessment Team, 2000). The database includes areas that account for more than 95 percent of the world's known oil and gas resources outside the United States.

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Minerals

For each assessment unit, the CARA team assessed the probability (AU probability) that a significant oil or gas accumulation was present. This evaluation of AU probability was based on three geologic elements: (1) charge (including source rocks and thermal maturity), (2) rocks (including reservoirs, traps, and seals), and (3) timing (including the relative ages of migration and trap formation, as well as preservation). Each assessment unit was ranked according to its AU probability; those AUs judged to have less than a 10-percent probability of a significant accumulation were not quantitatively assessed.

In addition to the AU probability, the number of accumulations, the size-frequency distribution of accumulations, and the relative likelihood of oil versus gas were assessed for each AU and combined by means of a Monte Carlo simulation. The probabilistic results reflect the wide range of uncertainty inherent in frontier geological provinces such as those of the Arctic.

Results—Resource Summary

Within the area of the CARA, 25 provinces were quantitatively assessed; 8 provinces were judged to have less than a 10-percent probability of at least one significant accumulation in any AU and were, therefore, not assessed. Results of individual AU assessments are not reported here, but the AUs are shown as mapped areas on figure 1, where they are color-coded for the probability of at least one undiscovered accumulation of minimum size. The provinces are listed in table 1, in ranked order of total mean estimated oil-equivalent volumes of undiscovered oil, gas, and natural gas liquids (NGL). The provinces are shown in figures 2 and 3, where they have been color-coded with respect to fully risked (including AU probabilities) potential for gas and oil, respectively.

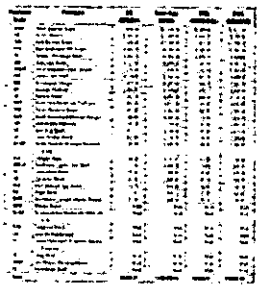


Table 1. Summary of Results of the Circum-Arctic Resource Appraisal.

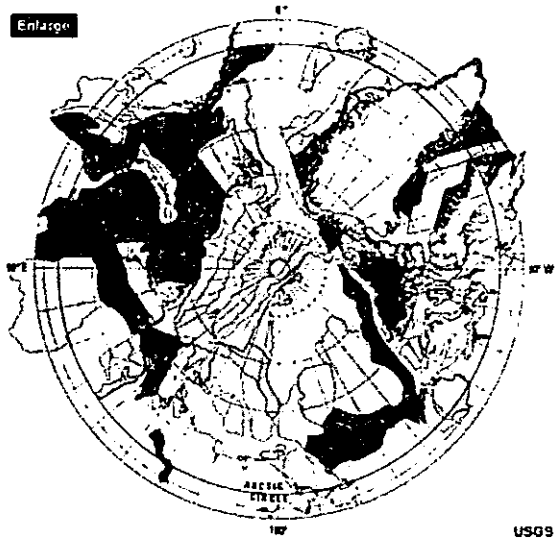
More than 70 percent of the mean undiscovered oil resources is estimated to occur in five provinces: Arctic Alaska, Amerasia Basin, East Greenland Rift Basins, East Barents Basins, and West Greenland–East Canada. More than 70 percent of the undiscovered natural gas is estimated to occur in three provinces, the West Siberian Basin, the East Barents Basins, and Arctic Alaska. It is further estimated that approximately 84 percent of the undiscovered oil and gas occurs offshore. The total mean undiscovered conventional oil and gas resources of the Arctic are estimated to be approximately 90 billion barrels of oil, 1,669 trillion cubic feet of natural gas, and 44 billion barrels of natural gas liquids.

References

Charpentier, R.R., Klett, T.R., and Attanasi, E.D., 2008, Database for assessment unit-scale analogs (exclusive of the United States): U.S. Geological Survey Open-File Report 2007-1404 [http://pubs.usgs.gov/of/2007/1404/].

USGS World Assessment Team, 2000, U.S. Geological Survey World Petroleum Assessment 2000-Description and Results: U.S. Geological Survey Digital Data Series – DDS60 [http://pubs.usgs.gov/dds/dds-060/].

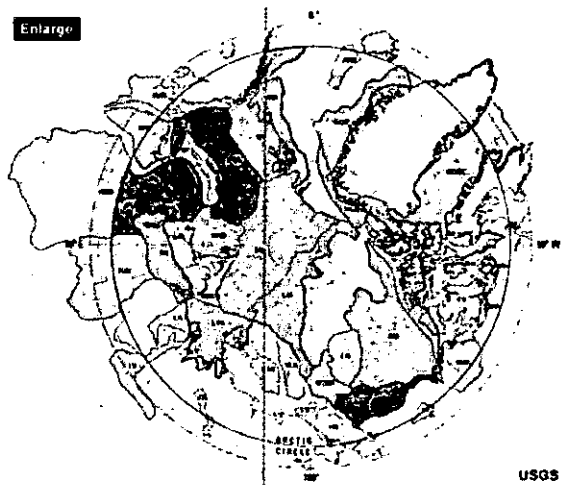
Enlarge



USGS

Figure 1. Assessment units (AUs) in the Circum-Arctic Resource Appraisal (CARA) color-coded by assessed probability of the presence of at least one undiscovered oil and/or gas field with recoverable resources greater than 50 million barrels of oil equivalent (MMBOE). Probabilities for AUs are based on the entire area of the AU, including any parts south of the Arctic Circle.

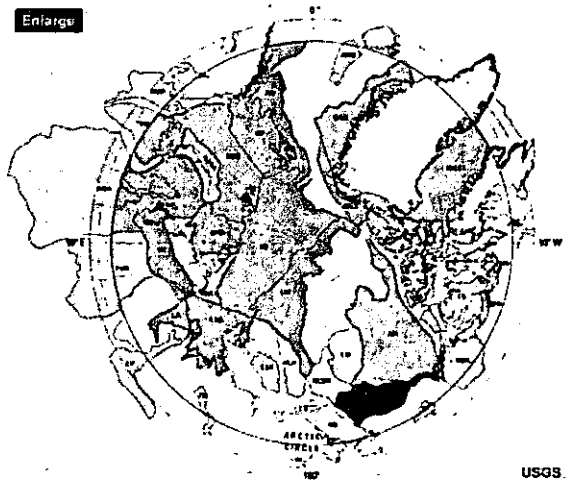
Enlarge



USGS

Figure 2. Provinces in the Circum-Arctic Resource Appraisal (CARA) color-coded for mean estimated undiscovered gas. Only areas north of the Arctic Circle are included in the estimates. Province labels are the same as in table 1.

Enlarge



USGS

Figure 1. Assessment units (AUs) in the Circum-Arctic Resource Appraisal (CARA) color-coded by assessed probability of the presence of at least one undiscovered oil and/or gas field with recoverable resources greater than 50 million barrels of oil

SJR

16

(LIMITED RUN SHOWING ALL ADDITIONAL SPONSORSHIPS)

CS FOR SENATE JOINT RESOLUTION NO. 16(RES)

IN THE LEGISLATURE OF THE STATE OF ALASKA

TWENTY-SIXTH LEGISLATURE - FIRST SESSION

BY THE SENATE RESOURCES COMMITTEE

Offered: 3/30/09
Referred: Rules

Sponsor(s): SENATORS WIELECHOWSKI, Dyson, Wagoner, Thomas, Olson, Davis, Ellis, Paskvan, Menard, Stevens

REPRESENTATIVES Guttenberg, Tuck, Johnson, Kawasaki, Crawford

A RESOLUTION

Expressing support for responsible development of the oil and gas resources in federal waters offshore of Alaska's coast as a means to ensure energy independence, security for the nation, and jobs for Alaskans; and urging the United States Congress to provide a means for consistently sharing with all coastal energy-producing states, on an ongoing basis, revenue generated from oil and gas development on the outer continental shelf, to ensure that those states develop, support, and maintain necessary infrastructure and preserve environmental integrity.

BE IT RESOLVED BY THE LEGISLATURE OF THE STATE OF ALASKA:

WHEREAS there are presently 697 active oil and gas leases off Alaska's coast, covering more than 1,500,000 hectares; and

WHEREAS the United States Department of the Interior, Minerals Management Service, estimates there are nearly 27,000,000,000 barrels of oil and 132,000,000,000,000 cubic feet of natural gas that are technically recoverable offshore of Alaska; and

WHEREAS responsible oil and gas development in federal waters off Alaska's coast

would significantly decrease reliance by the United States on foreign oil and gas, making the United States more energy independent and enhancing our national security; and

WHEREAS, under the Mineral Lands Leasing Act of 1920, the federal government shares with the states 50 percent of revenue from mineral production on federal land within each state's boundaries; and

WHEREAS the shared mineral production revenue is distributed to the states automatically, outside of the budget process, and is not subject to appropriation; and

WHEREAS, other than in water immediately adjacent to a state's coastline, there is not a similar authority for the federal government to share federal oil and gas revenue generated on the outer continental shelf with adjacent coastal states, despite the vital contribution made by those states to our nation's energy, economic, and national security needs in support of production from the outer continental shelf; and

WHEREAS the states that sustain this critical energy production and development deserve a share of the revenue generated because they provide infrastructure to support offshore operations and because of the environmental effects and other risks associated with oil and gas development on the outer continental shelf; and

WHEREAS, under the Gulf of Mexico Energy Security Act of 2006, the federal government recognized the contributions made by Alabama, Louisiana, Mississippi, and Texas to national security and agreed to give them 37.5 percent of revenue from oil and gas development in newly leased federal waters in the Gulf of Mexico; and

WHEREAS other coastal states, including Alaska and California, also support and should receive, on a regular and ongoing basis, a fair share of revenue generated through development on the outer continental shelf as compensation and reward for their contributions to the nation's energy supply, security, and economy; and

WHEREAS, since statehood, oil and gas lease sales from the outer continental shelf off Alaska's coast have generated millions of dollars in revenue for the federal government; and

WHEREAS the February 2008 lease sale in the Chukchi Sea generated an additional $2,600,000,000 in revenue for the federal government;

BE IT RESOLVED that the Alaska State Legislature supports responsible development of the oil and gas resources in federal waters offshore of Alaska's coast as a

means to ensure energy independence, security for the nation, and jobs for Alaskans; and be it

FURTHER RESOLVED that the Alaska State Legislature urges the United States Congress to provide a means for consistently sharing, on an ongoing basis, revenue generated from oil and gas development on the outer continental shelf with all coastal energy-producing states to ensure that those states develop, support, and maintain necessary infrastructure and preserve environmental integrity.

COPIES of this resolution shall be sent to the Honorable Barack Obama, President of the United States; the Honorable Joseph R. Biden, Jr., Vice-President of the United States and President of the U.S. Senate; the Honorable Ken Salazar, United States Secretary of the Interior; the Honorable Nancy Pelosi, Speaker of the U.S. House of Representatives; the Honorable Steny H. Hoyer, Majority Leader of the U.S. House of Representatives; the Honorable John Boehner, Minority Leader of the U.S. House of Representatives; the Honorable Harry Reid, Majority Leader of the U.S. Senate; the Honorable Mitch McConnell, Minority Leader of the U.S. Senate; the Honorable Jeff Bingaman, Chair of the U.S. Senate Committee on Energy and Natural Resources; the Honorable Lisa Murkowski and the Honorable Mark Begich, U.S. Senators, and the Honorable Don Young, U.S. Representative, members of the Alaska delegation in Congress; and all other members of the 111th United States Congress.

FISCAL NOTE

STATE OF ALASKA
2009 LEGISLATIVE SESSION

Fiscal Note Number: 1
Bill Version: CSSJR 16(RES)
(S) Publish Date: 3/30/09

Identifier (file name):
Title SJR 16 OFFSHORE OIL & GAS REVENUE
Sponsor Senator Wielechowski
Requester (S) Resources Committee

Dept. Affected:
RDU
Component
Component Number

Expenditures/Revenues (Thousands of Dollars)

Note: Amounts do not include inflation unless otherwise noted below.

	Appropriation Required	Information					
OPERATING EXPENDITURES	**FY 2010**	**FY 2010**	**FY 2011**	**FY 2012**	**FY 2013**	**FY 2014**	**FY 2015**
Personal Services							
Travel							
Contractual							
Supplies							
Equipment							
Land & Structures							
Grants & Claims							
Miscellaneous							
TOTAL OPERATING	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
CAPITAL EXPENDITURES							
CHANGE IN REVENUES ( )							

FUND SOURCE (Thousands of Dollars)

1002 Federal Receipts							
1003 GF Match							
1004 GF							
1005 GF/Program Receipts							
1037 GF/Mental Health							
Other Interagency Receipts							
TOTAL	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**

Estimate of any current year (FY2009) cost:

POSITIONS

Full-time							
Part-time							
Temporary							

ANALYSIS: *(Attach a separate page if necessary)*

Prepared by: SENATE RESOURCES COMMITTEE
Division
Phone 465-2435
Date/Time 3/27/09 12:00 AM
Approved by: /s/ Senator Wielechowski, Cochair
Date 3/27/2009

(Revised 9/10/2008 OMB)

4366

ALASKA STATE LEGISLATURE

Co-chair, Resources Committee
•
Vice chair, Judiciary Committee
•
Co-chair, Joint Armed Services
•
Energy Committee
•
World Trade Committee

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SENATOR BILL WIELECHOWSKI

SJR 16:
Development of Offshore Oil and Gas Reserves

SJR 16 expresses support for environmentally sound and culturally sensitive development of the oil and gas resources in federal waters off Alaska coast. It also urges Congress to provide Alaska with a fair share of federal revenue from oil and gas leasing and development in federal waters.

Under current law, Alaska receives little revenue from oil and gas leasing and development that occurs more than six miles off our coast. This contrasts with how other states, including Louisiana, Mississippi, Alabama and Texas, are treated. Under the 2006 Gulf of Mexico Energy Security Act, these states receive 37.5 percent of revenues from newly leased federal waters off their coasts. This new law is expected to direct more than $13 billion to Louisiana alone over the next three decades.

Alaska deserves to be treated in the same way as other states that contribute to our nation's energy security. Like other energy-producing states, Alaska bears the costs of infrastructure in support of offshore development, and our coastal resources and residents bear the impacts of offshore development. Alaskans deserves to share in the benefits of production, just as we do its costs.

The federal Minerals Management Service estimates that there could be as much as 55 billion barrels of technically recoverable oil and 280 trillion cubic feet of technically recoverable gas off Alaska's coast. Last year companies bid $2.6 billion for access to tracts in the Chukchi Sea. More than 1.4 million acres off Alaska's coast have already been leased by the federal government. The Chukchi Sea sale could result in the leasing of an additional 2.7 million acres, providing ongoing support for a robust oil and gas industry in Alaska.

As more lands off Alaska's coast are leased for offshore oil production, we need to ensure that Alaska gets its fair share of the benefits of that leasing and production. It's time Congress treated all coastal states equally and fairly. Please join me in supporting SJR 16.

Ted Stevens: Time to divvy up OCS

Alaska's senior U.S. senator, governor want state to get share of outer continental shelf oil and gas royalties

By KRISTEN NELSON
Petroleum News

The State of Alaska should share in royalties from outer continental shelf production on its borders, says U.S. Sen. Ted Stevens, R-Alaska, predicting that such sharing will take place as a condition of OCS production off Alaska.

The senator, in Juneau to give his annual update to the Legislature, told members of the press Feb. 19 that the bill passed in 2006 which allocated OCS monies to Gulf of Mexico states originally included Alaska.

"We had a provision in the bill as it went through and it was the people opposed to ANWR who took that out of there. They thought it was an incentive to drill in Alaska and would not let us enact it."

Stevens said North Slope residents oppose drilling "until they get a percentage of it — that's what we're facing right now."

Both the state and federal governments "have to wake up," Stevens said.

People on the North Slope are not going to put up with oil and gas drilling and the risk to their resources from a spill. "I don't think it's a great risk," Stevens said, but calling it a "potential risk to their resources."

Alaska is not included in OCS offshore royalty sharing, he said, "because of the opposition of the extreme environmental people."

Alaska has two-thirds of the outer continental shelf "and we don't get any money from any production that comes from the outer continental shelf."

"I predict there's not going to be any production until we get it. Both the state and the Native people oppose any real production until we get the same kind of share that others get from production off our shore," Stevens said.

Governor: time Alaska starts promoting OCS share

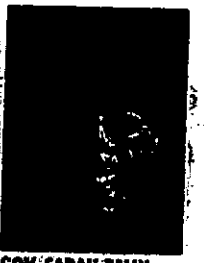
Alaska Gov. Sarah Palin agreed with Stevens on OCS royalty share.

"It's going to become much brighter on everyone's radar screen, I think, once Alaskans realize that these other coastal states do receive OCS revenue shares. Alaska doesn't; we're exempt from that," the governor told reporters Feb. 21.

She said she would like to see that changed and thinks it's time Alaska started pushing for that change, and anticipates that the state's congressional delegation would support that move.

Stevens helped the Gulf of Mexico states get a share of OCS royalties, Palin said, adding that she hopes delegations from those states would, in return, assist Alaska in getting royalties off its shores.

SEN. TED STEVENS



GOV. SARAH PALIN

Alaska's share $21.7 million

Alaska does earn royalties from production from federal lands onshore and from offshore lands adjacent to state waters.

Alaska was one of 34 states which earned a share of almost $2 billion during fiscal year 2007 as part of federal revenues collected by the Department of the Interior's Minerals Management Service, MMS said late last year.

Alaska's share, $21.7 million, represents its share of revenues collected from oil, gas and coal production.

MMS said for the majority of onshore federal lands, states receive 50 percent of the revenues while the other 50 percent goes to various funds of the U.S.

see SHARE page 14

continued from page 13

SHARE

Treasury, including the Reclamation Fund for water projects. Alaska receives a 90 percent share of revenues from onshore production as prescribed in the Alaska Statehood Act.

"In addition, Texas, Alabama, Louisiana and Mississippi with producing federal offshore tracts adjacent to state waters receive 27 percent of those mineral royalties," while remaining offshore revenues MMS collects go into various accounts of the U.S. Treasury, the majority into the general fund.

U.S. coastal waters are divided into three zones: from zero to three miles is state waters; in federal waters from three to six miles from shore, states get a 27 percent cut of royalties from production; there is no state cut beyond six miles, except for those Gulf Coast states receiving OCS royalties as a result of the 2006 federal legislation. ●

On the Web

See previous Petroleum News coverage:

See previous Petroleum News coverage: "GOM energy act passes" in Dec. 17, 2006, issue at www.petroleumnews.com/pnads/501450772.shtml

"OCS impact assistance program moves ahead" in March 11, 2007, issue at www.petroleumnews.com/pnads/829616050.shtml

Year 2006 National Assessment - Alaska Outer Continental Shelf
RISKED, UNDISCOVERED, TECHNICALLY RECOVERABLE OIL AND GAS

AREA	OIL AND COND (BBO)			GAS (TCFG)			BOE (BBOE)			MPhc
	F95	MEAN	F05	F95	MEAN	F05	F95	MEAN	F05	(Geol)
ALASKA OFFSHORE	8.66	[redacted]	55.14	48.28	[redacted]	279.62	17.25	[redacted]	104.89	1.00
ARCTIC SUBREGION	6.03	[redacted]	53.17	27.83	[redacted]	247.19	10.98	[redacted]	97.16	1.00
BERING SHELF SUBREGION	0.09	[redacted]	3.04	1.48	[redacted]	34.36	0.35	[redacted]	9.15	1.00
PACIFIC MARGIN SUBREGION	0.23	[redacted]	3.90	0.93	[redacted]	19.23	0.40	[redacted]	7.32	1.00
ARCTIC SUBREGION										
CHUKCHI SHELF	2.32	[redacted]	40.08	10.32	[redacted]	209.53	4.15	[redacted]	77.36	1.00
BEAUFORT SHELF	0.41	[redacted]	23.24	0.65	[redacted]	72.18	0.53	[redacted]	36.08	1.00
HOPE BASIN	0.00	[redacted]	0.60	0.00	[redacted]	14.98	0.00	[redacted]	3.27	0.40
BERING SHELF SUBREGION										
NAVARIN BASIN	0.00	[redacted]	0.62	0.00	[redacted]	5.80	0.00	[redacted]	1.65	0.40
N. ALEUTIAN BASIN	0.02	[redacted]	2.50	0.40	[redacted]	23.28	0.09	[redacted]	6.65	1.00
ST. GEORGE BASIN	0.00	[redacted]	0.79	0.00	[redacted]	11.15	0.00	[redacted]	2.77	0.60
NORTON BASIN	0.00	[redacted]	0.24	0.00	[redacted]	13.27	0.00	[redacted]	2.61	0.42
PACIFIC MARGIN SUBREGION										
COOK INLET	0.06	[redacted]	2.85	0.03	[redacted]	3.48	0.06	[redacted]	3.47	1.00
GULF OF ALASKA	0.00	[redacted]	2.04	0.00	[redacted]	16.00	0.00	[redacted]	4.89	0.80
SHUMAGIN	0.00	[redacted]	0.05	0.00	[redacted]	2.04	0.00	[redacted]	0.42	0.40
KODIAK	0.00	[redacted]	0.20	0.00	[redacted]	7.62	0.00	[redacted]	1.55	0.40

__BBO__, billions of barrels of oil and condensate; __TCFG__, trillions of cubic feet, gas; __BBOE__, total oil and gas in billions of energy-equivalent barrels; __MEAN__, resource quantities at the mean in cumulative probability distributions; __F95__, the resource quantity having a 95-percent probability of being met or exceeded; __F05__, the resource quantity having a 5-percent probability of being met or exceeded; __MPhc__, marginal probability for hydrocarbons in the basin (i.e., chance for the existence of at least one pool of undiscovered, conventionally recoverable hydrocarbons somewhere in the basin). Resource quantities are risked (product of multiplying the conditional resources and MPhc). Mean values for provinces may not sum to values shown for the subregions or region because of rounding. All liquid resources in Norton, Shumagin, and Kodiak areas are natural gas liquids that would only be recovered by natural gas production.

The NewsRoom
Date: March 23, 2009

Secretary Salazar: $25 Million for Gulf States and Counties from 2007-08 Bonus Bids and Rents on OCS Energy Leases

WASHINGTON, D.C. – More than $25 million will be paid to Gulf of Mexico coastal states and communities this week as their share of bonuses and rents on energy leases in federal waters off their coasts, Secretary of the Interior Ken Salazar announced today.

"These funds will provide an important boost to communities at a moment when they need it most," Secretary Salazar said. "I was pleased to participate in last week's lease sale, to visit New Orleans, and to examine how these investments will help communities embark on a wide range of projects, including the conservation and restoration of coastal areas."

The revenues include $6,179,076.25 to the state of Alabama; $6,347,321.13 to Louisiana; $5,506,235.80 to Mississippi; and $2,159,399.65 to Texas. Forty-two eligible political subdivisions will receive $5,048,008.21. Those include $1,544,769.06 to eligible Alabama counties; $1,586,830.28 to Louisiana parishes; $1,376,558.95 to political subdivisions in Mississippi; and $539,849.92 to counties in Texas. A complete list of the disbursements and eligible political subdivisions receiving funds **is available online**.

These are the first payments under the 2006 Gulf of Mexico Energy Security Act (GOMESA) which provides that these states and counties receive 37.5 percent of the oil and gas qualified leasing revenues from certain Outer Continental Shelf areas. Most of the $25.2 million to be disbursed was received from Lease Sales 224 and 206, held on March 19, 2008. Lease Sale 205, held on Oct. 3, 2007, contributed a small percentage of the revenues that were shared with this disbursement.

In total, those lease sales generated about $67.3 million in bonus bids and first-year rentals that qualify for revenue sharing. Under GOMESA, 12.5 percent of qualified revenues are disbursed to the Land and Water Conservation Fund, which provides funds and matching grants for various land and water projects. The remaining receipts are disbursed to the U.S. Treasury.

The 2006 legislation mandates that eligible U.S. jurisdictions on the Gulf Coast within 200 miles of certain Outer Continental Shelf parcels leased in Sales 224, 206 and 205 receive these 37.5 percent share payments. The law directs that the funds be used for coastal protection, including mitigating damage to fish, wildlife or natural resources; carrying out a federally-approved marine, coastal, or comprehensive conservation management plan; mitigating the impact of Outer Continental Shelf activities through the funding of onshore infrastructure projects; as well as planning assistance and administrative costs in complying with the law.

SJR

22

SENATE COMMITTEE REPORT
First Committee of Referral

DATE: 4/9/09

FURTHER: Judiciary

Date of 5-Day Notice: _____
(in accordance with Uniform Rule 23)

DATE TURNED IN TO OFFICE: _____

Resources Committee considered SENATE JOINT RESOLUTION NO. 22

SJR 22 FEDERAL PREEMPTION OF SALMON MANAGEMENT

Opposing litigation that seeks to eliminate the Kenai, Kasilof, and Chitina sockeye salmon personal use dip net fisheries; and requesting the governor to re-examine the disproportional influence of the commercial fisheries industries on fisheries management in the state.

and recommends:

[ ] be **replaced** with [ ] **SCS** or [✓] **CS** SJR 22 (RES)

[ ] adopt **previous** [ ] **SCS** or [ ] **CS** _____ (_____)

[ ] attached amendment(s)

[ ] adopt _____ Letter of Intent

[ ] further referral to _____ Committee

SENATE BILL:
[ ] Same Title
[✓] New Title

HOUSE BILL:
[ ] Same Title
[ ] Technical Title Change
[ ] New Title w/ SCR #_____

NEW FISCAL NOTE(S):

Department	Date	Fiscal	Indet.	Zero	FN#
LEG	4/14			✓	

PREVIOUS FISCAL NOTE(S):

Department	Date	Fiscal	Indet.	Zero	FN#

[ ] **APPROPRIATION - no fiscal note**

SIGNATURES AND RECOMMENDATIONS:	PRINTED LAST NAME	DO PASS	DO NOT PASS	NO REC	AMEND
	STEVENS			X	
	WAGONER			✓	
	Huggins	X			
		✓			
CO-CHAIR:	McGuire	✓			
CO-CHAIR:	Wielechowski	✓			

26-LS0866\R
Kane
4/14/09

CS FOR SENATE JOINT RESOLUTION NO. 22( )

IN THE LEGISLATURE OF THE STATE OF ALASKA

TWENTY-SIXTH LEGISLATURE - FIRST SESSION

BY

Offered:
Referred:

Sponsor(s): SENATORS HUGGINS, Ellis, Wielechowski, Menard, Thomas

A RESOLUTION

Opposing litigation that seeks to eliminate the Kenai, Kasilof, and Chitina sockeye salmon personal use dip net fisheries.

BE IT RESOLVED BY THE LEGISLATURE OF THE STATE OF ALASKA:

WHEREAS the United Cook Inlet Drift Association is a group of nonresident and resident commercial gill net fishermen in Cook Inlet; and

WHEREAS the United Cook Inlet Drift Association has filed a lawsuit against the United States Secretary of Commerce requesting that the United States Department of Commerce preempt state management of its salmon stocks in Cook Inlet; and

WHEREAS the United Cook Inlet Drift Association has filed a lawsuit against the United States Secretary of Commerce claiming, among other things, that association's nonresident members are discriminated against because they cannot participate in the resident-only dip net fishery, thus requesting the court to declare that the state-authorized resident-only salmon fisheries are unconstitutional and therefore preempted by federal law; and

WHEREAS all five species of Pacific salmon are an integral part of Alaska's history, heritage, and cultural identity, helping to meet both its economic and nutritional needs; and

WHEREAS the Magnuson-Stevens Fishery Conservation and Management Act explicitly excludes state waters from the jurisdiction of the Act; and

WHEREAS the exclusive economic zone is closed to commercial fishing under the Magnuson-Stevens Fishery Conservation and Management Act unless specifically authorized by the state; and

WHEREAS the Alaska Board of Fisheries has devoted an inordinate amount of time to the extremely complex salmon management program in the Cook Inlet region in an attempt to balance the interests of all stakeholders; and

WHEREAS the potential results of this lawsuit, if the plaintiff is successful, would not only preempt state fisheries management but could result in a larger number of nonresident dip net fishermen being allowed to fish, causing an even smaller allocation to the commercial fisheries, thus conceivably further adversely affecting the members of the United Cook Inlet Drift Association; and

WHEREAS the establishment of federal and state recognized commercial fisheries limited entry programs have drastically limited the ability of residents to use efficient commercial gear for taking subsistence and personal use salmon resources, which has resulted in the establishment of less efficient methods, such as the dip net fisheries, for taking salmon to meet Alaska's nutritional needs; and

WHEREAS members of the United Cook Inlet Drift Association are able to use their exclusive limited entry permits to use efficient gear that is not available to the average Alaskan for the purpose of taking salmon for personal use; and

WHEREAS members of the United Cook Inlet Drift Association, including all nonresidents, are allowed an unlimited bag limit, an unlimited possession limit, and an unlimited annual limit under state law for salmon retained for personal use if taken during the commercial fisheries, which is a luxury not afforded to Alaskans who do not possess a state limited entry permit; and

WHEREAS both the federal government and the state recognize in law and place a high priority on the importance of taking of wild resources for food; and

WHEREAS the State of Alaska restricts dip net salmon fisheries to Alaska residents; and

WHEREAS, in 1984, a resident-only dip net fishery for Copper River red salmon

stocks was established in Chitina; and

WHEREAS in 2006, 2007, and 2008, the Alaska Department of Fish and Game issued over 8,000 permits allowing Alaskans to dip net for salmon in Chitina; and

WHEREAS, in 1981, a dip net fishery for red salmon stocks was established at the mouth of the Kenai and Kasilof Rivers; and

WHEREAS in 2006, 2007, and 2008, the Alaska Department of Fish and Game issued between 18,500 and 23,700 permits allowing Alaskans to dip net for salmon in the Kenai and Kasilof Rivers; and

WHEREAS the Alaska Department of Fish and Game calculates that those dip net fisheries provide an average of 14 fish for each household for those households that participated in the Kenai and Kasilof Rivers dip net fisheries in 2006, 2007, 2008; and

WHEREAS there appears to be a growing groundswell of support within the commercial fishing industries represented at the North Pacific Fisheries Management Council and state Board of Fisheries levels for a more dominant role in the regulatory process; and

WHEREAS the Constitution of the State of Alaska dictates that "The legislature shall provide for the utilization, development, and conservation of all natural resources belonging to the State, including land and waters, for the maximum benefit of its people," which clearly means that the state's common property resources must benefit all Alaskans and not just a few commercial fisherman;

BE IT RESOLVED that the Alaska State Legislature hereby requests that the United Cook Inlet Drift Association drop its lawsuit advocating federal preemption of Alaska's salmon management in state waters in Cook Inlet and opposing the personal use of salmon by Alaska residents.

FURTHER RESOLVED that the Alaska State Legislature also requests Governor Sarah Palin to direct the attorney general to oppose this lawsuit.

COPIES of this resolution shall be sent to the Honorable Gary F. Locke, United States Secretary of Commerce; the Honorable Sarah Palin, Governor of Alaska; the Honorable Wayne Anthony Ross, Alaska Attorney General; and the Honorable Denby Lloyd, Commissioner, Department of Fish and Game.

ALASKA STATE LEGISLATURE

Senate District H
600 E. Railroad Avenue
Wasilla AK 99654
907-376-4866
907-373-4724 – Fax
Senator_Charlie_Huggins@legis.state.ak.us

State Capitol, Room 119
Juneau AK 99801-1182
907-465-3878
Fax: 907-465-3265
800-862-3878
www.akrepublicans.org/huggins/

Charlie Huggins
Senator

Sponsor Statement SJR 22

This resolution takes aim at the lawsuit filed in the US District Court of Alaska by the United Cook Inlet Drift Association (UCIDA). The complaint by this commercial fishing group, calling for a return of federal management is an affront to the State of Alaska. Do not forget, here in our 50th year as a state, it was a colossal failure of federal salmon management that was a major driving force behind the statehood movement. I would hope no one wishes to return to such a regime.

UCIDA is an association of both resident and non-resident commercial fishers who participate in drift gillnet salmon fisheries in the inlet. Remarkably, these fishers can keep, for their personal use, an unlimited number of fish from their commercial catch. Their goal is to have the state-managed person use dip net fishery declared unconstitutional and be pre-empted by federal law. This resolution seeks a fair shake for Alaskans who fish, without commercial gear, with simple dip nets, to feed their families. It asks the governor to intervene in defense of the state's authority to manage its own fisheries in a responsible manner.

4/13/09

FISCAL NOTE

STATE OF ALASKA
2009 LEGISLATIVE SESSION

Fiscal Note Number:
Bill Version: **SJR 22**
() Publish Date:

Identifier (file name): SJR22-LEG-COU-04-14-09
Dept. Affected: Legislature
Title "Opposing litigation that seeks to eliminate the Kenai, Kasilof, and Chitina sockeye salmon personal use dip net..."
RDU Legislative Council
Component Council and Subcommittees
Sponsor Senators Huggins, Ellis, Wielechowski, Menard, Thomas...
Requester Senate Resources Committee
Component Number 783

Expenditures/Revenues (Thousands of Dollars)

Note: Amounts do not include inflation unless otherwise noted below.

	Appropriation Required	Information					
OPERATING EXPENDITURES	**FY 2010**	**FY 2010**	**FY 2011**	**FY 2012**	**FY 2013**	**FY 2014**	**FY 2015**
Personal Services							
Travel							
Contractual							
Supplies							
Equipment							
Land & Structures							
Grants & Claims							
Miscellaneous							
TOTAL OPERATING	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
CAPITAL EXPENDITURES							
CHANGE IN REVENUES ( )							

FUND SOURCE (Thousands of Dollars)

1002 Federal Receipts							
1003 GF Match							
1004 GF							
1005 GF/Program Receipts							
1037 GF/Mental Health							
Other Interagency Receipts							
TOTAL	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**

Estimate of any current year (FY2009) cost:

POSITIONS

Full-time							
Part-time							
Temporary							

ANALYSIS: *(Attach a separate page if necessary)*

This legislation has zero fiscal impact on the Legislative Affairs Agency.

Prepared by: Karla Schofield, Deputy Director
Phone 465-6626
Division Legislative Affairs Agency
Date/Time 4/14/09 10:40 AM
Approved by: Pamela Varni, Executive Director
Date 4/14/2009
Legislative Affairs Agency

(Revised 9/10/2008 OMB)

Gregory R. Gabriel, Jr.
Alaska Bar No. 0611073
Baldwin & Butler, LLC
125 N. Willow St.
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Phone: (907) 283-7167
Fax: (907) 283-8435
Email: greg@baldwinandbutler.com

Attorney for Plaintiff

UNITED STATES DISTRICT COURT

FOR THE DISTRICT OF ALASKA

UNITED COOK INLET DRIFT ASSOCIATION, INCORPORATED; Plaintiff, vs. OTTO WOLF: In His Official Capacity as Acting Secretary of Commerce; Defendant.	)	Case No. **COMPLAINT FOR DECLARATORY AND INJUNCTIVE RELIEF** **(U.S. CONST. ART. VI, CL. 2; U.S. CONST. ART I, SEC. 8, CL. 3; U.S. CONST. AMEND. V; 16 U.S.C. § 1801 *ET SEQ.*; 5 U.S.C. §553; 28 U.S.C. §2201(a); 28 U.S.C. §2202; 42 U.S.C. §4332(2)(c))**

I. NATURE OF THE CASE

1. Plaintiff United Cook Inlet Drift Association, Inc. (UCIDA) brings this action against the Secretary of Commerce for failure to respond to a petition for emergency rulemaking under the Administrative Procedure Act, filed by UCIDA in June

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of 2008. Failure to respond to UCIDA's petition resulted in past and ongoing harm in violation of the Due Process clause and Equal Protection guarantees of the Fifth Amendment, and in violation of the Magnuson-Stevens Fisheries Conservation and Management Act (Magnuson-Stevens). 16 U.S.C. §1801 *et seq.*

II. JURISDICTION AND VENUE

2. This court has jurisdiction over this action under 16 U.S.C. §1855(f); 5 U.S.C. §702; 28 U.S.C. §2201(a); 28 U.S.C. § 1331. Venue is proper under 28 U.S.C. § 1391(e).

III. PLAINTIFF

3. UCIDA is a cooperative corporation, registered and in good standing in the State of Alaska, that represents commercial fishermen who utilize drift gillnets in the Exclusive Economic Zone (EEZ) of Cook Inlet, Alaska to harvest salmon. UCIDA actively participates in efforts at the state and national level to promote the interests of its members. Members of UCIDA consist of resident and non-resident commercial fishermen who rely predominately upon the harvests of sockeye salmon to earn their livelihood. Most of the sockeye salmon harvested by UCIDA members are returning to the major spawning rivers in Cook Inlet; in particular the Kenai, Kasilof, Crescent, and Susitna Rivers.

4. In addition to participating in the commercial fishery, some UCIDA members participate in recreational fishing, including UCIDA members from other states. Although UCIDA does not generally advocate for the recreational interests of its

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members and it is not UCIDA's primary purpose, some of UCIDA's members are precluded from participating in resident-only fisheries and are therefore harmed by ongoing state regulations that prohibit non-resident participation in recreational fisheries.

5. In February of 2008, UCIDA represented its members at the state level, opposing promulgation of proposed state salmon regulations that would substantially and adversely affect their fishery in the EEZ. Immediately after the State of Alaska promulgated these regulations, which would have a substantial and adverse affect on the ability of UCIDA members to remain economically viable, UCIDA filed a petition for emergency rulemaking (Petition) with the Secretary of Commerce pursuant to 5 U.S.C. §553(e), urging the Secretary to initiate emergency preemption proceedings against the State of Alaska under 16 U.S.C. §1855(c)(1) prior to the 2008 salmon season.

6. The Secretary failed to respond to the UCIDA petition. UCIDA brings this action on behalf of its members – those commercial salmon fishermen operating drift gillnets in the EEZ and state waters – to assert their right to petition for rulemaking under the APA and Magnuson-Stevens. UCIDA has standing under both the APA and Magnuson-Stevens to bring this action. The Secretary unlawfully failed to respond to UCIDA's Petition, causing irreparable injury to UCIDA's members. Because the injury caused by the challenged state regulations is ongoing, and the Secretary's ongoing failure to respond to the Petition denies UCIDA due process under the APA and the U.S. Constitution, there is an ongoing controversy over which this court can grant a remedy.

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IV. DEFENDANT

7. Defendant Otto Wolf is the Acting Secretary of Commerce, who has management authority over anadromous species throughout their range under Magnuson-Stevens. He is vested with responsibility for implementing and enforcing Magnuson-Stevens under 16 U.S.C. § 1855(d). He is being sued in his official capacity

V. BACKGROUND

8. Congress exercised federal jurisdiction over all anadromous fish species, including Pacific salmon throughout their range, in the Magnuson-Stevens Fisheries Conservation and Management Act (Magnuson-Stevens Act), as reauthorized in 2006. 16 U.S.C. §1811(b)(1). Congress clearly articulated ten national standards applicable to conservation and management of anadromous species. The ten national standards are:

> (1) Conservation and management measures shall prevent overfishing while achieving, on a continuing basis, the optimum yield from each fishery for the United States fishing industry.
>
> (2) Conservation and management measures shall be based upon the best scientific information available.
>
> (3) To the extent practicable, an individual stock of fish shall be managed as a unit throughout its range, and interrelated stocks of fish shall be managed as a unit or in close coordination.
>
> (4) Conservation and management measures shall not discriminate between residents of different States. If it becomes necessary to allocate or assign fishing privileges among various United States fishermen, such allocation shall be (A) fair and equitable to all such fishermen; (B) reasonably calculated to promote conservation; and (C) carried out in such manner that no particular individual, corporation, or other entity acquires an excessive share of such privileges.

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(5) Conservation and management measures shall, where practicable, consider efficiency in the utilization of fishery resources; except that no such measure shall have economic allocation as its sole purpose.

(6) Conservation and management measures shall take into account and allow for variations among, and contingencies in, fisheries, fishery resources, and catches.

(7) Conservation and management measures shall, where practicable, minimize costs and avoid unnecessary duplication.

(8) Conservation and management measures shall, consistent with the conservation requirements of this chapter (including the prevention of overfishing and rebuilding of overfished stocks), take into account the importance of fishery resources to fishing communities in order to (A) provide for the sustained participation of such communities, and (B) to the extent practicable, minimize adverse economic impacts on such communities.

(9) Conservation and management measures shall, to the extent practicable, (A) minimize bycatch and (B) to the extent bycatch cannot be avoided, minimize the mortality of such bycatch.

(10) Conservation and management measures shall, to the extent practicable, promote the safety of human life at sea

16 U.S.C. §1851(a).

9. Congress then delegated to the Secretary of Commerce (Secretary) and eight Regional Fishery Management Councils, authority to implement the Magnuson-Stevens Act. The Secretary has authority and the responsibility to "promulgate such regulations,...as may be necessary to discharge such responsibility or to carry out any other provision of [Magnuson-Stevens]." 16 U.S.C. §1855(d). The Secretary delegated his authority to the National Marine Fisheries Service (NMFS) to enact appropriate

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regulations to implement and enforce the anadromous species provisions of Magnuson-Stevens.

10. The North Pacific Fishery Management Council (Council) retains jurisdiction over anadromous species in the EEZ from 3-200 miles off the coast of Alaska. The Council delegated management authority to the State of Alaska in the EEZ through the 1990 Fishery Management Plan for Salmon in the EEZ off the Coast of Alaska (FMP). The FMP for salmon closes the EEZ west of Cape Suckling to salmon fishing, with the exception of three historic net fisheries. The Cook Inlet commercial salmon drift gillnet fishery occurs in the EEZ west of Cape Suckling and is one of the three historic net fisheries preserved in the FMP.

11. The State of Alaska manages anadromous species in state waters under the Statehood Act, which provided that management of fish and game resources would transfer to the state once "adequate provision for the administration, management, and conservation of said resources in the broad national interest" were in place. Alaska Statehood Act, Public Law 85-508, 72 Stat. 339, July 7, 1958.

12. The Statehood Act incorporates the Submerged Lands Act of 1953 by reference. The Submerged Lands Act, while transferring title to the submerged lands under the navigable waters of the United States to the states, retained federal jurisdiction over those waters and resources for the purposes of navigation and commerce. Alaska Statehood Act, §6(c); 42 U.S.C. §772 *et seq.*

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13. Congressional authority to enact Magnuson-Stevens and the Submerged Lands Act is rooted in the Commerce Clause of the United States Constitution, which provides that Congress shall regulate commerce among the several states and with foreign nations. U.S. Const. Art. I, § 8.

14. The State of Alaska promulgated regulations that permit Alaska residents to harvest salmon to the exclusion of commercial fisherman and non-resident recreational fishermen in the drainages of Cook Inlet. UCIDA alleges that resident-only harvests of salmon are violative of Magnuson-Stevens, and they substantially and adversely affect the Cook Inlet EEZ fishery, thereby causing ongoing harm to UCIDA's members.

15. UCIDA alleged violations of federal law under Magnuson-Stevens including discrimination based on residency, failure to manage for optimum sustained yield, and harm to essential fish habitat, and sent a letter to the North Pacific Fishery Management Council urging the Council to provide comments to the Secretary of Commerce as provided for in the Council's procedures and the FMP.

16. The Council, through its executive director, responded that the Council had no obligation to provide comments to the Secretary, and that there are no federal laws that apply to salmon management in state waters.

17. UCIDA then filed a PETITION FOR EMERGENCY RULES RELATED TO SALMON MANAGEMENT IN COOK INLET, ALASKA pursuant to the APA and Magnuson-Stevens with the Defendant on June 16, 2008, alleging a violation of Magnuson-Stevens and urging Defendant to take emergency action.

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18. Specifically, UCIDA challenged the resident-only fisheries, mandatory closures, arbitrary season opening and closing dates, escapement goals that do not meet optimum sustained yield, and failure of the state to utilize the best available science when promulgating regulations. UCIDA requested that the Secretary take steps to protect the commercial fishing community and the essential fish habitat upon which UCIDA's members and salmon rely.

19. The Secretary failed to respond to the Petition.

20. On July 24, 2008, the Cook Inlet fishery targeting Kenai River sockeye salmon was closed for the season in an attempt to achieve the minimum escapement goal. The resident-only personal use fishery continued unabated until the normal regulatory season closure at 11:00 p.m. on July 31. The minimum sockeye salmon escapement goal for the Kenai River was not met.

21. On November 20, 2008 a letter was sent to the Secretary inquiring into the status of the Petition. As of March 3, 2009, there has been no response to the Petition or the letter of inquiry related to the Petition.

22. The same regulations are in place for the 2009 and 2010 seasons which led to the 2008 closure of the EEZ fishery in favor of resident-only fisheries. UCIDA's members have been harmed and continue to be harmed by the state regulations pertaining to salmon management in Cook Inlet and the EEZ.

23. UCIDA sought a remedy through the petition process available under the APA in an effort to redress the ongoing harm suffered by its members. The Secretary, by

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failing to respond to the Petition, denies UCIDA's members due process under the provisions of the APA, Magnuson-Stevens, and the United States Constitution.

First Claim
Defendant Failed to Respond to UCIDA's Petition for Emergency Rulemaking

24. Paragraphs 1 through 23 are realleged and incorporated by reference herein.

25. UCIDA's members have a statutory interest under the APA and Magnuson-Stevens related to petitions for rulemaking which are filed with the Defendant.

26. UCIDA'S members also have a substantive interest in the commercial fishery in the EEZ of Cook Inlet as recognized by Congress in Magnuson-Stevens, including adherence to the ten national standards and protection of essential fish habitat.

27. Defendant unlawfully withheld agency action regarding UCIDA's Petition, resulting in actual harm to UCIDA's members when their fishery was closed in favor of resident-only fisheries and the minimum escapement goal for sockeye salmon was not achieved in the Kenai River. Defendant's inaction failed to provide procedural protections to ensure that the ten national standards are met and that essential fish habitat is protected. UCIDA members suffer ongoing harm because the same regulations which closed the Cook Inlet fishery in 2008 and failed to adhere to the ten national standards and fail to protect essential fish habitat are in place for the 2009 and 2010 seasons.

28. UCIDA's members have a statutory and substantive interest in the Cook Inlet EEZ salmon fishery that could have been protected if Defendant acted lawfully and

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considered the Petition. Defendant's failure to act resulted in actual harm to UCIDA members during the 2008 season, and because the same state regulations remain in place, UCIDA members will suffer harm in the 2009 and 2010 seasons that is concrete and particularized – restrictions on their fishery in favor of resident-only fisheries, lost yield, and essential fish habitat degradation.

29. UCIDA respectfully requests this court to declare resident-only fisheries preempted under the Commerce Clause and Magnuson-Stevens as a matter of law. Further, UCIDA requests an order of remand to the Defendant to thoughtfully consider all elements of UCIDA'S Petition and to initiate preemption proceedings against the State of Alaska to redress the ongoing harm suffered by UCIDA members.

Second Claim
Defendant Violated UCIDA's Members Due Process Rights Under the 5th Amendment

30. Paragraphs 1 through 29 are realleged and incorporated by reference herein.

31. Defendant's failure to respond to UCIDA's Petition deprived UCIDA's membership due process of law under the Fifth Amendment to the United States Constitution regarding their statutory liberty to commercial fish granted under Magnuson-Stevens and the APA.

Third Claim
Defendant Violated UCIDA's Members Equal Protection

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32. Paragraphs 1 through 31 are realleged and incorporated by reference herein.

33. Defendant's failure to respond to UCIDA's Petition deprived UCIDA's membership equal protection under the United States Constitution, the APA, and Magnuson-Stevens.

PRAYER FOR RELIEF

Therefore, Plaintiff respectfully requests that the Court:

1. Declare Defendant's failure to respond to UCIDA's Petition a violation of the APA, Magnuson-Stevens, and the 5th Amendment for unreasonably withholding agency action.

2. Declare Defendant's actions a deprivation of the due process and equal protection rights of UCIDA's members.

3. Declare that the state authorized resident-only salmon fisheries in Cook Inlet, Alaska are unconstitutional and therefore preempted by federal law.

4. Order the Defendant to initiate preemption proceedings against the State of Alaska under Magnuson-Stevens for actions that substantially and adversely affect the commercial salmon fishery in the EEZ of Cook Inlet.

5. Order the Secretary to review the Cook Inlet Salmon regulations and show cause that they meet the ten national standards of Magnuson-Stevens, with particular

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attention to season opening and closing dates, mandatory closures, whether the Kenai River sockeye salmon escapement goals achieve optimum sustained yield, and whether adequate measures are in place to protect essential fish habitat.

6. Order the Secretary to provide comments to the State of Alaska and to establish a consultation process for protection and rehabilitation of essential fish habitat in the Cook Inlet basin.

7. Order the Secretary to provide procedural guidance to the North Pacific Fishery Management Council regarding requests for comments to the Secretary related to fishery management by members of the public and other interested parties.

8. Retain jurisdiction over this matter until such time as the Secretary of Commerce demonstrates to the court that salmon regulations in Cook Inlet comply with the ten national standards and other provisions of the Magnuson-Stevens Act.

9. Award Plaintiff the costs of this action, including reasonable attorney's fees, pursuant to the Equal Access to Justice Act, 28 U.S.C. § 2412.

10. Grant Plaintiff such other and further relief as the Court deems just and proper.

DATED: This 4th day of March, 2009.

Respectfully submitted,
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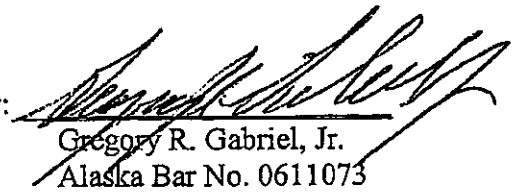
By: 

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ALASKA STATE LEGISLATURE

Bill Stoltze
State Representative
House District 16

Charlie Huggins
State Senator
Senate District H

Huggins, Stoltze Introduce Resolution to Protect Alaska's Personal Use Dip Net Fisheries

(JUNEAU, April 9, 2009) – Senator Charlie Huggins (R-Mat-Su) and Representative Bill Stoltze (R-Chugiak/Mat-Su) today announced that they are introducing companion resolutions requesting Governor Sarah Palin's administration to join the federal government in opposing a lawsuit filed by a Cook Inlet commercial fishing group challenging salmon management in the inlet. Senate Joint Resolution 22, sponsored by Senator Huggins and co-sponsored by Senators Johnny Ellis (D-Anchorage), Bill Wielechowski (D-Anchorage) and Linda Menard (R-Wasilla), was introduced this morning. Representative Stoltze plans to introduce a companion resolution in the House of Representatives tomorrow.

"With this resolution, we're trying to get a fair shake for Alaskans who fish to feed their families and asking the governor to defend the state's authority to manage our fisheries in a responsible manner," said Senator Huggins. "If this lawsuit is successful, it could pre-empt state management and be detrimental to Alaskans' access to our salmon resources."

The lawsuit was filed last year by the United Cook Inlet Drift Association (UCIDA) against the U.S. Department of Commerce opposing the current management of salmon fisheries in Cook Inlet. UCIDA is an association of both resident and non-resident commercial fishermen who participate in drift gillnet salmon fisheries in the inlet. Senate Joint Resolution 22 would express the Senate's objection to the association's effort to have state-managed personal use dip net fisheries declared unconstitutional and therefore pre-empted by federal law.

"It is appalling that this Alaska resident-only salmon fishery is under assault by special interests, said Representative Stoltze. "Dipnetting is a great part of Alaska - a true family tradition."

The resolutions request Governor Palin "to direct the attorney general to oppose this lawsuit", and, "in cooperation with the legislature, to re-examine the inordinate and potentially unfair, unethical, and disproportionate influence of the commercial fisheries industries on fisheries management in Alaska."

SJR 22 has been referred to the Resources Committee and the Judiciary Committee. The House version will be referred to committees tomorrow.

For more information, contact Senator Huggins or Sharon Long at 907-465-3878, or Representative Stoltze or Ben Mulligan at 907-465-4958.

###

Sharon Long

From: edfelt@gci.net on behalf of Larry Edfelt [edfelt@gci.net]
Sent: Friday, April 10, 2009 1:33 PM
To: Sen. Lesil McGuire; Sen. Bill Wielechowski; Sen. Hollis French; Sharon Long
Subject: Support for SJR 22

Dear Senators:

I strongly support passage of SJR 22. The resolution thoroughly captures my thoughts. I hope the examination of the fisheries management process the resolution calls for actually happens.

In this same vein, please also reject the appointment of Brent Johnson to the Board of Fisheries, and encourage the governor to provide more geographic balance and broader user group expertise to the board.

Thank you for whatever consideration you give to this.

sincerely,
Larry Edfelt

Box 210821
Auke Bay, AK 99821
907-780-4780

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http://www.iolo.com

Sharon Long

From: Melvin Grove [mbgrove@mtaonline.net]
Sent: Monday, April 13, 2009 3:19 PM
To: Sharon Long; Sen. Charlie Huggins
Cc: Sen. Lesil McGuire; Sen. Bill Wielechowski; Sen. Hollis French
Subject: SJR 22
Follow Up Flag: Follow up
Flag Status: Red

Senator Huggins,

I would like to express my support of SJR 22 and all initiatives that will bring a fair and equitable share among sport fisherman and the commercial fishing industry.

Sincerely,

Mel and Cheryl Grove
Halibut Grove Valdez Charters
[redacted]
P.O. Box 520575 Big Lake, AK 99652
www.alaskan-adventures-unlimited.com

Sharon Long

From: Duane BelAND [BELAND@MOSQUITONET.COM]
Sent: Monday, April 13, 2009 2:22 PM
To: Sharon Long
Subject: SJR 22
Follow Up Flag: Follow up
Flag Status: Red

I support SJR 22 and ask that the fisheries resources be allocated iaw the state Constitution and that commercial interests and out of state interests do not get priority as they seem to be attempting.

Duane Beland
North Pole, AK.

Sharon Long

From: Chuck and Joanne Collins [tales@ptialaska.net]
Sent: Monday, April 13, 2009 11:44 AM
To: Sharon Long, staff to Senator Huggins
Subject: SJR 22

Dear Ms. Long,

Please let Sen. Huggins know that we are in full support of SJR 22; for too long the commercial fishing industry has dominated boards and councils regarding fisheries management. It past time that a more equitable balance be established on these boards and councils and we believe SJR 22 to be a first step in that direction.

Sincerely,
Charles E. and Alice J. Collins

Sharon Long

From: Holly Van Pelt [alaskavetpath@mosquitonet.com]
Sent: Monday, April 13, 2009 11:11 AM
To: Sharon Long, Staff to Senator Huggins
Subject: support for SJR 22

support for SJR 22:

Dear Ms Long: Please be aware that I support SJR 22. The imbalance in the representation of our fisheries decision making councils and boards is a major causeof the creation of rules that are benefitting a small number of commercial fisherman in a disproportional manner. There finally is a study out that reflects the huge value of sport caught fish. The recreational fishery not only benefits local Alaskans directly by putting food in their freezers, but the financial benefit from tourist dollars is widely spread through the economy by the huge variety of the many small businesses that support this industry.

I think specifically the failures of the North Pacific Fisheries Management council to create a reasonable allocation of halibut resources between private and commercial sector is a result of a ridiculously biased council and somewhat biased staff and legal advisors. If there were to be a balance on that council, they might actually have produce a reasonable solution instead of the 15 years of failed efforts and legally flawed rules.

Thank you for your efforts in protecting the public interest in its resources,

Holly Van Pelt
Alaskan Cottages
P.O. Box 3309
Homer, AK 99603
907-235-9113

SJR

27

SENATE COMMITTEE REPORT
First Committee of Referral

DATE: 2/12/10

FURTHER:

Date of 5-Day Notice: _____
(in accordance with Uniform Rule 23)

DATE TURNED IN TO OFFICE: _____

Resources Committee considered SENATE JOINT RESOLUTION NO. 27

SJR 27 FED. FUNDING: DOMESTIC SEAFOOD MARKETING

Urging the federal government to provide funding for domestic seafood marketing and promotional activities.

and recommends:

[ ] be **replaced** with [ ] **SCS** or [✓] **CS** SJR 27 (RES)

[ ] adopt **previous** [ ] **SCS** or [ ] **CS** _____ (_____)

[ ] attached amendment(s)

[ ] adopt _____Letter of Intent

[ ] further referral to _____Committee

SENATE BILL:
[ ] Same Title
[ ] New Title

HOUSE BILL:
[ ] Same Title
[ ] Technical Title Change
[ ] New Title w/ SCR #_____

NEW FISCAL NOTE(S):

Department	Date	Fiscal	Indet.	Zero	FN#
SRES	03/08			✓	

PREVIOUS FISCAL NOTE(S):

Department	Date	Fiscal	Indet.	Zero	FN#

[ ] **APPROPRIATION - no fiscal note**

SIGNATURES AND RECOMMENDATIONS:	PRINTED LAST NAME	DO PASS	DO NOT PASS	NO REC	AMEND
	Huggins	✓			
	Stevens	X			
	Fisher	X			
CO-CHAIR:	McGuire	✓			
CO-CHAIR:	Wielechowski	✓			

ALASKA STATE LEGISLATURE

SENATOR LESIL McGUIRE
SENATOR BILL WIELECHOWSKI
Co-Chairs, Senate Resources Committee

MEMORANDUM

Memorandum

To: Leg. Legal

From: Shalon Szymanski, Committee Aide
Senate Resources Committee

Date: March 9, 2010

Re: Final CS Request

SJR 27

Please create a FINAL Senate Resources CS for ~~SB 206~~ mirroring work order number 26-LS1462\A but also include the attached amendment.

If you have any questions or need further information, please feel free to contact me on my direct line, 465-4522

Thank you!

1

AMENDMENT

OFFERED IN THE SENATE RESOURCES COMMITTEE

To: SJR 27

by Senator Stevens

Page 1, Line 5:

Delete: "50"

and replace with:

"80"

adopted by unanimous consent.

FISCAL NOTE

STATE OF ALASKA
2010 LEGISLATIVE SESSION

Fiscal Note Number: 1
Bill Version: SJR 27
() Publish Date:

Identifier (file name): SJR 27
Dept. Affected:
Title "Urging the federal government to provide funding for domestic seafood marketing and promotional activities"
RDU
Component
Sponsor Senator Egan
Requester Senate Resources
Component Number

Expenditures/Revenues (Thousands of Dollars)

Note: Amounts do not include inflation unless otherwise noted below.

	Appropriation Required	Information					
OPERATING EXPENDITURES	**FY 2011**	**FY 2011**	**FY 2012**	**FY 2013**	**FY 2014**	**FY 2015**	**FY 2016**
Personal Services							
Travel							
Contractual							
Supplies							
Equipment							
Land & Structures							
Grants & Claims							
Miscellaneous							
TOTAL OPERATING	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
CAPITAL EXPENDITURES							
CHANGE IN REVENUES ( )							

FUND SOURCE (Thousands of Dollars)

1002 Federal Receipts							
1003 GF Match							
1004 GF							
1005 GF/Program Receipts							
1037 GF/Mental Health							
Other Interagency Receipts							
TOTAL	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**

Estimate of any current year (FY2010) cost: 0.0

POSITIONS

Full-time							
Part-time							
Temporary							

ANALYSIS: *(Attach a separate page if necessary)*

This bill has no fiscal impact.

Prepared by: Shalon Szymanski, Senate Resources Committee Aide
Phone 907-465-2995
Division
Date/Time 3/8/10 1:51 PM
Approved by: Senator Lesil McGuire, Co-Chair of Senate Resources Committee
Date 3/8/2010

(Revised 11/6/2009 OMB)

SENATOR DENNIS EGAN

Senate Joint Resolution 27 – National Seafood Marketing

Senate Joint Resolution (SJR) 27 communicates to the Obama Administration, the Alaska Congressional Delegation, and Congress the Legislature's support for using a portion of federal revenues generated from duties on imported seafood and fish products for marketing American seafood—including that harvested in Alaska.

Since the 1990s, well over fifty percent of the fish consumed annually by American families is the product of foreign countries. And every year the governments of many of these countries bankroll multi-million-dollar campaigns to market their seafood to Americans.

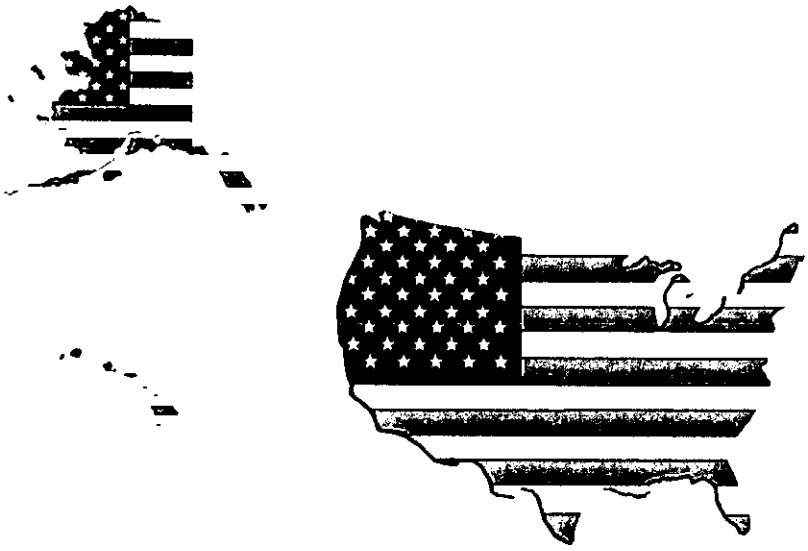
While the Alaska seafood industry as well as the state of Alaska contribute millions in funding for marketing purposes, the amounts are not adequate to finance the vigorous, consistent, and innovative promotion that our products require in the face of foreign competition.

Meanwhile, each year hundreds of millions of dollars are derived from duties on these imported fish and fish products that so aggressively compete with American seafood. Yet only an insignificant fraction of this revenue has ever been employed to promote domestically produced seafood.

SJR 27 endorses putting a portion of these revenues to work in developing and maintaining the robust domestic markets that healthy, sustainable Alaskan seafood deserves. The resolution urges Congress to pass legislation dedicating such funding for the effective domestic marketing of American seafood. It asks the Alaska Delegation in Congress to work together with representatives from other seafood producing states to accomplish these goals.

ALASKA SENATE
STATE CAPITOL • JUNEAU, ALASKA 99801-1182 • (907) 465-4947 • FAX (907) 465-2108
SENATOR.DENNIS.EGAN@LEGIS.STATE.AK.US

National Seafood Marketing Coalition



Julie Decker
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Creation of a
National Seafood Marketing Coalition

Executive Summary

U.S. seafood producers have common interests. These common interests are often overshadowed by a variety of conflicts, such as access and allocation. U.S. seafood producers can set aside conflicts in order to focus on areas of common interest.

U.S. seafood producers need parity with other U.S. food producers. The bottom line is that U.S. seafood producers are food producers and struggle with the same issues as other U.S. food producers. However, seafood producers are not included in many of the USDA programs which currently benefit farmers. For example, seafood producers do not receive specific funding for domestic marketing and product development which leaves us behind foreign competitors. Additionally, "wild caught" seafood producers cannot participate in the USDA Farm Service Agency's Loan Program due to the agency's definition of "fish."

These two examples, *marketing and affordable working capital,* address areas which are critical to the survival and success of the U.S. seafood industry. In order to affect positive change for U.S. seafood producers, we need to begin to think strategically. Below is an outline of those strategic steps.

Strategic Steps to Success:

1) Create a Coalition
2) Define the issue
3) Build support
4) Identify potential legislative vehicles
5) Wait for the correct timing

Step 1 – Create a Coalition: The formation of a *National Seafood Marketing Coalition* (Coalition) creates a forum on which to build grass roots support and effect the changes necessary in the industry. The creation of the Coalition is vital to the health of our industry and the survival of our coastal communities.

Step 2 – Define the issue: The first issue adopted by the Coalition could be the establishment of a National Seafood Marketing Fund which targets revenues from import duties on fish and fish products as an annual funding source. Other issues may be adopted by the Coalition in the future; however, beginning with one single issue allows the Coalition to focus on building its relationships and support around that issue.

A focused single issue and message with broad support is essential to achieving success. Marketing is an issue which will help all sectors of the industry by bringing higher demand and value to U.S. seafood products.

Step 3 – Build support: Grassroots support is the single most powerful influence on our Congressional Delegates. The Coalition must build support at the local, regional and national levels to create an unshakeable foundation of support for its issues. To do this, Coalition members must rally organizations, businesses, communities, and states with interest in the seafood industry, to support Coalition issues in Congress.

Step 4 – Identify potential vehicles: The next strategic step for success is to identify potential legislative vehicles on which to attach the Coalition's issue. A potential vehicle could be President Obama's Jobs Bill, mentioned in his State of the Union Address.

Step 5 – Wait for the correct timing: The political timing must be correct in order to accomplish our goal.

We must form a strong, supportive Coalition and be strategically smart. Remember, we have legitimate value in our goal; a healthy U.S. seafood industry is good for the economy and good for the country.

National Seafood Marketing Coalition

Proposal to Create a National Seafood Marketing Fund

DRAFT-DRAFT-DRAFT

Need

American seafood products are increasingly forced to compete with imported seafood and many other sources of protein in the domestic marketplace. Consequently, United States fishermen and seafood producers struggle to maintain a healthy business profile. Ex-vessel prices are too low to sustain many domestic fisheries. Fishing jobs are being lost and fishery dependant communities are in decline. It is in the interest of the U.S. to maintain a strong domestic seafood industry.

Concept

Develop national legislation directing a portion of the import duties collected on fish and fish products be dedicated to a National Seafood Marketing Fund (NSMF). The NSMF would market domestic seafood which directly competes with foreign imported seafood. Secondly, the legislation would establish nine (9) Regional Seafood Marketing Boards to receive, manage and direct these dedicated funds.

Factual Background

Seafood imports generate two sources of revenue for the U.S. treasury. First, approximately $300 million dollars annually ($282 million in 2008) is generated through duties and tariffs on imported fish and fish products. Second, as much as $400 million dollars may be generated annually from the antidumping/countervailing duties (AD/CVD) on imported fish and fish products.

The first source of revenue, money collected from import duties on fish and fish products, are funds for the U.S. Department of Agriculture (USDA) and the U.S. treasury. Annually, 30% of these funds are transferred from USDA to the U.S. Department of Commerce (USDC) National Marine Fisheries Service's *Promote and Develop Fisheries Products* (P&D) account. NMFS further allocates a majority of the P&D account to Operations, Research and Facilities (ORF). The remaining portion funds the Saltonstall-Kennedy (S-K) program, which traditionally has few or no proposals to *"promote and develop fisheries products."* To date, it has been difficult to find the disposition of the

remaining funds retained within the USDA. A breakdown of the appropriation of these funds for fiscal years 2007 & 2008 is listed below:

Revenue from Import Duties on Fish & Fish Products (millions)

Year	Total Duties in USDA	P&D Account	Remaining in USDA
FY07	**$ 276.05**	$ 82.82	$ 193.23
% of Total Duties	**100%**	30%	70%
FY08	**$ 281.98**	$ 84.59	$ 197.39
% of Total Duties	**100%**	30%	70%

P&D Account Breakdown	
ORF	SK
$ 79.00	$ 3.82
29%	1%
$ 77.00	$ 7.59
27%	3%

The 1956 S-K Act was amended in 1983 to require that 60% of the P&D, or approximately $50M, be used to fund the S-K program annually. Further, it is interesting to note that the amount of funds used for the S-K program since 1983 has never met this minimum of 60%; the average for this period is 11.8% (including promotional and marketing funds).

From FY1978 to FY2008, import duties on fish and fish products have grown from $43.3M to $282M. However, funds available for the S-K program have shrunk from $13M to $7.6M. The average for this period is $7.3M.

The second source of revenue, the antidumping/countervailing duties (AD/CVD), is not currently allocated for any use by domestic seafood producers, although domestic seafood producers are dramatically affected by imported products often subsidized by foreign governments. AD/CVD funds collected from imported seafood have been difficult to definitively identify; however, it is believed to be as much as $400M annually.

Funding Source

This proposal suggests an annual funding mechanism for the National Seafood Marketing Fund by utilizing equal portions of the revenue from import duties on fish and fish products and the revenue from AD/CVD. The portion of revenue from import duties on fish and fish products should be equal to the congressional intent of 60% of the P&D account (approximately $50M annually) which would then be matched with an equal amount from the AD/CVD.

To be clear, the import duties on fish and fish products targeted for this proposal are the 70% remaining in USDA, not the 30% transferred to NMFS for ORF and S-K.

Structure of Regional Seafood Marketing Boards

1. Nine (9) Regional Seafood Marketing Boards (Boards) would be established in order to include all U.S. seafood producers which would include mariculture and aquaculture. Eight (8) Boards would geographically parallel the 8 Regional Fishery Management Councils authorized by the Magnuson-Stevens Act. The 9th Board would represent inland domestic seafood production. Marketing activities of each Board would be directed toward seafood caught or products produced in each region.

2. Establish a statutorily "fixed" annual funding mechanism using an equal portion of the import duties on fish and fish products and the AD/CVD. The total amount appropriated annually would be divided into thirds:

- One-third distributed equally to all 9 regional Boards.
- One-third distributed based on the comparative regional value of seafood produced in the most recently reported year.
- One-third distributed based on the comparative regional volume of seafood (metric tons) produced in the most recently reported year.

3. The Boards should be limited in scope to promotion and marketing, including new product development, of seafood harvested and/or produced in each region (e.g. no imported products). "Promotion and marketing, including new product development" should be defined broadly enabling Boards to respond quickly to market needs.

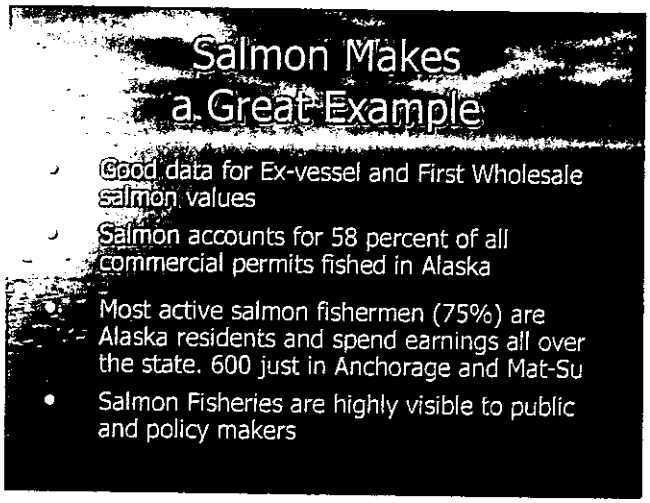
4. Boards serve as the regional "umbrella funding" entity. The Boards' activities should be limited to the awarding of grants and the distribution of funds through a Request for Proposal process. Boards would not manage marketing programs. Existing marketing or development entities, such as the Wild American Shrimp, Inc., Louisiana Seafood Promotion and Marketing Board, Maine Lobster Promotion Council, Alaska Seafood Marketing Institute, or the California Salmon Council could also apply to the Boards for funding to support their programs.

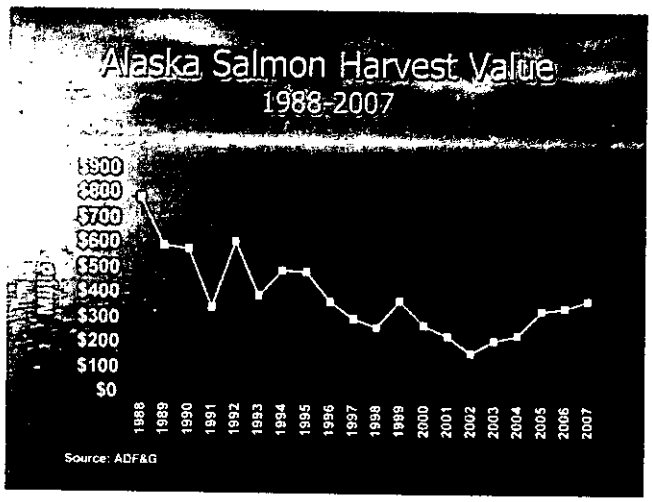
In addition, the Boards, as regional "umbrella" entities, should be encouraged to also focus on smaller (niche) marketing initiatives by requiring Boards to distribute a specific portion of their annual funding to "small businesses" as defined by the Small Business Administration.

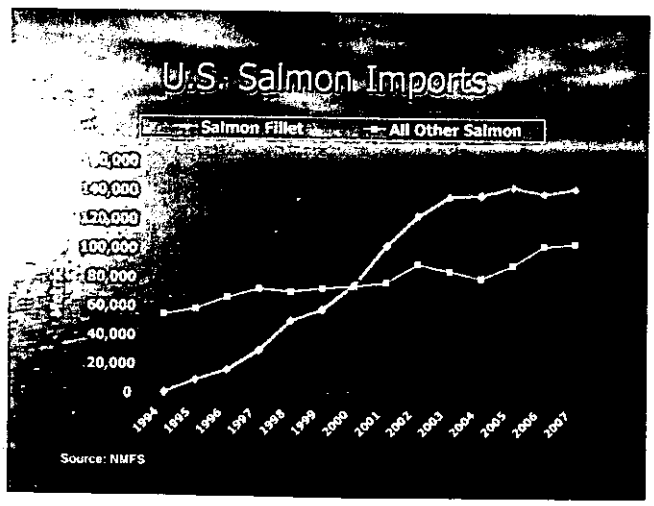
Boards can spend no more than 10% of their annual funding for administration and operational expenses.

5. Cooperation between Boards should be encouraged by requiring the Board chairmen to meet semi-annually to discuss common species, marketing projects and issues of concern. Semi-annual meetings could also include representatives from various existing seafood marketing organizations as well.

Why Marketing?
An Example from the Alaska Salmon Industry







In 1991, the Alaska salmon industry suffered from a huge influx of imported farmed salmon in consumer-friendly forms.

From 1991 to 2002, the value of Alaska salmon continued to drop as the import of farmed salmon continued to rise.

As the demand for Alaska salmon fell, so did the funds used to market Alaska salmon through the Alaska Seafood Marketing Institute (ASMI). ASMI is funded based on a percent tax on the industry.

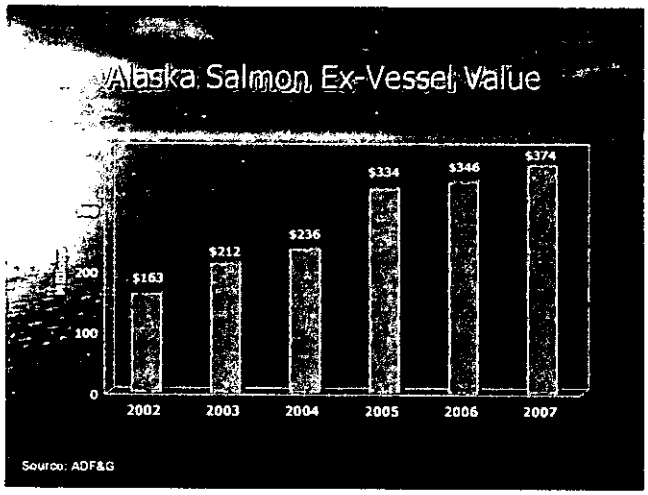
As the value of the fishery declined, the marketing funds desperately needed to pull the industry out of the tail-spin were also declining, furthering the downward trend.

During this time, approximately two-thirds of the fishermen and processing companies went out of business across Alaska.

In 2002, the Alaska salmon industry hit the lowest point of profitability in history.

Definitions

- Ex-vessel Value, $1.6 billion in 2007
  - Payment to Harvesters
    - Most common measure, basis for taxation, captures activity of harvest sector only
- First Wholesale Value, Est. $3.6 billion
  - First sale by a processor to a buyer outside their affiliate network
    - Not commonly used, but captures the full spectrum of economic activity



Value Growth Drivers

- Biology
  - Strong sockeye harvest
  - Record and near-record pink & chum harvest
- Salmon Product-form Shifts
  - Pink salmon
  - Fillet production
- Market Activity
  - Production & consumption growth
  - Market receptive to AK seafood core messages
  - Effective Differentiation

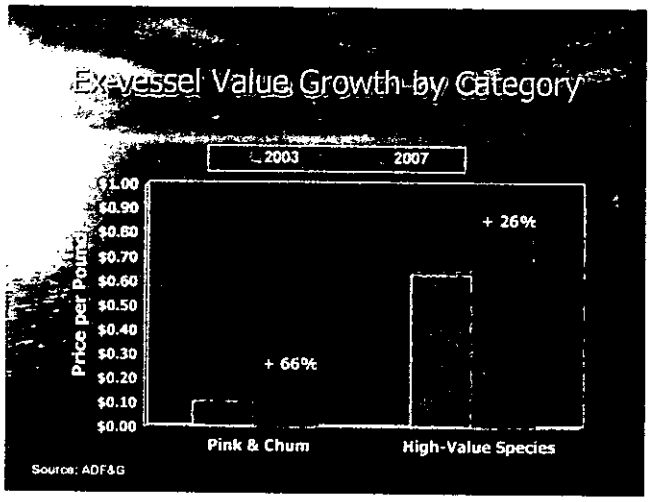
Also in 2002, Governor Frank Murkowski and his Salmon Cabinet designed and implemented the Alaska Salmon Revitalization Plan, funded with approximately $40 million, plus an equal amount of matching funds from private industry.

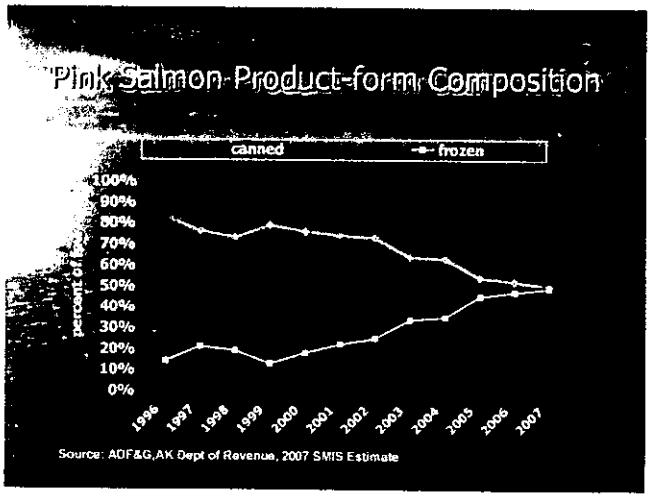
At this same time, Senator Ted Stevens created the Alaska Fisheries Marketing Board (AFMB) out of frustration in trying to meet the intent of Congress to use 60% of the Promote & Develop Fisheries Account funds to "promote and develop fisheries products." AFMB is considered a pilot project to the current proposed National Seafood Marketing Fund.

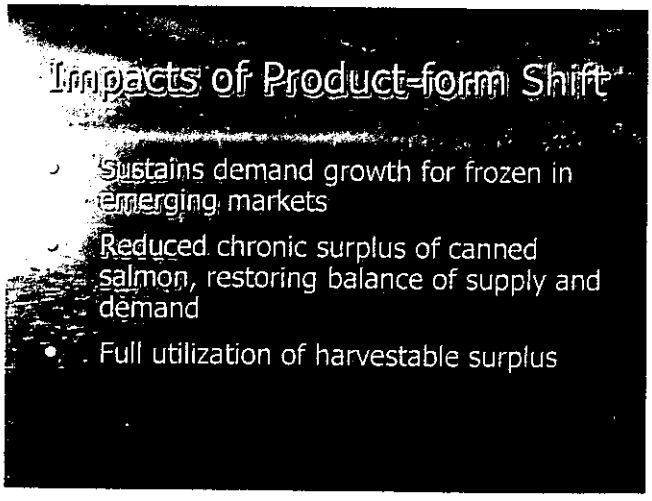
The AFMB was funded with $36 million between 2002 and 2007.

The combination of these funds, over $116 million, was used for marketing, product development and infrastructure with an emphasis on the failing salmon industry.

The positive results of these investments are significant.







Results of Investments in Marketing:

--Increased quality on vessels and in processing plants.

--Increased the number of new product forms, such as fillets, portions, and consumer-ready products.

--Decreased the number of old product forms, such as canned and headed-and-gutted salmon.

--Changed from focusing on the primary processing industry to the secondary processing industry.

--Changed from focusing on the salmon market to focusing on the food market.

--Changed from a commodity-driven market to a consumer-driven market.

--Brought fishermen, processors, wholesalers and government agencies to the table to determine what was needed as market conditions were dynamically changing.

First Wholesale: The Full Measure of Salmon Value

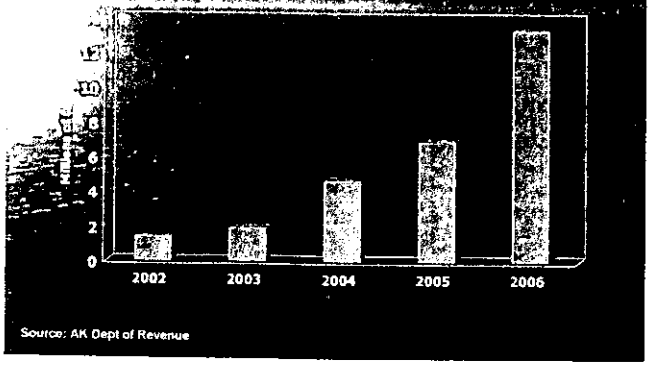
- Payment to harvesters
- Processors' profits
- Expenditures on goods and services associated with production in Alaska

Average First Wholesale Value Primary Pink Salmon Products

	Froz H&G	48-tall case
CY 2003	$.41	$35.57
CY 2004	$.52	$36.94
CY 2005	$.62	$41.00
CY 2006	$.82	$46.12
Jan-Sep 2007	$.75	$57.70

Source: AK Dept of Revenue

Alaska Sockeye Fillet Production



Source: AK Dept of Revenue

As a result of the investments in marketing (quality, product development, infrastructure and advertisement), the value of Alaska salmon began to rise almost immediately.

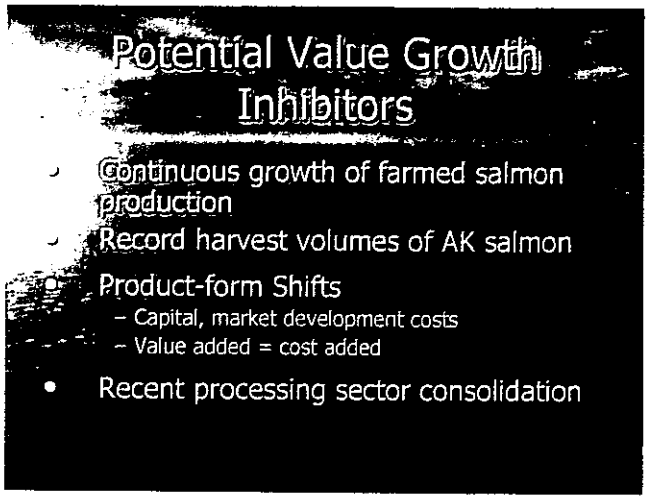
From 2002 to 2007, the ex-vessel values increased from $163 million to $374 million, an increase of 130%.

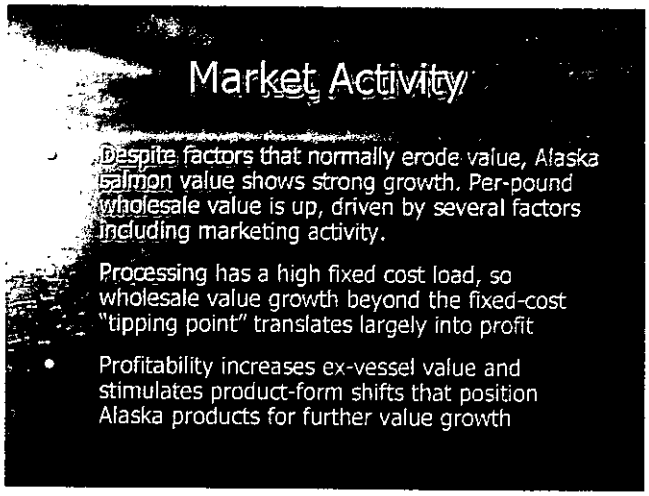
The first wholesale value of salmon increased from approximately $550 million to $850 million.

The price of canned pink salmon rose from $35.57 to $57.70 per case.

The amount of sockeye fillets produced continued to rise from approximately 2 millions pounds to almost 14 million pounds.

Many of the costs for processors are fixed. Therefore, as profitability began to rise, the percentage of profits that could be shared with fishermen also rose. The price paid to fishermen, as a percentage of the first wholesale value, increased from 29% to 40%.

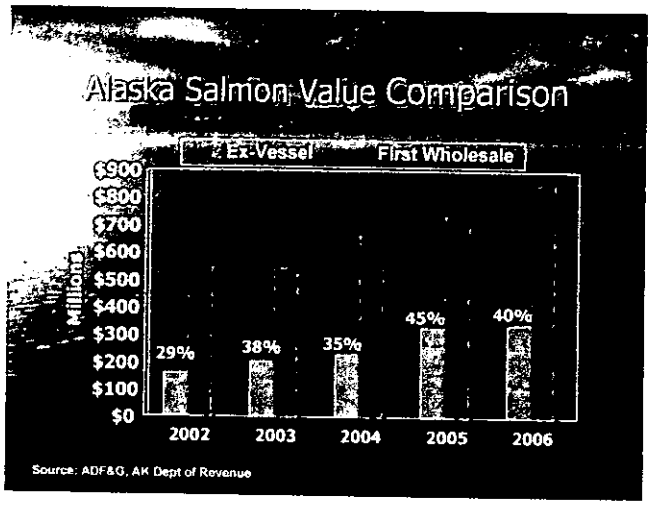


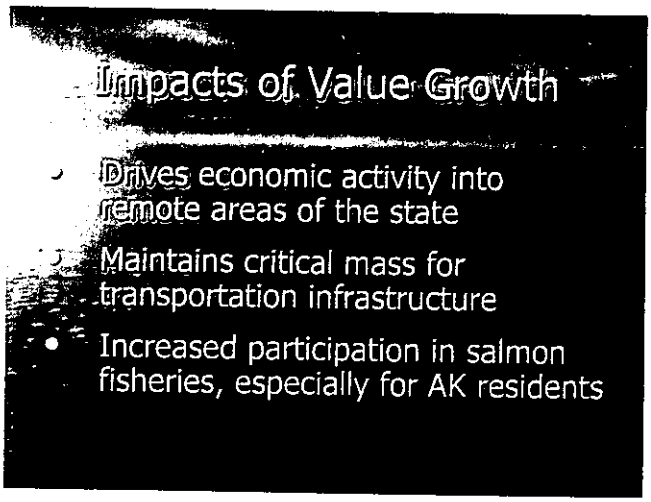


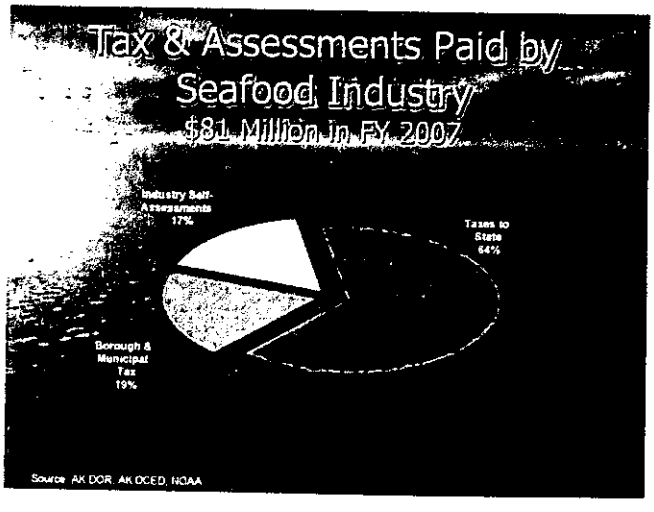
The rise in value of Alaska salmon continued even in the face of increased production of farmed salmon, record harvests of Alaska salmon, increased competition from other sources of seafood, and increased marketing efforts from foreign countries. For example, Norwegian salmon companies have budgeted $15 million for marketing in the U.S. for 2010.

The Alaska Seafood Marketing Institute (ASMI) continues to receive funding for marketing from taxes assessed on the industry. ASMI's budget from assessments is between $5 million and $10 million per year to market ***all*** Alaska Seafood. These assessments allow ASMI to leverage a variety of grants.

Since 2007, the influx of $116 million in marketing funds is no longer available. However, the ex-vessel value of salmon continues to rise. In 2008, ex-vessel values of Alaska salmon rose to $452 million, an increase of 177% over 2002 ex-vessel values.





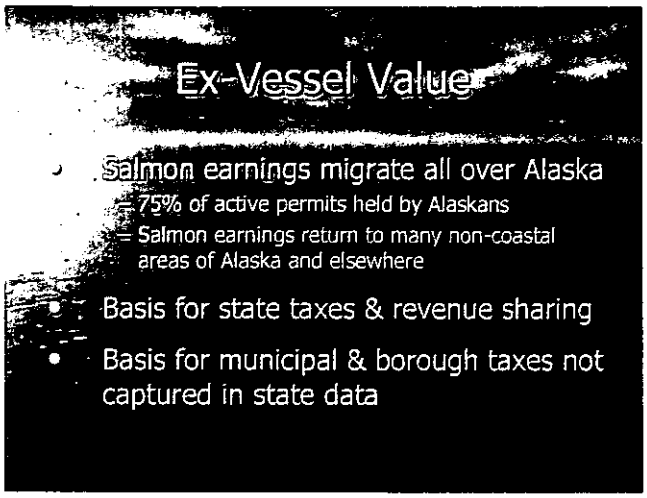


These marketing investments in the Alaska salmon industry were pure economic development.

As the value of the industry increased, economic activity also increased from rural areas of Alaska to urban centers, and even extending to other states which support the industry.

For example, as the industry began to be profitable again, upgrades were made in both the processing and harvesting sectors. Airlines invested in additional cargo capacity as more fillets and high quality salmon were shipped by air. Freight and trucking companies invested in upgrades as distribution lines changed.

Quality improvements and product development meant investments in equipment and machinery (i.e. ice machines, flash freezers and fillet machines) purchased through supply companies all over the country.



As the salmon industry increased in value, the tax revenue from the industry also increased. Salmon industry taxes support the continued marketing of Alaska seafood, the enhancement of the industry, state activities and municipal activities, such as schools and harbors.

This chain of economic impact continues to trickle down and is seen on local, regional, state and federal levels.

The investment in marketing Alaska salmon is a success story; it is also an example of what marketing can do for any product and the value of aggressive and continued marketing support, such as a *National Seafood Marketing Fund*.

*Note: Slides are excerpts from the McDowell Group's presentations to the Alaska Fisheries Marketing Board (Jan. 21, 2008) titled, "Alaska Salmon Industry: Value Growth Drivers, Secondary Impacts" & to the Alaska Seafood Marketing Institute (Feb. 21, 2008) titled "Value of the Alaska Fishing Industry to the State of Alaska".

Order Code RS21799
Updated May 26, 2004

CRS Report for Congress
Received through the CRS Web

Saltonstall-Kennedy Fishery Funding

Eugene H. Buck
Specialist in Natural Resources Policy
Resources, Science, and Industry Division

Summary

The Saltonstall-Kennedy Act established a fund that, among other things, has supported fishery research and development projects, with funding awarded annually on a competitive basis. Recent congressional "earmarks" have preempted the competitive process for awarding funding for industry projects. This report will be updated as this issue evolves.

The Saltonstall-Kennedy (S-K) Act, as amended (15 U.S.C. §713c-3), established a fund (known as the S-K Fund) that the Secretary of Commerce uses to finance projects and cooperative agreements for fishery research and development. Under this authority, projects or cooperative agreements are selected annually on a competitive basis to assist NOAA Fisheries (previously known as the National Marine Fisheries Service) in addressing concerns related to U.S. commercial and recreational fisheries. The S-K Fund is capitalized through annual transfers under a permanent appropriation to the Secretary of Commerce of 30% of the gross receipts collected by the Secretary of Agriculture under the customs laws on imports of fish and fish products.[1]

The objective of the S-K program is to address the needs of fishing communities in providing economic benefits for rebuilding and maintaining sustainable fisheries, and in dealing with the impacts of conservation and management measures.[2] The S-K program has become very important in addressing issues of immediate concern to the commercial fishing industry, by producing many new gear innovations, markets, and management options. Issues addressed have included fish harvesting, seafood quality improvements, domestic and foreign market development, efficiency and productivity improvements, and the costs/profitability of potential fishing industry investments.[3]

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[1] Because of progressive reductions and eliminations of tariffs on edible fisheries products, most of these customs duties come from non-edible products, such as pearls, coral jewelry, etc.

[2] U.S. Dept. of Commerce, National Marine Fisheries Service, *The Saltonstall-Kennedy Grant Program: Fisheries Research and Development*, Report 2003 (Aug. 1, 2003), p. 2.

[3] U.S. General Accounting Office, *Uses of Saltonstall/Kennedy Fisheries Development Funds*, (continued...)

Customs receipts have increased substantially during the life of this program, with almost $80 million currently being transferred annually to the Secretary of Commerce. **Table 1** summarizes program funding. In 1980, Congress enacted formal program authority to fund fishing industry development projects and expanded this authority in 1983, establishing a minimum percentage of S-K funds to be used to provide financial assistance to projects. The balance of S-K funds were to be used by the Secretary of Commerce for a national program of fisheries research and development to address aspects of U.S. fisheries not adequately addressed by funded industry projects. Beginning in FY1979, increasing amounts of S-K dollars have been transferred to the Department of Commerce's National Oceanic and Atmospheric Administration's (NOAA's) *Operations, Research, and Facilities* (ORF) account, reducing the funds and percentage of funds available for fishing industry projects and the national program. Since FY1982, the S-K program has never allocated the minimum amount (50% after FY1980 and 60% after FY1983) specified by law for industry projects. For example, in FY2002, slightly more than $79.1 million in customs duty receipts were transferred to the Department of Commerce from the Department of Agriculture. Of this amount, P.L. 107-77 transferred $68 million to NOAA's ORF account "for necessary expenses of activities authorized by law for the National Oceanic and Atmospheric Administration."[4] A total of slightly more than $11.1 million (14.1% of the customs receipts transferred to the Department of Commerce) remained for commercial fishing industry projects, the national program of fisheries research and development, and S-K program administration.

In FY2004 appropriations (P.L. 108-199, 118 Stat. 73, §208 of "General Provisions — Department of Commerce"), congressional earmarks designated funds for specific activities outside the regular competitive award process, and the competitive program was cancelled for FY2004.[5] A similar situation occurred in FY2003. Regardless of the merits of the activities funded through the congressional earmarks, some elements of the commercial fishing industry have expressed frustration when the competitive process is circumvented and projects are funded outside a competitive selection process.[6]

Since the S-K program requires no periodic reauthorization, no recent congressional oversight hearings have been held to review the department's rationale for allocating S-K funds between industry projects and agency base funding; how specific project areas to be funded are selected; how this program is administered and at what cost; how the results of funded projects are reviewed, disseminated, and used; and to what extent the program continues to meet its statutory objectives. Additional questions include whether the S-K

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[3] (...continued)
GAO/RCED0-85-145 (Washington, DC: Aug. 30,1985), p. ii.

[4] 115 Stat. 774-775.

[5] In several earlier instances, congressional "soft" earmarks were specified in report language associated with annual appropriations. Although such language is not legally binding, NOAA followed the direction in making funds available noncompetitively for various specific projects. Examples include the Interstate Shellfish Sanitation Conference for an education program on naturally occurring *Vibrio vulnificus* in shellfish and the Alaska Fisheries Development Foundation for a report entitled *An Ocean of Answers*.

[6] Discussions among commercial fishermen on the internet discussion group "Fishfolk" fishfolk@mitvma.mit.edu on Mar. 22-25, 2004.

program might be considered a continuing subsidy for the commercial fishing industry, whether the funding of industry projects continues to be useful, how the utility of the S-K program authority may have changed over time, and whether critical research might be done by industry if it were not funded by the S-K program.

Criticism of S-K program management generally comes from elements of the commercial fishing industry. Some critics of S-K Fund management question whether the administration of both regulation and research within the same agency raises questions about objectivity; they suggest that researchers might be hesitant to criticize the agency for its regulatory actions because they might lose access to future or continued project funding. Others suggest that the selection (i.e., restriction) of what types of projects will be funded also may administratively "earmark" funds, such as occurred in FY2003 when about half of all industry project funding ($5 million of an anticipated $10.3 million) was identified for direction to Atlantic salmon aquaculture development. Others suggest that the narrow agency identification of projects that would be funded in FY2003 actually prompted the subsequent congressional earmarks to specify projects that are to be funded.

The following chronology presents the development of this program. Key references are identified in footnotes by links to where they may be viewed, with care taken to select those resources that may be least transient. Full citations are not provided to these footnoted documents because of the lengthy organizations and titles for them.

Chronology

07/01/1954 — President Eisenhower signs the Saltonstall-Kennedy Act (68 Stat. 376; 15 U.S.C. §713c-3) into law.

06/15/1961 — Senate Commerce Subcommittee on Merchant Marine and Fisheries holds a hearing on fishery research and rehabilitation amendments to the S-K Act.[7]

10/01/1978 — NOAA's National Marine Fisheries Service (NMFS) begins receiving S-K dollars as annual budgetary transfers to NOAA's *Operations, Research, and Facilities* account.

12/22/1980 — Section 210 of the American Fisheries Promotion Act (P.L. 96-561) amends the S-K Act to require that not less than 50% of each fiscal year's funds be used to provide financial assistance for projects.

01/06/1983 — Section 423 of P.L. 97-424 amends the S-K Act to require that not less than 60% of each fiscal year's funds be used to provide financial assistance for projects.

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[7] U.S. Congress, Senate, Committee on Commerce, Subcommittee on Merchant Marine and Fisheries, *Fishery Research and Rehabilitation (Amendments to Saltonstall-Kennedy Act)*, 87th Congress, 1st session, hearing on S. 1230 on June 15, 1961 (Washington, DC: GPO, 1961), 103 p.

08/30/1985 — The General Accounting Office (GAO) releases a report on the *Uses of Saltonstall/Kennedy Fisheries Development Funds* (GAO/RCED0-85-145), reviewing both NMFS in-house activities and competitive industry projects supported by S-K dollars. GAO examines the adequacy of the project selection process, project monitoring procedures, and the dissemination of project results. GAO presents views on the benefits of this program to the U.S. commercial fishing industry but makes no recommendations.[8]

11/14/1986 — The enactment of §209 of P.L. 99-659 creates the Fisheries Promotional Fund, to be capitalized with S-K funds.[9]

05/14/2002 — NOAA Fisheries announces the FY2003 S-K Program, allocating $5 million of an anticipated $10.3 million for Atlantic salmon aquaculture development.[10]

02/20/2003 — President Bush signs P.L. 108-7, wherein §209 (Division B; General Provisions — Department of Commerce) appropriates $10 million in S-K dollars for the Alaska Fisheries Marketing Board for FY2003.[11]

06/30/2003 — NOAA Fisheries announces the FY2004 S-K Program, suggesting that about $4 million would be available for projects.[12]

08/01/2003 — NOAA Fisheries publishes its 2003 S-K Report to Congress.[13]

01/23/2004 — President Bush signs P.L. 108-199, wherein §208 (Division B; General Provisions — Department of Commerce)[14] appropriates $17 million in S-K dollars for various specified fisheries programs for FY2004;[15] a "soft" earmark (H.Rept. 108-221, p. 89) identifies an additional $250,000 for the Gulf and South Atlantic Fisheries Foundation to continue a *Vibrio* education program.

03/19/2004 — NOAA Fisheries announces that the FY2004 competitive S-K Program is being canceled due to insufficient funding and all

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[8] See [http://161.203.16.4/d11t3/127795.pdf], visited Mar. 24, 2004.

[9] 16 U.S.C. §4008.

[10] 67 *Federal Register* 34427-34434 (May 14, 2002).

[11] 117 Stat. 78.

[12] 68 *Federal Register* 38678-38690 (June 30, 2003).

[13] See [http://www.nmfs.noaa.gov/ocs/sk/pdf/03report_wsite.pdf], visited Mar. 24, 2004.

[14] 118 Stat. 73-74.

[15] $10,000,000 to the Alaska Fisheries Marketing Board, $2,000,000 to the Gulf and South Atlantic Fisheries Foundation, $2,000,000 to the South Carolina Seafood Alliance, $1,500,000 to the Oregon Trawl Commission, and $1,500,000 to the Oregon State University Seafood Laboratory.

applications are being returned to the applicants without further consideration.[16] On its S-K website, NOAA Fisheries notes that the President's budget request for FY2005 also does not provide sufficient funding for the competitive S-K Program.[17]

[16] 69 *Federal Register* 13021 (Mar. 19, 2004).

[17] See [http://www.nmfs.noaa.gov/ocs/skhome.html], visited Mar. 24, 2004.

Table 1. Financing History of Saltonstall-Kennedy Account

(thousand $)

FY	Import duties collected	Transfer from Agriculture	Funds to NOAA ORF	Fishermen's Promotional Fund	Congress. earmarks[a]	Remainder available[aa]	Earmarks and remainder as % of transfer
1978	43,280	12,984	0	0	0	12,984	100%
1979	58,120	17,436	5,000	0	0	12,436	71%
1980	88,930	26,679	5,000	0	0	21,679	81%
1981	116,600	35,000	17,500	0	0	17,500	50%
1982	87,300	26,200	10,000	0	0	16,200	62%
1983	102,100	30,600	22,600	0	0	8,000	26%
1984	119,900	33,600	23,600	0	0	10,000	30%
1985	116,500	34,900	25,900	0	0	9,000	26%
1986	145,600	43,700	34,100	0	0	9,600	22%
1987	191,400	57,400	51,600	750	0	5,050	9%
1988	187,800	56,300	44,400	2,600	0	9,300	17%
1989	178,900	53,600	45,600	3,000	0	5,000	9%
1990	206,500	61,900	55,000	2,000	0	4,900	8%
1991	235,900	70,800	60,900	2,000	0	7,900	11%
1992	213,700	64,100	63,100	0	0	1,000	2%
1993	204,700	61.400	55,000	0	0	6,400	10%
1994	206,500	61,944	54,800	0	0	7,144	12%
1995	215,885	64,765	55,500	0	0	9,265	14%
1996	242,977	72,893	63,000	0	0	9,893	14%
1997	221,270	66,381	66,000	0	0	381	1%
1998	219,110	65,730	62,380	0	0	3,350	5%
1999	221,420	66,430	63,380	0	0	3,050	5%
2000	233,070	69,920	68,000	0	0	1,920	3%
2001	242,760	72,830	68,000	0	0	4,830	7%
2002	263,770	79,130	68,000	0	0	11,130	14%
2003	250,750	75,220	65,000	0	10,000	220	14%
2004	265,747	79,724	62,000	0	17,250	474	22%

[a].Except for FY2004, this column does not include the "soft" earmarks as previously discussed.

[aa].This amount includes funds for industry projects, the national program, and NMFS/NOAA Fisheries expenses for administering the industry projects. In FY2003, these administrative expenses were estimated at $500,000.

Alaska Seafood Marketing Institute
Resolution 2009-01

A RESOLUTION OF THE ALASKA SEAFOOD MARKETING INSTITUTE SUPPORTING FEDERAL FUNDING FOR UNITED STATES PRODUCED SEAFOOD

WHEREAS, the State of Alaska in conjunction with the fishing industry created the Alaska Seafood Marketing Institute (ASMI) to market and promote Alaska seafood; and

WHEREAS, ASMI has worked for 28 years to champion the "Alaska Brand" and to identify Alaska seafood as wild and sustainable; and

WHEREAS, effective marketing of Alaska's seafood requires a constant, consistent and long term marketing presence, especially in times of oversupply and new competition; and

WHEREAS, the Alaska seafood industry has "self assessed" fishery production to pay for ASMI's promotional activities; and

WHEREAS, despite the money raised from the Alaska Seafood Industry, ASMI's promotional activities are often limited and underfunded; and,

WHEREAS, in times of economic collapse or fishery oversupply, the industry is least able to increase marketing assessments; and

WHEREAS, the Federal Government collects approximately $280 million dollars annually through customs laws regulating the importation of fishery products, many of which compete with Alaska's fishery products; and

WHEREAS, funds collected from the importation of fishery products are not available for the domestic marketing of American seafood; and

WHEREAS, using fishery product import revenues to market American seafood will preserve American fishing and seafood processing jobs, U.S. processing capacity and ensure availability of domestic seafood for the American Consumer;

THEREFORE BE IT RESOLVED, that the Alaska Seafood Marketing Institute strongly supports the use of a portion of federally generated fishery product import revenues for the domestic marketing of Alaska seafood; and

Alaska Seafood Marketing Institute ▲ 311 North Franklin Street, Suite 200 ▲ Juneau, AK 99801-1147
Phone 907/465-5560 800/478-2903 ▲ Fax 907/465-5572 ▲ www.AlaskaSeafood.org ▲ info@AlaskaSeafood.org

THEREFORE BE IT FURTHER RESOLVED, that the Alaska Seafood Marketing Institute's support for the use of a portion of federally generated fishery product import revenues for the domestic marketing of Alaska seafood be communicated to Governor Sean Parnell, the Alaska Legislature, Senators Lisa Murkowski and Mark Begich, Representative Don Young and to the United Fishermen of Alaska.

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(from http://www.gpoaccess.gov/uscode/browse.html)

"Saltonstall-Kennedy Act" - Title 15 U.S.C. 713c-3

From the U.S. Code Online via GPO Access
[www.gpoaccess.gov]
[Laws in effect as of January 3, 2007]
[CITE: 15USC713c-3]

[Page 833-836]

TITLE 15--COMMERCE AND TRADE

CHAPTER 15--ECONOMIC RECOVERY

SUBCHAPTER I--GENERALLY

Sec. 713c-3. Promotion of the free flow of domestically produced fishery products

(a) Definitions

As used in this section--

(1) The term ``person'' means--

(A) any individual who is a citizen or national of the United States or a citizen of the Northern Mariana Islands;

(B) any fishery development foundation or other private nonprofit corporation located in Alaska; and

(C) any corporation, partnership, association, or other entity (including, but not limited to, any fishery development foundation or other private nonprofit corporation not located in Alaska), nonprofit or otherwise, if such entity is a citizen of the United States within the meaning of section 50501 of title 46 and for purposes of applying such section 50501 with respect to this section--

(i) the term ``State'' as used therein includes any State referred to in paragraph (3),

(ii) citizens of the United States must own not less than 75 percent of the interest in the entity or, in the case of a nonprofit entity, exercise control in the entity that is determined by the Secretary to be the equivalent of such ownership, and

(iii) nationals of the United States and citizens of the Northern Mariana Islands shall be treated as citizens of the United States in meeting the ownership and control requirements referred to in clause (ii).

(2) The term ``Secretary'' means the Secretary of Commerce.

(3) The term ``State'' means any State, the District of Columbia, the Commonwealth of Puerto Rico, American Samoa, the Virgin Islands of the United States, Guam, the Northern Mariana Islands, and any other Commonwealth, territory, or possession of the United States.

(4) The term ``United States fishery'' means any fishery, including any tuna fishery, that is, or may be, engaged in by citizens or nationals of the United States or citizens of the Northern Mariana Islands.

(5) The term ``citizen of the Northern Mariana Islands'' means--

(A) an individual who qualifies as such under section 8 of the Schedule on Transitional Matters attached to the Constitution of the Northern Mariana Islands; or

(B) a corporation, partnership, association, or other entity organized or existing under the laws of the Northern Mariana Islands, not less than 75 percent of the interest in which is owned by individuals referred to in subparagraph (A) or citizens or nationals of the United States, in cases in which ``owned'' is used in the same sense as in section 50501 of title 46.

(b) Transfer of funds

(1) The Secretary of Agriculture shall transfer to the Secretary each fiscal year, beginning with the fiscal year commencing July 1, 1954, and ending on June 30, 1957, from moneys made available to carry out the provisions of section 612c of title 7, an amount equal to 30 per centum of the gross receipts from duties collected under the customs laws on fishery products (including fish, shellfish, mollusks, crustacea, aquatic plants and animals, and any products thereof, including processed and manufactured products), which shall be maintained in a separate fund only for--

(A) use by the Secretary--

(i) to provide financial assistance for the purpose of carrying out fisheries research and development projects approved under subsection (c) of this section,\1\

\1\ So in original. The comma probably should be a semicolon.

(ii) to implement the national fisheries research and development program provided for under subsection (d) of this section;

(iii) to implement the Northwest Atlantic Ocean Fisheries Reinvestment Program established under section 1863 of title 16; and

(iv) to fund the Federal share of a fishing capacity reduction program established under section 1861a of title 16; and

(B) the provision of moneys, subject to paragraph (2), to carry out the purposes of the Fisheries Promotion Fund established under

[[Page 834]]

section 208(a) \2\ of the Fish and Seafood Promotion Act of 1986 [16 U.S.C. 4008(a)].

\2\ So in original. Probably should be section ``209(a)''.

(2) There are transferred from the fund established under paragraph (1) to the Fisheries Promotion Fund referred to in paragraph (1)(B) $750,000 in fiscal year 1987, $3,000,000 in each of fiscal years 1988 and 1989, and $2,000,000 in each of fiscal years 1990 and 1991.

(c) Fisheries research and development projects

(1) The Secretary shall make grants from the fund established under subsection (b) of this section to assist persons in carrying out research and development projects addressed to any aspect of United States fisheries, including, but not limited to, harvesting, processing, marketing, and associated infrastructures.

(2) The Secretary shall--

(A) at least once each fiscal year, receive, during a 60-day period specified by him, applications for grants under this subsection;

(B) prescribe the form and manner in which applications for grants under this subsection must be made, including, but not limited to, the specification of the information which must accompany applications to ensure that the proposed projects comply with Federal law and can be evaluated in accordance with paragraph (3)(B); and

(C) approve or disapprove each such application before the close of the 120th day after the last day of the 60-day period (specified under subparagraph (a)) in which the application was received.

(3) No application for a grant under this subsection may be approved unless the Secretary--

(A) is satisfied that the applicant has the requisite technical and financial capability to carry out the project; and

(B) evaluates the proposed project as to--

(i) soundness of design,

(ii) the possibilities of securing productive results,

(iii) minimization of duplication with other fisheries research and development projects,

(iv) the organization and management of the project,

(v) methods proposed for monitoring and evaluating the success or failure of the project, and

(vi) such other criteria as the Secretary may require.

(4) Each grant made under this subsection shall be subject to such terms and conditions as the Secretary may require to protect the interests of the United States, including, but not limited to, the following:

(A) The recipient of the grant must keep such records as the Secretary shall require as being necessary or appropriate for disclosing the use made of grant funds and shall allow the Secretary and the Comptroller General of the United States, or any of their authorized representatives, access to such records for purposes of audit and examination.

(B) The amount of a grant may not be less than 50 percent of the estimated cost of the project.

(C) The recipient of the grant must submit to the Secretary periodic project status reports.

(5)(A) If the cost of a project will be shared by the grant recipient, the Secretary shall accept, as a part or all of that share, the value of in-kind contributions made by the recipient, or made available to, and applied by, the recipient, with respect to the project.

(B) For purposes of subparagraph (A), in-kind contributions may be in the form of, but are not limited to, personal services rendered in carrying out functions related to, and permission to use real or personal property owned by others (for which consideration is not required) in carrying out the project. The Secretary shall establish (i)

the training, experience, and other qualifications which shall be required in order for services to be considered as in-kind contributions; and (ii) the standards under which the Secretary will determine the value of in-kind contributions for purposes of subparagraph (A).

(C) Any valuation determination made by the Secretary for purposes of this paragraph shall be conclusive.

(d) National fisheries research and development program

(1) The Secretary shall carry out a national program of research and development addressed to such aspects of United States fisheries (including, but not limited to, harvesting, processing, marketing, and associated infrastructures) if not adequately covered by proj- ects assisted under subsection (c) of this section, as the Secretary deems appropriate.

(2) The Secretary shall, after consultation with appropriate representatives of the fishing industry, submit to the Committee on Commerce, Science, and Transportation of the Senate and the Committee on Merchant Marine and Fisheries of the House of Representatives, an annual report, that must be submitted not later than 60 days before the close of each fiscal year, containing--

(A) the fisheries development goals and funding priorities under paragraph (1) for the next fiscal year;

(B) a description of all pending projects assisted under subsection (c) of this section or carried out under paragraph (1), in addition to--

(i) a list of those applications approved and those disapproved under subsection (c) of this section, and the total amount of grants made, for the current fiscal year, and

(ii) a statement of the extent to which available funds were not obligated or expended by the Secretary for grants under subsection (c) of this section during the current fiscal year; and

(C) an assessment of each project assisted under subsection (c) of this section or carried out under paragraph (1) that was completed in the preceding fiscal year regarding the extent to which (i) the objectives of the project were attained, and (ii) the project contributed to fishery development.

(e) Allocation of fund moneys

(1) Notwithstanding any other provision of law, all moneys in the fund shall be used exclu

[[Page 835]]

sively for the purpose of promoting United States fisheries in accordance with the provisions of this section, and no such moneys shall be transferred from the fund for any other purpose. With respect to any fiscal year, all moneys in the fund, including the sum of all unexpended moneys carried over into that fiscal year and all moneys transferred to the fund under subsection (b) of this section or any other provision of law with respect to that fiscal year, shall be allocated as follows:

(A) the Secretary shall use no less than 60 per centum of such moneys to make direct industry assistance grants to develop the United States fisheries and to expand domestic and foreign markets for United States fishery products pursuant to subsection (c) of

this section; and

(B) the Secretary shall use the balance of the moneys in the fund to finance those activities of the National Marine Fisheries Service which are directly related to development of the United States fisheries pursuant to subsection (d) of this section.

(2) The Secretary shall, consistent with the number of meritorious applications received with respect to any fiscal year, obligate or expend all of the moneys in the fund described in paragraph (1). Any such moneys which are not expended in a given fiscal year shall remain available for expenditure in accordance with this section without fiscal year limitation, except that the Secretary shall not obligate such moneys at a rate less than that necessary to prevent the balance of moneys in the fund from exceeding $3,000,000 at the end of any fiscal year.

(Aug. 11, 1939, ch. 696, Sec. 2, 53 Stat. 1412; July 1, 1954, ch. 447, 68 Stat. 376; Aug. 8, 1956, ch. 1036, Sec. 12(b), 70 Stat. 1124; Pub. L. 89-348, Sec. 1(13), Nov. 8, 1965, 79 Stat. 1311; Pub. L. 96-561, title II, Sec. 210, Dec. 22, 1980, 94 Stat. 3287; Pub. L. 97-424, title IV, Sec. 423(a), Jan. 6, 1983, 96 Stat. 2164; Pub. L. 99-659, title II, Sec. 209(e), Nov. 14, 1986, 100 Stat. 3721; Pub. L. 101-627, title VII, Sec. 703, Nov. 28, 1990, 104 Stat. 4463; Pub. L. 102-567, title IX, Sec. 902(c), Oct. 29, 1992, 106 Stat. 4319; Pub. L. 104-208, div. A, title I, Sec. 101(a) [title II, Sec. 211(b)], Sept. 30, 1996, 110 Stat. 3009, 3009-41; Pub. L. 104-297, title I, Sec. 116(c), Oct. 11, 1996, 110 Stat. 3603.)

Codification

``Section 50501 of title 46'' substituted for ``section 2 of the Shipping Act, 1916 (46 U.S.C. 802)'' in subsec. (a)(1)(C) and (5)(B) and ``such section 50501'' substituted for ``such section 2'' in subsec. (a)(1)(C) on authority of Pub. L. 109-304, Sec. 18(c), Oct. 6, 2006, 120 Stat. 1709, section 8(b) of which enacted parts A and B of subtitle V of Title 46, Shipping.

Amendments

1996--Subsec. (b)(1)(A)(iii). Pub. L. 104-208 made technical amendment to reference in original act which appears in text as reference to section 1863 of title 16.

Subsec. (b)(1)(A)(iv). Pub. L. 104-297 added cl. (iv).

Pub. L. 104-208 made technical amendment to reference in original act which appears in text as reference to section 1861a of title 16.

1992--Subsec. (b)(1)(A). Pub. L. 102-567 struck out ``and'' at end of cl. (i) and added cl. (iii).

1990--Subsec. (b)(2). Pub. L. 101-627 substituted ``each of fiscal years 1990 and 1991'' for ``fiscal year 1990''.

1986--Subsec. (b). Pub. L. 99-659 designated existing provisions as introductory provisions and subpar. (A) of par. (1) and added pars. (1)(B) and (2).

1983--Subsec. (e). Pub. L. 97-424 amended subsec. (e) generally, which formerly had provided:

``(1) With respect to any fiscal year, not less than 50 percent of--

``(A) the moneys transferred to the fund under subsection (b) of this section or any other provision of law with respect to that fiscal year; and

``(B) such existing fund moneys carried over into that fiscal year;

shall be used by the Secretary during that fiscal year to provide financial assistance for projects under subsection (c) of this section; and the remainder of such moneys in the fund shall be used to implement the national fisheries research and development program established under subsection (d) of this section during that fiscal year.

``(2) Moneys accruing to the fund established under subsection (b) of this section for any fiscal year and not expended with respect to that year shall remain available for expenditure under this section without fiscal year limitation.''

1980--Subsec. (a). Pub. L. 96-561, Sec. 210(2), (3), added subsec. (a) and redesignated former subsec. (a) as (b).

Subsec. (b). Pub. L. 96-561, Sec. 210(1), (2), (4), redesignated subsec. (a) as (b), substituted ``transfer to the Secretary'' for ``transfer to the Secretary of Commerce'', ``only for use by the Secretary'' for ``and used by the Secretary of Commerce'', and provision directing that the fund be used to provide financial assistance for carrying out fisheries research and development projects and to implement the national fisheries research and development program for provision directing that the fund be used to promote free flow of domestically produced fisheries products by conducting a fishery educational service and fishery technological, biological, and related research programs, to acquire, construct, or maintain vessels and other facilities necessary for conducting research, to develop and increase markets for fishery products of domestic origin, and to conduct any biological, technological, or other research pertaining to American fisheries, and struck out former subsec. (b) which authorized any agency or wholly owned government corporation of the United States to transfer to the Secretary of Commerce any vessels or equipment excess to its needs.

Subsec. (c). Pub. L. 96-561, Sec. 210(1), (5), added subsec. (c) and struck out former subsec. (c) which directed the Secretary of Commerce to cooperate with other Federal, State, and local agencies for promotion of free flow of domestically produced fishery products and provided for the appointment of an advisory committee of the American fisheries industry to advise the Secretary in formulation of policy, rules, and regulations.

Subsec. (d). Pub. L. 96-561, Sec. 210(1), (5), added subsec. (d) and struck out former subsec. (d) which authorized the Secretary of Commerce to retransfer any funds available under this section, not to exceed $1,500,000, to the Secretary of Agriculture to be used for the purposes specified in section 713c-2 of this title.

Subsec. (e). Pub. L. 96-561, Sec. 210(1), (5), added subsec. (e) and struck out former subsec. (e) which provided that the special fund created for use of the Secretary of Commerce under subsec. (a) of this section and the annual accruals thereto be available for each year until expended by the Secretary.

1965--Subsec. (f). Pub. L. 89-348 repealed subsec. (f) which required an annual report to the appropriate committees of Congress on the use of the separate fund.

1956--Subsec. (e). Act Aug. 8, 1956, struck out provisions which limited expenditures to not more than $3,000,000 in any fiscal year, restricted the balance of the fund to not more than $5,000,000 at the end of any fiscal year, and required the Secretary of the Interior to retransfer funds in excess of the $5,000,000 to the Secretary of Agriculture.

1954--Act July 1, 1954, amended section generally, to encourage the distribution of fishery products.

Effective Date of 1996 Amendment

Section 101(a) [title II, Sec. 211(b)] of div. A of Pub. L. 104-208 provided that the amendment made by that section is effective 15 days after Oct. 11, 1996.

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Effective Date of 1983 Amendment

Section 423(b) of Pub. L. 97-424 provided that: ``The amendment made by subsection (a) of this section [amending this section] shall take effect on October 1, 1983.''

Short Title

Section 2 of act Aug. 11, 1939, which enacted this section, is popularly known as the ``Saltonstall-Kennedy Act''.

Termination of Reporting Requirements

For termination, effective May 15, 2000, of provisions in subsec. (d)(2) of this section relating to submitting annual report to Congress, see section 3003 of Pub. L. 104-66, as amended, set out as a note under section 1113 of Title 31, Money and Finance, and page 50 of House Document No. 103-7.

Abolition of House Committee on Merchant Marine and Fisheries

Committee on Merchant Marine and Fisheries of House of Representatives abolished and its jurisdiction transferred by House Resolution No. 6, One Hundred Fourth Congress, Jan. 4, 1995. Committee on Merchant Marine and Fisheries of House of Representatives treated as referring to Committee on Resources of House of Representatives in case of provisions relating to fisheries, wildlife, international fishing agreements, marine affairs (including coastal zone management) except for measures relating to oil and other pollution of navigable waters, or oceanography by section 1(b)(3) of Pub. L. 104-14, set out as a note preceding section 21 of Title 2, The Congress.

Transfer of Functions

Functions of all officers, agencies, and employees of Department of Agriculture transferred, with certain exceptions, to Secretary of Agriculture by Reorg. Plan No. 2 of 1953, Sec. 1, eff. June 4, 1953, 18 F.R. 3219, 67 Stat. 633, set out in the Appendix to Title 5, Government Organization and Employees.

Continuation of Authorization for Transfer of Funds

Section 12(a) of act Aug. 8, 1956, provided that: ``The authorization for the transfer of certain funds from the Secretary of Agriculture to the Secretary of the Interior and their maintenance in a separate fund as contained in section 2(a) of the Act of August 11,

1939, as amended July 1, 1954 (68 Stat. 376), [now subsec. (b) of this section], shall be continued for the year ending June 30, 1957, and each year thereafter.''

Termination of Advisory Committees

Advisory committees in existence on Jan. 5, 1973, to terminate not later than the expiration of the 2-year period following Jan. 5, 1973, unless, in the case of a committee established by the President or an officer of the Federal Government, such committee is renewed by appropriate action prior to the expiration of such 2-year period, or in the case of a committee established by the Congress, its duration is otherwise provided by law. See section 14 of Pub. L. 92-463, Oct. 6, 1972, 86 Stat. 776, set out in the Appendix to Title 5, Government Organization and Employees.

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SR 10

SENATE COMMITTEE REPORT
First Committee of Referral

DATE: 2/22/10

FURTHER:

Date of 5-Day Notice: _____
(in accordance with Uniform Rule 23)

DATE TURNED
IN TO OFFICE: _____

Resources Committee considered SENATE RESOLUTION NO. 10

SR 10 DOMESTIC NATURAL GAS & ALT. ENERGY

Supporting expansion of the use of domestic natural gas and alternative energies and urging agencies to use vehicles that run on compressed natural gas.

and recommends:

[ ] be **replaced** with [ ] **SCS** or [ ] **CS** _____ (_____)

[ ] adopt **previous** [ ] **SCS** or [ ] **CS** _____ (_____)

[ ] attached amendment(s)

[ ] adopt _____Letter of Intent

[ ] further referral to _____Committee

SENATE BILL:
[ ] Same Title
[ ] New Title

HOUSE BILL:
[ ] Same Title
[ ] Technical Title Change
[ ] New Title w/ SCR #_____

NEW FISCAL NOTE(S):

Department	Date	Fiscal	Indet.	Zero	FN#

PREVIOUS FISCAL NOTE(S):

Department	Date	Fiscal	Indet.	Zero	FN#

[ ] **APPROPRIATION - no fiscal note**

SIGNATURES AND RECOMMENDATIONS:	PRINTED LAST NAME	DO PASS	DO NOT PASS	NO REC	AMEND
	Huggins	X			
	Fierst	X			
	French	X			
	Broaderick	X			
CO-CHAIR:	McGuire	X			
CO-CHAIR:	Wielechowski	X			

FISCAL NOTE

STATE OF ALASKA
2010 LEGISLATIVE SESSION

Fiscal Note Number: 1
Bill Version: **SR 10**
(S) Publish Date: 3/26/10

Identifier (file name):
Title SR 10 DOMESTIC NATURAL GAS & ALT. ENERGY
Sponsor Senator Wagoner
Requester (S) Resources Committee

Dept. Affected:
RDU
Component
Component Number

Expenditures/Revenues (Thousands of Dollars)

Note: Amounts do not include inflation unless otherwise noted below.

	Appropriation Required	Information					
OPERATING EXPENDITURES	**FY 2011**	**FY 2011**	**FY 2012**	**FY 2013**	**FY 2014**	**FY 2015**	**FY 2016**
Personal Services							
Travel							
Contractual							
Supplies							
Equipment							
Land & Structures							
Grants & Claims							
Miscellaneous							
TOTAL OPERATING	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
CAPITAL EXPENDITURES							
CHANGE IN REVENUES ( )							

FUND SOURCE (Thousands of Dollars)

1002 Federal Receipts							
1003 GF Match							
1004 GF							
1005 GF/Program Receipts							
1037 GF/Mental Health							
Other Interagency Receipts							
TOTAL	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**

Estimate of any current year (FY2010) cost:

POSITIONS

Full-time							
Part-time							
Temporary							

ANALYSIS: *(Attach a separate page if necessary)*

Prepared by: SENATE RESOURCES COMMITTEE
Division
Phone 465-2995/465-2435
Date/Time

Approved by: /s/ Senator McGuire, Cochair
/s/ Senator Wielechowski, Cochair
Date 3/25/2010

(Revised 11/6/2009 OMB)

AUTHENTICATED
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II

111TH CONGRESS
1ST SESSION

S. 1408

To amend the Internal Revenue Code of 1986 to encourage alternative energy investments and job creation.

IN THE SENATE OF THE UNITED STATES

JULY 8, 2009

Mr. MENENDEZ (for himself, Mr. REID, and Mr. HATCH) introduced the following bill; which was read twice and referred to the Committee on Finance

---

A BILL

To amend the Internal Revenue Code of 1986 to encourage alternative energy investments and job creation.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

SECTION 1. SHORT TITLE, ETC.

(a) SHORT TITLE.—This Act may be cited as the "New Alternative Transportation to Give Americans Solutions".

(b) AMENDMENT OF 1986 CODE.—Except as otherwise expressly provided, whenever in this Act an amendment or repeal is expressed in terms of an amendment to, or repeal of, a section or other provision, the reference

shall be considered to be made to a section or other provision of the Internal Revenue Code of 1986.

(c) TABLE OF CONTENTS.—The table of contents for this Act is as follows:

Sec. 1. Short title, etc.

TITLE I—PROMOTE THE PURCHASE AND USE OF NGVS WITH AN EMPHASIS ON HEAVY DUTY VEHICLES AND FLEET VEHICLES

Sec. 101. Modification of alternative fuel credit.
Sec. 102. Extension and modification of new qualified alternative fuel motor vehicle credit.
Sec. 103. Allowance of vehicle and infrastructure credits against regular and minimum tax and transferability of credits.
Sec. 104. Natural gas vehicle bonds.
Sec. 105. Modification of credit for purchase of vehicles fueled by compressed natural gas or liquified natural gas.
Sec. 106. Modification of definition of new qualified alternative fuel motor vehicle.

TITLE II—PROMOTE PRODUCTION OF NGVS BY ORIGINAL EQUIPMENT MANUFACTURERS

Sec. 201. Incentives for manufacturing facilities producing vehicles fueled by compressed or liquified natural gas.

TITLE III—INCENTIVIZE THE INSTALLATION OF NATURAL GAS FUEL PUMPS AT SERVICE STATIONS AND DEPOTS AND DOMESTIC LNG PRODUCTION FACILITIES FOR SMALL ENERGY PRODUCERS

Sec. 301. Extension and modification of alternative fuel vehicle refueling property credit.
Sec. 302. Increase in credit for certain alternative fuel vehicle refueling properties.

TITLE IV—NATURAL GAS VEHICLES

Sec. 401. Natural gas vehicles in Federal fleet.
Sec. 402. Grants for natural gas vehicles research and development.
Sec. 403. Sense of the Senate on EPA certification of NGV retrofit kits.

TITLE I—PROMOTE THE PURCHASE AND USE OF NGVS WITH AN EMPHASIS ON HEAVY DUTY VEHICLES AND FLEET VEHICLES

SEC. 101. MODIFICATION OF ALTERNATIVE FUEL CREDIT.

(a) ALTERNATIVE FUEL CREDIT.—Paragraph (5) of section 6426(d) (relating to alternative fuel credit) is amended by inserting ", and December 31, 2019, in the case of any sale or use involving compressed or liquefied natural gas)" after "hydrogen".

(b) ALTERNATIVE FUEL MIXTURE CREDIT.—Paragraph (3) of section 6426(d) is amended by inserting ", and December 31, 2019, in the case of any sale or use involving compressed or liquefied natural gas)" after "hydrogen".

(c) PAYMENTS RELATING TO ALTERNATIVE FUEL OR ALTERNATIVE FUEL MIXTURES.—Paragraph (6) of section 6427(e) is amended—

(1) in subparagraph (C)—

(A) by striking "subparagraph (D)" in subparagraph (C) and inserting "subparagraphs (D) and (E)", and

(B) by striking "and" at the end thereof,

(2) by striking the period at the end of subparagraph (D) and inserting ", and", and

(3) by inserting at the end the following:

"(E) any alternative fuel or alternative fuel mixture (as so defined) involving compressed or liquefied natural gas sold or used after December 31, 2019.".

(d) EFFECTIVE DATE.—The amendments made by this section shall apply to fuel sold or used after the date of the enactment of this Act.

SEC. 102. EXTENSION AND MODIFICATION OF NEW QUALIFIED ALTERNATIVE FUEL MOTOR VEHICLE CREDIT.

(a) IN GENERAL.—Paragraph (4) of section 30B(k) (relating to termination) is amended by inserting "(December 31, 2019, in the case of a vehicle powered by compressed or liquefied natural gas)" before the period at the end.

(b) EFFECTIVE DATE.—The amendment made by subsection (a) shall apply to property placed in service after the date of the enactment of this Act.

SEC. 103. ALLOWANCE OF VEHICLE AND INFRASTRUCTURE CREDITS AGAINST REGULAR AND MINIMUM TAX AND TRANSFERABILITY OF CREDITS.

(a) BUSINESS CREDITS.—Subparagraph (B) of section 38(c)(4) is amended by striking "and" at the end of clause (vii), by striking the period at the end of clause (viii) and inserting ", and", and by inserting after clause (viii) the following new clauses:

"(ix) the portion of the credit determined under section 30B which is attributable to the application of subsection (e)(3) thereof with respect to new qualified alternative fuel motor vehicles which are capable of being powered by compressed or liquefied natural gas, and

"(x) the portion of the credit determined under section 30C which is attributable to the application of subsection (b) thereof with respect to refueling property which is used to store and or dispense compressed or liquefied natural gas.".

(b) PERSONAL CREDITS.—

(1) NEW QUALIFIED ALTERNATIVE FUEL MOTOR VEHICLES.—Subsection (g) of section 30B is amended by adding at the end the following new paragraph:

"(3) SPECIAL RULE RELATING TO CERTAIN NEW QUALIFIED ALTERNATIVE FUEL MOTOR VEHICLES.—In the case of the portion of the credit determined under subsection (a) which is attributable to the application of subsection (c)(3) with respect to new qualified alternative fuel motor vehicles which are capable of being powered by compressed or liquefied natural gas—

"(A) paragraph (2) shall (after the application of paragraph (1)) be applied separately with respect to such portion, and

"(B) in lieu of the limitation determined under paragraph (2), such limitation shall not exceed the excess (if any) of—

"(i) the sum of the regular tax liability (as defined in section 26(b)) plus the tentative minimum tax for the taxable year, reduced by

"(ii) the sum of the credits allowable under subpart A and sections 27 and 30.".

(2) ALTERNATIVE FUEL VEHICLE REFUELING PROPERTIES.—Subsection (d) of section 30C is amended by adding at the end the following new paragraph:

"(3) SPECIAL RULE RELATING TO CERTAIN ALTERNATIVE FUEL VEHICLE REFUELING PROPERTIES.—In the case of the portion of the credit determined under subsection (a) with respect to refueling property which is used to store and or dispense compressed or liquefied natural gas and which is attributable to the application of subsection (b)—

"(A) paragraph (2) shall (after the application of paragraph (1)) be applied separately with respect to such portion, and

"(B) in lieu of the limitation determined under paragraph (2), such limitation shall not exceed the excess (if any) of—

"(i) the sum of the regular tax liability (as defined in section 26(b)) plus the tentative minimum tax for the taxable year, reduced by

"(ii) the sum of the credits allowable under subpart A and sections 27, 30, and the portion of the credit determined under section 30B which is attributable to the application of subsection (e)(3) thereof.".

(c) CREDITS MAY BE TRANSFERRED.—

(1) VEHICLE CREDITS.—Subsection (h) of section 30B is amended by adding at the end the following new paragraph:

"(11) TRANSFERABILITY OF CREDIT.—

"(A) IN GENERAL.—Except as provided in subparagraph (B), a taxpayer who places in service any new qualified alternative fuel motor vehicle which is capable of being powered by compressed or liquefied natural gas may transfer the credit allowed under this section by reason of subsection (e) with respect to such vehicle through an assignment to the seller or lessor of such vehicle. Such transfer may be revoked only with the consent of the Secretary.

"(B) DENIAL OF DOUBLE BENEFIT.—No assignment of a credit allowed under this section by reason of subsection (e) with respect to any new qualified alternative fuel motor vehicle which is capable of being powered by compressed or liquefied natural gas may be made under subparagraph (A) to a taxpayer who has claimed a credit under section 54G with respect to the financing of such vehicle.

"(C) REGULATIONS.—The Secretary shall prescribe such regulations as necessary to en-

sure that any credit transferred under subparagraph (A) is claimed once and not reassigned by such other person.".

(2) INFRASTRUCTURE CREDIT.—Subsection (e) of section 30C is amended by adding at the end the following new paragraph:

"(7) TRANSFERABILITY OF CREDIT.—

"(A) IN GENERAL.—Except as provided in subparagraph (B), a taxpayer who places in service any qualified alternative fuel vehicle refueling property relating to compressed or liquefied natural gas may transfer the credit allowed under this section with respect to such property through an assignment to the seller or lessor of such property. Such transfer may be revoked only with the consent of the Secretary.

"(B) DENIAL OF DOUBLE BENEFIT.—No assignment of a credit allowed under this section by reason of subsection (e) with respect to any qualified alternative fuel vehicle refueling property relating to compressed or liquefied natural gas may be made under subparagraph (A) to a taxpayer who has claimed a credit under section 54G with respect to the financing of such property.

"(C) REGULATIONS.—The Secretary shall prescribe such regulations as necessary to ensure that any credit transferred under subparagraph (A) is claimed once and not reassigned by such other person.".

(d) EFFECTIVE DATE.—The amendments made by this section shall apply with respect to property placed in service after the date of the enactment of this Act.

SEC. 104. NATURAL GAS VEHICLE BONDS.

(a) IN GENERAL.—Subpart I of part IV of subchapter A of chapter 1 (relating to qualified tax credit bonds) is amended by adding at the end the following new section:

"SEC. 54G. NATURAL GAS VEHICLE BONDS.

"(a) NATURAL GAS VEHICLE BOND.—For purposes of this subpart, the term 'natural gas vehicle bond' means any bond issued as part of an issue if—

"(1) 100 percent of the available project proceeds of such issue are to be used for capital expenditures incurred by a governmental body for 1 or more qualified natural gas vehicle projects placed in service by such governmental body primarily for governmental or public use,

"(2) the bond is issued by a governmental body,

"(3) the issuer designates such bond for purposes of this section, and

"(4) in lieu of the requirements of section 54A(d)(2), the issue meets the requirements of subsection (c).

"(b) LIMITATION ON AMOUNT OF BONDS DESIGNATED.—

"(1) IN GENERAL.—The maximum aggregate face amount of bonds which may be designated under subsection (a) by any issuer shall not exceed the limitation amount allocated under this subsection to such issuer.

"(2) NATIONAL LIMITATION ON AMOUNT OF BONDS DESIGNATED.—There is a national natural gas vehicle bond limitation of $3,000,000,000.

"(3) ALLOCATION BY SECRETARY.—The Secretary shall allocate the amount described in paragraph (2) among qualified natural gas vehicle projects in such manner as the Secretary determines appropriate.

"(c) SPECIAL RULES RELATING TO EXPENDITURES.—

"(1) IN GENERAL.—An issue shall be treated as meeting the requirements of this subsection if, as of the date of issuance, the issuer reasonably expects—

"(A) 100 percent or more of the available project proceeds of such issue are to be spent for 1 or more qualified natural gas vehicle projects within the 5-year period beginning on the date of issuance of the natural gas vehicle bond,

"(B) a binding commitment with a third party to spend at least 10 percent of such available project proceeds will be incurred within the 6-month period beginning on the date of issuance of the natural gas vehicle bond, and

"(C) such projects will be completed with due diligence and such available project proceeds will be spent with due diligence.

"(2) EXTENSION OF PERIOD.—Upon submission of a request prior to the expiration of the period described in paragraph (1)(A), the Secretary may extend such period if the issuer establishes that the failure to satisfy the 5-year requirement is due to reasonable cause and the related projects will continue to proceed with due diligence.

"(3) FAILURE TO SPEND REQUIRED AMOUNT OF BOND PROCEEDS WITHIN 5 YEARS.—To the extent that less than 100 percent of the available project proceeds of such issue are expended by the

close of the 5-year period beginning on the date of issuance (or if an extension has been obtained under paragraph (2), by the close of the extended period), the issuer shall redeem all of the nonqualified bonds within 90 days after the end of such period. For purposes of this paragraph, the amount of the nonqualified bonds required to be redeemed shall be determined in the same manner as under section 142.

"(d) GOVERNMENTAL BODY.—For purposes of this section, the term 'governmental body' means any State or Indian tribal government, or any political subdivision thereof.

"(e) QUALIFIED NATURAL GAS VEHICLE PROJECT.—For purposes of this subpart, the term 'qualified natural gas vehicle project' means—

"(1) 1 or more new qualified alternative fuel motor vehicles which are capable of being powered by compressed or liquefied natural gas (within the meaning of section 30B(e)(4)), or

"(2) 1 or more qualified alternative fuel vehicle refueling properties which are used to store and or dispense compressed or liquefied natural gas (within the meaning of section 30C(e)).

"(f) TERMINATION.—This section shall not apply with respect to any bond issued after December 31, 2019.".

(b) CONFORMING AMENDMENTS.—

(1) Paragraph (1) of section 54A(d) is amended by striking "or" at the end of subparagraph (D), by inserting "or" at the end of subparagraph (E), and by inserting after subparagraph (E) the following new subparagraph:

"(F) a natural gas vehicle bond,".

(2) Subparagraph (C) of section 54A(d)(2) is amended by striking "and" at the end of clause (iv), by striking the period at the end of clause (v) and inserting ", and", and by adding at the end the following new clause:

"(vi) in the case of a natural gas vehicle bond, a purpose specified in section 54G(a)(1).".

(c) CLERICAL AMENDMENT.—The table of sections for subpart I of part IV of subchapter A of chapter 1 is amended by adding at the end the following new item:

"See. 54G. Natural gas vehicle bonds.".

(d) EFFECTIVE DATE.—The amendments made by this section shall apply to bonds issued after the date of the enactment of this Act.

SEC. 105. MODIFICATION OF CREDIT FOR PURCHASE OF VEHICLES FUELED BY COMPRESSED NATURAL GAS OR LIQUIFIED NATURAL GAS.

(a) INCREASE IN CREDIT.—Paragraph (2) of section 30B(c) (relating to applicable percentage) is amended to read as follows:

"(2) APPLICABLE PERCENTAGE.—For purposes of paragraph (1), the applicable percentage with respect to any new qualified alternative fuel motor vehicle is—

"(A) except as provided in subparagraphs (B) and (C)—

"(i) 50 percent, plus

"(ii) 30 percent, if such vehicle—

"(I) has received a certificate of conformity under the Clean Air Act and meets or exceeds the most stringent standard available for certification under the Clean Air Act for that make and model year vehicle (other than a zero emission standard), or

"(II) has received an order certifying the vehicle as meeting the same requirements as vehicles which may be sold or leased in California and meets

or exceeds the most stringent standard available for certification under the State laws of California (enacted in accordance with a waiver granted under section 209(b) of the Clean Air Act) for that make and model year vehicle (other than a zero emission standard),

"(B) 80 percent, in the case of vehicles that are only capable of operating on compressed natural gas or liquefied natural gas, or mix-fuel vehicles which are capable of operating on compressed or liquefied natural gas, and

"(C) 50 percent, in the case of vehicles described subsection (e)(4)(A)(i)(II).

For purposes of the preceding sentence, in the case of any new qualified alternative fuel motor vehicle which weighs more than 14,000 pounds gross vehicle weight rating, the most stringent standard available shall be such standard available for certification on the date of the enactment of the Energy Tax Incentives Act of 2005.".

(b) HIGHER INCREMENTAL COST LIMITS FOR NATURAL GAS VEHICLES.—Subsection (e) of section 30B (relating to new qualified alternative fuel motor vehicle cred-

it) is amended by adding at the end the following new paragraph:

"(6) HIGHER INCREMENTAL COST LIMITS FOR NATURAL GAS VEHICLES.—In the case of new qualified alternative fuel motor vehicles with respect to vehicles powered by compressed or liquefied natural gas, paragraph (3) shall be applied—

"(A) in subparagraph (A) by substituting '$12,500' for '$5,000',

"(B) in subparagraph (B) by substituting '$20,000' for '$10,000',

"(C) in subparagraph (C) by substituting '$50,000' for '$25,000', and

"(D) in subparagraph (D) by substituting '$80,000' for '$40,000'.".

(c) EFFECTIVE DATE.—The amendment made by this section shall apply to property placed in service after the date of the enactment of this Act.

SEC. 106. MODIFICATION OF DEFINITION OF NEW QUALIFIED ALTERNATIVE FUEL MOTOR VEHICLE.

(a) IN GENERAL.—Clause (i) of section 30B(e)(4)(A) (relating to definition of new qualified alternative fuel motor vehicle) is amended to read as follows:

"(i) which—

"(I) is only capable of operating on an alternative fuel, or

"(II) is capable of operating on compressed or liquefied natural gas and gasoline or diesel fuel, but in no case shall such vehicle have an operating range of less than 200 miles on compressed or liquefied natural gas.".

(b) CONVERSIONS AND REPOWERS.—Paragraph (4) of section 30B(e) is amended by adding at the end the following new subparagraph:

"(C) CONVERSIONS AND REPOWERS.—

"(i) IN GENERAL.—The term 'new qualified alternative fuel motor vehicle' includes the conversion or repower of a new or used vehicle so that it is capable of operating on an alternative fuel as it was not previously capable of operating on an alternative fuel.

"(ii) TREATMENT AS NEW.—A vehicle which has been converted to operate on an alternative fuel shall be treated as new on the date of such conversion for purposes of this section.

"(iii) RULE OF CONSTRUCTION.—In the case of a used vehicle which is converted or repowered, nothing in this section shall be construed to require that the motor vehicle be acquired in the year the credit is claimed under this section with respect to such vehicle.".

(c) EFFECTIVE DATE.—The amendments made by this section shall apply to property placed in service after the date of the enactment of this Act.

TITLE II—PROMOTE PRODUCTION OF NGVS BY ORIGINAL EQUIPMENT MANUFACTURERS

SEC. 201. INCENTIVES FOR MANUFACTURING FACILITIES PRODUCING VEHICLES FUELED BY COMPRESSED OR LIQUIFIED NATURAL GAS.

(a) DEDUCTION FOR MANUFACTURING FACILITIES.—Part VI of subchapter B of chapter 1 of the Internal Revenue Code of 1986 (relating to itemized deductions for individuals and corporations) is amended by inserting after section 179E the following new section:

"SEC. 179F. EXPENSING FOR MANUFACTURING FACILITIES PRODUCING VEHICLES FUELED BY COMPRESSED NATURAL GAS OR LIQUIFIED NATURAL GAS.

"(a) TREATMENT AS EXPENSES.—A taxpayer may elect to treat the applicable percentage of the cost of any qualified natural gas vehicle manufacturing facility property as an expense which is not chargeable to a capital account. Any cost so treated shall be allowed as a deduction for the taxable year in which the qualified manufacturing facility property is placed in service.

"(b) APPLICABLE PERCENTAGE.—For purposes of subsection (a), the applicable percentage is—

"(1) 100 percent, in the case of qualified natural gas vehicle manufacturing facility property which is placed in service before January 1, 2015, and

"(2) 50 percent, in the case of qualified natural gas vehicle manufacturing facility property which is placed in service after December 31, 2014, and before January 1, 2020.

"(c) ELECTION.—

"(1) IN GENERAL.—An election under this section for any taxable year shall be made on the taxpayer's return of the tax imposed by this chapter for the taxable year. Such election shall be made in such

manner as the Secretary may by regulations prescribe.

"(2) ELECTION IRREVOCABLE.—Any election made under this section may not be revoked except with the consent of the Secretary.

"(d) QUALIFIED NATURAL GAS VEHICLE MANUFACTURING FACILITY PROPERTY.—For purposes of this section—

"(1) IN GENERAL.—The term 'qualified natural gas vehicle manufacturing facility property' means any qualified property—

"(A) the original use of which commences with the taxpayer,

"(B) which is placed in service by the taxpayer after the date of the enactment of this section and before January 1, 2020, and

"(C) no written binding contract for the construction of which was in effect on or before the date of the enactment of this section.

"(2) QUALIFIED PROPERTY.—

"(A) IN GENERAL.—The term 'qualified property' means any property which is a facility or a portion of a facility used for the production of—

"(2) REGULATIONS.—The Secretary shall prescribe such regulations as are necessary to carry out the purpose of this subsection.".

(b) REFUND OF CREDIT FOR PRIOR YEAR MINIMUM TAX LIABILITY.—Section 53 (relating to credit for prior year minimum tax liability) is amended by adding at the end the following new subsection:

"(g) ELECTION TO TREAT AMOUNTS ATTRIBUTABLE TO QUALIFIED MANUFACTURING FACILITY.—

"(1) IN GENERAL.—In the case of an eligible taxpayer, the amount determined under subsection (c) for the taxable year (after the application of subsection (e)) shall be increased by an amount equal to the applicable percentage of any qualified natural gas vehicle manufacturing facility property which is placed in service during the taxable year.

"(2) APPLICABLE PERCENTAGE.—For purposes of paragraph (1), the applicable percentage is—

"(A) 35 percent, in the case of qualified natural gas vehicle manufacturing facility property which is placed in service before January 1, 2015, and

"(B) 17.5 percent, in the case of qualified natural gas vehicle manufacturing facility prop-

"(i) any new qualified alternative fuel motor vehicle which is capable of being powered by compressed or liquefied natural gas (within the meaning of section 30B(e)(4)), or

"(ii) any eligible component.

"(B) ELIGIBLE COMPONENT.—The term 'eligible component' means any component which is designed specifically for use in such a new qualified alternative fuel motor vehicle.

"(e) SPECIAL RULE FOR DUAL USE PROPERTY.—

"(1) IN GENERAL.—In the case of any qualified natural gas vehicle manufacturing facility property which is used to produce both property described in clauses (i) and (ii) of subsection (d)(2)(A) and property which is not so described, the amount of costs taken into account under subsection (a) shall be reduced by an amount equal to—

"(A) the total amount of such costs (determined before the application of this subsection), multiplied by

"(B) the percentage of property expected to be produced which is not so described.

erty which is placed in service after December 31, 2014, and before January 1, 2020.

"(3) ELIGIBLE TAXPAYER.—For purposes of this subsection, the term 'eligible taxpayer' means any taxpayer—

"(A) who places in service qualified natural gas vehicle manufacturing facility property during the taxable year,

"(B) who does not make an election under section 179F(c), and

"(C) who makes an election under this subsection.

"(4) OTHER DEFINITIONS AND SPECIAL RULES.—

"(A) QUALIFIED NATURAL GAS VEHICLE MANUFACTURING FACILITY PROPERTY.—The term 'qualified natural gas vehicle manufacturing facility property' has the meaning given such term under section 179F(d).

"(B) SPECIAL RULE FOR DUAL USE PROPERTY.—In the case of any qualified natural gas vehicle manufacturing facility property which is used to produce both qualified property (as defined in section 179F(d)) and other property which is not qualified property, the amount of

costs taken into account under paragraph (1) shall be reduced by an amount equal to—

"(i) the total amount of such costs (determined before the application of this subparagraph), multiplied by

"(ii) the percentage of property expected to be produced which is not qualified property.

"(C) ELECTION.—

"(i) IN GENERAL.—An election under this subsection for any taxable year shall be made on the taxpayer's return of the tax imposed by this chapter for the taxable year. Such election shall be made in such manner as the Secretary may by regulations prescribe.

"(ii) ELECTION IRREVOCABLE.—Any election made under this subsection may not be revoked except with the consent of the Secretary.

"(5) CREDIT REFUNDABLE.—For purposes of this title (other than this section), the credit allowed by reason of this subsection shall be treated as if it were allowed under subpart C.".

(c) EFFECTIVE DATE.—The amendments made by this section shall apply to taxable years beginning after the date of the enactment of this Act.

TITLE III—INCENTIVIZE THE INSTALLATION OF NATURAL GAS FUEL PUMPS AT SERVICE STATIONS AND DEPOTS AND DOMESTIC LNG PRODUCTION FACILITIES FOR SMALL ENERGY PRODUCERS

SEC. 301. EXTENSION AND MODIFICATION OF ALTERNATIVE FUEL VEHICLE REFUELING PROPERTY CREDIT.

(a) IN GENERAL.—Subsection (g) of section 30C is amended by striking "and" at the end of paragraph (1), by redesignating paragraph (2) as paragraph (3), and by inserting after paragraph (1) the following new paragraph:

"(2) in the case of property relating to compressed or liquefied natural gas, after December 31, 2019, and".

(b) EFFECTIVE DATE.—The amendments made by subsection (a) shall apply to property placed in service after the date of the enactment of this Act.

SEC. 302. INCREASE IN CREDIT FOR CERTAIN ALTERNATIVE FUEL VEHICLE REFUELING PROPERTIES.

(a) IN GENERAL.—Subsection (b) of section 30C is amended to read as follows:

"(b) LIMITATION.—The credit allowed under subsection (a) with respect to all qualified alternative fuel vehicle refueling property placed in service by the taxpayer during the taxable year at a location shall not exceed—

"(1) except as provided in paragraph (2), $30,000 in the case of a property of a character subject to an allowance for depreciation,

"(2) in the case of a compressed natural gas, or liquefied natural gas, the lesser of—

"(A) 50 percent of such cost, or

"(B) $100,000, and

"(3) $2,000 in any other case.".

(b) EFFECTIVE DATE.—The amendment made by this section shall apply to property placed in service in taxable years beginning after December 31, 2010.

TITLE IV—NATURAL GAS VEHICLES

SEC. 401. NATURAL GAS VEHICLES IN FEDERAL FLEET.

When complying with mandatory Federal fleet alternative fuel vehicle purchase requirements, Federal agencies shall purchase dedicated alternative fuel vehicles un-

less the agency can show that alternative fuel is unavailable or purchasing such vehicles would be impractical.

SEC. 402. GRANTS FOR NATURAL GAS VEHICLES RESEARCH AND DEVELOPMENT.

(a) IN GENERAL.—The Secretary of Energy may make grants to original equipment manufacturers of light duty and heavy duty natural gas vehicles for the development of engines that reduce emissions, improve performance and efficiency, and lower cost.

(b) LIMITATION.—The aggregate amount of grants under subsection (a) for any fiscal year shall not exceed $30,000,000.

SEC. 403. SENSE OF THE SENATE ON EPA CERTIFICATION OF NGV RETROFIT KITS.

It is the sense of the Senate that the Environmental Protection Agency should streamline the process for certification of natural gas vehicle retrofit kits to promote energy security while still fulfilling the mission of the Clean Air Act.

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I

111TH CONGRESS
1ST SESSION

H. R. 1835

To amend the Internal Revenue Code of 1986 to encourage alternative energy investments and job creation.

IN THE HOUSE OF REPRESENTATIVES

APRIL 1, 2009

Mr. BOREN (for himself, Mr. LARSON of Connecticut, Mr. SULLIVAN, Mr. ABERCROMBIE, Mr. BISHOP of Georgia, Mr. BURGESS, Mr. CONAWAY, Mr. KAGEN, Mr. MCMAHON, Ms. MARKEY of Colorado, Mr. MILLER of Florida, Mr. MINNICK, Mr. TEAGUE, and Mr. THOMPSON of California) introduced the following bill; which was referred to the Committee on Ways and Means, and in addition to the Committees on Oversight and Government Reform and Science and Technology, for a period to be subsequently determined by the Speaker, in each case for consideration of such provisions as fall within the jurisdiction of the committee concerned

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A BILL

To amend the Internal Revenue Code of 1986 to encourage alternative energy investments and job creation.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

SECTION 1. SHORT TITLE, ETC.

(a) SHORT TITLE.—This Act may be cited as the "New Alternative Transportation to Give Americans Solutions Act of 2009".

(b) AMENDMENT OF 1986 CODE.—Except as otherwise expressly provided, whenever in this Act an amendment or repeal is expressed in terms of an amendment to, or repeal of, a section or other provision, the reference shall be considered to be made to a section or other provision of the Internal Revenue Code of 1986.

(c) TABLE OF CONTENTS.—The table of contents for this Act is as follows:

Sec. 1. Short title, etc.

TITLE I—PROMOTE THE PURCHASE AND USE OF NGVS WITH AN EMPHASIS ON HEAVY DUTY VEHICLES AND FLEET VEHICLES

Sec. 101. Modification of alternative fuel credit.
Sec. 102. Extension and modification of alternative fuel vehicle credit.
Sec. 103. Allowance of vehicle and infrastructure credits against regular and minimum tax and transferability of credits.
Sec. 104. Modification of credit for purchase of vehicles fueled by natural gas or liquified natural gas.
Sec. 105. Modification of definition of new qualified alternative fuel motor vehicle.

TITLE II—PROMOTE PRODUCTION OF NGVS BY ORIGINAL EQUIPMENT MANUFACTURERS

Sec. 201. Credit for producing vehicles fueled by natural gas or liquified natural gas.

TITLE III—TO INCENTIVIZE THE INSTALLATION OF NATURAL GAS FUEL PUMPS AT SERVICE STATIONS AND DEPOTS AND DOMESTIC LNG PRODUCTION FACILITIES FOR SMALL ENERGY PRODUCERS

Sec. 301. Extension and modification of alternative fuel vehicle refueling property credit.
Sec. 302. Increase in credit for certain alternative fuel vehicle refueling properties.

TITLE IV—NATURAL GAS VEHICLES

Sec. 401. Natural gas vehicles in Federal fleet.
Sec. 402. Grants for natural gas vehicles research and development.

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TITLE I—PROMOTE THE PURCHASE AND USE OF NGVS WITH AN EMPHASIS ON HEAVY DUTY VEHICLES AND FLEET VEHICLES

SEC. 101. MODIFICATION OF ALTERNATIVE FUEL CREDIT.

(a) ALTERNATIVE FUEL CREDIT.—Paragraph (5) of section 6426(d) (relating to alternative fuel credit) is amended by inserting ", and December 31, 2027, in the case of any sale or use involving compressed or liquefied natural gas)" after "hydrogen".

(b) ALTERNATIVE FUEL MIXTURE CREDIT.—Paragraph (3) of section 6426(d) is amended by inserting ", and December 31, 2027, in the case of any sale or use involving compressed or liquefied natural gas)" after "hydrogen".

(c) PAYMENTS RELATING TO ALTERNATIVE FUEL OR ALTERNATIVE FUEL MIXTURES.—Paragraph (6) of section 6427(e) is amended—

(1) in subparagraph (C)—

(A) by striking "subparagraph (D)" in subparagraph (C) and inserting "subparagraphs (D) and (E)", and

(B) by striking "and" at the end thereof,

(2) by striking the period at the end of subparagraph (D) and inserting ", and",

(3) by inserting at the end the following: "or with respect to compressed or liquefied natural gas" after "subparagraph (D)".

"(E) any alternative fuel or alternative fuel mixture (as so defined) involving compressed or liquefied natural gas.".

(d) EFFECTIVE DATE.—The amendments made by this section shall apply to fuel sold or used after the date of the enactment of this Act.

SEC. 102. EXTENSION AND MODIFICATION OF ALTERNATIVE FUEL VEHICLE CREDIT.

(a) IN GENERAL.—Paragraph (4) of section 30B(k) (relating to termination) is amended by inserting "(December 31, 2027, in the case of a vehicle powered by compressed or liquefied natural gas)" before the period at the end.

(b) EFFECTIVE DATE.—The amendment made by subsection (a) shall apply to property placed in service after the date of the enactment of this Act.

SEC. 103. ALLOWANCE OF VEHICLE AND INFRASTRUCTURE CREDITS AGAINST REGULAR AND MINIMUM TAX AND TRANSFERABILITY OF CREDITS.

(a) BUSINESS CREDITS.—Subparagraph (B) of section 38(c)(4) is amended by striking "and" at the end of clause (vii), by striking the period at the end of clause (viii) and inserting ", and", and by inserting after clause (viii) the following new clauses:

"(ix) the portion of the credit determined under section 30B which is attributable to the application of subsection (e)(3) thereof with respect to qualified alternative fuel motor vehicles which are capable of being powered by compressed or liquefied natural gas, and

"(x) the portion of the credit determined under section 30C which is attributable to the application of subsection (b) thereof with respect to refueling property which is used to store and or dispense compressed or liquefied natural gas.".

(b) PERSONAL CREDITS.—

(1) NEW QUALIFIED ALTERNATIVE FUEL MOTOR VEHICLES.—Subsection (g) of section 30B is amended by adding at the end the following new paragraph:

"(3) SPECIAL RULE RELATING TO CERTAIN NEW QUALIFIED ALTERNATIVE FUEL MOTOR VEHICLES.—In the case of the portion of the credit determined under subsection (a) which is attributable to the application of subsection (e)(3) with respect to qualified alternative fuel motor vehicles which are capable of being powered by compressed or liquefied natural gas—

"(A) paragraph (2) shall (after the application of paragraph (1)) be applied separately with respect to such portion, and

"(B) in lieu of the limitation determined under paragraph (2), such limitation shall not exceed the excess (if any) of—

"(i) the sum of the regular tax liability (as defined in section 26(b)) plus the tentative minimum tax for the taxable year, reduced by

"(ii) the sum of the credits allowable under subpart A and sections 27 and 30.".

(2) ALTERNATIVE FUEL VEHICLE REFUELING PROPERTIES.—Subsection (d) of section 30C is amended by adding at the end the following new paragraph:

"(3) SPECIAL RULE RELATING TO CERTAIN ALTERNATIVE FUEL VEHICLE REFUELING PROPERTIES.—In the case of the portion of the credit determined under subsection (a) with respect to refueling property which is used to store and or dispense compressed or liquefied natural gas and which is attributable to the application of subsection (b)—

"(A) paragraph (2) shall (after the application of paragraph (1)) be applied separately with respect to such portion, and

"(B) in lieu of the limitation determined under paragraph (2), such limitation shall not exceed the excess (if any) of—

"(i) the sum of the regular tax liability (as defined in section 26(b)) plus the tentative minimum tax for the taxable year, reduced by

"(ii) the sum of the credits allowable under subpart A and sections 27, 30, and the portion of the credit determined under section 30B which is attributable to the application of subsection (e)(3) thereof.".

(c) CREDITS MAY BE TRANSFERRED.—

(1) VEHICLE CREDITS.—Subsection (h) of section 30B is amended by adding at the end the following new paragraph:

"(11) TRANSFERABILITY OF CREDIT.—Nothing in any law or rule of law shall be construed to limit a taxpayer from transferring, through sale and repurchase agreement, the credit allowed by this section for qualified alternative fuel motor vehicles which are capable of being powered by compressed or liquefied natural gas.".

(2) INFRASTRUCTURE CREDIT.—Subsection (e) of section 30C is amended by adding at the end the following new paragraph:

"(6) CREDIT MAY BE TRANSFERRED.—Nothing in any law or rule of law shall be construed to limit a taxpayer from transferring the credit allowed by this section through sale and repurchase agreements.".

(d) EFFECTIVE DATE.—The amendments made by this section shall apply with respect to property placed in service after the date of the enactment of this Act.

SEC. 104. MODIFICATION OF CREDIT FOR PURCHASE OF VEHICLES FUELED BY NATURAL GAS OR LIQUIFIED NATURAL GAS.

(a) INCREASE IN CREDIT.—Paragraph (2) of section 30B(c) (relating to applicable percentage) is amended to read as follows:

"(2) APPLICABLE PERCENTAGE.—For purposes of paragraph (1), the applicable percentage with respect to any new qualified alternative fuel motor vehicle is—

"(A) except as provided in subparagraphs (B) and (C)—

"(i) 50 percent, plus

"(ii) 30 percent, if such vehicle—

"(I) has received a certificate of conformity under the Clean Air Act and meets or exceeds the most stringent standard available for certification under the Clean Air Act for that make and model year vehicle (other than a zero emission standard), or

"(II) has received an order certifying the vehicle as meeting the same requirements as vehicles which may be sold or leased in California and meets

or exceeds the most stringent standard available for certification under the State laws of California (enacted in accordance with a waiver granted under section 209(b) of the Clean Air Act) for that make and model year vehicle (other than a zero emission standard)

"(B) 80 percent, in the case of vehicles that are only capable of operating on compressed natural gas or liquefied natural gas, or mix-fuel vehicles which are capable of operating on compressed or liquefied natural gas, and

"(C) 50 percent, in the case of vehicles described subsection (e)(4)(A)(i)(II).

For purposes of the preceding sentence, in the case of any new qualified alternative fuel motor vehicle which weighs more than 14,000 pounds gross vehicle weight rating, the most stringent standard available shall be such standard available for certification on the date of the enactment of the Energy Tax Incentives Act of 2005.".

(b) HIGHER INCREMENTAL COST LIMITS FOR NATURAL GAS VEHICLES.—Subsection (e) of section 30B (relating to new qualified alternative motor vehicle credit) is

amended by adding at the end the following new paragraph:

"(6) HIGHER INCREMENTAL COST LIMITS FOR NATURAL GAS VEHICLES.—In the case of alternative fueled motor vehicles with respect to vehicles powered by compressed or liquefied natural gas, paragraph (3) shall be applied—

"(A) in subparagraph (A) by substituting '$12,500' for '$5,000',

"(B) in subparagraph (B) by substituting '$20,000' for '$10,000',

"(C) in subparagraph (C) by substituting '$50,000' for '$25,000', and

"(D) in subparagraph (D) by substituting '$80,000' for '$40,000'.".

(c) EFFECTIVE DATE.—The amendment made by this section shall apply to property placed in service after the date of the enactment of this Act.

SEC. 105. MODIFICATION OF DEFINITION OF NEW QUALIFIED ALTERNATIVE FUEL MOTOR VEHICLE.

(a) IN GENERAL.—Clause (i) of section 30B(e)(4)(A) (relating to definition of new qualified alternative fuel motor vehicle) is amended to read as follows:

"(i) which—

"(I) is only capable of operating on an alternative fuel, or

"(II) is capable of operating on compressed or liquefied natural gas and (but not in combination with) gasoline or diesel fuel, but in no case shall such vehicle have an operating range of less than 200 miles on compressed or liquefied natural gas.".

(b) CONVERSIONS AND REPOWERS.—Paragraph (4) of section 30B(e) is amended by adding at the end the following new subparagraph:

"(C) CONVERSIONS AND REPOWERS.—

"(i) IN GENERAL.—The term 'new qualified alternative fuel vehicle' includes the conversion or repower of a new or used vehicle so that it is capable of operating on a qualified alternative fuel as it was not previously capable of operating on an alternative fuel.

"(ii) TREATMENT AS NEW.—A vehicle which has been converted to operate on alternative fuel shall be treated as new on the date of such conversion for purposes of this section.

"(iii) RULE OF CONSTRUCTION.—In the case of a used vehicle which is converted or repowered, nothing in this section shall be construed to require that the motor vehicle be acquired in the year the credit is claimed under this section with respect to such vehicle.".

(c) EFFECTIVE DATE.—The amendments made by this section shall apply to property placed in service after the date of the enactment of this Act.

TITLE II—PROMOTE PRODUCTION OF NGVS BY ORIGINAL EQUIPMENT MANUFACTURERS

SEC. 201. CREDIT FOR PRODUCING VEHICLES FUELED BY NATURAL GAS OR LIQUIFIED NATURAL GAS.

(a) IN GENERAL.—Subpart D of part IV of subchapter A of chapter 1 (relating to business-related credits) is amended by inserting after section 45Q the following new section:

"SEC. 45R. PRODUCTION OF VEHICLES FUELED BY NATURAL GAS OR LIQUIFIED NATURAL GAS.

"(a) IN GENERAL.—For purposes of section 38, in the case of a taxpayer who is a manufacturer of natural gas vehicles, the natural gas vehicle credit determined

under this section for any taxable year with respect to each eligible natural gas vehicle produced by the taxpayer during such year is an amount equal to the lesser of—

"(1) 10 percent of the manufacturer's basis in such vehicle, or

"(2) $4,000.

"(b) AGGREGATE CREDIT ALLOWED.—The aggregate amount of credit allowed under subsection (a) with respect to a taxpayer for any taxable year shall not exceed $200,000,000 reduced by the amount of the credit allowed under subsection (a) to the taxpayer (or any predecessor) for all prior taxable years.

"(c) DEFINITIONS.—For purposes of this section—

"(1) ELIGIBLE NATURAL GAS VEHICLE.—The term 'eligible natural gas vehicle' means any motor vehicle (as defined in section 30(c)(2))—

"(A) which—

"(i) is only capable of operating on natural gas or liquefied natural gas, or

"(ii) is capable of operating on compressed or liquefied natural gas and (but not in combination with) gasoline or diesel fuel, but in no case shall such vehicle have an operating range of less than 200 miles

on compressed or liquefied natural gas, and

"(B) the final assembly of which is in the United States.

"(2) MANUFACTURER.—The term 'manufacturer' has the meaning given such term in regulations prescribed by the Administrator of the Environmental Protection Agency for purposes of the administration of title II of the Clean Air Act (42 U.S.C. 7521 et seq.).

"(d) SPECIAL RULES.—For purposes of this section—

"(1) IN GENERAL.—Rules similar to the rules of subsections (c), (d), and (e) of section 52 shall apply.

"(2) CONTROLLED GROUPS.—

"(A) IN GENERAL.—All persons treated as a single employer under subsection (a) or (b) of section 52 or subsection (m) or (o) of section 414 shall be treated as a single producer.

"(B) INCLUSION OF FOREIGN CORPORATIONS.—For purposes of subparagraph (A), in applying subsections (a) and (b) of section 52 to this section, section 1563 shall be applied without regard to subsection (b)(2)(C) thereof.

"(3) VERIFICATION.—No amount shall be allowed as a credit under subsection (a) with respect to which the taxpayer has not submitted such information or certification as the Secretary, in consultation with the Secretary of Energy, determines necessary.

"(e) TERMINATION.—This section shall not apply to any vehicle produced after December 31, 2017.".

(b) CREDIT TO BE PART OF BUSINESS CREDIT.—Section 38(b) is amended by striking "plus" at the end of paragraph (34), by striking the period at the end of paragraph (35) and inserting ", plus", and by adding at the end the following:

"(36) the natural gas vehicle credit determined under section 45R(a).".

(c) CONFORMING AMENDMENT.—The table of sections for subpart D of part IV of subchapter A of chapter 1 is amended by inserting after the item relating to section 45Q the following new item:

"Sec. 45R. Production of vehicles fueled by natural gas or liquified natural gas.".

(d) EFFECTIVE DATE.—The amendments made by this section shall apply to vehicles produced after December 31, 2008.

TITLE III—TO INCENTIVIZE THE INSTALLATION OF NATURAL GAS FUEL PUMPS AT SERVICE STATIONS AND DEPOTS AND DOMESTIC LNG PRODUCTION FACILITIES FOR SMALL ENERGY PRODUCERS

SEC. 301. EXTENSION AND MODIFICATION OF ALTERNATIVE FUEL VEHICLE REFUELING PROPERTY CREDIT.

(a) IN GENERAL.—Subsection (g) of section 30C is amended by striking "and" at the end of paragraph (1), by redesignating paragraph (2) as paragraph (3), and by inserting after paragraph (1) the following new paragraph:

"(2) in the case of property relating to compressed or liquefied natural gas, after December 31, 2027.".

(b) EFFECTIVE DATE.—The amendments made by subsection (a) shall apply to property placed in service after the date of the enactment of this Act.

SEC. 302. INCREASE IN CREDIT FOR CERTAIN ALTERNATIVE FUEL VEHICLE REFUELING PROPERTIES.

(a) IN GENERAL.—Subsection (b) of section 30C is amended to read as follows:

"(b) LIMITATION.—The credit allowed under subsection (a) with respect to all qualified alternative fuel vehicle refueling property placed in service by the taxpayer during the taxable year at a location shall not exceed—

"(1) except as provided in paragraph (2), $30,000 in the case of a property of a character subject to an allowance for depreciation,

"(2) in the case of a compressed natural gas, or liquefied natural gas, the lesser of—

"(A) 50 percent of such cost, or

"(B) $100,000, and

"(3) $2,000 in any other case.".

(b) EFFECTIVE DATE.—The amendments made by subsection (a) shall apply to property placed in service after the date of the enactment of this Act.

TITLE IV—NATURAL GAS VEHICLES

SEC. 401. NATURAL GAS VEHICLES IN FEDERAL FLEET.

Not later than December 31, 2014, and thereafter, at least 50 percent of all new vehicles purchased or placed into service by the United States Government shall be vehicles that are capable of operating on compressed or liquefied natural gas.

SEC. 402. GRANTS FOR NATURAL GAS VEHICLES RESEARCH AND DEVELOPMENT.

(a) IN GENERAL.—The Secretary of Energy may make grants to original equipment manufacturers of light duty and heavy duty natural gas vehicles for the development of engines that reduce emissions, improve performance and efficiency, and lower cost.

(b) LIMITATION.—The aggregate amount of grants under subsection (a) for any fiscal year shall not exceed $30,000,000.

○

HB

14

SENATE COMMITTEE REPORT

DATE: 4/14/09

FURTHER:

DATE TURNED IN TO OFFICE: 4/19/09

Resources Committee considered CS FOR HOUSE BILL NO. 14(STA)

HB 14 ALASKAN MALAMUTE AS STATE DOG

"An Act designating the Alaskan Malamute as the official state dog."

and recommends:

[ ] be **replaced** with [ ] **SCS** or [ ] **CS** _____ (_____)

[ ] adopt **previous** [ ] **SCS** or [ ] **CS** _____ (_____)

[ ] attached amendment(s)

[ ] adopt _____Letter of Intent

[ ] further referral to _____Committee

SENATE BILL:
[ ] Same Title
[ ] New Title

HOUSE BILL:
[ ] Same Title
[ ] Technical Title Change
[ ] New Title w/ SCR #_____

NEW FISCAL NOTE(S):

Department	Date	Fiscal	Indet	Zero	FN#

PREVIOUS FISCAL NOTE(S):

Department	Date	Fiscal	Indet	Zero	FN#
GOV	2/20			✓	

[ ] **APPROPRIATION - no fiscal note**

SIGNATURES AND RECOMMENDATIONS	PRINTED LAST NAME	DO PASS	DO NOT PASS	NO REC	AMEND
				X	
				X	
CO-CHAIR:		✓			
CO-CHAIR:	Wielechowski	✓			

HOUSE BILL NO. 14

IN THE LEGISLATURE OF THE STATE OF ALASKA

TWENTY-SIXTH LEGISLATURE - FIRST SESSION

BY REPRESENTATIVES GARDNER, Guttenberg

Introduced: 1/20/09
Referred: State Affairs

A BILL

FOR AN ACT ENTITLED

"An Act designating the Alaskan malamute as the official state dog."

BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF ALASKA:

*** Section 1.** AS 44.09 is amended by adding a new section to read:

Sec. 44.09.140. State dog. The Alaskan malamute is the official state dog.

ALASKA STATE LEGISLATURE

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Representative Berta Gardner

House District 24

SPONSOR STATEMENT
HB 14

"An Act designating the Alaskan malamute as the Alaska State Dog"

The Alaskan malamute has played an important role in Alaska's history for at least four thousand years. Considered to be one of the twelve ancient breeds, the Alaskan malamute evolved from the ancient dogs that accompanied prehistoric man in his migrations from Asia, reaching back to the earliest days of prehistory Alaska with the Mahlemut people, now known as the Inuits, in Northwestern Alaska. They lived and worked closely with their dogs, depending on them as partners in hunting large game, hauling heavy loads, and even helping to watch children.

Eighteenth and nineteenth century European explorers to Alaska were impressed with the breed and by the time of the gold rush, Alaskan malamutes, with their ability to haul equipment and people, were in high demand. They were so highly valued that a prospector would pay $500 dollars for one good dog and $1500 for a small team! Long after the Gold Rush, Alaskan malamutes continued to be valuable freight dogs. They were easy to care for and could pull heavy loads to areas that were otherwise inaccessible.

During the 1925 Serum Run to Nome, about 150 sled dogs relayed diphtheria antitoxin 674 miles by dog sled in a record-breaking five and a half days, saving the small city of Nome and the surrounding communities from an incipient epidemic. The Alaskan malamute played a role in this important event.

The Alaskan malamute assisted with Admiral Richard Byrd's expeditions to the South Pole in 1828 and 1934. The successful exploration of this vast continent could not have been accomplished without these dogs.

Additionally, the Alaskan malamute contributed to America's efforts during WWII, pulling sleds in snow-covered areas that were inaccessible to other, more mechanical means of transportation. They were also used as pack animals to carry weaponry and ammunition across the frozen ground, and they served as search-and-rescue dogs.

With its long and distinguished history, the Alaskan malamute has always been an intelligent, hardworking, and loyal partner. This amazing breed helped to make Alaska what it is today and deserves to be recognized.

Please join us in supporting the appointment of the Alaskan malamute as the official Alaska state dog.

CS FOR HOUSE BILL NO. 14(STA)

IN THE LEGISLATURE OF THE STATE OF ALASKA

TWENTY-SIXTH LEGISLATURE - FIRST SESSION

BY THE HOUSE STATE AFFAIRS COMMITTEE

Offered: 2/27/09
Referred: Rules

Sponsor(s): REPRESENTATIVES GARDNER, Guttenberg, Seaton, Tuck

A BILL

FOR AN ACT ENTITLED

"An Act designating the Alaskan Malamute as the official state dog."

BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF ALASKA:

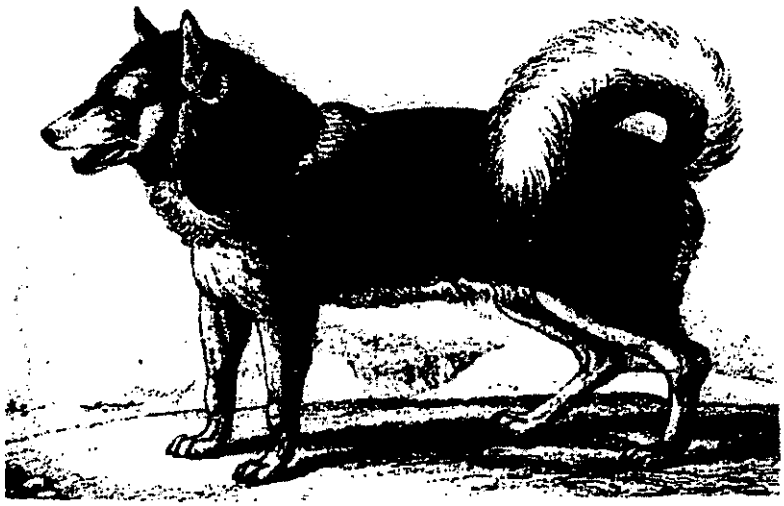
*** Section 1.** AS 44.09 is amended by adding a new section to read:

Sec. 44.09.140. State dog. The Alaskan Malamute is the official state dog.

THE STATE SLED DOG. THE HUSKEY IS THE OFFICIAL STATE SLED DOG.

ALASKAN MALAMUTE HISTORY

Alaska and Siberia, separated only by 55 miles of Bering Sea, with some of the smaller islands in the straits as close to each other as only 2 miles, have all through the ages shared their ancestry, a way of living and their life preserving dogs.



A Northern dog quite different from our Northern breeds of today

Some 35,000 years ago the people of Central Asia migrated farther and farther north to the extreme most regions of Siberia and the Arctic, and brought with them their jackal-type dogs (Canis aureus). Cross-bred with the Arctic wolves (Canis lupus), these animals developed over the centuries into what later came to be referred to as the Northern breeds, including the Malamute, Samoyeds, the Spitz, Keeshonds, Elkhounds, the Nootka dogs of Iceland and the Russian Laikas.

By the Neolithic age, 3500 to 2000 B.C., the Northern dogs had become established with their own type and characteristics which, with periodic breedings to the wolf, managed to endure down through the ages. All of these were referred to as "huskies". The term husky is a corruption of "esky", a slang word for Eskimo; it covered all the sled-pulling breeds that had rough, shaggy coats, pointed faces and plumey tails. Their coats were thick and woolly to protect them from the elements, and they came in almost every color; solids, brindles, white with spots, black with white, white with black patches, reds, yellow, yellow spotted, red spotted, etc. Today the term husky applies only to the Siberian Husky breed.

FISCAL NOTE

STATE OF ALASKA
2009 LEGISLATIVE SESSION

Fiscal Note Number: 1
Bill Version: CSHB 14(STA)
(H) Publish Date: 2/27/09

Identifier (file name): HB014-GOV-OMB-2-20-09
Dept. Affected: All
Title: Designating the Alaskan malamute as the official state dog
RDU
Component
Sponsor: Rep. Gardner
Requester: House State Affairs Committee
Component Number

Expenditures/Revenues (Thousands of Dollars)

Note: Amounts do not include inflation unless otherwise noted below.

	Appropriation Required	Information					
OPERATING EXPENDITURES	**FY 2010**	**FY 2010**	**FY 2011**	**FY 2012**	**FY 2013**	**FY 2014**	**FY 2015**
Personal Services							
Travel							
Contractual							
Supplies							
Equipment							
Land & Structures							
Grants & Claims							
Miscellaneous							
TOTAL OPERATING	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
CAPITAL EXPENDITURES							
CHANGE IN REVENUES ( )							

FUND SOURCE (Thousands of Dollars)

1002 Federal Receipts							
1003 GF Match							
1004 GF							
1005 GF/Program Receipts							
1037 GF/Mental Health							
Other Interagency Receipts							
TOTAL	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**

Estimate of any current year (FY2009) cost:

POSITIONS

Full-time							
Part-time							
Temporary							

ANALYSIS: *(Attach a separate page if necessary)*

This legislation will not have any doggone fiscal impact on any State agency.

Prepared by: Jack Kreinheder, Senior Analyst — Phone 465-4676
Division: Office of Management and Budget — Date/Time 2/20/09 1:00 PM
Approved by: Karen Rehfeld, Director — Date 2/20/2009
Office of Management and Budget

(Revised 9/10/2008 OMB)

An Arctic expedition prepares for its sledge journey over the ice. (Courtesy Virginia Devaney)

From the first days of the Eskimos' existence on earth the dogs had been there at their sides, living with them and hunting with them, thousands of years before sleds were thought of or necessary to their existence. As far back as Mesolithic times men traveled on skis, and there are also evidences that they used the travois for ages before they got around to building sleds.

As the wilderness opened up before them, and as their numbers grew, they began to develop a dog bred to meet the requirements of their specific needs, a dog with the necessary conformation to provide endurance over great distances with the least expenditure of energy.

And so the Mahlemut Indians in the vast Alaskan territory, with their settlement along the Kotzebue Sound in upper Western Alaska, took the husky dog and began by process of elimination to develop what we have come to know as the Alaskan Malamute breed. It was almost a case of the survival of the fittest, since only the strongest of the litters came to survive the elements and the work schedule given to them by their owners. Through this continuous culling program we now have the distinctive, strong, powerful working dog that is hailed as the king of the working dogs.

Malemut Men and Women with Lip Labrets - 1881

In the twentieth century the Malamutes came of age:

1909 brought about the Commander Robert Peary -Dr. Frederick Cook controversy on who reached the North Pole first. This remarkable exploration was made possible by the sled dogs, and nobody argues this point. Regardless of which man got to the North Pole first, history bears out the fact that the sled dogs were truly the first ones there.

The great serum run in 1925 when a group of drivers and their stalwart dogs fought their way through fifty below zero weather and an 80 mile an hour blizzard to get serum to the inhabitants of Nome to halt the march of diphtheria.

Later brought the two Admiral Richard Byrd expeditions on the Antarctic continent. To this day there stands a plaque in Little America, Antarctic dedicated to all the dogs whose lives were lost during these two expeditions to Little America, 1928-1930 & 1933-1935.

Milton and Eve Seeley, the pinnacles in the breed, received their first Malamute from Arthur Walden in 1924. Walden was a well respected Malamute owner and trainer. Walden was responsible for the training and preparation of the Antarctic expeditions for Admiral Byrd. The Seeley's were responsible for the Alaskan Malamute receiving AKC recognition in 1935. On April 17, 1935 the Alaskan Malamute Club was organized, it later became the Alaskan Malamute Club of America, as we know it today.

Eva "Short" Seeley

There are 2 original strains of Malamutes, the M'Loots and the Kotzebues. The M'Loots tend to be larger sized than the Kotzebue, but some were rangy, some considerably lacking in substance. Their fronts were generally better than the Kotzebues, who tented to be somewhat wide in the chest and sometimes out at the elbows. The M'Loots were lacking in rear angulation, and this led to stilted gait. The Kotzebues had a broader head, more compact body and more rear angulation. The M'Loots also tended to have long ears and long muzzles.

The Kotzebues were gray dogs with white trim. The M'Loots had a wider range from gray to black and white. Dispositions differed somewhat. The Kotzebues were less aggressive and easier to control. The M'Loots were often aggressive with other dogs, prone to fighting, and sometimes difficult to handle.

It was the Kotzebue size which became a proven factor in all of the Byrd expeditions that this was the size most desired to endure the pace and elements. This is where the size in the breed standard came from. It was the Kotzebue line which was first recognized by AKC as a breed, and later the M'Loots were allowed to be included. Both strains are named for the Eskimos (Mahlemiut), of their region, the M'Loot, and the Kotzebue tribes.

A team of AKC registered Alaskan Malamutes

Today, Malamutes are seen in most areas of the world. They are tremendous companions, they are shown in every state, and many foreign countries. They still work performing weight pulls, back packing, and sledding. They perform in the obedience rings, provide care to elderly folks as service dogs and on occasion they have been known to sit on your lap.

Malamutes are very smart, loving, devious and still the most powerful working dog in the world. All they ask for in return is love, a safe environment, and maybe, a pat on the head.

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Siberian Husky History

As the name would suggest, Siberian Huskies are native to Siberia, where they have been trained for hundreds of years by the Chukchi people to pull sleds. The Chukchi are semi-nomadic people, and the Siberian Husky's ability to pull sleds with light loads for long distances made it a useful companion. Recent DNA analysis has shown the Siberian Husky to be one of the oldest breeds of dog.

A team of Siberian Huskies was brought to Alaska in 1909 to compete in the All Alaska Sweepstakes Race. Following their debut a large number were imported to Alaska, and a team of Siberian Huskies won the same race the following year. In subsequent years, Siberian Huskies went on to win many different races and gain fame for their speed and endurance.

Siberian Huskies were made even more famous in 1925, when the city of Nome, Alaska was struck by a diphtheria outbreak. Several different teams of sled dogs, most of them Siberian Huskies, relayed the necessary serum back to Nome. After this story became national news, Leonhard Seppala, a famous breeder of Siberian Huskies and a key figure in the Nome rescue, toured New England with his team. These events helped to popularize the breed, and in 1930 the Siberian Husky was recognized as a breed by the American Kennel Club. They are still used in various sledding, carting, and racing events, and are largely responsible for the popularization of these activities. In recent years, however, the Alaskan Husky, which is specially bred for speed, has largely replaced the Siberian in many races; in response, a movement has started to create races specifically for Siberian Huskies. Recently, the breed has found success as a hiking companion, therapy dog, and as a loving pet.

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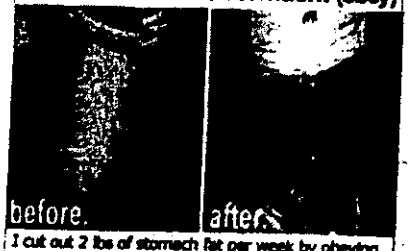

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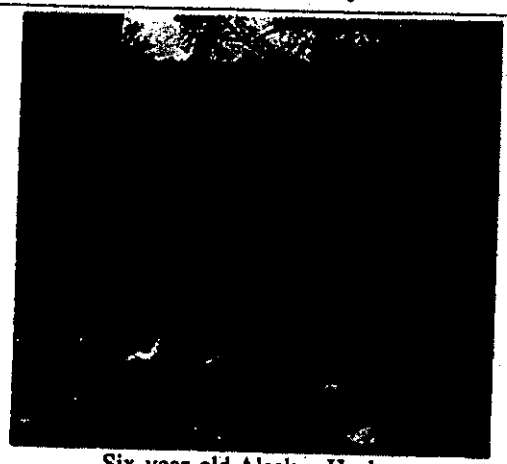
Alaskan Husky

From Wikipedia, the free encyclopedia

Alaskan Husky



Six-year-old Alaskan Husky

Country of origin United States (Alaska)

Traits [hide]

Classification & standards [show]

The **Alaskan Husky** is not so much a breed of dog as it is a type or a category. It falls short of being a breed in that there is no preferred type and no restriction as to ancestry; it is defined only by its purpose, which is that of a highly efficient sled dog. That said, dog drivers usually distinguish between the Alaskan Husky and "hound crosses", so perhaps there is informal recognition that the Alaskan Husky is expected to display a degree of northern dog type. Specializations in type exist within the breed, such as freighting dogs (Mackenzie River Husky), sprint Alaskans, and distance Alaskans. Most Alaskan Huskies have pointy ears, meaning they are in fact classified as a spitz-type dog.

The Alaskan is the sled dog of choice for world-class dog sled racing sprint competition. None of the purebred northern breeds can match it for sheer racing speed. Demanding speed-racing events such as the Fairbanks, Alaska Open North American Championship and the Anchorage Fur Rendezvous are invariably won by teams of Alaskan huskies, or of Alaskans crossed with hounds or gun dogs. Hounds are valued for their toughness and endurance. Winning speeds often average more than 19 miles per hour (31 km/h) over three days' racing at 20 to 30 miles (32 to 48 km) each day.

Alaskan huskies that fulfill the demanding performance standards of world-class dogsled racing are extremely valuable. A top-level racing lead dog can be worth $10-15,000. Alaskans that fail to meet the performance standards of the musher who bred them often go on to be sold to less competitive mushers, allowing them to continue to run.

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  - 1.1 Appearance
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Description

Appearance

The Alaskan Husky is a heavily diluted wolfdog breed which has northern or husky-type ancestry, much like the Siberian Husky.

Alaskan Huskies (at least those used for speed racing) are moderate in size, averaging perhaps 46 to 60 pounds (21 to 25 kg) for males and 38 to 42 pounds (17 to 19 kg) for females. Some of them superficially resemble racing strains of the Siberian Husky breed (which is undeniably part of the Alaskan Husky genetic mix), but are usually taller and larger with more pronounced tuck-up.

Two Alaskan Huskies in the harness.

Color and markings are a matter of total indifference to racing drivers; Alaskans may be of any possible canine color and any pattern of markings. Eyes may be of any color and are often light blue. Coats are almost always short to medium in length, never long, and usually less dense than those of northern purebreds; the shorter coat length is governed by the need for effective heat dissipation while racing.

In very cold conditions, Alaskans often race in "dog coats" or belly protectors. Particularly in long distance races, these dogs often require "dog booties" to protect their feet from abrasion and cracking. Thus the considerations of hardiness and climate resistance prevalent in breeds such as the Siberian Husky and Canadian Inuit Dog are subordinated in the Alaskan Husky to the overriding consideration of speed. On long distance races they require considerable care and attention on the trail at rest stops.

Temperament

Racing sled dogs are bred for stamina, strength, speed, and endurance. A positive working attitude is essential. Sled dogs that come in contact with the public at races or in excursion businesses must not be aggressive toward humans.

Alaskan huskies are popular as pets in Alaska; older dogs that have outlived their usefulness as racing dogs make excellent pets for people willing to exercise them regularly. Older ex-racers tend to be very alert and well behaved, as well as somewhat less energetic than their younger counterparts.

Young huskies make good pets if given plenty of space to run and play, but their high demand for exercise and activity makes them a poor choice for urban residents.

Huskies are often healthier in drier climates such as that of interior Alaska. In the more humid regions, they are prone to develop ear and related infections.

If multiple huskies are kept in the same lot they tend to be vocal, howling and barking at each other and any other dogs in the vicinity unless they are trained to be quiet. In crowded neighborhoods this can be a very irritating nuisance to neighbors. They can be trained for silence, albeit with some effort. They are accomplished diggers and will tunnel underneath fences and houses to hunt burrowing animals or to escape their enclosures.

Huskies make relatively poor household dogs. They shed heavily during the Spring and Fall and may be considered hyperactive by sedate humans, running in circles inside a house when bored or cramped. If left alone in a dwelling for long periods they may engage in destructive behavior out of boredom, mischief or malice. They enjoy hunting small and large animals due to a deeply wired instinct known as SMAR or small mammal attack response. When they are hooked up to a sled, and will have to stay there for a while, they may get crazy and excited and start to chew the gang line.

In Alaska and other extreme northern regions they are occasionally killed by moose in the winter. Infrequently, moose in search of non-existent winter browse of willows and mountain ash during desperate times of long cold snaps and deep snow will enter human areas attracted by the scent of fresh straw used as bedding for the dogs. True to their wolf ancestors, huskies tend not to back down from such encounters and an angry moose can easily stomp and kick several dogs causing severe injuries. Most moose/husky encounters occur during runs when a musher accidentally startles a moose on a trail. Most of the time moose avoid fights, but in cases of deep snow when escape is difficult a moose may confuse a sled team for a wolf pack and cause some serious trouble.

Normally, moose are aware that huskies are domesticated, tethered and not a threat and will frequently bed down adjacent to sled dog kennels in order to use the huskies as sentries who will alert the sleeping moose of approaching wolves. Sled dogs tethered in far northern forests may be attacked and killed on their stakeouts by wolves when other prey is unavailable. However this is rare. Professional dog sled racers often surround their lots with high fences to prevent wildlife attacks. More important is a low fence to keep out diseased rodents which can infect dogs by carrying parasites.

Health

The Alaskan Husky is generally a healthy dog. Some strains are prone to genetic health problems similar to those found in purebred dog breeds. These may include PRA, hypothyroidism, etc. Dogs with an esophagus disorder, termed "wheezers" sometimes occur. This disorder makes the dog unable to bark, but have the ability to produce a low-pitched howling noise. The defect is genetically linked and appeares rarely. Theories of common exterior traits among "wheezers" abound, but are conflicting and undocumented. The life span of the Alaskan Husky is usually between 10 to 15 years.

History

The Alaskan Husky is derived from a mix of northern types, most notably the Siberian Husky. The history of the Alaskan Husky really began with the Gold Rushes of the late nineteenth century; sled and draft dogs used by miners of that era were typically heavy draft dogs with obvious Saint Bernard ancestry. The importation into Alaska of dogs from across the Bering Strait in Siberia in 1908 and subsequent years changed Alaskan sled dogs radically and permanently towards a smaller dog with lighter weight and much greater speed. With the increasing prevalence of motorized winter transport in the mid twentieth century, working sled dogs became less common in the northern villages. The Alaskan sled dog experienced a revival in the 1970s. George Attla, a Native Alaskan from the village of Huslia, was largely responsible for this. Many successful racing dogs today trace their lineage back to Attla dogs.

Recent history

Various attempts have been made in the past to organize breeders of Alaskan Huskies and to establish a registry for these dogs; such attempts have never received widespread support. Although racing sled dog kennels can be large, sometimes harboring well over a hundred dogs, and the breed population arguably in excess of one hundred thousand, this canine variety remains an informal and unregistered category of dog.

Bill seeks to name Alaskan Malamute as Alaska state dog

Mary Pemberton/The Associated Press
Published Friday, January 23, 2009

ANCHORAGE, Alaska -- It's time to stop dissing the dog.

That's the message that an inquisitive kindergartner brought to her teacher more than two years ago when she wanted to know why Alaska - the state that has a fondness for most things canine - didn't have an official state dog.

She even offered up her personal choice: the Alaskan Malamute.

The youngster's idea, and the hard work of other students, inspired a bill that if passed would make the Alaskan Malamute the official state dog. The large, rugged dogs with super thick coats suited for Arctic climes would join the list of other official state symbols, including the state insect (four spot skimmer dragonfly), the state fish (the Chinook salmon), the state flower (Forget-Me-Not), state gem (jade), and the state fossil (Wooly Mammoth.)

Rep. Berta Gardner, D-Anchorage, is sponsoring the bill in the House. It got its first reading on the opening day of the Legislature on Tuesday and was referred to the State Affairs Committee.

Gardner is asking for a quick hearing so that the children can see the rewards of their hard work soon, she said.

"To tell you the truth, I don't have a great passion for why the Malamute or why we should have the state dog," Gardner said. "This is their project and I am simply their tool."

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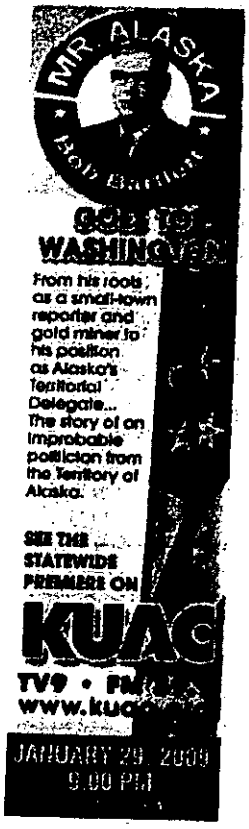
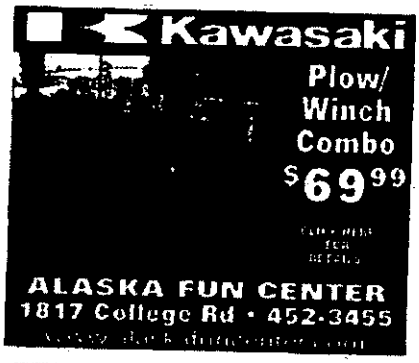


Carol Bartholomew, a teacher at the Polaris K-12 School in Anchorage, said the school decided last year to forge ahead with the project, which was broken down into several segments. The youngest students researched what the dogs look like. The next older group looked into the connection between the dogs and the Mahlemut tribe. The oldest students put the dog in a historical context.

"I found out that the Alaskan Malamute originated in Alaska and the Mahlemut tribe



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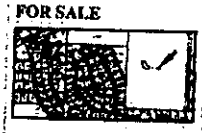
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used to use them to haul game, take care of children, and um, helped in World War II to haul stuff where people couldn't. They also helped in Arctic explorations," said 10-year-old Atticus Madland, a Polaris student.

"They are known to usually be nice to people and kind of take care of them. Sometimes, they are mean to other dogs but generally are really nice to people," he said.

The students came up with a PowerPoint presentation. They got letters from community and city leaders. They collected signatures of support. They got the American Kennel Club and the Student Government Association of Alaska to support the idea.

The students submitted a legislative packet before the Dec. 15 deadline.

Madland hopes lawmakers pass the bill.

"After all the hard work, I think we deserve it," he said.

The Alaskan Malamute would be a good choice for the state dog, said Ione Zeller, former president of the Alaskan Malamute Club of America whose has lived with and loved Malamutes for 35 years.

"I believe most Alaskans think for themselves. They seem to be rather independent. They are not the kind that fawns over people and things, and neither are these dogs," she said.

According to the AKC, the Alaskan Malamute is one of the oldest Arctic sled dogs. They were named after a native tribe, the Mahlemuts, that settled along the shores of Kotzebue Sound in northwestern Alaska. The dogs were used primarily to haul game, belongings and supplies. The breed was recognized by the AKC in 1935.

Nancy Russell, in charge of judges education for the Alaskan Malamute Club of America, said the Alaskan Malamute is the only AKC registered breed that is native to the United States. While other breeds were developed here, the dogs used to develop those breeds came from outside the United States.

The Alaskan Malamute was already here, Russell said.

"The Alaskan Malamute is basically the native dog of the United States," she said.

Russell had a team of her Malamutes in the 1994 Iditarod Trail Sled Dog Race to see if the dogs, better at hauling freight than running marathons, could do it. Most of the dogs used in the 1,100-mile race are Alaskan huskies, a mixed-breed dog bred for speed.

The Malamute team made it 600 miles before scratching.

"They did just fine," she said. "They got to Ruby. That is not too bad for a Malamute team."

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FAIRBANKS
Daily News - Miner

Anchorage students look to elevate malamute as Alaska's official top dog

By Dermot Cole

Published Saturday, January 10, 2009

We have an official state sport, which is dog mushing, as well as an official fish, land mammal, marine mammal, tree, flower, gem, mineral, bird, insect and fossil.

Somehow, with all of that, we have failed to crown an official canine.

Students at the Polaris K-12 school in Anchorage want to recognize the malamute as top dog.

The students put it this way: "The Alaskan malamute is an important part of Alaska history. They helped the Inuit hunt, carry food and watch over their children. They hauled supplies during the Gold Rush and World War II. They were part of the teams that brought medicine to Nome during the serum run."

"Their endurance, strength, loyalty and intelligence make the Alaskan malamute a great dog to represent Alaska."

Anchorage Rep. Berta Gardner has heard their call from the wild and prefiled a short bill that states, "The Alaskan malamute is the official state dog."

She said the students plan to present a case to the Legislature and answer questions about why the malamute should be elevated to official status.

"I think this is really going to be a very fun project. The kids and their teachers have done a fantastic job and have boundless enthusiasm," Gardner said.

The malamute breed won recognition from the American Kennel Club in 1935, "largely as a result of selective breeding programs by New England sled dog fanciers using original stock from Alaska," Russell Tabbert writes in the "Dictionary of Alaskan English."

December 10, 2008

To whom it may concern,

My name is Paige Hill and when I was a kindergartner, my grandma Shirley came to Alaska to spend Easter with my family. Since I was a kindergartner she came and spent the day with my class at Polaris K-12 School.

You see, my grandma Shirley teaches second grade in North Carolina and she wanted to teach us about things from where she came from. One of the first things she taught us about was her state's symbols. We learned that their state dog is a plott hound. She wanted to know what Alaska's state dog was and we all looked at each other. Nobody knew for sure what it was! Later, we found out we didn't even have a state dog and this is where it all began.

My teacher, Terry Powers, decided to help us do some investigating. We wanted to figure out how our state could get a state dog. We found out that two other symbols, the willow ptarmigan in 1955 and the four-spotted dragon fly in 1995 both became state symbols because of the efforts of school children just like us.

After lots of discussion, we narrowed our choice down to two types of dogs, the husky and the Alaskan malamute. We finally voted for the Alaskan Malamute. One of the reasons we picked the Alaskan malamute is because it's big like Alaska and because it's a hard working dog like the people of Alaska.

The next school year our class asked two older classes, Jamie Rodriguez's 4/5 and Carol Bartholomew's 2/3, to join us and help research more about the Alaska malamute's history to show that it's the very best choice to be Alaska's official state dog.

Sincerely.
Paige Hill, 2nd grader
Polaris K-12 School

POLARIS K-12 SCHOOL
6200 Ashwood Street, Anchorage, AK 99507-1911
Denise Greene-Wilkinson, Principal
(907) 742-8700 fax: (907) 742-8777

April 30, 2008

Representative Berta Gardner
AK State Capitol, Room # 422
Juneau, AK 99801

Dear Representative Gardner,

My name is Florence Boots and I am in the fifth grade in Jamie's class at Polaris K-12 School. My class along with two others is working together to make the Alaskan Malamute the Alaska state dog.

The Alaskan Malamute has a deep connection with Alaskan history. Their origins reach back to the early days of Alaska with the Mahlemut people. The Mahlemut People, now known as the Inuits, lived in Northwestern Alaska. They lived and worked closely with their dogs, using them to haul loads and even to help watch children. Also, the Alaskan Malamutes were a very popular breed during the Klondike Gold Rush when they were used to help haul supplies. The Alaskan Malamute dogs were so valued back then that one person would pay $500 dollars for one good dog and $1500 for a small team! The Alaskan Malamute also assisted with Admiral Richard Byrd's expedition to the South Pole. The Alaskan Malamute also proved useful in World War II, as a helping and hauling dog. So the Alaskan Malamute would be a very good choice as the official Alaska state dog.

Please add your voice to ours by writing a letter to support making the Alaskan Malamute our official state dog. We will add it to our legislative packet along with our bill and informational presentation. We would greatly value the opportunity to add your voice to our growing number of supporters. Thank you very much.

Sincerely,

Florence S. Boots

4501

ALASKA KENNEL CLUB, INC.
P.O. BOX 232151
ANCHORAGE, ALASKA
99523

May 24, 2008

Ryan M. Terry
Polaris K-12 School
6200 Ashwood Street
Anchorage, AK 99507-1911

Dear Mr. Terry:

Reference is made to your letter of April 30, 2008, regarding a bill to make the Alaskan Malamute the official state dog.

Your letter arrived after our May meeting so it had to wait for the Board Meeting for action. The Board of the Alaska Kennel Club has voted to support your effort to make the Alaskan Malamute the official state dog of Alaska. Please feel free to include this letter in your legislative packet.

Good luck in your efforts.

Sincerely,

ALASKA KENNEL CLUB

Donna Coker

By: Corresponding Secretary

Organized in the Interest of Pure-Bred Dogs

4502

May 15, 2008

Polaris Elementary School
6200 Ashwood Street
Anchorage, Alaska 99507

To: Christopher Gray;

This is a letter to support your class campaign to make the Alaskan Malamute the State Dog of Alaska. The Alaskan Malamute has played an important role in the history of our state and nation. It is an icon of Alaska in the legends and visual imagery of our state. In addition, it continues to be a highly valued companion and working dog in our modern society. Granting this honor to the breed would be an appropriate recognition of one of Alaska's native treasures.

Sincerely;

Kathleen Stephenson

Kathleen Stephenson
President
Alyeska Canine Trainers

AMERICAN KENNEL CLUB℠

Daisy L. Okas
Assistant Vice President,
Communications

April 15, 2007

Jessica Husa
Carols Family Group
Polaris K-12 School
6200 Ashwood Street
Anchorage, AK 99507-1911

Dear Jessica:

Thank you for contacting the American Kennel Club. The Alaskan Malamute is a wonderful breed and we support your efforts to make it the state dog of Alaska.

There are currently nine state dogs in the United States. We have included a magazine article that appeared in the *AKC Gazette* in July 2006 that explains how these dogs became state symbols. In Wisconsin, a group of students wanted to make the American Water Spaniel their state dog. They contacted their representative and a bill was created and eventually passed!

Your class should contact your local state representative with your proposal. They will have to write and introduce legislation. For information on how a bill goes through the legislative process, visit http://www.lrc.ky.gov/kidspages/how_a_bill_becomes_law_.htm
This is an example from the state of Kentucky. It is in coloring book format and titled "How the Beagle Could Become Kentucky's State Dog."

If you need more information about the Alaskan Malamute, you can visit our web site at http://www.akc.org/breeds/alaskan_malamute/

You can also contact local dog clubs in your area (http://www.akc.org/clubs/search/index.cfm) or the Alaskan Malamute Club of America for more information and for support of your proposal:

Alaskan Malamute Club of America, Inc.
Corresponding Secretary: Leneia Rogowski
Address: 640 E 50 N, Hyrum, UT 84319-1454
Website: www.alaskanmalamute.org
Email: leneia.rogowski@ihc.com

Good luck!

Sincerely,

Daisy Okas

Daisy Okas
AVP of Communications

260 Madison Avenue New York, NY 10016 Tel 212 696-8342 Fax 212 696-8345 E-Mail dlo@akc.org

Central Middle School of Science
1405 E Street
Anchorage, Alaska 99501
Ph. 907/742-5100 Fax 907/742-5125

April 3, 2008

Carol Bartholomew's Classroom
Polaris K-12 School
6200 Ashwood Street
Anchorage, Alaska 99507-1911

Dear Carol's Class:

It has been brought to my attention by a well-written letter from Khaner Smith that your classroom is trying to pass a law to make the Alaska Malamute our official state dog. I understand how much research you have been doing and the reasons you are trying to make a difference on a state-wide issue such as an official state dog. Some of your research has me intrigued such as:

They were bred in Alaska.
They sniffed bombs during WWII.
They carried airplane parts.

Although Central Middle School of Science's mascot is the Husky, I can support your efforts in making the official state dog the Malemute. Please let me know how I can be of assistance to your classroom and thank you for inviting my support! Your classroom is filled with a beautiful group of motivated, intelligent, civic-minded students who are responsible for their learning - how could I not support your cause?

Sincerely,

Lisa Zelenkov,
Principal of Central Middle School of Science

COFFEY CONSULTING, LLC

3606 RHONE CIRCLE
SUITE 100
ANCHORAGE, ALASKA 99508

Telephone: (907) 646-7855 Facsimile: (907) 274-4258

E mail: dancoffey@gci.net

Carol's Family Group
6200 Ashwood Street
Anchorage, Alaska 99507

Dear Katie:

I received your letter concerning your efforts to have the Alaska Malamute named the official state dog.

From reading your letter it is clear that you have done your homework. You have learned a lot about Malamutes and how they have served the First People and those who came after them. Well done! I applaud your efforts to have this fine animal and friend to man named the state dog.

If this letter can help you achieve your goal, then please feel free to send copies to the legislature and the governor.

Good luck on your project.

Regards,

Dan K. Coffey

4506

Carol's Family Group 4-3-08

I'd Like To Thank you For The LeTTer I recieved, From your group, and my granddaughTer, Desiree, reguarding [redacted] ALasha's oFFicial sTaTe dog. IT was very ThoughTFuL and imFormiTive. I Learned many Things From your LeTTer, buT Two ThaT sTand ouT are, ThaT we didn'T have a oFFiciaL sTaTe dog, and The Long and imporTanT hisTory The maLamuTe has had in ALaska. I agree wiTh you, ThaT The maLamuTe would be The best pick For our sTaTe dog, and supporT your moTion. I also Think iT's really nice ThaT your group is doing Things To help The communiTy. Keep up The good worK.

ThankyOU

Jim WhiTaker

Jim Whitaker

DOG TIRED
DOGGIE DAYCARE
...because a tired dog is a happy dog

April 8, 2008

Miss Jessica Husa
Carol's Family Group
Polaris K-12 School
6200 Ashwood Street
Anchorage, AK 99507-1911

Dear Miss Husa:

We are pleased to send this letter of support for your class's proposal to make the Alaska Malamute the official dog of the State of Alaska. We were very interested to learn about all the ways that these dogs have helped throughout the history of our great state. They are a unique breed and we agree that they should be recognized for their contributions. Our official education dogs Lucy and Maverick are pleased to add their support!

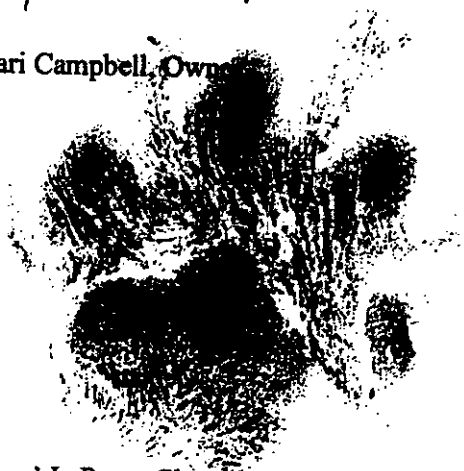
We wish you well in your efforts!

Sincerely,

DOG TIRED DOGGIE DAYCARE

Kari Campbell, Owner

Peg Banks, Daycare Manager



'Lucy' LaRose, Classroom Outreach

'Maverick' Bandle, Classroom Outreach

UAA UNIVERSITY of ALASKA ANCHORAGE
Office of the Chancellor

May 16, 2008

Taylor J. Seitz
c/o Polaris K-12 School
6200 Ashwood Street
Anchorage, AK 99507-1911

Dear Taylor,

Until I received your letter I did not know the origin of the Alaskan Malamute and its rich historical connection to the Inuit people and to Alaska. I also did not know that it is one of the 12 ancient breeds. Thank you for providing such a wealth of information about the Alaskan Malamute – including that this breed of dog was vital to miners during the Gold Rush; that Alaskan Malamutes helped during Admiral Byrd's expedition to the South Pole; and that Alaskan Malamutes were part of the dog team that made the historical Serum Run to Nome. The Alaskan Malamute truly is a wonderful dog that is hard working and loyal. I agree that these are the kind of attributes that Alaskans would consider important in naming an Alaska state dog.

I wish you and your class much success in your efforts to have the Alaska Malamute named Alaska state dog.

Sincerely,

Fran Ulmer

Fran Ulmer
Chancellor

3211 Providence Drive • Anchorage, Alaska 99508-4614 • T 907.786.1437 • F 907.786.6123 • chancellor@uaa.alaska.edu

Gary Drew
3760 Amber Bay Loop
Anchorage, AK 99515
8 April 2008

To whom it may concern,

I am writing this letter in support of the proposal to make the Alaskan Malamute the official State dog of Alaska. I have been impressed with the job that the students at Polaris k-12 in Anchorage have done in making the case for the Malamute. I for one was educated by the class and felt they had done an exceptional job researching the topic. Given the importance of dogs in the history and culture of Alaska, I can think of no better way to honor this contribution than to select a true working dog, the Alaskan Malamute, as the official State dog

Sincerely,

Gary Drew

Gary Dew

3/31/08

DEAR JACOB,

THANK YOU FOR THE INTERESTING LETTER. I WOULD BE GLAD TO SUPPORT YOUR IDEA FOR PROMOTING THE ALASKAN MALEMUTE TO BE THE ALASKAN STATE DOG.

YOU HAVE DONE A LOT OF RESEARCH ON THE HISTORY OF THE DOG AND HAVE FOUND OUT HOW PEOPLE WANTED THEM TO BE PART OF THEIR FAMILY.

GOOD LUCK WITH YOUR RESEARCH, I AM SURE YOU WILL FIND MORE INTERESTING FACTS THAT WILL CONVINCE YOU, EVEN MORE, THAT THE MALEMUTE WOULD BE AN EXCELLENT CHOICE TO REPRESENT ALASKA.

THANK YOU FOR YOUR LETTER AND I WILL TELL MY FRIENDS ABOUT YOUR PROJECT.

LOVE YOU,

GRANDMA ELAINE.

March 28, 2008

Gwyneth Meek
Polaris K-12 School
6200 Ashwood Street
Anchorage, AK 99507

Dear Gwyneth,

Thank you for your letter asking for support to make the Malamute the Alaska State Dog. I learned several things about Malamutes that I did not know before.

I think your project to have the Malamute named as the state dog is a wonderful idea, and I fully support this effort. I encourage the Alaska Legislature to learn more about the Alaska Malamute and make it our official state dog.

I wish you success with your project,

Jeff Friedman
Anchorage School Board Member
1534 D Street
Anchorage, AK 99501

Municipality of Anchorage

P.O. Box 196650 • Anchorage, Alaska 99519-6650 • Telephone: (907) 343-4431 • Fax: (907) 343-4499 http://www.muni.org

Mayor Mark Begich

Office of the Mayor

May 13, 2008

Polaris K-12 School
6200 Ashwood Street
Anchorage, AK 99507-1911
Attn: Sarah Bartholomew

Dear Ms. Bartholomew:

Thank you for your letter regarding the Malamutes and how helpful they have been to people in the Arctic region. Your letter was very insightful and had alot of information that I was unaware of pertaining to this breed of dog. I agree this is one of the oldest and toughest dogs to come out of this region, probably even one of the first dogs to be domesticated here in Alaska being able to withstand the Northern Arctic's harsh climate.

Passage of a bill would be special recognition for an animal that has done so much for the people living in Alaska and other Arctic regions. I would love to support you and your school on this bill, and I believe the community would agree the Malamute should be our state dog. Having this breed originate from our own state should be more than a good enough reason to consider it as our state dog.

Good Luck with your school project to get this bill passed.

Sincerely,

Mark Begich
Mayor

Community, Security, Prosperity

4513

Senate Labor and Commerce Committee, Chair
•
Legislative Budget and Audit Committee
•
Senate Rules Committee
•
Committee on Committees

ALASKA STATE LEGISLATURE

While in Session
State Capitol, Rm. 9
Juneau, AK 99801
(907) 465-3704
Fax: (907) 465-2529

While in Anchorage
716 W. 4th Ave, Ste. 440
Anchorage, AK 99501
(907) 269-0169
Fax: (907) 269-0172

SENATOR JOHNNY ELLIS
SENATE MAJORITY LEADER

March 31, 2008

Carol's Family Group
6200 Ashwood Street
Anchorage, Alaska 99508

Dear Kaya,

Thank you very much for your delightful letter about making the Alaska Malamute the official State dog for Alaska. I am very impressed with the research you and your class did to learn more about the Malamute and its historical contribution to Alaska and its people.

I am very supportive of your efforts to work toward achieving this very important goal and you have very clearly justified why the Alaska Malamute is an excellent choice for our State. This process will be an excellent learning opportunity for you, and I am most appreciative of your class for selecting this very worthwhile project.

Please feel free to call on me for any further assistance I may provide on behalf of your mission. The Alaska Malamute has proven its value to the State and, now, should be honored for its contributions.

Best wishes,

Johnny Ellis

cc: Representative Berta Gardner

April 1, 2008

To Whom It May Concern:

This letter is to support officially declaring the Alaska Malamute as the State Dog.

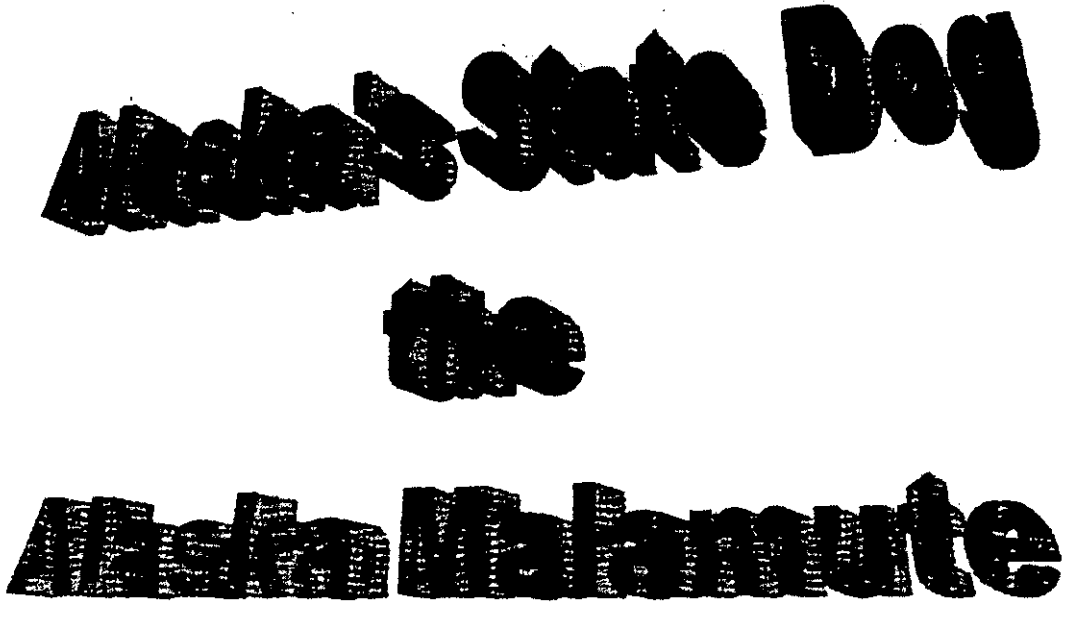
As the result of the wonderful work of a second grade class at Polaris K-12 in Anchorage I was made aware of the tremendous role the Alaska Malamute has played in Alaska history.
At the top of the list:

- They helped gold miners dig for gold.
- They are strong workers and are used to pull heavy burdens.
- Their role in the Iditarod is obvious.

Please accept these brief words as my support. Feel free to contact me with any questions.

Sincerely,

Troy J. Bowler
tbowler@tanainachildren.org
786-1339



TANANA VALLEY KENNEL CLUB, INC.

P.O. Box 72019
Fairbanks, Alaska 99707-2019

May 18, 2008

Polaris K-12 School
6200 Ashwood Street
Anchorage, AK 99507

To Whom It May Concern,

We at the Tanana Valley Kennel Club wish to add our support in the effort to make the Alaskan Malamute Alaska's official state dog. The Alaskan Malamute has played a very important role in Alaska's history. It would be a well deserved honor for this breed to be recognized as Alaska's state dog.

Sincerely,

Becky Fuller
Correspondence Secretary
Tanana Valley Kennel Club

April 7, 2008

Dear Robby,

I received your letter requesting support for the Alaska Malamute to be the official dog for the state of Alaska. You made a very strong case for the Alaska Malamute. You presented many facts to support your position. I did not know Alaska Malamutes had such important jobs in World War II. From the reasons you presented, I understand why you think the Alaska Malamute should be the state dog.

Please know you have my support. Good luck!

Very truly yours,

Teresa Patka

Teresa A. Patka

UNIVERSITY OF ALASKA ANCHORAGE
INSTITUTE OF SOCIAL AND ECONOMIC RESEARCH
College of Business and Public Policy
3211 Providence Drive • Anchorage, Alaska 99508-8180

April 29, 2008

Dear Members of the Alaska State Legislature:

I am writing in support of making the Alaska malamute the official state dog of Alaska. The arguments supporting this proposal, as articulated by the students of Polaris, have convinced me that the Alaska malamute is an appropriate symbol for our state. The breed represents the best of our unique state, as a strong, beautiful animal that has contributed greatly to the survival of peoples in this tough region for thousands of years.

I also think it is exciting to see young people get engaged in thinking about, and making public policy and history.

I urge you to support this effort.

Thank you.

Diane Hirshberg
Assistant Professor of Education Policy
Hirshberg@uaa.alaska.edu
907/786-5413

4518

HB

20

Summary of Changes in CSHB20(FIN) From Original to Current Version

The original version of CSHB20(FIN) amended only subsection A in the Commercial Fisheries Loan Act, in order to allow borrowers who meet the existing eligibility criteria under subsection A to take out loans for energy efficiency upgrades.

In the House Fisheries Committee, a CS was adopted that further increases the level of loan coverage and eligibility. CSHB20(FSH) maintains the amendment to subsection A, and also amends subsection B, paragraph (i), to eliminate language prohibiting borrowers who have received loans under subsection A from receiving for loans under subsection B.

However, this prohibition is eliminated only if the purpose of the additional loan under subsection B is for energy efficiency improvements.

Taking into account the increasing prices for engines and other equipment, CSHB20(FSH) also raises the total allowable outstanding balance on loans to an individual fisher under both subsections A and B from $300,000 to $400,000.

Also, CSHB20(FSH) adds an immediate effective date.

Another change in CSHB20(FSH) made the legislation retroactive to September 1, 2008. This was because of concern over whether existing retroactivity regulations under the Loan Act would apply to energy upgrades made by applicants before the language was in statute.

The Division of Investments has since been assured by legal counsel that the retroactivity in regulation will apply. Therefore, an amendment to the bill was adopted in the House Finance Committee that deleted the retroactivity clause in CSHB20(FSH).

Prepared by the Office of Rep. Edgmon

FISCAL NOTE

STATE OF ALASKA
2010 LEGISLATIVE SESSION

Fiscal Note Number: 2
Bill Version: **CSHB 20(FIN)**
(S) Publish Date: 2/12/10

Identifier (file name):HBCS20(FIN)-CED-INV-2-4-10
Title: FISHERIES LOANS:ENERGY EFFICIENCY/AMOUNT
Sponsor: Rep.Edgmon
Requester: Senate Resources Committee

Dept. Affected: DCCED
RDU: 122
Component: Investments
Component Number: 383

Expenditures/Revenues (Thousands of Dollars)

Note: Amounts do not include inflation unless otherwise noted below.

	Appropriation Required	Information					
OPERATING EXPENDITURES	**FY 2011**	**FY 2011**	**FY 2012**	**FY 2013**	**FY 2014**	**FY 2015**	**FY 2016**
Personal Services	72.3		72.3	74.6	76.7	79.2	84.2
Travel	2.5		2.5	2.5	2.5	2.5	2.5
Contractual	3.8		3.8	3.8	3.8	3.8	3.8
Supplies	1.0		0.5	0.5	0.5	0.5	0.5
Equipment	9.0		0.1	0.1	0.1	0.1	0.1
Land & Structures							
Grants & Claims							
Miscellaneous							
TOTAL OPERATING	**88.6**	**0.0**	**79.2**	**81.5**	**83.6**	**86.1**	**91.1**
CAPITAL EXPENDITURES							
CHANGE IN REVENUES ( )							

FUND SOURCE (Thousands of Dollars)

1002 Federal Receipts							
1003 GF Match							
1004 GF							
1005 GF/Program Receipts							
1037 GF/Mental Health							
1036 Commercial Fisheries RLF	88.6	0.0	79.2	81.5	83.6	86.1	91.1
TOTAL	**88.6**	**0.0**	**79.2**	**81.5**	**83.6**	**86.1**	**91.1**

Estimate of any current year (FY2010) cost: 0.0

POSITIONS

Full-time	1.0	0.0	1.0	1.0	1.0	1.0	1.0
Part-time							
Temporary							

ANALYSIS: *(Attach a separate page if necessary)*

This legislation amends Section A (AS 16.10.310(a)(1)(A)) of the Commercial Fishing Revolving Loan Fund (CFRLF) program to provide low interest loans to qualified Alaskan harvesters who wish to upgrade their existing vessels and gear to improve energy efficiency.

The bill also amends AS 16.10.320(i) to allow Section A borrowers to apply for energy efficiency upgrade loans under Section B (AS 16.10.310(a)(1)(B)) and increases the outstanding balance loan limits to $400,000.

The Department of Commerce, Community, & Economic Development (DCCED) anticipates that this will increase loan demand by approximately $4.2 million in FY10, $2.1 million in FY11 and $1.6 million in years FY12 through FY15.
(Continued on page two.)

Prepared by: Greg Winegar, Director — Phone 465-2510
Division: Division of Investments, Dept of Commerce, Community, & Econ. Dev. — Date/Time 2/4/10 12:00 AM
Approved by: Emil Notti, Commissioner — Date 2/4/2010
Department of Commerce, Community and Economic Development

STATE OF ALASKA
2010 LEGISLATIVE SESSION

BILL NO. CSHB 20(FIN)

ANALYSIS CONTINUATION

The CFRLF has sufficient cash reserves to handle the increased loan demand. DCCED is requesting one additional Loan Officer position to process loan requests generated as a result of this legislation. This position will be funded out of the CFRLF.

There may be a very small but indeterminate change in revenues as a result of this legislation. Currently, cash in the CFRLF is managed by the Department of Revenue and is invested in short term instruments that are yielding minimal returns in this interest rate environment. These earnings are retained by the General Fund. Interest earnings generated by loans made as a result of this legislation would be retained by the CFRLF.

FISCAL NOTE

STATE OF ALASKA
2009 LEGISLATIVE SESSION

Fiscal Note Number: 1
Bill Version: CSHB 20(FSH)
(H) Publish Date: 2/4/09

Identifier (file name): HB20-CED-Investments-02-02-09
Dept. Affected: Comm, Comm, and Econ Dev

Title: An Act relating to commercial fishing loans for energy efficiency upgrades
RDU: 122
Component: Investments

Sponsor: Representative Edgmon
Requester: House Special Committee on Fisheries
Component Number: 383

Expenditures/Revenues (Thousands of Dollars)

Note: Amounts do not include inflation unless otherwise noted below.

	Appropriation Required	Information					
OPERATING EXPENDITURES	**FY 2010**	**FY 2010**	**FY 2011**	**FY 2012**	**FY 2013**	**FY 2014**	**FY 2015**
Personal Services	74.0		74.0	74.0	74.0	74.0	74.0
Travel	2.5		2.5	2.5	2.5	2.5	2.5
Contractual	3.8		3.8	3.8	3.8	3.8	3.8
Supplies	1.0		0.5	0.5	0.5	0.5	0.5
Equipment	9.0		0.1	0.1	0.1	0.1	0.1
Land & Structures							
Grants & Claims							
Miscellaneous							
TOTAL OPERATING	**90.3**	**0.0**	**80.9**	**80.9**	**80.9**	**80.9**	**80.9**
CAPITAL EXPENDITURES							
CHANGE IN REVENUES ( )							

FUND SOURCE (Thousands of Dollars)

1002 Federal Receipts							
1003 GF Match							
1004 GF							
1005 GF/Program Receipts							
1037 GF/Mental Health							
1036 Commercial Fisheries RLF	90.3	0.0	80.9	80.9	80.9	80.9	80.9
TOTAL	**90.3**	**0.0**	**80.9**	**80.9**	**80.9**	**80.9**	**80.9**

Estimate of any current year (FY2009) cost: _____

POSITIONS

Full-time	1.0	0.0	1.0	1.0	1.0	1.0	1.0
Part-time							
Temporary							

ANALYSIS: *(Attach a separate page if necessary)*

This legislation amends Section A (AS 16.10.310(a)(1)(A)) of the Commercial Fishing Revolving Loan Fund (CFRLF) program to provide low interest loans to qualified Alaskan harvesters who wish to upgrade their existing vessels and gear to improve energy efficiency.

The Department of Commerce, Community, & Economic Development (DCCED) anticipates that this will increase loan demand by approximately $4.2 million in FY10, $2.1 million in FY11 and $1.6 million in years FY12 through FY15.
(Continued)

Prepared by: Patty LaPierre — Phone 465-2510
Division: Division of Investments, Dept of Commerce, Community, & Econ. Dev. — Date/Time 02/02/09 1:45pm
Approved by: Emil Notti, Commissioner — Date 2/2/2009
Department of Commerce, Community and Economic Development

STATE OF ALASKA
2009 LEGISLATIVE SESSION

BILL NO. CSHB 20(FSH)

ANALYSIS CONTINUATION

The CFRLF has sufficient cash reserves to handle the increased loan demand. DCCED is requesting one additional Loan Officer position to process loan requests generated as a result of this legislation. This position will be funded out of the CFRLF.

There may be a very small but indeterminate change in revenues as a result of this legislation. Currently, cash in the CFRLF is managed by the Department of Revenue and is invested in short term instruments that are yielding minimal returns in this interest rate environment. These earnings are retained by the General Fund. Interest earnings generated by loans made as a result of this legislation would be slightly higher in this interest rate environment and those earnings would be retained by the CFRLF.

Sponsor Statement

CSHB20 (FIN): Fisheries Loans for Energy Efficiency

SPONSOR'S INTENT
CSHB20 (FIN)

CSHB20 (FIN) provides technical fixes to the Commercial Fishing Loan Act in order to make low-interest loans for energy efficiency upgrades available to a larger number of Alaska's commercial fishers.

Volatility in fuel costs continues to have a worrisome impact on our commercial fishing fleets, cutting into profits and threatening productivity.

In recent years, great advances have been made in diesel and outboard engine technologies. Fuel efficiency and performance have vastly improved.

There have also been substantial developments in alternatives to traditional diesel and gasoline generator sets, and modifications to vessel hulls—such as bulbous noses and fin stabilizers—can also significantly boost energy efficiency.

Commercial fishers across the state are eager to take advantage of these and other new technologies that significantly lower operating costs.

Passage of CSHB20 (FIN) will provide many Alaskan fishers the opportunity to make these improvements sooner. At the same time, it will foster innovation and stimulate the entrepreneurial spirit in one of Alaska's most important industries.

Prepared by the office of Rep. Edgmon

Sectional Analysis

CSHB20 (FIN): Fisheries Loans for Energy Efficiency

Section 1 amends subsection A, paragraph (ii) of the Commercial Fishing Loan Act to allow loans to upgrade existing vessels and gear for the purpose of improving energy efficiency. Under current statute, subsection A loans are only available for improving the quality of Alaska seafood products.

Section 2 of the bill amends paragraph (i) of subsection B of the Act in two ways:

First, it eliminates the current prohibition for a borrower who has ever had a loan out under subsection A from also becoming a borrower under subsection B, but only if the purpose of the additional subsection B loan is for an energy efficiency upgrade.

Second, it raises the total allowable balance outstanding on loans to an individual from both subsection A and subsection B from $300,000 to $400,000.

Section 3 sets an immediate effective date for the bill.

Prepared by the office of Rep. Edgmon.

Sea Grant
Alaska
Marine Advisory Program

Preliminary Report

Fall 2008 Alaska Commercial Fishermen and Tender Fuel Survey

By –
The Marine Advisory Program's
Allison "Sunny" Rice, Agent, Petersburg
Torie Baker, Agent, Cordova
Glenn Haight, Fisheries Business Specialist, Juneau

November 2008

Fishbiz
Alaska Fisheries Business Assistance

4528

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The fuel survey and subsequent reports was led by Sunny Rice with contributions by Paula Cullenberg, Torie Baker, and Glenn Haight of the Alaska Sea Grant Marine Advisory Program; Carol Kaynor, Doug Schneider and Dave Partee of the Alaska Sea Grant Program; Greg Fisk with SeaFisk Consulting; and Mark Vinsel of United Fishermen of Alaska. The survey was a product of the Alaska Sea Grant Marine Advisory Program's fuel and energy committee, under the Alaska Fisheries Business Assistance Program (FishBiz).

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Introduction

In fall 2008, the Alaska Sea Grant Marine Advisory Program (MAP), in partnership with the United Fishermen of Alaska, conducted a web-based survey of Alaska's commercial fishermen and tender operators. The survey asked respondents how increased fuel prices impacted their fishing businesses, what steps they took in response, and what further technical assistance would help them adapt to increasing costs. Following a strong response of 126 completed surveys, representing a broad cross-section of gear types and fishing locations in the state, MAP identified several technical issues that require further research and support.

Background

The Alaska seafood industry is the state's largest private sector employer and its main economic engine along Alaska's vast coastline. In the spring of 2008, the Alaska seafood industry braced for the highest fuel prices ever. Diesel-dependent seafood processors and commercial fishermen, sometimes operating in highly remote areas of the state, faced per gallon prices in excess of $5 to $6. Some areas reported prices in excess of $7 per /gallon. In some cases, this increase represented a doubling of fuel costs.

The resulting huge production costs likely offset many of the gains the sector had made on improved seafood prices, and any future increases in fuel costs will continue to cast a pall over the fishing sector. This prospect, combined with growing consumer trends favoring food sources that use less fossil fuel to produce, serve as compelling reasons to reduce and/or eliminate fossil fuel use.

As first responders to the Alaska commercial fishing industry, MAP developed a detailed survey for the fleet to gather baseline information and determine initial impacts. This information serves to identify areas for further research, outline long-term alternative energy needs and prompt policy makers to address this crucial issue for coastal Alaska's main economic engine.

4530

Summary Findings

This section summarizes significant survey findings listed throughout the report.

Changing Behaviors

- On average, fishermen attempted to lower their fuel costs through several changes in their fishing practices.
- The most common method of reducing fuel usage was less prospecting for fish.
- Other common methods include staying closer to home or staying out on the grounds longer.
- These top techniques for reducing fuel during fishing appear to indicate less overall effort.
- The most common fuel saving techniques in the fishing operations were throttling back and maintaining engine and fuel systems.
- The next most common fuel saving techniques were more careful planning of routes and timing, keeping the vessel bottom clean and propeller tuned, and monitoring vessel trim.
- Respondents indicating they owned a Bristol Bay gillnet permit were the least likely to change their operation to reduce fuel consumption.

Impact on Income

- Forty-three percent of the survey respondents projected fuel expenses between 10-20% of their total gross income. Expanding that range to 10 - 30% of total gross income expands the percentage of respondents to 70%.
- Almost 90% of the survey respondents indicated their fuel cost as a percentage of income increased "somewhat more" or "more than doubled" over the past five years.
- Eighty percent of the respondents with crew reported higher fuel costs negatively impacted income to crew members.
- Twenty-four percent of survey respondents received some form of fuel assistance from their processor.

Fisheries Management Impacts

- A majority of the respondents (64%) believe fisheries management decisions may affect their fuel costs. Conversely, only 40% believe fisheries managers should consider the impacts on fuel usage when managing fisheries.

Survey Limitations

- Underreporting of conditions for fishermen in the AYK region requires additional review. These regions sustain high fuel costs, and with gas powered engines, employ some of the more inefficient engines in the fishery.

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Survey Parameters

The fuel survey ran on Survey Monkey©, an online survey tool, from late September until mid October.

Results of this survey are unscientific. Respondents were self-selected members of the Alaska commercial fishing industry, referred to the survey website by radio or newspaper stories, fishing-related listserves, or by direct referral from MAP faculty or others. As the survey was conducted using a web-based survey-hosting site, respondents were limited to those with internet access. Neither names nor computer IP addresses were collected with responses and no attempt was made to verify that respondents had identified themselves accurately.

Respondents were asked 17 questions on topics ranging from energy saving techniques to fisheries management impacts and possible research areas. Appendix I provides the survey tool.

While we were pleased with the response rate (126 total responses) and the information provided, there are over 10,000 permit holders in the Alaska state fisheries alone. Furthermore, the number of respondents per gear type in some cases was very small.

Despite these limitations, we feel these results provide a relevant snapshot of the impacts of, and fishermen's responses to, increased fuel prices.

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Survey Respondent Information

Make up of Survey Responders

126 Alaska commercial seafood harvesters and tender operators responded to the survey. Table 1 provides the gear type and, in some cases, the region of each responder.

124 survey respondents indicated participating in 199 separate fisheries. This indicates several fished in more than one fishery. Two skipped the question. Almost 50% of the responders were gillnetters.

Several areas in this report provide gear- specific results where notable differences occurred between gear types.

Table 1

Answer Options	Response Count	Response %
Gillnetting - Bristol Bay	12	9.7%
Gillnetting – Arctic, Yukon, Kuskokwim (AYK)	2	1.6%
Gillnetting – other locations	46	37.1%
Setnetting	9	7.3%
Trolling	15	12.1%
Seining	24	19.4%
Longlining	37	29.8%
Trawling	14	11.3%
Diving	3	2.4%
Jigging	7	5.6%
Pot fishing	19	15.3%
Tendering	7	5.6%
Other	4	3.2%
Comments	11	
Total Responses	199	
Total Respondents	124	
Skipped questions	2	

Current fuel usage

A large majority, 78%, of the respondents had diesel engines. This result may overestimate the percentage of diesel vessels in the fleet because of the low number of AYK responses (only 2 out of 126). Small boat fishermen in the Arctic, Yukon, Kuskokwim (AYK) region tend to employ gas powered engines.

Changing Behaviors

Fishing Practices

The high cost of fuel dramatically changed the fishing activity of the survey responders. While survey results revealed 15 individuals (12% of total respondents) that did not change the way they fished because of the increasing cost of fuel, the vast majority of the respondents did change the way they fished.

4533

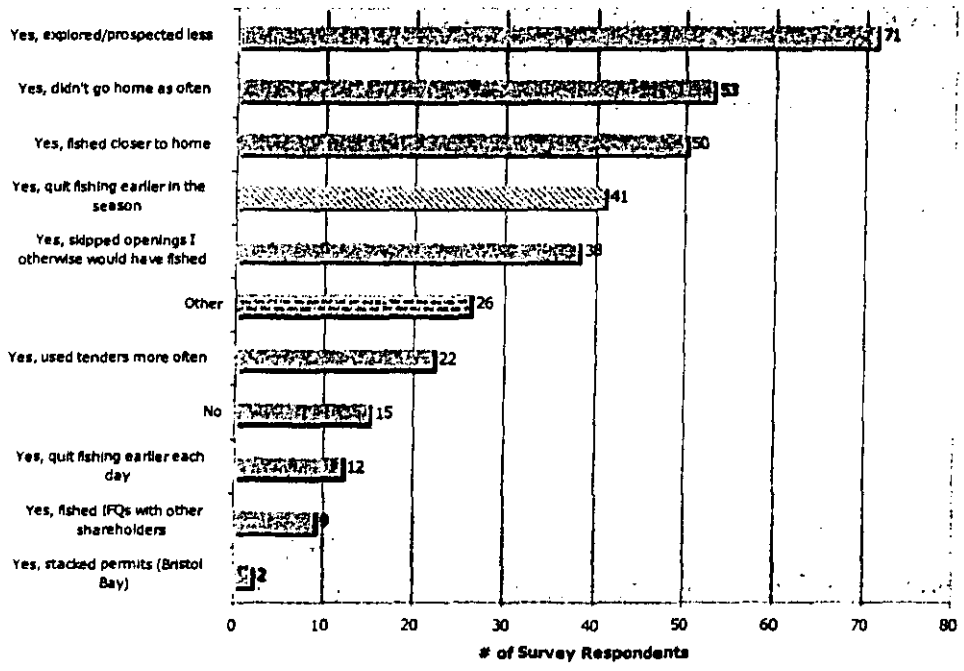
An examination of respondents indicating no change in fishing activity by gear type reveals over half were Bristol Bay gillnetters.

After removing these respondents, there were a total of 324 responses on types of changes made. This equates to an average of three changes per respondent. This indicates fishermen changed fishing practices in several ways to mitigate the high cost of fuel.

The most common response was that fishermen prospected less. This may have caused lower harvests as fishermen targeted areas known for large harvests, missing altogether areas that produced less fish historically.

Other top answers included, not going home as often and, conversely, fishing closer to home. The other top answer was fishermen quit earlier in the season.

Chart 1 - Changes in fishing behavior due to fuel prices



Most responses would seem to indicate less total harvesting activity. Chart 1 provides a summary of changes in fishing practices.

Fuel Saving Techniques

The survey sought information on what fuel saving techniques fishermen employed in the operation and maintenance of their vessels. Over 70% of

respondents indicated that they "paid lots of attention" to maintaining their engine and fuel systems, and throttling back. Over 60% paid attention to planning their routes and timing.

General maintenance of the vessel proved very important with fishermen. This included carefully cleaning their boat, maintaining the propeller, and monitoring vessel trim.

Table 2 summarizes all responses to Question 9, *"How much attention do you pay to the following techniques for decreasing fuel consumption?"*

Table 2

Answer Options	Lots of attention	Some attention	Very little attention	Response Count
Throttling back	90	23	5	118
Maintaining engine and fuel systems	89	23	4	116
Planning your route and timing	78	25	11	114
Keeping bottom clean	61	39	10	110
Keeping propeller tuned	58	36	15	109
Monitoring vessel trim	54	31	25	110
Maintaining fuel consumption records	46	33	27	106
Adjusting autopilot to improve tracking	43	23	26	92
Reducing vessel weight	33	44	37	114
Cutting back on diesel genset use	28	20	29	77
Other	14	2	6	22
Comments				19
			Total answered	119
			Total skipped	7

Investment Into Fuel Saving Devices

The survey attempted to learn what kinds of investments fishermen were considering making into fuel saving equipment. Adding a new engine drew the most positive response, while adding a flow meter was a close second. Items like bulbous bows, aerofoil-shaped rudders and kort nozzles were not as highly considered.

Table 3 summarizes all responses to Question 10, *"What new DEVICES have you used or considered using to decrease your fuel consumption?"* Not counting the "Other" category, the answers are sorted by those that drew the most favorable responses (measured as the "Added this year", "Added prior year", or "Considering adding").

4535

Table 3

Answer Options	Added this year	Added prior to this year	Considering adding	Not interested	Response Count	Positive Response Count
New engine	12	21	42	19	94	75
Flow meter	3	17	44	22	86	64
Bulbous bow	2	5	22	44	73	29
Aerofoil-shaped rudder	0	8	17	44	69	25
Kort nozzle	0	5	15	48	68	20
Other	9	1	6	8	24	16
Comments					25	
				Total answered	109	
				Total skipped	17	

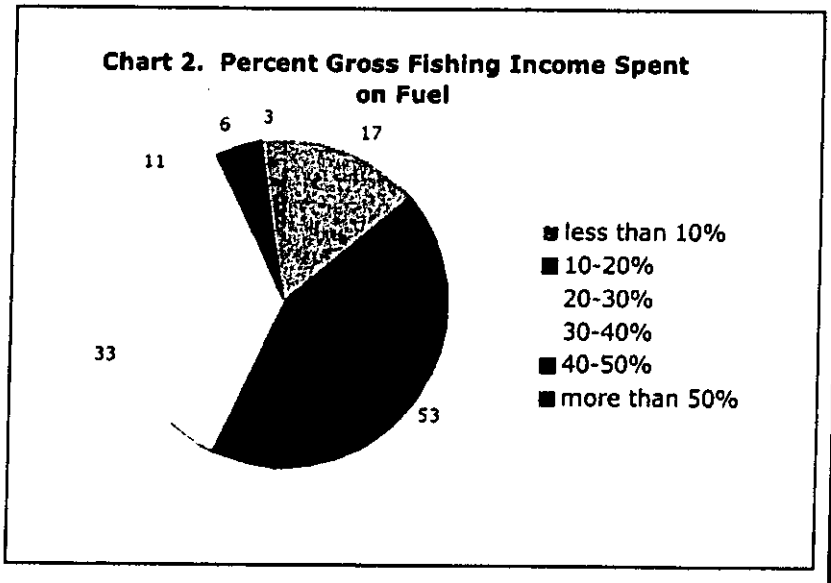
Income Impacts

Current Cost of Fuel

Survey respondents were asked what percentage of their income was spent on fuel. Forty-three percent of fishermen surveyed said they spent between 10 to 20% of their gross fishing income on fuel. Seventy percent (n=86) fell in the 10 to 30% range.

Chart 2 highlights the survey results for Question 4, *"Over the past year, what percentage of your gross fishing income has been spent on fuel?"*

Chart 2. Percent Gross Fishing Income Spent on Fuel

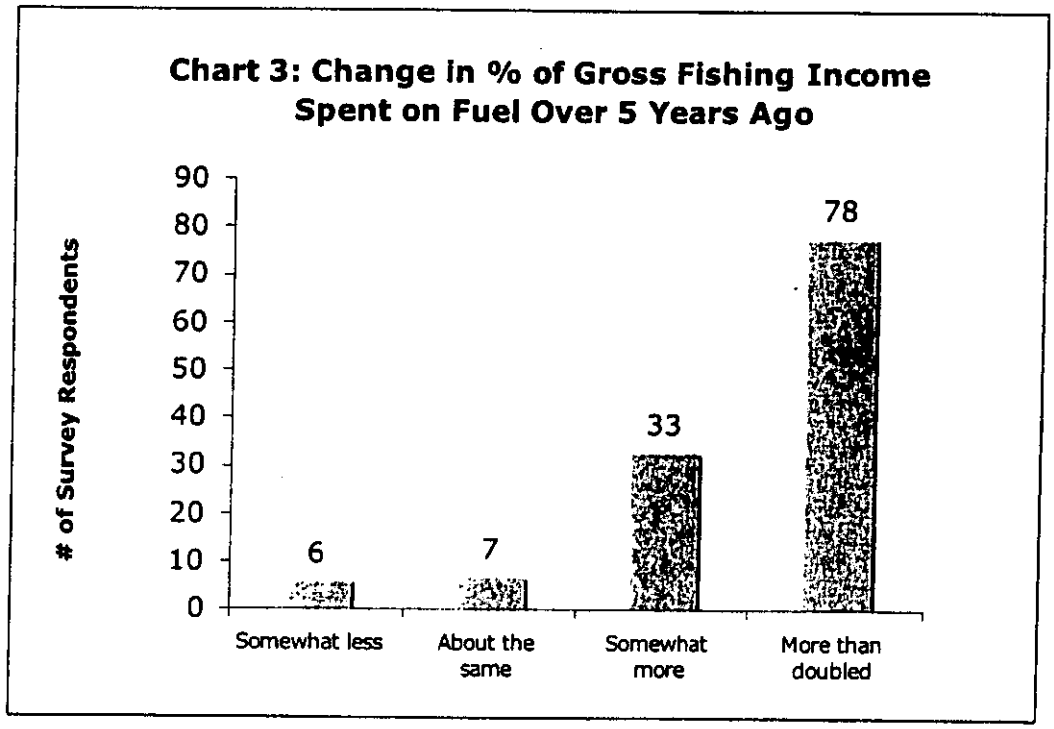


Increase in Fuel as a Production Cost

Respondents were then asked how much the cost of fuel increased as a percentage of income over the last five years. Sixty-three percent offered it more

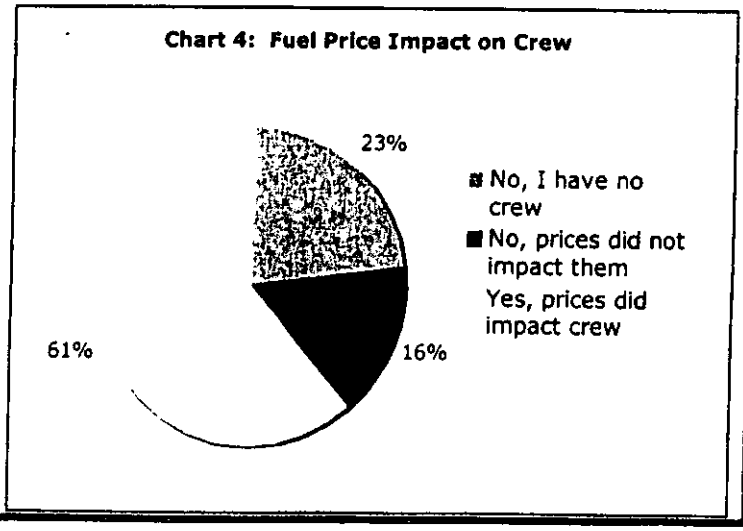
than doubled over that time. Very few indicated no real change at all. In total, 89.5% of the survey respondents indicated their fuel cost as a percentage of income increased at least "somewhat more". This is a disturbing trend considering that increased market prices in most salmon fisheries should have increased their income over that period of time.

In reviewing gear specific responses to this question, it appears this doubling of fuel costs occurred consistently across all fisheries. Chart 3.



Impacts to Crew Income

Permit holders were not the only ones impacted. A majority (61%) of respondents



4537

said their crew also felt the pinch of high fuel prices. A large portion, 23%, offered they had no crew. Of the remaining respondents, 80% indicated the price of fuel impacted how much income the crew made.

When asked how crew were impacted, most said that crew shares were reduced because the cost of fuel was taken off the top before shares were calculated. In many cases, this was the first year permit holders considered fuel costs in the crew share calculation. Others indicated that they fished short-handed or didn't hire crew at all. Others said they quit fishing or laid crew off sooner.

Help from Processors

Finally, survey respondents were asked to detail whether they received fuel cost assistance from their processor. Comments provided under this question indicate that processors assisted primarily through selling fuel to them at a bulk fuel price or providing fuel bonuses. Twenty eight percent of fishermen said that their processors provided assistance with their fuel costs. Table 4 summarizes the answers.

Table 4

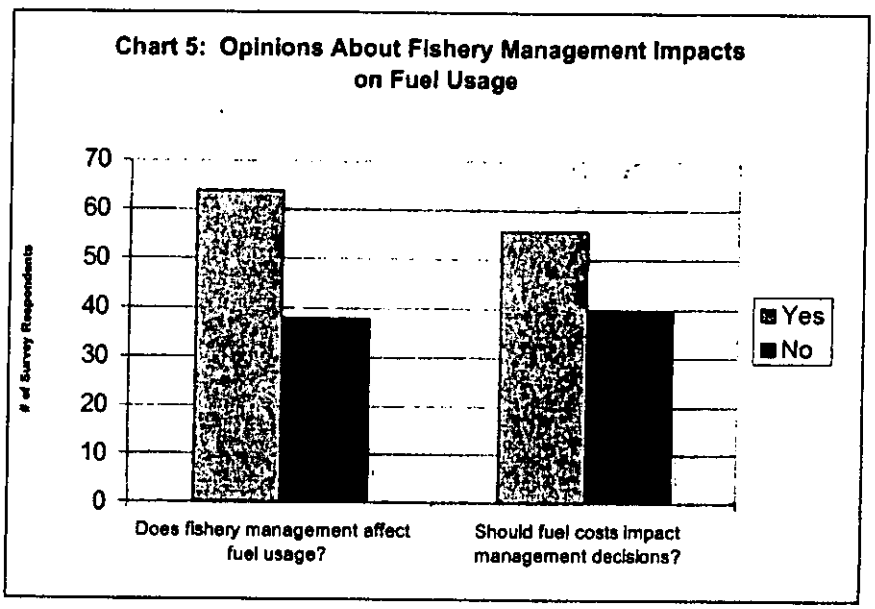
Answer Options	Response Count	Response Percent
Yes	34	27.6%
No	89	72.4%
Comments	29	
Total answered	123	
Total skipped	3	

Fisheries Management Impacts

Finally, respondents were asked about fisheries management's impact on fuel consumption. While 64 respondents said that management did affect fuel consumption rates in their fisheries, only 40 felt that "fuel costs are a valid concern and should be integrated into the fishery management process," with 56 indicating that "management should be strictly biological."

When these responses are examined by gear group, however, only one gear group indicated a contrary opinion. 53% of trollers responding felt that fuel costs should be integrated into fishery management decisions, while 33% felt that management should be strictly biological.

4538



Further Technical Assistance

As a final question, the survey asked respondents to identify how else the Marine Advisory Program could help adapt to rising fuel prices and if they had any particular questions or comments. The survey received a number of responses which may or may not fall within the purview of the Marine Advisory Program. In any event, they are informative for the general discussion.

Selected comments, including those of great frequency, are provided here.

- Clear technical advice from engine and fuel industry.
- Funding options for new engine or engine rebuilds.
- Promote energy independence for country and Alaska.
- Alternative assistance from processors.
- Develop harvesting privileges for dive fishery.
- Subsidies for food suppliers.
- Improved technology for alternative fuels and energy.
- Pre-season lectures/workshops on energy use.
- More coordination with the Alaska Department of Fish & Game.
- Research into green technologies adapted for the fishing industry.
- Fuel consumption comparisons between engines.
- Investment cost recoupment calculator for engine overhauls.

4539

- Low interest loan/tax relief for engine upgrades. *(Author's Note: Please check with the Alaska Division of Investments for their new program for energy efficiency improvements.)*
- Constant and current information for industry.
- Literature/project review to determine successful programs in other areas of the world.
- Lower other government costs like taxes and permit fees.
- Seek cooperation from Alaska fuel refineries to sell to Alaska producers, like truckers, farmers, fishermen, at a point a slight profit margin.
- Continue focus on other profit points like improving ex-vessel value of fish.
- Seek removal of fuel tax on fishing boats during the season. *(Author's Note: commercial fishing activity is exempt from paying federal fuel excise tax. Most fuel suppliers have fishermen fill out appropriate paperwork and handle the exemption. If you fuel at the regular gas station or aren't getting the exemption, keep track of your fuel costs and write it off on your income tax.)*
- More information on pyrometers – specs, efficiencies, etc.
- Workshops for outboard and boat engine maintenance.
- Weekly price reports on different port fuel charges.

And finally....

- "Give me the winning Power Ball #'s so I can keep fishing until the money is gone." *(Author's Note: It is good to see a sense of humor even as we deal with our most trying issues. Thanks to all who assisted with the survey. It does make a difference.)*

4540

Appendix I – Survey Tool

The following is the survey tool used to develop the information for this report.

Q1. Did the price of fuel cause you to change how you fished this year (check all that apply)?

Answer Options
____ Yes, stacked permits (Bristol Bay)
____ Yes, fished IFQs with other shareholders
____ Yes, quit fishing earlier each day
____ No
____ Yes, used tenders more often
____ Other
____ Yes, skipped openings I otherwise would have fished
____ Yes, quit fishing earlier in the season
____ Yes, fished closer to home
____ Yes, didn't go home as often
____ Yes, explored/prospected less
Comments

Q2. Which types of commercial fishing operations do you run (check all that apply)?

Answer Options
____ Gillnetting - Bristol Bay
____ Gillnetting - AYK
____ Gillnetting - other locations
____ Setnetting
____ Trolling
____ Seining
____ Longlining
____ Trawling
____ Diving
____ Jigging
____ Pot fishing
____ Tendering
____ Other
Comments

Q3. Which type of engine do you run on your primary fishing vessel?

Answer Options
____ Gas
____ Diesel

Q4. Over the past year, what percentage of your gross fishing income has been spent on fuel?

4541

Answer Options
____ less than 10%
____ 10-20%
____ 20-30%
____ 30-40%
____ 40-50%
____ more than 50%

Q5. How does this percentage compare to 5 years ago?

Answer Options
____ Somewhat less
____ About the same
____ Somewhat more
____ More than doubled
____ Comments

Q6. Did your buyer or processor assist you with your fuel costs?

Answer Options
____ Yes
____ No
____ Comments

Q7. Did increased fuel prices impact your crew?

Answer Options
____ No, I have no crew
____ No, prices did not impact them
____ Yes, prices did impact crew
____ Comments

Q8. How else have fuel prices impacted your fishing business this year?

Q9. How much attention do you pay to the following techniques for decreasing fuel consumption?

4542

Answer Options
____ Throttling back
____ Reducing vessel weight
____ Cutting back on diesel genset use
____ Keeping bottom clean
____ Keeping propeller tuned
____ Maintaining engine and fuel systems
____ Adjusting autopilot to improve tracking
____ Monitoring vessel trim
____ Planning your route and timing
____ Maintaining fuel consumption records
____ Other
____ Comments

Q10. What new DEVICES have you used or considered using to decrease your fuel consumption?

Answer Options
____ New engine
____ Flow meter
____ Bulbous bow
____ Aerofoil-shaped rudder
____ Kort nozzle
____ Other
____ Comments

Q11. If you have repowered or are planning to repower your vessel for greater fuel efficiency, what are your estimated costs?

Q12. Can you share any specific websites, periodicals or other sources that you use for information on fuel efficiency?

Q13. Do you feel that management decisions affect fuel consumption rates in your fishery (fisheries)?

Answer Options
____ Yes
____ No
____ Comments

Q14. Should managers (Board of Fish, ADF&G, NPFMC, IPHC) take fuel cost issues into account when making management decisions?

4543

Answer Options

_____ Yes, fuel costs are a valid concern and should be integrated into the fishery management process
_____ No, management should be strictly biological
_____ Don't know
_____ Other
_____ Comments

Q15. What kinds of management changes do you think could be made in your fisheries to reduce fuel consumption?

Q16. In addition to our fuel efficiency webpage, which you will be redirected to when you finish this survey, how else can the Marine Advisory Program help you adapt to rising fuel prices?

Q17. Comments or questions for the Alaska Sea Grant Marine Advisory Program or United Fishermen of Alaska?

HOUSE COMMITTEE REPORT

4.1.09

(11)

Date Referred to Committee: February 4, 2009

FURTHER REFERRALS: Rules

Date of Committee Action: 3/30/09

The FINANCE Committee considered:

HOUSE BILL NO. 20

"An Act relating to commercial fishing loans for energy efficiency upgrades."

HB 20 FISHERIES LOANS FOR ENERGY EFFICIENCY

Recommends it be replaced with | | HCS *or* |X| CS *for* HB 20 (FIN)

For Senate Bills with new title: | | Technical Title | | New Title: HCR_____ | | Same Title |X| New Title

[ ] attach amendments

[ ] add new referral to _____Committee

[ ] Letter of Intent_____Committee

List of Abbrev for Depts.:
ADM
CED
COR
CRT
EED
DEC
DFG
GOV
DHS
LWF
LAW
LEG
MVA
DNR
DPS
REV
DOT
UA

NEW **FISCAL NOTES** *Assigned by Chief Clerk's Office				
List by Dept(s):	*FN#	Fiscal	Indet.	Zero

PREVIOUS **FISCAL NOTES**				
List by Dept(s):	FN#	Fiscal	Indet.	Zero
CED	1	✓		

Signing with recommendations	Printed Last Name	DP (7)	DNP	NR (2)	AM
	Thomas	✓			
	Foster	☺			
	CRAWFORD	NC			
	Joule	X			
	Gara	X			
	Austerman	X			
	FAIRCLOUGH	✓			
	Salmon			✓	
Chair:	SOLTZ			✓	
Chair:					

CO

V

HOUSE COMMITTEE REPC T

2-4-09

(7)

Date Referred to Committee: January 20, 2009 **FURTHER REFERRALS: Finance**

Date of Committee Action: FEB. 3, 2009

The HOUSE SPECIAL COMMITTEE ON FISHERIES considered: **HOUSE BILL NO. 20**

"An Act relating to commercial fishing loans for energy efficiency upgrades."

HB 20 FISHERIES LOANS FOR ENERGY EFFICIENCY

Recommends it be replaced with [ ] HCS *or* [✓] CS *for* HB20 (FSH)

***For Senate Bills with new title:* [ ] *Technical Title* [ ] *New Title: HCR*_____ [ ] Same Title [✓] New Title**

[ ] attach amendments
[ ] add new referral to _____Committee
[ ] Letter of Intent_____Committee

List of Abbrev for Depts.:
ADM
CED
COR
CRT
EED
DEC
DFG
GOV
DHS
LWF
LAW
LEG
MVA
DNR
DPS
REV
DOT
UA

***NEW* FISCAL NOTES**
*Assigned by Chief Clerk's Office

List by Dept(s):	*FN#	Fiscal	Indet.	Zero
CED	1	✓		

***PREVIOUS* FISCAL NOTES**

List by Dept(s):	FN#	Fiscal	Indet.	Zero

Signing with recommendations	Printed Last Name	DP (3)	DNP	NR (3)	EM (1)
	KAWASAKI				
	Johnson			X	
	Millett			X	
	Keller			X	
	Edgmon	X			
	Busch	X			
	Munoz	X			
Chair: Edgmon					
Chair:					

STATE OF ALASKA
DEPARTMENT OF
COMMERCE
COMMUNITY AND
ECONOMIC DEVELOPMENT
Alaska Division of Investments

Sarah Palin, Governor
Emil Notti, Commissioner
Greg Wimegar, Director

February 24, 2009

The Honorable Anna Fairclough
State Capitol, Room 421
Juneau, AK 99801

Dear Representative Fairclough:

Re: House Bill 20

As you requested in the House Finance Committee hearing last week, there are three tables listed below containing financial and statistical information relating to the Commercial Fishing Revolving Loan Fund (CFRLF):

Table One:	
Monies transferred from the CFRLF to the General Fund to fund other government operations:	
FY07 Department of Fish & Game to fund Operating Budget	$1,326,300.00
FY08 Department of Fish & Game to fund Operating Budget	$1,326,300.00
FY09 Department of Fish & Game to fund Operating Budget (authorized)	$1,326,300.00

Table Two:			
FY07 CFRLF GeFONSI earnings	$2,054,419.72	FY07 Interest Rate:	5.51%
FY08 CFRLF GeFONSI earnings	$2,348,491.02	FY08 Interest Rate:	5.85%
FY09 CFRLF GeFONSI earnings (as of 12/31.08)	$1,331,665.63	FY09 Interest Rate:	2.68%

Table Three:	
FY09 Division of Investments staff positions dedicated to CFRLF funding:	38

Enacted in 1972, the CFRLF is a revolving loan fund. As a result, all interest earned on loans made from the fund revolve back into the fund for future loans and all administrative costs are paid out of the fund. In addition, a substantial amount of money has been appropriated out of the fund over the years to help pay for other government operations. In the last several years those funds have been used to off set General Fund expenditures for the Department of Fish and Game. Table One lists the transfers that took place during the last three fiscal years. Over the life of the program, over $53 million was transferred out

[illegible]
[illegible] Fax: [illegible]
[illegible]
[illegible] Website: http: [illegible]

of the CFRLF for similar purposes.

CFRLF cash is managed by the Department of Revenue and is typically invested in a pool of funds referred to as the GeFONSI (General Fund and Other Non-segregated Investments). These earnings are retained by the General Fund. Table Two lists the CFRLF GeFONSI earnings and the rate of return for the last three fiscal years.

Table Three lists the number of Alaska Division of Investment's positions that are paid out of the CFRLF.

Please let me know if you have any questions or need additional information.

Cordially,

Greg Winegar

Greg Winegar, Director
Alaska Division of Investments

cc: Representative Bill Stoltze, Finance Committee Co-Chair
Representative Mike Hawker, Finance Committee Co-Chair
Representative Bryce Edgmon
Amanda Ryder, Director - DCCED
Tyson Fick, Legislative Liaison - DCCED

[illegible]

RESOURCE DEVELOPMENT COUNCIL

Growing Alaska Through Responsible Resource Development

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Frank V. Kelty
Kip Knudson
Thomas G. Krzewinski
John MacKinnon
David L. Matthews
Karen Matthias
Mary McDowell
Ron McPheters
James Mery
Denise Michels
Lance Miller
Jim Palmer
Tom Panamaroff
Lisa Parker
Judy Patrick
Debbie Reinwand
Elizabeth Rensch
Ralph Samuels
Keith Sanders
Lorna Shaw
Kenneth Sheffield
Keith N. Silver
Tiel Smith
Robert Stiles
Jeanne St. John
John L. Sturgeon
Jim Taro
John Williams
John Zager

Ex-Officio Members
Senator Mark Begich
Senator Lisa Murkowski
Congressman Don Young
Governor Sarah Palin

February 3, 2009

Representative Bryce Edgmon, Chairman
House Fisheries Committee
Alaska State Legislature
State Capitol, Room 416
Juneau, AK 99801

RE: HB20-Fisheries Loans for Energy Efficiency

Dear Representative Edgmon:

On behalf of the Resource Development Council for Alaska, Inc., (RDC), I am writing in support of HB20-Fisheries Loans for Energy Efficiency.

RDC is a statewide, non-profit, membership-funded organization founded in 1975. The RDC membership is comprised of individuals and companies from Alaska's oil and gas, mining, timber, tourism, and fisheries industries, as well as Alaska Native corporations, local communities, organized labor, and industry support firms. RDC's purpose is to link these diverse interests together to encourage a strong, diversified private sector in Alaska and expand the state's economic base through the responsible development of our natural resources.

Throughout the last several years, Alaskans have been struggling with high energy costs. Fuel costs and usage have escalated as fisherman are required to go further out for catch due to impacts from endangered species listings, critical habitat designations, marine protected areas, and fish movement. Opportunities to improve energy efficiency through state loans are important not only for the pocket books of the fisherman who harvest over half of this nation's total catch, but also for the environment—increased efficiency will likely lead to lower costs and ultimately decreased carbon emissions.

We encourage the committee to vote in favor of this bill. Thank you for your consideration.

Sincerely,

Jason W. Brune
Executive Director

121 West Fireweed Lane, Suite 250, Anchorage, Alaska 99503-2035
Phone: 907/276-0700 Fax: 907/276-3887 Email: Resources@akrdc.org Website: www.akrdc.org

PSPA

PACIFIC SEAFOOD PROCESSORS ASSOCIATION
Est. 1914

February 1, 2009

Rep. Bryce Edgmon, Chairman
House Fisheries Committee
Alaska Legislature
State Capitol
Juneau, AK 99801

RE: Support for HB 20 – Commercial Fishing Loans for Energy Efficiency Upgrades

Dear Chairman Edgmon:

Pacific Seafood Processors Association (PSPA) is a trade association of seafood processing companies with operations in many locations throughout coastal Alaska, including Ketchikan, Sitka, Kodiak, Unalaska/Dutch Harbor, Valdez, Dillingham, Naknek, Pederson Point, Togiak, Port Moller, and King Cove.

PSPA's member companies themselves, the communities in which they operate, and the fishermen to whom our member companies provide markets, are all struggling with high energy costs. The profitability and economic viability of Alaska's processors and harvesters alike, depend on the ability to increase energy efficiency and contain energy costs.

In expanding the provisions of the state's commercial fishing loan program to allow fishermen to obtain loans to increase the energy efficiency of their vessels, HB 20 does not *directly* affect or benefit seafood processors. However, a healthy, viable, energy efficient harvesting sector is important to the overall success of the entire industry. Thus, HB 20, in helping Alaska's fishing fleet move toward energy efficiency, will benefit fishermen, seafood processors and other fisheries-dependent businesses, Alaska communities, and the overall economy and revenues of the state.

PSPA appreciates your sponsorship of HB20 and your prompt scheduling of the bill for a hearing in the House Fisheries Committee.

We encourage legislators to support the bill and move it quickly through the legislative process.

Sincerely,

Mary McDowell

Mary McDowell,
Vice President

222 Seward Street, Suite 200
Juneau, AK 99801
Phone (907) 586-6366
Fax (907) 586-4618
www.pspafish.net

UNITED FISHERMEN OF ALASKA

211 Fourth Street, Suite 110
Juneau, Alaska 99801-1172
(907) 586-2820
(907) 463-2545 Fax
E-Mail: ufa@ufa-fish.org
www.ufa-fish.org

February 2, 2009

Representative Bryce Edgmon, Chairman
House Special Committee on Fisheries
State Capitol, Mail Stop 3100
Juneau AK 99801
Fax 907-465-3445

RE: Support for HB 20 for Energy Improvement Loans

UFA appreciates the Division of Investments prompt initiation of a program for commercial fishing vessel engine retrofit loans in Fall of 2008 to address the impact of high fuel prices on Alaska's fishing communities. We recognize that establishing these loans in the Section B program was the way to get this done as soon as possible. However, Alaska statutes prohibit any current borrowers under Section A programs access to these loans. UFA supports statutory changes to allow fishermen who currently have Section A loans to obtain loans to improve their energy efficiency. UFA also supports broadening the program to include financing for other energy improvements.

HB 20 accomplishes both of these objectives. We ask you and committee members for your support to provide long term financing for improvements to reduce the energy usage in commercial fishing.

United Fishermen of Alaska is the largest statewide commercial fishing trade association, representing 37 commercial fishing organizations participating in fisheries throughout the state and its offshore waters.

Sincerely,

Mark Vinsel
Executive Director

MEMBER ORGANIZATIONS
Alaska Crab Coalition • Alaska Independent Tendermen's Association • Alaska Longline Fishermen's Association
Alaska Scallop Association • Alaska Trollers Association • Alaska Whitefish Trawlers Association • Armstrong Keta • At-sea Processors Association
Bristol Bay Reserve • Bristol Bay Regional Seafood Development Association • Cape Barnabas Inc. • Concerned Area "M" Fishermen
Cook Inlet Aquaculture Association • Cordova District Fishermen United • Crab Group of Independent Harvesters • Douglas Island Pink and Chum
Fishing Vessel Owners Association • Groundfish Forum • Kenai Peninsula Fishermen's Association • Kodiak Regional Aquaculture Association
North Pacific Fisheries Association • Northern Southeast Regional Aquaculture Association • Petersburg Vessel Owners Association
Prince William Sound Aquaculture Corporation • Purse Seine Vessel Owner Association • Seafood Producers Cooperative • Sitka Herring Association
Southeast Alaska Fisherman's Alliance • Southeast Alaska Regional Dive Fisheries Association • Southeast Alaska Seiners Association
Southern Southeast Regional Aquaculture Association • United Catcher Boats • United Cook Inlet Drift Association • United Salmon Association
United Southeast Alaska Gillnetters • Valdez Fisheries Development Association • Western Gulf of Alaska Fishermen

Alaska Conservation Alliance

Uniting for Alaska's Future

February 2, 2009

House Special Committee on Fisheries, Finance
State House of Representatives
Alaska State Capitol
Juneau, Alaska 99801-1182

Dear Representatives Edgmon, Buch and Austerman,

On behalf of the 40 conservation groups and the 38,000 Alaskans that are represented by the Alaska Conservation Alliance, I am pleased to acknowledge our strong support for HB20 to establish Energy Efficiency loans for commercial fishermen. Alaska's fisheries and fishermen play a vital role in the state's long-term sustainable economy. Alaska's main, non-hydrocarbon export is its seafood. Three billion pounds of fish are harvested from Bristol Bay waters each year and Alaska's Salmon fishery alone added nearly a half billion dollars to the state's economy last year.

With the volatility of fuel prices and with industry predictions of a return to $110 barrel of oil in the near future, Alaska's fishermen need to find ways to conserve, recycle and limit the energy used in their operations. Recently Japan dedicated $700 million to improve the efficiency of their fishing fleet. To compete, both in seafood price and in technological innovation, Alaska needs the kind of dedication and funding provided by this bill. Loans to maximize engine and hull efficiencies reduce the amount of high-priced diesel used during the season and result in a higher standard of living for our fishermen, less expensive and more competitive seafood products and less climate-damaging emissions. By giving the loans fishermen need to increase the efficiency of their operation this bill is decreasing the use of unpredictably priced foreign fuel, reducing toxic and greenhouse gas emissions, assuring the competitiveness of Alaska's fishing industry and improving the lives of Alaska's fishermen.

Energy efficiency in all its forms is a high priority for Alaska's conservation community. I strongly encourage the Alaska Legislature to pass HB 20. Thank you for your time and consideration.

Sincerely,

Kate Troll

Kate Troll
Executive Director

CC: House Special Committee on Fisheries and House Finance Committee Members

PO Box 1006600, Anchorage, Alaska 99501 • Ph. 907.258.6171 • Fax 907.258.6177 • www.akvoice.org
419 6th Street, Ste. 321, Juneau, Alaska 99801 • Ph. 907.463.3366 • Fax 907.463.2554

Fritz Johnson
P.O. Box Box 1129
Dillingham, AK 99576
842-2674
osprey@nushtel.net

Representative Bryce Edgmon
State Capitol, Room 424
Juneau, AK 99801-1182

2 February 2009

RE: HB 20

Dear Rep. Edgmon,

I'd like to thank you and the other sponsors of HB 20 for this important legislation. This bill couldn't be more timely to assist Alaska's fishermen and fishing communities. Broadening the eligibility for low interest state loans for fishermen and women to repower their vessels with more efficient engines is the right thing to do for the environment and the right thing to do for Alaska's fishermen. Many have deferred the maintenance and improvements needed to remain competitive precisely because fish prices have been low and fuel prices high. While HB 20 effects a modest change in the Division of Investments requirements, it can make a big difference to Alaska harvesters working hard to keep their operations in the black.

I appreciate your work on this bill and urge adoption of this legislation.

Thank you, sincerely,

Fritz Johnson
F/V Jazz
Dilllingham

Commercial Fishing Loan Fund Summary

Loan Program Goal and Objectives

To provide long-term, low interest loans to promote the development of predominantly resident fisheries, and continued maintenance of commercial fishing vessels and gear for the purpose of improving the quality of Alaska seafood products.

Provides Loans For:

- Section A—up to $300,000 for the purchase of Entry Permits or for existing Vessel or Gear upgrades for improving seafood quality.
- Section B—up to $100,000 for the purchase of Entry Permits, Vessel and Gear Upgrades, Vessel and Gear purchases, and Vessel Construction—with differing eligibility criteria, the most significant being that the applicant must not be able to obtain financing from a bank.
- Section C—the purchase of Quota Shares—with eligibility requirements similar to Section B applicants.
- Section D—to satisfy past due federal Tax Obligations.
- Section E—for the purchase of Quota Shares by a Community Quota Entity (CQE).
- Section F—for existing Tender Vessel and Gear upgrades

General Requirements

- Alaska resident for the past 2 years.
- Child support payments must not be past due.

Definition of Resident

- Living in Alaska with the intent to remain indefinitely
- Primary and permanent home in Alaska
- Present in Alaska except for brief intervals (generally less than 90 days) except for military service, education or good cause.

Program Requirements

- Purchases - Loans are available for limited entry permits, quota shares, vessels, or gear purchased less than 12 months prior to the date your application is received.
- Refinancing - Vessels or gear loans made by other lenders more than one year prior to receipt of your application are eligible for financing.
- Collateral - The item being financed (limited entry permit, vessel, etc.) will be the collateral for the loan and, and generally, a priority lien must be obtained.

Terms and Conditions

- Interest rate is 2% above the prime rate, not to exceed 10.5%.
- Interest rate for Energy Efficiency and Product Quality Improvement loans is 2% below the prime rate, not to exceed 10.5%. However, a minimum 3% interest rate "floor" exists for all loans.
- Interest rate will be fixed at the time of loan approval.
- Maximum loan term is 15 years.
- Borrower is responsible to pay all direct costs incurred in processing an application including surveys, inspections, appraisals, title insurance, etc.

Prepared by the Office of Representative Edgmon with excerpts from the Division of Investments.

HB

44

Alaska State Legislature

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REPRESENTATIVE MIKE CHENAULT
SPEAKER OF THE HOUSE

SPONSOR STATEMENT
COMMITTEE SUBSTITUTE for HOUSE BILL 44 (FIN) am

"An Act relating to investments applicable in energy; clarifying the purpose of the Alaska Natural Gas Development Authority; relating to the definitions of certain terms that relate to a project that may be developed by the Alaska Natural Gas Development Authority; and authorizing certain public corporations to issue bonds for energy projects."

House Bill 44 preauthorizes the Alaska Housing Finance Corporation and the Alaska Natural Gas Development Authority to issue bonds for energy related programs and projects. House Bill 44 also expands ANGDA's authority to provide natural gas from sources anywhere within the state to markets within Alaska allowing the authority to broadly serve Alaskans and Alaskan markets. The language expanding ANGDA's authority was originally found in House Bill 163 and has been incorporated within this legislation.

This bill was introduced as an effort to address the state's energy needs; especially for weatherization and energy efficiency programs and to provide an impetus for an in-state gasline.

Although the Legislature has authorized a number of these projects either through the Alaska Housing Finance Corporation and has made appropriations to the Alaska Natural Gas Development Authority, I believe it is now time to progress these needs to a higher level. In particular, the state's gas needs will not wait until a TransCanada or Denali project is completed around 2020. The Fairbanks, Mat-Su and Cook Inlet areas will all require gas or affordable energy within the next five years. Processing of the liquids from our natural gas supply will also help our rural areas by relieving them from the high cost of diesel. I would prefer that a private entity build a spur line or bullet line. This legislation may provide the impetus for any private corporation to work with ANGDA in constructing an in-state gasline. Approval from the Legislative Budget and Audit Committee must be received before ANGDA can issue any bonds.

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REPRESENTATIVE MIKE CHENAULT
SPEAKER OF THE HOUSE

SECTIONAL ANALYSIS
COMMITTEE SUBSTITUTE for HOUSE BILL 44 (FIN) am

"An Act relating to investments applicable in energy; clarifying the purpose of the Alaska Natural Gas Development Authority; relating to the definitions of certain terms that relate to a project that may be developed by the Alaska Natural Gas Development Authority; and authorizing certain public corporations to issue bonds for energy projects."

Section 1: Amends AS 18.56.08(c), Compliance with Executive Budget Act; corporation finances; dividend. Adds section 6 of the committee substitute to the subsection that lists previous issuance of bonds. Bond repayments are deducted from dividends that are provided to the state.

Section 2: Amends AS 41.41.010(a), Establishment of the authority. Adds language clarifying that ANGDA may bring natural gas from other regions of the state and not just the North slope. Also clarifies that gas may be delivered to markets within the state and may include more than one pipeline project.

Section 3: Amends AS 41.41.010(d), Establishment of the authority. Expands the acquisition of natural gas to include other regions of the state to include the Alaska outer continental shelf and may be delivered to markets within the state.

Section 4: Amends AS 41.41.990(3), Definitions. Amends the definition of project to include other regions of the state to a market in the state or be available to markets within the state.

Section 5: Adds a new paragraph to AS 41.41.990 describing the North Slope to mean that part of the state that lies north of 68 degrees North latitude to include the Brooks Range foothills.

Section 6: New section to uncodified law. Gives pre-authorization to the Alaska Housing Finance Corporation to issue up to $100 million in bonds for energy efficiency and conservation programs for home owners.

Section 7: New section to uncodified law. Gives pre-authorization to the Alaska Natural Gas Development Authority to issue up to $250 million in bonds in order to acquire a gas

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supply, develop the Cook Inlet and Fairbanks markets, and plan, permit and design gas transmission systems to mitigate gas shortfalls, the impact on consumers and the economy of high cost energy and ensure energy sufficiency for Alaskans. ANGDA must receive approval from the Legislative Budget and Audit Committee prior to issuing any bonds.

FISCAL NOTE

STATE OF ALASKA
2009 LEGISLATIVE SESSION

Fiscal Note Number:
Bill Version:
() Publish Date:

Identifier (file name): HB44-DOR-AHFC-03-10-09
Dept. Affected: Revenue
Title: Energy Bonds/Investments
RDU: Alaska Housing Finance Corp.
Component:
Sponsor: Representative Chenault
Requester:
Component Number: 110

Expenditures/Revenues (Thousands of Dollars)

Note: Amounts do not include inflation unless otherwise noted below.

	Appropriation Required	Information					
OPERATING EXPENDITURES	**FY 2010**	**FY 2010**	**FY 2011**	**FY 2012**	**FY 2013**	**FY 2014**	**FY 2015**
Personal Services							
Travel							
Contractual							
Supplies							
Equipment							
Land & Structures							
Grants & Claims							
Miscellaneous							
TOTAL OPERATING	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
CAPITAL EXPENDITURES							
CHANGE IN REVENUES ( )							

FUND SOURCE (Thousands of Dollars)

1002 Federal Receipts							
1003 GF Match							
1004 GF							
1005 GF/Program Receipts							
1037 GF/Mental Health							
Other Interagency Receipts							
TOTAL	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**

Estimate of any current year (FY2009) cost:

POSITIONS

Full-time							
Part-time							
Temporary							

ANALYSIS: *(Attach a separate page if necessary)*

House Bill 44 would allow the Alaska Housing Finance Corporation the authorization to bond for up to $100 million for energy efficiency and conservation programs. The Corporation does not anticipate needing to utilize this option in FY10.

If the Corporation were to sell bonds at some point in the future, the estimate of costs would be $750,000 in closing costs on the bonds and annual debt service with 30 year amortization and a 6.5 percent interest rate of $7.7 million.

Prepared by: Bryan Butcher, Director, Governmental Relations/Public Affairs
Phone 330-8445
Division: Alaska Housing Finance Corporation
Date/Time 3/10/09 12:00 AM
Approved by:
Date

(Revised 9/10/2008 OMB)

4560

FISCAL NOTE

STATE OF ALASKA
2009 LEGISLATIVE SESSION

Fiscal Note Number: 2
Bill Version:
() Publish Date:

Identifier (file name): HB44-DOR-GAO-03-11-09
Title: Energy Bonds/Investments
Sponsor: Representative Chenault
Requester:

Dept. Affected: Revenue
RDU: ANGDA
Component: Gas Authority Operations
Component Number: 2708

Expenditures/Revenues (Thousands of Dollars)

Note: Amounts do not include inflation unless otherwise noted below.

	Appropriation Required	Information					
OPERATING EXPENDITURES	**FY 2010**	**FY 2010**	**FY 2011**	**FY 2012**	**FY 2013**	**FY 2014**	**FY 2015**
Personal Services							
Travel							
Contractual							
Supplies							
Equipment							
Land & Structures							
Grants & Claims							
Miscellaneous							
TOTAL OPERATING	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
CAPITAL EXPENDITURES							
CHANGE IN REVENUES ( )							

FUND SOURCE (Thousands of Dollars)

1002 Federal Receipts							
1003 GF Match							
1004 GF							
1005 GF/Program Receipts							
1037 GF/Mental Health							
Other Interagency Receipts							
TOTAL	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**

Estimate of any current year (FY2009) cost:

POSITIONS

Full-time							
Part-time							
Temporary							

ANALYSIS: *(Attach a separate page if necessary)*

Costs associated with this bond authorization will be covered by project revenues. At this time it is not possible to estimate interest rates or debt service costs. Bonds may be tax exempt or taxable depending on the project.

Prepared by: Ginger Blaisdell, Director — Phone 465-2312
Division: Administrative Services Division — Date/Time 3/11/09 12:53pm
Approved by: — Date

(Revised 9/10/2008 OMB)

4561

Sec. 18.56.089. Compliance with Executive Budget Act; corporation finances; dividend.

(a) The provisions of AS 37.07 (Executive Budget Act)

(1) apply to

(A) the operating budget of the corporation;

(B) amounts payable from corporate earnings or assets of the corporation for grants or grant programs authorized by this chapter;

(C) interest rate subsidies and building subsidies as determined by the corporation;

(D) the amount and source or sources of the total annual appropriation for the corporation's loan programs for which a subsidy is not provided, but the provisions of AS 37.07 are not otherwise applicable to that appropriation;

(E) the amount and source or sources of the total annual appropriation for the corporation's multi-family housing loans and the corporation's housing programs and housing projects if a subsidy is provided from the corporation's arbitrage earnings for the loans, programs, or projects, but the provisions of AS 37.07 are not otherwise applicable to that appropriation; and

(F) except as otherwise specifically provided in (2) of this subsection, the activities of the corporation under AS 18.55 and the activities of the corporation under this chapter;

(2) do not apply to activities of the corporation under AS 18.55 and this chapter that

(A) relate to the corporation's borrowing of money as provided in this chapter to make or purchase mortgage loans, including the issuing of its obligations or evidence of that borrowing and the repayment of the debt obligation;

(B) relate to the corporation's ability to refinance existing mortgage loans in order to achieve a lower interest rate; or

(C) are directly attributable to the servicing of mortgage loans, including real estate acquired by the corporation as a result of foreclosure.

(b) To further ensure effective budgetary decision making by the legislature, the corporation shall

(1) annually review the corporation's assets, including the assets of the Alaska housing finance revolving fund under AS 18.56.082, to determine whether assets of the corporation exceed an amount required to fulfill the purposes of the corporation as defined in AS 18.55 and this chapter; in making its review, the board shall determine whether, and to what extent, assets in excess of the amount required to fulfill the purposes of the corporation during the next fiscal year are available without

(A) breaching any agreement entered into by the corporation;

(B) materially impairing the operations or financial integrity of the corporation; or

(C) materially affecting the ability of the corporation to

(i) stabilize the market price of and demand for residential housing; and

(ii) ensure an adequate long-term supply of residential housing for persons of lower and moderate income;

(2) specifically identify in the corporation's assets the amounts that the corporation believes are necessary to meet the requirements of (1)(C) of this subsection; and

(3) present to the legislature by January 10 of each year a complete accounting of all assets of the corporation, including assets of the Alaska housing finance revolving fund under AS 18.56.082, and a report of the review and determination made under (1) and (2) of this subsection; the accounting shall be audited by an independent outside auditor and must include a full description of all mortgage loan interest and principal repayments and program receipts, including

(A) mortgage loan commitment fees received by or accrued to the corporation during the preceding fiscal year; and

(B) all income earned on assets of the corporation during that period, including earnings on assets of the state assisted mortgage fund.

(c) The corporation shall make a dividend available to the state each fiscal year. The corporation shall pay the dividend for a current fiscal year to the state before the end of that fiscal year. The legislature may appropriate the dividend for capital projects. The corporation shall notify the commissioner of revenue of the amount of each dividend under this subsection for inclusion in the state operating budget and shall also notify the commissioner when each dividend is available for payment to the state. The amount of the dividend for a current fiscal year is calculated as follows:

(1) the lesser of $103,000,000 or 75 percent of the adjusted change in net assets of the corporation for the base fiscal year;

(2) minus the amount of money from the corporation used during that current fiscal year for bond repayment and other costs related to the bonds issued under

(A) ch. 26, SLA 1996, up to a maximum of $1,000,000;

(B) sec. 10(b), ch. 130, SLA 2000;

(C) sec. 1, ch. 1, SSSLA 2002;

(D) sec. 4, ch. 120, SLA 2004; and

(3) minus any appropriation of unrestricted unencumbered money of the corporation during the current fiscal year, other than an appropriation for the corporation's operating budget.

(d) In (c) of this section,

(1) "adjusted change in net assets" means the change in net assets from the base fiscal year, adjusted for capital expenditures incurred during the base fiscal year;

(2) "base fiscal year" means the fiscal year ending two years before the end of the current fiscal year in which the dividend is made available to the state;

(3) "dividend" means a payment made to the state under (c) of this section.

History -

(Sec. 20 ch 106 SLA 1980; am Sec. 3 ch 102 SLA 1983; am Sec. 1 ch 12 SLA 1991; am Sec. 89 - 91 ch 4 FSSLA 1992; am Sec. 1 ch 88 SLA 1995; am Sec. 1 ch 76 SLA 2003; am Sec. 2 ch 120 SLA 2004; am Sec. 2, 3, 5 ch 7 SLA 2006)

Revisors Notes -

In (d) of this section, paragraph (1) was enacted as paragraph (4) and renumbered in 2006 to maintain the alphabetical order of the terms defined; at that time, former paragraph (3) was deleted and paragraphs (d)(1) and (2) were renumbered as (d)(2) and (3), respectively.

Cross References -

For transitional provisions that apply to the calculation of the dividend payment for fiscal years 2004 - 2008 inclusive, see Sec. 2, ch. 76, SLA 2003, in the 2003

Temporary and Special Acts, as amended by Sec. 3, ch. 120, SLA 2004, in the 2004 Temporary and Special Acts, and by Sec. 4, ch. 7, SLA 2006 in the 2006 Temporary and Special Acts.

For statement of legislative intent applicable to the 2004 amendment of (c) of this section, see Sec. 1, ch. 120, SLA 2004, in the 2004 Temporary and Special Acts.

Amendment Notes -

The 2003 amendment, effective July 1, 2003, added subsections (c) and (d).

The 2004 amendment, effective June 30, 2004, added paragraph (c)(2)(D).

The 2006 amendment, effective July 1, 2006, substituted "adjusted change in net assets" for "net income" in paragraph (1) of subsection (c), and, in subsection (d), deleted former paragraph (3), which defined "net income" and added paragraph (4) [now (1)].

History Reports -

For governor's transmittal letter for ch. 120, SLA 2004 (SB 279), amending (c) of this section and providing for issuance of Alaska Housing Finance Corporation revenue bonds to finance water and sewer projects, see 2004 Senate Journal 1995 - 1996.

For governor's transmittal letter for ch. 7, SLA 2006 (SB 236), relating to the Alaska Housing Finance Corporation and the determination of its dividend, see 2006 Senate Journal 1900 - 1901.

Sec. 41.41.010. Establishment of the authority.

(a) There is established the Alaska Natural Gas Development Authority, the purpose of which is to provide one or more of the following services and functions in order to bring natural gas from the North Slope to market, including

(1) the acquisition and conditioning of North Slope natural gas;

(2) the design and construction of the pipeline system;

(3) the operation and maintenance of the pipeline system;

(4) the design, construction, operation, of other facilities necessary for delivering the gas to market and to Southcentral Alaska; and

(5) the acquisition of natural gas market share sufficient to ensure the long-term feasibility of the pipeline system project.

(b) The authority is a public corporation and an instrumentality of the state within the Department of Revenue.

(c) The authority has a legal existence independent of and separate from the state.

(d) The acquisition of natural gas from the North Slope and its delivery to tidewater for shipment to market by the authority is an essential government function of the state.

(e) The authority may not be terminated as long as it has bonds, notes, or other obligations outstanding.

Sec. 41.41.990. Definitions.

In this chapter,

(1) "authority" means the Alaska Natural Gas Development Authority;

(2) "board" means the board of directors of the Alaska Natural Gas Development Authority;

(3) "project" means the gas transmission pipeline, together with all related property and facilities, to extend from the Prudhoe Bay area on the North Slope of Alaska either to tidewater at a point on Prince William Sound and the spur line from Glennallen to the Southcentral gas distribution grid or to tidewater at a point on Cook Inlet, and includes planning, design, and construction of the pipeline and facilities as described in AS 41.41.010(a)(1) - (5).

ALASKA STATUTE

Chapter 41.41. ALASKA NATURAL GAS DEVELOPMENT AUTHORITY

Article 01. ESTABLISHMENT OF THE AUTHORITY

Sec. 41.41.010. Establishment of the authority.

(a) There is established the Alaska Natural Gas Development Authority, the purpose of which is to provide one or more of the following services and functions in order to bring natural gas from the North Slope to market, including

(1) the acquisition and conditioning of North Slope natural gas;

(2) the design and construction of the pipeline system;

(3) the operation and maintenance of the pipeline system;

(4) the design, construction, operation, of other facilities necessary for delivering the gas to market and to Southcentral Alaska; and

(5) the acquisition of natural gas market share sufficient to ensure the long-term feasibility of the pipeline system project.

(b) The authority is a public corporation and an instrumentality of the state within the Department of Revenue.

(c) The authority has a legal existence independent of and separate from the state.

(d) The acquisition of natural gas from the North Slope and its delivery to tidewater for shipment to market by the authority is an essential government function of the state.

(e) The authority may not be terminated as long as it has bonds, notes, or other obligations outstanding.

Sec. 41.41.020. Authority governing body.

(a) The authority shall be governed by a board of directors consisting of seven members from the general public appointed by the governor and confirmed by the legislature.

(b) The board shall annually elect a chair, and may elect other officers, from among its members.

Sec. 41.41.030. Term of office.

(a) The members of the board shall be appointed for terms of three years, and they may be reappointed.

(b) The terms of the members shall be staggered.

Sec. 41.41.040. Removal and vacancies.

(a) The governor may remove a member of the board from office. A removal must be in writing and must state the reason for the removal. A member who is removed may not participate in board business and may not be counted for purposes of establishing a quorum after the member receives written notice of removal. A member who is removed is not entitled to honoraria, per diem, or travel expenses authorized under AS 41.41.060 for work performed after the member receives the written notice of removal.

(b) The governor shall promptly fill a vacancy on the board by appointment. An appointee to a vacancy shall hold office for the balance of the term for which the appointee's predecessor on the board was appointed.

(c) A vacancy on the board does not impair the authority of a quorum of the board to exercise all the powers and perform all the duties of the board.

Sec. 41.41.050. Quorum and voting.

Four members of the board constitute a quorum for the transaction of business and the exercise of the powers and duties of the board. Action may be taken only upon the affirmative vote of a majority of the full membership of the board.

Sec. 41.41.060. Compensation of board members; per diem and travel expenses.

Members of the board are entitled to per diem and travel expenses authorized for boards and commissions under AS 39.20.180.

Sec. 41.41.070. Authority staff.

(a) The board may employ and determine the salary of a chief executive officer.

(b) The chief executive officer may, with the approval of the board, select and employ additional staff as necessary.

(c) An employee of the authority, including the chief executive officer, may not be a member of the board. The chief executive officer and the other employees of the board are in the exempt service under AS 39.25.110.

(d) In addition to its employees, the authority may contract for and engage the services of bond counsel, consultants, experts, and financial advisors the authority considers necessary for the purpose of

developing information, furnishing advice, or conducting studies, investigations, hearings, or other proceedings.

Sec. 41.41.080. Legal counsel.

The attorney general

(1) is the legal counsel for the authority;

(2) shall advise the authority in legal matters; and

(3) shall represent the authority in legal actions.

Sec. 41.41.090. Conflicts of interest.

(a) Members of the board and the chief executive officer of the authority are subject to the provisions of AS 39.50.

(b) If a member of the board or an employee of the authority acquires, owns, or controls an interest, direct or indirect, in an entity or project in which assets of the authority are invested, the member shall immediately disclose the interest to the board. The disclosure is a matter of public record and shall be included in the minutes of the first board meeting following the disclosure.

Sec. 41.41.100. Budget.

The revenue earned by operations of the authority must be identified as the source of the operating budget of the authority in the state's operating budget under AS 37.07 (Executive Budget Act).

Sec. 41.41.110. Audits.

The Legislative Budget and Audit Committee may provide for an annual post audit and annual operational and performance evaluations of the authority's operations and budget.

Sec. 41.41.120. Reports and publications.

(a) By September 30 of each year, the board shall publish a report of the authority for distribution to the governor and the public. The board shall notify the legislature that the report is available.

(b) The report must include financial statements audited by independent outside auditors and a statement of the amount of money received by the authority from its operations during the period covered.

Sec. 41.41.130. Tax exemption.

The security instruments issued by the authority, the transfer of the security instruments, and the income on the security instruments are exempt from all taxes and assessments in the state.

Sec. 41.41.140. Political activities.

The resources of the authority may not be used to finance or influence political activities.

Sec. 41.41.150. Public access to information.

(a) Information in the possession of the authority is a public record, except that information that discloses the particulars of the business or affairs of a private enterprise or investor is confidential and is not a public record for purposes of AS 40.25.110 - 40.25.140. Confidential information may be disclosed only for the purposes of an official law enforcement investigation or when its production is required in a court proceeding.

(b) The restrictions of (a) of this section do not prohibit the publication of statistics presented in a manner that prevents the identification of particular reports, items, persons, or enterprises.

Article 02. POWERS OF THE AUTHORITY

Sec. 41.41.200. Powers of the authority.

In furtherance of its corporate purposes, in addition to its other powers, the authority may

(1) sue and be sued;

(2) adopt a seal;

(3) adopt, amend, and repeal bylaws and regulations;

(4) make and execute contracts and other instruments;

(5) in its own name acquire property, lease, rent, convey, or acquire real and personal property; a project site or part of a project site may be acquired by eminent domain;

(6) acquire natural gas supplies;

(7) issue bonds and otherwise incur indebtedness in accordance with AS 41.41.300 - 41.41.410 in order to pay the cost of a project;

(8) accept gifts, grants, or loans from and enter into contracts or other transactions regarding gifts, grants, or loans with a federal agency or an agency or instrumentality of the state, a municipality, private organization, or other source;

(9) enter into contracts or agreements with a federal agency, agency or instrumentality of the state, municipality, or public or private individual or entity, with respect to the exercise of its powers;

(10) charge fees or other forms of remuneration for the use of authority properties and facilities;

(11) defend and indemnify a current or former member of the board or an employee or agent of the authority against the costs, expenses, judgments, and liabilities as a result of actions taken in good faith on behalf of the authority; and

(12) purchase insurance to protect its assets, services, and employees against liabilities that may arise from authority operations and activities.

Article 03. REVENUE BONDS AND NOTES

Sec. 41.41.300. Bonds and notes of the authority.

(a) The authority, by resolution, may issue revenue bonds and bond anticipation notes in order to provide funds to carry out the purposes set out in AS 41.41.010 (a).

(b) The principal and interest on the revenue bonds or notes authorized and issued under (a) of this section are payable from authority funds. Bond anticipation notes may be payable from the proceeds of the sale of bonds or from the proceeds of the sale of other bond anticipation notes or, in the event bond or bond anticipation note proceeds are not available, the notes may be paid from other funds or assets of the authority.

(c) Bonds or notes may be additionally secured by a pledge of a grant or contribution from the federal government, or a corporation, association, institution, or person, or a pledge of money, income, or revenues of the authority from any source.

(d) Bonds or bond anticipation notes of the authority may be issued in one or more series and shall be dated, bear interest at the rate or rates per year or within the maximum rate, be in the denomination, be in the form, either coupon or registered, carry the conversion or registration provisions, have the rank or priority, be executed in the manner and form, be payable at the times, from the sources, and in the medium of payment and place or places within or outside the state, be subject to authentication by a trustee or fiscal agent, and be subject to the terms of redemption with or without premium, as the resolution of the authority may provide. Bond anticipation notes shall mature at the time or times that are determined by the authority. Bonds shall mature at a time not exceeding a number of years from their date that is determined by the authority. Before the preparation of definitive bonds or bond anticipation notes, the authority may issue interim receipts or temporary bonds or bond anticipation notes, with or without coupons, exchangeable for bonds or bond anticipation notes when these definitive bonds or bond anticipation notes have been executed and are available for delivery.

(e) Bonds or bond anticipation notes may be sold in the manner and on the terms the authority determines.

(f) If an officer whose signature or a facsimile of whose signature appears on a bond, note, or coupon attached to them ceases to be an officer before the delivery of the bond, note, or coupon, the signature or facsimile is valid to the same extent as if the officer had remained in office until delivery.

Sec. 41.41.310. Covenants.

In a resolution of the authority authorizing or relating to the issuance of bonds or bond anticipation notes, the authority has power by provisions in the resolution that will constitute covenants of the authority and contracts with the holders of the bonds or bond anticipation notes to

(1) pledge to a payment or purpose all or a part of its revenues to which its right then exists or may thereafter come into existence, and the money derived from the revenues, and the proceeds of bonds or notes;

(2) covenant as to the use and disposition of payments of principal or interest received by the authority on loans or other investments held by the authority;

(3) covenant as to establishment of reserves or sinking funds and the making of provision for and the regulation and disposition of the reserves or sinking funds;

(4) covenant with respect to or against limitations on a right to sell or otherwise dispose of property of any kind;

(5) covenant as to bonds and notes to be issued, and their limitations, terms, and conditions, and as to the custody, application, and disposition of the proceeds of the bonds and notes;

(6) covenant as to the issuance of additional bonds or notes, or as to limitations on the issuance of additional bonds or notes and the incurring of other debts;

(7) covenant as to the payment of the principal of or interest on the bonds or notes, as to the sources and methods of the payment, as to the rank or priority of the bonds or notes with respect to a lien or security, or as to the acceleration of the maturity of the bonds or notes;

(8) provide for the replacement of lost, stolen, destroyed, or mutilated bonds or notes;

(9) covenant as to the redemption of bonds or notes and privileges of their exchange for other bonds or notes of the authority;

(10) covenant to create or authorize the creation of special funds of money to be held in pledge or otherwise for operating expenses, payment or redemption of bonds or notes, reserves, or other purposes;

(11) establish the procedure, if any, by which the terms of a contract or covenant with or for the benefit of the holders of bonds or notes may be amended or abrogated, the amount of bonds or notes the holders of which must consent to amendment or abrogation, and the manner in which the consent may be given;

(12) covenant as to the custody of property or investments, their safekeeping and insurance, and the use and disposition of insurance money;

(13) agree with a corporate trustee that may be a trust company or bank having the powers of a trust company within or outside the state as to the pledging or assigning of revenue or funds to which or in which the authority has rights or an interest; the agreement may further provide for other rights and remedies exercisable by the trustee as may be proper for the protection of the holders of a bond or note of the authority and not otherwise in violation of law and may provide for the restriction of the rights of an individual holder of bonds or notes of the authority;

(14) appoint and provide for the duties and obligations of a paying agent or paying agents or other fiduciaries as the resolution may provide within or outside the state;

(15) limit the rights of the holders of a bond or note to enforce a pledge or covenant securing the bonds or notes;

(16) make covenants other than and in addition to the covenants expressly authorized in this section of like or different character, and to make covenants to do or refrain from doing acts and things as may be necessary or convenient and desirable in order to better secure bonds or notes or that, in the absolute

discretion of the authority, will tend to make bonds or notes more marketable, notwithstanding that the covenants, acts, or things may not be enumerated in this section.

Sec. 41.41.320. Limitations of issuance of bonds.

(a) The authority may not issue bonds in an amount that exceeds the amount of bonds authorized to be issued by the legislature.

(b) This section does not apply to the issuance by the authority of refunding bonds or to the issuance by the authority of bonds the proceeds of which are intended to be used to refinance the loans held by the authority.

Sec. 41.41.330. Independent financial advisor.

In negotiating the private sale of bonds or bond anticipation notes to an underwriter, the authority may retain a financial advisor. A financial advisor retained under this section must be independent from the underwriter.

Sec. 41.41.340. Validity of pledge.

(a) The pledge of assets or revenue of the authority to the payment of the principal of or interest on an obligation of the authority is valid and binding from the time the pledge is made, and the assets or revenue become immediately subject to the lien of the pledge without physical delivery or further act. The lien of a pledge is valid and binding against all parties having claims in tort, contract, or otherwise against the authority, irrespective of whether those parties have notice of the lien of the pledge.

(b) This section does not prohibit the authority from selling assets subject to a pledge, except that a sale may be restricted by the trust agreement or resolution providing for the issuance of the obligations.

Sec. 41.41.350. Capital reserve funds.

(a) For the purpose of securing one or more issues of its obligations, the authority may establish one or more special funds, called "capital reserve funds," and shall pay into those capital reserve funds (1) money appropriated and made available by the state for the purpose of those funds, (2) proceeds of the sale of its obligations, to the extent provided in the resolution or resolutions of the authority authorizing their issuance, and (3) other money that may be made available to the authority for the purpose of those funds from another source. All money held in a capital reserve fund, except as provided in this section, shall, subject to appropriation, be used as required solely for the payment of the principal of obligations or of the sinking fund payments with respect to those obligations; the purchase or redemption of obligations; the payment of interest on obligations; or the payment of a redemption premium required to be paid when those obligations are redeemed before maturity. However, money in a fund may not be withdrawn from that fund at any time in an amount that would reduce the amount of that fund to less than the capital reserve requirement set out in (b) of this section, except for the purpose of making, with respect to those obligations, payment, when due, of principal, interest, redemption premiums, and the sinking fund payments for the payment of which other money of the authority is not available. Income or interest earned by, or increment to, a capital reserve fund due to the investment of the fund or other amounts in it may be transferred by the authority to other funds or accounts of the authority to the extent that the transfer does not reduce the amount of the capital reserve fund below the capital reserve fund requirement.

(b) If the authority decides to issue obligations secured by a capital reserve fund, the obligations may not be issued if the amount in the capital reserve fund is less than a percent, not exceeding 10 percent, of the principal amount of all of those obligations secured by that capital reserve fund then to be issued and then outstanding in accordance with their terms, as may be established by resolution of the authority, called the "capital reserve fund requirement," unless the authority, at the time of issuance of the obligations, deposits in the capital reserve fund from the proceeds of the obligations to be issued or from other sources an amount that, together with the amount then in the fund, will not be less than the capital reserve fund requirement.

(c) In computing the amount of a capital reserve fund for the purpose of this section, securities in which all or a portion of the funds are invested shall be valued at par or, if purchased at less than par, at amortized costs as the term is defined by resolution of the authority authorizing the issue of the obligations or by some other reasonable method established by the authority by resolution. Valuation on a particular date must include the amount of interest earned or accrued to that date.

(d) To assure the continued operation and solvency of the authority for the carrying out of its corporate purposes, provision is made in (a) of this section for the accumulation in capital reserve funds of an amount equal to their capital reserve fund requirement.

(e) The chair of the authority shall annually, not later than January 2, make and deliver to the governor and chairs of the house and senate finance committees a certificate stating the sum, if any, required to restore a capital reserve fund to the capital reserve fund requirement. The legislature may appropriate that sum, and all sums appropriated during the current fiscal year by the legislature for the restoration shall be deposited by the authority in the appropriate capital reserve fund.

(f) This section does not create a debt or liability of the state.

Sec. 41.41.360. Remedies.

A holder of obligations or coupons attached to them issued under the provisions of this chapter, and a trustee under a trust agreement or resolution authorizing the issuance of the obligations, except as restricted by a trust agreement or resolution, either at law or in equity, may enforce all rights granted hereunder or under the trust agreement or resolution, or under another contract executed by the authority under this chapter, and may enforce and compel the performance of all duties required by this chapter or by the trust agreement or resolution to be performed by the authority or by an officer of it.

Sec. 41.41.370. Negotiable instruments.

All obligations and interest coupons attached to them are negotiable instruments under the laws of this state, subject only to applicable provisions for registration.

Sec. 41.41.380. Obligations eligible for investment.

Obligations issued under the provisions of this chapter are securities in which all public officers and public bodies of the state and its political subdivisions, all insurance companies, trust companies, banking associations, investment companies, executors, administrators, trustees, and other fiduciaries may properly and legally invest funds, including capital in their control or belonging to them. These obligations may be deposited with a state or municipal officer of an agency or political subdivision of the state for a purpose for which the deposit of bonds, notes, or obligations of the state is authorized by law.

Sec. 41.41.390. Refunding bonds.

(a) The authority may provide for the issuance of refunding bonds for the purpose of refunding an obligation then outstanding that has been issued under the provisions of this chapter, including the payment of redemption premium on them and interest accrued or to accrue to the date of redemption of the obligations. The issuance of the bonds, the maturities and other details of them, the rights of the holders of them, and the rights, duties, and obligations of the authority in respect of them are governed by the provisions of this chapter that relate to the issuance of obligations insofar as those provisions may be appropriate.

(b) Refunding bonds may be sold or exchanged for outstanding bonds issued under this chapter, and, if sold, the proceeds may be applied, subject to appropriation and in addition to another authorized purpose, to the purchase, redemption, or payment of the outstanding obligations. Pending the application of the proceeds of refunding bonds, with any other available funds, to the payment of the principal of, accrued interest on, and redemption premium on the obligations being refunded, and, if so provided or permitted in the resolution authorizing the issuance of the refunding bonds or in the trust agreement securing them, to the payment of any interest on the refunding bonds and expenses in connection with the refunding, the proceeds may be invested in direct obligations of, or obligations the principal of and the interest on which are unconditionally guaranteed by, the United States that mature or that will be subject to redemption, at the option of the holders of them, not later than the respective dates when the proceeds, together with the interest accruing on them, will be required for the purposes intended.

Sec. 41.41.400. Credit of state not pledged.

(a) Obligations issued under the provisions of this chapter do not constitute a debt, liability, or obligation of the state or of a political subdivision of the state or a pledge of the faith and credit of the state or of a political subdivision of the state but are payable solely from the revenue or assets of the authority. Each obligation issued under this chapter must contain on its face a statement that the authority is not obligated to pay it or the interest on it except from the revenue or assets of the authority and that neither the faith and credit nor the taxing power of the state or of a political subdivision of the state is pledged to the payment of the principal of or the interest on the obligation.

(b) Expenses incurred by the authority in carrying out the provisions of this chapter are payable from funds provided under this chapter, and liability may not be incurred by the authority in excess of these funds.

Sec. 41.41.410. Officers not liable.

A member or other officer of the authority is not subject to personal liability or accountability by reason of having executed or issued an obligation.

Article 04. PROPERTY OF THE AUTHORITY

Sec. 41.41.450. Property of the authority.

The authority may acquire, by purchase, lease, or gift, upon terms that it considers proper, land, structures, real or personal property rights, rights-of-way, franchises, easements, and other interests in land it considers necessary or convenient for the financing of the project or a part of the project.

Article 05. PROJECT CONSTRUCTION

Sec. 41.41.500. Contract terms relating to use of Alaska resources.

(a) The authority shall enter into one or more prehire project term agreements with labor organizations that

(1) contain no-strike clauses; and

(2) secure timely completion of the project and maximum employment opportunities for state residents.

(b) To maximize the economic benefits of the project to Alaskan businesses, the authority shall use Alaska contractors and suppliers to the maximum extent possible to take advantage of the Alaska experience in Arctic engineering and construction.

Article 06. GENERAL PROVISIONS

Sec. 41.41.900. Tax exemption.

All obligations issued under this chapter are declared to be issued by a body corporate and public of the state and for an essential public and governmental purpose, and the obligations, and the interest and income on and from the obligations, and all fees, charges, funds, revenues, income, and other money pledged or available to pay or secure the payment of the obligations, or interest on the obligations, are exempt from state taxation except for transfer, inheritance, and estate taxes.

Sec. 41.41.990. Definitions.

In this chapter,

(1) "authority" means the Alaska Natural Gas Development Authority;

(2) "board" means the board of directors of the Alaska Natural Gas Development Authority;

(3) "project" means the gas transmission pipeline, together with all related property and facilities, to extend from the Prudhoe Bay area on the North Slope of Alaska either to tidewater at a point on Prince William Sound and the spur line from Glennallen to the Southcentral gas distribution grid or to tidewater at a point on Cook Inlet, and includes planning, design, and construction of the pipeline and facilities as described in AS 41.41.010 (a)(1) - (5).

Homer Electric Association, Inc.

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Homer, Alaska 99603-7680
Phone (907) 235-8551
FAX (907) 235-3313

Central Peninsula Service Center
280 Airport Way
Kenai, Alaska 99611-5280
Phone (907) 283-5531
FAX (907) 283-7122

February 24, 2010

Senator Gary Stevens
Alaska State Legislature
State Capitol Room 111
Juneau, Alaska 99801

RE: Support for House Bill 44 – Clarify ANGDA's Authority

Honorable Senator Stevens:

Homer Electric Association, Inc. (HEA) would like to offer support for House Bill 44, which will clarify ANGDA's authority to work throughout Alaska on projects linking in-state natural gas supplies and in-state users. This bill pre-approves up to $250 million of ANGDA project revenue bonds and authorizes AHFC to issue up to $100 million of energy efficiency bonds. Passage of this bill enables entities such as the Natural Gas Supply Company (NGSC) to purchase a larger tranche of gas at a lower price for in-state use.

Alaska's in-state gas supply is dwindling and the situation must be rectified as soon as possible. The passage of this bill during the current session is a huge step toward creating energy stability for all Alaskans.

If you have any questions, please feel free to contact me at any time.

Sincerely,

Bradley P. Janorschke
General Manager

cc: Senator Thomas Wagoner
Representative Mike Chenault
Representative Kurt Olson
Representative Paul Seaton
Mr. Pat Carter
Mr. Joe Gallagher

ANGDA Supports HB 44

- Advances broadly and simultaneously several aspects of in-state gas issues
- Strongly demonstrates Legislative support for multiple proposed solutions to in-state gas and energy problems
- Delegates specific project funding decision to fiduciary responsible boards of public corporations
- Board decisions are made in full public view after due diligence
- Funding decision based on commercial and market elements, not politics
- Advances Alaska energy infra-structure construction during a low oil price period by using limited general fund cash (separately appropriated) to develop bonding packages for much larger leveraged project investment requirements
- Extends the State's very strong credit position to consumers through lower utility financing costs

HB 44 Provides A Flexible Framework To Repeat Past Successes In Financing Energy Projects

- State Bonding Of Bradley Lake Hydro Electric Project

- Anchorage Municipal Light & Power's Purchase Of A One-Third Interest In The Beluga Gas Field

Alaska Natural Gas Development Authority

Statutory Bonding Provisions

AS 41.41.200 Powers of the Authority

In the furtherance of its corporate purposes, in addition to its other powers, the authority may . . . . . .

(7) **issue bonds** and otherwise incur indebtedness in accordance with AS 41.41.300 – 41.41.410 in order to pay the cost of a project;

AS 41.41.320 Limitations of issuance of bonds

(a) The authority may not issue bonds in an amount that exceeds the amount of bonds **authorized** to be issued **by the legislature**.

AS 41.41.010 Establishment of the Authority

. . . . the **purpose** of which is to provide one or more of the following services and functions in order to bring natural gas from the North Slope to market, including

(1) the acquisition and conditioning of North Slope natural gas;
(2) the design and construction of the pipeline system;
(3) the operation and maintenance of the pipeline system;
(4) the design, construction, operation, of other facilities necessary for delivering the gas to market and to Southcentral Alaska; and
(5) the acquisition of natural gas market share sufficient to ensure the long-term feasibility of the pipeline system project.

Potential General Benefits From ANGDA Bonding

- Provide financing from the public side of a public private partnership -- **lower tariff** passed through to the consumer
- Bridge the project financing between the pre-construction / construction phase and the later stabilized operating phase -- **risk reduction** and lower financing costs
- Convert the longer-term pledge of monthly utility(s) consumer payments to a bond cash-equivalent for an up-front commitment or purchase -- long-term **stable discounted price** to consumer

Specific ANGDA Bonding Opportunities in 2009 & 2010

- Debt portion of any in-state gas pipeline project in support of a private sector pipeline company partner
- Utility shipping commitments during an "open season" developed through the "gas supply co-op"
- Purchase of gas supply "in-ground" on North Slope, Copper River Valley, Interior, or Cook Inlet

Other Current "In-State" Gas Bonding Opportunities

- Portions of ANGDA's proposed North Slope wholesale propane facility and propane transporters could use AIDEA financing (ie, in-state manufacture and purchase of ISO-container propane tanks)
- Fairbanks Natural Gas proposed LNG facility at Prudhoe Bay and associated trucking & delivery elements could use AIDEA financing
- Pipe and logistical systems (including pipe handling, preparation, and storage) for Alaska pipelines could be financed with Alaska Railroad bonds
- The Alaska Permanent Fund could be one of several subscribers purchasing bonds or debt for any of the Alaska energy projects

House Bill 44 will:

- Clarify ANGDA's authority to work through out Alaska on projects linking in-state natural gas supplies and in-state users; and
- Pre-approves up to $250 million of ANGDA project revenue bonds

Alaska natural gas projects currently being analyzed for bonding include:

- Purchase of developed gas production for Cook Inlet & Fairbanks electric utilities
- Ownership of "cushion gas" for gas storage fields
- Partnering in Kenai LNG plant and modification for additional operations including in-state LNG supply (truck & barge) and peak shaving by regasification
- "Open season" shipping commitment (for electric utilities) to Fairbanks, Delta Junction, and/or Glennallen on big-inch North Slope gas pipeline
- Shipping commitment (for electric utilities) on "Spur Line" linking big-inch North Slope gas pipeline to SouthCentral
- Development of a North Slope based wholesale propane facility at Prudhoe Bay & distribution system

Heinze on March 14, 2010

Natural Gas Supply Company
411 West 4th Avenue, First floor | Anchorage, AK 99501 | (907) 257-1334

March 2, 2010

James J. Mulva
Chairman and Chief Executive Officer
ConocoPhillips
600 N. Dairy Ashford
Houston, TX 77079

RE: Purchase of Kenai LNG Plant

Dear Mr. Mulva:

The purpose of this letter is to express interest by Natural Gas Supply Company (NGSC) in purchasing some or all of the Kenai LNG Plant assets, including ConocoPhillips' interest in those assets. NGSC has also sent an identical indication of interest to Marathon Oil Corporation.

Subject to the conditions and limitations to be negotiated, NGSC proposes a partnership that could include:

(i) NGSC investment to facilitate regasification of LNG at the Kenai LNG Plant;
(ii) NGSC investment in additional capabilities for in-state road & barge delivery and importation of LNG;
(iii) NGSC would be a majority owner of the regasification, in-state delivery, and import assets;
(iv) existing Kenai LNG Plant owners would maintain majority ownership in LNG export assets; and
(v) existing owners would continue operation of Kenai LNG Plant.

As you know, the Kenai LNG Plant has played an important role in Alaska's Cook Inlet region. The future operation of the Kenai LNG Plant could look different, but play just as significant a role in helping to meet regional energy needs.

The Natural Gas Supply Company is a not-for-profit cooperative created under Alaska Statute 10.15. NGSC is working with Alaska Railbelt electric utilities on aggregated gas supply and related services including storage. The Alaska Natural Gas Development

Authority (ANGDA), a public corporation of the State, is also a coop member providing additional financing abilities.

This indication of interest is non-binding and is subject to (i) the negotiation of a definitive agreement among NGSC, Marathon, and ConocoPhillips, (ii) the completion of customary due diligence, (iii) receipt of various corporate, utility, and regulatory approvals for the proposed transaction.

Please contact me so that we can discuss how best to move this transaction forward. NGSC is prepared to move quickly to complete due diligence, to negotiate and execute a definitive purchase agreement, to secure all necessary approvals, and to embark on any necessary regulatory reviews and approval process.

We are confident that a mutually-beneficial transaction can be consummated. I look forward to hearing from you at your earliest convenience.

Sincerely,

Tony Izzo
Director, NGSC

3/2/10
Date

Harold Heinze
Agent, NGSC
CEO, Alaska Natural Gas Development Authority

3/2/10
Date

cc: Mr. Joe Griffith (MEA)
Mr. Brad Evans (CEA)
Mr. Brad Janorschke (HEA)
Mr. Brian Newton (GVEA)
Mr. John Foutz (SES)

CHUGACH
POWERING ALASKA'S FUTURE

February 19, 2010

Representative Mike Chennault
State Capitol Room 208
Juneau AK, 99801

Dear Speaker Chennault:

Thank you for making time last week to discuss energy with our Chugach group. It is clear that energy issues are drawing a lot of attention this session.

We appreciated our discussion of the need for natural gas for the Cook Inlet area. Over the past four decades we have built a regional economy that depends upon natural gas, and it is vitally important to the health and safety of Alaskans throughout the region. Every year about 90 percent of the kilowatt-hours sold by Chugach come from burning natural gas, with the rest from hydro projects. The thermal use of gas is equally important to area residents. In a recent survey, 95 percent of Chugach respondents reported they use gas to heat their homes and 90 percent said it heated their hot water.

My senior management team is spending more and more time on natural gas issues these days and Chugach is open to considering all sources of natural gas to meet the needs of the region. We obviously are most familiar with production of gas from Cook Inlet, and have been working closely with producers on contracts to meet our future needs. As I may have mentioned, I also worked with Harry Noah as he studied the idea of a bullet line (an investigation I've supported in testimony over the past few years). LNG imports could provide a near term source of gas, and a Spur Line would be a source in the future if the big pipe is built. With others, we are also striving to secure gas storage by the winter of 2012-2013.

Mr. Speaker, we appreciate the focus you and other legislators are putting on natural gas related issues this year. If you'd ever like to discuss them further, please give me a call.

Sincerely,

Bradley Evans

Bradley W. Evans
Chief Executive Officer

Chugach Electric Association, Inc.
5601 Electron Drive, P.O. Box 196300, Anchorage, Alaska 99519-6300 • (907) 563-7494 Fax (907) 562-0027 • (800) 478-7494
www.chugachelectric.com • info@chugachelectric.com

MEA

March 1, 2010

The Honorable Lesil McGure, Co-chair
The Honorable Bill Wielechowski, Co-chair
Senate Resources Committee
State Capitol Room 125
Juneau, AK 99801

Dear Senators McGuire and Wielechowski:

The Board of Directors of Matanuska Electric Association (MEA) supports the passage of CSHB44 to preauthorize bonding authority for Alaska Housing Finance Corporation and Alaska Natural Gas Development Authority, specifically to facilitate acquisition of gas supply at the earliest possible time to mitigate potential shortfalls of gas and gas deliverability in Cook Inlet.

Sincerely,

Elsie E. Lester

Elsie E. "Lois" Lester
President

c: Vice Chair Charlie Huggins

HB 70

Alaska State Legislature

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Wasilla, AK 99654
Phone : 907-376-3725
Fax: (907) 376-4768

Representative Carl Gatto

Memorandum

Date: April 13, 2010

To: Senator Lesil McGuire, Co-Chair
Senator Bill Wielechowski, Co-Chair
Senate Resources Committee

From: Representative Carl Gatto

Re: Hearing Request for CSHB 70

HB 70, the "Farm-to-School Act," is designed to bolster agriculture produced in the state and better serve Alaska's school children. Encouraging the use of locally-grown food in schools promotes sustainability and provides students with greater nutritional value and a better understanding of healthy eating habits. This bill was unanimously passed by the House of Representatives in its current form, CS HB 70 (FIN), Version 26-LS0284\P, Bannister. I respectfully request a hearing for CS HB 70 (FIN) in the Senate Resources Committee. Thank you for your time and effort in considering this bill.

Sincerely,

Representative Carl Gatto

FISCAL NOTE

STATE OF ALASKA
2010 LEGISLATIVE SESSION

Fiscal Note Number: 3
Bill Version: CSHB 70(FIN)
(H) Publish Date: 4/9/10

Identifier (file name): CSHB070-EED-TLS-3-24-09
Dept. Affected: Education & Early Develo

Title: "An Act establishing the farm-to-school program in the Department of Natural Resources..."
RDU: Teaching & Learning Support
Component: Child Nutrition Services

Sponsor: Rep. Gatto
Requester: House Finance
Component Number: 1955

Expenditures/Revenues (Thousands of Dollars)

Note: Amounts do not include inflation unless otherwise noted below.

	Appropriation Required	Information					
OPERATING EXPENDITURES	**FY 2011**	**FY 2011**	**FY 2012**	**FY 2013**	**FY 2014**	**FY 2015**	**FY 2016**
Personal Services							
Travel							
Contractual							
Supplies							
Equipment							
Land & Structures							
Grants & Claims							
Miscellaneous							
TOTAL OPERATING	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
CAPITAL EXPENDITURES							
CHANGE IN REVENUES ( )							

FUND SOURCE (Thousands of Dollars)

1002 Federal Receipts							
1003 GF Match							
1004 GF							
1005 GF/Program Receipts							
1037 GF/Mental Health							
Other Interagency Receipts							
TOTAL	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**

Estimate of any current year (FY2010) cost:

POSITIONS

Full-time							
Part-time							
Temporary							

ANALYSIS: *(Attach a separate page if necessary)*

This CS of HB070 has no fiscal impact on DEED.

Prepared by: Eddy Jeans, Director — Phone 465-8679
Division: School Finance — Date/Time 4/8/10 12:00 AM
Approved by: Larry LeDoux — Date 4/8/2010
Commissioner

(Revised 10/13/2009 OMB)

FISCAL NOTE

STATE OF ALASKA
2010 LEGISLATIVE SESSION

Fiscal Note Number: 4
Bill Version: CSHB 70(FIN)
(H) Publish Date: 4/9/2010

Identifier (file name): HB70CS(RES)-DNR-AG-04-09-10
Dept. Affected: Natural Resources
Title: Alaska Grown Agricultural Products
RDU: Resource Development
Component: Agriculture Development
Sponsor: Representative(s) Gatto, Ramras, Guttenberg, Gruenberg
Requester: House Resources
Component Number: 455

Expenditures/Revenues (Thousands of Dollars)

Note: Amounts do not include inflation unless otherwise noted below.

	Appropriation Required	Information					
OPERATING EXPENDITURES	**FY 2011**	**FY 2011**	**FY 2012**	**FY 2013**	**FY 2014**	**FY 2015**	**FY 2016**
Personal Services	126.1		126.1	126.1			
Travel	30.0		30.0	30.0			
Contractual	25.0		25.0	25.0			
Supplies							
Equipment							
Land & Structures							
Grants & Claims							
Miscellaneous							
TOTAL OPERATING	**181.1**	**0.0**	**181.1**	**181.1**	**0.0**	**0.0**	**0.0**
CAPITAL EXPENDITURES							
CHANGE IN REVENUES ( )							

FUND SOURCE (Thousands of Dollars)

1002 Federal Receipts							
1003 GF Match							
1004 GF	181.1		181.1	181.1			
1005 GF/Program Receipts							
1037 GF/Mental Health							
Other Interagency Receipts							
TOTAL	**181.1**	**0.0**	**181.1**	**181.1**	**0.0**	**0.0**	**0.0**

Estimate of any current year (FY2010) cost: _____

POSITIONS

Full-time	1		1	1			
Part-time	1		1	1			
Temporary							

ANALYSIS: *(Attach a separate page if necessary)*

A Farm-to School program – as outlined in Sec. 2 of HB 70 – would be created in the Division of Agriculture to increase procurement and use of Alaska grown foods in the public schools and make available existing curricula, programs and publications that educate students on the benefits of preparing and consuming foods grown locally. A Development Specialist, Range 18, $81.9, would implement Section 2, in conjunction with a seasonal Agriculture Inspector, Range 16, $44.2 to implement section 4. Travel expenses will be used to cover travel to ***selected*** districts to educate students on the benefit of growing and consuming healthy local produce. Contractual will cover the cost of curriculum coordinated with the Department of Education to educate youth on the benefit of growing and consuming healthy local produce. Section 5 of the bill repeals the Farm to School Program July 1, 2013.

*Alaska has 55 school districts with approximately 500 public schools.

Prepared by: Franci Havemeister
Phone 907-761-3867
Division: Division of Agriculture
Date/Time: April 9, 2010
Approved by: Tom Irwin, Commissioner
Date: April 9, 2010
Natural Resources

(Revised 11/6/2009 OMB)

Alaska State Legislature

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600 E Railroad Avenue
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Representative Carl Gatto

Memorandum

Date: April 13, 2010

To: Senator Lesil McGuire, Co-Chair
Senator Bill Wielechowski, Co-Chair
Senate Resources Committee

From: Representative Carl Gatto

Re: Explanation of Changes between HB 70 Original and (CS) for HB 70, Version 26-LS0284\P.

Section 4 of the original bill created an Alaskan Grown Fresh Fruit and Vegetable Program to provide students with free locally grown produce as snacks throughout the school day. Snacks would have been accompanied by education on nutrition, agricultural stewardship, and environmental issues. It was removed from the Committee Substitute due to fiscal concerns.

Section 7 of the original bill was also removed due to fiscal concerns. This section would have created a pilot program in small and rural communities through which the state facilitated the use of locally grown products in area food banks.

Section 6 of the original bill was designed to increase the use of food stamps and WIC cards at local farmers' markets. The section was removed at the request of the Department of Health and Social Services since the department was already developing a similar program.

The House Resources Committee passed Conceptual Amendment 1 stating:
Page 6, line 10, following "gardens":
Insert ", greenhouses"

Page 6, line 11, following "school garden":
Insert ", greenhouse"

Page 6, line 11, following "The garden":
Insert ", greenhouse"

Page 6, line 14, following "garden":
Insert ", greenhouse"

Page 6, line 17, following "garden":
Insert ", greenhouse"

Page 6, line 20":
Insert a new subsection to read:
"(d) When a school garden, greenhouse, or farm is used the excess fruits or vegetables may be sold, if the revenues are used to support the program."

Conceptual Amendment 1 inserts an explicit mention of greenhouses into several portions of the bill to guard against any confusion as to their eligibility for the program. Subsection (d) helps ease any financial strain on other school organizations by allowing school gardens to sell excess products to help fund the program.

Version S of (CS)HB70 deleted page 6, lines 23-24, to avoid constitutional problems concerning dedicated funds. The new language allows for excess produce to be sold without specifying the use of the funds.

The CS passed out of the House Finance Committee simply adjusts the dates in the bill so that it still establishes a four year program.

Alaska State Legislature

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Representative Carl Gatto

Sponsor Statement
HB 70
Alaska Grown Agricultural Products

The Farm-to-School Act is similar to programs proposed in several other states. Its intent is to strengthen links between state agriculture and state food procurement in schools, expand local markets, improve nutrition, and even benefit the environment. It improves upon current law that requires schools receiving state moneys to purchase agricultural products harvested if the state if, and only if, they are priced no more than seven percent higher than similar products imported to Alaska.

A Farm-to-School Program is created to facilitate increased procurement of Alaska grown foods by schools. The program will, in order of priority:

- Identify and develop policies and procedure, including proposed uniform procurement procedures, to implement and evaluate the program;
- Assist food producers, distributors, and brokers to market Alaska grown food to schools by informing them of opportunities and requirements;
- Assist schools in connecting with local producers by informing them of sources, availability and benefits of Alaska grown foods;
- Identify and recommend ways to increase predictability of sales and adequacy of supply;
- Make available publications allowing students to see benefits of preparing and consuming locally-grown food;
- Support efforts to advance other farm-to-school extensions such as school gardens or farms, and farm visits; and
- Seek additional funds to leverage state expenditures;

The Division of Agriculture must, cooperating with the Department of Education & Early Development, collect data on program activities and report biennially to the Legislature their progress beginning January 2010.

HB 70 also gives schools the authorization to create a school garden or even a farm. In doing so they must also allow students representing student organizations the opportunity to be involved in the garden or farm operation. Schools may teach both organic and traditional farming methods.

This bill sunsets on July 1, 2013.

LEGAL SERVICES

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MEMORANDUM March 6, 2009

SUBJECT: Sectional summary of CSHB 70( ) establishing the farm-to-school program in the Department of Natural Resources, and relating to school gardens and farms
(Work Order No. 26-LS0284\R)

TO: Representative Carl Gatto
Attn: Sandra Wilson

FROM: Theresa Bannister
Legislative Counsel

You have requested a sectional summary of the above-described bill. As a preliminary matter, note that a sectional summary of a bill should not be considered an authoritative interpretation of the bill and the bill itself is the best statement of its contents.

Section 1. Directs the commissioner of natural resources to implement the farm-to-school program established by AS 03.20.100.

Section 2. Sec. 03.20.100. Establishes the farm-to-school program.

Sec. 03.20.100(a). Establishes the farm-to-school program in the Department of Natural Resources to increase public school use of state-grown food.

Sec. 03.20.100(b). Directs the department to perform certain tasks, as prioritized in the subsection, in consultation with other listed state agencies. The tasks relate to uniform procurement policies and procedures, assisting the food industry to market food to public schools, assisting public schools to connect with local producers, mechanisms for increasing sales and supply predictability, educating students, advancing other farm-to-school activities, and program funding.

Sec. 03.20.100(c). Directs the department, in cooperation with the Department of Education and Early Development, to collect data on the activities under this section and to report biennially to the legislature.

Sec. 03.20.100(d). States that this section does not affect two statutes related to state agricultural and fisheries product preferences.

Sec. 03.20.100(e). Defines terms for the section.

Section 3. Directs the Department of Education and Early Development to assist the Department of Natural Resources to develop and implement the farm-to-school program under AS 03.20.100.

Section 4. Sec. 14.30.375. Adds a new section relating to school gardens and farms.

Sec. 14.30.375(a). Allows a school district to authorize or operate a school garden or farm for educational purposes and for growing fruits and vegetables for the students.

Sec. 14.30.375(b). Requires a district to give students representing student organizations the opportunity to be involved in the operation of the garden or farm.

Sec. 14.30.375(c). Requires that, when the garden is used for education about agricultural practices, students be given the opportunity to learn about both organic and conventional growng methods.

Section 5. Repeals the provisions in this bill on July 1, 2013.

If I may be of further assistance, please advise.

TLB:ljw
09-141.ljw

CASE STUDY

Healdsburg, CA

Movers and Shakers
Nancy May, the School Food Service Supervisor, is the main organizer behind this Farm to School project. She came to Healdsburg Junior High School at a time when the cafeteria was being renovated, and decided to change the emphasis from ordering a la carte items from windows to eating a healthy, appealing meal using a cafeteria line.

Project Description
Ms. May has instituted an eye-catching salad bar, using farm products wherever possible. This salad bar operates two days a week at one middle school and the high school. She has opened three old school kitchens – including one at an elementary school and is serving up virtually home-cooked lunches every day. The a la carte items such as burritos and tamales, are nutritious and freshly made, and have helped boost a la carte sales.

Other Components
School gardens have been organized at each school with the help of community donations. One garden fence, including the labor, was donated by a local gardening group. Materials for raised beds were donated by a local home and garden business. Ms. May aggressively markets the farm to school project, by actions such as serving school lunches at school board meetings. She has also hosted the state Superintendent of Schools to visit the school garden.

Students and parents also help with the menu planning and Ms. May holds occasional product tastings to help determine students' preferences.

Funding
Ms. May has received $30,000 from a Shaping Health as Partners in Education (SHAPE) grant that has been used to help develop nutrition education, teacher training, and to purchase equipment such as the salad bars and a portable cooking cart for classrooms. She received a second SHAPE grant for $50,000 that was used for developing the school garden, establishing links between the garden and farm to school project, and for supporting an agriculture curricula.

Labor
The bulk of the organizing work has been done by Ms. May. She has incorporated student workers in the cafeteria to help with food preparation and food serving. Students over 13 years old can work up to 6 hours per week.

Farmers/Crops
The district buys from three local farmers who were located by Nancy May at the local farmers' market and through word-of-mouth. The crops they provided on a seasonal

basis include: tomatoes, cucumbers, apples, pears, herbs, peppers, onions, and lettuces. Ms. May buys organic produce whenever possible.

Product Delivery
The farmers deliver directly to the district on Monday mornings for the salad bar that operates twice a week at both the junior high and high school.

Price
The farmers charge a fair price that is generally comparable to the wholesale price.

School Food Service Support
This program was organized by the school food service staff. However, staff is working to garner further administrative support to expand the existing program.

Kitchen Facilities
When Ms. May came to the district three years ago, she began reopening three old kitchens so that meals could be freshly prepared instead of reheating prepackaged frozen meals. Both the kitchens at the elementary schools have been renovated within the last three years. The high school kitchen is also being renovated. Despite these improvements, more space is needed for food preparation and storage.

Sustainability
While this program is sustainable, additional funding would help to expand and improve what currently exists. Funding would be used for storage and refrigeration facilities, additional serving tables and utensils, to pay for more labor-intensive meal preparation, and for hiring a garden/farm to school coordinator.

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CASE STUDY

Santa Monica-Malibu

Movers and Shakers

The initial impetus for this project came from Bob Gottlieb, a parent at one of the schools in the Santa Monica-Malibu Unified School District (SMMUSD). He approached Rodney Taylor, the School Food Service Director, about implementing a salad bar, and initially received a lukewarm reception. However, Mr. Taylor was open to trying a pilot project as long as Mr. Gottlieb was willing to do most of the organizational work. As a university professor, Mr. Gottlieb was able to incorporate students into the project, as well as write grant proposals to hire full-time staff.

Project Description

The Farm to School Project encompasses all of the 15 schools in the SMMUSD district, including elementary, junior high and high schools. Each school has a Farmers' Market Salad Bar which features produce that consists entirely of farm products that are purchased at local farmers' markets. The salad bar also contains protein, grain, and dairy products. Because of the year-round growing season, and year-round farmers' markets, the project is able to always include regionally grown produce. While the project began in one school, within a four year period the Farmers' Market Salad Bar was instituted on a district wide basis. The children have the daily choice of the salad bar or the hot meal.

Other Components

Each of the schools in the district also has a school garden that is maintained by teachers or parent volunteers. A child nutritionist was hired on a temporary basis to teach nutrition education, including a class on salad bar etiquette and an introduction of the items found at the salad bar. A cooking cart is also used for classroom demonstrations.

Another component of the project is field trips to both farms and the farmers' markets. Teachers sign up their classes for farm field trips and the Salad Bar Coordinator arranges tours of the farmers' markets. The latter includes a talk by the Market Manager about the different products at the market accompanied by hands-on experience with the products, and of course, an opportunity to sample them.

Funding

During the first year, funding was provided by the California Endowment to UCLA/Occidental College through a grant directed by Mr. Gottlieb. In the next year, the district took on the staffing of the project and obtained funding from a Department of Health Services Nutrition Network grant. However, only six schools in the district qualified for this grant, due to the requirement that a specific number of children be eligible for free or reduced meal pricing. At the other schools, the PTA donated $5,000 - for each school - to get the program up and going. The Santa Monica Farmers' Market also donates $10,000 per year to the Farm to School project. Funds from ala carte sales also help to support the Farmers' Market Salad Bar.

Labor
In the first year, labor was provided primarily by UCLA/Occidental College staff and parent volunteers. However, the school labor unions do not allow parent volunteer labor, and eventually, a part-time person was hired at each school to help with the salad bar preparation, serving and clean-up. There is also a Salad Bar Coordinator who oversees the entire program.

Farmers/Crops
There are two tremendously successful year-round farmers' markets within a mile of the SMMUSD central office. Twice a week, on Wednesdays and Saturdays, the Salad Bar Coordinator visits the markets to purchase the produce. Some of the products purchased seasonally include: strawberries, apples, melons, cherries, lettuce, carrots, celery, tomatoes, citrus, raisins, peppers, broccoli, cauliflower, potatoes, and peaches. Over the school year, about 20 farmers will provide crops for the salad bar, and the district will spend a total of approximately $100,000 on produce from the farmers' market.

Product Delivery
The SMMUSD has its own truck to transport the produce. The district purchased the truck prior to the implementation of the Farmers' Market Salad Bar. The produce is brought directly from the farmers' market to the central kitchen where one driver delivers produce to the Santa Monica schools and another driver transports the produce to the schools in Malibu. This is done twice weekly.

Price
As the farmers are already making the trip to the farmers' market, and do not have additional delivery costs to the schools, they are able to sell at wholesale instead of retail prices. In the beginning of the project, some farmers sold below wholesale because they believed in the idea of kids eating great produce. With the Farmers' Market Salad Bar now in all 15 schools, the prices are generally comparable to wholesale.

School Food Service Support
Initially, support from school food service folks was slow in coming. The real change occurred when the staff saw children choosing the salad bar for lunch, and eating what was on their plate! There is now overwhelming support for the project, and Rodney Taylor has on his business card, "Home of the Farmers' Market Salad Bar".

Kitchen Facilities
Each of the schools has their own facilities for food preparation. The actual salad bars were purchased before the farmers' market component was added.

Sustainability
After four years in operation, the Farmers' Market Salad Bar is able to operate without grant funding. However, some of the other project components, such as the nutrition education, can only be done if additional funding is obtained. The SMMUSD has found that costs spread out over 15 schools make it a much more viable program than when it operated in only 2 or 3 locations.

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CASE STUDY

Kentucky

How it Started

Official introduction occurred in May 2000 through cooperative efforts of the USDA, the Kentucky Department of Ag., University of Kentucky Extension and the Kentucky Department of Education. Some school districts in Kentucky had noted the North Carolina model and had been purchasing produce through the DOD fresh program and from local cooperatives. In the first year the program was piloted in regions 4 and 8. Schools were encouraged to request product grown in Kentucky, if prices were comparable. The program went statewide this year. Farm-to-School in Kentucky now has a full time coordinator who handles communications with farmers and schools funded by the State Department of Agriculture.

Farm to School Project and Components

Clark County is Kentucky's model program for integrating Farm to School with nutrition and health education. There they are developing and piloting the Clover CAT (Cooking, Activity, and Time to be well) curriculum. This curriculum includes nutrition, time management, exercise and self-esteem. The curriculum is being piloted in the 5th, 7th, and 9th grades with introductory, intermediate and advanced levels. In some areas the YMCA offers a three-month scholarship to obese children who attend these classes. If the children work out at the YMCA 30 times in three months they are offered another three-month free membership. Intergenerational gardens are being piloted but not always in conjunction with the farm to school program.

Farm-to-school coordinator plans to develop additional components (ag education, nutrition education) in the future.

Funding

The farm to school program is incorporated into the jobs of nearly all those involved. The program is broadly supported by the State of Kentucky. No additional funding has been required.

Farmers/Crops

The Kentucky Department of Agriculture facilitates communication between farmers and schools. They promote products grown in Kentucky such as seedless watermelons, sweet potatoes, broccoli and seasonal decorative products. Local and Kentucky grown cannot always provide quantities needed by school districts. In these cases commodities and out-of-state foods are used. Farm cooperatives comprise the majority of farms involved in the program. Few independent farms participate. There is some question as to how beneficial this program is to new, small-scale, or non-traditional farms.

School food service commented that farmers have not approached schools independently. If they did, they might be well received. Additional product is needed for summer feeding program and school food service might be willing to purchase direct if farmers made the effort.

DOD provides purchasing expertise some contact with growers. DOD helps set prices, work with growers and seek out small-scale growers

Delivery
School Districts place their orders in May each year. Contracted produce distributors ship their produce to larger distribution sites 5 located in Kentucky, one in Ohio and one in Tennessee. Product is shipped from these sites to schools. Department of Ag. inspects and approves distributors prior to their involvement with farm-to-school

In districts served by a central kitchen food service directors at individual schools can order from their local distributor to supplement what is provided by the central kitchen. The central kitchen places a request once a month for bid. Bids are published and individual schools may order from that list. Schools are encouraged to choose lowest bid first, Kentucky grown second. Produce is delivered once a week.

Price
Farm-gate price is negotiated by Kentucky Dept. of Ag and DOD. A 5.6% surcharge is added to farm gate price and this price is offered to schools. Price for Kentucky grown has not been an issue with product purchased through State farm-to-school program but price for locally grown can be an issue when purchasing from local distributors. Commodities and low prices take precedence over locally grown.

School Food Service Support
School food service was supportive from the beginning. At the May 2000 conference they shared the barriers they had confronted and overcome as well as barriers that persist. For the last year and a half Jefferson County has prepared food in the central kitchen and delivered to schools in refrigerated trucks owned and operated by Food Service. Menus are developed for periods of 6-months. Seasonality impacts price but is not necessarily a consideration in menu development.

USDA rep provides regular training to food service in handling fresh product and some nutrition education.

Kitchen Facilities
Jefferson County has a model central kitchen which can process huge quantities of food with little additional staffing. Food for school lunches is prepared at this site and shipped to individual schools. Other schools have some processing capability but prefer pre-cut, prepackaged product. No additional labor has been necessary.

Sustainability
This project has a great deal of State support. Nearly all aspects of the program are incorporated into the jobs of those involved. Elementary and middle schools do not allow students to leave campus during school hours. Ala carte items, which are part of school menu, are sold during lunch but no competitive foods are sold on campus. Although high schools have soft drink contracts, the machines cannot be turned on until ½ hour after last lunch period. Under these conditions the program is sustainable.

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CASE STUDY

Florida

Movers and Shakers

In 1995, a group of farmers formed the New North Florida Marketing Cooperative. The goal of the cooperative was to provide marketing services to the participating farmers, and provide training and education in marketing options such as farmers' markets, roadside stands, and selling to local school districts. The goal is to increase the amount of product being sold, thereby increasing the farmers' incomes.

Description

The New North Florida Cooperative began by selling farm fresh produce to 13 schools in Gadsden County, Florida. In six years, the marketing efforts have increased so that the Cooperative now sells to 15 school districts in Florida, Georgia and Alabama. Through these districts, they are serving 300,000 students!

The farmers focus on producing three to four main items, on a seasonal basis, and sell to schools year-round. The items are incorporated into menu planning, generally as a side dish or as a fresh fruit dessert. The Cooperative has developed a good reputation by providing high-quality produce, prompt deliveries, fair prices and for their courteous professionalism. They refer to this as "relationship marketing". The positive word-of-mouth has been very effective in opening the door to the program in other school districts.

Other Project Components

As part of its marketing and promotion, the Cooperative has developed posters showing the life cycle of a crop – from planting to harvesting. These posters are displayed in school cafeterias.

Funding

Approximately 90% of the funding for the Cooperative's marketing efforts come from the sales of their members and participants. These sales come from a variety of direct marketing alternatives, including farmers' markets, roadside stands, and through their sales to schools. When the initial farm to school program was ready to launch, the Cooperative did receive a $4,000 grant from the USDA Agriculture Marketing Service. They also received a $3,000 loan from the West Florida Resource Conservation and Development Council (WFRCDC). Most of the grant money received by the Cooperative has been used for infrastructure and equipment purchase, such as refrigerated trucks and cool and cold storage facilities.

Labor

Most of the labor for preparing the products, as well as growing, them comes from the Cooperative members and participants. During particularly busy times, day labor is also utilized. Since the farmers have the ability to wash, chop and bag the produce, there is no additional labor on the part of the school food service.

Farmers and Crops
The Cooperative provides marketing services and opportunities for over 100 members and participants in Florida, Georgia and Alabama. Their primary crops are collards, field peas, muscadine grapes and a few turnip greens.

Product Delivery
Deliveries are made 2 ½ to 3 days per week depending on school menus. While much of the produce is delivered by the Cooperative, they do work with other produce vendors as well. The produce that is delivered is packaged and has a label with a logo and a nutritional analysis. The Florida A & M University provided some technical assistance to develop the label.

A delivery trailer was purchased by the Cooperative, and a cooling system from a recreational camper was installed to keep the produce at a relatively low temperature while in transit. Styrofoam insulation was also installed to protect the produce from the outside heat. The logo is printed on the side of the trailer along with the name of the Cooperative and the phrase, "The Pinnacle of Quality".

Price
The Cooperative has developed a niche market as there is little competition in providing fresh, washed, chopped, bagged, and delivered greens. Consequently, the Cooperative is able to negotiate a price that is both fair to the school district and profitable for the growers.

School Food Service
The Cooperative members gained the respect of the school food purchasers by initially *donating a sample of their product – 3,000 pounds of greens.* The greens and fruits have been met with an enthusiastic reaction from children, which has been a big factor in administrative acceptance of the product. All members of the Cooperative go out of their way to be helpful and courteous when delivering the product, and they unload the boxes and stack them neatly in cold storage facilities. After each delivery, the cafeteria manager is notified that the order was delivered. The Cooperative demonstrates courtesy, provides convenience, and protects the high quality of its products by taking this extra step.

Kitchen Facilities
Since schools are not processing the product, facilities become more of an issue for the Cooperative members, who must have storage, refrigeration, and a covered area for washing, cutting, and bagging equipment. Originally, all of the washing was done in large steel tubs, and chopping was done by hand. There was no refrigeration system and therefore no storage capacity. As a result, harvesting and processing had to be done in one day – one very long day. To continue in business, the Cooperative purchased a packing/processing shed, a cutting/chopping machine, wash sinks, and a refrigeration and storage system. Funds for purchasing equipment came from grant funding and bank loans.

Sustainability
The New North Florida Cooperative has been sustainable since it began, as 90% of its funding comes from direct marketing sales. The few loans and grants they have received have helped it to build infrastructure with equipment purchases.

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CASE STUDY

Iowa

Movers and Shakers
The three major organizers of the Iowa Farm to School project are Merl Steines, Michael Nash, and Joan Lubke. Mr. Steines and Mr. Nash are farmers with the GROWN Locally cooperative. Ms. Lubke, is a Dietary Manager, Food Service Director at the Decorah Community School District in Northeast Iowa, and she and her husband are farmers who produce organic soybeans, corn, oats, and raise organic cattle.

Ms. Lubke, Mr. Steines and Mr. Nash have known each other for several years, but became better acquainted at a Farm to School forum in Ames, sponsored by the USDA and organized by the Practical Farmers of Iowa.

Project Description
Through the Iowa Farm to School Project, Ms. Lubke uses locally grown products for a salad bar and as a la carte items. She works with four schools, two elementary, one middle school and one high school, and the farm-fresh items are particularly popular with students in the middle school and high school.

Other Components
Horticulture classes are offered through the local Future Farmers of America (FFA), and information about agriculture, farming and nutrition are provided as well in classes focusing on the environment and culinary arts. GROWN Locally is also preparing printed materials and will organize farm tours in the spring.

Funding
The program has not received special funding to buy directly from the GROWN Locally cooperative. With additional funding, we would able to purchase a greater amount of local products.

Labor
The GROWN Locally cooperative provides much of the produce already washed to help reduce labor costs. However, some food preparation is needed to cut and chop the produce. The price of labor is the prohibiting factor in expanding this program. GROWN Locally is planning to purchase processing equipment to help reduce these costs for the school district.

Farmers/Crops
There are 11 members in the GROWN Locally cooperative, and they coordinate both the production of the crops as well as the distribution to schools and other institutions. One invoice is presented from the cooperative to the school, so that there is no need for the school to pay each individual farmer Individual farm payments are then distributed by GROWN Locally. The crops that have been the most popular with the students are apples, cucumbers, lettuces, carrots, broccoli and cauliflower.

Product Delivery
Deliveries are made to the school by the cooperative once per week. With the exception of the apples, this is the first year that GROWN Locally has sold to the school district. It is expected that the program will expand with additional products in the coming year.

Price
The members of the cooperative check wholesale prices for their products, and set their prices competitively with these standards. At this time, 20% of the money received from the sales goes back into running the cooperative.

Even with prices set to be competitive with major distributors, the cost is still somewhat high for the school district. These prices are to a degree offset by the use of commodity items. School food services acknowledges that price is an issue, but is willing to pay for a quality product in order to provide great tasting meals for the children.

School Food Service Support
As the school food service staff was instrumental in organizing farm sales to schools, they are very supportive of the project. The farmers in GROWN Locally have done some marketing around their direct sales, and it has generated good public relations for the school. There is also good support from school board members.

Kitchen Facilities
The kitchen facilities are up-to-date with an adequate amount of space for food preparation and storage. GROWN locally is planning to build a small processing center to provide their products in forms that are more accessible to school food service personnel and to extend the times when products are available.

Sustainability
Since this project has not require additional funding, it is sustainable. However, it is also limited in any possible expansion by labor costs. With additional funding for the labor required for food preparation, the farm to school project would be able to grow beyond its present operation.

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CASE STUDY

New Mexico

Movers and Shakers

The primary organizer behind the Farm to School project in Santa Fe is Lynn Walters. Lynn is a chef and previous restaurant owner as well as a concerned mother of two school-aged children. She is Program Coordinator of Cooking with Kids, a multicultural food education program. Lynn arranged a visit to the Santa Monica Farmers' Market Salad Bar for several school food service staff members and New Mexico Department of Agriculture Marketing Specialist Craig Mapel. The Director of Student Nutrition Services, Judi Jaquez, fondly calls Lynn "the thorn in her side" that moved her to support and develop a farm to school program in Santa Fe, New Mexico. Judi is a self-described "convert" who touts the flavor and quality of locally grown fresh fruits and vegetables.

Farm to School Project and Components

Three Santa Fe public schools are participating in this project, two elementary and one high school. One of the elementary schools has a salad bar every day. The meal at this site includes a meat entree three times a week and a vegetarian item twice a week. The other elementary school offers a side salad of mixed greens, sunflower sprouts, and other seasonal items with lunch. The high school has a separate salad bar; students have the choice of the salad bar or a hot lunch.

Nutrition education in the classroom has had a big impact on the salad bar line. The first session conducted by Farms to Schools Coordinator Betsy Cull discussed proper salad bar etiquette as well as what is required for a reimbursable meal. Betsy followed the hands-on model of the Santa Monica Farmers' Market Salad Bar Program and brought the salad bar into the classroom for a lesson about food groups and portion sizes. The students were then able to prepare a tray to eat, practicing what they just learned.

Student Comments

"I've never tasted this stuff before; it's good"
"I love fruits and vegetables."
"I didn't use to like this kind of lettuce much, but I'm starting to like it more now that I've tasted it"

Funding

Three grants have provided start-up funds for this project: a USDA Community Food Projects grant will be providing $30,750 over three years and the New Mexico Department of Agriculture (NMDA) is contributing $30,000 to this project this year. In addition, USDA's Federal State Marketing and Improvement Program awarded NMDA $27,000 to further develop the program into next year.

Labor

Collaboration got this program going. A group of folks, including Lynn Walters, Craig Mapel, and Judi Jaquez, worked with the support of members of the Student Nutrition Advisory Council, including Registered Dietician and former NET Coordinator Blanche Harrison, to organize this project. Betsy Cull was hired as the Farms to Schools Coordinator, a newly created school district position. School food service staff prepare the fruits and vegetables for the salad bars.

Farmers/Crops
Organizers worked with the NM Department of Agriculture and the state Farmers' Marketing Association to locate farmers. Approximately forty farmers sell to the school district, primarily through a farmers' coop, during the fall and spring months. Farmers see a tremendous potential to sell more crops if they can extend their season, and they are working to develop hothouse techniques to do just that. The crops that the children see seasonally include salad greens, sunflower sprouts, apples, pears, watermelons, tomatoes, corn, cucumbers, peppers, squash, potatoes, onions, carrots, broccoli, and radishes.

Product Delivery
The school district is working with the New Mexico Farmers' Market Association to coordinate deliveries through a cooperative distribution system. Deliveries are made either directly to the school sites or to the central warehouse.

Price
There are price barriers that are not easily overcome in New Mexico and are quite likely the greatest hurdle facing the pilot project. New Mexico procurement law requires most state agencies (including school districts) to go out to bid on virtually any item, including produce, that will be over $10,000. In addition, to insure that the public dollar is being wisely spent, the agency requesting the bid must accept the lowest bid submitted. No real weight is assigned to what in reality is a higher quality, fresher, locally grown product.

This problem is further complicated by the size of the average farm (particularly those in north central New Mexico), which tends to be around 10 to 15 acres. It is difficult to compete with larger, out of state producers, submitting bids on the same type of produce.

The pilot program with the three Santa Fe schools selected by the coordinators has been able to circumvent these problems to a great extent. The coordinators designed bid requests to specify the freshness of the product, i.e. picked and delivered within 2 days, and by using monies from grants to ensure that no state monies were involved in the project to purchase food.

School Food Service Support
School food service personnel have been overwhelmingly supportive, as has been the District Administration. They were brought into this program fairly early in its conception, and were active in helping to design the program.

Kitchen Facilities
The three schools participating in the program had the equipment and facilities necessary to prepare and store the product. The high school kitchen had just gone through a renovation and was well-equipped for a salad bar.

Sustainability
When this program started, all of the collaborators knew it would be difficult to sustain in its present form. The organizers have been working at a state and national level to pass legislation that would allow schools to give preference to local growers and to make it easier for area farmers to participate in the program. There is consensus among the collaborators that by working closely with District purchasing personnel to create very specific purchasing requests, that local farmers will have a greater opportunity to participate in the program.

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Farm to School Legislation: A State by State Listing

Eighteen states have passed legislation regarding farm to school programs. Below are summaries and links to the text of this legislation. This information should reflect legislation that has passed as of June 10, 2008.

California

To search for California state legislation text: http://www.assembly.ca.gov/acs/acsframeset2text.htm

SB 281 (2005 California Statute, Chapter #236)
Introduced in 2005, SB 281 established the California Fresh Start Program that provides an additional 10 cents per a meal for fruits and vegetables. SB 281 also encourages schools to buy California products when commercially available. As a part of nutrition education, sampling of produce is required, and may include purchase of local products for this purpose.

According to SB 281 the State Department of Education will have $400,000 to provide grants, on a competitive basis, to a county office of education or community college. Of this $400,000, no more than $100,000 can be used to cultivate an online professional development seminar for school-site staff on serving, safe-handling guidelines, marketing, and promoting nutritious fruits and vegetables. Also no more than $300,000 is to be used to conduct a comprehensive evaluation of educational materials and marketing of California Fresh Start Pilot Program.

Colorado

To search for Colorado state legislation text:
http://www.state.co.us/gov_dir/leg_dir/olls/session_laws_of_colorado.htm

SB 127 (2006 Colorado Session Laws, Chapter #242)
http://www.state.co.us/gov_dir/leg_dir/olls/sl2006a/sl_242.htm

SB 127 established the Fresh Fruits and Vegetables pilot program for the 2006-2007 and 2007-2008 school years, to provide students in participating public schools with free fruits and vegetables. Interested school districts must apply for the program through the Department of Education. Eligible schools are selected based on a variety of criteria, one of which is to ensure that a certain percentage of students enrolled in a particular school district are eligible for reduced or free lunch under the federal "National School Lunch Act." This bill also requires that participating schools use Colorado fruits and vegetables to the maximum extent possible.

$500,000 was appropriated. $350,000 was used to convert reduced price meals to free meals. $150,000 went to the Fresh Fruits and Vegetables Pilot Program.

HB 1307 (2005 Colorado Session Laws, Chapter #317)
http://www.leg.state.co.us/CLICS2005A/csl.nsf/fsbillcont3/7D29AAABBE3A21EA87256FA3007CC90B?Open&file=1307_enr.pdf

Under HB 1307 governmental bodies purchasing agricultural products are allowed to preference Colorado products over out of state products as long as the quality is equal, the Colorado producer is able to meet requested quantity, and price is either lower than the lowest out of state bid, or "reasonably exceeds" the lowest bid. "Reasonably exceeds" is defined as a bid that may exceed the lowest bid and can be paid for by the existing fiscal budget.

Connecticut

To search for Connecticut state legislation text: http://www.cga.ct.gov/

HB 5847 (2006 Connecticut Acts, P.A. 06-135)

http://www.cga.ct.gov/2006/ACT/PA/2006PA-00135-R00HB-05847-PA.htm
HB 5847 is "an act implementing the provisions of the budget concerning education" and therefore pertains to a variety education related programs including farm to school. The farm to school program is established within the Department of Agriculture, which will collaborate with the Department of Education to promote the sale of Connecticut-grown farm products to school districts, individual schools and educational institutions that are under the jurisdiction of the Department of Education.

The Department of Agriculture's (DOA) role is to encourage, solicit, and guide Connecticut farmers through the process to sell their products to school districts, individual schools and educational institutions, while also working with the Department of Education to support schools through the local procurement process. The DOA is also required to develop and maintain a database of farmers interested in farm to school, and to outreach to these farmers.

According to this bill the Department of Education (DOE) will promote events such as Connecticut Grown for Connecticut Kids week to bring school kids together with Connecticut agriculture inside and outside of the classroom. The DOE should "encourage and solicit school districts, individual schools and other educational institutions under its jurisdiction to purchase Connecticut-grown farm products, and provide outreach, guidance and training to districts, parent and teacher organizations, schools and school food service directors concerning the value of and procedure for purchasing and incorporating into their regular menus Connecticut-grown farm products."

PA 05-228 (2005 Substitute Senate Bill #410)
http://www.cga.ct.gov/asp/cgabillstatus/cgabillstatus.asp?selBillType=Public+Act&bill_num=228&which_year=2005&SUBMIT1.x=7&SUBMIT1.y=12&SUBMIT1=Normal
Allocates $100,000 annually to encourage the sale of Connecticut-grown food to schools, restaurants, retailers, and other institutions and businesses in the state.

SB 589 (2004 Connecticut Acts, P.A. 04-222)
http://www.cga.ct.gov/2004/act/Pa/2004PA-00222-R00SB-00589-PA.htm
SB 589 is "an act concerning the preservation of the family farm and Long Island Sound" and therefore pertains to various agriculture-related programs including the Connecticut Farm Fresh Schools program. Administered by the Commissioner of Agriculture, Connecticut Farm Fresh Schools is to promote Connecticut schools that are serving Connecticut farm products. Schools, including public, non-public, and higher education institutions, in which 20% or more of the food served by the school consists of Connecticut grown/produced foods are eligible to be certified as a "Connecticut Farm Fresh School" and are able to use "Connecticut Farm Fresh School" in promotional materials and activities.

Delaware

To search for Delaware state legislation: http://legis.delaware.gov/

HR 74 (2004)
http://legis.delaware.gov/LIS/LIS142.NSF/vwLegislation/HR+74?Opendocument

House Resolution 74 urges Congress to pass the Farm to Cafeteria Projects Act (Child Nutrition Reauthorization), and any other legislation promoting farm to school partnerships. The goals of this bill are to assist schools in purchasing locally grown food, provide more healthy fresh food for school children, educate children and their families about foods grown in their communities, and to expand market opportunities for local farms.

Iowa

To search for Iowa state legislation: http://www.legis.state.ia.us/

SF 601 (2007)
http://coolice.legis.state.ia.us/Cool-ICE/default.asp?Category=billinfo&Service=Billbook&menu=false&ga=82&hbill=SF601

Iowa's farm to school program was originally part of SF 209 and SF 452, and is currently written into SF 601. This bill establishes a statewide Iowa farm to school program that is administered by the Department of Agriculture and Land Stewardship and a Farm to School Council. The purpose of this program is to improve child nutrition in schools and strengthen local and regional farm economies. This program encourages the relationships between Iowa farms and Iowa schools (elementary and secondary) to purchase locally and regionally produced or processed foods to provide Iowa's children with fresh minimally processed food for inclusion in school lunches.

SF 551 (2007)
http://coolice.legis.state.ia.us/Cool-ICE/default.asp?Category=billinfo&Service=Billbook&menu=false&hbill=SF551
$80,000 was appropriated for farm to school in FY08 and another $80,000 was appropriated for FY09. Money will go toward salaries, support, maintenance, and other miscellaneous needs.

Kentucky

To search for Kentucky state legislation: http://www.lrc.ky.gov/record_search.htm

HB 484 (2008 Kentucky Acts, Chap. # 37)
http://www.ncsl.org/programs/environ/healthyCommunity/healthyCommunity_search.cfm
This bill would extend the provisions of KRS 45A.645 to encourage governing boards of public post secondary institutions to purchase Kentucky-grown agricultural products if the vendor can meet quality and pricing requirements; and if the institutions purchase agricultural products. See HB 669 from 2006 for further details. (Last Update: 6/3/2008)

HB 626 (2008 Kentucky Laws, Chap. #154)
http://www.ncsl.org/programs/environ/healthyCommunity/healthyCommunity_search.cfm
This bill amends current law concerning the Kentucky Proud program. It creates a Kentucky Proud Advisory Council and creates a Kentucky Proud promotion fund, with a grant program using available funds. Before a state agency may purchase Kentucky-grown agricultural products, the vendor shall be required to participate in the Kentucky Proud program, if the vendor can meet quality and pricing requirements. See HB 669 from 2006 for further details.

KRS 45A.645 (2006)
http://www.lrc.ky.gov/KRS/045A00/645.PDF
This bill addresses the direct marketing of Kentucky-grown products to state agencies. Under KRS 45A.645 State agencies shall purchase Kentucky-grown agricultural products if quality and pricing requirements can be met. All vendors selling to state agencies must participate in the Kentucky-Grown Labeling Program. All Kentucky-grown products that are purchased by state agencies must also be reported to the legislature. Also non-U.S. grown agricultural products must be labeled with a country of origin label if they are purchased by a state agency.

HB 669 (2006 Kentucky Acts, Chapter 244)
http://www.lrc.ky.gov/record/06RS/HB669/bill.doc
This bill amends KRS 45A.645, requiring state agencies to purchase Kentucky-grown agriculture products if vendors can meet quality and pricing requirements. Also, prospective vendors may also apply for marketing assistance from the state, as long as the vendor is participating in the Kentucky grown labeling and logo program.

Maryland

To search Maryland state legislation text: http://mlis.state.md.us/#pryr

HB 883 (2006 Maryland Laws, Chapter 360)
http://mlis.state.md.us/2006rs/bills/hb/hb0883t.pdf
HB 883 requires the Board of Works to adopt regulations allowing a 5% price preference above the lowest bid for MD grown products. Schools and state facilities are to review procurement regulations and

use the 5% price preference for purchasing local products. This section does not apply if it is inconsistent with federal law.

SB 158 (2008 Maryland Laws, Chapter #371)
http://www.ncsl.org/programs/environ/healthyCommunity/healthyCommunity_search.cfm
This bill establishes the "Jane Lawton Farm to School Program" in the Department of Agriculture to promote the sale of farm products grown in the state to schools. This includes developing a database of farmers interested in selling their farm products to schools, creating a promotional event entitled "Maryland Homegrown School Lunch Week," and providing experiential learning for students, such as trips to local farms. The companion to this bill is HB 696.

Massachusetts

To search for Massachusetts state legislation text: http://www.mass.gov/legis/laws/seslaws.htm

HB 4429 (Chapter 123 of Acts of 2006)
http://www.mass.gov/legis/laws/seslaw06/sl060123.htm
Earlier versions of this bill include HB 4324, HB 4381, HB 4404. Language was originally made part of the Economic Stimulus Package 2006, and is now a law as Section 4 of Chapter 123 of Acts 2006. HB 4429 allows state agencies to pay up to 10% above the lowest bid to purchase in-state agriculture products as long as there is no conflict with other state or federal laws. State procurement officers may award contracts up to $25,000 without seeking other bids, as required by standard procurement procedures. A governmental body may establish a preference for purchasing local products by majority vote.

Montana

To search for original text o Montana state legislation text: http://leg.mt.gov/css/bills/default.asp

SB 328 (2007 Montana Laws, Chapter #146)
http://data.opi.mt.gov/bills/2007/billpdf/SB0328.pdf
SB 328 allows public agencies to preference Montana agricultural products when price "reasonably" exceeds the lowest price quoted for a similar out of state product. "Reasonably" exceeding the lowest price quoted means that the public agency can remain within its budget without supplemental or additional appropriation to pay for the potentially higher cost of local procurement. This provides an optional exemption from the Montana Procurement Act for public institutions.

New Mexico

To search for New Mexico state legislation text: http://legis.state.nm.us/lcs/BillFinder.asp

SM 54 (2008)
This resolution commits the Senate to having additional fresh fruits and vegetables served in school meals to every New Mexico student and to strengthening New Mexico's farming communities and increasing farmers' incomes by purchasing fruits and vegetables, when available, from New Mexico farmers.

The Senate requests that the school districts and their respective boards of education and superintendents place great emphasis on, and make a high priority as a matter of educational policy for, the purchase of locally grown foods in their school food programs for the benefit of their students.

The Senate should encourage the food service directors of New Mexico school districts to search out in their various locales, with the assistance of the New Mexico department of agriculture and farm to table, local farmers who want to supply locally grown foods for school food programs.

SB 90 and HB 264 (2007)
http://www.ncsl.org/programs/environ/healthyCommunity/healthyCommunity_search.cfm
This bill appropriates $85,000 from the general fund to provide New Mexico grown fresh fruits and vegetables when available to the Valley High School cluster in the Albuquerque public school district.

HJM 34 (2001)
http://legis.state.nm.us/lcs/_session.asp?chamber=H&type=JM&number=34&Submit=Search&year=01
This bill encourages the Department of Agriculture and the Department of Education to collaborate on increasing the use of New Mexico agricultural products in public school meals. One of the goals in New Mexico is to expand marketing and selling opportunities for the state's farmers and ranchers.

New York

To search for New York state legislation text:
http://public.leginfo.state.ny.us/frmload.cgi?MENU-09735958
Also available, National Conference of State Legislatures' report on the history of F2S in NY:
http://www.ncsl.org/programs/health/publichealth/foodaccess/f2sny.htm

2002 New York Laws, Article 2, Section 16, subdivision 5-b under Agriculture and Markets
http://public.leginfo.state.ny.us/menugetf.cgi?COMMONQUERY=LAWS (Click "AGM Agriculture and Markets", "Article 2", "16")
AND
2002 New York Laws Article 7, Section 305, subdivision 31 under Education
http://public.leginfo.state.ny.us/menugetf.cgi?COMMONQUERY=LAWS (Click "EDN Education", "Article 7", "305")

Under the jurisdiction of the Education Department with cooperation from the Commissioner of Education and Commissioner of Agriculture and Markets this law establishes a farm to school program to facilitate and promote the purchase of New York farm products by educational institutions in New York. The department will also work on making relevant information available to farmers, farm organizations, and institutions interested in establishing farm to school programs. The department shall also coordinate promotional events such as New York Harvest for New York Kids Week in early October each year.

S 6024 (2004 New York Laws, Chapter #269)
http://public.leginfo.state.ny.us/menugetf.cgi?COMMONQUERY=LAWS (Click "GMU General Municipal", "Article 5-A", "103")

Allows school districts to apply for permission to purchase directly from associations of more than 10 farmers when no other farmers or smaller associations are available. Raises the dollar cap on direct purchases $0.15 to $0.20 per meal per student.

Requires the NYS Education Department to develop regulations with input from the Department of Agriculture and Markets that should:
1. accommodate the provisions of the State Farm-to-School Law;
2. allow schools to pay farmers prices comparable to what they would otherwise pay for locally grown foods through their conventional channels as opposed to comparing to national wholesale prices;
3. allow school districts interested in purchasing local farm products to notify interested farmers statewide in accordance with provisions of the Farm-to-School Law by using publications, websites and other mechanisms;
4. ensure that schools provide a fair opportunity to all farmers interested in selling to them and that schools select the seller or sellers based on the usual traditional purchasing criteria (i.e. low price, quality, reliability, delivery, etc.) without having to divide up purchases proportionally among competing bidders;
5. provide guidelines for dept of education approval of purchases by schools from associations of 10 or more farmers;

Oklahoma

To search for Oklahoma state legislation text: http://www.lsb.state.ok.us/

HB 2655 (2006 Oklahoma Session Laws, Chapter #257)

http://webserver1.lsb.state.ok.us/2005-06bills/HB/HB2655_ENR.RTF
In HB 2655, the director of the Oklahoma Farm to School Program is established under the Department of Agriculture, Food and Forestry. The Director will establish public and non-profit partnerships to develop farm to school programs; provide state leadership to encourage school districts to buy from local farmers; and provide workshops and training for food service, farmers, processors, and others involved in farm to school work. Staff shall be made available from the departments of Health, Education and Human Services to assist in implementation of the program, seek grant funding and private donations for the program, and develop a web site to assist farmers in coordinating fresh food procurement.

$100,000 was permanently allocated to the Department of Agriculture for the program but not written in the specific language of the bill. The money has been appropriated in total for the past two years

HB 2833 (56 O.S. Supplemental 2007, Section 245)
This bill continues the "Oklahoma Food Security Act" until December of 2012. The Food Security Committee will continue to meet and work on issues such as supporting community food security initiatives and encouraging food production on the local level, supporting efforts to provide farmers' markets with the technology for accepting food stamps, encouraging the use of home and community gardens for food production, and supporting creative transportation methods for connecting at-risk populations with nutritious foods.

This year, HB 2833 included the schools as part of the overall goals of the Oklahoma Food Security Task Force: "Involve schools in identifying and improving students' access to sufficient and nutritious foods." The Governor signed HB 2833 on Friday, June 6th, 2008.

Oregon

HB 3601 (2008 Oregon Laws, Chapter #21)
http://www.ncsl.org/programs/environ/healthyCommunity/healthyCommunity_search.cfm
This bill requires the Department of Education to establish the Oregon Farm to School and School Garden Program. These programs help schools utilize Oregon food products and produce from school gardens, promote food and garden-based educational activities, and work with the state Department of Agriculture to develop farm to school related programs. For the purpose of paying the costs of the Department of Education of administering the Oregon Farm to School and School Garden Program, the department may accept contributions of moneys and assistance from any source, public or private.

On or before February 1, 2009, the Department of Education shall report, in the manner provided in ORS 192.245, to the Seventy-fifth Legislative Assembly on the activities related to the Oregon Farm to School and School Garden Program established under section 1 of this 2008 Act.

Pennsylvania

To search for Pennsylvania state legislation text: http://www.legis.state.pa.us/

SB 1209 (2006 Pennsylvania Laws, Act #184)
http://www.legis.state.pa.us/CFDOCS/Legis/PN/Public/btCheck.cfm?txtType=HTM&sessYr=2005&sessInd=0&billBody=S&billTyp=B&billNbr=1209&pn=2047
SB 1209 is known as the Healthy Farms and Healthy Schools bill. This law creates a statewide program modeled after the Kindergarten Initiative. Recognizing the benefits of integrated programs that combine nutrition education, parent involvement, and a connection to local agriculture for students and farmers in Pennsylvania, this program trains teachers and other educational staff on nutrition and agriculture education. Also, a list of Pennsylvania farmers who have agreed to supply foods to Pennsylvania schools was established, and grants have been awarded to schools for procurement of local produce and implementation of educational programs. Grant amounts are limited to 75% of the amount necessary to develop the program and are not to exceed $15,000 annually, per school. Applicants may use in-kind support to match the amount granted.

Money for the Healthy Farms and Healthy Schools is provided by the Governor's budget (http://www.state.pa.us/papower/cwp/view.asp?A=11&Q=471208). $500,000 has been appropriated for 2007 and 2008 with a similar budget for the same amount through 2012.

HR 821 (2004)
http://www.legis.state.pa.us/cfdocs/billinfo/billinfo.cfm?syear=2003&sind=0&body=H&type=R&BN=0821
Almost word for word the same as Delaware resolution [HR74], urging Congress to support the Farm to School Projects Act of 2003 and any other legislation that assists schools in purchasing local foods, provides more healthy and fresh food for school children, educates children and their families about foods grown in their communities, and expands market opportunities for local farms.

Tennessee

SB 3341 (2008 Tenn. Public Acts, Chapter # 963)
http://www.ncsl.org/programs/environ/healthyCommunity/healthyCommunity_search.cfm
This bill specifies that each local school board's plan for compliance with nutritional breakfast and lunch programs include specific provisions to encourage purchasing local agricultural products. This would include setting preferences for the use of agriculture products from each local school board's county or geographical region, as well as allowing flexible bidding processes to assist farmers to bid competitively on portions of a given nutrition plan, rather than an entire nutrition plan. The legislation requires each local school board to submit to the commissioner a plan for compliance with this part sixty (60) days prior to the beginning of the school year. For each subsequent school year, it requires each local school board to submit modifications to the plan sixty (60) days prior to the beginning of the school year.

Vermont

To search for Vermont state legislation text: http://www.leg.state.vt.us/docs/docs2.cfm

SJR 59 (2004)
http://www.leg.state.vt.us/docs/legdoc.cfm?URL=/docs/2004/acts/ACTR386.HTM
This resolution urges Congress to enact the proposed "Farm to Cafeteria Projects Act."

HB 456 (Act 145 of 2006)
http://www.leg.state.vt.us/docs/legdoc.cfm?URL=/docs/2006/acts/ACT145.HTM
HB 456 encourages farm to school initiatives through improvements to local infrastructure and education. The Commissioner of Education is to award small grants from the education fund to schools that use Vermont products in their school meals and provide nutrition education for students. It also establishes a mini-grant program, with maximum awards being $15,000, to assist with purchasing equipment, resources and materials that increase local purchasing and education regarding nutrition and agriculture. Grants may also be used for professional development for teachers to learn more about farm to school connections. The Department of Agriculture is to make one-time awards to local processors who are processing local produce for Vermont schools or institutions, while the food service personnel and Commissioner of Education are to provide training in local purchasing and processing for food service providers. This bill also requires that a report be submitted to appropriate legislative committees on how to increase local purchasing by state entities.

HB 522 (Act # 38 of 2007)
http://www.leg.state.vt.us/docs/legdoc.cfm?URL=/docs/2008/acts/ACT038SUM.HTM
HB 522 sets goals for Vermont to support in-state agriculture. This includes Vermont's own "buy local" campaign that promotes the purchasing of locally produced foods and dairy products. This bill also establishes systems to connect local producers and processors with state purchasing entities to facilitate marketing local foods. Strategic and technical assistance will also be made available to local producers and processors to create or enlarge facilities necessary to expand sales to the state and other markets. [Although this is a broad direct marketing bill, it does encourage farm to school initiatives, as schools are considered "other markets."]

HB 91 (Act # 24 of 2007)

http://www.leg.state.vt.us/docs/legdoc.cfm?URL=/docs/2008/bills/passed/H-091.HTM
HB 91 makes the mini-grant farm to school program created by Act #145 of 2006, also referred to as HB 456, permanent. Each grant awarded is not to exceed $15,000.

$110,000 was designated for this Act in the 2008 session. $85,000 will go to farm to school mini grants, and another $25,000 will go to training and technical assistance for schools to develop their farm to school programs.

Virginia

To search for Virginia state legislation text: http://leg1.state.va.us/

SB 797 (Chapter #352 of 2007 Virginia Laws)
http://leg1.state.va.us/cgi-bin/legp504.exe?071+ful+SB797ER
SB 797 authorizes the Commissioner of Agriculture and Consumer Services to create a website that promotes Virginia agricultural products to educational institutions. The website should include information such as farmers' contact information, amount and types of produce available.

The website is available at: http://www.vdacs.virginia.gov/vagrown-july/index.shtml.

SJ 347 (2007)
http://leg1.state.va.us/cgi-bin/legp504.exe?071+ful+SJ347ER
SJ 347 authorizes the Secretary of Agriculture and Forestry and the Secretary of Education to establish a Farm to School Task Force that will develop a plan for implementing a farm to school program in Virginia. The task force will study methods for providing information to the Virginia Department of Education, interested schools divisions and institutions of higher education regarding the availability of Virginia products. The task force has been formed.

Washington

To search for Washington state legislation text:
http://apps.leg.wa.gov/billinfo/search.aspx?term=farm%20to%20school

HB 2657 (2002 Washington Laws, Chapter #166)
According to HB 2657, the Department of General Administration, through the state purchasing director, shall encourage state agencies and local agencies doing business with the state to purchase Washington agricultural products when available. The Department of General Administration shall work with the Department of Agriculture to identify strategies to increase the purchase of Washington products. This was declared emergency legislation to improve the health of rural economies and the agricultural economy.
HB 2657 is still on the books; however, SB 6483 goes far beyond 2657.

SB 6483 (2008)
This is a comprehensive piece of legislation, requiring the following:
1. The State Department of Agriculture will facilitate the purchase of Washington grown food by schools, by linking school districts and local producers, as well as integrating curricula and programs that demonstrate the benefits of local food.
2. The creation of the Washington Grown Fresh Fruit and Vegetable Grant Program in the Office of the Superintendent of Public Instruction, to facilitate consumption of Washington grown-nutritious snacks to improve student health and expand the market for locally grown fresh produce.
3. Revision of food procurement and food contract procedures to facilitate the purchase of Washington grown food by state agencies and institutions to the maximum extent practicable. A school district may develop and implement policies and procedures to facilitate and maximize purchases of Washington grown food.
4. School districts may operate school gardens or farms as appropriate for the purpose of growing fruits and vegetables to be used for educational purposes.

5. The creation of the Washington State Farmers Market Technology Improvement Pilot Program to lend technological hardware to farmers markets to assist farmers markets and Washington farmers develop the capability to accept electronic payment cards, including electronic benefits transfers.
6. The creation of the Farmers to Food Banks Pilot Program. The Office of Financial Management shall work to develop measures for reporting on changes and trends in the purchasing of Washington-grown food by state agencies, institutions of higher education, and schools. The companion to this bill is HB 2798.

If specific funding for the purposes of this act, referencing this act by bill or chapter number, is not provided by June 30, 2008, in the omnibus appropriations act, this act is null and void.

$1.49 million in funding was appropriated to implement 6483. $600,000 will be used to provide grant funds to elementary schools with high numbers of low-income students to make available a locally-grown fruit and vegetable snack program.

Many thanks to Doug Shinkle who has actively updated state farm to school legislation for the National Conference of State Legislators
http://www.ncsl.org/programs/environ/healthyCommunity/healthycommunity_bills.cfm

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Farm to school program changes kids' views on food

By LISA RATHKE
Associated Press Writer

SHARON, Vt. (AP) – The third and fourth graders at Sharon Elementary know where the veggies in their soup come from because they've visited the farms.

They know the nutritional value of the carrots, onions, and cabbage because they've studied them in class, and they know how they're grown because they've nurtured them in raised beds out back.

The 105-student school is part of the National Farm to School Network, aimed at getting healthier meals into school cafeterias, teaching kids about agriculture and nutrition, and supporting local farmers.

About 40 states have farm-to-school programs, but Vermont is a leader in incorporating all three missions into its programs.

"Vermont has really taken it on in quite the most holistic way and not just in a couple of school districts but statewide," said Anupama Joshi, director of the Farm to School program, based at the Center for Food and Justice at Occidental College in Los Angeles.

Vermont may be a step ahead of other states because a nonprofit partnership called Vermont FEED had already been working to get local foods into schools.

The state also has backed the farm-to-school effort with funding to help schools buy equipment to chop or process the local food and buy meat from a local farmer.

What started as a handful of pilot programs has grown into 45 Vermont schools getting grants and about 60 with farm-to-school activities.

The funding is expected to dry up next year with budget cuts.

Sharon used its $13,500 grant to buy a potato chopper and a food processor. Food service director Lin-Ann Perry now uses the food processor machine to slice squash and tomatoes picked from the school's gardens and area farms in the summer and fall, later to be frozen. The school also bought a salad bar, which has been a huge hit.

When Perry used to prepare salads for the kids, there was a lot of waste. But when kids could choose what they wanted in their bowls or on their plates, more were eating fruits and vegetables, she said.

The number of students buying hot lunch has jumped by 50 percent since the school added the salad bar, Perry said. The salad bar is also used for tacos and stir-fries.

The students take part in lunch room taste tests to see what they like. Harvest soup, also known as cabbage soup, with and without beef, got rave reviews.

"This is great, guys," said sixth grader Daniel Lazar.

The third and fourth graders who chopped up vegetables for the soup also tried to sell other kids on the meal. They hung up posters in the cafeteria that advertised the nutritional value and cancer-fighting properties of the ingredients, which they learned about that morning.

"Super onions say no to cancer," one read.

See FARM/SCHOOL, page 11

REBATE, from page 8

at least 30 days prior to purchase in order to be eligible for the $500 rebate. The participating dealer will apply the discount towards the vehicle purchase price. The cash allowance will then be paid to the selling dealer by Dodge.

The 2010 models eligible for this membership benefit are: Journey, Grand Caravan, Ram Pickup 1500/2500/3500, Ram 3500/4500/5500 Chassis Cab, Dakota, Durango, Nitro, Charger, Avenger, and Caliber.

Please call the Alaska Farm Bureau Office if you have questions about the Dodge rebate, this change, or if your dealer has questions. The telephone number is (907) 895-4752. The discount applies to purchases made at participating dealers in Alaska as well as those in other states.

QUOTA, from page 8

cent of its 135-member quota; the Copper River Valley Chapter is at 60 percent of its quota of 10 members, and the Kenai Peninsula Chapter has met 50 percent of its 48-member quota.

The membership year ends on October 31 of each year. Chapters that have met quota will be recognized, and the president of that chapter will receive a Farm Bureau memento at the annual meeting each year. The next annual meeting will be held at the Alpine Lodge in Fairbanks on November 13, 2010.

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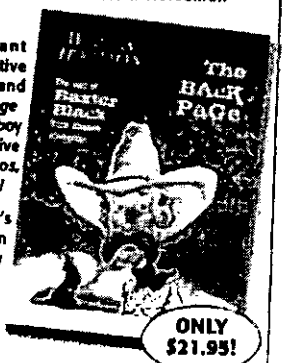

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FARM/SCHOOL, from page 9

The students are learning to eat healthier, and the focus on agriculture, local food, and nutrition is paying off in the classroom, said principal Barrett Williams.

Kids are interested, and teachers are given more diversity in the curriculum – they can work the food angle in science, reading, and health classes, he said.

But activities like the farm field trips are what Williams really likes.

Working with local farmers helps build community, he said, although that food may be more expensive than the commodity food that some schools use.

The grant helped to buy at least 200 pounds of ground beef from Back Beyond Farm in Chelsea, which cost about a dollar more per pound than hamburger from an area distributor, Perry said. But Vermont apples are cheaper than apples from other states, she said.

The school has raised money for the program by hosting a winter farmers market.

HB

134

SENATE COMMITTEE REPORT

DATE: 4/3/09

FURTHER: Finance

DATE TURNED
IN TO OFFICE: _____

Resources Committee considered CS FOR HOUSE BILL NO. 134(RES)

HB 134 CRUISE SHIP WASTEWATER DISCHARGE PERMITS

"An Act relating to the terms and conditions of commercial passenger vessel permits for the discharge of graywater, treated sewage, and other wastewater; establishing a science advisory panel on wastewater treatment and effluent quality in the Department of Environmental Conservation; and providing for an effective date."

and recommends:

[ ] be **replaced** with [✓] **SCS** or [ ] **CS** HB 134 (RES)

[ ] adopt **previous** [ ] **SCS** or [ ] **CS** _____ (_____)

[ ] attached amendment(s)

[ ] adopt _____ Letter of Intent

[ ] further referral to _____ Committee

SENATE BILL:
[✓] Same Title
[ ] New Title

HOUSE BILL:
[ ] Same Title
[ ] Technical Title Change
[ ] New Title w/ SCR #_____

NEW FISCAL NOTE(S):

Department	Date	Fiscal	Indet.	Zero	FN#

PREVIOUS FISCAL NOTE(S):

Department	Date	Fiscal	Indet.	Zero	FN#
DEC	2/13/09			✓	1

[ ] **APPROPRIATION - no fiscal note**

SIGNATURES AND RECOMMENDATIONS:	PRINTED LAST NAME	DO PASS	DO NOT PASS	NO REC	AMEND
	Huggins			X	
	Seekins				X
French	French			X	
CO-CHAIR:	McGuire				✓
CO-CHAIR:	Wielechowski	X			

4622

ALASKA STATE LEGISLATURE

SENATOR LESIL McGUIRE
SENATOR BILL WIELECHOWSKI
Co-Chairs, Senate Resources Committee

MEMORANDUM

Memorandum

To: Leg. Legal

From: Shalon Szymanski, Committee Aide
Senate Resources Committee

Date: April 10, 2009

Re: Final CS Request

Please create a Final Committee Substitute (SRES) for work order # **26-LS0570\W** incorporating the attached amendment (26-LS0570\W.3).

HB 134 did move out of committee today and we would like to have it read across on the floor tomorrow, SATURDAY.

Thank you!

CS FOR HOUSE BILL NO. 134(RES)

IN THE LEGISLATURE OF THE STATE OF ALASKA

TWENTY-SIXTH LEGISLATURE - FIRST SESSION

BY THE HOUSE RESOURCES COMMITTEE

Offered: 3/30/09
Referred: Rules

Sponsor(s): REPRESENTATIVES HARRIS, Kelly, Millett, Johansen, Foster, Keller, Chenault, Coghill, Johnson, Wilson, Muñoz, Hawker, Dahlstrom

A BILL

FOR AN ACT ENTITLED

"An Act relating to the terms and conditions of commercial passenger vessel permits for the discharge of graywater, treated sewage, and other wastewater; establishing a science advisory panel on wastewater treatment and effluent quality in the Department of Environmental Conservation; and providing for an effective date."

BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF ALASKA:

*** Section 1.** The uncodified law of the State of Alaska is amended by adding a new section to read:

LEGISLATIVE INTENT. It is the intent of the legislature that the minimum standards for the terms and conditions of wastewater discharge permits for large commercial passenger vessels meet all applicable state and federal effluent limits or standards, including Alaska Water Quality Standards, governing pollution at the point of discharge if the Department of Environmental Conservation, shall establish and consult in consultation with ~~its~~ a science advisory panel on wastewater treatment, to evaluate ~~determines that compliance with those limits or standards is~~ the most technologically effective and economically feasible treatment options.

*** Sec. 2.** AS 46.03.462(b) is amended to read:

(b) The minimum standard terms and conditions for all discharge permits authorized under this section require that the owner or operator

(1) may not discharge untreated sewage, treated sewage, graywater, or other wastewaters in a manner that violates any applicable effluent limits or standards (technology-based) under state or federal law, including Alaska Water Quality Standards governing pollution at the point of discharge**, except as provided in (e) of this section**;

(2) shall maintain records and provide the reports required under AS 46.03.465(a);

(3) shall collect and test samples as required under AS 46.03.465(b) and (d) and provide the reports with respect those samples required by AS 46.03.475(c);

(4) shall report discharges in accordance with AS 46.03.475(a);

(5) shall allow the department access to the vessel at the time samples are taken under AS 46.03.465 for purposes of taking the samples or for purposes of verifying the integrity of the sampling process; and

(6) shall submit records, notices, and reports to the department in accordance with AS 46.03.475(b), (d), and (e).

*** Sec. 3.** AS 46.03.462 is amended by adding new subsections to read:

(e) When issuing, reissuing, renewing, or modifying a permit required under (a)(1) of this section, the department may include effluent limits or standards (technology-based) less stringent than those required under (b)(1) of this section for no more than two years duration if the department finds that a permittee is using methods of pollution prevention, control and treatment found by the department to be the most technologically effective and economically feasible in controlling all wastes and other substances in the discharge but is unable to achieve compliance with Alaska Water Quality Standards at the point of discharge.

(f) In developing an effluent limit or standard under (e) of this section, the department shall

(1) require use of methods of pollution prevention, control, and treatment found by the department to be the most technologically effective and

economically feasible; and

(2) apply all other applicable provisions of state law and this section.

(g) When reissuing, renewing, or modifying a permit required under this section that was issued after the effective date of this bill section, the department may not include effluent limits or technology-based standards less stringent than the comparable effluent limitations in a previous permit issued under this section.

(h) Nothing in this section shall be construed to limit the authority of the department to

(1) restrict the areas in which discharges permitted under this section may occur; or

(2) impose additional terms and conditions on the manner in which discharges permitted under this section may be made in a specific area.

*** Sec. 4.** AS 46.03 is amended by adding a new section to read:

Sec. 46.03.464. Advisory panel on wastewater treatment; commissioner's reports to the legislature. (a) A science advisory panel is established in the department. The panel consists of 11 members selected by the commissioner. Members of the panel serve without compensation but are entitled to transportation expenses and per diem as authorized for members of boards and commissions under AS 39.20.180. Each of the individuals the commissioner selects will serve for up to a five-year period and have expertise in the design, operation, or function of wastewater management and treatment systems; among the 11 panel members, the commissioner shall select at least one individual from each of the following groups:

(1) coastal community domestic wastewater management;

(2) cruise ship industry;

(3) commercial fishing industry; and

(4) a non-governmental organization with an interest in water quality matters.

(b) The panel shall

(1) meet at the call of the commissioner and give public notice of meetings of the panel as required under AS 44.62.310 and 44.62.312;

(2) hold one or more public conferences or workshops before 2012,

with at least one public conference or workshop to be held between January 1, 2012, and January 1, 2015, if the department issues, renews, or modifies a permit required under AS 46.03.462(a)(1) after January 1, 2012; and

(3) assist and advise the commissioner in conducting the analyses and preparing the reports required in (c) and (d) of this section.

(c) On or before January 1, 2012, the commissioner, in consultation with the panel, shall provide a preliminary report to the legislature that summarizes

(1) methods of pollution prevention, control, and treatment in use and the level of effluent quality achieved by commercial passenger vessels;

(2) additional methods of pollution prevention, control, and treatment that could be employed to provide the most technologically effective and economically feasible measures to control all wastes and other substances in the discharge; and

(3) the environmental benefit and cost of implementing additional methods of pollution prevention, control, and treatment identified in (2) of this subsection.

(d) On or before January 1, 2015, the commissioner, in consultation with the panel, shall provide a final report to the legislature that includes the topics identified in (c)(1) - (3) of this section.

*** Sec. 5.** AS 46.03.465 is amended by adding a new subsection to read:

(h) On request, the owner or operator of a commercial passenger vessel discharging wastewater under AS 46.03.462(b) shall provide the department with information relating to wastewater treatment, pollution avoidance, and pollution reduction measures used on the vessel, including testing and evaluation procedures and economic and technical feasibility analyses.

*** Sec. 6.** AS 46.03.464 is repealed.

*** Sec. 7.** Section 6 of this Act takes effect ~~June~~ Jan 5 1, 2015.

*** Sec. 8.** Sections 1 through 5 of this Act take effect immediately under AS 01.10.070(c).

Y 1111
N 1

PASSED

26-LS0570\W.3
Bullard
4/10/09

AMENDMENT

OFFERED IN THE SENATE BY THE SENATE RESOURCES

TO: CSHB 134(RES), Draft Version "W" COMMITTEE

Page 1, line 11:

Delete "if the"

Insert ". The"

Page 1, lines 12 - 14:

Delete ", in consultation with its science advisory panel on wastewater treatment, determines that compliance with those limits or standards is the most technologically effective and economically feasible"

Insert "shall establish and consult with a science advisory panel on wastewater treatment to evaluate the most technologically effective and economically feasible treatment options."

Page 2, following line 18:

Insert a new bill section to read:

"* **Sec. 3.** AS 46.03.462(b), as amended by sec. 2 of this Act, is amended to read:

(b) The minimum standard terms and conditions for all discharge permits authorized under this section require that the owner or operator

(1) may not discharge untreated sewage, treated sewage, graywater, or other wastewaters in a manner that violates any applicable effluent limits or standards under state or federal law, including Alaska Water Quality Standards governing pollution at the point of discharge [, EXCEPT AS PROVIDED IN (e) OF THIS SECTION];

(2) shall maintain records and provide the reports required under

AS 46.03.465(a);

(3) shall collect and test samples as required under AS 46.03.465(b) and (d) and provide the reports with respect those samples required by AS 46.03.475(c);

(4) shall report discharges in accordance with AS 46.03.475(a);

(5) shall allow the department access to the vessel at the time samples are taken under AS 46.03.465 for purposes of taking the samples or for purposes of verifying the integrity of the sampling process; and

(6) shall submit records, notices, and reports to the department in accordance with AS 46.03.475(b), (d), and (e)."

Renumber the following bill sections accordingly.

Page 4, line 2:

Delete "2014"

Insert "2015"

Page 4, line 17:

Delete "2014"

Insert "2015"

Page 4, line 26:

Delete "AS 46.03.464 is"

Insert "AS 46.03.462(e), 46.03.462(f), and 46.03.464 are"

Page 4, line 27:

Delete all material and insert:

"* **Sec. 8.** Sections 3 and 7 of this Act take effect January 1, 2015."

Page 4, line 28:

Delete "Sections 1 through 5 of this Act take"

Insert "Except as provided in sec. 8 of this Act, this Act takes"

FISCAL NOTE

STATE OF ALASKA
2009 LEGISLATIVE SESSION

Fiscal Note Number: 1
Bill Version: CSHB 134(CRA)
(H) Publish Date: 2/18/09

Identifier (file name): HB134-DEC-WQ-02-13-09
Dept. Affected: Environ. Conservation
Title: Cruise Ship Wastewater Discharge Permits
RDU: Division of Water
Component: Water Quality
Sponsor: Representative Harris
Requester: House Community and Regional Affairs Committee
Component Number: 2062

Expenditures/Revenues (Thousands of Dollars)

Note: Amounts do not include inflation unless otherwise noted below.

	Appropriation Required	Information					
OPERATING EXPENDITURES	**FY 2010**	**FY 2010**	**FY 2011**	**FY 2012**	**FY 2013**	**FY 2014**	**FY 2015**
Personal Services							
Travel							
Contractual							
Supplies							
Equipment							
Land & Structures							
Grants & Claims							
Miscellaneous							
TOTAL OPERATING	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
CAPITAL EXPENDITURES							
CHANGE IN REVENUES ( )							

FUND SOURCE (Thousands of Dollars)

1002 Federal Receipts							
1003 GF Match							
1004 GF							
1005 GF/Program Receipts							
1037 GF/Mental Health							
Other Interagency Receipts							
TOTAL	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**

Estimate of any current year (FY2009) cost: 0.0

POSITIONS

Full-time							
Part-time							
Temporary							

ANALYSIS: *(Attach a separate page if necessary)*

HB 134 has no fiscal impact on the Department of Environmental Conservation.

Prepared by: Lynn J. Tomich Kent
Phone (907) 269-7599
Division: Water
Date/Time 2/13/09 3:00 PM
Approved by: Dan Easton
Date 2/13/2009
Deputy Commissioner

(Revised 9/10/2008 OMB)

Alaska State Legislature

Interim: (June-Dec)
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Session: (Jan-May)
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Representative John Harris

Sponsor Statement

CS for House Bill No. 134 (RES)

An Act relating to terms and conditions of commercial passenger vessel permits for wastewater discharges

The House Resources Committee Substitute for HB 134 represents a compromise to address the issue of permits for wastewater discharges from large commercial passenger vessels known as cruise ships.

In 2006, Alaska voters approved the cruise ship initiative that amended the law to require vessels to meet water quality standards at the point of discharge. Municipal wastewater systems and discharges from other commercial entities commonly use mixing zones, and smaller-sized vessels in Alaska are exempt.

In 2008, the Department of Environmental Conservation issued a general permit for all large cruise ships that provided a two-year period for vessels to meet standards at the point of discharge. DEC has also conducted a cruise ship technology conference on available treatments for discharges of ammonia and dissolved metals.

All sides on this issue agree that technology is unavailable now for onboard treatment of wastewater that allows vessels to meet all water quality standards at the point of discharge.

This bill addresses how the agency will permit wastewater discharges from vessels to allow for the time it takes to get the technology developed and installed onboard. It is important to keep in mind that cruise ships discharge cleaner wastewater than most municipalities, commercial entities, and all other Alaska vessels.

The House Resources Committee version of HB 134 establishes a reasonable compromise that will both protect Alaska waters and allow coastal communities the opportunity for cruise ships to stay in port longer.

Big Delta • Chickaloon • Copper Center • Delta Junction • Eielson • Farm Loop • Glenallen • Paxson • Salcha • Sheep Mountain • Sutton • Tolsona • Valdez

ALASKA CRUISE ASSOCIATION

April 10, 2009

Senator Lesil McGuire
Co-Chair, Senate Resources Committee
State Capitol, Room 9
Juneau, AK, 99801

Dear Senator McGuire:

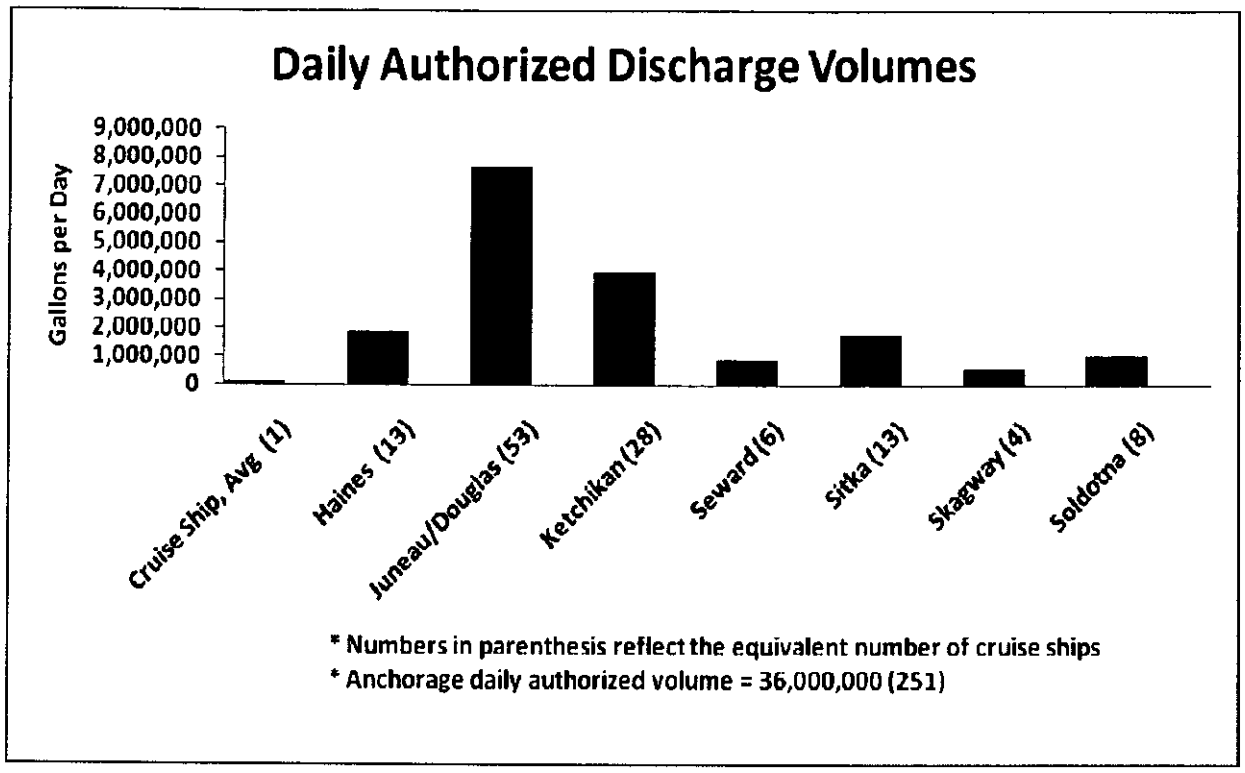
I am writing to address a number of the questions raised at Monday's Senate Resources Committee as well as correct the record regarding several incorrect statements made on HB 134.

You heard testimony that cruise ships travel in a parade and, "discharge millions of gallons each night in long hour and two hour long spurts." While this statement might work to incite extreme environmentalists, the facts show otherwise.

The amount of effluent produced by the ships' advanced wastewater systems is very small compared to municipal dischargers. Cruise ship discharges are mostly continuous; both while at dock and underway. This is primarily due to the belief that the quality of the effluent being the highest when it immediately comes out of the treatment system, thus precluding the possibility of bacterial re-growth when it is held in tanks. Tank capacities vary greatly by ship but according to responses to EPA's 2004 survey, graywater holding capacity ranges from 5 to 90 hours with an average holding capacity of 56 hours (http://www.epa.gov/owow/oceans/cruise_ships/pdf/section3_graywater.pdf). It should be noted that reaching capacity and holding also raises special considerations such as ballast and the safety and efficiency of the vessel.

All ships discharge different total volumes of effluent per 24 hours and at different rates of flow. The most definitive independent data is from the EPA. In 2004, EPA staff conducted an extensive study onboard ships in Alaska, using monitoring equipment to measure discharge volumes. The report can be found at http://www.epa.gov/owow/oceans/cruise_ships/results.html and reflects an average volume of 143,600 gallon per day. The chart below compares this average volume of ships to land based systems. You will see that it would take 53 ships in Juneau one time to equal the daily volumes that the municipal systems are permitted.

360 K Street, Suite 300 · Anchorage, Alaska · 99501 · (907) 743-4529 · (907) 743-4553 fax

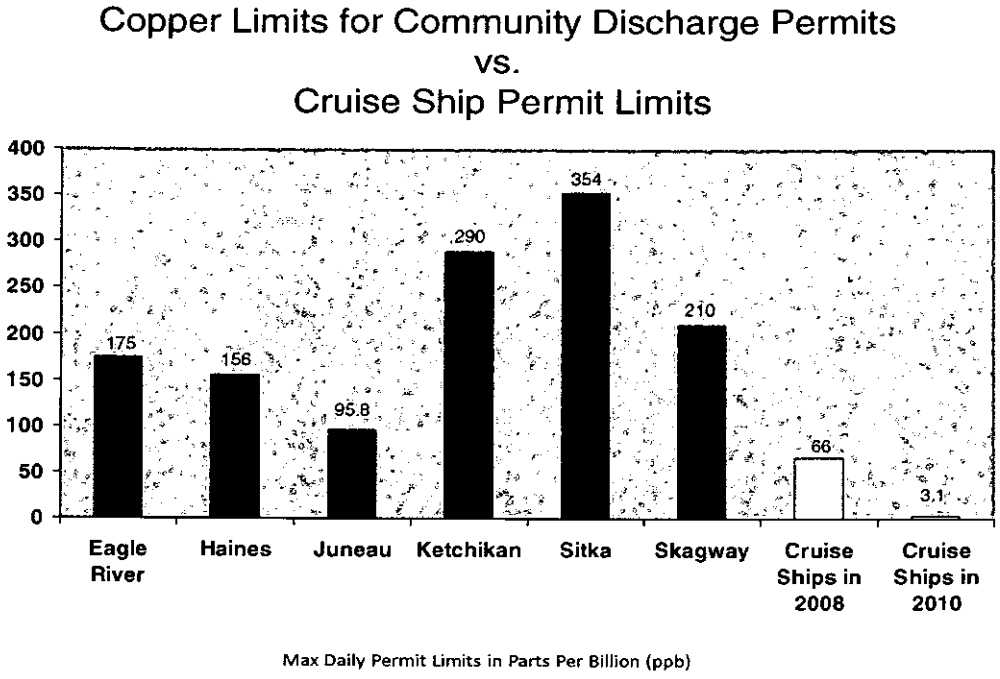


The quality of the effluent produced today by the ships' advanced wastewater system is very clean. Cruise ships have the most advanced and efficient wastewater treatment systems permitted in our state. For metals the quality of the effluent is based on many variables. One such variable is municipal drinking water that we purchase from Alaska communities. DEC's technology contractor, OASIS found that, "one main source appears to be water taken on board from municipalities and bunkered for use." A study of municipal water at selected ports showed Juneau with a maximum content of 280 parts per billion copper (average of sampling was 54). Skagway samples showed a maximum of 470 parts per billion of nickel (average of sampling was 28).

Port	Contaminant	Average	Maximum	Exceedance Rate
		Ppb	ppb	(% of samples)
Vancouver	Copper	20	120	77
Juneau	Copper	54	280	83
Seattle	Zinc	499	1500	63
Skagway	Nickel	28	470	29

If you look at the "at the point of discharge" standard required under the 2010 permit, you will find that discharges are only authorized to a maximum of 3.1 parts per billion copper and 8.2 parts per billion nickel. These levels are not only significantly lower than samples of municipal drinking water that is brought aboard the ships, they are significantly lower than authorized discharges from municipal wastewater systems. For example, Juneau is permitted to discharge

95.8 parts per billion copper, Eagle River is authorized 175 parts per billion copper and Ketchikan is permitted 290 parts per billion copper. Not one permitted facility in the State can meet the 2010 limits, nor are they being required to do so.



Chip Thoma, of Responsible Cruising in Alaska, stated to the committee that the 2002 Science Advisory Panel Report[1] was only "engineering" and "none of it was scientific." The record shows otherwise. The panel reviewed and developed conclusions of bioassays conducted in July 2002. The tests included sample effluent from five different ships and addressed the effect that simultaneous exposure has on an organism. In this test, organisms selected were representative of marine species most likely to be sensitive to the effluent. The results showed, "The various effluents tested and analyzed would be expected to impart no acute or chronic toxic effects to marine organisms at the high dilutions that occur when vessels are underway." Additional

[1] Panel members include:
Marlin Atkinson: Professor of Oceanography, University of Hawaii
C-J Beegle-Krause: Oceanographer, National Oceanic and Atmospheric Administration
Kenwyn George: Environmental Engineer for Wastewater Discharge for Alaska DEC
Kenneth Hall: Professor, University of British Columbia (Department of Civil Engineering and Institute for Resources and Environment)
Lincoln Loehr: Environmental analyst
Charles McGee: Laboratory Supervisor, Orange County (CA) Sanitation District
Alan Mearns: Senior Staff Scientist, Hazardous Materials Response Division, NOAA
Michael S. Stekoll: Professor of Chemistry and Biochemistry, University of Alaska
Michael Watson: Senior toxicologist for US Environmental Protection Agency
Dave Eley: President, Cape Decision International Services, Inc.

information can be found at:
http://www.dec.state.ak.us/water/cruise_ships/pdfs/sap_wettest_final.pdf. It is also important to note that this study was conducted prior to the installation of the current advanced treatment systems, which produce a much cleaner level of effluent.

A number of studies have been conducted to determine the effects of dilution. In 2002, the science advisory panel found that a large cruise ship discharging at a rate of 200 cubic meters per hour (typical for continuous discharge) and traveling at the minimum allowed speed of 6 knots, will have mixing greater than 50,000 to 1. In 2002 the EPA conducted a plume tracking study and found that ships traveling between 9.1 and 17 knots have a dilution factor of "200,000 to 640,000 to 1 immediately behind the boat." Based upon this information, the DEC has testified that treated effluent from large cruise ships' advanced wastewater treatment systems would meet Alaska's tough standards "almost instantaneously" when under motion.

Study	Conditions	Dilution
EPA Skagway Study, 2008	Stationary, slack tide conditions	65:1
DEC Science Panel, 2002	Minimum speed 6 knots	50,000:1
EPA Plume Study, 2001	Speeds between 9.1 and 17.4 knots	200,000:1 to 640,000:1

Sources: http://www.epa.gov/owow/oceans/cruise_ships/plume_dilution_sampling_report.pdf, http://www.epa.gov/owow/oceans/cruise_ships/plumerpt2002/plumereport.pdf, http://www.dec.state.ak.us/water/cruise_ships/pdfs/impactofcruiseship.pdf.

As I mentioned in my testimony, the industry would prefer the original version of HB 134 and its straightforward approach to leveling the playing field for all industries. However, the current version is reasonable. Specifically, we support the creation of a new science panel, the continued review of new technology and the anti-backsliding provisions. The current version will establish a process for DEC and industry to work cooperatively toward improving technology. The bill will also give DEC the authority to establish permit conditions such as excluding ports, sensitive marine areas, or minimum speeds for discharges.

I believe adding a sunset provision would be the wrong approach and have the opposite effect of what this bill is trying to accomplish. Individual cruise companies utilize different technology in their advanced wastewater treatment system. It is fair to say that even with the different systems, all the environmental departments believe they can make improvements. However, no one can predict when technology will be available to integrate into existing systems and prove to be effective 100% of the time in a marine environment. We have manufacturers of the systems now performing research and development with the cruise lines to improve their systems. We are told that there are no guarantees that a redesigned system will get all the way to the "end of pipe standard."

If a sunset is added to the bill and the authorization for DEC to permit a ship using the best available technology goes away, I am concerned that companies will not have any incentive to make major investments in advancing technology. Instead, we may see investment in alternatives such as increasing holding capacities and altering itineraries.

I thank you for your interest in understanding the science and technology of wastewater discharges. I would request that the bill move from the Senate Resources Committee unamended.

Sincerely,

John Binkley
President
Alaska Cruise Association

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STATE OF ALASKA
OFFICE OF THE GOVERNOR
JUNEAU

March 19, 2009

The Honorable John Harris
Alaska State Legislature
State Capitol, Room 403
Juneau, AK 99801

Dear Representative Harris:

Thank you for your letter requesting my help clarifying expectations for the Department of Environmental Conservation (DEC) should your legislation, known as HB 134, pass the Legislature and become law. I share your confidence in DEC's abilities and efforts, and agree that DEC officials are working hard to implement the best treatment technology as quickly as possible.

I would like to assure you, and anyone else interested in this issue, that in the event that this legislation passes, DEC will retain the ability to preserve and protect water quality through their existing permitting authority. While discharge permits could be modified to include mixing zones where appropriate, cruise ships would still have to obtain and comply with permits that will fully protect aquatic life and other uses of Alaska's waters. Permits could include a variety of conditions to ensure water quality is protected.

DEC would retain the authority to prevent backsliding by assuring that any standards currently achieved must continue to be met and would have the ability to mandate that the best and most feasible treatment technology be used. As you may know, DEC is aware of no technologies currently available for widespread shipboard use that would allow standards to be met. From DEC's technology conference held last month, it appears there are new waste reduction and treatment options that could become commercially available in the future. We want to encourage improvement, and continue to explore these options.

I appreciate your interest and efforts in this issue and hope this information is helpful as you continue hearings on this legislation.

Sincerely,

Sarah Palin
Governor

4638

Alaska State Legislature

Interim: (June - Dec.)
716 West 4TH Avenue, Suite 600
Anchorage, Alaska 99501-2133
(907) 269-0129
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Session: (Jan. - May)
State Capitol, Room 403
Juneau, Alaska 99801-1182
(907) 465-4859
Fax (907) 465-3799

REPRESENTATIVE JOHN HARRIS

March 11, 2009

Governor Sarah Palin
Office of the Governor
Juneau, Alaska

Subject: Large Commercial Passenger Vessel Wastewater Discharge Permits

Dear Governor Palin:

This is to call your attention to legislation relating to wastewater discharge permits for large passenger vessels operating in state waters. Policy direction from your office would be helpful to the legislature, coastal communities, vessel owners, and many interested individuals toward resolving this issue.

House Bill 134 would provide the Department of Environmental Conservation with the same authority to regulate wastewater discharges of large vessels that it has with other entities. Current law – which was established by voter initiative in 2006 – requires testing of vessel wastewater specifically at the point of discharge.

Testing at the point of discharge imposes a different methodology than that which exists for any other industry or municipality in Alaska. For example, mining operations, seafood processing, and coastal communities have their discharges tested at a reasonable distance away from the discharge point. Be that as it may, clean water itself should be our standard, and if someone is polluting our waters, then DEC must step in and stop them.

In spite of the initiative's language, DEC issued a general permit for all large commercial passenger vessels on March 25, 2008 that provides interim effluent limits and recognizes that vessels need time to make changes to their operations or equipment. The compliance schedule provides a deadline of 2010 to fully meet new standards for ammonia, copper, nickel, and zinc.

I believe this first discharge permit was a good first step. It complies with the citizens' initiative, and it establishes a reasonable approach toward developing vessel treatment systems that will keep our marine water clean.

Two bills have already been signed into law that have amended the citizens' initiative. One, by former Sen. Kim Elton, removed state ferries and other vessels of similar size from the initiative's requirements. Another, by Rep. Lindsey Holmes, removed certain passenger disclosure provisions. HB 134 – if enacted – would not be the first change to the initiative.

As the prime sponsor of HB 134, I have confidence that DEC is fully qualified to evaluate the best available methods and technologies and apply them to the operational permits that cruise ships must obtain. A technology session recently held by DEC revealed several approaches that could result in protecting Alaska waters; however, it found that not all systems could work on all vessels, not all vessels could discharge to shore, and all this is a developing field needing further evaluation by DEC. The bottom line is that your administration is working right now toward bringing the best treatment systems possible on board vessels as quickly as possible.

By having confidence in DEC's ability and efforts, I sponsored HB 134. Giving the agency broad authority does nothing to diminish water quality standards. Its officials are working hard to implement the best treatment technology as quickly as possible, and they will hold vessels to high water quality standards.

Unless a bill is enacted this session that amends the testing requirement "at the point of discharge," both large commercial passenger vessels and DEC will face a difficult decision. Either the agency will have to continue to issue permits that don't meet the requirements of the citizens' initiative or large commercial passenger vessels will have to abide by standards for which technology is not now available.

HB 134 returns that authority to the agency. Your support for the legislation will convey your confidence that the agency will do the job that we expect it to do.

Thank you for your time and consideration of this important issue.

Sincerely,

Representative John Harris

cc: Commissioner Larry Hartig, Department of Environmental Conservation
Jerry Gallagher, Legislative Director, Office of the Governor

CSAW
Campaign to Safeguard America's Waters

Earth Island Institute

4/5/09

Madame Chairman and Members of the Senate Resources Committee,

Thank you for this opportunity to testify today on HB134. My name is Gershon Cohen Ph.D., I am a 25-year resident of Haines, Alaska. I am one of the co-sponsors and drafters of the Alaska Cruise Ship Ballot Initiative (CSBI) that became law by a majority vote of Alaskans in 2006.

I urge you to adopt several key amendments to the current bill so that it may be supportable by all sides of this debate:

First and foremost, there must be a reasonable sunset date for closure of the WQS waiver program included in the bill or it will fail two fundamental tests: (1) adequate protection of our State marine resources, and (2) respecting the intent of Alaskans who voted in a clear majority in 2006 to pass the cruise ship ballot measure. CSBI sponsors have never challenged DEC decision to give the industry a reasonable timeframe for compliance provided the ships make an honest effort to comply with the law. But without a meaningful deadline, any incentive to improve their performance will simply disappear.

Second, the intent language in Section 1 implies, if not provides, an inappropriate level of power to an appointed body over the actions of DEC. The role of the Science Panel is to assist DEC in its examination of wastewater treatment technologies. No decision by the department should be in any way dependent on this consultation. It must be clear DEC is free to accept or reject the panel's findings without prejudice and make its own decisions. The simple way to achieve this is to end the sentence in Section 1, line 11 with a period after the word "discharge." The following sentence can read, "The Department of Environmental Conservation shall establish a science advisory panel to assist the Department in its evaluation of technologically effective and economically feasible wastewater treatment options."

Third, DEC stated in its Feb. 16, 2009 *Draft Feasibility Study: Reducing Concentrations of Dissolved Metals and Ammonia in Large Passenger Vessels Wastewater Discharges* that technologies exist capable of achieving all State WQS at the point of discharge. DEC staff further stated in their report of March 2, 2009 *Water Division Staff's Status Report* that only 4% of the samples taken in 2008 violated interim permit limits and ~1/3 of the time cruise ships were already meeting the long term limits without a mixing zone. Obviously, full compliance is not only possible it is already being achieved by some members of the fleet. We therefore recommend the timing for the workshops and reports from the Science Panel described in Section 4 be accelerated by one year. Under the current proposed schedule, most if not all ships will be capable of complying with the law before the Science Panel holds a public workshop, which would defeat its purpose of helping to inform the debate over which technologies are the most effective and feasible.

If the committee is willing and able to amend HB134 to the effect described above, the sponsors of the Alaska Cruise Ship Ballot Initiative will stand in support of this legislation.

Sincerely,

Gershon Cohen Ph.D., Project Director, CSAW
Co-sponsor CSBI

gershon@aptalaska.net Box 956 Haines, AK, 99827 Ph: 907-766-3005 Fax: 766-2921 www.earthisland.org/c-saw

Anchorage Daily News
August 16, 2006
Section: Alaska
Page: B6

Opinion

Vote yes, then fix it This may be the only way to get cruise industry to pay something

There is something for everyone in Ballot Measure 2, the citizens initiative on Tuesday's primary election ballot to impose new taxes and fees, stricter environmental rules and consumer disclosure requirements on the cruise ship industry. And there are problems with almost every one of the provisions.

But the indigestion is worth it. That's why we recommend a yes vote. Then get ready for litigation and legislative battles to fix the problems and, we hope, after a couple of years, Alaska will be left with a workable, fair set of laws.

Our fear is that unless Alaska stands up and forces the issue this election, the cruise industry will not willingly pay toward all the services it and its almost 1 million passengers a year enjoy while in our state. Though they are very good at donating millions of dollars to charities and other nonprofits, the cruise lines have been equally strong in battling against state and local taxes and fees.

For example, the industry mischaracterized a 2005 economics study, claiming in its campaign material: "The cruise industry pays over $42 million annually in taxes to local governments in Alaska." Not quite. Passengers and crew paid an estimated $17.4 million in local sales taxes. Passengers paid an estimated $6.4 million in local hotel taxes. Cruise lines paid $14.6 million in fees to tie up at local ports, essentially reimbursement for costs. That leaves just $4.5 million the cruise companies actually paid from their own corporate pockets in local property taxes and sales taxes.

That doesn't cut it. Not for an industry that profits from carrying a million passengers to Alaska each year. Without Alaska and all that it offers, there would be no cruises.
The $4.5 million is less than the state collects in rental car taxes, a significantly smaller industry.

The ballot measure would amend state law to require that cruise lines pay corporate income taxes on their shipboard profits, just like any other business making money in Alaska. The cruise industry would have been subject to income taxes under a 1998 Alaska Supreme Court ruling, but it successfully lobbied the Legislature and governor's office to adopt a law retroactively exempting it from the tax.

Also, the initiative's $4 fee per passenger to pay for onboard state observers to monitor pollution is a good dose of preventive medicine.

Were those the only issues in the ballot measure, this would be an easy yes vote.

The $46 fee per passenger for the right to come into Alaska might not survive a legal challenge, though a reasonable "head tax" to cover state and city waterfront- and passenger-related expenses is appropriate and legally defensible. And the initiative's provision allowing Juneau and Ketchikan to maintain their own passenger fees on top of the state's fee defeats the idea of a single set of laws.

The provision requiring cruise lines to disclose in big type the commission they earn for selling bus tours, flightseeing tours and such seems like piling on in a measure already heavily weighted with revenge against the companies.

And the 33 percent tax on cruise ship gambling revenues is excessive. Whatever the social ills of gambling aboard the ships, those costs don't fall on Alaska.

One other reason to dislike the initiative is that it taxes only Outsiders, reinforcing the embarrassing attitude of many Alaskans that everyone should pay taxes but us. The solution to that dilemma is not to defeat this initiative but rather to convince Alaskans that they too should pay something toward the public services they enjoy.

The state constitution prohibits legislators from quickly repealing the initiative if it passes, but it allows them to amend the provisions. Between legislative amendments and some wise court decisions, we hope Alaska and the cruise lines can end up with a reasonable set of laws before too much damage is done to one of our few growing industries.

It's an awful lot in one ballot measure. Maybe too much, and maybe it will cause the industry to threaten cutting back its ships' time in Alaska. It has done just that when cities have imposed or even talked about adopting passenger fees. We believe that's the risk of showing the industry that Alaskans are tired of being taken for granted.

BOTTOM LINE: Ballet Measure 2 looks like the only way to get the cruise industry's attention.

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Anchorage Daily News

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Our view: Cruise law amendment

Cut ships a qualified break

(02/16/09 18:49:38)

The cruise industry finally found its champion to knock five words out of the 2006 cruise ship initiative. Former House Speak John Harris, R-Valdez, is sponsoring legislation to amend the initiative-passed law by deleting this phrase: "At the point of discharge."

What difference does it make

The amendment would allow the Alaska Department of Environmental Conservation to issue permits to cruise ships for wastewater discharge that in effect allows a mixing zone, whereby pollution is measured after it hits the water and is diluted. That's a standard allowed for shore-based sewage treatment throughout the state.

As it stands now, cruise ships have to meet discharge rules stricter than any other operation in Alaska. They can meet them in most categories, except for copper and ammonia. Even in those cases, their effluent is cleaner than what DEC allows sewage treatment plants.

The initiative is clear -- no mixing zones. So the cruise industry wants DEC to have the authority to cut them some slack.

That's fair -- to a point.

Already, to the chagrin of cruise initiative backers like Gershon Cohen, DEC has granted the industry until 2010 to meet the strict pollution standards. Industry spokesmen like John Binkley of the Alaska Cruise Association argue that even that extension isn't enough, and that furthermore, no science shows that the ships' effluent is harming marine life. Cohen argues that no science shows it isn't.

Binkley counters Cohen's assertion that the industry hadn't really tried to meet the copper and ammonia standards, saying the industry is working on it.

Cohen and his allies make no bones about the fact that they are pushing the industry to the leading edge of pollution control, forcing cruise ships to accelerate development and installation of technologies that shore-based, tax-supported facilities can't afford. Why Because, they say, the industry can afford it. And their goal harks back to the original intent of the federal Clean Water Act, which was to eventually measure all pollution control at the point of discharge.

It's a good push to make, but you have to know when to ease off.

So we yes to the Harris amendment, but with this addition -- require both the cruise industry and DEC to report on the latest practical technologies for the cleanest effluent, and give DEC the authority to require those, at least as pilot programs, within a reasonable time frame.

We're confident Cohen and his allies will help keep DEC and the industry up to date on what's

available.

The initiative will keep its teeth, but delay its bite. And the cruise industry can prove that it's making a genuine effort to meet stricter standards.

The idea here is simple. Don't let the perfect be the enemy of the good; cruise pollution controls are vastly improved over 10 to 15 years ago. What they discharge is much cleaner than what Alaska cities pour into Alaska waters every day. Give the cruise lines some leeway.

But not too much; cruise lines cleaned up their acts because people and prosecutors demanded they do. Pressure helps.

If the perfect can be done, let's do it. Meet point-of-discharge rules and all the mixing zone math becomes moot. And Alaska's waters benefit.

BOTTOM LINE: Give cruise lines a little latitude on initiative's pollution standards -- but not too much.

Do not call

Legislature should add cell phones to phone soliciting law

A small but worthwhile bill before the Legislature would make it a violation of state law to make unwanted solicitations to cell phones.

You can already register cell phones as well as land lines on the national "do not call" list, at www.donotcall.gov. That makes unwanted phone solicitation a federal violation.

House Speaker Mike Chenault of Nikiski and several others from both major political parties are sponsoring a bill to make such calls to cell phones against state law as well.

The bill makes it clear that Alaskans can rely on state statute for protection from telemarketers, as well as the federal government.

BOTTOM LINE: It's good that the state is updating its phone solicitation law to cover cell phones.

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Anchorage Daily News Editorial 3/25/09

KEEP WATCH: Cruise lines need deadlines

Lawmakers and state officials were still working Tuesday on a bill to give cruise lines more time to meet strict pollution standards in Alaska waters.

More time for cruisers to comply is fair. More devilish are the details of just how long to let the clock run and how to measure progress. First priority: Keep the pressure on.

Backers of the Cruise Ship Ballot Initiative of 2006 have suggested one-year waivers on some discharges for up to three years, provided the cruise lines make progress toward meeting the standards required by the initiative.

Another suggestion has been to let the waiver period run up to five years.

We're not going to quibble about three years or five -- provided the cruise lines have to show progress each year on meeting the stricter standards. In other words, give waivers a year at a time and only when both good-faith effort and the need for more time to comply are clear.

Don't allow a blank check for five years. Or even three. Why allow the time at all? Hard-nosed backers of the initiative argue that cruise companies have spent more energy lobbying for changes than trying to comply since 2006.

Maybe so, but the fact is that cruise ships are spewing far less pollution than they were 10 years ago. They already discharge cleaner water than shore-side sewage treatment plants do. Even with more time, their discharges are less harmful to the marine environment. And cruise ships have the option of detouring to discharge in federal waters, where standards are less strict.

It's better for all hands, and for marine life, if Alaska can drive the stricter standards to become the norm. That keeps our waters clean and raises the bar beyond our borders.If a few more years will get us there, such cleaner cruising is worth the wait.

But keep the waivers conditional, and the heat on.

BOTTOM LINE: Cruise ship bill should allow more time, but no free time.

Department of Environmental Conservation
Testimony before the Senate Resources Committee
on CS HB 134(RES) Bill Version 26-LS0570\W
April 6, 2009

Introduction

DEC appreciates Representative Harris and the Co-chairs of the Senate Resources Committee giving DEC the opportunity to provide input on CS HB 134 (RES). Over the past few weeks DEC has worked with Representative Harris and the Co-chairs of the House Resources Committee on the bill.

This is an important bill. As it is currently written, A.S. 46.03.462 requires large commercial passenger vessels to treat their waste water to meet all state water quality standards at the point of discharge. As worthy of a goal as this is, cruise ships are not able to meet this high standard despite using the best technology available to them. They either have to hold their treated waste and discharge it outside of state waters, or discharge it in violation of the standard.

DEC believes CS HB 134 (RES) strikes an appropriate and environmentally-protective balance, giving cruise ships limited relief from a standard they cannot currently meet, while pressing forward in a logical and effective manner towards finding technologies that can achieve water quality standards at the point of discharge.

At the point of Discharge Requirement

CS HB134 (RES) retains the requirement adopted by a citizen's initiative for waste water discharges from large cruise ships to meet Alaska water quality standards "at the point of discharge," but allows DEC to grant exceptions under section 3 (e) where cruise ships, despite employing the **most technologically effective and economically feasible** pollution prevention, control and treatment measures, cannot currently meet this standard.

The discharges would still have to meet all other DEC regulatory requirements. The environment will still be protected while industry works to meet the "at the point of discharge" standard for all pollutants.

Technology Forcing Requirements

The bill includes significant technology forcing requirements that are designed to ensure cruise ships make continuous progress towards meeting the Alaska water quality standards at the point of discharge.

1. When issuing or re-issuing permits the department would need to determine that a permittee is using the most effective methods of pollution prevention, control and treatment that are technologically and economically feasible, but the permittee is still unable to meet the water quality standards at the point of discharge; and

2. DEC would:

- Convene a science advisory panel of select experts to advise the Department on methods to reduce sources of contaminants and on current and emerging treatment technologies for the onboard or onshore treatment of wastewater form cruise ships.
  (The advisory panel includes 11 members, with at least one member appointed from the following groups:

  - Coastal community domestic wastewater management;
  - Cruise ship industry;
  - Commercial fishing industry; and
  - A non-governmental organization with an interest in water quality matters.

- In conjunction with the advisory panel, DEC will:

  - Hold one or more technology conferences to look at progress in treatment technologies, again, including both on-board and on-shore options. (Currently, DEC is requiring cruise ships to provide periodic "Source Reduction Evaluation" reports describing their efforts to reduce pollution in their treated waste water. Section 5 of CS HB 134 (RES) includes authority for DEC to require cruise ships to also provide their technical and economic feasibility analyses of different waste prevention, control and treatment options);
  - Evaluate the quality of waste water effluent the cruise ships have been able to achieve;
  - Estimate timeframes for implementation of new technologies based on the technical requirements and economic factors;
  - Evaluate potential economic impacts to transitioning to new technologies; and
  - Evaluate the environmental improvements and costs anticipated from the new technologies.

DEC will provide an interim report to the legislature in January 2012 and a final report in January of 2014 which provides an opportunity for the legislature to evaluate the progress and determine if any additional changes should be made to the statutes prior to the 2014 cruise ship season.

Anti-backsliding

The cruise ship industry in Alaska has been able to achieve a relatively high quality effluent already. They are meeting state water quality standards "at the point of discharge" for many pollutants. The pollutants that have been more difficult to reduce or remove are ammonia, copper, and to a lesser degree nickel and zinc. Even here, some vessels have come close to meeting the "at the point of discharge" requirement.

The anti-backsliding provision in the bill at section 3 (g) (page 3, line 3) prohibits DEC from relaxing an effluent limit established in a previous permit, ensuring that any gains made in improving wastewater quality will be maintained.

DEC anticipates, if HB 134 passes, it will be issuing a modified general permit for cruise ship wastewater that reflects the changes called for under the bill. Once that permit is modified, the "anti-backsliding" requirement in section 3 (g) of the bill would assure that any ground already gained in reducing pollutants in wastewater discharges from cruise ships would not be lost.

Under the permitting structure established in HB 134, the Department will impose the stricter effluent limits as technology becomes available. For example, if the cruise ships can achieve the water quality standards for ammonia before technology is available for the metals, the stricter standard for ammonia will be imposed via permit. The stricter standards for metals will be imposed when the technology becomes available. The Science Advisory Panel and technology conferences will assist the Department in forcing technology development and in determining when technologies are available.

Future Action

At the start of the 2014 Legislative Session, the Legislature will have DEC's final report regarding on-board and on-shore treatment technologies applicable to treating wastewater from cruise ships. It will also know the track record on what the cruise ship industry has been able to achieve to date and the time and estimated economic impacts of implementing any additional new treatment technologies.

The Legislature can modify AS 46.03.462 to impose any appropriate requirements as to those pollutants that may still not be treated to the "at the point of discharge" standard, or if the Legislature believes DEC's existing

requirements are sufficient, it could leave the existing requirements in place. Under section 6 of the amended bill, the Science Advisory Panel would sunset.

It is important to understand that under this amended bill, cruise ships would continue to be subject to the anti-backsliding requirement. They would also be required, at a minimum to use "the methods of pollution prevention, control, and treatment found by the DEC to be the most effective and reasonable." Finally, they would still have to meet all of the other permitting requirements of DEC.

Fiscal Impact

DEC anticipates it would not need an increment or new positions in FY 2010. An increment might be needed for work in later years, but DEC would try to fund all work out of cruise ship registration fees. This was the funding source for past studies and ongoing permitting costs.

Conclusion

Again, DEC appreciates the opportunity to provide input on the amendment.

HB

162

SENATE COMMITTEE REPORT

DATE: 4/16/09

FURTHER: Finance

DATE TURNED
IN TO OFFICE: _____

Resources Committee considered HOUSE BILL NO. 162

HB 162 SOUTHEAST STATE FOREST

"An Act establishing the Southeast State Forest and relating to the Southeast State Forest; and providing for an effective date."

and recommends:

[ ] be **replaced** with [ ] **SCS** or [ ] **CS** _____ (_____)

[ ] adopt **previous** [ ] **SCS** or [ ] **CS** _____ (_____)

[ ] attached amendment(s)

[ ] adopt _____Letter of Intent

[ ] further referral to _____Committee

SENATE BILL:
[ ] Same Title
[ ] New Title

HOUSE BILL:
[ ] Same Title
[ ] Technical Title Change
[ ] New Title w/ SCR #_____

NEW FISCAL NOTE(S):

Department	Date	Fiscal	Indet.	Zero	FN#

PREVIOUS FISCAL NOTE(S):

Department	Date	Fiscal	Indet.	Zero	FN#

[ ] **APPROPRIATION - no fiscal note**

SIGNATURES AND RECOMMENDATIONS:	PRINTED LAST NAME	DO PASS	DO NOT PASS	NO REC	AMEND
	French			✓	
	WAGONER	✓			
	STOLTMAN	✓			
	SCOTT	X			
	HUGGINS	X			
CO-CHAIR:	Wielechowski	✓			
CO-CHAIR:					

FISCAL NOTE

STATE OF ALASKA
2009 LEGISLATIVE SESSION

Fiscal Note Number: 1
Bill Version: HB 162
(H) Publish Date: 3/2/09

Identifier (file name): 0012-DNR-FOR-02-09-09
Title: Southeast State Forest
Sponsor: Rules Committee
Requester: Governor

Dept. Affected: Natural Resources
RDU: Resource Development
Component: Forest Management & Development
Component Number: 435

Expenditures/Revenues (Thousands of Dollars)

Note: Amounts do not include inflation unless otherwise noted below.

	Appropriation Required	Information					
OPERATING EXPENDITURES	**FY 2010**	**FY 2010**	**FY 2011**	**FY 2012**	**FY 2013**	**FY 2014**	**FY 2015**
Personal Services	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Travel	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Contractual	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Supplies	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Equipment	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Land & Structures	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Grants & Claims	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Miscellaneous	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL OPERATING	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
CAPITAL EXPENDITURES	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
CHANGE IN REVENUES ( )	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
FUND SOURCE							(Thousands of Dollars)
1002 Federal Receipts	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1003 GF Match	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1004 GF	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1005 GF/Program Receipts	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1037 GF/Mental Health	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Other Interagency Receipts	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**

Estimate of any current year (FY2009) cost: 0.0

POSITIONS

Full-time	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
Part-time	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
Temporary	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**

ANALYSIS: *(Attach a separate page if necessary)*

This bill establishes a 25,291-acre State Forest in Southern Southeast Alaska by redesignating certain state-owned parcels. A timber management plan would be developed to actively manage the parcels for higher timber volumes per acre, shorter rotations and less impact on wildlife. This would involve thinning young second-growth stands; a long-term investment not justified for undesignated lands.

Implementation of this bill will not require new positions or funding. The bill will have no short-term impact to the revenue stream, but will provide for long-term increases in forest productivity and subsequent increased timber revenues.

Prepared by: Chris Maisch, Director
Division: Division of Forestry
Phone: 451-2660
Date/Time: February 9, 2009

Approved by: Tom Irwin, Commissioner
Natural Resources
Date: February 9, 2009

(Revised 9/10/2008 OMB)

Briefing: **HB 162**

Southeast State Forest

DEPARTMENT OF NATURAL RESOURCES -- DIVISION OF FORESTRY

Alaska Department of NATURAL RESOURCES

January 24, 2010

Background. The state Department of Natural Resources manages over 156,000 acres of forest land in Southern Southeast (SSE) Alaska. Of this land, timber management is allowed on approximately 49,000 acres. The state actively manages this timber base to supply wood to local processors. Remaining land is designated primarily for other uses including land sales, recreation, water resources, and fish and wildlife habitat, including over 25,000 acres of legislatively designated state parks, refuges, and public use areas.

In SSE, demand for state timber exceeds supply. The majority of timber in SSE is on federal land, but federal timber sales have declined drastically. Local mills now depend heavily on state timber for survival. The state is committed to finding long-term solutions by:

- maximizing the sustainable supply of timber from the small state timber base.
- working with the US Forest Service to increase economically feasible federal timber sales, and
- accelerating the transition from old-growth harvesting to harvesting second-growth.

There is broad support for shifting timber harvesting in SE Alaska from old growth to second-growth stands. Actively-managed second-growth stands provide more timber volume per acre on shorter rotations, and have less impact on wildlife. Much of the state timber land was inherited from the USFS with young second-growth stands. We can accelerate the shift to second-growth harvesting and increase timber volume on state land by thinning these stands. However, thinning is a long-term investment, and is only justified if the land will continue to be available for forest management. Legislatively designating a State Forest would ensure that some land will remain available for long-term forest management.

Purpose. This bill would establish a new Southeast State Forest from state lands presently used for timber harvest. The Division of Forestry will be able to manage the State Forest for a long-term supply of timber to local processors, and retain the land in state ownership for multiple uses.

Proposed State Forest land. The proposed Southeast State Forest includes 20 parcels totaling approximately 25,291 acres (see chart). Parcels are General Use lands on Prince of Wales, Tuxekan, Kosciusko, Heceta, Revilla, and Gravina islands, and on the mainland at Crittenden Creek. The Division of Forestry worked with the Division of Mining, Land, and Water Management to identify and exclude lands that are priorities for the state land disposal program.

State Forest Management. The Southeast State Forest would be managed as part of the State Forest System under AS 41.17.200-.230. Lands in the State Forest would continue to be open for multiple uses, including wildlife habitat and harvest and recreational activities. State Forest lands would be managed consistent with the management intent under the current Prince of Wales Island and Central Southeast area plans. Changes to management intent would require public and interagency review through adoption of a State Forest Management Plan under AS 41.17.230.

Municipal Entitlements. The City and Borough of Wrangell boundary encompasses three parcels in the proposed state forest (Crittenden Creek and Bradfield Canal East and West). A State Forest designation will not affect the amount or location of land the Wrangell Borough can select. That determination is based on the maximum total acreage of vacant, unappropriated, unreserved land in the borough boundaries within two years after the date of incorporation (AS 29.65.030). However, a borough would not normally be able to select land within a State Forest. To avoid conflicts with the Wrangell entitlement, the Southeast State Forest bill specifies that the Wrangell Borough may select State Forest land within the borough boundary.

If new municipalities are incorporated before June 30, 2019, lands that were vacant, unappropriated, unreserved land before establishment of the State Forest will be included in the calculation of the municipal entitlement acreage, but may not be selected.

PROPOSED SOUTHEAST STATE FOREST			
Planning Unit	**Acreage**	**General Location**	**Island**
Prince of Wales Island Area Plan			
4a	1,528.21	El Capitan – North	Prince of Wales
4a	600.44	El Capitan – South	Prince of Wales
6a	1,558.11	Coffman Cove – West	Prince of Wales
6a	320	Coffman Cove – East	Prince of Wales
7b	200	Tuxekan – East	Tuxekan
7c	436.89	Naukati – North	Prince of Wales
7c	640	Naukati – South	Prince of Wales
8b	480	Kosciusko/Edna Bay – North	Kosciusko
8b	2,199.84	Kosciusko/Edna Bay – South	Kosciusko
10a	1,257.92	Heceta Island – West	Heceta
10a	752.8	Heceta Island – East	Heceta
11a	744.32	Control Lake	Prince of Wales
11c	2,040	Thorne Bay – North	Prince of Wales
11c	840	Thorne Bay – South	Prince of Wales
Central Southeast Area Plan			
K-04	324.20	Traitors Cove	Revillagigedo
K-33	901.03	Gravina/Vallenar	Gravina
K-41	4,977.38	Gravina/Bostwick	Gravina
W-01	3,087.72	Crittenden Creek	Mainland
W-19	624.15	Bradfield Canal – West	Mainland
W-20	1,778.56	Bradfield Canal – East	Mainland
TOTAL	**25,291.14**	**20 parcels**	

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January 22, 2010

Senator Lesil McGuire, Co-Chair
Senator Bill Wielechowski, Co-Chair
Senate Resources Committee
Alaska State Legislature, State Capitol
Juneau, AK 99801

RE: HB 162-An Act to Establish the Southeast Alaska State Forest

Dear Senators McGuire and Wielechowski:

The Resource Development Council (RDC) is writing to support HB 162, the establishment of the Southeast Alaska State Forest.

RDC is a statewide, non-profit, membership-funded organization founded in 1975. The RDC membership is comprised of individuals and companies from Alaska's oil and gas, mining, timber, tourism, and fisheries industries, as well as Alaska Native corporations, local communities, organized labor, and industry support firms. RDC's purpose is to link these diverse interests together to encourage a strong, diversified private sector in Alaska and expand the state's economic base through the responsible development of our natural resources.

The bill would establish a new state forest in Southeast Alaska from state lands presently used for timber harvest. The Division of Forestry would be able to manage the state forest for a long-term supply of timber to local processors, and retain the land in state ownership for multiple use. The forest would be managed as part of the State Forest System and under the current Prince of Wales Island and Central Southeast area plans.

In Southeast Alaska, demand for state timber exceeds supply and local mills are dependent on a consistent supply to stay in business. The majority of the timber in Southeast Alaska is on federal land, but federal timber sales have declined sharply. Subsequently, the demand for state timber from local mills has increased significantly.

Much of the proposed forest was inherited from the U.S. Forest Service with young second-growth stands. There is broad support for shifting timber harvesting in Southeast Alaska from old growth to second growth stands. Establishment of the Southeast Alaska State Forest will help provide a sustainable timber supply to local mills and accelerate the harvest of second-growth timber. Actively managed second-growth stands will provide more timber volume per acre on shorter rotations.

The shift to second-growth harvesting can be accelerated and timber volume increased on state land by thinning these stands. However, thinning is a long-term investment and is only justified if the land will continue to be available for forest management. A legislatively designated State Forest would ensure that land would remain available for long-term forest management.

RDC encourages your committee to support HB 162. Thank you for the opportunity to provide comments on this important legislation.

Sincerely,

RESOURCE DEVELOPMENT COUNCIL
For Alaska, Inc.

Carl Portman
Deputy Director

121 West Fireweed Lane, Suite 250, Anchorage, Alaska 99503-2035
Phone: 907-276-0700 Fax: 907-276-3887 Email: resources@akrdc.org Website: www.akrdc.org

Alaska Society of American Foresters

February 18, 2010

Chris Maisch, State Forester
Alaska Division of Forestry
3700 Airport Way
Fairbanks, AK 99709

Dear Mr. Maisch,

The Alaska Society of American Foresters strongly supports the adoption of House Bill 162: "An Act establishing the Southeast State Forest and relating to the Southeast State Forest; and providing for an effective date" and the corresponding Senate Bill 127.

The Alaska Society is a state chapter of the national Society of American Foresters (SAF), the national scientific and educational organization representing the forestry profession in the United States. The Alaska SAF's support of House Bill 162 parallels the SAF Core Values:

- Forests are a fundamental source of global health and human welfare,
- Forests must be sustained through simultaneously meeting environmental, economic, and community aspirations and needs,
- Foresters are dedicated to sound forest management and conservation, and
- Foresters serve landowners and society by providing sound knowledge and professional management skills

The Alaska SAF supports the establishment of the southeast state forest as it promotes continued timber and resource management in Southeast Alaska. In doing so, state forests support timber production, wood energy, recreation, habitat and jobs. Formal designation as a state forest provides the incentive for the Alaska Division of Forestry to invest in management of these lands for their multiple benefits to the community and natural resources of the region.

Furthermore, the Alaska SAF concurs with the Juneau Chapter of SAF in its Resolution attached.

Sincerely,

Sue Rodman, Chair
Alaska Society of American Foresters

Enclosure

Resolution

Whereas the majority of timber in SE Alaska is on federally owned National Forest land, harvest of which has drastically declined and local mills are heavily dependent on sale of state timber, and;

Whereas the state is committed to maximizing the sustainable supply of timber from the small state timber land base, and;

Whereas, there is broad support for shifting timber harvesting in SE Alaska from old growth to young growth stands, which yield higher volumes per acre on shorter rotations, and have less impact on wildlife, and;

Whereas, much of the state timber land was conveyed from the federal government with young growth stands, the shift from old growth to young growth harvest can be accelerated by thinning these stands, and;

Whereas, thinning and subsequent young growth management constitutes long-term investment, it is only justified if the land will continue to be available for forest management, and;

Whereas land designated as State Forest would ensure that some land will remain available for long-term management for multiple uses including the supply of timber to local processors, and;

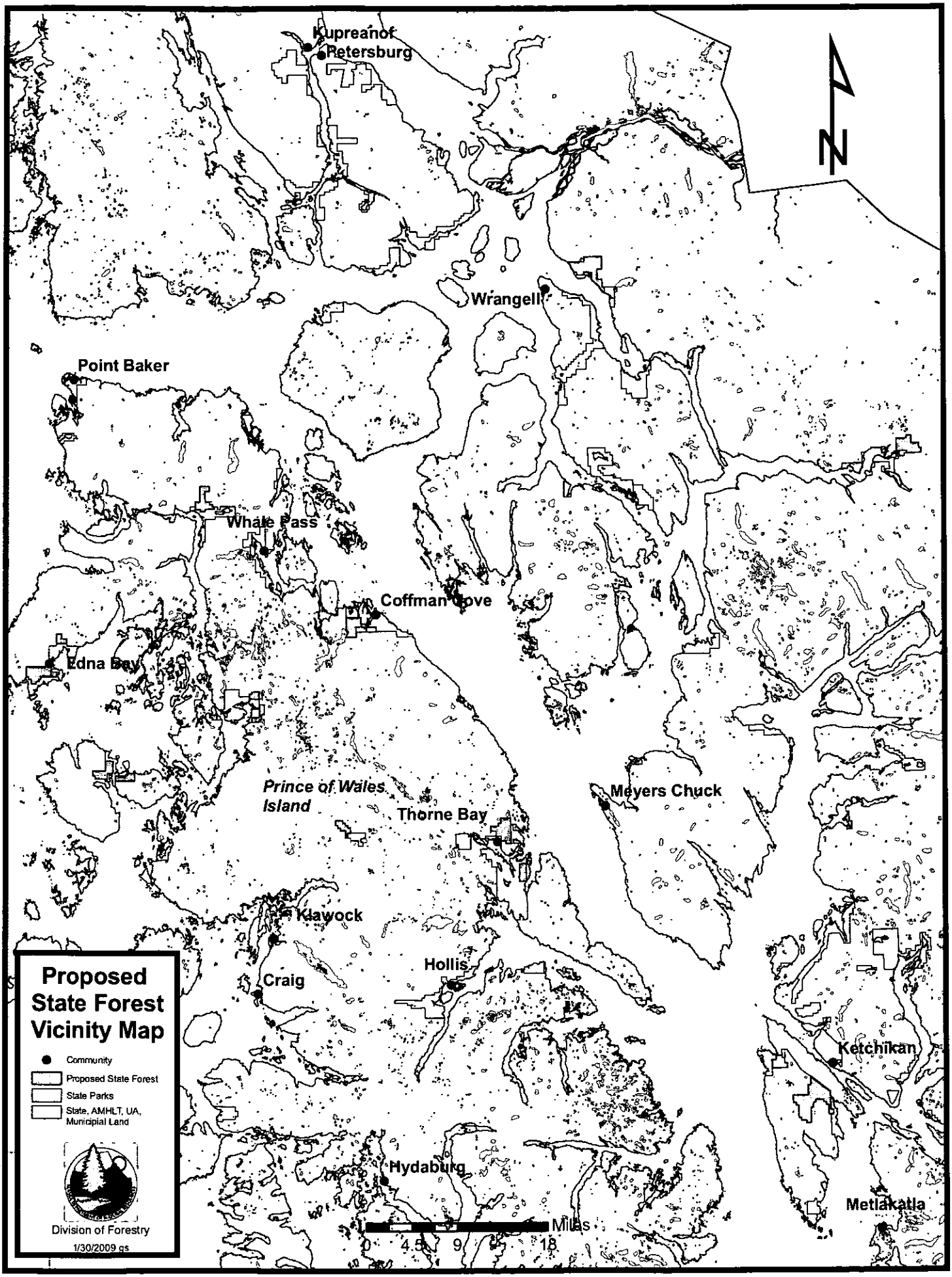
Whereas, the State owns 20 parcels of land comprising approximately 25,291 acres suitable for designation and subsequent management as a State Forest, now therefore;

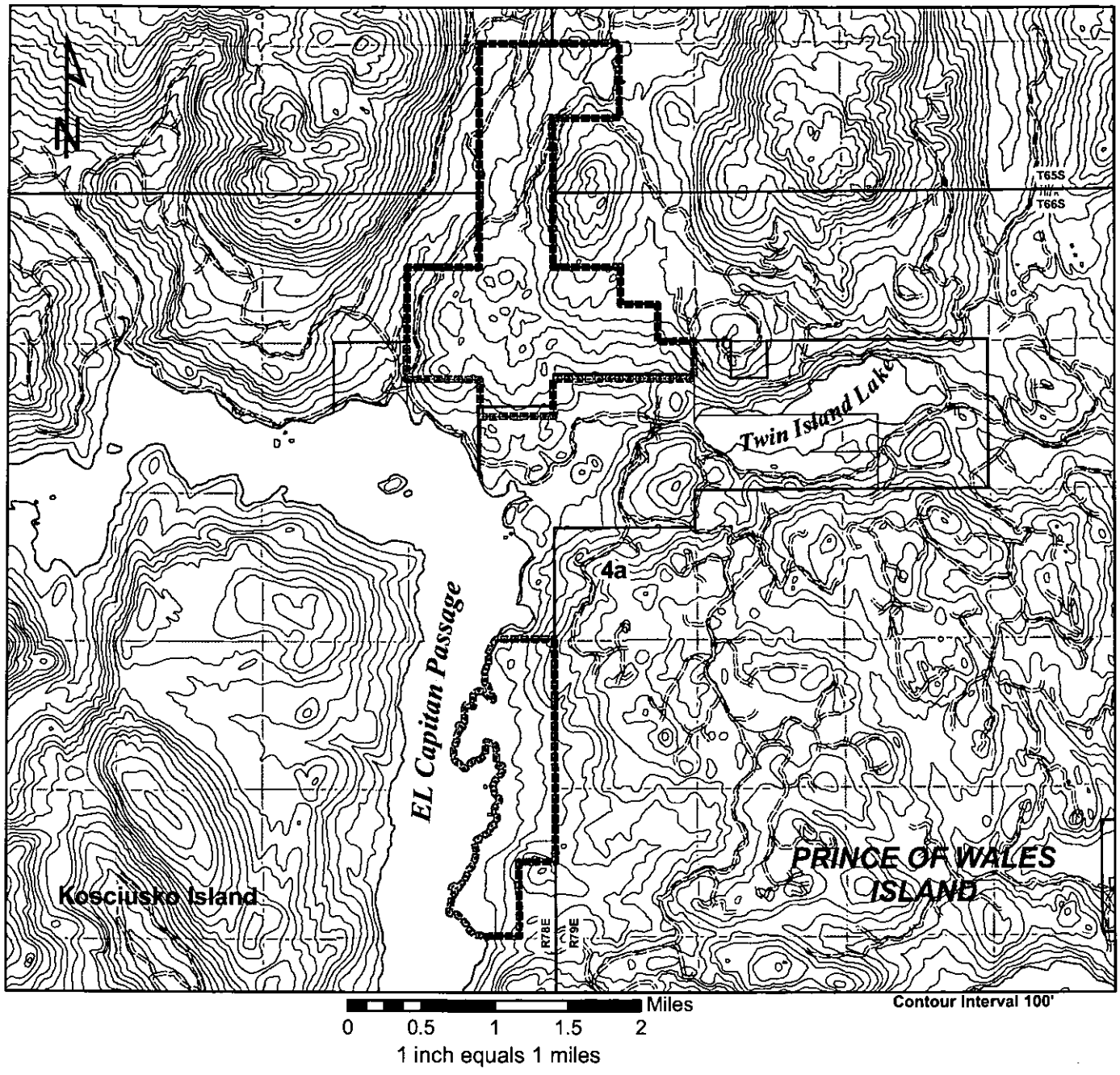
Be it resolved that the Juneau Chapter Alaska Society of American Foresters (SAF) generally endorses establishment of a Southeast Alaska State Forest as currently proposed in House Bill #162 "An Act establishing the Southeast State Forest and relating to the Southeast State Forest; and providing for an effective date" and Senate Bill #127.

And be it finally resolved that the Juneau Chapter of the Alaska Society of American Foresters transmit this resolution to the Governor of Alaska, House and Senate Resource Committee Chair, Alaska State Legislature, the Alaska Congressional Delegation, the U.S. Forest Service Chief, U.S. Forest Service Alaska Regional Forester.

Adopted by unanimous vote of the Juneau Chapter, Alaska Society of American Foresters, January 20, 2010.

/s/ Michael McClellan
Michael McClellan, Chair


Kupreanof
Petersburg
Wrangell
Point Baker
Whale Pass
Coffman Cove
Edna Bay
Prince of Wales Island
Thorne Bay
Meyers Chuck
Klawock
Craig
Hollis
Ketchikan
Hydaburg
Metlakatla
N
Proposed State Forest Vicinity Map
Community
Proposed State Forest
State Parks
State, AMHLT, UA, Municipal Land
Division of Forestry
1/30/2009 gs
0 4.5 9 18
Miles



Legend

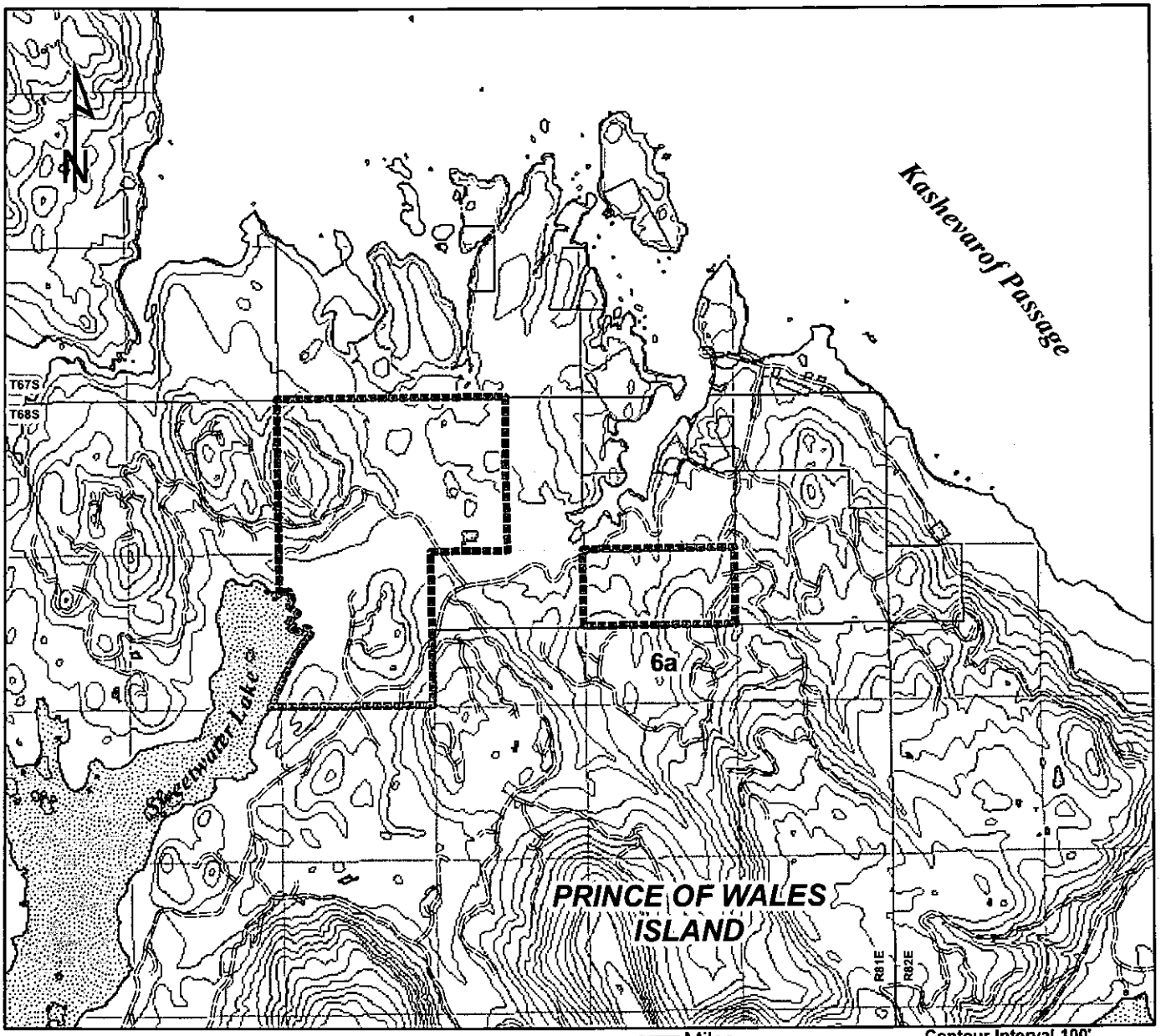
- Property Line
- Proposed State Forest
- GU
- Disposable
- Recreation
- Habitat
- Roads

Proposed Southeast Alaska State Forest El Capitan

DIVISION OF FORESTRY

1/30/09 gs

4660



Legend

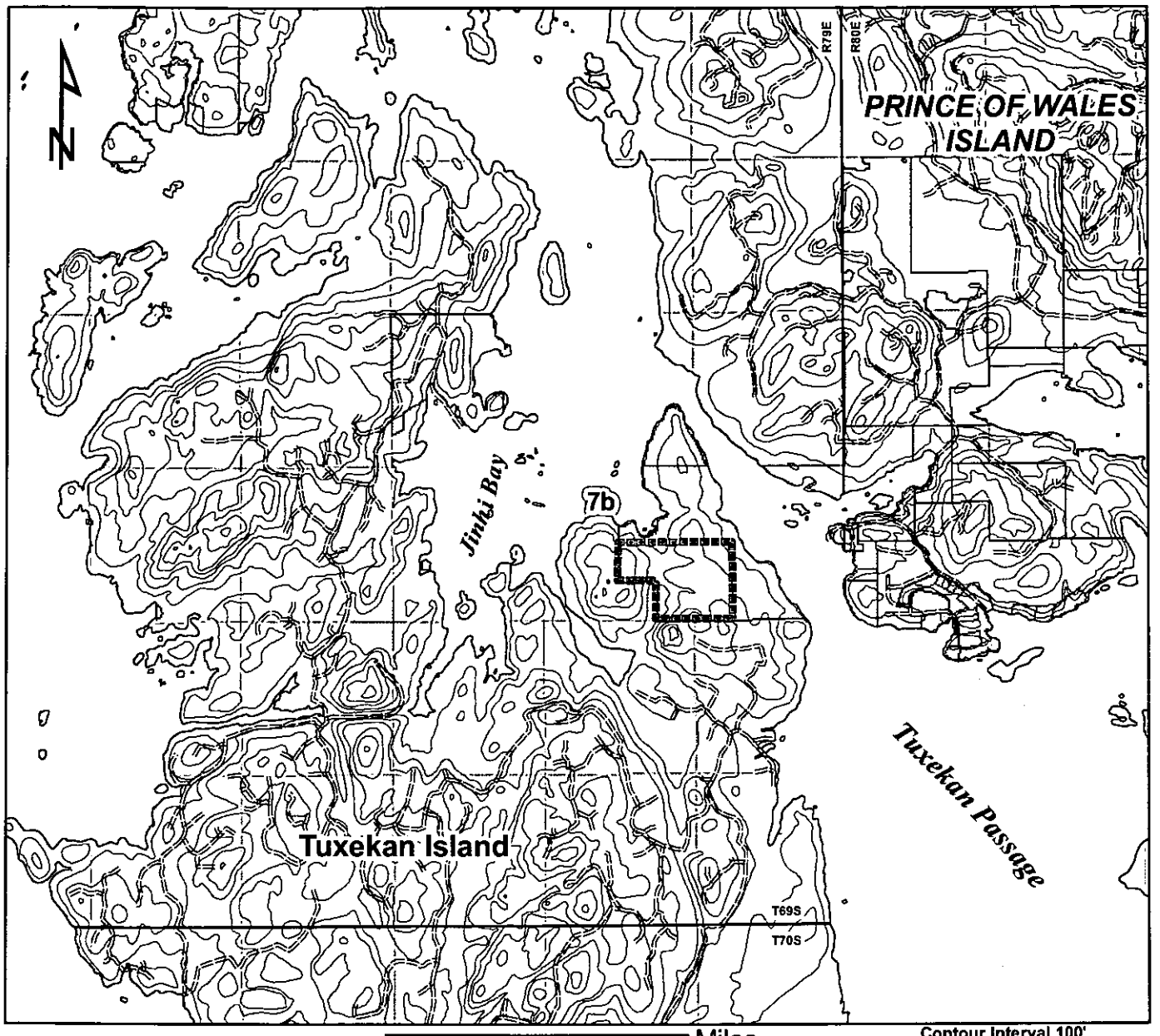
- Proposed State Forest
- GU
- Disposable
- Recreation
- Habitat
- Roads

Proposed Southeast Alaska State Forest Coffman Cove

DIVISION OF FORESTRY

1/19/2009 gs

4661



Legend

- Proposed State Forest
- GU
- Disposable
- Recreation
- Habitat
- Roads

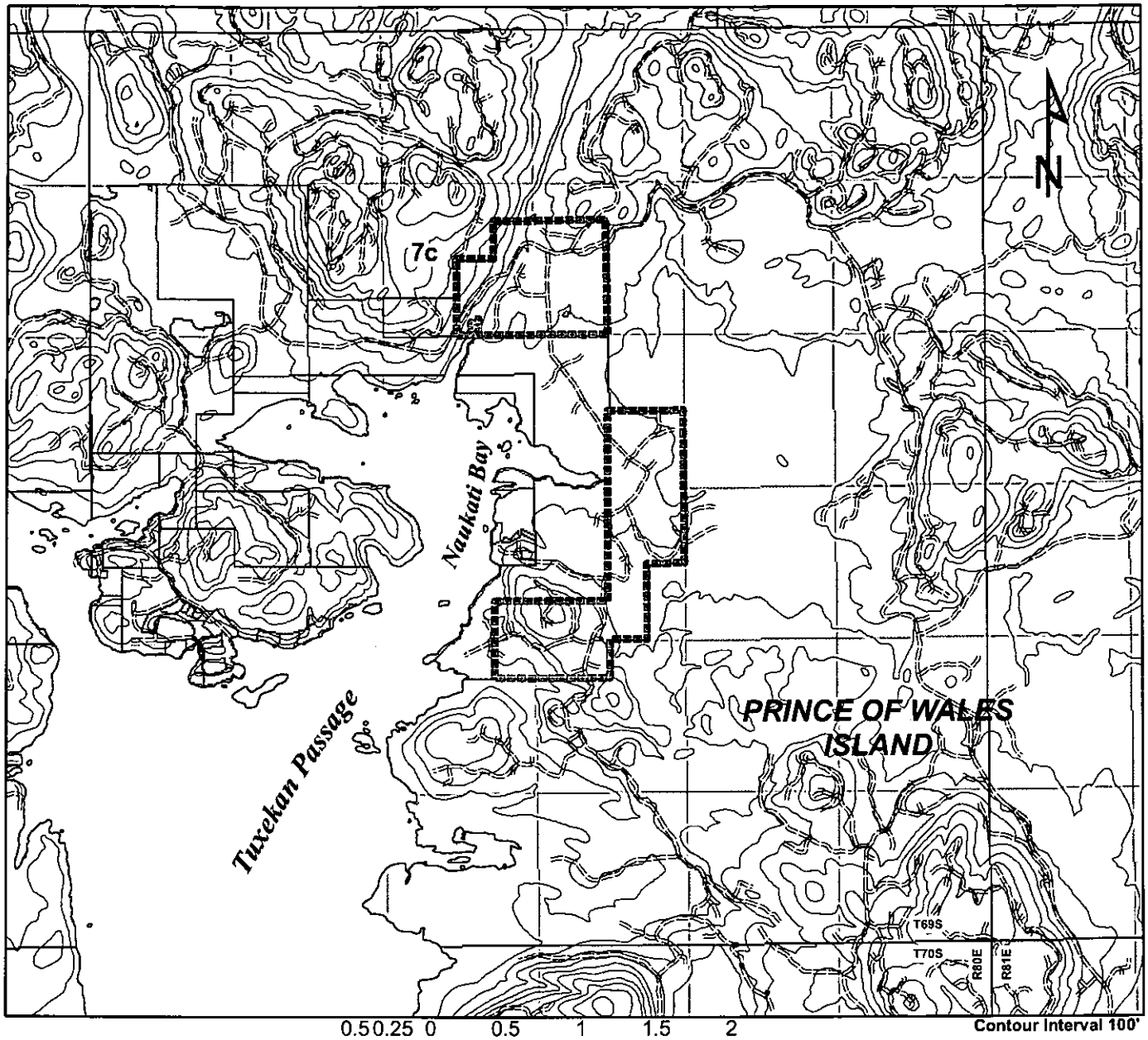
Proposed Southeast Alaska State Forest Tuxekan

ALASKA DEPARTMENT OF NATURAL RESOURCES

DIVISION OF FORESTRY

1/21/2009 gs

4662



1 inch equals 1 miles

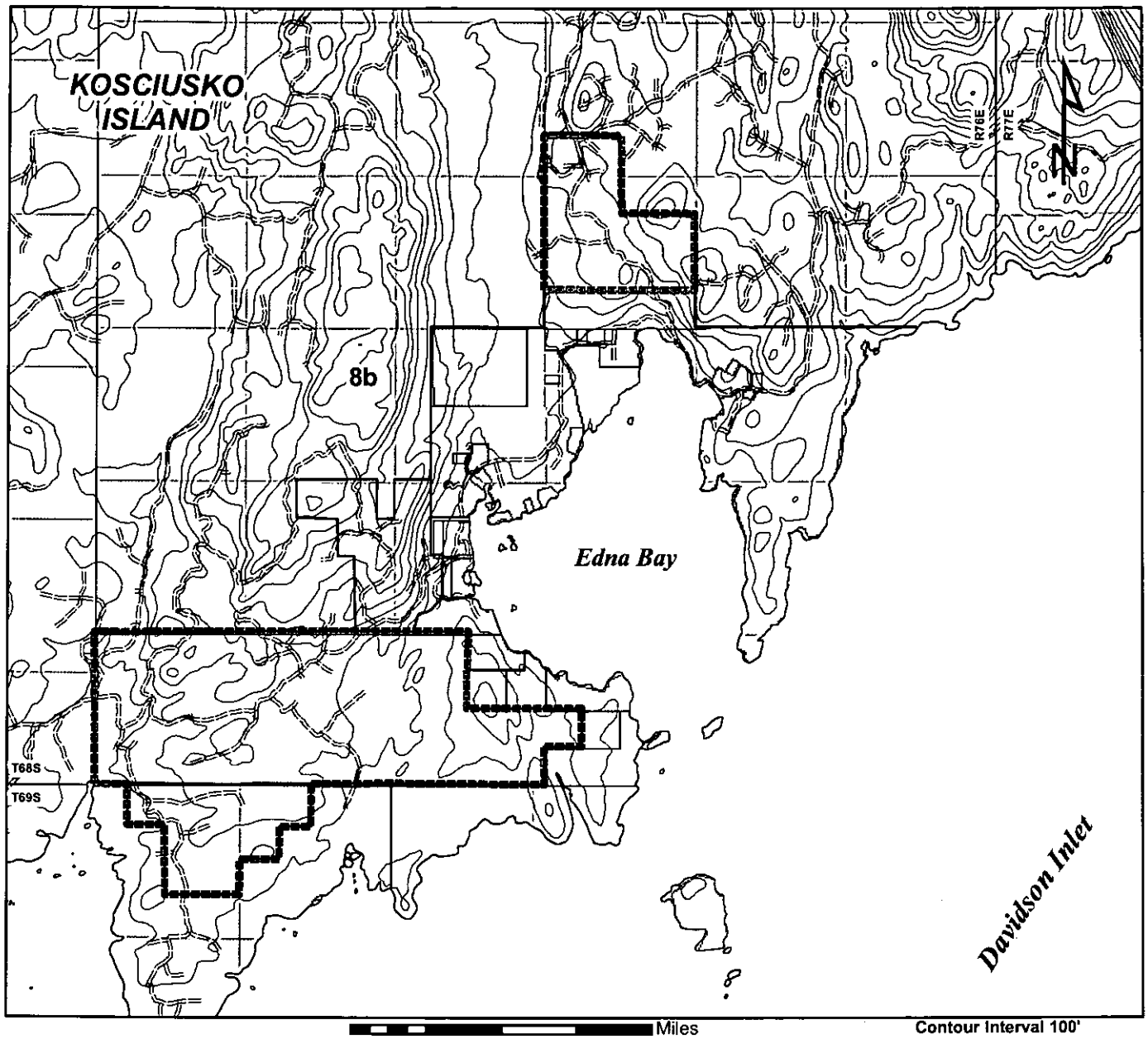
Legend

- Proposed State Forest
- GU
- Disposable
- Recreation
- Habitat

Proposed Southeast Alaska State Forest Naukati

DIVISION OF FORESTRY

1/19/2009 gs



Legend

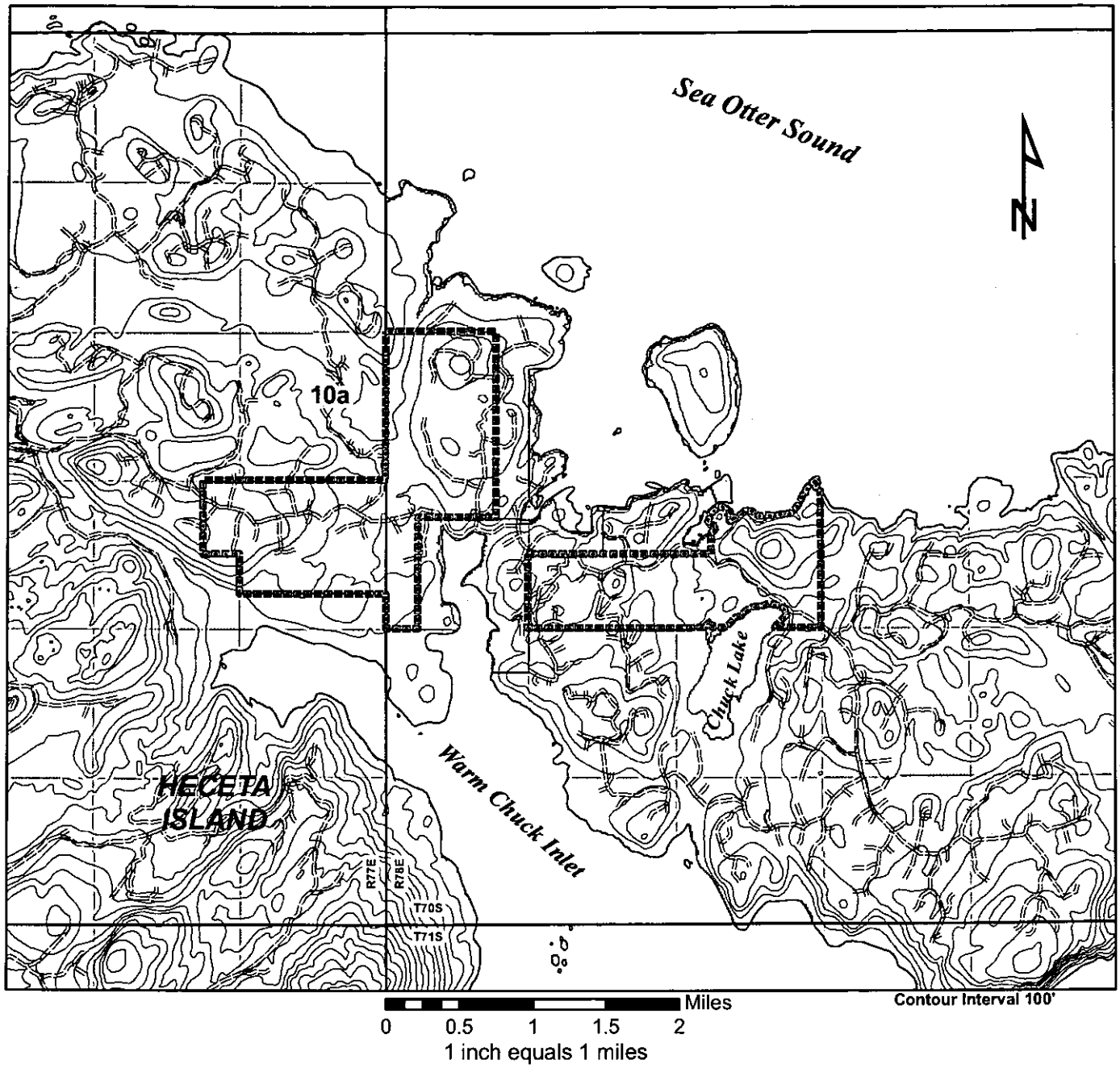
- Property Line
- Proposed State Forest
- Roads
- GU
- Disposable
- Recreation
- Habitat

Proposed Southeast Alaska State Forest Kosciusko (Edna Bay)

ALASKA DEPARTMENT OF NATURAL RESOURCES

DIVISION OF FORESTRY

1/30/09 gs



Legend

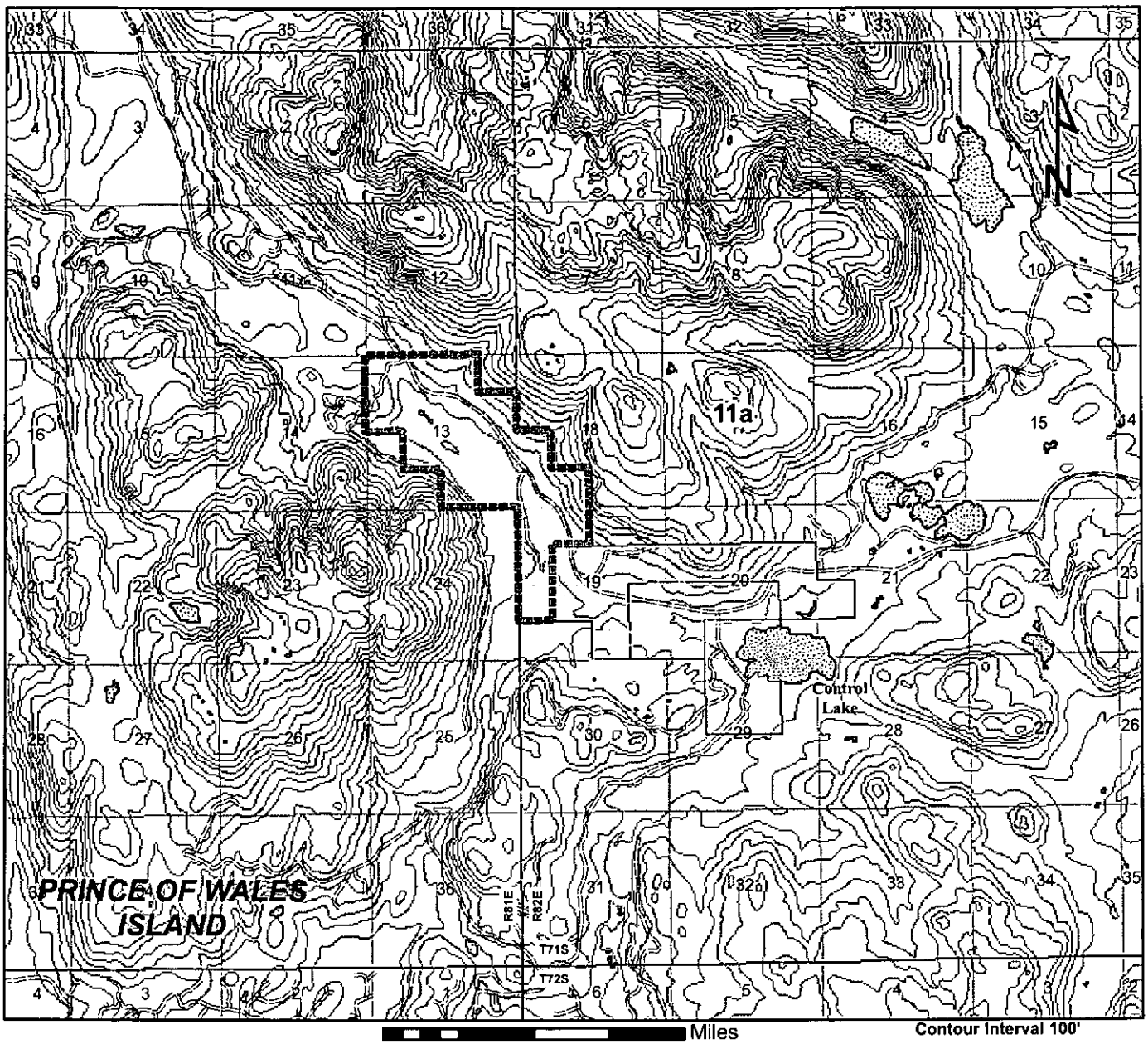
- Proposed State Forest
- Roads
- GU
- Disposable
- Recreation
- Habitat

Proposed Southeast Alaska State Forest Heceta Island

DIVISION OF FORESTRY

12/03/08 gs

4665



Legend

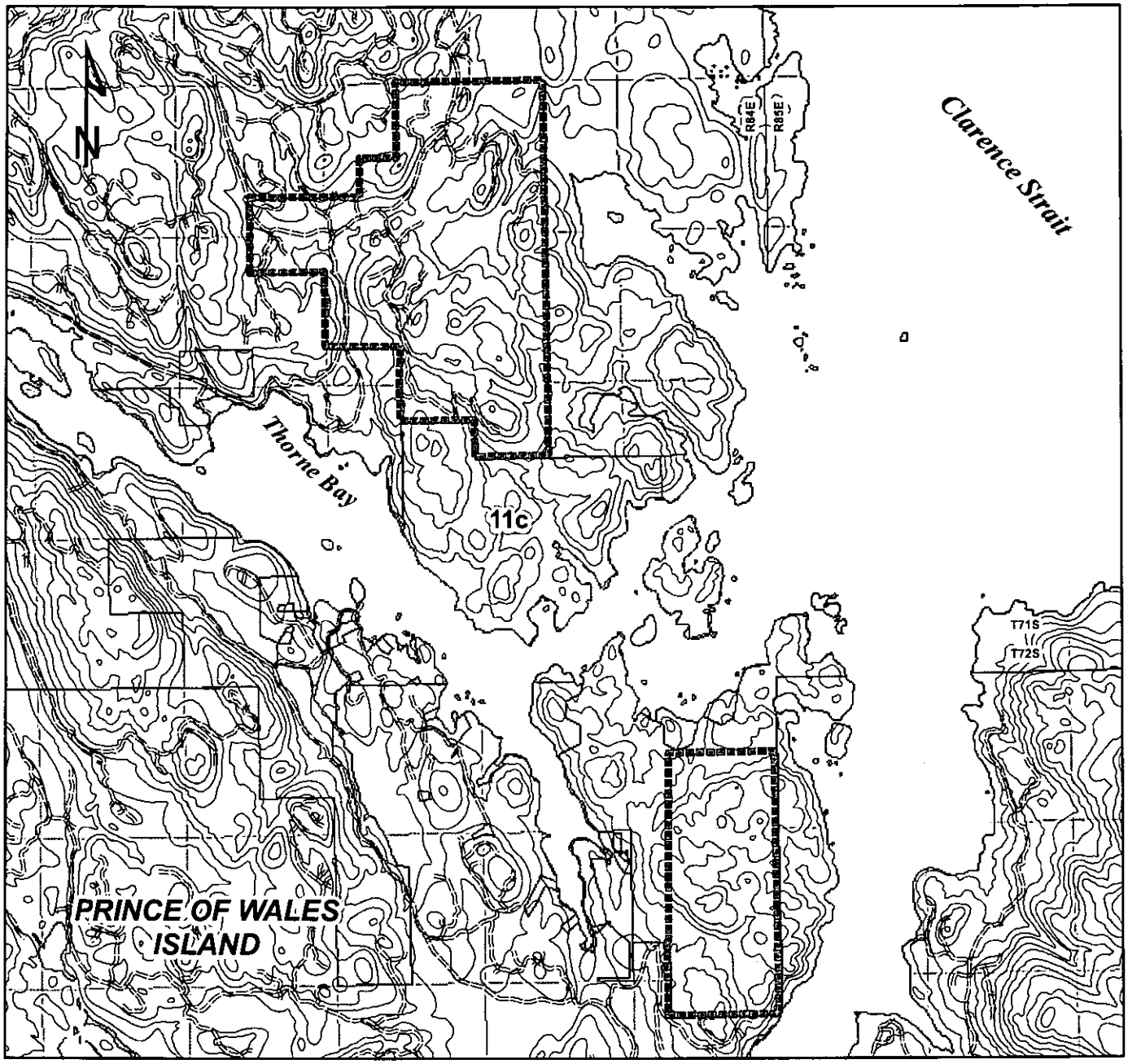
- Proposed State Forest
- GU
- Disposable
- Recreation
- Habitat
- Roads

Proposed Southeast Alaska State Forest Control Lake

DIVISION OF FORESTRY

1/30/2009 gs

4666



Miles
0 0.5 1 1.5 2
1 inch equals 1 miles

Contour Interval 100'

Legend

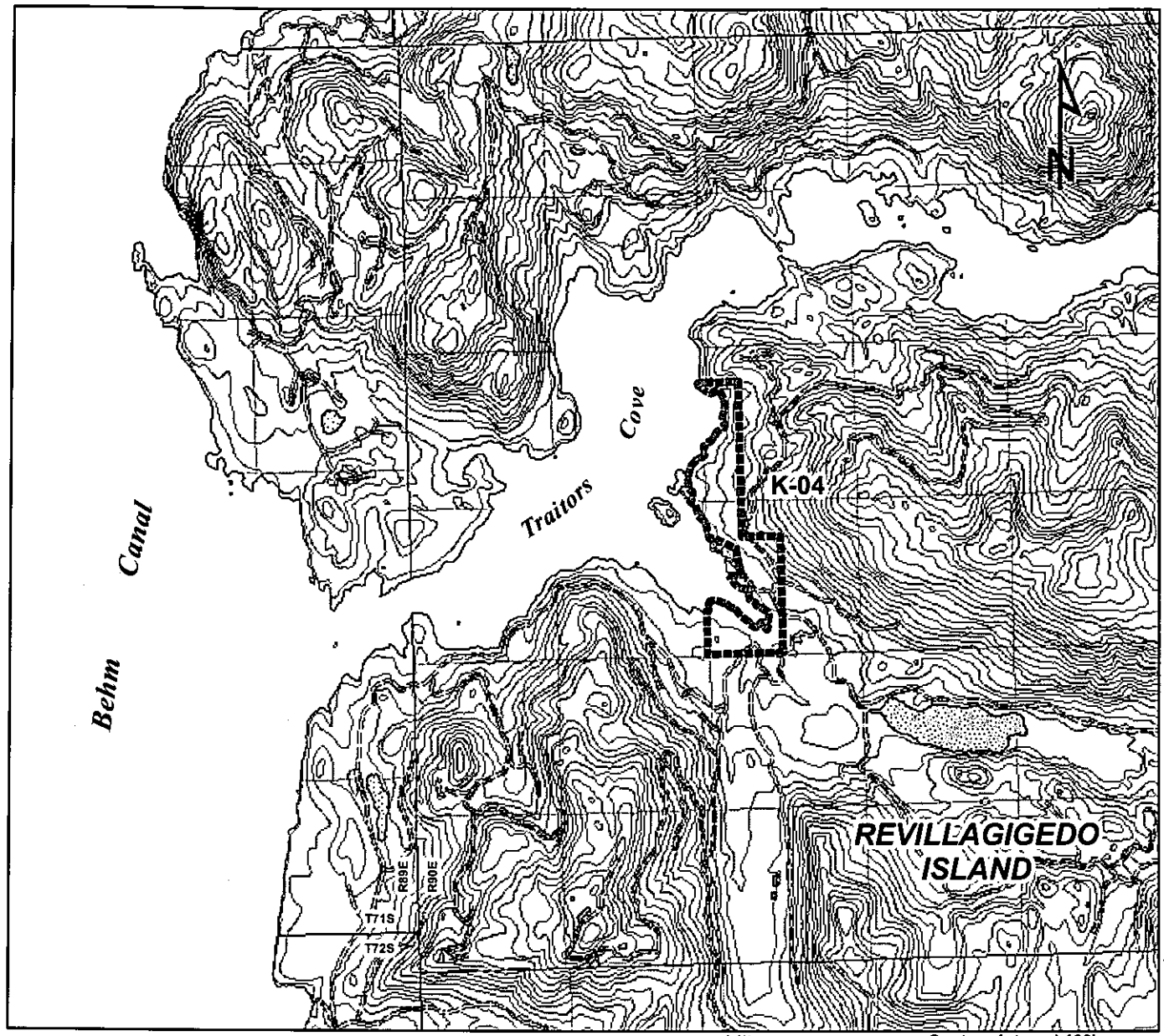
- Proposed State Forest
- GU
- Disposable
- Recreation
- Habitat
- Roads

Proposed Southeast Alaska State Forest Thorne Bay

DIVISION OF FORESTRY

1/19/2009

4667



Legend

- Proposed State Forest
- Roads
- GU
- Disposable
- Recreation
- Habitat
- Lakes

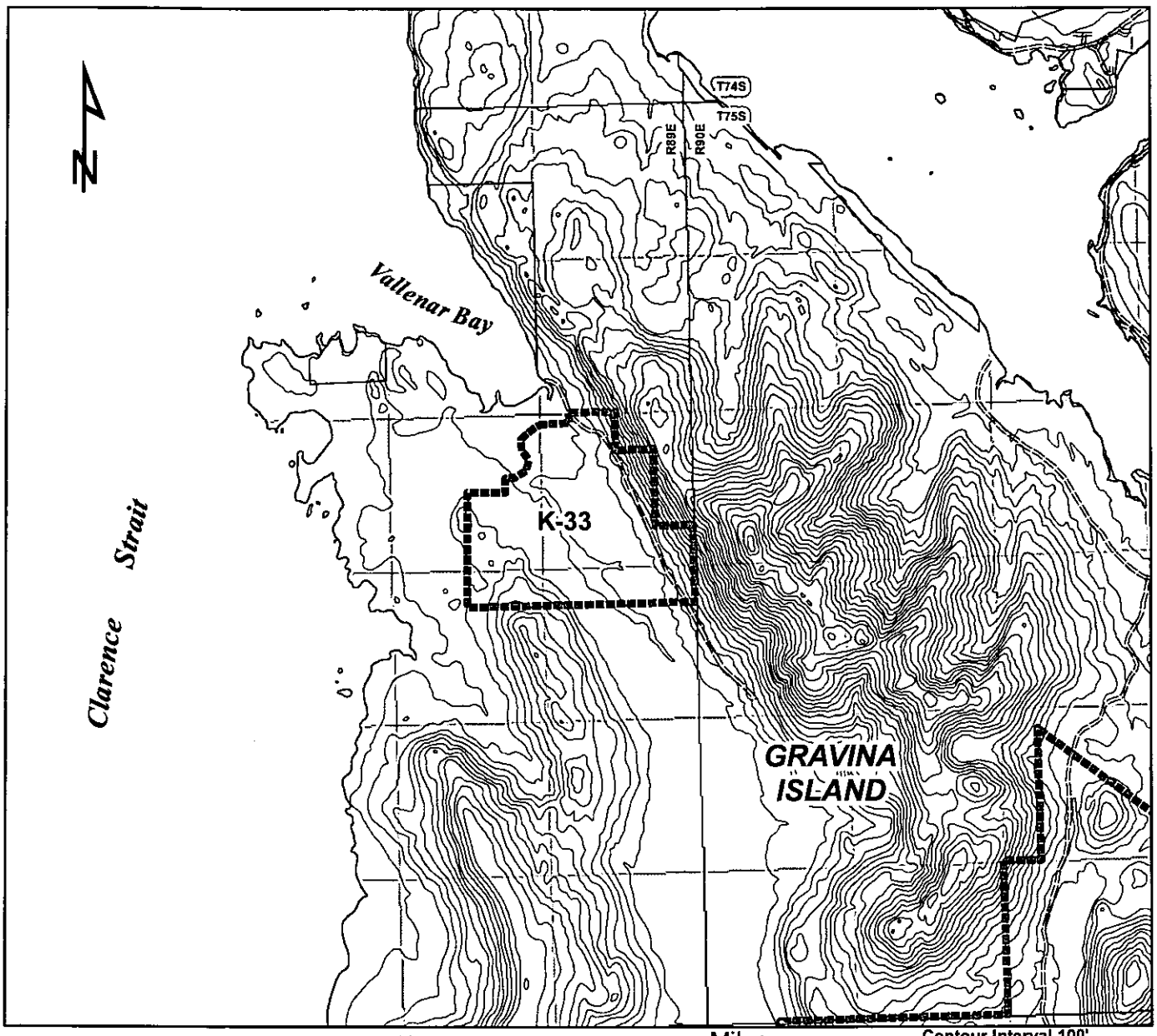
Proposed Southeast Alaska State Forest Traitors Cove

ALASKA DEPARTMENT OF NATURAL RESOURCES

DIVISION OF FORESTRY

2/09/2009 gs

4668



Legend

- Proposed State Forest
- GU
- Disposable
- Recreation
- Habitat
- Roads

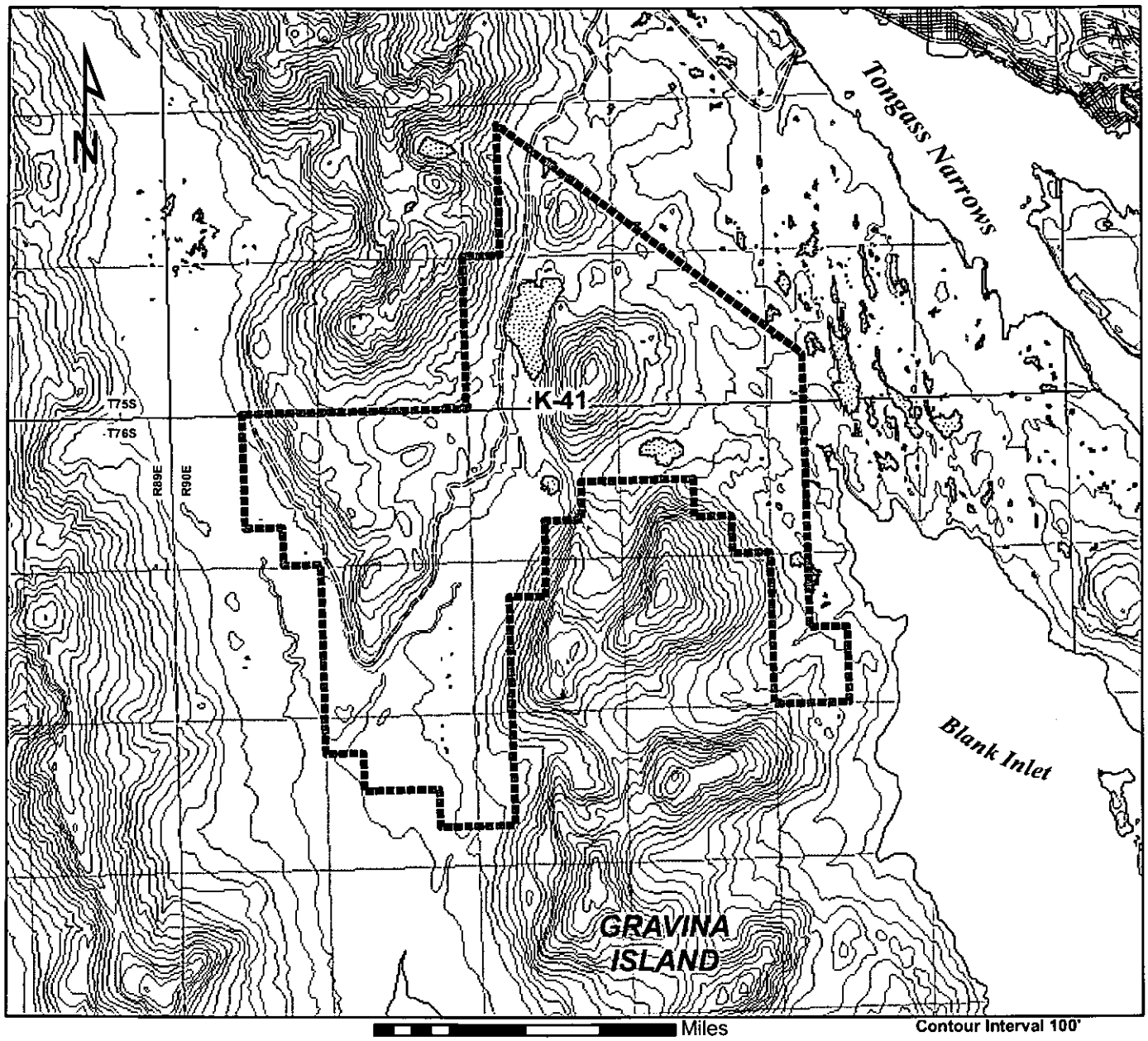
Proposed Southeast Alaska State Forest Gravina (Vallenar)

ALASKA DEPARTMENT OF NATURAL RESOURCES

DIVISION OF FORESTRY

2/05/2008 gs

4669



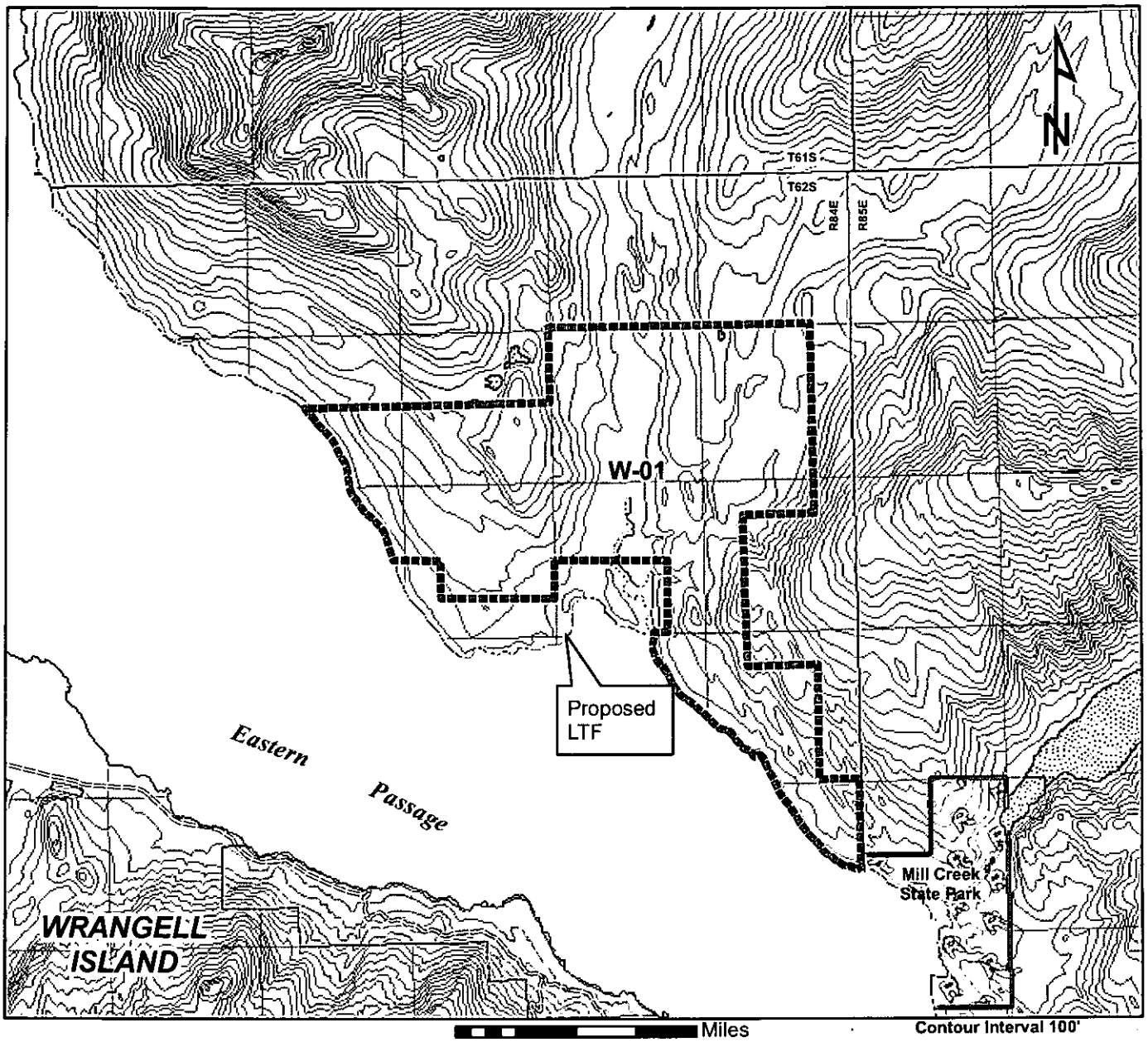
Legend

- Proposed State Forest
- GU
- Disposable
- Recreation
- Habitat
- Roads

Proposed Southeast Alaska State Forest Gravina (Bostwick)

DIVISION OF FORESTRY

12/03/2008 gs



Legend

- Proposed State Forest
- State Park
- GU
- Disposable
- Recreation
- Habitat
- lakes
- Roads

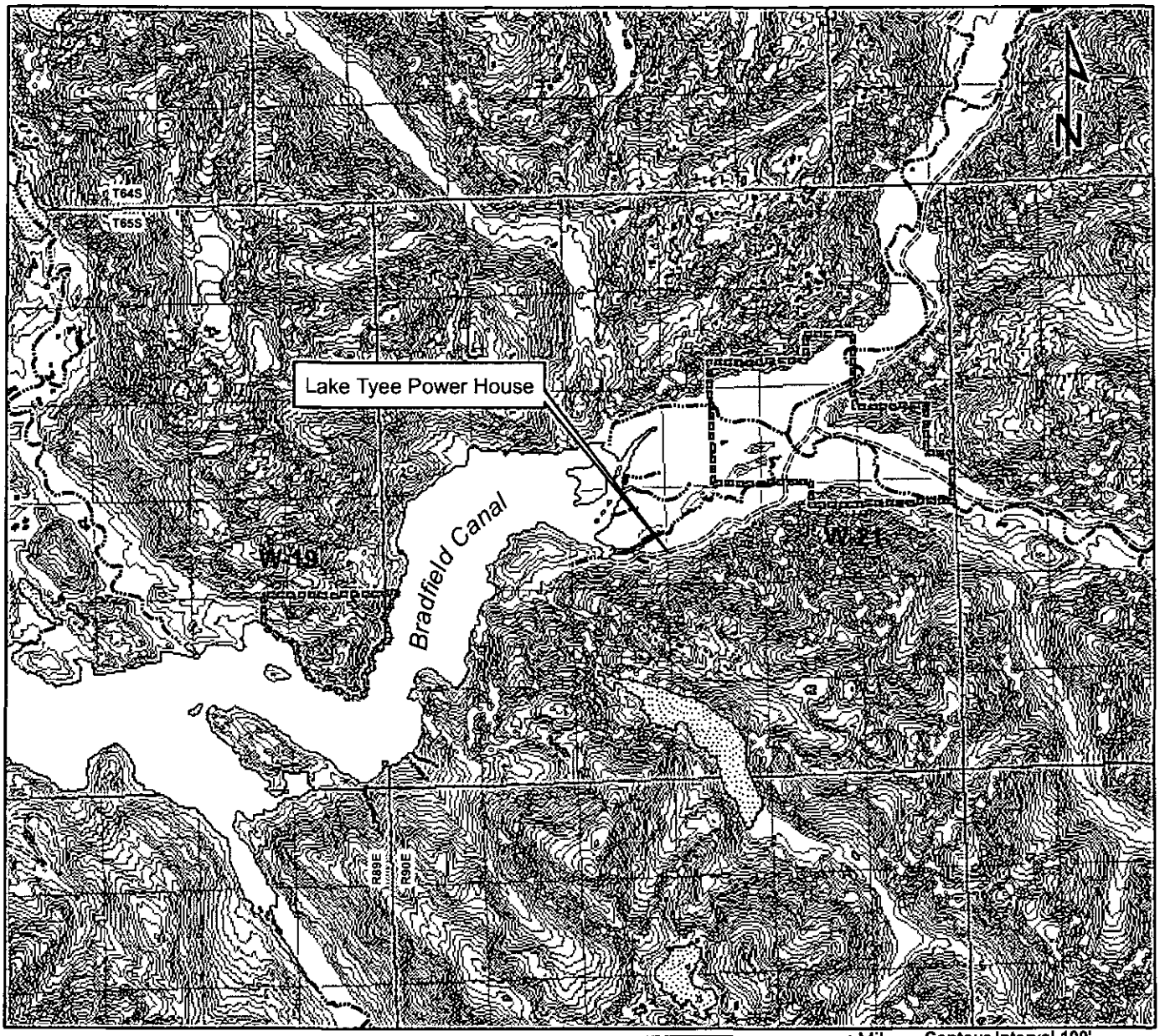
Proposed Southeast Alaska State Forest Crittenden Creek

ALASKA DEPARTMENT OF NATURAL RESOURCES

DIVISION OF FORESTRY

1/19/09 gs

4671



Legend

- Proposed State Forest
- GU
- Disposable
- Recreation
- Habitat
- Lakes
- Catologed Streams
- Roads

Proposed Southeast Alaska State Forest Bradfield Area

DIVISION OF FORESTRY

1/21/09 gs

Shalon Szymanski

From: jack slaght [jackslaght@gmail.com]
Sent: Monday, March 29, 2010 1:52 PM
To: Shalon Szymanski
Subject: H.B. 162

To: Senate Resources Chair, Lesil McGuire, and Members of the Senate Resources Committee.....here are my thoughts and testimony concerning House Bill 162:

It is my belief that Southeast Alaska needs to strive for rebuilding a diversified economy. Since arriving in Petersburg in 1993, I've watched the Southeast Alaska economy move away from being a diversified economy to becoming a specialized economy. In the past 20 yrs, a relentless assault on what remained of a forest products industry, by environmental groups, has effectively reduced that industry to almost nothing. Many citizens of Southeast Alaska have only heard the doom and gloom side of the timber harvest story and proponents of retaining a down-sized but stable forest products industry have remained relatively silent. After a couple of decades of this one-sided debate, many people now believe that environmental activists must be right. This is how carefully planned and executed propaganda works in a society. It is how Hitler and his Third Reich managed to take over Germany and most of Europe during WW11. They were fanatics. Since the mid 1990's, I've tried to be a voice of reason on occasion. I have not networked with other like-minded individuals when it comes to written or oral testimony. Networking has been a powerful tool used effectively by environmental activists. It is transparent when a group of activists read testimonials sharing many common threads at public meetings. They will claim to represent themselves and not a larger organization. Hmmmm.

For years I've warned others that we are taking a huge risk in creating the specialized regional economy that now exists in Southeast Alaska. I've seen, first hand, what can happen to a local economy when the only industry supporting that economy slows down or is destroyed. I've left a region and moved on when logging and saw milling and mining were stopped (I'd been employed as a logger and hard-rock driller). The same economic collapse can occur when mining or commercial fishing and processing come to a screeching halt. Currently, only fishing and processing and some tourism exist in the Petersburg area. Throughout Southeast Alaska that formula exists. Thankfully, some mining is still being done. In a recent article in the ***Petersburg Pilot***, several local business owners were interviewed and they expressed concern over how the closure of Trident Seafoods this season will negatively impact their businesses and the local economy.

We are starting to see warning signs that commercial fishermen and processors will be dealing with new challenges as economic and environmental conditions develop in the coastal Alaska region. There will be increased competition for ocean resources as time advances. No one knows how future energy costs will affect fishing and processing. Again, how will our regional economy, heavily dependant on fishing and processing, fare in the years and decades ahead?

Now back to the topic of the doom and gloom of timber harvesting. I've wondered for many years how there could have been record salmon runs and harvests in the 1990's, following a couple of decades of record timber harvesting in Southeast Alaska--when those timber harvests were supposed to have completely wiped out fish and wildlife habitat. Hmmm. I grew up in a logging community and culture and spent many years, as a young man, working in timber towns and logging camps in five western states and Alaska. I've read as much as I could about forest management and ecosystem management practices and continue to be amazed by the lack of knowledge and belief in misinformation many citizens express. Much of this misinformation is intentionally distributed by radical environmental groups. I say lets grow up! We need to begin to take pride in how well we can manage our natural resources. I'm in support of House Bill 162 for the reasons I've stated. We need to take a

more mature look at how we can benefit from utilizing the natural resources of Southeast Alaska.

The US Forest Service is so tied up in knots by environmental restrictions and litigation these days, they are not producing timber sales necessary to insure survival of the remaining sawmills in Southeast Alaska. When they have put forth timber sales of any significant size, environmental groups have immediately accused the Forest Service of operating in the red and made claims that
the timber industry is heavily subsidized by the tax payers. There are reasons for that:

1. A very sizable staff of government workers and scientists employed by the USFS specifically to use sound science in the process of producing timber sales.
2. Litigation.

It has been a very interesting game. However, that game could eventually have a negative effect on the Southeast economy. If the specialized economy of Southeast Alaska should collapse at some point in the future, will the architects of that economy (environmental groups) be held accountable? Of course not!

In addition to the passing of House Bill 162, I propose that a program should be established to educate citizens on how we can use our natural resources wisely, without destroying fish and wildlife habitat. I'm convinced that sound science will allow us to do exactly that. The resources include: seafood, minerals, oil & gas, timber, ocean energy and so on. Alaska should become a leader in moving away from the doom and gloom dark age we've all been living in. Alaska should demonstrate for the rest of our nation how we can manage our resources wisely without destroying habitat.
It should be a source of pride, rather than a source of constant arguing and turmoil.

I have great admiration for Governor Parnell. He has shown courage in taking a position on retaining a forest products industry in Alaska. That is a political hot potato many leaders would not care to touch. In truth, all the ideas and opinions I've expressed are my own and I've not networked with others. I care enough about the economic future of Alaska, I've decided to stick my neck out and
call a spade a spade. House Bill 162 is a good beginning for restoration of a stable Southeast Alaska economy. Thank you for taking my testimony!

Sincerely,

Jack Slaght, Petersburg, Alaska

HB 210

SENATE COMMITTEE REPORT

DATE: 4/13/09

FURTHER: Rules

DATE TURNED IN TO OFFICE: April 9, 2010

Resources Committee considered CS FOR HOUSE BILL NO. 210(RES)

HB 210 IZEMBEK STATE GAME REFUGE LAND EXCHANGE

"An Act designating Kinzarof Lagoon as part of the Izembek State Game Refuge; authorizing a land exchange with the federal government in which state land adjacent to the Izembek National Wildlife Refuge and within the Alaska Peninsula National Wildlife Refuge is exchanged for federal land to serve as a road corridor through the Izembek National Wildlife Refuge and federal land located on Sitkinak Island; and providing for an effective date."

and recommends:

[✓] be **replaced** with [✓] **SCS** or [ ] **CS** HB 210 (RES)

[ ] adopt **previous** [ ] **SCS** or [ ] **CS** SCS/CS- Forthcoming ( )

[ ] attached amendment(s)

[ ] adopt _____ Letter of Intent

[ ] further referral to _____ Committee

SENATE BILL:
[ ] Same Title
[ ] New Title

HOUSE BILL:
[ ] Same Title
[ ] Technical Title Change
[ ] New Title w/ SCR #_____

NEW FISCAL NOTE(S):

Department	Date	Fiscal	Indet.	Zero	FN#
DNR	4/6			✓	2

PREVIOUS FISCAL NOTE(S):

Department	Date	Fiscal	Indet.	Zero	FN#

[ ] **APPROPRIATION - no fiscal note**

SIGNATURES AND RECOMMENDATIONS:	PRINTED LAST NAME	DO PASS	DO NOT PASS	NO REC	AMEND
	Stevens	✓			
	French	✓			
	Wagoner	✓			
CO-CHAIR:	Wielechowski	✓			
CO-CHAIR:	McGuire	✓			

FISCAL NOTE

STATE OF ALASKA
2010 LEGISLATIVE SESSION

Fiscal Note Number: 2
Bill Version: SCS CSHB 210(RES)
(S) Publish Date: 4/10/10

Identifier (file name): CSHB210(RES)-DNR-MLW-04-06-10
Dept. Affected: Natural Resources
Title: IZEMBEK STATE GAME REFUGE LAND EXCHANGE
RDU: Resourse Development
Component: Title Acquisition and Defense
Sponsor: Rep. Edgmon
Requester: S RES
Component Number: 2459

Expenditures/Revenues (Thousands of Dollars)

Note: Amounts do not include inflation unless otherwise noted below.

	Appropriation Required	Information					
OPERATING EXPENDITURES	**FY 2011**	**FY 2011**	**FY 2012**	**FY 2013**	**FY 2014**	**FY 2015**	**FY 2016**
Personal Services							
Travel							
Contractual							
Supplies							
Equipment							
Land & Structures							
Grants & Claims							
Miscellaneous							
TOTAL OPERATING	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
CAPITAL EXPENDITURES							
CHANGE IN REVENUES ( )							

FUND SOURCE (Thousands of Dollars)

1002 Federal Receipts							
1003 GF Match							
1004 GF							
1005 GF/Program Receipts							
1037 GF/Mental Health							
Other Interagency Receipts							
TOTAL	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**

Estimate of any current year (FY2010) cost: 0.0

POSITIONS

Full-time							
Part-time							
Temporary							

ANALYSIS: *(Attach a separate page if necessary)*

To satisfy the land exchange proposed under this legislation, DNR anticipates that it will need to complete the following work: 1) coordinate with the U.S. Fish and Wildlife Service in the preparation of the required Environmental Impact Statement (EIS), 2) review state land title documents and prepare deeds for state land to be conveyed to the federal government, and 3) review proposed deeds of federal land to be conveyed by the federal government. DNR is seeking alternative sources of funding to coordinate the state's effort on the EIS. Title document preparation will not be required until after the EIS is completed, which may take 2-3 years.

Prepared by: Dick Mylius — Phone 907-269-8625
Division: Director, Mining Land and Water — Date/Time April 6, 2010
Approved by: Tom Irwin, Commissioner — Date April 6, 2010
Natural Resources

(Revised 11/6/2009 OMB)

FISCAL NOTE

STATE OF ALASKA
2009 LEGISLATIVE SESSION

Fiscal Note Number: 1
Bill Version: CSHB 210(RES)
(H) Publish Date: 4/10/09

Identifier (file name): HB210-DNR-MLW-04-06-09
Title: IZEMBEK STATE GAME REFUGE LAND EXCHANGE
Sponsor: Rep. Edgmon
Requester: H RES

Dept. Affected: Natural Resources
RDU: Resourse Development
Component: Title Acquisition and Defense
Component Number: 2459

Expenditures/Revenues (Thousands of Dollars)

Note: Amounts do not include inflation unless otherwise noted below.

	Appropriation Required	Information					
OPERATING EXPENDITURES	**FY 2010**	**FY 2010**	**FY 2011**	**FY 2012**	**FY 2013**	**FY 2014**	**FY 2015**
Personal Services							
Travel							
Contractual							
Supplies							
Equipment							
Land & Structures							
Grants & Claims							
Miscellaneous							
TOTAL OPERATING	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
CAPITAL EXPENDITURES							
CHANGE IN REVENUES ( )							
FUND SOURCE		(Thousands of Dollars)					
1002 Federal Receipts							
1003 GF Match							
1004 GF							
1005 GF/Program Receipts							
1037 GF/Mental Health							
Other Interagency Receipts							
TOTAL	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**

Estimate of any current year (FY2009) cost: 0.0

POSITIONS

Full-time							
Part-time							
Temporary							

ANALYSIS: *(Attach a separate page if necessary)*

To satisfy the land exchange proposed under this legislation, DNR anticipates that it will need to complete the following work: 1) coordinate with the U.S. Fish and Wildlife Service in the preparation of the required Environmental Impact Statement (EIS), 2) review state land title documents and prepare deeds for state land to be conveyed to the federal government, and 3) review proposed deeds of federal land to be conveyed by the federal government. DNR believes that it can complete the work on the EIS using existing staff and resources, and does not anticipate the need for additional funds to complete the proposed land exchange. Title documentation work will not be required until after the EIS is completed, which may take 2-3 years.

Prepared by: Dick Mylius
Division: Director, Mining Land and Water
Phone: 907-269-8625
Date/Time: April 6, 2009

Approved by: Tom Irwin, Commissioner
Natural Resources
Date: April 6, 2009

(Revised 9/10/2008 OMB)

Sponsor Statement

Representative Bryce Edgmon

CSHB 210 (RES): Izembek State Game Refuge Land Exchange

On March 30th last year President Obama signed the Omnibus Public Lands Management Act of 2009. This act includes Congressional approval for a land exchange between the State of Alaska and the federal government to allow a single-lane, unpaved road through the Izembek National Wildlife Refuge, connecting the village of King Cove to the Cold Bay airport.

CSHB 210 (RES) will grant state authorization for that exchange.

However, it is important to note that at the federal level there are still two major processes that need to be completed before this transaction is final. These are the completion of an environmental impact statement and a finding by the Secretary of the Interior determining that the land exchange is in the public interest.

CSHB 210 (RES) therefore does more than execute at state level the transaction endorsed by Congress; it also provides compelling evidence to the Secretary of the Interior that the State of Alaska approves of this agreement to establish dependable access for King Cove residents to the Cold Bay airport primarily for health and safety purposes.

In the agreement, the State will transfer approximately 43,000 acres of land in the Alaska Peninsula National Wildlife Refuge to the federal government in exchange for approximately 206 acres for the road corridor. The legislation also agrees to the receipt of 1600 acres of federal land located on Sitkinak Island to the State and provides for the designation of Kinzarof Lagoon as part of the Izembek State Game Refuge.

The residents of King Cove and Aleutians East Borough have strived toward this goal for more than a decade. The King Cove Corporation has agreed to provide approximately 19,000 acres of its ANCSA land to the federal government, at no cost, as part of this exchange. The Alaska Department of Natural Resources supports the transaction. Senator Murkowski, Congressman Young, and former Senator Stevens have championed this endeavor at the federal level over many years. Senator Begich also backs the plan.

It is now the State of Alaska's role to take this next important step. I respectfully ask for your support in concluding this agreement while also sending an important message to the Secretary of the Interior that Alaska endorses this exchange and all that it entails for the improved safety and quality of life for citizens in Southwestern Alaska.

Sectional Analysis

CSHB210(RES): Izembek State Game Refuge Land Exchange

Section 1. States that the purpose of the Act is to add state land and water near Kinzarof Lagoon to the Izembek State Game Refuge.

Section 2. Amends AS 16.20.030(a)(14) by adding the description of land and water to be added to the Izembek State Game Refuge.

Section 3. Provides for the removal of the land added to the Izembek State Game Refuge in sec. 2 of the Act if the conditions in sec. 7(b) of the Act are satisfied.

Section 4. Requires the Department of Natural Resources to transfer land adjacent to the Izembek National Wildlife Refuge in exchange for federal land. Describes the land to be transferred by the department and the federal land expected to be received in exchange.

Section 5. States that the land exchange in sec. 4 of the Act is not subject to the provisions in AS 38.50 that would normally apply to an exchange of state land.

Section 6. Provides for the land added to the Izembek State Game Refuge in sec. 2 of the Act and the land conveyed under sec. 4 of the bill to be returned to its original status if the land exchange authorized by sec. 6402(a) of the Omnibus Public Land Management Act of 2009 becomes null and void under sec. 6405 of the federal Act.

Section 7. Subsection (a) makes secs. 1, 2, 4, and 5 of the Act take effect only if the United States Secretary of the Interior determines that the land exchange described in sec. 4 is in the public interest. Subsection (b) makes sec. 3 and 6 of the Act take effect if the land exchanged is voided under sec. 6405 of the Omnibus Public Land Management Act of 2009. Requires the commissioner of natural resources to notify the lieutenant governor and the revisor of statutes if and when the conditions in sec. 7 are satisfied.

Section 8. If secs. 1, 4, and 5 of the Act take effect, identifies the date on which those sections take effect.

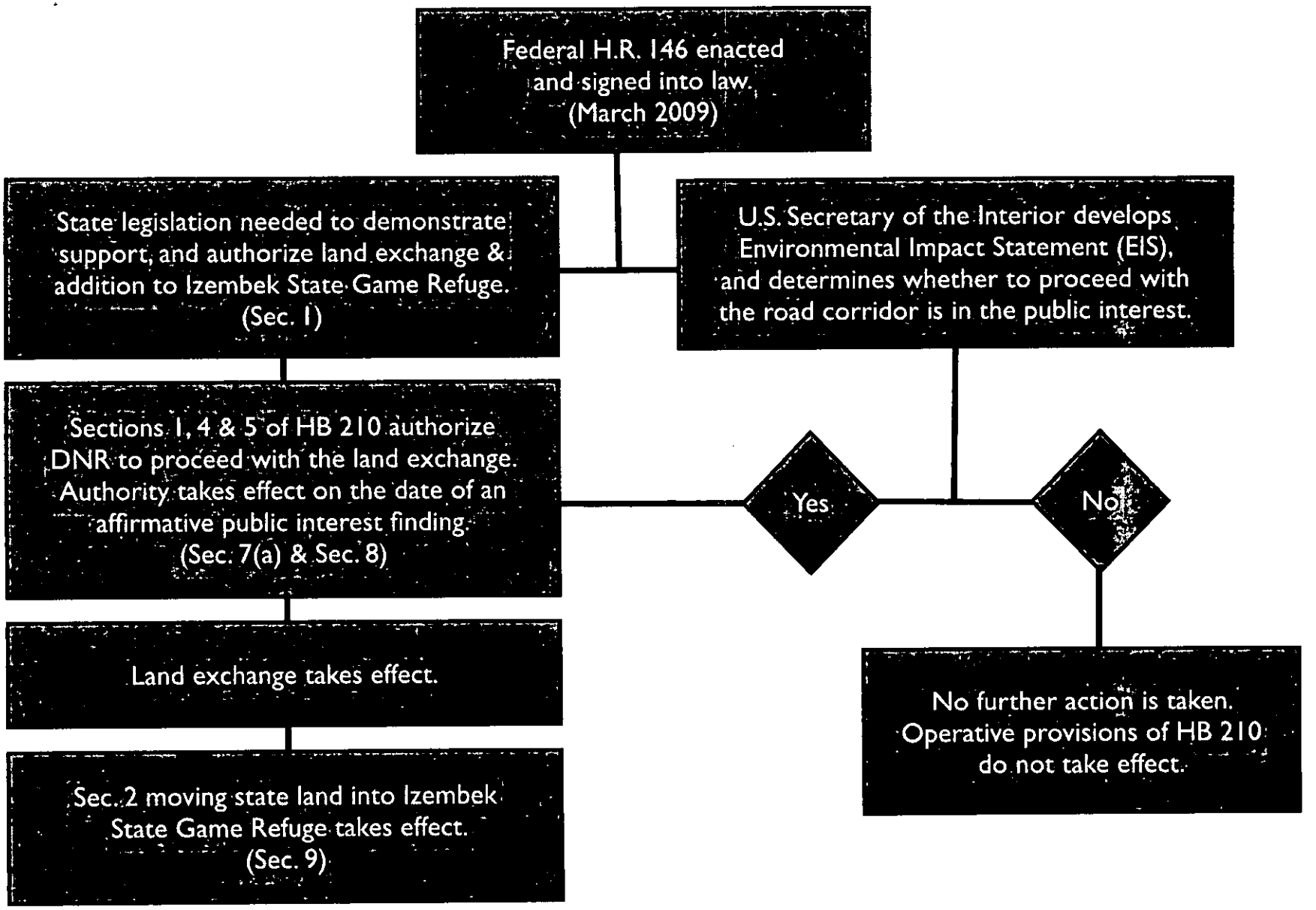
Section 9. If sec. 2 takes effect, identifies the date on which sec. 2 takes effect.

Section 10. If secs. 3 and 6 take effect, identifies the date on which those sections take effect.

Section 11. Except as provided in secs. 8 – 10 of the Act, makes the Act take effect immediately.

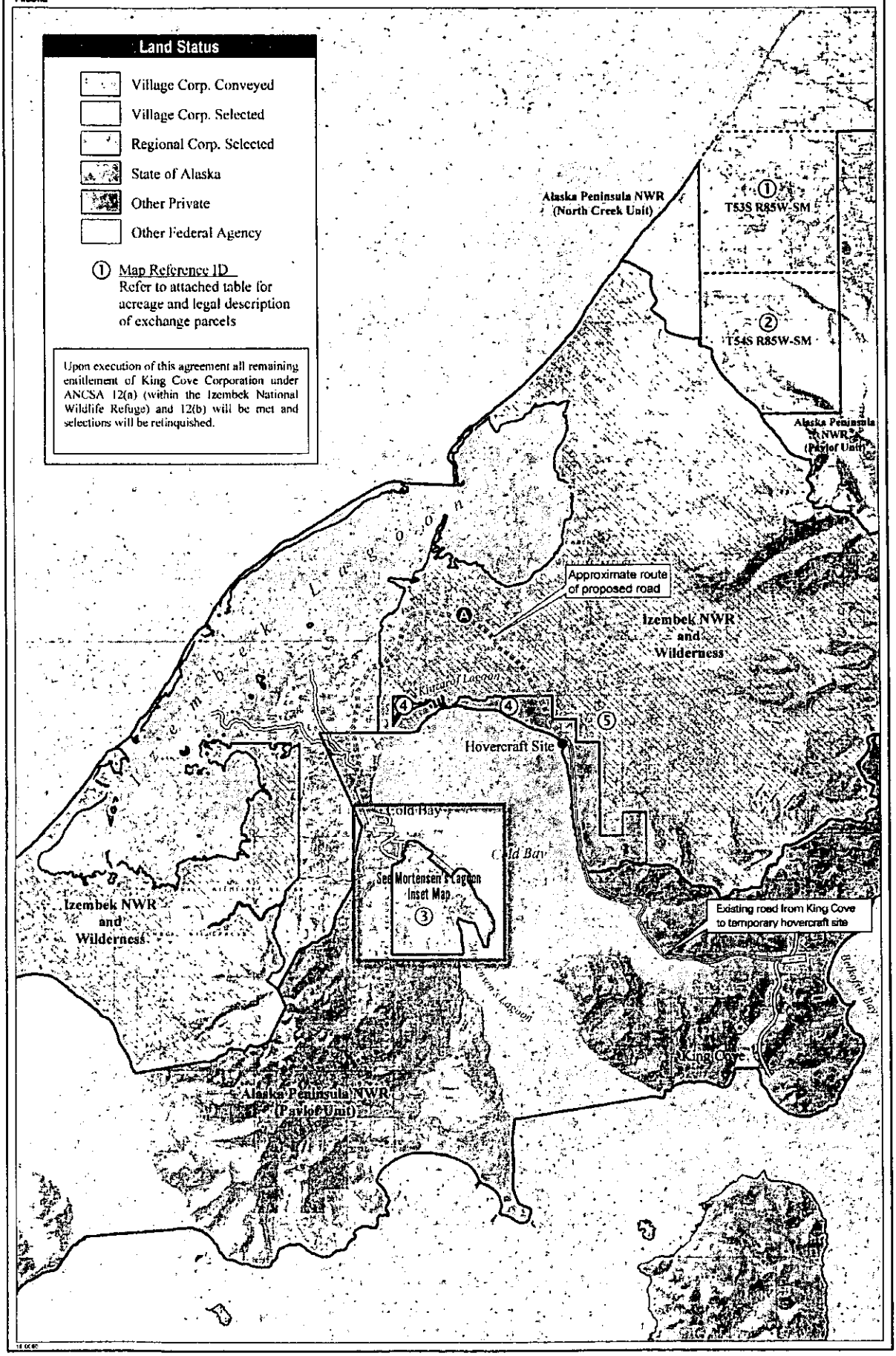
Regarding bill version 26-LS0788\R. Prepared by the office of Representative Edgmon, based on the sectional prepared for the original bill by Legislative Legal Services.

HB 210 - King Cove Land Exchange Process



Proposed Land Exchange Between USFWS and King Cove Corporation

Izembek and Alaska Peninsula National Wildlife Refuges
Alaska



Summary of Changes Between HB210 to CSHB210(RES)

During its hearing in the House Finance Committee on April 8th, 2009, section 4(b)(1) of the original bill was amended to make language in the state legislation conform more closely to the federal act it relates to.

On page 5, lines 8 and 9, "constructing a single-lane road" was deleted and "a corridor for the construction and operation of a road" was inserted. This more inclusive language helps ensure that all the road features set down in the federal agreement are acknowledged in the state legislation.

Also on page 5, line 9, "in accordance with the Omnibus Public Land Management Act of 2009, H.R. 146, 111th Cong. (2009) (enacted)," was inserted after "Cold Bay, Alaska,". Citing the federal legislation in this way was also in order to emphasize the state legislation's consistency with the federal act.

When this amendment was incorporated in the CS by the legislature's Legal Services counsel, it and all other references to the Omnibus Public Land Management Act of 2009 were edited to reflect that since HB210 was introduced the act has been designated Public Law 111-11. The changes are nonsubstantive.

An editorial change was also made in sec. 11 to correctly reference effective date sections in the bill that provide for effective dates that are not immediate. "secs. 7 – 10 of this Act" was changed to "secs. 8 – 10 of this Act".

Prepared by the Office of Representative Edgmon. *Regarding CSHB210(FIN) 26-LS0788\R*

HOUSE COMMITTEE REPO[illegible]

(9)
Date Referred to Committee: April 1, 2009 **FURTHER REFERRALS:**

Date of Committee Action: 8 Apr 2009

The RESOURCES Committee considered: **HOUSE BILL NO. 210**

"An Act designating Kinzarof Lagoon as part of the Izembek State Game Refuge; authorizing a land exchange with the federal government in which state land adjacent to the Izembek National Wildlife Refuge and within the Alaska Peninsula National Wildlife Refuge is exchanged for federal land to serve as a road corridor through the Izembek National Wildlife Refuge and federal land located on Sitkinak Island; and providing for an effective date."

HB 210 IZEMBEK STATE GAME REFUGE LAND EXCHANGE

Recommends it be replaced with [ ] HCS *or* [✓] CS *for* FIB 210 (Res)
For Senate Bills with new title: [ ] Technical Title [ ] New Title: HCR _____ [✓] Same Title [ ] New Title

[ ] attach amendments
[ ] add new referral to _____ Committee
[ ] Letter of Intent _____ Committee

List of Abbrev for Depts.:
ADM
CED
COR
CRT
EED
DEC
DFG
GOV
DHS
LWF
LAW
LEG
MVA
DNR
DPS
REV
DOT
UA

NEW FISCAL NOTES *Assigned by Chief Clerk's Office

List by Dept(s):	*FN#	Fiscal	Indet.	Zero
DNR				✓

PREVIOUS FISCAL NOTES

List by Dept(s):	FN#	Fiscal	Indet.	Zero

Signing with recommendations	Printed Last Name	DP	DNP	NR	AM
	OLSON	✓			
	GUTTENBERG			X	
	TUCK			X	
Paul R Seaton	SEATON	X			
Peggy Wilson	WILSON	X			
Joe Edgmon	Edgmon	X			
	KAWASAKI			X	
Chair:	VEHMAN	X			
Chair:	Johnson	X			

STATE OF ALASKA

SARAH PALIN, GOVERNOR

DEPARTMENT OF NATURAL RESOURCES
OFFICE OF THE COMMISSIONER

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April 14, 2008

The Honorable Jeff Bingaman
Chairman
U.S. Senate Committee on Energy and Natural Resources
302 Dirksen Senate Building
Washington, D.C. 20510

The Honorable Pete Domenici
Ranking Member
U.S. Senate Committee on Energy and Natural Resources
302 Dirksen Senate Building
Washington, D.C. 20510

Re: S 1680 – the Izembek and Alaska Peninsula Refuge and Wilderness Enhancement Act and King Cove Safe Access Act

Dear Chairman Bingaman and Ranking Member Domenici:

The State of Alaska supports S 1680, legislation that would authorize a land exchange between the State of Alaska, the U.S. Fish and Wildlife Service and King Cove Corporation to secure road access between the Alaskan communities of King Cove and Cold Bay. These communities are located on the Alaska Peninsula and are accessible only by air or water.

A priority for the Agdaagux Tribe of King Cove, the City of King Cove and the Aleutians East Borough is to construct a 27-mile road to Cold Bay, through the Izembek National Wildlife Refuge, to access the larger and safer airport at Cold Bay.

This overland link is necessary because both air and water access to King Cove is treacherous in the frequent stormy weather so common on the lower Alaska Peninsula. Cold Bay has a much larger, safer airport and the residents of King Cove need reliable access to the Cold Bay airport facility for health and safety, including emergency medical evacuations. A combination road and hovercraft system, established under the King Cove Health and Safety Act passed by Congress several years ago, has not safely nor efficiently resolved access problems.

The need for this road link has been identified in land and transportation plans for at least twenty-five years, including the Alaska Department of Transportation's Southwest Alaska Transportation Plan, adopted in 2004.

The land exchange would add valuable and significant acreage to the Izembek and Alaska Peninsula National Wildlife Refuges. Much of the land that would be added to the refuges is currently owned by the State of Alaska. Specifically, the State of Alaska is offering to exchange 43,093 acres, or all of the state-owned land contained in two townships located northeast of Izembek Refuge, in exchange for a 206 acre easement dedicated to the State of Alaska, through the Izembek National Wildlife Refuge and Wilderness. The undeveloped state land being offered to the Refuge is surrounded on three sides by refuge lands and is habitat for brown bears and caribou. This state land includes the lower portion of the Cathedral River, which drains the western flanks of Pavlof Volcano. It is de facto wilderness land. This state land was included in a recent state oil and gas lease sale, although no bids were received on these tracts.

The 7,900 acres being offered to the Izembek Refuge by King Cove Corporation includes valuable waterfowl habitat that straddles Kinzarof Lagoon at the head of Cold Bay. This land is an inholding within the existing Izembek Wilderness area. The Corporation is also offering to sell an additional 10,800 acres of private lands to the U.S. Fish and Wildlife Service for the Refuge.

The road easement that the state would acquire will run approximately 13 miles through the Izembek National Wildlife Refuge. More than half of this road already exists as primitive roads that were originally built during World War II. The total length of new road through the Wilderness area is 6.3 miles. The exact location of the easement will be determined in consultation with the U.S. Fish and Wildlife Service.

The combined offers from the State of Alaska and the King Cove Corporation would add 51,000 acres to the Izembek and Alaska Peninsula National Wildlife Refuges. All of the state land that is being offered in this exchange would be designated Wilderness by this legislation.

The state would acquire approximately 206 acres that encompass the road. The state would also acquire a 1,600-acre federal inholding on Sitkinak Island, a predominantly state-owned island located south of Kodiak Island.

The State of Alaska recognizes the unique value of the Izembek National Wildlife Refuge. In 1972, the Alaska Legislature set aside the state-owned tidelands within Izembek Lagoon and adjacent offshore state lands as a State Game Refuge. These state lands contain eel grass beds that are the very heart of Izembek Refuge.

As part of this proposal, the state would add more than 4,000 acres of state-owned tidelands in Kinzarof Lagoon, at the head of Cold Bay, to the State Game Refuge. The exchange will require approval by our state legislature as the state lands are quite likely of unequal, but greater, fair market value that the federal lands being exchanged.

The state is well aware of concerns expressed by various groups who are opposed to this legislation. Some are concerned about the precedent set by building a road through a Wilderness Area. Yet, when the Alaska National Interest Lands Conservation Act was passed in 1980, Congress specifically recognized that transportation facilities may be needed across the 58 million acres of federal Wilderness lands in Alaska. The Alaska Lands Act requires Congressional approval for such transportation corridors through Wilderness.

There are also concerns about increased public access to the refuge wilderness. The refuge and wilderness area are already accessible from Cold Bay by existing local roads. Through planning and enforcement of existing refuge regulations, the impacts of the limited number of new users from King Cove can be mitigated.

The State of Alaska supports this legislation and stands ready to commit over 43,000 acres of state land to the National Wildlife Refuge and Wilderness system. We urge the Committee to approve this bill.

Thank you for the opportunity to comment on this legislation.

Sincerely,

Tom Irwin, Commissioner
Alaska Department of Natural Resources

cc: The Honorable Ted Stevens, United States Senate
The Honorable Lisa Murkowski, United States Senate
The Honorable Don Young, United States House of Representatives
The Honorable Sarah Palin, Governor, State of Alaska
Commissioner Denby Lloyd, Alaska Department of Fish and Game
Commissioner Leo von Scheben, Alaska Department of Transportation and Public Facilities
Mr. John Katz, Office of the Governor, State of Alaska, Washington, D.C.
Mr. Dale Hall, Director, U.S. Fish and Wildlife Service
Mr. Tom Melius, Regional Director, U.S. Fish and Wildlife Service

Omnibus Public Land Management Act of 2009
(P.L. 111-11)

Subtitle E--Izembek National Wildlife Refuge Land Exchange

SEC. 6401. DEFINITIONS.

In this subtitle:

(1) CORPORATION- The term `Corporation' means the King Cove Corporation.

(2) FEDERAL LAND- The term `Federal land' means--

(A) the approximately 206 acres of Federal land located within the Refuge, as generally depicted on the map; and

(B) the approximately 1,600 acres of Federal land located on Sitkinak Island, as generally depicted on the map.

(3) MAP- The term `map' means each of--

(A) the map entitled `Izembek and Alaska Peninsula National Wildlife Refuges' and dated September 2, 2008; and

(B) the map entitled `Sitkinak Island-Alaska Maritime National Wildlife Refuge' and dated September 2, 2008.

(4) NON-FEDERAL LAND- The term `non-Federal land' means--

(A) the approximately 43,093 acres of land owned by the State, as generally depicted on the map; and

(B) the approximately 13,300 acres of land owned by the Corporation (including approximately 5,430 acres of land for which the Corporation shall relinquish the selection rights of the Corporation under the Alaska Native Claims Settlement Act (43 U.S.C. 1601 et seq.) as part of the land exchange under section 6402(a)), as generally depicted on the map.

(5) REFUGE- The term `Refuge' means the Izembek National Wildlife Refuge.

(6) SECRETARY- The term `Secretary' means the Secretary of the Interior.

(7) STATE- The term `State' means the State of Alaska.

(8) TRIBE- The term `Tribe' means the Agdaagux Tribe of King Cove, Alaska.

4689

SEC. 6402. LAND EXCHANGE.

(a) In General- Upon receipt of notification by the State and the Corporation of the intention of the State and the Corporation to exchange the non-Federal land for the Federal land, subject to the conditions and requirements described in this subtitle, the Secretary may convey to the State all right, title, and interest of the United States in and to the Federal land. The Federal land within the Refuge shall be transferred for the purpose of constructing a single-lane gravel road between the communities of King Cove and Cold Bay, Alaska.

(b) Compliance With National Environmental Policy Act of 1969 and Other Applicable Laws-

(1) IN GENERAL- In determining whether to carry out the land exchange under subsection (a), the Secretary shall--

(A) comply with the National Environmental Policy Act of 1969 (42 U.S.C. 4321 et seq.); and

(B) except as provided in subsection (c), comply with any other applicable law (including regulations).

(2) ENVIRONMENTAL IMPACT STATEMENT-

(A) IN GENERAL- Not later than 60 days after the date on which the Secretary receives notification under subsection (a), the Secretary shall initiate the preparation of an environmental impact statement required under the National Environmental Policy Act of 1969 (42 U.S.C. 4321 et seq.).

(B) REQUIREMENTS- The environmental impact statement prepared under subparagraph (A) shall contain--

(i) an analysis of--

(I) the proposed land exchange; and

(II) the potential construction and operation of a road between the communities of King Cove and Cold Bay, Alaska; and

(ii) an evaluation of a specific road corridor through the Refuge that is identified in consultation with the State, the City of King Cove, Alaska, and the Tribe.

(3) COOPERATING AGENCIES-

(A) IN GENERAL- During the preparation of the environmental impact statement under paragraph (2), each entity described in subparagraph (B) may participate as a cooperating agency.

(B) AUTHORIZED ENTITIES- An authorized entity may include--

(i) any Federal agency that has permitting jurisdiction over the road described in paragraph (2)(B)(i)(II);
(ii) the State;
(iii) the Aleutians East Borough of the State;
(iv) the City of King Cove, Alaska;
(v) the Tribe; and
(vi) the Alaska Migratory Bird Co-Management Council.

(c) Valuation- The conveyance of the Federal land and non-Federal land under this section shall not be subject to any requirement under any Federal law (including regulations) relating to the valuation, appraisal, or equalization of land.

(d) Public Interest Determination-

(1) CONDITIONS FOR LAND EXCHANGE- Subject to paragraph (2), to carry out the land exchange under subsection (a), the Secretary shall determine that the land exchange (including the construction of a road between the City of King Cove, Alaska, and the Cold Bay Airport) is in the public interest.

(2) LIMITATION OF AUTHORITY OF SECRETARY- The Secretary may not, as a condition for a finding that the land exchange is in the public interest--

(A) require the State or the Corporation to convey additional land to the United States; or

(B) impose any restriction on the subsistence uses (as defined in section 803 of the Alaska National Interest Lands Conservation Act (16 U.S.C. 3113)) of waterfowl by rural residents of the State.

(e) Kinzaroff Lagoon- The land exchange under subsection (a) shall not be carried out before the date on which the parcel of land owned by the State that is located in the Kinzaroff Lagoon has been designated by the State as a State refuge, in accordance with the applicable laws (including regulations) of the State.

(f) Designation of Road Corridor- In designating the road corridor described in subsection (b)(2)(B)(ii), the Secretary shall--

(1) minimize the adverse impact of the road corridor on the Refuge;

(2) transfer the minimum acreage of Federal land that is required for the construction of the road corridor; and

(3) to the maximum extent practicable, incorporate into the road corridor roads that are in existence as of the date of enactment of this Act.

(g) Additional Terms and Conditions- The land exchange under subsection (a) shall be subject to any other term or condition that the Secretary determines to be necessary.

SEC. 6403. KING COVE ROAD.

(a) Requirements Relating to Use, Barrier Cables, and Dimensions-

(1) LIMITATIONS ON USE-

(A) IN GENERAL- Except as provided in subparagraph (B), any portion of the road constructed on the Federal land conveyed pursuant to this subtitle shall be used primarily for health and safety purposes (including access to and from the Cold Bay Airport) and only for noncommercial purposes.

(B) EXCEPTIONS- Notwithstanding subparagraph (A), the use of taxis, commercial vans for public transportation, and shared rides (other than organized transportation of employees to a business or other commercial facility) shall be allowed on the road described in subparagraph (A).

(C) REQUIREMENT OF AGREEMENT- The limitations of the use of the road described in this paragraph shall be enforced in accordance with an agreement entered into between the Secretary and the State.

(2) REQUIREMENT OF BARRIER CABLE- The road described in paragraph (1)(A) shall be constructed to include a cable barrier on each side of the road, as described in the record of decision entitled `Mitigation Measure MM-11, King Cove Access Project Final Environmental Impact Statement Record of Decision' and dated January 22, 2004, unless a different type barrier is required as a mitigation measure in the Record of Decision for Final Environmental Impact Statement required in section 6402(b)(2).

(3) REQUIRED DIMENSIONS AND DESIGN FEATURES- The road described in paragraph (1)(A) shall--

(A) have a width of not greater than a single lane, in accordance with the applicable road standards of the State;

(B) be constructed with gravel;

(C) be constructed to comply with any specific design features identified in the Record of Decision for Final Environmental Impact Statement required in section 6402(b)(2) as Mitigation Measures relative to the passage and migration of wildlife, and also the exchange of tidal flows, where applicable, in accordance with applicable Federal and State design standards; and

(D) if determined to be necessary, be constructed to include appropriate safety pullouts.

(b) Support Facilities- Support facilities for the road described in subsection (a)(1)(A) shall not be located within the Refuge.

(c) Federal Permits- It is the intent of Congress that any Federal permit required for construction of the road be issued or denied not later than 1 year after the date of application for the permit.

(d) Applicable Law- Nothing in this section amends, or modifies the application of, section 1110 of the Alaska National Interest Lands Conservation Act (16 U.S.C. 3170).

(e) Mitigation Plan-

(1) IN GENERAL- Based on the evaluation of impacts determined through the completion of the environmental impact statement under section 6402(b)(2), the Secretary, in consultation with the entities described in section 6402(b)(3)(B), shall develop an enforceable mitigation plan.

(2) CORRECTIVE MODIFICATIONS- The Secretary may make corrective modifications to the mitigation plan developed under paragraph (1) if--

(A) the mitigation standards required under the mitigation plan are maintained; and

(B) the Secretary provides an opportunity for public comment with respect to any proposed corrective modification.

(3) AVOIDANCE OF WILDLIFE IMPACTS- Road construction shall adhere to any specific mitigation measures included in the Record of Decision for Final Environmental Impact Statement required in section 6402(b)(2) that--

(A) identify critical periods during the calendar year when the refuge is utilized by wildlife, especially migratory birds; and

(B) include specific mandatory strategies to alter, limit or halt construction activities during identified high risk periods in order to minimize impacts to wildlife, and

(C) allow for the timely construction of the road.

(4) MITIGATION OF WETLAND LOSS- The plan developed under this subsection shall comply with section 404 of the Federal Water Pollution Control Act (33 U.S.C. 1344) with regard to minimizing, to the greatest extent practicable, the filling, fragmentation or loss of wetlands, especially intertidal wetlands, and shall evaluate mitigating effect of those wetlands transferred in Federal ownership under the provisions of this subtitle.

SEC. 6404. ADMINISTRATION OF CONVEYED LANDS.

(1) FEDERAL LAND- Upon completion of the land exchange under section 6402(a)--

(A) the boundary of the land designated as wilderness within the Refuge shall be modified to exclude the Federal land conveyed to the State under the land exchange; and

(B) the Federal land located on Sitkinak Island that is withdrawn for use by the Coast Guard shall, at the request of the State, be transferred by the Secretary to

the State upon the relinquishment or termination of the withdrawal.

(2) NON-FEDERAL LAND- Upon completion of the land exchange under section 6402(a), the non-Federal land conveyed to the United States under this subtitle shall be--

(A) added to the Refuge or the Alaska Peninsula National Wildlife Refuge, as appropriate, as generally depicted on the map; and

(B) administered in accordance with the laws generally applicable to units of the National Wildlife Refuge System.

(3) WILDERNESS ADDITIONS-

(A) IN GENERAL- Upon completion of the land exchange under section 6402(a), approximately 43,093 acres of land as generally depicted on the map shall be added to--

(i) the Izembek National Wildlife Refuge Wilderness; or

(ii) the Alaska Peninsula National Wildlife Refuge Wilderness.

(B) ADMINISTRATION- The land added as wilderness under subparagraph (A) shall be administered by the Secretary in accordance with the Wilderness Act (16 U.S.C. 1131 et seq.) and other applicable laws (including regulations).

SEC. 6405. FAILURE TO BEGIN ROAD CONSTRUCTION.

(a) Notification To Void Land Exchange- If the Secretary, the State, and the Corporation enter into the land exchange authorized under section 6402(a), the State or the Corporation may notify the Secretary in writing of the intention of the State or Corporation to void the exchange if construction of the road through the Refuge has not begun.

(b) Disposition of Land Exchange- Upon the latter of the date on which the Secretary receives a request under subsection (a), and the date on which the Secretary determines that the Federal land conveyed under the land exchange under section 6402(a) has not been adversely impacted (other than any nominal impact associated with the preparation of an environmental impact statement under section 6402(b)(2)), the land exchange shall be null and void.

(c) Return of Prior Ownership Status of Federal and Non-Federal Land- If the land exchange is voided under subsection (b)--

(1) the Federal land and non-Federal land shall be returned to the respective ownership status of each land prior to the land exchange;

(2) the parcel of the Federal land that is located in the Refuge shall be managed as part of the Izembek National Wildlife Refuge Wilderness; and

(3) each selection of the Corporation under the Alaska Native Claims Settlement Act (43 U.S.C. 1601 et seq.) that was relinquished under this subtitle shall be reinstated.

SEC. 6406. EXPIRATION OF LEGISLATIVE AUTHORITY.

(a) In General- Any legislative authority for construction of a road shall expire at the end of the 7-year period beginning on the date of the enactment of this subtitle unless a construction permit has been issued during that period.

(b) Extension of Authority- If a construction permit is issued within the allotted period, the 7-year authority shall be extended for a period of 5 additional years beginning on the date of issuance of the construction permit.

(c) Extension of Authority as Result of Legal Challenges-

(1) IN GENERAL- Prior to the issuance of a construction permit, if a lawsuit or administrative appeal is filed challenging the land exchange or construction of the road (including a challenge to the NEPA process, decisions, or any required permit process required to complete construction of the road), the 7-year deadline or the five-year extension period, as appropriate, shall be extended for a time period equivalent to the time consumed by the full adjudication of the legal challenge or related administrative process.

(2) INJUNCTION- After a construction permit has been issued, if a court issues an injunction against construction of the road, the 7-year deadline or 5-year extension, as appropriate, shall be extended for a time period equivalent to time period that the injunction is in effect.

(d) Applicability of Section 6405- Upon the expiration of the legislative authority under this section, if a road has not been constructed, the land exchange shall be null and void and the land ownership shall revert to the respective ownership status prior to the land exchange as provided in section 6405.

HB 210 – Izembek Land Exchange

Testimony – Mayor Stanley Mack
April 8, 2009

My name is Stanley Mack. I am the Mayor of the Aleutians East Borough. The Borough consists of six communities located between 500 to 800 miles southwest of Anchorage. One of my primary responsibilities as Mayor is to help improve the quality of life for the 2700 residents of the borough. Safe and dependable transportation access is one of the most important of these qualities.

I am very pleased today to speak in support of HB 210. I also want to thank the State of Alaska for its steadfast involvement and support of this issue. Without the state's assistance we would not have this opportunity today.

HB 210 will authorize a land exchange between the federal government, State of Alaska, and the King Cove Corporation so that a single-lane road can eventually connect the village of King Cove with the Cold Bay Airport. I was born and raised in King Cove, so I know first-hand about the never-ending challenges in reaching the Cold Bay Airport due to

weather and the precarious location of the King Cove airstrip.

Thirty years ago King Cove's hopes for access to the Cold bay Airport were dashed when a portion of the Izembek Refuge between the two communities was declared wilderness. The fact that no one bothered to consult the indigenous residents of King Cove made this decision to cut us off especially wounding.

Now, after two decades of educating and advocating and, with the help of the State of Alaska and the King Cove Corporation in putting together a major land exchange, we are optimistic this road link can occur. We have worked long and hard for this opportunity.

I will sincerely appreciate your support of HB 210.

Thank You.

HB 210 – Izembek Land Exchange

Testimony – Mayor Ernest Weiss
April 8, 2009

My name is Ernest Weiss. I am the Mayor of the City of King Cove. We have a major transportation access issue between our community and the Cold Bay Airport. The Cold Bay Airport is the third longest runway in the state and is served daily from Anchorage.

Our problem living in King Cove is getting access to the Cold Bay Airport on a safe and predictable basis.

I am pleased today to speak in support of HB 210. This legislation will authorize the provisions of the Omnibus Public Lands Management Act of 2009, signed last week by President Obama, in helping to solve our access problem to the Cold Bay Airport. HB 210 will authorize a land exchange between the federal government, State of Alaska, and the King Cove Corporation so that a single-lane road can connect King Cove with the Cold Bay Airport.

I have lived in King Cove for the last 25 years and have personally witnessed fear and frustration which results from not having a safe, dependable, and

predictable means to get to the Cold Bay Airport. My experience has been that about 30-40% of the time that I travel to the Cold Bay Airport, I either do not get there, or at "best," do not arrive there in a timely or routine manner.

I realize that many other bush communities have transportation access issues. However, our transportation issue is one which can be solved. Now, after two decades of educating and advocating and, along with the help of the State of Alaska and the King Cove Corporation in putting together a major land exchange, we are optimistic this road link can finally occur.

On behalf of the 800 residents of King Cove, I want to thank the State of Alaska for its continuing involvement and support of our transportation access issue.

I will sincerely appreciate your support of HB 210.

Thank You.

HB 210 – Izembek Land Exchange

Testimony – Della Trumble, King Cove Corporation
April 8, 2009

My name is Della Trumble. I represent the King Cove Corporation (Corporation), our village ANCSA Corporation.

I have been personally involved in this issue for the last 25+ years. I have vowed to never quit until we have accomplished our objective of a simple and safe road link to the Cold Bay Airport.

I am pleased to speak today in support of HB 210, which will authorize the State's participation in a major land exchange between the federal government, State of Alaska, and the King Cove Corporation so this road can be built.

I was born in King Cove and have lived here all my life. I know first-hand about the never-ending challenges in reaching the Cold Bay Airport due to weather and the precarious location of the King Cove airstrip. This situation has brought countless times of misery and hardship to our residents.

Now, with the King Cove Corporation's willingness to give back about 20% of our aboriginal lands to the federal government, combined with the State lands being offered, our road becomes possible.

Please know we are very appreciative of the State's support helping us achieve this goal.

The Corporation's decision to give up our lands has been a difficult decision. But, we have come to understand this is the price we must pay for the opportunity to have a very modest road to the Cold Bay Airport through the Izembek Refuge.

We have reluctantly accepted the awareness that somewhere in the process, the federal government and others have ignored the fact that my Aleut ancestors have lived in this area for over 4,000 years. Long before Izembek Refuge even had a name, it has been a part of our environment and cultural survival.

However, it is now time to move forward to the future. Road access to the Cold Bay Airport will greatly enhance our personal safety and quality-of-life.

I respectfully request your support of this legislation.

Thank you.

HB 280

SENATE COMMITTEE REPORT

DATE: 3/25/10

FURTHER: Finance

DATE TURNED
IN TO OFFICE: _____

Resources Committee considered CS FOR HOUSE BILL NO. 280(FIN) am

HB 280 NATURAL GAS: STORAGE/ TAX CREDITS

"An Act relating to a gas storage facility; relating to the Regulatory Commission of Alaska; relating to the participation by the attorney general in a matter involving the approval of a rate or a gas supply contract; relating to an income tax credit for a gas storage facility; relating to oil and gas production tax credits; relating to the powers and duties of the Alaska Oil and Gas Conservation Commission; relating to production tax credits for certain losses and expenditures, including exploration expenditures; relating to the powers and duties of the director of the division of lands and to lease fees for a gas storage facility on state land; and providing for an effective date."

and recommends:

[ ] be **replaced** with [✓] **SCS** or [ ] **CS** HB 280 (RES)

[ ] adopt **previous** [ ] **SCS** or [ ] **CS** _____ (_____)

[ ] attached amendment(s)

[ ] adopt _____ Letter of Intent

[ ] further referral to _____ Committee

SENATE BILL:
[✓] Same Title
[ ] New Title

HOUSE BILL:
[ ] Same Title
[ ] Technical Title Change
[ ] New Title w/ SCR #_____

NEW FISCAL NOTE(S):

Department	Date	Fiscal	Indet.	Zero	FN#

PREVIOUS FISCAL NOTE(S):

Department	Date	Fiscal	Indet.	Zero	FN#
ADMIN	2/8			✓	1
DCCED	2/8			✓	2
DNR	3/5			✓	3
HFIN	3/23			✓	5

[ ] **APPROPRIATION - no fiscal note**

SIGNATURES AND RECOMMENDATIONS:	PRINTED LAST NAME	DO PASS	DO NOT PASS	NO REC	AMEND
	GRUSSI			✓	
	French			✓	
	WAGONER	X			
CO-CHAIR:	McGuire	✓			
CO-CHAIR:	Wiel	✓			

AMENDMENT

OFFERED IN THE SENATE

TO: CSHB 280 (FIN) am

Page 2, line 11:

Delete "and"

Page 2, line 13, following "day":

Insert "; and

(3) that the facility qualifies as a gas storage facility for the purposes of this section"

Page 9, line 4:

Delete ", treaters, and separators"

Insert "and gas treatment plants, but not including a liquefied natural gas or manufacturing plant or facility"

Page 9, line 19:

Delete "claimed"

Insert "received for each gas storage facility"

Page 10, lines 11 - 12:

Delete all material and insert:

"(4) must be regulated under AS 42.05 as a utility and be available to furnish the service of natural gas storage to the public for compensation; in this paragraph, "service of natural gas storage" has the meaning given in AS 42.05.990"

Page 10, line 28:

Delete "any taxable year ending before the date of the refund claim"

Insert "the calendar year in which the claim is made"

Page 11, lines 25 - 28:

Delete all material.

Reletter the following subsections accordingly.

Page 12, following line 24:

Insert a new bill section to read:

"* **Sec. 14.** AS 43.55.020(t) is amended to read:

"(f) If oil or gas is produced but not sold, **gas is produced but is stored in a gas storage facility**, or [IF] oil or gas is produced and sold under circumstances where the sale price does not represent the prevailing value for oil or gas of like kind, character, or quality in the field or area from which the product is produced, the department may require the tax to be paid upon the basis of the value of oil or gas of the same kind, quality, and character prevailing for that field or area during the calendar month of production or sale."

Renumber the following bill sections accordingly.

Page 12, line 25:

Delete "a new subsection"

Insert "new subsections"

Page 13, line 4:

Delete ""gas storage facility,""

Page 13, following line 5:

Insert a new subsection to read:

"(j) In this section, "gas storage facility" has the meaning given in AS 31.05.032"

Page 15, line 26 through page 16, line 12

Delete all material.

Insert "(o) For the purposes of (m) and (n) of this section, a Cook Inlet well lease expenditure is a lease expenditure that is incurred in the Cook Inlet sedimentary basin that is

(1) directly related to an exploration well, a stratigraphic test well, a producing well, or an injection well other than a disposal well, if the expenditure is a qualified capital expenditure and an intangible drilling and development cost authorized under 26 USC (internal Revenue Code) as amended and 26 C.F.R. 1.612-4, regardless of the elections made under 25 U.S.C. 263(c,); in this subparagraph an expenditure directly related to a well includes an expenditure for well sidetracking, well deepening, well completion or recompletion, or well workover, regardless as to whether the well is or has been a producing well; or

(2) an expense for seismic work conducted within the boundaries of a production or exploration unit."

FISCAL NOTE

STATE OF ALASKA
2010 LEGISLATIVE SESSION

Fiscal Note Number: 1
Bill Version: CSHB 280(L&C)
(H) Publish Date: 2/17/10

Identifier (file name): HB280-DOA-AOGCC-02-08-10
Dept. Affected: Admin
Title "An Act relating to natural gas; relating to a gas storage facility; relating to the Regulatory Commission of Alaska..."
RDU AOGCC
Component AOGCC
Sponsor Representatives Hawker and Chenault
Requester (H) L&C
Component Number 2010

Expenditures/Revenues (Thousands of Dollars)

Note: Amounts do not include inflation unless otherwise noted below.

	Appropriation Required	Information					
OPERATING EXPENDITURES	**FY 2011**	**FY 2011**	**FY 2012**	**FY 2013**	**FY 2014**	**FY 2015**	**FY 2016**
Personal Services	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Travel	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Contractual	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Supplies	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Equipment	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Land & Structures	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Grants & Claims	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Miscellaneous	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL OPERATING	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
CAPITAL EXPENDITURES							
CHANGE IN REVENUES ( )							
FUND SOURCE		(Thousands of Dollars)					
1002 Federal Receipts	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1003 GF Match	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1004 GF	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1005 GF/Program Receipts	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1037 GF/Mental Health	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Other Interagency Receipts	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**

Estimate of any current year (FY2010) cost: _____

POSITIONS

Full-time							
Part-time							
Temporary							

ANALYSIS: *(Attach a separate page if necessary)*

Additional work for the Alaska Oil and Gas Conservation Commission resulting from this bill could be managed by existing staff. The agency therefore submits a zero fiscal note.

Prepared by: Jody J. Colombie, Special Assistant I
Phone (907 793-1221
Division Alaska Oil and Gas Conservation Commission
Date/Time 02/08/10 12:00pm
Approved by: Rachael Petro, Deputy Commissioner
Date 2/8/2010
Department of Administration

(Revised 11/6/2009 OMB)

4707

FISCAL NOTE

STATE OF ALASKA
2010 LEGISLATIVE SESSION

Fiscal Note Number: 2
Bill Version: CSHB 280(L&C)
(H) Publish Date: 2/17/10

Identifier (file name): HB280-CED-RCA-02-08-10
Dept. Affected: DCCED
Title: Natural Gas
RDU: Regulatory Commission of Alaska (399)
Component: Regulatory Commission of Alaska
Sponsor: Hawker, Chenault
Requester: House Labor & Commerce
Component Number: 2417

Expenditures/Revenues (Thousands of Dollars)

Note: Amounts do not include inflation unless otherwise noted below.

	Appropriation Required	Information					
OPERATING EXPENDITURES	**FY 2011**	**FY 2011**	**FY 2012**	**FY 2013**	**FY 2014**	**FY 2015**	**FY 2016**
Personal Services	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Travel							
Contractual							
Supplies							
Equipment							
Land & Structures							
Grants & Claims							
Miscellaneous							
TOTAL OPERATING	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
CAPITAL EXPENDITURES							
CHANGE IN REVENUES ( )							

FUND SOURCE (Thousands of Dollars)

1002 Federal Receipts							
1003 GF Match							
1004 GF							
1005 GF/Program Receipts							
1037 GF/Mental Health							
Other Interagency Receipts							
TOTAL	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**

Estimate of any current year (FY2010) cost: 0.0

POSITIONS

Full-time							
Part-time							
Temporary							

ANALYSIS: *(Attach a separate page if necessary)*

The proposed legislation would provide financial incentives for natural gas storage facilities and for exploration in the Cook Inlet basin, and provide general guidance to the Regulatory Commission of Alaska (RCA) on natural gas pricing. Statutes governing the general powers and duties of the RCA would be revised to require the RCA, when considering whether approval of a natural gas supply contract is in the public interest, to (1) recognize the public benefits of a utility's ability to negotiate different pricing mechanisms with different suppliers and maintain a diversified portfolio of gas supply contracts to protect customers from the risks of inadequate supply or excessive costs that may arise from a single pricing mechanism, and (2) consider whether the utility could meet its responsibility to the public in a timely manner should the rate of gas supply contract not be approved.
(ANALYSIS CONTINUED)

Prepared by: Robert M. Pickett, Chairman
Phone 907.276.6222
Division: Regulatory Commission of Alaska
Date/Time 2/8/10 11:30 AM
Approved by: Emil R. Notti, Commissioner
Date 2/8/2010
Commerce, Community, and Economic Development

(Revised 11/6/2009 OMB)

4708

STATE OF ALASKA
2010 LEGISLATIVE SESSION

BILL NO. CSHB 280(L&C)

ANALYSIS CONTINUATION

This legislation would require that certain factors be recognized or considered when the RCA determines whether to approve natural gas supply contracts. The RCA expects to implement the provisions of this legislation with existing resources. The RCA can incorporate this review into the existing review process for natural gas supply contracts.

FISCAL NOTE

STATE OF ALASKA
2010 LEGISLATIVE SESSION

Fiscal Note Number: 3
Bill Version: CSHB 280(RES)
(H) Publish Date: 3/17/10

Identifier (file name): CSHB280-DNR-DOG-03-05-10
Title: Cook Inlet Recovery Act
Sponsor: Rep. Hawker and Chenault
Requester: HRES

Dept. Affected: Natural Resources
RDU: Resource Development
Component: Oil and Gas Development
Component Number: 439

Expenditures/Revenues (Thousands of Dollars)

Note: Amounts do not include inflation unless otherwise noted below.

	Appropriation Required	Information					
OPERATING EXPENDITURES	**FY 2011**	**FY 2011**	**FY 2012**	**FY 2013**	**FY 2014**	**FY 2015**	**FY 2016**
Personal Services							
Travel							
Contractual							
Supplies							
Equipment							
Land & Structures							
Grants & Claims							
Miscellaneous							
TOTAL OPERATING	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
CAPITAL EXPENDITURES							
CHANGE IN REVENUES ( )	**indeterminate**						

FUND SOURCE (Thousands of Dollars)

1002 Federal Receipts							
1003 GF Match							
1004 GF							
1005 GF/Program Receipts							
1037 GF/Mental Health							
Other Interagency Receipts							
TOTAL	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**

Estimate of any current year (FY2010) cost:

POSITIONS

Full-time							
Part-time							
Temporary							

ANALYSIS: *(Attach a separate page if necessary)*

HB 280 offers tax credits for Cook Inlet gas storage facilities and attempts to promote gas exploration and production in the Cook Inlet.

There is no anticipated fiscal impact to the Division of Oil and Gas for the management of gas storage on state land. However, Sec. 4 of the bill will provide a ten year "holiday" on all storage fees and rentals for the storage lease. Also, the accounting convention described means that "non-native" gas will be withdrawn from storage first and no royalty revenue will acrue to "native" gas until all non-native gas is withdrawn. How industry will respond to the tax credits offered by this bill is unknown, therefore, the impact on fees, rents, and royalty revenues is negative indeterminate.

Prepared by: Kevin Banks, Director — Phone 269-8800
Division: Oil and Gas — Date/Time 3/5/10 12:00 PM
Approved by: Tom Irwin, Commissioner — Date 3/5/2010
Natural Resources

(Revised 11/6/2009 OMB)

4710

FISCAL NOTE

STATE OF ALASKA
2010 LEGISLATIVE SESSION

Fiscal Note Number: 4
Bill Version: CSHB 280(RES)
(H) Publish Date: 3/17/10

Identifier (file name): CSHB280(L&C)-REV-TAX-03-07-10
Dept. Affected: Revenue
Title: Cook Inlet Recovery Act
RDU: Taxation and Treasury
Component: Tax Division
Sponsor: Representative Mike Hawker
Requester: (H) Resources
Component Number: 2476

Expenditures/Revenues (Thousands of Dollars)

Note: Amounts do not include inflation unless otherwise noted below.

	Appropriation Required	Information					
OPERATING EXPENDITURES	**FY 2011**	**FY 2011**	**FY 2012**	**FY 2013**	**FY 2014**	**FY 2015**	**FY 2016**
Personal Services	108.9	108.9	108.9	108.9	108.9	108.9	108.9
Travel	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Contractual	4.9	4.9	4.9	4.9	4.9	4.9	4.9
Supplies	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Equipment	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Land & Structures	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Grants & Claims	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Miscellaneous	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL OPERATING	**117.3**	**117.3**	**117.3**	**117.3**	**117.3**	**117.3**	**117.3**
CAPITAL EXPENDITURES	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
CHANGE IN REVENUES ( )	***	***	***	***	***	***	***

FUND SOURCE (Thousands of Dollars)

1002 Federal Receipts	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1003 GF Match	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1004 GF	117.3	117.3	117.3	117.3	117.3	117.3	117.3
1005 GF/Program Receipts	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1037 GF/Mental Health	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Other Interagency Receipts	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL	**117.3**	**117.3**	**117.3**	**117.3**	**117.3**	**117.3**	**117.3**

Estimate of any current year (FY2010) cost: 0.0

POSITIONS

Full-time	**1.0**	**1.0**	**1.0**	**1.0**	**1.0**	**1.0**	**1.0**
Part-time	0.0	0	0	0	0	0	0
Temporary	0.0	0	0	0	0	0	0

ANALYSIS: *(Attach a separate page if necessary)*

HB 280 would make multiple changes to the existing law on tax credits and gas storage facilities. The portions of the bill that specifically apply to the Department of Revenue would change the treatment of credits under AS 43.55.023 (Qualifying Capital Expenditures) and create a credit against corporate income tax (CIT) for gas storage facilities (AS 43.20.046). The language relating to credits has the potential to be interpreted quite broadly with the potential for large reductions in state revenues when compared to future developments that might occur under the current law.

The Department is requesting a Corporate Income Tax Auditor III position (Range 22) to audit the tax credits and manage the approval, issuance and tracking of the new and modified state credits. (continued)

Prepared by: Cody Rice, Petroleum Economist II — Phone 907-269-1024
Division: Tax Division — Date/Time 03-04-10; 4:27pm
Approved by: Ginger Blaisdell, Director — Date 03-07-10; 1:31pm
Administrative Services Division

(Revised 11/6/2009 OMB)

4711

ANALYSIS CONTINUATION

There are three gas storage facilities currently operating in the Cook Inlet region. None of the existing gas storage facilities would qualify for the corporate income tax credits under this bill as currently written. However, it is unclear if the existing gas storage facilities could qualify for credits if they shut-down and re-opened or changed ownership. Any estimate of the change in revenues to the state under this legislation would be based on hypothetical development in the future. As a result, the full revenue impact of this legislation cannot be accurately determined at this time.

The following scenarios may provide some perspective on the range of potential revenue impacts.

Scenario 1: Corporate income tax credit effects on a small facility

The first scenario assumes the construction of a small gas storage facility in a depleted reservoir similar to one of the smaller currently operating gas storage facilities. The facility is assumed to be capable of approximately 1.25 cycles a year and to have a working gas capacity of approximately 1Bcf. Under the terms of HB 280 this facility would be entitled to a credit of $1.5 Million against state CIT.

In 2004, the Federal Energy Regulatory Commission (FERC) estimated the median cost-of-service rate for firm storage service at $0.64/Decatherm. One Decatherm is equal to one Mcf of natural gas if the natural gas contains 1,000 Btu/cubic foot. Escalating this cost for inflation produces a 2009 cost-of-service rate of approximately $0.72/Mcf of firm storage service.

Given the estimated cost-of-service, volume of gas cycled and reasonable assumptions about debt to equity and other factors, the Department of Revenue estimates that this gas storage facility would owe approximately $95,000/year in state CIT. This rough estimate suggests that the corporate income tax credit for gas storage created under AS 43.20.046 of this bill would entirely offset the state corporate tax liability for nearly the first 16 years of operation. It is important to note that the credit created in this bill under AS 43.20.046 is eligible to be transferred or refunded.

There is a credit clawback provision that applies if the gas storage ceases commercial operations within ten years. However, in this scenario, the amount of the original credit remaining after ten years of commercial operations is estimated to be $550,000. This means the storage operator in this scenario could cease to operate at the beginning of year 11 and theoretically retain as much as $550,000 in refundable state credits. Additionally, under HB 280, the facility would be exempt from rental and storage fees charged by the Department of Natural resources (DNR) for the first ten years of commercial operations. There is also some question about whether the existing statute of limitations would allow the state to exercise the clawback provision.

Under this scenario the reduction in state taxes to the state is $1.5 million in undiscounted terms for each qualifying facility of this type. This does not include reductions in estimated rental and storage fees.

Scenario 2: Corporate income tax credit effects on a large facility

Scenario two assumes the construction of a large gas storage facility in a depleted reservoir. The facility is assumed to be capable of cycling approximately one time each year and to have a working gas capacity of

ANALYSIS CONTINUATION

Under the terms of HB 280 this facility would be entitled to the maximum credit of $30 million against state corporate income tax.

Using the same cost-of-service and financial assumptions as scenario one, the Department of Revenue estimates that the gas storage facility owner would owe approximately $1.5 million annually in state CIT. This rough estimate suggests that the corporate income tax credit created under AS 43.20.046 would completely offset the state corporate income tax liability for about 20 years of operation. It is important to note again that the credit created in this bill under AS 43.20.046 is eligible to be transferred or refunded. There is a credit clawback provision that applies if the gas storage ceases commercial operations within ten years. However, in this scenario, the amount of the original credit remaining after ten years of commercial operations is estimated to be $15,000,000. This means the storage operator in this scenario could cease to operate at the beginning of year 11 and theoretically retain as much as $15,000,000 in refundable state credits. The facility would also be exempt from rental and storage fees charged by the Department of Natural resources (DNR) for the first ten years of commercial operations.

Under this scenario the reduction in state taxes to the state is $30 million in undiscounted terms for each qualifying facility of this type. This does not include reductions in estimated rental and storage fees.

Scenario 3: Broader interpretation of HB 280 benefits

Previous scenarios have assumed gas storage facilities operated at nearly 100% of capacity, using 100% of certified storage capacity. This scenario assumes a gas storage operator takes full economic advantage of a broad interpretation of the language in HB 280. Specifically, the facility uses a reservoir with a working gas capacity of 20 Bcf and the operator only cycles the minimum amount of gas to prevent the loss of the credits: 10,000 Mcf of natural gas annually. Using the same cost-of-service and financial assumptions as the previous two scenarios, the Department of Revenue estimates that the gas storage facility owner would owe less than $1,000 annually in state CIT. The storage facility owner would be eligible for a credit of $30,000,000 for the facility based on the working gas capacity. In this scenario it would take nearly 4,000 years of operation under this scenario for a gas storage operator to exhaust the state corporate income tax credit provided under this bill. Alternatively, after 10 years of commercial operation the owner could shut the facility down and retain $29,990,000 in refundable state credits.

Scenario 4: Lost or deferred production and production tax revenue

Previous scenarios have assumed gas storage in a depleted reservoir. It is possible that an oil and gas lessee could elect to shut-in production at a currently producing field earlier than would have otherwise occurred in order to take full advantage of plentiful native gas for free cushion gas. Under this bill the remaining native gas could be produced at the end of commercial operations for the gas storage facility. This deferred or lost production tax revenue would be in addition to lost revenue impacts equivalent to any of the previous three scenarios. The time value of deferred production is not calculated but could be substantial.

Scenario 5: Tax Ceiling

Existing state law provides the benefit of a tax ceiling for certain production under AS 43.55.011(j)(k) and (o). The tax ceiling applies to Cook Inlet production as well as any natural gas produced for use in state. Currently, credits earned under AS 38.05.180(i), AS 41.09.010, AS 43.55.024 or AS 43.55.025 are required to be applied first to a producers tax liability under AS 43.55.011(e) as though it were not limited by AS 43.55.011(j)(k) or (o).

ANALYSIS CONTINUATION

Under HB280, the limitation on application of credits does not apply to Cook Inlet production after January 1, 2011. This change would allow credits from Cook Inlet expenditures to also be applied to other non-Cook Inlet tax liability. In essence producers would earn credits and apply their full value against state wide tax liability and also receive the benefit of the reduced tax rate resulting from the comparison of actual tax rate (using those credits) and the prior ELF rate or ceiling rate. This repeal is likely to have the effect of reducing Cook Inlet tax collections to zero and allowing Cook Inlet credits to be used to shield taxes due from operations in other parts of Alaska such as the North Slope. This provision would be a particular benefit to companies operating in both Cook Inlet and on the North Slope.

Scenario five entails a producer with production in both Cook Inlet and on the North Slope. Assume the producer is entitled to a credit of $12 million under AS 43.55.025 because of Cook Inlet Exploration Expenditures, and assume that the producer's total production taxes are approximately $18 million, with $16 million attributed to North Slope production and $2 million attributed to Cook Inlet production.

Under existing law, AS 43.55.011(m) requires the producer to apply the $12 million in Cook Inlet credits to the full value of its hypothetical .011(e) Cook Inlet tax liability even though the Cook Inlet tax ceiling rate is applicable. Applying the $12 million credit against $2 million of .011(e) Cook Inlet production tax leaves $10 million in excess credits that may be used to offset tax liability elsewhere in the state. The tax ceiling rate on Cook Inlet oil is zero; therefore $2 million of the credit is considered "used" under AS 43.55.011(m).

Under current law, the North Slope tax liability of $16 million would be offset by the $10 million in credits left over after application of AS43.55.011(m), leaving a production tax liability of $6 million. Under HB 280, the producer would not have to draw down its $12 million of Cook Inlet tax credits, and instead be allowed to apply the full $12 million to the $16 million North Slope tax liability. As a result, the producer would pay a total of $4 million in production tax under this scenario, or $2 million less than under the existing law.

This scenario is a simplified version of how HB 280 might affect state revenues. Because AS 43.55.011(m) applies to multiple types of credits, and multiple taxpayers, the revenue effects could be significant.

Additional Scenarios and Fiscal Impacts:

The effect of increasing the value of credits for well work in Cook Inlet to 40% under AS 43.55.023(m) is not quantified in this analysis but would reduce tax revenues.

There could be additional reductions in state tax revenues if other existing facilities or natural gas pipelines were certified as gas storage and eligible for credits. This bill does not limit the credit for gas storage to the Cook Inlet, and in fact could be applied to gas stored on the North Slope or other areas of the state.

Cook Inlet production tax and additional production caused by the injection or withdrawal requirements under this proposal are very unlikely to generate more than a small fraction of the revenue that would be required to fund this credit. This means production taxes from other areas of the state, such as the North Slope would likely be the source of funds to the tax credit fund for the state to repurchase this credit.

FISCAL NOTE

STATE OF ALASKA
2010 LEGISLATIVE SESSION

Fiscal Note Number: 5
Bill Version: CSHB 280(FIN)
(H) Publish Date: 3/24/10

Identifier (file name): CSHB280(FIN) -REV-TAX-3-23-10
Dept. Affected: Revenue
Title: Cook Inlet Recovery Act
RDU: Taxation and Treasury
Component: Tax Division
Sponsor: Representative Hawker
Requester: House Finance Committee
Component Number: 2476

Expenditures/Revenues (Thousands of Dollars)

Note: Amounts do not include inflation unless otherwise noted below.

	Appropriation Required	Information					
OPERATING EXPENDITURES	**FY 2011**	**FY 2012**	**FY 2013**	**FY 2013**	**FY 2014**	**FY 2015**	**FY 2016**
Personal Services							
Travel							
Contractual							
Supplies							
Equipment							
Land & Structures							
Grants & Claims							
Miscellaneous							
TOTAL OPERATING	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
CAPITAL EXPENDITURES							
CHANGE IN REVENUES ( )							

FUND SOURCE (Thousands of Dollars)

1002 Federal Receipts							
1003 GF Match							
1004 GF							
1005 GF/Program Receipts							
1037 GF/Mental Health							
Other-AHFC Receipts							
TOTAL	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**

Estimate of any current year (FY2009) cost:

POSITIONS

Full-time							
Part-time							
Temporary							

ANALYSIS: *(Attach a separate page if necessary)*

Prepared by: Co-Chair Rep. Stoltze
House Finance Committee
Phone 465-4958
Date/Time 3/23/2010 4:55PM

Co-Chair Rep. Hawker
House Finance Committee
Date 3/23/2010

(Revised 9/10/2008 OMB)

4715

Representative Mike Hawker
Alaska State Legislature

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House District 32:
Eagle River
Anchorage
Rainbow
Indian
Bird
Girdwood
Portage
Whittier
Sunrise
Hope

House Bill 280
"The Cook Inlet Recovery Act"
Sponsor Statement

Residents of South Central Alaska are at risk that in the near future there will not be enough natural gas produced in Cook Inlet to heat and light their homes and businesses. Legislative action now can help address this challenge before it becomes a crisis.

A critical and universally recognized part of the solution is large-scale gas storage, allowing utilities to purchase gas during lower demand periods; hold the gas in storage; then withdraw it when needed. Establishing gas storage is crucial, and the state needs to promote the rapid development of storage facilities. House Bill 280, the Cook Inlet Recovery Act (CIRA), provides tax incentives and regulatory assurances to attract the private investment necessary to develop storage facilities and help reduce the cost of storage to consumers.

Specifically, CIRA provides a 10-year exemption from state land lease fees and rents to owners of new gas storage facilities. Since storage is needed urgently, these financial incentives will be available only for facilities put into operation before December 31, 2015. CIRA sets standards, such as minimum size and access requirements, for qualifying projects. Consumers will benefit from increased energy security and lower energy costs, as any financial incentives are required to pass through the supply chain to utilities and, in turn, to their customers.

In addition to storage, South Central also needs new gas discoveries. CIRA increases the incentives for exploration in Cook Inlet and allows explorers and producers to take their full benefit in one year rather than over two years.

CIRA also provides statutory guidance to the Regulatory Commission of Alaska in its consideration of utility gas supply contracts to help ensure adequate supplies of reasonably priced gas in the years ahead.

2/5/10

Rep.Mike.Hawker@legis.state.ak.us • http://www.akrepublicans.org/hawker/

HB 280
Cook Inlet Recovery Act - Sectional Analysis
Prepared by Representative Mike Hawker's Office

Section 1: Sets out a short title for the legislation: Cook Inlet Recovery Act (CIRA).

Section 2: Establishes an application process, criteria and timeline for the Alaska Oil and Gas Conservation Commission (AOGCC) to certify that a gas storage facility (GSF) meets the minimum working gas storage capacity and daily delivery rate requirements to be eligible for the financial incentives provided in this bill.

Requires a GSF owner to notify the AOGCC if the facility ceases operation.

Provides definitions for terms used in CIRA.

Section 3: Requires the Director of the Division of Mining, Land and Water to give priority to and expedite "when reasonably possible" any applications, permits and lease assignments needed for development and operation of a GSF.

Section 4: Prohibits the Department of Natural Resources from denying a lease application for a natural gas storage facility solely because the facility would be used exclusively or primarily to store gas owned by the owner or operator of the facility.

Section 5: Directs the Department of Natural Resources (DNR) to waive any state land lease fees or rents for the first 10 years of a GSF's operation. The waiver would stop if the storage facility ceases commercial operations.

States that any waivers of lease fees or rents would be public record.

Requires that the GSF pass on the financial benefits of any lease exemption to utilities that use its service.

Clarifies that any gas withdrawn from a GSF is considered to be non-native gas and not subject to royalty until all non-native gas is withdrawn.

Section 6: Directs the Regulatory Commission of Alaska (RCA), when considering the approval of a utility's gas supply contract, to consider the impact on consumers if the commission rejects a utility's gas supply contract and to recognize the value of a utility holding a diversified portfolio of gas supply contracts with different pricing mechanisms in order to protect consumers from inadequate gas supplies and the risk of a single pricing mechanism.

Section 7: Requires that a utility's cost of gas storage that is passed on to consumers reflect the financial benefits of any tax credits and state lease exemptions provided in this legislation.

Section 8: Clarifies that a natural gas storage facility that is part of a regulated natural gas pipeline (regulated under AS42.06) shall not also be regulated as a utility under the new provisions of AS42.05 in this bill.

Section 9: Specifies that the Regulatory Commission of Alaska has jurisdiction over natural gas storage services provided for gas that is owned by a regulated utility.

Section 10: Further defines "natural gas storage facility" and clarifies what is considered part of the storage facility.

Further defines that RCA regulation of gas storage facilities is limited to facilities operated primarily or exclusively for third-party customers; regulation does not extend to a proprietary storage facility operated exclusively or primarily to hold gas owned by the storage facility owner or operator.

Section 11: Clarifies that the names of taxpayers and the amount of credits claimed for gas storage facilities under this legislation shall be public information. Requires the Department of Revenue (DOR) to furnish the information to the RCA.

Section 12: Establishes a credit against corporate income taxes of $1.50 per thousand cubic feet of new gas storage capacity opened in Alaska during 2011-2015. The credit is limited to the lesser of $15 million or 25% the costs incurred to establish the GSF. This section sets out minimum capacity and deliverability requirements to qualify for the credit, including that the GSF must be available for use by regulated utilities and, if utilizing state land, must be in compliance with its DNR storage lease. The credit can be refunded by the state at full value if the owner does not have enough taxable income to fully utilize it.

Section 13: Sunsets on Jan. 1, 2011, the rule that limits how certain tax credits arising from activity in Cook Inlet or from producing gas for in-state use are used. This would allow a Cook Inlet explorer or producer to explore or produce elsewhere in the state and have full access to the credits it earned from its Cook Inlet activities.

Section 14: Clarifies that any native gas in a gas storage facility shall be deemed not to be produced for production tax purposes until all of the non-native gas injected into the storage facility has been withdrawn.

Section 15: Allows explorers in Cook Inlet to receive their full production tax credit in the first year rather than over two years (as in current statute).

Section 16: Makes additional statutory changes to allow explorers in Cook Inlet to receive their full production tax credit the first year rather than over two years (as in current statute).

Section 17: Adds the new Cook Inlet-related well tax credits to the section in statute dealing with audits of transferred tax credits.

Section 18: Provides a 40% credit for exploration expenses in Cook Inlet against production taxes, rather than the two-tiered 30% / 40% credit in existing statute. In addition, all well-related lease expenditures in Cook Inlet, including non-capital and non-exploration related lease expenditures, also qualify for the credit. The section also defines which expenses qualify as a "Cook Inlet well lease expenditure" to be eligible for the tax credit.

Section 19: Allows the state to use funds from the oil and gas tax credit fund to refund the tax credits issued to a GSF.

Section 20: Makes additional changes to make it easier for a company to sell its Cook Inlet exploration credits to the state. Current law requires that before a company can sell credits back to the state it must prove it has spent an amount equal to the credit in Alaska. HB 280 would eliminate that requirement for Cook Inlet exploration credits.

Section 21: Authorizes the Department of Revenue to write regulations implementing certain aspects of Section 17.

Section 22: Directs the Office of Public Advocacy for regulatory affairs at the Department of Law, when considering whether to participate in a utility rate case regarding a utility's gas supply contract before the RCA, to consider the impact to consumers if the commission rejects a utility's gas supply contract and to recognize the value of a utility holding a diversified portfolio of gas supply contracts with different pricing mechanisms in order to protect consumers from inadequate gas supplies and the risk of a single pricing mechanism.

Section 23: Immediate effective date clause.

HB 306

SENATE COMMITTEE REPORT

DATE: 3/18/10

FURTHER: Finance

DATE TURNED
IN TO OFFICE: _____

Resources Committee considered CS FOR HOUSE BILL NO. 306(RES)

HB 306 STATE ENERGY POLICY

"An Act declaring a state energy policy."

and recommends:

[ ] be **replaced** with [✓] **SCS** or [ ] **CS** HB 306 (RES)

[ ] adopt **previous** [ ] **SCS** or [ ] **CS** _____ (_____)

[ ] attached amendment(s)

[ ] adopt _____Letter of Intent

[ ] further referral to _____Committee

SENATE BILL:
[✓] Same Title
[ ] New Title

HOUSE BILL:
[ ] Same Title
[ ] Technical Title Change
[ ] New Title w/ SCR #_____

NEW FISCAL NOTE(S):

Department	Date	Fiscal	Indet.	Zero	FN#

PREVIOUS FISCAL NOTE(S):

Department	Date	Fiscal	Indet.	Zero	FN#
HENE					

[ ] **APPROPRIATION - no fiscal note**

SIGNATURES AND RECOMMENDATIONS:	PRINTED LAST NAME	DO PASS	DO NOT PASS	NO REC	AMEND
	French			✓	
	WAGONER			✓	
	STEVENS			✓	
CO-CHAIR:	Wielechowski	✓			
CO-CHAIR:					

Amended

26-LS1049\W

CS FOR HOUSE BILL NO. 306(RES)

IN THE LEGISLATURE OF THE STATE OF ALASKA

TWENTY-SIXTH LEGISLATURE - SECOND SESSION

BY THE HOUSE RESOURCES COMMITTEE

Offered: 3/15/10
Referred: First Supplemental Calendar

Sponsor(s): HOUSE SPECIAL COMMITTEE ON ENERGY

A BILL

FOR AN ACT ENTITLED

"An Act declaring a state energy policy."

BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF ALASKA:

*** Section 1.** The uncodified law of the State of Alaska is amended by adding a new section to read:

LEGISLATIVE INTENT. It is the intent of the legislature that

(1) the state achieve a 15 percent increase in energy efficiency on a per capita basis between 2010 and 2020;

(2) the state receive 50 percent of its electric generation from renewable energy sources by 2025;

(3) the state work to ensure a reliable in-state gas supply for residents of the state;

(4) the power project fund (AS 42.45.010) serve as the main source of state assistance for energy projects;

(5) the state remain a leader in petroleum and natural gas production and become a leader in renewable alternative energy development.

* **Sec. 2.** AS 44.99 is amended by adding a new section to read:

Sec. 44.99.115. Declaration of state energy policy. The State of Alaska recognizes that the state's economic prosperity is dependent on available, reliable, and affordable residential, commercial, and industrial energy to supply the state's electric, heating, and transportation needs. The state also recognizes that worldwide supply and demand for fossil fuels and concerns about global climate change will affect the price of fossil fuels consumed by Alaskans and exported from the state to other markets. In establishing a state energy policy, the state further recognizes the immense diversity of the state's geography, cultures, and resource availability. Therefore, it is the policy of the state to

(1) institute a comprehensive and coordinated approach to supporting energy efficiency and conservation by

(A) encouraging statewide energy efficiency codes for new and renovated residential, commercial, and public buildings;

(B) decreasing public building energy consumption through conservation measures and energy-efficient technologies; and

(C) initiating and supporting a program to educate state residents on the benefits of energy efficiency and conservation, including dissemination of information on state and federal programs that reward energy efficiency;

(2) encourage economic development by

(A) promoting the development of renewable energy resources, including geothermal, wind, solar, hydroelectric, hydrokinetic, tidal, and biomass energy, for use by Alaskans and for export of power that is surplus to the needs of Alaska communities;

(B) promoting the development, transport, and efficient use of nonrenewable and alternative energy resources, including natural gas, coal, oil, gas hydrates, heavy oil, and nuclear energy, for use by Alaskans and for export;

(C) working to identify and assist with development of the most cost-effective, long-term sources of energy for each community

statewide;

(D) creating and maintaining a state fiscal regime that encourages private sector development of the state's energy resources;

(E) promoting the efficiency of energy used for transportation;

(3) support energy research, education, and workforce development by investing in

(A) training and education programs that will help create jobs for Alaskans and that address energy conservation, efficiency, and availability, including programs that address workforce development and workforce transition; and

(B) applied energy research and development of emerging technologies, including university programs, to achieve reductions in state energy costs and stimulate industry investment in the state;

(4) coordinate governmental functions

(A) by reviewing and streamlining regulatory processes and balancing the economic costs of review with the level of regulation necessary to protect the public interest;

(B) using one office or agency, as may be specified by law, to serve as a clearinghouse in managing the state's energy-related functions to avoid fragmentation and duplication and to increase effectiveness;

(C) by actively collaborating with federal agencies to achieve the state's energy goals and to meet national emissions, renewable energy, and energy production targets.

26-LS1049\W.2
Kane
4/6/10

AMENDMENT

OFFERED IN THE SENATE BY SENATOR HUGGINS

TO: CSHB 306(RES)

Page 1, line 8, following "renewable":
Insert "and alternative"

Page 1, line 15, following "renewable":
Insert "and"

Page 2, line 22, following "renewable":
Insert "and alternative"

Page 3, line 11, following "of":
Insert "alternative and"

Page 3, line 22, following "renewable":
Insert "and alternative"

26-LS1049\W.2
Kane
4/6/10

AMENDMENT

OFFERED IN THE SENATE BY SENATOR HUGGINS

TO: CSHB 306(RES)

Page 1, line 8, following "renewable":
Insert "and alternative"

Page 1, line 15, following "renewable":
Insert "and"

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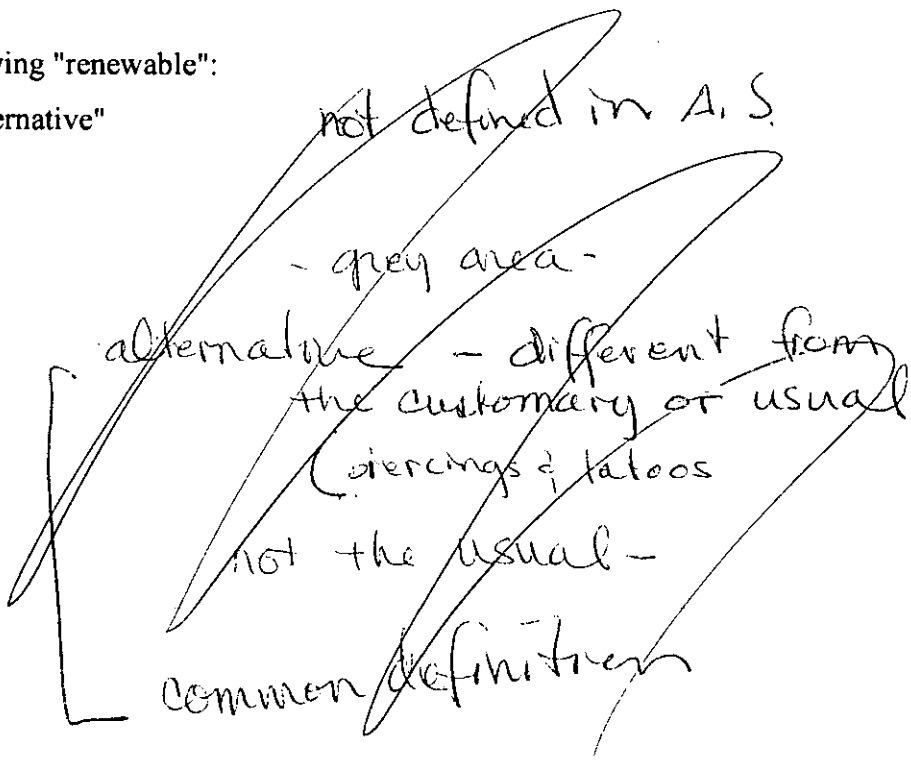
Page 3, line 11, following "of":
Insert "alternative and"

Page 3, line 22, following "renewable":
Insert "and alternative"



Alaska Legislature
House Special Committee on Energy

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Summary of Changes - CS for House Bill 306 (ENE)

1) Page 1, Line 14 – following "projects" inserted "the state remain a leader in petroleum and natural gas production and become leader in renewable energy development;"

2) Page 2, Line 24 - following "export" inserted: "of power that is surplus to the needs of Alaska communities"

3) Page 3, Line 5 - following "programs": inserted "that will help create jobs for Alaskans and"

Summary of Changes - CS for House Bill 306 (RES)

1) Page 1, Line 15: after "in" added "and alternative"

2) Page 2, Line 13: Removed "establish" and replaced it with "encourage."

3) Page 2, Line 27: after "nonrenewable" inserted "and alternative"

4) Page 3, Line 4: Inserted "(E) promoting energy efficiency utilized for transportation."

Prepared by Jeff Turner, Staff to Rep. Charisse Millett on 3/13/10

I FIGURED WE COULD GIVE MEMBERS TIME TO CONSIDER THE BILL AND COME BACK THURS. OR FRI. [redacted] W/AMENDMENTS.

FISCAL NOTE

STATE OF ALASKA
2010 LEGISLATIVE SESSION

Fiscal Note Number: 1
Bill Version: CSHB 306(ENE)
(H) Publish Date: 2/5/2010

HB306
Title: An act declaring a state energy policy
Sponsor: (H) Energy
Requester:

Dept. Affected:
RDU
Component
Component Number

Expenditures/Revenues (Thousands of Dollars)

Note: Amounts do not include inflation unless otherwise noted below.

	Appropriation Required	Information					
OPERATING EXPENDITURES	**FY 2011**	**FY 2011**	**FY 2012**	**FY 2013**	**FY 2014**	**FY 2015**	**FY 2016**
Personal Services							
Travel							
Contractual							
Supplies							
Equipment							
Land & Structures							
Grants & Claims							
Miscellaneous							
TOTAL OPERATING	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
CAPITAL EXPENDITURES							
CHANGE IN REVENUES ( )							

FUND SOURCE (Thousands of Dollars)

1002 Federal Receipts							
1003 GF Match							
1004 GF							
1005 GF/Program Receipts							
1037 GF/Mental Health							
Other Interagency Receipts							
TOTAL	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**

Estimate of any current year (FY2010) cost:

POSITIONS

Full-time							
Part-time							
Temporary							

ANALYSIS: *(Attach a separate page if necessary)*

Prepared by: Adam Berg
Division: House Energy Committee Staff
Approved by:

Phone 465-4451
Date/Time
Date 2/2/2010

(Revised 11/6/2009 OMB)

Energy Policy for Alaska

Presented by:
Chris Rose, Renewable Energy Alaska Project
Bill Popp, Anchorage Economic Development Corporation

The House Energy Committee
January 26, 2010

The Stakeholder Advisory Panel

- Rep. Bryce Edgmon & Rep. Charisse Millett, House Energy Committee Co-Chairs
- Adam Berg, Jeff Turner & Larry Persily, Legislative Staff
- Gwen Holdmann, Alaska Center for Energy & Power
- Robert Venables, Southeast Conference
- Scott Goldsmith, ISER
- Jason Brune, RDC
- John Davies, Alaska Cold Climate Housing Research Center
- Ralph Andersen, Bristol Bay Native Association
- Bill Popp, AEDC
- Bob Pawlowski, Denali Commission
- Denali Daniels, Denali Commission
- Caitlin Higgins, Alaska Conservation Alliance
- Stacy Schubert, Municipality of Anchorage
- Marilyn Leland, Alaska Power Authority
- Meera Kohler, Alaska Village Electric Cooperative
- Ron Miller, Energy Consultant
- Chris Rose, REAP
- Kathy Wasserman, AML

The Purpose

- To develop a statewide energy policy as the basis for a long-term vision to address Alaska's energy challenges and opportunities
- Through adopted policy, align state government in a unified set of strategic goals for the State of Alaska
- Lead to the development of a comprehensive energy plan to achieve the strategic goals of the State of Alaska

The Key Steps

1. Establish the Energy Policy
2. Develop Strategic Goals
3. Create the Plan to Achieve the Goals
4. Implement Programs and Projects

Principles Guiding the Process

- The future success of Alaska's statewide economy is tied to available, reliable, and affordable energy for:
  - Residential users
  - Commercial users
  - Industrial users
- Worldwide supply and demand for fossil fuels and concerns about global climate change will affect the price of fossil fuels in the future

The Starting Point of the Policy

- Tri-Borough Commission Energy Policy
  - Matanuska-Susitna Borough Mayor Curt Menard
  - Municipality of Anchorage Mayor Mark Begich
  - Kenai Peninsula Borough Mayor John Williams
- Established a diverse 13 member task force to develop proposed energy policy in October, 2007
- Adopted Southcentral region energy policy proposal February 7, 2008

- **The House Energy Policy Stakeholders Advisory Panel agreed that many of the principles in this policy could be applied statewide**

The Fundamentals of the Policy

- Promotes energy efficiency and conservation
- Promotes development of renewable and non-renewable energy resources
- Promotes economic development through cost-effective, long-term sources of energy for communities statewide
- Supports energy research, education, and workforce development
- Supports coordination of governmental functions and promotes streamlining of regulatory processes, avoiding duplication of effort, and overall coordination of effort by all levels of government

The Key Steps Going Forward

1. Establish the Energy Policy
2. Develop Strategic Goals
3. Adopt the Plans to Achieve the Goals
4. Implement Programs and Projects

Thank You!

Alaska Legislature
House Special Committee on Energy

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Date: 1/25/10
Version: 26-LS1049\P

Sponsor Statement – HB 306

"An act creating a state energy policy"

Creating a state energy policy is one of the first steps to meeting the state's energy current and future needs. A comprehensive energy policy in statute will serve as a blueprint for future generations of Alaskans.

The House Special Committee on Energy Co-chairs Rep. Bryce Edgmon, D-Dillingham and Rep. Charisse Millett, R-Anchorage used a unique method to draft the bill - they didn't write it.

Instead, they assembled a diverse group of Alaskans with decades of experience in energy policy to come together and write what they believed would make a good energy policy for Alaska.

Sixteen respected Alaskans participated in The House Energy Stakeholders Group:

Gwen Holdmann, Alaska Center for Energy & Power
Robert Venables, Southeast Conference
Scott Goldsmith, ISER
Jason Brune, Resource Development Council
John Davies, Alaska Cold Climate Housing Research Center
Ralph Anderson, Bristol Bay Native Association
Bill Popp, Anchorage Economic Development Council
Bob Pawlowski, Denali Commission
Denali Daniels, Denali Commission
Caitlin Higgins, Alaska Conservation Alliance
Stacy Schubert, Municipality of Anchorage
Kathie Wasserman, Alaska Municipal League
Marilyn Leland, Alaska Power Authority

Meera Kohler, Alaska Village Electric Cooperative
Ron Miller, Energy Consultant
Chris Rose, Renewable Energy Alaska Project

The result of their hard work is House Bill 306. The draft energy policy carries five core fundamental principles to guide the state moving forward:

- Promote energy efficiency and conservation
- Promote development of renewable and non-renewable energy resources
- Promote economic development through cost-effective, long-term sources of energy for communities statewide
- Support energy research, education, and workforce development
- Support coordination of governmental functions, which promotes streamlining of regulatory processes and overall coordination of efforts by all levels of government

If passed, Alaska will join many other states in having a statewide energy policy on the books.

###

Robert L. Beans
PO Box 2645
Palmer, Alaska 99645
Home: (907) 746-2733
Cell: (907) 355-5088
Email: rlbeans@gmail.com

March 11, 2010

Re: State Energy Policy

Honorable State Senators and Representatives,

I am a lifelong Alaskan, and I am in favor of the creation of a State Energy Policy. It is much needed and long overdue. Because of our unique geography and the fact that most of our utilities are not interconnected, Alaska does not fit comfortable into many federal energy programs. Consequently, it is imperative that our State-level energy structure be as efficient as possible. The creation of an office or agency to be a clearinghouse and to manage the state's diverse energy-related functions will not only be a cost saving measure that addresses any fragmentation and duplication of efforts; but it is a common-sense approach to facilitate the efficiencies needed for economic development and quality of life for Alaskans.

I do not speak for or on behalf of any organization, but I have seen how a well thought-out, synergetic stakeholder approach to issues reaps maximum benefits. One only needs to look at the current situation in regards to the Rural Sanitation issue and the creation of the Power Cost Equalization Endowment Fund addressed under the Knowles Administration. An identical approach to the energy-related issues will achieve the same affect for Alaskans no matter where they chose to live in our State. I express appreciation to each of you for your Leadership, personal commitment and Statesmanship on this issue. Quyana Cakenaq

Sincerely,

Robert L. Beans

HOUSE COMMITTEE REPO

(9)
Date Referred to Committee: February 5, 2010 **FURTHER REFERRALS:**

Date of Committee Action: 3/12/10

The RESOURCES Committee considered: **HB 306**

HOUSE BILL NO. 306
"An Act declaring a state energy policy."

HB 306-STATE ENERGY POLICY

Recommends it be replaced with [ ] HCS *or* [X] CS *for* HB 306 (RES)
For Senate Bills with new title: [ ] Technical Title [ ] New Title: HCR_____ **[ ] Same Title [ ] New Title**

[ ] attach amendments
[ ] add new referral to _____Committee
[ ] Letter of Intent_____Committee

List of Abbrev for Depts.:
ADM
CED
COR
CRT
EED
DEC
DFG
GOV
DHS
LWF
LAW
LEG
MVA
DNR
DPS
REV
DOT
UA

NEW **FISCAL NOTES** *Assigned by Chief Clerk's Office				
List by Dept(s):	*FN#	Fiscal	Indet.	Zero

PREVIOUS **FISCAL NOTES**				
List by Dept(s):	FN#	Fiscal	Indet.	Zero
H. ENE CMTE	1			✓

Signing with recommendations	Printed Last Name	DP	DNP	NR	AM
	OLSON			X	
	GILLESPIE	K			
	Edgmon	X			
	Tuck	X			
	KAWASAKI / SEATON	X			
	WILSON	X			
Chair:	Johnson	X			
Chair:		X			

V —

HOUSE COMMITTEE REPORT

2.5.10

(7)

Date Referred to Committee: January 19, 2010

FURTHER REFERRALS: Resources

Date of Committee Action: FEB 2 2010

The HOUSE SPECIAL COMMITTEE ON ENERGY considered: HB 306

HOUSE BILL NO. 306
"An Act declaring a state energy policy."

HB 306 STATE ENERGY POLICY

Recommends it be replaced with [ ] HCS *or* [X] CS for HB306 (ENE)
For Senate Bills with new title: [ ] *Technical Title* [ ] *New Title:* HCR_____ [X] Same Title [ ] New Title

[ ] attach amendments
[ ] add new referral to _____Committee
[ ] Letter of Intent_____Committee

List of Abbrev for Depts.:
ADM
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CRT
EED
DEC
DFG
GOV
DHS
LWF
LAW
LEG
MVA
DNR
DPS
REV
DOT
UA

NEW FISCAL NOTES *Assigned by Chief Clerk's Office				
List by Dept(s):	*FN#	Fiscal	Indet.	Zero
H. ENE CMTE	1			X

PREVIOUS FISCAL NOTES				
List by Dept(s):	FN#	Fiscal	Indet.	Zero

Signing with recommendations	Printed Last Name	DP (7)	DNP	NR	AM
	RAMRAS	X			
	[illegible]	X	(1)		
Pete Petersen	Petersen	X	PP		
[illegible]	Millett	X			
[illegible]	Ivck	X			
[illegible]	Johansen	X			
Chair: Bya Edgmon	Edgmon	X			
Chair: Millett					

CO
→ CO

Alaska Legislature
House Special Committee on Energy

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Summary of Changes - CS for House Bill 306 (ENE)

1) Page 1, Line 14 – following "projects" inserted "the state remain a leader in petroleum and natural gas production and become leader in renewable energy development;"

2) Page 2, Line 24 - following "export" inserted: "of power that is surplus to the needs of Alaska communities"

3) Page 3, Line 5 - following "programs": inserted "that will help create jobs for Alaskans and"

Summary of Changes - CS for House Bill 306 (RES)

1) Page 1, Line 15: after "in" added "and alternative"

2) Page 2, Line 13: Removed "establish" and replaced it with "encourage."

3) Page 2, Line 27: after "nonrenewable" inserted "and alternative"

4) Page 3, Line 4: Inserted "(E) promoting energy efficiency utilized for transportation."

Prepared by Jeff Turner, Staff to Rep. Charisse Millett on 3/13/10

HB

369

SENATE COMMITTEE REPORT

DATE: 3/25/10

FURTHER: Finance

DATE TURNED
IN TO OFFICE: _____

Resources Committee considered CS FOR HOUSE BILL NO. 369(FIN) am

HB 369 IN-STATE PIPELINE/ MANAGER/TEAM

"An Act relating to an in-state natural gas pipeline, the office of in-state gasline project manager, and the Joint In-State Gasline Development Team; requiring the development of an in-state natural gas pipeline plan, to be delivered to the legislature by July 1, 2011, that provides for a gasline that is operational by December 31, 2015; directing the Joint In-State Gasline Development Team to assume responsibilities under sec. 19, ch. 14, SLA 2009; requiring expedited review and action by state agencies or entities relating to the in-state natural gas pipeline project; and providing for an effective date."

and recommends:

[√] be **replaced** with [√] **SCS** or [ ] **CS** HB 369 (RES)

[ ] adopt **previous** [ ] **SCS** or [ ] **CS** _____ (_____)

[ ] attached amendment(s)

[ ] adopt _____Letter of Intent

[ ] further referral to _____Committee

SENATE BILL:
[ ] Same Title
[√] New Title

HOUSE BILL:
[ ] Same Title
[ ] Technical Title Change
[ ] New Title w/ SCR #_____

NEW FISCAL NOTE(S):

Department	Date	Fiscal	Indet.	Zero	FN#
GOV	04/10	√			

PREVIOUS FISCAL NOTE(S):

Department	Date	Fiscal	Indet.	Zero	FN#

[ ] **APPROPRIATION - no fiscal note**

SIGNATURES AND RECOMMENDATIONS:	PRINTED LAST NAME	DO PASS	DO NOT PASS	NO REC	AMEND
	Huggins				
	Seekins			√	
	Fresh			√	
	WAGONER			√	
CO-CHAIR:	McGuire	√			
CO-CHAIR:	Wielechowski			√	

26-LS1527\W
Cook
4/9/10

SENATE CS FOR CS FOR HOUSE BILL NO. 369(RES)

IN THE LEGISLATURE OF THE STATE OF ALASKA

TWENTY-SIXTH LEGISLATURE - SECOND SESSION

BY THE SENATE RESOURCES COMMITTEE

Offered:
Referred:

Sponsor(s): REPRESENTATIVES CHENAULT, Ramras, Olson, Johnson, Austerman, Hawker, Petersen, Lynn, Neuman, Millett, Muñoz

A BILL

FOR AN ACT ENTITLED

"An Act relating to an in-state natural gas pipeline, the office of in-state gasline project coordinator, and the Joint In-State Gasline Development Team; requiring the development of an in-state natural gas pipeline plan, to be delivered to the legislature by July 1, 2011, that provides for a natural gas pipeline that is operational by December 31, 2015; directing the Joint In-State Gasline Development Team to assume responsibilities under sec. 19, ch. 14, SLA 2009; requiring expedited review and action by state agencies or entities relating to the in-state natural gas pipeline project; clarifying the purpose of the Alaska Natural Gas Development Authority; relating to definitions of certain terms that relate to a project that may be developed by the Alaska Natural Gas Development Authority; authorizing the Alaska Natural Gas Development Authority to issue bonds for energy projects; and providing for an effective date."

BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF ALASKA:

*** Section 1.** The uncodified law of the State of Alaska is amended by adding a new section to read:

LEGISLATIVE FINDINGS AND PURPOSE. (a) The legislature finds that

(1) by 2018, declining oil flow through the Trans Alaska Pipeline System will seriously diminish state revenue;

(2) Cook Inlet natural gas reserves are depleting at a rate that could cause significant short-term shortages for residential and commercial gas users in Southcentral Alaska by 2013;

(3) a proposed natural gas pipeline to deliver North Slope gas reserves to the North American domestic gas pipeline grid at a connection in central Alberta will not produce revenue for the benefit of the state before 2020;

(4) the state's significant reserves of natural gas should be made available on a priority basis in the state to enhance employment opportunities, expand the state's economy, and supply a significant portion of community energy needs;

(5) the Alaska Railroad Corporation is a public corporation charged with promoting economic development in the state, enjoys unique authority, and may issue revenue bonds to finance construction of a natural gas pipeline;

(6) the Alaska Natural Gas Development Authority is studying a pipeline spur, aggregating in-state demand for natural gas, and facilitating delivery of natural gas and natural gas liquids to Alaskans; and

(7) in light of competing demands for future uses of the state's North Slope natural gas reserves, an aggressive effort involving planning, permitting, and coordination of information sharing, of necessary agreements and commitments, and commercial negotiations among interested parties is necessary for completion of construction of an in-state natural gas pipeline that will provide significant direct benefit to the people of the state at the earliest possible date.

(b) It is the purpose of sec. 4 of this Act

(1) to give general direction to the Joint In-State Gasline Development Team to plan and develop construction of a high pressure in-state natural gas pipeline sufficient to provide for the distribution of natural gas for residential and commercial purposes at locations along the pipeline route; and

(2) to direct the executive director of the Alaska Housing Finance Corporation to oversee all aspects of the project described in sec. 4 of this Act.

*** Sec. 2.** AS 18.56.086 is amended to read:

Sec. 18.56.086. Creation of subsidiaries. The corporation may create subsidiary corporations for the purpose of financing or facilitating the financing of school construction, facilities for the University of Alaska, facilities for ports and harbors, prepayment of all or a portion of a governmental employer's share of unfunded accrued actuarial liability of retirement systems, or other capital projects. **A subsidiary corporation may also be created for the purpose of planning, constructing, and financing in-state natural gas pipeline projects or for the purpose of aiding in the planning, construction, and financing of in-state natural gas pipeline projects.** A subsidiary corporation created under this section may be incorporated under AS 10.20.146 - 10.20.166. The corporation may transfer assets of the corporation to a subsidiary created under this section. A subsidiary created under this section may borrow money and issue bonds as evidence of that borrowing, and has all the powers of the corporation that the corporation grants to it. However, a subsidiary created for the purpose of financing or facilitating the financing of prepayment of a governmental employer's share of unfunded accrued actuarial liability of retirement systems may borrow money and issue bonds only if the state bond rating is the equivalent of AA- or better and subject to AS 37.15.903. **A subsidiary corporation created for the purpose of planning, constructing, and financing in-state natural gas pipeline projects or for the purpose of aiding in the planning, construction, or financing of in-state natural gas pipeline projects is exempt from AS 36.30, including AS 36.30.015(d) and (f).** Unless otherwise provided by the corporation, the debts, liabilities, and obligations of a subsidiary corporation created under this section are not the debts, liabilities, or obligations of the corporation.

*** Sec. 3.** AS 36.30.850(b) is amended by adding a new paragraph to read:

(48) a subsidiary of the Alaska Housing Finance Corporation created under AS 18.56.086 for the purpose of planning, financing, or constructing in-state natural gas pipeline projects or for the purpose of aiding in the planning, financing, or constructing of in-state natural gas pipeline projects.

* **Sec. 4.** AS 38 is amended by adding new sections to read:

Chapter 34. In-State Natural Gas Pipeline.

Sec. 38.34.010. In-state gasline project coordinator. (a) The position of in-state gasline project coordinator is created in the Office of the Governor. The Office of the Governor shall provide administrative support for the position. The position shall continue until one year after commencement of commercial operation of the in-state natural gas pipeline.

(b) The governor shall appoint an individual to the position of in-state gasline project coordinator. The coordinator is in the exempt service under AS 39.25.110. The person serving as the in-state gasline project coordinator may be removed from the position at the discretion of the governor, who shall appoint another person to the position.

(c) The in-state gasline project coordinator shall collaborate with other state agencies to coordinate and facilitate the provisions of AS 38.34.020.

Sec. 38.34.020. Expedited review and action by state agencies or entities. (a) A state agency or entity conducting a review or taking action relating to the in-state natural gas pipeline project under this chapter shall expedite the review or action in a manner consistent with the timely completion of the project.

(b) Notwithstanding any contrary provision of law, a state agency or entity may not include in any project certificate, right-of-way, permit, or other authorization a term or condition that is not required by law if the in-state gasline project coordinator determines that the term or condition would prevent or impair, in any significant respect, the expeditious construction and operation or expansion of the in-state natural gas pipeline project.

(c) Unless required by law, a state agency or entity may not add to, amend, or abrogate any certificate, right-of-way, permit, or other authorization if the in-state gasline project coordinator determines that the action would prevent or impair, in any significant respect, the expeditious construction, operation, or expansion of the in-state natural gas pipeline project.

Sec. 38.34.030. Joint In-state Gasline Development Team. (a) The Joint In-State Gasline Development Team is established in the Alaska Housing Finance

Corporation. The development team consists of five members as follows:

(1) the commissioner of transportation and public facilities, or the commissioner's designee;

(2) the chair of the board of directors of the Alaska Railroad Corporation or the chair's designee;

(3) the chief executive officer of the Alaska Natural Gas Development Authority;

(4) the in-state gasline project coordinator; and

(5) the executive director of the Alaska Housing Finance Corporation.

(b) The executive director of the Alaska Housing Finance Corporation is the chair of the development team.

(c) The development team may hire staff, enter into contracts, and exercise other powers necessary to carry out its functions. The development team shall separately account for expenditures made to carry out its functions and submit to the legislature a quarterly report of those expenditures. The development team shall also submit to each member of the legislature monthly updates on the progress of the in-state natural gas pipeline project.

Sec. 38.34.040. Duties of the development team. (a) The Joint In-State Gasline Development Team shall produce a project plan for the development of an in-state natural gas pipeline that is compatible but not competitive with the project described in and authorized by AS 41.41 or the project described in and authorized by AS 43.90. The development team shall ensure that the project plan is completed and delivered to the legislature by July 1, 2011. The project plan must specify and document how an in-state natural gas pipeline can be designed, financed, constructed, and made operational by December 31, 2015.

(b) The Joint In-State Gasline Development Team shall assume executive authority over and managerial responsibility for all activities enumerated under sec. 19, ch. 14, SLA 2009, including work previously completed, work in process, and work for which money has been encumbered but that is not completed on the effective date of this subsection.

(c) The project plan must include specific plans to coordinate and facilitate

construction, ownership, operation, and management of a natural gas pipeline serving Fairbanks, the southcentral region of the state, and other communities whenever practicable, connecting with or enhancing the existing gas pipeline system, and reaching to tidewater in the Southcentral region of the state.

(d) The development team's work product shall include an analysis of alternative possible routes and the selection of a route that, consistent with the other requirements of this section,

(1) is economically feasible;

(2) makes natural gas available to residents at the lowest possible cost;

(3) allows for connecting lines to serve industrial, residential, and utility customers along the entire route, and in other regions of the state that can be served at commercially feasible rates;

(4) uses state land and existing state highway and railroad rights-of-way to the maximum extent feasible;

(5) uses existing highway and railroad bridges, gravel sources, equipment yards, maintenance facilities, and other existing facilities and resources to the maximum extent feasible.

(e) With the intent that any project-related assets acquired or developed be available for transfer or sale to the entity best able to complete the project, the development team shall

(1) prepare plans and designs necessary for construction of the in-state natural gas pipeline project;

(2) coordinate with entities qualified to build, own, and operate the natural gas pipeline;

(3) identify, apply for, and obtain rights-of-way and other permits for the project route;

(4) work with other entities to promote gas supply and purchase contracts required for the project to be commercially viable;

(5) prepare cost estimates for the project design, construction, and operation to determine the project's economic feasibility and the projected cost of natural gas to consumers;

(6) coordinate with and, to the fullest extent possible, use existing work by other state agencies and entities before contracting for new reports and research and analysis;

(7) determine regulatory authority over the pipeline project and perform any necessary compliance requirements;

(8) identify and apply for, or support extension of, existing permits for export of Alaska natural gas if that export improves project economics and will reduce the price of natural gas to in-state consumers.

(f) Notwithstanding any other provision of law, any rights to a natural gas pipeline corridor obtained by a state agency under eminent domain may be transferred to a private entity.

(g) Notwithstanding any other provision of law, a state agency acquiring an interest in land by eminent domain may grant a permit authorizing a private person to construct, manage, and operate a gas pipeline over, under, along, across, or upon the land.

(h) In preparing the project plan required in this section, the development team may consider all aspects of the in-state natural gas pipeline project, including public, private, or joint construction alternatives, marketing of natural gas, financing alternatives for pipeline construction, procurement of natural gas from producers, maximization of local hire, opportunities for promoting value added industries, gas-to-liquids manufacturing opportunities, production and delivery of liquefied natural gas or propane to Yukon River, interior, and coastal communities, alternatives for transporting natural gas to other locations in the state, the acquisition of natural gas commitments sufficient to ensure the long-term feasibility of the in-state natural gas pipeline project, and the development of a global natural gas trading hub in the state.

(i) The Joint In-State Gasline Development Team shall take all action necessary to complete its responsibilities under this section.

Sec. 38.34.050. Cooperation and access to information. (a) Notwithstanding other laws, the Joint In-state Gasline Development Team may have access to information of all state agencies or entities, including confidential information, that may relate to the in-state natural gas pipeline or prove useful in planning, design,

construction, or operation of the pipeline. Confidential information received by the development team shall be kept confidential.

(b) All state agencies or entities shall cooperate with and, except for requests from the Alaska Gasline Inducement Act coordinator (AS 43.90.250), give priority to requests for information from the Joint In-state Gasline Development Team. The development team shall avoid duplicating studies, plans, and designs that have already been produced or otherwise obtained by other state entities.

(c) Notwithstanding any contrary provision of law, the Department of Natural Resources shall grant the Alaska Housing Finance Corporation a right-of-way lease under AS 38.35 for the gasline transportation corridor if

(1) the corporation submits a complete right-of-way lease application under AS 38.35.050;

(2) the lease application is made the subject of notice and other reasonable and appropriate publication requirements under AS 38.35.070; and

(3) the corporation agrees to be bound by the right-of-way lease covenants set out in AS 38.35.120.

(d) Notwithstanding any contrary provision of law, a right-of-way lease granted under (c) of this section is subject to AS 38.05, except that the best interest findings requirements of AS 38.05 and the permit requirements of AS 38.05.850 do not apply to a lease made under this section.

Sec. 38.34.060. Conflicts of interest. (a) If a member of the Joint In-state Gasline Development Team acquires, owns, or controls an interest, direct or indirect, in property, an organization, or a business that might be affected by the in-state natural gas pipeline project or other matter under consideration by the development team, the member shall immediately disclose the interest to the development team. The disclosure is a matter of public record and shall be included in the minutes of the first meeting of the development team held after the disclosure.

(b) The members of the development team are subject to AS 39.50 and AS 39.52.

Sec. 38.34.099. Definitions. In this chapter,

(1) "in-state natural gas pipeline" means a pipeline for transporting

natural gas that runs from the North Slope to tidewater in the state;

(2) "North Slope" means that area of Alaska lying north of 68 degrees North latitude.

*** Sec. 5.** AS 39.25.110 is amended by adding a new paragraph to read:

(43) the in-state gasline project coordinator appointed under AS 38.34.010.

*** Sec. 6.** AS 41.41.010(a) is amended to read:

(a) There is established the Alaska Natural Gas Development Authority, the purpose of which is to provide one or more of the following services and functions in order to bring natural gas from the North Slope **or other regions of the state** to market, including

(1) the acquisition and conditioning of [NORTH SLOPE] natural gas;

(2) the design and construction of the pipeline system;

(3) the operation and maintenance of the pipeline system;

(4) the design, construction, **and** operation [,] of other facilities necessary for delivering the gas to market**, including markets in the state** [AND TO SOUTHCENTRAL ALASKA]; and

(5) the acquisition of natural gas market share sufficient to ensure the long-term feasibility of [THE] pipeline system **projects** [PROJECT].

*** Sec. 7.** AS 41.41.010(d) is amended to read:

(d) The acquisition of natural gas from the North Slope **and other regions of the state, including the Alaska outer continental shelf,** and its delivery to **markets in the state for use by markets in the state or to** tidewater for shipment to market by the authority **are** [IS AN] essential government **functions** [FUNCTION] of the state.

*** Sec. 8.** AS 41.41.990(3) is amended to read:

(3) "project" means the gas transmission pipeline, together with all related property and facilities, to extend from [THE PRUDHOE BAY AREA ON] the North Slope of Alaska **or other regions of the state to a market in the state, or be available to a market in the state, and** [EITHER] to tidewater at a point on Prince William Sound [AND THE SPUR LINE FROM GLENNALLEN TO THE SOUTHCENTRAL GAS DISTRIBUTION GRID] or [TO TIDEWATER AT A

POINT ON] Cook Inlet, and includes planning, design, and construction of the pipeline and facilities as described in AS 41.41.010(a)(1) - (5).

*** Sec. 9.** AS 41.41.990 is amended by adding a new paragraph to read:

(4) "North Slope" means that part of the state that lies north of 68 degrees North latitude and includes the Brooks Range foothills.

*** Sec. 10.** The uncodified law of the State of Alaska is amended by adding a new section to read:

TRANSITIONAL PROVISIONS. (a) In discharging its obligations, the Joint In-State Gasline Development Team shall

(1) seek letters of intent from buyers and sellers of natural gas to ship gas using the facilities of the project and, from information obtained, by February 15, 2011, define the project parameters that would allow the project to be commercially viable;

(2) seek letters of interest from private pipeline construction and operating companies to develop the project; the work under this paragraph should be initiated between November 15, 2010, and shall be completed by March 15, 2011;

(3) prepare and submit to the governor and the presiding officer of each house of the legislature, by December 15, 2010, any initial legislation necessary to advance the project;

(4) prepare and submit a report at each of the dates set out in (1) - (3) of this subsection to the governor, the speaker of the house of representatives, and the president of the senate.

(b) The parties having responsibility for contracts, permit and acquisition applications, and studies in progress on the effective date of this Act initiated or entered into by the Office of the Governor or a state agency that relate to an in-state natural gas pipeline shall transfer those obligations and initiatives to the Alaska Housing Finance Corporation. Transfer of those obligations and initiatives may not be unreasonably delayed. If the corporation forms a subsidiary under AS 18.56.086 for the purpose of planning, constructing, and financing in-state natural gas pipeline projects or for aiding those projects, the corporation shall transfer the obligations and initiatives to its subsidiary.

*** Sec. 11.** The uncodified law of the State of Alaska is amended by adding a new section to read:

ALASKA NATURAL GAS DEVELOPMENT AUTHORITY: LEGISLATIVE AUTHORIZATION AND APPROVAL OF BONDS FOR NATURAL GAS PROJECTS TO ENSURE ENERGY SUFFICIENCY. (a) Subject to (b) of this section, the Alaska Natural Gas Development Authority is authorized to issue bonds under the power granted to it in AS 41.41.300 to acquire a gas supply, develop the Cook Inlet and Fairbanks markets, and plan, permit, and design gas transmission systems to mitigate gas shortfalls, the effect on consumers, and the economy of high cost energy, and ensure energy sufficiency for Alaskans. The maximum principal amount of bonds that the Alaska Natural Gas Development Authority may issue under this section is $250,000,000. The Alaska Natural Gas Development Authority may issue the bonds in a single issuance or in several issuances, without limitation as to number of issuances or timing, and as the Alaska Natural Gas Development Authority determines best furthers the purpose of financing the projects described in this section. The Alaska Natural Gas Development Authority shall negotiate with interested parties and shall enter into agreements with interested parties to provide revenue sufficient to accomplish the purposes described in this subsection.

(b) Unless the issuance is approved under this subsection by law, bonds may not be issued under (a) of this section without the prior written approval of the Legislative Budget and Audit Committee. If the Legislative Budget and Audit Committee approves or fails to approve the issuance of bonds, the committee shall notify the Alaska Natural Gas Development Authority and all members of the legislature in writing. On or before the fifth day of the next session that convenes after the day notice is received by the Alaska Natural Gas Development Authority, the authority may request the legislature to approve or disapprove the bond issue by law.

(c) This section constitutes the approval required by AS 41.41.320 for the issuance of the bonds described in this section.

*** Sec. 12.** This Act takes effect immediately under AS 01.10.070(c).

PASSED

Amendment #1

Offered in the Senate

By Senator McGuire

To: SCS CSHB 369 (RES), Draft Version "W"

On page 5, line 20 following "natural gas pipeline" delete:

> "that is compatible but not competitive with the project described in and authorized by AS 41.41 or the project described in and authorized by AS 43.90"

On page 2, following line 31, insert new subsection:

> "(2) to give general direction to the Joint In-State Gasline Development Team that, to the maximum extent practicable, the plan for development of an in-state natural gas pipeline required under AS 38.34.040 is compatible but not competitive with the projects described in AS 41.41 and AS 43.90; and"

Renumber accordingly.

PASSED

Amendment #2

Offered in the Senate By Senator McGuire

To: SCS CSHB 369 (RES), Draft Version "W"

On page 4, line 14 following "agencies" insert:

"or entities"

PASSED

Amendment #3

Offered in the Senate

By Senator McGuire

To: SCS CSHB 369 (RES), Draft Version "W"

On page ~~X~~ 10, line ~~X~~ 24 following "state agency" insert:

"or entity"

FISCAL NOTE

STATE OF ALASKA
2010 LEGISLATIVE SESSION

Fiscal Note Number:
Bill Version:
() Publish Date:

Identifier (file name): SCS CSHB 369(RES)-OOG-EO-4-10-10
Dept. Affected: OOG
Title "An Act relating to an in-state natural gas pipeline, the office of the in-state gasline project coordinator, ..."
RDU Executive Operations
Component Executive Office
Sponsor Reps. Chenault, Ramras, Olson, Johnson, Austerman, etc.
Requester (S) Resources
Component Number 6

Expenditures/Revenues (Thousands of Dollars)

Note: Amounts do not include inflation unless otherwise noted below.

	Appropriation Required	Information					
OPERATING EXPENDITURES	**FY 2011**	**FY 2011**	**FY 2012**	**FY 2013**	**FY 2014**	**FY 2015**	**FY 2016**
Personal Services	229.7	229.7	232.1	239.5	242.0	250.2	250.2
Travel	35.0	35.0	35.0	35.0	35.0	35.0	35.0
Contractual	52.0	52.0	52.0	52.0	52.0	52.0	52.0
Supplies	18.0	18.0	18.0	18.0	18.0	18.0	18.0
Equipment	16.0	16.0					
Land & Structures							
Grants & Claims							
Miscellaneous							
TOTAL OPERATING	**350.7**	**350.7**	**337.1**	**344.5**	**347.0**	**355.2**	**355.2**
CAPITAL EXPENDITURES							
CHANGE IN REVENUES ( )							
FUND SOURCE		(Thousands of Dollars)					
1002 Federal Receipts							
1003 GF Match							
1004 GF	350.7	350.7	337.1	344.5	347.0	355.2	355.2
1005 GF/Program Receipts							
1037 GF/Mental Health							
Other Interagency Receipts							
TOTAL	**350.7**	**350.7**	**337.1**	**344.5**	**347.0**	**355.2**	**355.2**

Estimate of any current year (FY2010) cost:

POSITIONS

Full-time	**2**	2	2	2	2	2	2
Part-time							
Temporary							

ANALYSIS: *(Attach a separate page if necessary)*

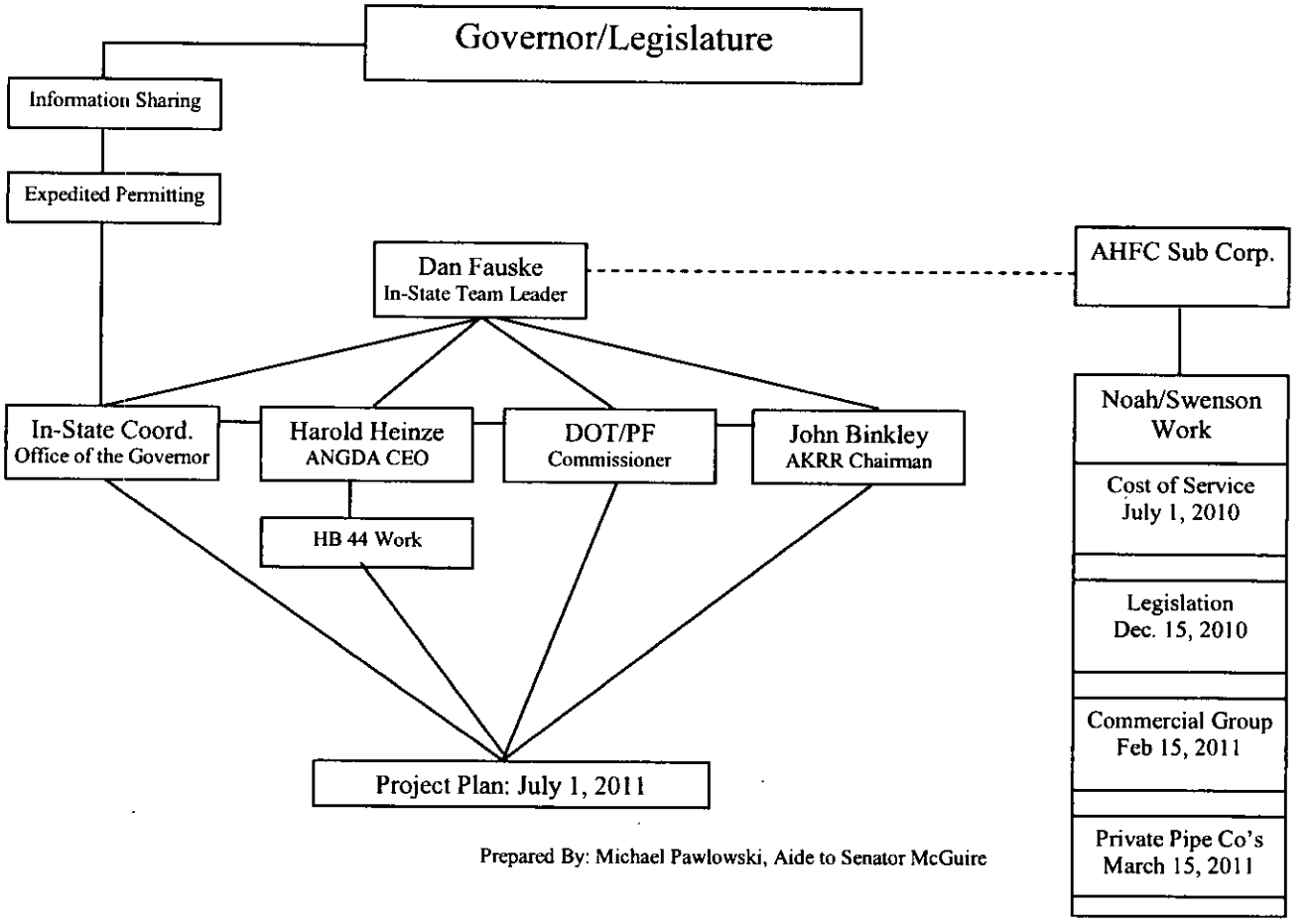
Fiscal impact consists of personal services for 2 staff: the in-state gasline coordinator Rg 26, project assistant Rg 15; and related travel, contractual and supplies costs for in-state natural gas pipeline office activities.

Prepared by: Linda Perez, Administrative Director
Phone 465-3876
Division Administrative Services
Date/Time 4/10/10 10:30 AM
Approved by: Linda Perez, Administrative Director
Date 4/10/2010
Office of the Governor

(Revised 11/6/2009 OMB)

4761

In-State Gas Pipeline Org. & Task Chart



Prepared By: Michael Pawlowski, Aide to Senator McGuire

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REPRESENTATIVE MIKE CHENAULT
SPEAKER OF THE HOUSE

SECTIONAL ANALYSIS

COMMITTEE SUBSTITUTE FOR HOUSE BILL 369 (FIN) am
(Draft Version 1527\W)

(Changes incorporated into 26-LS1527\W are highlighted and in bold)

"An Act relating to an in-state natural gas pipeline, the office of in-state gasline project ***coordinator****, the Joint In-State Gasline Development Team; requiring the development of an in-state natural gas pipeline plan, to be delivered to the legislature by July 1, 2011, that provides for a* ***natural gas pipeline*** *that is operational by December 31, 2015; directing the Joint In-State Gasline Development Team to assume responsibilities under sec. 19, ch. 14, SLA 2009; requiring expedited review and action by state agencies or entities relating to the in-state natural gas pipeline project;* ***clarifying the purpose of the Alaska Natural Gas Authority; relating to definitions of certain terms that relate to a project that may be developed by the Alaska Natural Gas Development Authority; authorizing the Alaska Natural Gas Development Authority to issue bonds for energy projects;*** *and providing for an effective date."*

Section 1: Adds a new section to uncodified law. Legislative Findings and Purpose.

Section 2: Adds a new subsection to the bill by amending AS 18.56.086, Creation of subsidiaries. Allows AHFC to create a subsidiary within the corporation to plan, construct and finance an in-state gasline or to aid in planning, construction or financing of an in-state gasline. Exempts the subsidiary from Title 36, Public Contracts and AS 36.30.015 (d) and (f), Executive branch agencies.

Section 3: Adds a new subsection to AS 36.30.850(b), Application of this chapter. Adds a subsidiary of AHFC created under Section 2 to the list of those agencies or entities of which AS 36 does not apply.

Section 4: Adds a new chapter, Chapter 34: In-State Natural Gas Pipeline, to AS 38, Public Land.

Sec. 38.34.010. In-state gasline project coordinator. (a) Creates the position of in-state gasline project **coordinator** within the Governor's Office. This position will continue until one year after commercial operation of the in-state natural gas pipeline begins. (b) The Governor appoints

Representative_Mike_Chenault@legis.state.ak.us

an individual to the position of an in-state gasline **coordinator** and may be removed at the Governor's discretion. (c) Describes the duties of the in-state gasline project **coordinator who is responsible for collaborating with other state agencies to coordinate and facilitate the provisions of section 4 of this bill. (Deletes Subsections 2 and 3.)**

Sec. 38.34.020. Expedited review and action by state agencies or entities. (a) States that any state agency or entity conducting and taking action relating to the in-state gasline shall be expedited. (b) A state agency or entity may not include in any project certificate, right of way, permit or other authorization issued to a licensee a term or condition that is not required by law if the in-state project **coordinator** determines the term or condition would prevent or impair the expeditious construction and operation or expansion of the in-state gasline. (c) A state agency or entity may not, unless required by law, amend or abrogate any certificate, right of way, permit or other authorization issued to a licensee if the project **coordinator** determines the action would prevent or impair the expeditious construction and operation or expansion of the in-state gasline.

Sec. 38.34.030. Joint In-state Gasline Development Team. (a) Establishes the Joint In-state Gasline Development Team in the **Alaska Housing Finance Corporation**. The team consists of the commissioner of the Department of Transportation and Public Facilities or designee, the **chair of the board of directors** of the Alaska Railroad Corporation or the **chair's** designee, the chief executive officer of the Alaska Natural Gas Development Authority, the in-state gasline project **coordinator** and the chief executive officer of the Alaska Housing Finance Corporation. (b) Names the Alaska Housing Finance Corporation's chief executive officer as chair. (c) Allows the development team to hire staff, enter into contracts and exercise other powers to carry out its functions. **The development team is to separately account for expenditures and submit a quarterly report of expenditures to the legislature. The development team is too also submit monthly reports to the legislature on the progress of the in-state gasline project.**

Sec. 38.34.040. Duties of the Development Team. (a) **Produce** a project plan for the development of an in-state gasline **that is compatible but not competitive with an ANGDA project (AS 41.41) or the AGIA project (AS 43.90)** and that the project plan is completed and delivered to the legislature by July 1, 2011. The project plan must specify and document how an in-state gasline can be designed, financed, constructed and made operational by December 31, 2015. (b) The Joint In-State Gasline Development Team is to assume all executive authority over and managerial responsibility for all activities enumerated under sec. 19, ch. 14, SLA 2009, including work previously completed, work in process, and work for which money has been encumbered but that is not completed on the effective date of this subsection. (c) Describes specific plans that are to be included within the project plan for an in-state gasline that will serve Fairbanks, the Southcentral region of the state, and other communities whenever practicable, connecting with or enhancing the existing gas pipeline system, and reaching to tidewater. (d) The development team's work product is to include an analysis of alternative possible routes and select a route that is consistent with the following requirements: (1) is the most economical, (2) will provide gas to residents at a reasonable cost, (3) allows for connecting lines to serve industrial, residential and utility customers along the entire route and in other regions of the state that can be served at commercially feasible rates, (4) uses state land and existing state highway and railroad rights of way to the maximum extent feasible, (5) uses existing highway and railroad

bridges, gravel pits equipment yards and maintenance facilities and other existing facilities and resources to the maximum extent feasible. (e) With the intent that any project-related assets acquired or developed be available for transfer or sale to the entity best able to complete the project, the development team is to: (1) prepare plans and designs necessary for the construction of the in-state gasline; (2) coordinate with entities qualified to build, own and operate the gasline; (3) identify, apply for and obtain rights-of-way and other permits for the project route; (4) work with other entities to promote gas supply and purchase contracts required for the project to be commercially viable; (5) prepare cost estimates for project design, construction and operation to determine the project's feasibility and the projected cost of natural gas to consumers; (6) coordinate with and use, to the fullest extent, possible existing work by other state agencies and entities before contracting for new reports and research and analysis; (7) determine regulatory authority over the pipeline project and perform any necessary compliance requirements; (8) identify and apply for, or support extension of, existing permits for export of Alaska natural gas if that export improves project economics and will reduce the price of natural gas to in-state consumers. (f) Any rights to a gasline corridor obtained by a state agency under eminent domain may be transferred to a private entity. (g) Allows a state agency acquiring interest in land by eminent domain to grant a permit authorizing a private person to construct, manage and operate a gas pipeline on that land. (h) Describes the various aspects of the in-state gasline project the development team may consider. (i) States the development team is to take all action necessary to complete its responsibilities.

Sec. 38.34.050. Cooperation and access to information. (a) States the development team may have access to a state entity's information to include confidential information that may relate to the in-state gasline or prove useful in planning, design, construction or operation of the gasline. Confidential information received by the development team shall be kept confidential. (b) All state agencies are to cooperate and give priority to requests for information from the Development Team. The Development Team is to avoid duplicating studies, plans, and designs that have already been produced or otherwise obtained by state entities. **(c) DNR is to grant AHFC a right of way lease under AS 38.35 (Right of Way Leasing Act) for the gasline transportation corridor if: (1) the corporation submits a right of way application under AS 38.35.050 (Applications for right of way leases); (2) the lease application is made the subject of notice and other reasonable and appropriate publication requirements under AS 38.35.070 (Notice of application); and the corporation agrees to be bound by the right of way lease covenants set out in AS 38.35.120 (Covenants required to be included in the lease). (d) A right of way lease granted under (c) of this section is subject to AS 38.05 (Alaska Land Act) except the best interest findings requirements of AS 38.05 and the permit requirements of AS 38.05.850 (Permits) do not apply to a lease made under this section.**

Sec. 38.34.060. Conflicts of interest. (a) If a member of the development team acquires, owns or controls a direct or indirect interest in property, an organization or business that might be affected by the in-state gasline project or other matters under consideration by the Development Team shall immediately disclose the interest to the development team. This disclosure is part of the public record and shall be included in the minutes of the first meeting of the development team held after the disclosure. (b) Members of the development team are subject to AS 39.50 (Public Official Disclosure) and AS 39.52 (Alaska Executive Branch Ethics Act).

Sec. 38.34.099. Definitions. Defines the in-state natural gas pipeline and the North Slope.

Section 5: Amends AS 39.25.110, Exempt service. Adds the in-state gasline project coordinator to the exempt service list.

(Sections 6, 7, 8, 9 and 11 are taken from HB 44)

Section 6: Amends AS 41.41.010(a), Establishment of the authority. Adds language clarifying that ANGDA may bring natural gas from other regions of the state and not just the North Slope. Also clarifies that gas may be delivered to markets within the state and may include more than one pipeline project.

Section 7: Amends AS 41.41.010(d), Establishment of the authority. Expands the acquisition of natural gas to include other regions of the state to include the Alaska outer continental shelf and may be delivered to markets within the state.

Section 8: Amends AS 41.41.990(3), Definitions. Amends the definition of project to include other regions of the state to a market in the state or be available to markets within the state.

Section 9: Adds a new paragraph to AS 41.41.990 describing the North Slope to mean that part of the state that lies north of 68 degrees North latitude to include the Brooks Range foothills.

Section 10: New section to uncodified law, Transitional Provisions. (a) The development team shall: (1) seek letters of intent from buyers and sellers of natural gas to ship gas using the facilities of the project by February 15, 2011, and define the project parameters that would allow the project to be commercially viable; (2) seek letters of interest from private pipeline construction and operating companies to develop the project and should be initiated between November 15, 2010 and completed by March 15, 2011; (3) prepare and submit to the Governor and the presiding officer of each body of the legislature any initial legislation necessary to advance the project by December 15, 2010; (4) prepare and submit a report to the governor and the presiding officers of each body of the legislature at the dates established in 1 through 3 of this subsection. (b) The parties having responsibility for contracts, permits and acquisition applications and studies in progress on the effective date of this act initiated or entered into by the Governor or state agencies shall transfer these obligations and initiatives may not be unreasonably delayed and IF AHFC forms a subsidiary, these obligations and initiatives shall be transferred to the subsidiary.

Section 11: New section to uncodified law. Gives pre-authorization to the Alaska Natural Gas Development Authority to issue up to $250 million in bonds in order to acquire a gas supply, develop the Cook Inlet and Fairbanks markets, and plan, permit and design gas transmission systems to mitigate gas shortfalls, the impact on consumers and the economy of high cost energy and ensure energy sufficiency for Alaskans. ANGDA must receive approval from the Legislative Budget and Audit Committee prior to issuing any bonds.

Section 12: Immediate effective date.

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Sec. 38.35.050. Applications for right-of-way leases.

(a) A person or persons desiring to own a pipeline which is proposed to be located in whole or in part on state land, shall apply for a noncompetitive right-of-way lease of the state land.

(b) Applications under (a) of this section shall be made in a form and manner prescribed by regulation, and shall include any and all data, information, plans, and exhibits which the commissioner determines are necessary to prepare the analysis required by AS 38.35.080 and to make a decision under AS 38.35.100.

(c) Any amendment to an application filed under this section that constitutes a substantial change in the application is subject to all provisions of this chapter applying to an original application. For purposes of this subsection,

(1) an amendment constitutes a substantial change in the application only if the amendment proposes

(A) a net increase in the amount of state acreage to be leased for the right-of-way that exceeds by at least 10 percent the amount of the acreage in the applicant's original application;

(B) a change in the design of the pipeline that would use less effective environmental or safety mitigation measures or less advanced technology than proposed in the original application; or

(C) a fundamental change in the general route, which would include the origin or terminus, as set out in the original application;

(2) in calculating the percentage increase in acreage under (1)(A) of this subsection, each of the following must be excluded:

(A) the acreage attributable to an amendment of a right-of-way originally issued by the federal government, whether administered by the state or the federal government; and

(B) land subject to an existing federal right-of-way grant held by the applicant that is transferred to the state for its administration.

(d) All persons owning or planning to own an interest in a pipeline or proposed pipeline subject to a lease must join in the application under (a) of this section. Any person employed by the lessee in operating the pipeline is bound by the covenants of the lease applicable to functions within the scope of employment as if the person were an applicant under the lease and the state may enforce any breach of a covenant directly against an operator who is not in compliance with the covenant.

History -

(Sec. 1 ch 72 SLA 1972; am Sec. 5 ch 3 FSSLA 1973; am Sec. 1 ch 26 SLA 2001)

Amendment Notes -

The 2001 amendment, effective May 10, 2001, in subsection (c) added "For purposes of this subsection," at the end of the introductory language, added paragraphs (1) and (2), and made a stylistic change.

Sec. 43.90.250. Alaska Gasline Inducement Act coordinator.

(a) There is created in the Office of the Governor the position of Alaska Gasline Inducement Act coordinator. Administrative support for the position shall be provided by the Office of the Governor. The position shall continue until one year after commencement of commercial operations of the project.

(b) The governor shall appoint a person to the position of Alaska Gasline Inducement Act coordinator. The individual serving as the Alaska Gasline Inducement Act coordinator may be removed from the position at the discretion of the governor.

History -

(Sec. 1 ch 22 SLA 2007)

Sec. 43.90.260. Expedited review and action by state agencies.

(a) A review conducted and action taken by a state agency relating to the project shall be expedited in a manner consistent with the completion of the necessary approvals in accordance with this chapter.

(b) Notwithstanding any contrary provision of law, a state agency may not include in any project certificate, right-of-way, permit, or other authorization issued to the licensee a term or condition that is not required by law if the coordinator determines that the term or condition would prevent or impair in any significant respect the expeditious construction and operation or expansion of the project.

(c) Unless required by law, a state agency may not add to, amend, or abrogate any certificate, right-of-way, permit, or other authorization issued to a licensee if the coordinator determines that the action would prevent or impair in any significant respect the expeditious construction, operation, or expansion of the project.

History -

(Sec. 1 ch 22 SLA 2007)

Sec. 38.35.070. Notice of application.

Upon receiving an application under AS 38.35.050, the commissioner shall

(1) cause notice of it to appear in a daily newspaper of general circulation published in the vicinity of the location of the proposed pipeline, the notice to include:

(A) a general description of the land involved;

(B) a summary of the substance of the application;

(2) file copies of the application with each coordinate agency;

(3) furnish at cost copies of a notice or application to persons requesting them; and

(4) provide other publication and notice the commissioner considers reasonable and appropriate to inform the public of the application.

History -

(Sec. 1 ch 72 SLA 1972; am Sec. 7 ch 3 FSSLA 1973)

Sec. 18.56.086. Creation of subsidiaries.

The corporation may create subsidiary corporations for the purpose of financing or facilitating the financing of school construction, facilities for the University of Alaska, facilities for ports and harbors, prepayment of all or a portion of a governmental employer's share of unfunded accrued actuarial liability of retirement systems, or other capital projects. A subsidiary corporation created under this section may be incorporated under AS 10.20.146 - 10.20.166. The corporation may transfer assets of the corporation to a subsidiary created under this section. A subsidiary created under this section may borrow money and issue bonds as evidence of that borrowing, and has all the powers of the corporation that the corporation grants to it. However, a subsidiary created for the purpose of financing or facilitating the financing of prepayment of a governmental employer's share of unfunded accrued actuarial liability of retirement systems may borrow money and issue bonds only if the state bond rating is the equivalent of AA- or better and subject to AS 37.15.903. Unless otherwise provided by the corporation, the debts, liabilities, and obligations of a subsidiary corporation created under this section are not the debts, liabilities, or obligations of the corporation.

History -

(Sec. 7 ch 130 SLA 2000; am Sec. 1 ch 7 SLA 2006; am Sec. 3 ch 35 SLA 2008)

Cross References -

For sale to AHFC of right to receive revenue from the settlement of Alaska v. Philip Morris, Inc., No. 1JU-97-915 Civ. (First Jud. Dist. at Juneau), and special bonding provisions for AHFC or a subsidiary created under this section, see Sec. 9 and 10, ch. 130, SLA 2000 in the 2000 Temporary and Special Acts, Sec. 3, ch. 96, SLA 2001 in the 2001 Temporary and Special Acts, and Sec. 1 and 2, ch. 35, SLA 2006 in the 2006 Temporary and Special Acts.

Amendment Notes -

The 2006 amendment, effective July 1, 2006, added "or other capital projects" at the end of the first sentence, and make a corresponding stylistic change.

The 2008 amendment, effective May 23, 2008, inserted "prepayment of all or a portion of a governmental employer's share of unfunded accrued actuarial liability of retirement systems" in the first sentence, and inserted the next-to-last sentence.

Sec. 38.05.850. Permits.

(a) The director, without the prior approval of the commissioner, may issue permits, rights-of-way, or easements on state land for roads, trails, ditches, field gathering lines or transmission and distribution pipelines not subject to AS 38.35, telephone or electric transmission and distribution lines, log storage, oil well drilling sites and production facilities for the purposes of recovering minerals from adjacent land under valid lease, and other similar uses or improvements, or revocable, nonexclusive permits for the personal or commercial use or removal of resources that the director has determined to be of limited value. The commissioner, upon recommendation of the director, shall establish a reasonable rate or fee schedule to be charged for these uses, subject to the exception for nonprofit cooperative associations specified in (b) of this section. In the granting, suspension, or revocation of a permit or easement of land, the director shall give preference to that use of the land that will be of greatest economic benefit to the state and the development of its resources. However, first preference shall be granted to the upland owner for the use of a tract of tideland, or tideland and contiguous submerged land, that is seaward of the upland property of the upland owner and that is needed by the upland owner for any of the purposes for which the use may be granted.

(b) The fee charged for a right-of-way approved under (a) of this section shall be waived by the commissioner if the right-of-way is for a transmission or distribution line established by a nonprofit cooperative association organized under AS 10.25 for the purpose of supplying electric energy and power, or telephone service, to its members, and the waiver is considered by the commissioner to be in the best interests of the state.

(c) If the director determines, by evaluation of the nature and duration of the intended use, that an easement or right-of-way issued under this section will not be functionally revocable, the director shall provide public notice before issuing the easement or right-of-way.

History -

(Sec. 7 art III ch 169 SLA 1959; am Sec. 7 ch 61 SLA 1960; am Sec. 4 ch 72 SLA 1972; am Sec. 28 ch 3 FSSLA 1973; am Sec. 13 ch 257 SLA 1976; am Sec. 1, 2 ch 25 SLA 1979; am Sec. 26 ch 91 SLA 1997; am Sec. 4 ch 27 SLA 2000)

Revisors Notes -

Formerly AS 38.05.330. Renumbered in 1984.

Cross References -

For legislative intent in connection with this section, see Sec. 2, ch. 27, SLA 2000 in the 2000 Temporary and Special Acts.

Amendment Notes -

The 1997 amendment, effective July 1, 1997, rewrote the first sentence of subsection (a) and made minor stylistic changes.

The 2000 amendment, effective May 11, 2000, added subsection (c).

AG Opinions -

A special land use permit may be revoked or terminated given a permittee's death and his earlier unauthorized attempt to transfer it. December 15, 1983, Op. Att'y Gen.

Decisions -

Quoted in Swindel v. Kelly, 499 P.2d 291 (Alaska 1972).

Stated in Northern Alaska Envtl. Ctr. v. State, 2 P.3d 629 (Alaska 2000).

Cited in Chevron U.S.A. Inc. v. LeResche, 663 P.2d 923 (Alaska 1983).

Collateral Refs -

63C Am. Jur. 2d, Public Lands, Sec. 37, 46, 53 to 55, 74, 111.

Sec. 38.35.120. Covenants required to be included in lease.

(a) A noncompetitive lease of state land for a right-of-way for an oil or natural gas pipeline valued at $1,000,000 or more may be granted only upon the condition that the lessee expressly covenants in the lease, in consideration of the rights acquired by it under the lease, that

(1) it assumes the status of and will perform all of its functions undertaken under the lease as a common carrier and will accept, convey, and transport without discrimination crude oil or natural gas, depending on the kind of pipeline involved, delivered to it for transportation from fields in the vicinity of the pipeline subject to the lease throughout its route both on state land obtained under the lease and on the other land; it will accept, convey, and transport crude oil or natural gas without unjust or unreasonable discrimination in favor of one producer or person, including itself, as against another but will take the crude oil or natural gas, depending on the kind of pipeline involved, delivered or offered, without unreasonable discrimination, that the Regulatory Commission of Alaska shall, after a full hearing with due notice to the interested parties and a proper finding of facts, determine to be reasonable in the performance of its duties as a common carrier; however, a lessee that owns or operates a natural gas pipeline

(A) subject to regulation either under the Natural Gas Act (15 U.S.C. 717 et seq.) of the United States or by the state or political subdivisions with respect to rates and charges for the sale of natural gas, is, to the extent of that regulation, exempt from the common carrier requirement in this paragraph;

(B) that is a North Slope natural gas pipeline (i) is required to operate as a common carrier only with respect to the intrastate transportation of North Slope natural gas, as that term is defined in AS 42.06.630, and (ii) is not required to operate as a common carrier as to a liquefied natural gas facility or a marine terminal facility associated with the pipeline, and is not otherwise required to perform its functions under the lease as a common carrier; for purposes of this subparagraph, "North Slope natural gas pipeline" means all the facilities of a total system of pipe, whether owned or operated under a contract, agreement, or lease, used by a carrier for transportation of North Slope natural gas, as defined by AS 42.06.630, for delivery, for storage, or for further transportation, and including all pipe, pump, or compressor stations, station equipment, tanks, valves, access roads, bridges, airfields, terminals and terminal facilities, including docks and tanker loading facilities, operations control centers for both the upstream part of the pipeline and the terminal, tanker ballast treatment facilities, fire protection system, communication system, and all other facilities used or necessary for an integral line of pipe, taken as a whole, to carry out transportation, including an extension or enlargement of the line;

(2) it will interchange crude oil or natural gas, depending on the kind of pipeline involved, with each like common carrier and provide connections and facilities for the interchange of crude oil or natural gas at every locality reached by both pipelines when the necessity exists, subject to rates and regulations made by the appropriate state or federal regulatory agency;

(3) it will maintain and preserve books, accounts, and records and will make those reports that the state may prescribe by regulation or law as necessary and appropriate for purposes of administration of this chapter;

(4) it will accord at all reasonable times to the state and its authorized agents and auditors the right of access to its property and records, of inspection of its property, and of examination and copying of records;

(5) it will provide connections, as determined by the Regulatory Commission of Alaska under AS 42.06.340, to facilities on the pipeline subject to the lease, both on state land and other land in the state, for the purpose of delivering crude oil or natural gas, depending on the kind of pipeline involved, to persons (including the state and its political subdivisions) contracting for the purchase at wholesale of crude oil or natural gas transported by the pipeline when required by the public interest;

(6) it shall, notwithstanding any other provision, provide connections and interchange facilities at state expense at such places the state considers necessary if the state determines to take a portion of its royalty or taxes in oil or natural gas;

(7) it will construct and operate the pipeline in accordance with applicable state laws and lawful regulations and orders of the Regulatory Commission of Alaska;

(8) it will, at its own expense, during the term of the lease,

(A) maintain the leasehold and pipeline in good repair;

(B) promptly repair or remedy any damage to the leasehold;

(C) promptly compensate for any damage to or destruction of property for which the lessee is liable resulting from damage to or destruction of the leasehold or pipeline;

(9) it will not transfer, assign, or dispose of in any manner, directly or indirectly, or by transfer of control of the carrier corporation, its interest in a right-of-way lease, or any rights under the lease or any pipeline subject to the lease to any person other than another owner of the pipeline (including subsidiaries, parents, and affiliates of the owners), except to the extent that the commissioner, after consideration of the protection of the public interest (including whether the proposed transferee is fit, willing, and able to perform the transportation or other acts proposed in a manner that will reasonably protect the lives, property, and general welfare of the people of Alaska), authorizes; the commissioner shall not unreasonably withhold consent to the transfer, assignment, or disposal;

(10) it will file with the commissioner a written appointment of a named permanent resident of the state to be its registered agent in the state and to receive service of notices, regulations, decisions, and orders of the commissioner; if it fails to appoint an agent for service, service may be made by posting a copy in the office of the commissioner, filing a copy in the office of the lieutenant governor, and mailing a copy to the lessee's last known address;

(11) the applicable law of this state will be used in resolving questions of interpretation of the lease;

(12) the granting of the right-of-way lease is subject to the express condition that the exercise of the rights and privileges granted under the lease will not unduly interfere with the

management, administration, or disposal by the state of the land affected by the lease, and that the lessee agrees and consents to the occupancy and use by the state, its grantees, permittees, or other lessees of any part of the right-of-way not actually occupied or required by the pipeline for the full and safe utilization of the pipeline, for necessary operations incident to land management, administration, or disposal;

(13) it will be liable to the state for damages or injury incurred by the state caused by the construction, operation, or maintenance of the pipeline and it will indemnify the state for the liabilities or damages;

(14) it will procure and furnish liability and property damage insurance from a company licensed to do business in the state or furnish other security or undertaking upon the terms and conditions the commissioner considers necessary if the commissioner finds that the net assets of the lessee are insufficient to protect the public from damage for which the lessee may be liable arising out of the construction or operation of the pipeline.

(b) For a right-of-way lease granted under this chapter for an oil or natural gas pipeline valued at $1,000,000 or more to be valid and of legal effect, it must contain the terms required to be inserted under the provisions of AS 38.35.110 - 38.35.140. An oil or natural gas pipeline right-of-way lease granted under this chapter that does not contain the required terms is null and void and without legal effect and does not vest any interest in state land or any authority in the carrier granted the lease.

(c) The commissioner may insert in any right-of-way lease other reasonable provisions and conditions required by the public interest.

(d) The lease will also contain terms and conditions that are reasonably necessary to obligate the lessee, to the extent reasonably practicable, to

(1) prevent conflicts with other existing uses of the land involving a superior public interest;

(2) protect state and private property interests;

(3) prevent any significant adverse environmental impact, including but not limited to the erosion of the surface of the land, and damage to fish and wildlife and their habitat;

(4) restore and revegetate during the term and at termination of the lease; and

(5) protect the interests of individuals living in the general area of the right of way who rely on the fish, wildlife, and biotic resources of the area for subsistence purposes.

(e) In the event the commissioner proposes to offer a lease or leases to two or more lessees for the same pipeline, the commissioner may include terms in the lease or leases which establish the limit of the obligations and liabilities of each lessee arising under this chapter or under the lease or leases.

History -

(Sec. 1 ch 72 SLA 1972; am Sec. 11 ch 3 FSSLA 1973; am Sec. 2, 3 ch 110 SLA 1981; am Sec. 69 ch 59 SLA 1982; am Sec. 1 ch 56 SLA 2000; am Sec. 15 ch 22 SLA 2001)

Revisors Notes -

Former (f) of this section was renumbered as AS 38.35.122 in 1984.

In 1999, in paragraphs (a)(1), (a)(5), and (a)(7) "Regulatory Commission of Alaska" was substituted for "Alaska Public Utilities Commission" in accordance with Sec. 30(a), ch. 25, SLA 1999.

Amendment Notes -

The 2000 amendment, effective August 9, 2000, added subparagraph (a)(1)(B) and made stylistic changes.

The 2001 amendment, effective May 10, 2001, in paragraph (a)(1) moved the language beginning "it will accept" and ending "as a common carrier" from the end of subparagraph (a)(1)(A) to near the end of the introductory language.

40 SLA 1976)

Sec. 36.30.015. Executive branch agencies.

(a) The commissioner of transportation and public facilities may delegate to another agency the authority to contract for construction. Before delegating authority to an agency under this subsection, the commissioner of transportation and public facilities shall make a written determination that the agency is capable of implementing the delegated authority. Notwithstanding delegation of authority under this subsection, contracts for construction are governed by this chapter and regulations adopted by the commissioner of administration under this chapter.

(b) The commissioner of administration may delegate to an agency the authority to contract for and manage services, professional services, and supplies. Notwithstanding delegation of authority under this subsection, an agency's exercise of the authority is governed by this chapter and regulations adopted by the commissioner under this chapter. Before delegating authority to an agency under this subsection, the commissioner shall make a written determination that the agency is capable of implementing the delegated authority.

(c) [Repealed, Sec. 48 ch 137 SLA 1996].

(d) An agency may not contract for the services of legal counsel without the approval of the attorney general. An agency may not contract for the services of a hearing officer or administrative law judge for an administrative, quasi-judicial hearing without the approval of the attorney general and the chief administrative law judge of the office of administrative hearings (AS 44.64.010).

(e) The board of directors of the Alaska Railroad Corporation and the board of directors of the Alaska Aerospace Corporation shall adopt procedures to govern the procurement of supplies, services, professional services, and construction. The procedures must be substantially equivalent to the procedures prescribed in this chapter and in regulations adopted under this chapter. Notwithstanding the other provisions of this subsection, the Alaska Railroad Corporation and the Alaska Aerospace Corporation shall comply with AS 36.30.170(b), and, when the Department of Transportation and Public Facilities authorizes the Alaska Railroad Corporation to perform construction work instead of the Department of Transportation and Public Facilities, the Alaska Railroad Corporation shall use competitive sealed bidding or competitive sealed proposals under AS 36.30.100 - 36.30.270 to procure the supplies, services, professional services, and construction services necessary for the work and, to ensure the state obtains the lowest cost for the project, may submit a bid or proposal for the work.

(f) The board of directors of the Alaska Housing Finance Corporation, notwithstanding AS 18.56.088, and the board of directors of the Knik Arm Bridge and Toll Authority under AS 19.75.111, shall adopt regulations under AS 44.62 (Administrative Procedure Act) and the board of trustees of the Alaska Retirement Management Board shall adopt regulations under AS 37.10.240 to govern the procurement of supplies, services, professional services, and construction for the respective public corporation and board. The regulations must reflect competitive bidding principles and provide vendors reasonable and equitable opportunities to participate in the procurement process and must include procurement methods to meet

emergency and extraordinary circumstances. Notwithstanding the other provisions of this subsection, the Alaska Housing Finance Corporation, the Knik Arm Bridge and Toll Authority, and the Alaska Retirement Management Board shall comply with AS 36.30.170(b).

(g) The Department of Transportation and Public Facilities shall adopt regulations to manage the procurement of supplies, services, professional services, and construction for the repair, maintenance, and reconstruction of vessels, docking facilities, and passenger and vehicle transfer facilities of the Alaska marine highway system. The regulations must be based on principles of competitive procurement consistent with this chapter to satisfy the special requirements of the Alaska marine highway system as determined by the Department of Transportation and Public Facilities.

(h) The board of directors of the Alaska Seafood Marketing Institute shall adopt procedures to govern the procurement of supplies, services, and professional services. The procedures must be similar to the procedures prescribed in this chapter and in regulations adopted under this chapter, except that the Alaska Seafood Marketing Institute shall comply with AS 36.30.170(b).

(i) Notwithstanding (e) of this section and the authority to delegate under (a) of this section, the Alaska Railroad Corporation, rather than the Department of Transportation and Public Facilities, shall perform signalization and flagging work, may perform the signalization and flagging work by itself or by using contractors, and, if it decides to use contractors for the work, it shall obtain the contractors by using its procurement procedures adopted under (e) of this section.

(j) Notwithstanding the other provisions of this chapter, when a project of the Department of Transportation and Public Facilities includes construction of rails, ties, or ballast for railroad tracks used by the Alaska Railroad Corporation, the Department of Transportation and Public Facilities may enter into an agreement with the Alaska Railroad Corporation for the Alaska Railroad Corporation to perform the work, and the Alaska Railroad Corporation may perform the work itself without procuring a contractor to provide the supplies, services, professional services, or construction services necessary for the work.

History -

(Sec. 2 ch 106 SLA 1986; am Sec. 8, 9 ch 30 SLA 1990; am Sec. 11 ch 168 SLA 1990; am Sec. 6 ch 88 SLA 1991; am Sec. 8 ch 31 SLA 1992; am Sec. 2 ch 94 SLA 1992; am Sec. 111 ch 4 FSSLA 1992; am Sec. 1 ch 102 SLA 1995; am Sec. 2 - 4, 48 ch 137 SLA 1996; am Sec. 1, 2 ch 73 SLA 1998; am Sec. 2 ch 77 SLA 2003; am Sec. 51 ch 163 SLA 2004; am Sec. 1 ch 177 SLA 2004; am Sec. 54 ch 9 FSSLA 2005)

Revisors Notes -

In 2003, in subsection (f), "AS 19.75.111" was substituted for "AS 44.90.111" to reflect the 2003 renumbering of AS 44.90.111.

In 2009, under Sec. 2, ch. 60, SLA 2009, in this section "Alaska Aerospace Corporation" was substituted for "Alaska Aerospace Development Corporation".

Amendment Notes -

The 2003 amendment, effective September 10, 2003, in subsection (f) inserted "and the board of directors of the Knik Arm Bridge and Toll Authority under AS 44.90.111," in the first sentence and ", the Knik Arm Bridge and Toll Authority," in the last sentence.

The first 2004 amendment, effective October 24, 2004, added subsection (j).

The second 2004 amendment, effective July 1, 2005, added the last sentence to subsection (d).

The 2005 amendment, effective July 28, 2005, in subsection (f) substituted "Alaska Retirement Management Board" for "Alaska State Pension Investment Board" in the first and last sentences.

Editors Notes -

Under Sec. 146, ch. 9, FSSLA 2005, the 2005 amendment of subsection (f) of this section made by ch. 9, FSSLA 2005, is retroactive to July 1, 2005.

Decisions -

Outside services of counsel. - The fact that the legislature provided a mechanism in this section for state agencies to procure personal services contracts demonstrates that the legislature contemplated retention of the services of counsel outside of the Department of Law. State v. Breeze, 873 P.2d 627 (Alaska Ct. App. 1994).

offerors of the intent to enter into a contract through competitive sealed proposals.

Sec. 36.30.850. Application of this chapter.

(a) This chapter applies only to contracts solicited or entered into after January 1, 1988, unless the parties agree to its application to a contract solicited or entered into before that date.

(b) This chapter applies to every expenditure of state money by the state, acting through an agency, under a contract, except that this chapter does not apply to

(1) grants;

(2) contracts for professional witnesses to provide for professional services or testimony relating to existing or probable lawsuits in which the state is or may become a party;

(3) contracts of the University of Alaska where the work is to be performed substantially by students enrolled in the university;

(4) contracts for medical doctors and dentists;

(5) acquisitions or disposals of real property or interest in real property, except as provided in AS 36.30.080 and 36.30.085;

(6) disposals under AS 38.05;

(7) contracts for the preparation and transportation of ballots under AS 15;

(8) acquisitions or disposals of property and other contracts relating to airports under AS 02.15.070, 02.15.090, 02.15.091, and AS 44.88;

(9) disposals of obsolete property under AS 19.05.060;

(10) disposals of obsolete material or equipment under AS 35.20.060;

(11) agreements with providers of services under AS 47.25.071 - 47.25.095; AS 47.07; AS 47.08; AS 47.10; AS 47.12; AS 47.14; AS 47.17; AS 47.24; and AS 47.27, including contractors under AS 47.27.050;

(12) contracts of the Department of Fish and Game for flights that involve specialized flying and piloting skills and are not point-to-point;

(13) purchases of income-producing assets for the state treasury or a public corporation of the state;

(14) [Repealed, Sec. 48 ch 137 SLA 1996].

(15) a contract that is a delegation, in whole or in part, of investment powers held by

(A) the commissioner of revenue under AS 14.42.200, 14.42.210, AS 18.56.095, AS 37.10.070, 37.10.071, or AS 37.14;

(B) the Board of Regents of the University of Alaska under AS 14.40.250 - 14.40.491;

(16) a contract that is a delegation, in whole or in part, of investment powers or fiduciary duties of

(A) the Board of Trustees of the Alaska Permanent Fund Corporation under AS 37.13;

(B) the Alaska Mental Health Trust Authority under AS 37.14.001 - 37.14.099;

(17) the purchase of books, book binding services, newspapers, periodicals, audio-visual materials, network information services access, approval plans, professional memberships, archival materials, objects of art, and items for museum or archival acquisition having cultural, historical, or archaeological significance; in this paragraph

(A) "approval plans" means book selection services in which current book titles meeting an agency's customized specifications are provided to the agency subject to the right of the agency to return those books that do not meet with the agency's approval;

(B) "archival materials" means the noncurrent records of an agency that are preserved after appraisal because of their value;

(C) "audio-visual materials" means nonbook prerecorded materials, including records, tapes, slides, transparencies, films, filmstrips, cassettes, videos, compact discs, laser discs, and items that require the use of equipment to render them usable;

(D) "network information services" means a group of resources from which cataloging information, holdings records, inter-library loans, acquisitions information, and other reference resources can be obtained;

(18) contracts for the purchase of standardized examinations for licensure under AS 08;

(19) contracts for home health care provided under regulations adopted by the Department of Health and Social Services and for adult residential care services provided under regulations adopted by the Department of Health and Social Services or by the Department of Administration;

(20) contracts for supplies or services for research projects funded by money received from the federal government or private grants;

(21) guest speakers or performers for an educational or cultural activity;

(22) contracts of the Alaska Industrial Development and Export Authority for a clean coal technology demonstration project that

(A) is attempting to develop a coal-fired electric generation project;

(B) uses technology that is capable of commercialization during the 1990's; and

(C) qualifies for federal financial participation under P.L. 99-190 as amended;

(23) operation and protection of assets or disposals of equipment and supplies acquired through foreclosure or other legal proceedings relating to loans issued under AS 03.10;

(24) purchases of curatorial and conservation services to maintain, preserve, and interpret

(A) objects of art; and

(B) items having cultural, historical, or archaeological significance to the state;

(25) acquisition of confidential seismic survey data necessary for pre-sale oil and gas lease or gas only lease analyses under AS 38.05.180;

(26) contracts for village public safety officers;

(27) purchases of supplies and services to support the operations of the Alaska state troopers or law enforcement officers engaged in fish and wildlife protection if the procurement officer for the Department of Public Safety makes a written determination that publicity of the purchases would jeopardize the safety of personnel or the success of a covert operation;

(28) expenditures when rates are set by law or ordinance;

(29) construction of new vessels by the Department of Transportation and Public Facilities for the Alaska marine highway system;

(30) contracts entered into with a regional development organization; in this paragraph, "regional development organization" has the meaning given in AS 44.33.895;

(31) contracts that are to be performed in an area outside of the country and that require a knowledge of the customs, procedures, rules, or laws of the area;

(32) contracts that are between the Department of Law and attorneys who are not employed by the state and that are for the review or prosecution of possible violations of the criminal law of the state in situations where the attorney general concludes that an actual or potential conflict of interest makes it inappropriate for the Department of Law to review or prosecute the possible violations;

(33) contracts between the Department of Natural Resources and contractors qualified to evaluate hydrocarbon development, production, transportation, and economics, to assist the commissioner of natural resources in evaluating applications for royalty increases or decreases or other royalty adjustments, and evaluating the related financial and technical data, entered into under AS 38.05.180(j);

(34) contracts of the Alaska Industrial Development and Export Authority made with the developer of an integrated transportation and port facility owned by the authority;

(35) procurements of contracts with the media for advertising;

(36) [Repealed, Sec. 10 ch 58 SLA 2006].

(37) contracts between the state medical examiner and a provider of medical services to perform or assist in performing the duties assigned to the state medical examiner in AS 12.65.020;

(38) contracts between the commissioner of revenue and an independent contractor under AS 43.82.240;

(39) contracts for a convener under AS 44.62.730 or for a facilitator under AS 44.62.760 related to a negotiated regulation making process under AS 44.62.710 - 44.62.800;

(40) [Repealed, Sec. 5 ch 173 SLA 2004].

(41) a tourism marketing contract awarded under AS 44.33.125;

(42) grants and contracts with qualified entities for services under AS 47.18.330 for the foster care transition program;

(43) contracts for travel services, including airplane travel, hotel accommodations, and travel agency services, but excluding motor vehicle rentals;

(44) contracts of the Alaska Commission on Postsecondary Education or the Alaska Student Loan Corporation for the guarantee and disbursing of financial aid money to institutions of postsecondary education under the financial aid programs under AS 14.43.091 - 14.43.750 and AS 14.44.025;

(45) contracts for an arbitration panel to determine whether a project is uneconomic under AS 43.90.240, and contracts for the development of application provisions for licensure and for the evaluation of those applications under AS 43.90;

(46) contracts for delivery of home heating assistance under AS 47.25.626;

(47) contracts of the Alaska Pension Obligation Bond Corporation under AS 37.16.010 - 37.16.900.

(c) Except for AS 36.30.085 and 36.30.700 - 36.30.790, this chapter does not apply to contracts between two or more agencies, the state and its political subdivisions, or the state and other governments.

(d) Nothing in this chapter or in regulations adopted under this chapter prevents an agency or political subdivision from complying with the terms and conditions of a grant, gift, bequest, cooperative agreement, or federal assistance agreement.

(e) [Renumbered as AS 36.30.170(i)].

History -

(Sec. 2 ch 106 SLA 1986; am Sec. 21, 22 ch 65 SLA 1987; am Sec. 1 ch 38 SLA 1988; am Sec. 5 ch 73 SLA 1988; am Sec. 18 ch 141 SLA 1988; am Sec. 17 ch 102 SLA 1989; am Sec. 1, 2 ch 123 SLA 1990; am Sec. 4 ch 66 SLA 1991; am Sec. 9 ch 31 SLA 1992; am Sec. 1 ch 134 SLA 1992; am Sec. 9 ch 2 FSSLA 1992; am Sec. 10 ch 37 SLA 1993; am Sec. 3 ch 68 SLA 1993; am Sec. 8, 9 ch 75 SLA 1994; am Sec. 5 ch 130 SLA 1994; am Sec. 1 ch 85 SLA 1995; am ch 59 Sec. 8 SLA 1996; am Sec. 16 ch 103 SLA 1996; am Sec. 24 ch 107 SLA 1996; am Sec. 2 ch 111 SLA 1996; am Sec. 42, 43, 48 ch 137 SLA 1996; am E.O. No. 93 Sec. 3 (1996); am Sec. 12 ch 9 SLA 1997; am Sec. 37 ch 83 SLA 1998; am Sec. 7 ch 104 SLA 1998; am Sec. 3, 7 ch 117 SLA 1998; am Sec. 3 ch 29 SLA 1999; am Sec. 34, 35 ch 58 SLA 1999; am Sec. 89 ch 82 SLA 2000; am Sec. 1 ch 82 SLA 2002; am Sec. 1 ch 112 SLA 2002; am E.O. No. 108 Sec. 3 (2003); am Sec. 7, 8 ch 49 SLA 2004; am Sec. 30 ch 63 SLA 2004; am Sec. 20 ch 99 SLA 2004; am Sec. 5 ch 173 SLA 2004; am Sec. 10 ch 58 SLA 2006; am Sec. 2 ch 22 SLA 2007; am Sec. 2 ch 31 SLA 2008; am Sec. 7 ch 35 SLA 2008; am Sec. 37 ch 40 SLA 2008)

Delayed Amendment -.

Under Sec. 53, ch. 35, SLA 2003, paragraph (b)(30) is amended to read as follows: "contracts entered into with a regional development organization; in this paragraph, "regional development organization' means a nonprofit organization or nonprofit corporation formed to encourage economic development within a particular region of the state that includes the entire area of each municipality within that region and that has a board of directors that represents the region's economic, political, and social interests."

Under Sec. 75, ch. 35, SLA 2003 and Sec. 2, ch. 43, SLA 2000, as amended by Sec. 1, ch. 110, SLA 2003, Sec. 1, ch. 51, SLA 2005, and Sec. 1, ch. 69, SLA 2008, this amendment takes effect July 1, 2013.

Revisors Notes -

Paragraphs (b)(15) - (17) were enacted as (b)(14), (15), and (14), respectively. Renumbered in 1988. Paragraphs (b)(31) and (32) were enacted as (b)(30) and (31), respectively. Renumbered in 1993.

Paragraphs (b)(35) and (b)(37) were enacted as (b)(34) and paragraph (b)(36) was enacted as (b)(35); renumbered in 1996.

Paragraphs (b)(39) and (40) were enacted as (b)(38). Renumbered in 1998.

In 1999, in (b) of this section, "Department of Education" was changed to "Department of Education and Early Development" in accordance with Sec. 89, ch. 58, SLA 1999.

Paragraph (b)(43) was enacted as (b)(42); renumbered in 2002.

In 2003, "AS 47.12; AS 47.14; AS" was reinserted in (b)(11) of this section to correct an error in failing to reconcile chs. 59 and 107, SLA 1996.

In 2003, in paragraph (b)(11), "AS 47.25.071 - 47.25.095" was substituted for "AS 47.25.007 - 47.25.009" to reflect the 2003 renumbering of AS 47.25.007 - 47.25.009.

Paragraph (b)(47) was enacted as (b)(46); renumbered in 2008.

Cross References -

For provisions applicable to all insurance contracts involving state money, see AS 36.30.170.

Amendment Notes -

The 2000 amendment, effective July 1, 2000, in paragraph (b)(7) inserted "and transportation" and made a section reference substitution.

The first 2002 amendment, effective July 1, 2002, added paragraph (b)(42).

The second 2002 amendment, effective September 29, 2002, added paragraph (b)(43).

The 2003 amendment, effective July 1, 2003, updated a section reference in paragraph (b)(11).

The first 2004 amendment, effective June 5, 2004, inserted "or gas only lease" in paragraph (b)(25), and deleted "oil and gas" preceding "royalty increases" and "royalty adjustments" in paragraph (b)(33).

The second 2004 amendment, effective June 17, 2004, added paragraph (b)(44).

The third 2004 amendment, effective June 26, 2004, in paragraph (b)(11), transferred "AS 47.25.001 - 47.25.009" to its present location from its former location, following "services under."

The fourth 2004 amendment, effective July 27, 2004, repealed paragraph (b)(40), relating to contracts of the Department of Education and Early Development.

The 2006 amendment, effective June 14, 2006, repealed paragraph (b)(36).

The 2007 amendment, effective June 8, 2007, added paragraph (b)(45).

The first 2008 amendment, effective May 23, 2008, added paragraph (b)(46).

The second 2008 amendment, effective May 23, 2008, added paragraph (b)(46) [now (b)(47)].

The third 2008 amendment, effective May 23, 2008, substituted "law enforcement officers engaged in fish and wildlife protection" for "the division of fish and wildlife protection" in paragraph (b)(27).

Editors Notes -

Section 2, ch. 112, SLA 2002 provides that paragraph (b)(43) "does not apply to a contract entered into before September 29, 2002 if, by the terms of the contract, the contract continues to be effective on or after September 29, 2002."

Section 7, ch. 117, SLA 1998, which was to repeal (b)(39) of this section effective July 1, 2003, was repealed by Sec. 2, ch. 44, SLA 2003.

AG Opinions -

The exception in paragraph (b)(1) for grants applies where: 1) the legislature makes an appropriation to a specific program for a specific purpose; 2) the appropriation is for a donative purpose that would more traditionally be characterized as a grant (rather than the purchase of services or supplies); and 3) the nature of the program, known to the legislature, makes application of the procurement code difficult or unreasonable. Mar. 23, 1988 Op. Att'y Gen.

The State Procurement Code does not apply to decisions of the Department of Fish and Game (DF&G) concerning allocation to private nonprofit hatcheries of federal funds granted to the state in connection with the U.S./Canada Pacific Salmon Treaty, since the transaction that occurs when DF&G selects and allocates federal grant money to private nonprofit hatchery projects is not contractual under the State Procurement Code. Apr. 13, 1988 Op. Att'y Gen.

The Department of Transportation and Public Facilities (DOT/PF) is not required to make the Procurement Code a condition of a Transfer of Responsibility Agreement (TORA). DOT/PF has discretion to negotiate for the inclusion of all or portions of the code in a TORA. June 10, 1988 Op. Att'y Gen.

The Procurement Code does not apply to contract negotiations of the Alaska Marine Highway System (AMHS) with the Port of Bellingham to provide terminal services at Bellingham for the AMHS. However, the AMHS may contract for these services with the Port of Bellingham. Aug. 16, 1989 Op. Att'y Gen.

Although the procurement code mentions the expenditure of money, the procurement code must be read to cover cases where instead of money some other type of valuable consideration is provided by the state in exchange for a good or service. Apr. 17, 1991 Op. Att'y Gen.

AS 36.30.850(b)(16) does not exempt the Alaska Permanent Fund Corporation from the procurement requirements of AS 36.30, when the corporation retains certain advisory, consulting, auditing, legal and investment services. Jan. 26, 1993 Op. Att'y Gen.

The State Procurement Code would not apply to services truly donated to construction effort by Upper Susitna Soil and Water Conservation District to assemble a building received as a donation to the District, and the Department of Natural Resources can provide supervision and oversight of the project without formal involvement of the Department of Transportaion and Public Facilities. Jan. 14, 1994 Op. Att'y Gen.

The Alaska Department of Fish and Game may comply with an express term or condition imposed by the Exxon Valdez Oil Spill Council that strictly requires a contract be awarded to a specific entity, but should not infer such an intent; if the Council fails to expressly impose the condition that a contract be awarded to a specific entity, the Department must comply with competitive requirements of the procurement code regarding the selection of the contract recepient, and the Department should comply with any other provision of the procurement code

that does not conflict with an express term or condition the Council imposes. Sept. 14, 1999 Op. Att'y Gen.

Decisions -

Cited in Laborers Local 942 v. Lampkin, 956 P.2d 422 (Alaska 1998).

Article Notes -

Administrative Code. For general provisions: definitions, see 2 AAC 12, art. 18.

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REPRESENTATIVE MIKE CHENAULT

SPEAKER OF THE HOUSE

SPONSOR STATEMENT

COMMITTEE SUBSTITUTE FOR HOUSE BILL 369 (FIN) am

"An Act relating to an in-state natural gas pipeline, the office of in-state gasline project manager, the Joint In-State Gasline Development Team; requiring the development of an in-state natural gas pipeline plan, to be delivered to the legislature by July 1, 2011, that provides for a gasline that is operational by December 31, 2015; directing the Joint In-State Gasline Development Team to assume responsibilities under sec. 19, ch. 14, SLA 2009; requiring expedited review and action by state agencies or entities relating to the in-state natural gas pipeline project; and providing for an effective date."

Committee Substitute for House Bill 369 (FIN) am was introduced as an effort to expedite the process for an in-state natural gas pipeline. The in-state gasline has been a topic of discussion in the Legislature and the Administration for a number of years. Currently, there are two separate state entities, the Alaska Natural Gas Development Authority and the in-state gasline coordinator, working on a project. House Bill 369 combines these two entities along with the Department of Transportation and Public Facilities, the Alaska Railroad Corporation and the Alaska Housing Finance Corporation to create a Joint In-state Gasline Development Team within the Office of the Governor. The Development Team is to ensure that a project plan is developed by July 1, 2011 with gas flowing by the end of 2015. It is my hope the Development Team will be able to focus the state's efforts in putting a project plan together and leverage the best ideas and data to get a gasline built.

The Department of Transportation and Public Facilities and the Alaska Railroad Corporation were included as members of the team due primarily to their having existing rights of way which could speed up any permitting process that may need to be undertaken. The Alaska Railroad Corporation also has bonding ability which could be an answer in financing a gasline. The addition of the chief executive officer of the Alaska Housing Finance Corporation is to help develop a financing plan for the in-state gasline. The CEO of AHFC will chair the Development Team.

The Development Team will cover all aspects of the line's development and are to select the most economically sound route that will deliver gas to Alaskans, plan permitting and design by using existing rights of way and take any action necessary to get a project plan in place by July 1 of next year. Additional duties of the Joint Development Gasline Development Team are also spelled out within the legislation.

The bill provides for an expedited review and action process and the sharing of information that may already have been accumulated or completed. The bill also requires that state agencies or entities cooperate with and give priority to requests for information from the Development Team.

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REPRESENTATIVE MIKE CHENAULT
SPEAKER OF THE HOUSE

SECTIONAL ANALYSIS

COMMITTEE SUBSTITUTE FOR HOUSE BILL 369 (FIN) am

"An Act relating to an in-state natural gas pipeline, the office of in-state gasline project manager, the Joint In-State Gasline Development Team; requiring the development of an in-state natural gas pipeline plan, to be delivered to the legislature by July 1, 2011, that provides for a gasline that is operational by December 31, 2015; directing the Joint In-State Gasline Development Team to assume responsibilities under sec. 19, ch. 14, SLA 2009; requiring expedited review and action by state agencies or entities relating to the in-state natural gas pipeline project; and providing for an effective date."

Section 1: Adds a new chapter, Chapter 34: In-State natural Gas Pipeline, to AS 38, Public Land.

Sec. 38.34.010. In-state gasline project manager. (a) Creates the position of in-state gasline project manager within the governor's Office. This position will continue until one year after commercial operation of the in-state natural gas pipeline begins. (b) The Governor appoints an individual to the position of an in-state gasline manager and may be removed at the Governor's discretion. (c) Describes the duties of the in-state gasline project manager.

Sec. 38.34.020. Expedited review and action by state agencies or entities. (a) States that any state agency or entity conducting and taking action relating to the in-state gasline shall be expedited. (b) A state agency or entity may not include in any project certificate, right of way, permit or other authorization issued to a licensee a term or condition that is not required by law if the in-state project manager determines the term or condition would prevent or impair the expeditious construction and operation or expansion of the in-state gasline. (c) A state agency or entity may not, unless required by law, amend or abrogate any certificate, right of way, permit or other authorization issued to a licensee if the project manager determines the action would prevent or impair the expeditious construction and operation or expansion of the in-state gasline.

Sec. 38.34.030. Joint In-state Gasline Development Team. (a) Establishes the Joint In-State Gasline Development Team in the Governor's Office. The team consists of the commissioner of the Department of Transportation and Public Facilities or designee, the chief executive officer of the Alaska Railroad Corporation or designee, the chief executive officer of the Alaska Natural Gas Development Authority, the in-state gasline project manager and the chief executive officer

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of the Alaska Housing Finance Corporation. (b) Names the Alaska Housing Finance Corporation's chief executive officer as chair. (c) Allows the development team to hire staff, enter into contracts and exercise other powers to carry out its functions.

Sec. 38.34.040. Duties of the Development Team. (a) Ensure a project plan for the development of an in-state gasline is completed and delivered to the legislature by July 1, 2011. The project plan must specify and document how an in-state gasline can be designed, financed, constructed and made operational by December 31, 2015. (b) The Joint In-State Gasline Development Team is to assume all executive authority over and managerial responsibility for all activities enumerated under sec. 19, ch. 14, SLA 2009, including work previously completed, work in process, and work for which money has been encumbered but that is not completed on the effective date of this subsection. (c) Describes specific plans that are to be included within the project plan for an in-state gasline that will serve Fairbanks, the southcentral region of the state, and other communities whenever practicable, connecting with or enhancing the existing gas pipeline system, and reaching to tidewater. (d) The development team's work product is to include an analysis of alternative possible routes and select a route that is consistent with the following requirements: (1) is the most economical, (2) will provide gas to residents at a reasonable cost, (3) allows for connecting lines to serve industrial, residential and utility customers along the entire route and in other regions of the state that can be served at commercially feasible rates, (4) uses state land and existing state highway and railroad rights of way to the maximum extent feasible, (5) uses existing highway and railroad bridges, gravel pits equipment yards and maintenance facilities and other existing facilities and resources to the maximum extent feasible. (e) With the intent that any project-related assets acquired or developed be available for transfer or sale to the entity best able to complete the project, the development team is to: (1) prepare plans and designs necessary for the construction of the in-state gasline; (2) coordinate with entities qualified to build, own and operate the gasline; (3) identify, apply for and obtain rights-of-way and other permits for the project route; (4) work with other entities to promote gas supply and purchase contracts required for the project to be commercially viable; (5) prepare cost estimates for project design, construction and operation to determine the project's feasibility and the projected cost of natural gas to consumers; (6) coordinate with and use, to the fullest extent, possible existing work by other state agencies and entities before contracting for new reports and research and analysis; (7) determine regulatory authority over the pipeline project and perform any necessary compliance requirements; (8) identify and apply for, or support extension of, existing permits for export of Alaska natural gas if that export improves project economics and will reduce the price of natural gas to in-state consumers. (f) Any rights to a gasline corridor obtained by a state agency under eminent domain may be transferred to a private entity. (g) Allows a state agency acquiring interest in land by eminent domain to grant a permit authorizing a private person to construct, manage and operate a gas pipeline on that land. (h) Describes the various aspects of the in-state gasline project the development team may consider.

Sec. 38.34.050. Cooperation and access to information. (a) States the development team may have access to a state entity's information to include confidential information that may relate to the in-state gasline or prove useful in planning, design, construction or operation of the gasline. Confidential information received by the Development Team shall be kept confidential. (b) All state agencies are to cooperate and give priority to requests for information from the

Development Team. The Development Team is to avoid duplicating studies, plans, and designs that have already been produced or otherwise obtained by state entities.

Sec. 38.34.060. Conflicts of interest. (a) If a member of the Development Team acquires, owns or controls a direct or indirect interest in property, an organization or business that might be affected by the in-state gasline project or other matters under consideration by the Development Team shall immediately disclose the interest to the Development Team. This disclosure is part of the public record and shall be included in the minutes of the first meeting of the Development Team held after the disclosure. (b) Members of the development team are subject to AS 39.50 (Public Official Disclosure) and AS 39.52 (Alaska Executive Branch Ethics Act).

Sec. 38.34.099. Definitions. Defines the in-state natural gas pipeline and the North Slope.

Section 2: Amends AS 39.25.110, Exempt service. Adds the in-state gasline project manager to the exempt service list.

Section 3: Immediate effective date.

FISCAL NOTE

STATE OF ALASKA
2010 LEGISLATIVE SESSION

Fiscal Note Number:
Bill Version: **CSHB 369 (FIN)am**
() Publish Date:

Identifier (file name): CSHB369 (FIN)-GOV-EO-03-30-10
Dept. Affected: OOG
Title "An Act relating to in-state natural gas pipeline,... ..project manager/team"
RDU Executive Operations
Component AK Resources Mktg and Develpmt
Sponsor Representative Chenault
Requester (S) Resources
Component Number 2774

Expenditures/Revenues (Thousands of Dollars)

Note: Amounts do not include inflation unless otherwise noted below.

	Appropriation Required	Information					
OPERATING EXPENDITURES	**FY 2011**	**FY 2011**	**FY 2012**	**FY 2013**	**FY 2014**	**FY 2015**	**FY 2016**
Personal Services	1,095.2	1,095.2	1,011.6	1,021.9	1,032.5	1,036.0	1,047.0
Travel	36.0	36.0	36.0	36.0	36.0	36.0	36.0
Contractual	9,408.8	9,408.8	***	***	***	***	***
Supplies	29.0	29.0	25.0	25.0	25.0	25.0	25.0
Equipment	84.3	84.3	0.0	0.0	0.0	0.0	0.0
Land & Structures							
Grants & Claims							
Miscellaneous							
TOTAL OPERATING	10,653.3	10,653.3	***	***	***	***	***
CAPITAL EXPENDITURES							
CHANGE IN REVENUES ( )							
FUND SOURCE			(Thousands of Dollars)				
1002 Federal Receipts							
1003 GF Match							
1004 GF	10,653.3	10,653.3	***	***	***	***	***
1005 GF/Program Receipts							
1037 GF/Mental Health							
Other Interagency Receipts							
TOTAL	10,653.3	10,653.3	***	***	***	***	***

Estimate of any current year (FY2010) cost: 0.0

POSITIONS

Full-time	7	7	6	6	6	6	6
Part-time							
Temporary							

ANALYSIS: *(Attach a separate page if necessary)*

Please see attached 10 page analysis - includes breakdown for RSA to all agencies.

Prepared by: Linda Perez, Director — Phone 465-3876
Division Administrative Services — Date/Time 3/30/10 3:30 PM
Approved by: Bob Swenson, Project Manager — Date 3/30/2010
Office of the Governor

(Revised 11/6/2009 OMB)

4792

STATE OF ALASKA

ALASKA NATURAL GAS DEVELOPMENT AUTHORITY

SEAN PARNELL, GOVERNOR

411 WEST 4th AVENUE, FIRST FLOOR
ANCHORAGE, ALASKA 99501

TELEPHONE: (907) 257-1393

March 24, 2010

Representative Mike Chenault
Speaker of the House
State Capitol, Room 423
Juneau, AK 99801-1182

Re: In-State Gas Pipeline Legislation

Dear Representative Chenault:

ANGDA was formed in 2002 by a vote of 138,000 Alaskans to spur development of an Alaskan gas pipeline and to insure that Alaskans benefited from the gas line. ANGDA has stayed true to that mission over our history and the large body of completed public work that has been built will contribute to any in-state gas pipeline project.

Over time, there has been a range of support for ANGDA's efforts throughout several administrations and legislative sessions. Suffice it to say, ANGDA is very pleased to see the current legislative focus on pulling together all elements of a team to help facilitate an in-state gas pipeline to serve residential, industrial, and export gas uses. We stand prepared to take any actions asked of us to help bring this priority project about.

Some specific items that ANGDA is currently working on that could help any in-state gas project and should be continued to the benefit of Alaskans are:

1. Organizing the gas supply cooperative of electric utilities (NGSC) to help aggregate gas demand that could then in turn make shipping commitments to a gas pipeline;

2. Providing a range of value added opportunities that could provide a gas line anchor tenant to make gas more affordable to Alaskans;

3. Production and distribution of propane or other gases to all rural, river, and coastal communities to reduce the energy costs in western and interior Alaska;

4. The analysis of a potential split-line gas pipeline through Glennallen to Cook Inlet and to Valdez for LNG export shipments and thereby making gas more affordable to Alaskans; and

5. Working with the electric utilities on partnering in the Kenai LNG plant to maintain winter gas deliverability and serve as a bridge supply of gas until a gas line can be built.

The current legislation focuses on specific objectives to be achieved in the next fiscal year. ANGDA's experience can make major contributions to the efficiency of these efforts by shortening timelines and avoiding duplication. ANGDA's existing pipeline business relationships and special statutory authorities can compliment and work in synergy with the other team members.

Specific task areas in the legislation that ANGDA is uniquely able to contribute to with its experienced staff, individual expert contractors, and contractor firms are:

1. Identify opportunities for delivering North Slope gas to rural & maritime Alaska;
2. Identify and negotiate with potential gas suppliers and potential gas consumers;
3. Develop pro-forma financials for the project;
4. Develop a partnering agreement with a pipeline company;
5. Provide a design, construction schedule, permitting plan, and cost estimate for an LNG plant; and
6. Develop and execute a public information and outreach plan.

A huge body of pipeline design knowledge has already been analyzed by ANGDA and the urgency of the tasks could lead to duplication if ANGDA is not strongly represented in all tasks. The desired comparison of project choices will require a full vetting of a Valdez LNG plant design and ANGDA is the only team member with prior experience on this portion of the project. ANGDA is currently dealing on a commercial basis with gas suppliers, gas consumers, and pipeline companies.

We believe all these elements are critical to any of the in-state gas projects being contemplated and we are prepared to be part of the team to help move Alaska's in-state gas line agenda forward. We ask for your support of ANGDA's involvement.

Sincerely,

Harold C. Heinze
CEO

Scott Heyworth
Board Chairman

cc: Representative Alan Austerman
Representative Bob Buch
Representative Sharon Cissna
Representative Harry Crawford
Representative Nancy Dahlstrom
Representative Mike Doogan
Representative Bryce Edgmon
Representative Anna Fairclough
Representative Neal Foster
Representative Les Gara
Representative Max Gruenberg
Representative Carl Gatto
Representative John Harris
Representative Mike Hawker
Representative Pete Petersen
Representative Jay Ramras
Representative Woodie Salmon
Representative Paul Seaton
Representative Kurt Olson
Representative Bob Lynn
Representative Bob Herron
Representative Lindsey Holmes
Representative Kyle Johansen
Representative Craig Johnson
Representative Reggie Joule
Representative Scott Kawasaki
Representative Wes Keller
Representative Mike Kelly
Representative Beth Kerttula
Representative Berta Gardner
Representative David Guttenberg
Representative Charisse Millett
Representative Cathy Munoz
Representative Mark Neuman
Representative Bill Thomas, Jr
Representative Chris Tuck
Representative Peggy Wilson
Representative Tammie Wilson
Representative Bill Stoltze

Office of Governor FY11: 8,053.7 plus 2,599.6 additional contractual for RSA needs for a total request of 10,653.3.

To ensure that an in-state natural gas pipeline plan is delivered to the legislature by July 1, 2011 as set out in HB 369 (FIN), the in-state gas line project team has identified general work products, materials, and a minimum staffing level needed to direct the work for the project team. The cost associated with contractual services to perform environmental work and support of permitting, cost of service analysis, continued refinement of pipeline engineering, and development and management of development plan in FY11 will be approximately $6.5 million. A cost of transportation estimate to provide pipeline and facility costs are scheduled to be completed by July 1, 2010, which will provide partial data for cost of service models. These costs will help determine commercial viability of a pipeline. The additional $2.6 million is for RSA monies to agencies duties outlined below.

OFFICE OF THE GOVERNOR:

PERSONAL SERVICES: 1,095.2 - increased to include 7 staff for first year as follows:
Project Manager Rg 26
Engineering Manager Rg 26
Commercial Manager Rg 26
Legislative Liaison/Public Outreach Officer Rg 23
Finance/budget analyst Rg 22
Schedule Coordinator Rg 21
Technical Writer Rg 19 (first year only)

Current 6500.0 operating budget request includes 322.2 for personal services. Fiscal note increases total personal services to 1,095.2 for 7 staff in first year. Following years reduce staff to 6 and include scheduled merit increases for all but professional staff.

TRAVEL: 36.0 – reflects original travel request in FY2011 Governor's budget request.

CONTRACTUAL: 6,809.2 + 2,599.6 (Total 9,408.8)
Current 6500.0 operating budget request includes 6,130.0 for contractual. Fiscal note increases contractual to include commercial analysis of downstream industrial opportunities, public outreach and information dissemination, and annual lease space for 7 staff during the first year. Second and subsequent fiscal year contractual costs are indeterminate.

500.00 for FY2011, 2012 and 2013 for commercial analysis of downstream industrial opportunities; reduced to 200.0 for 2014 thru 2016.

Contractual (continued)

100.0 for public outreach, information dissemination, printing, advertising, postage.

79.2 first year office lease space – reduces to 75.3 for second and subsequent years

2599.6 RSA funding requirements – see below

SUPPLIES: 29.0 increases FY2011 operating budget request to 29.0 for increased staff and fast-track activities, reducing to 25.0 for second and subsequent years.

EQUIPMENT: 84.3 one-time office set-up.

Office of Governor FY12 & Beyond: Contractual; Indeterminate
Fiscal responsibility for FY12 and beyond is indeterminate at this time. These costs may include preconstruction engineering, procurement of natural gas, purchase of ENSTAR Bullet Line data package, potential application for extension of LNG export license, and other engineering and commercial activities that provide for a gasline that is operational by December 31, 2015. The State's ability to transfer the project to private investors is likewise unknown. If unsuccessful, the State may assume liability for a portion, or all of the construction costs. These costs will depend on what is determined and approved from the development plan, if anything, and could range from tens of millions to over 5 billion dollars, depending on the level of participation by the State.

Breakdown of RSAs to state agencies: 2599.6 as follows:

AHFC FY11: 500.0

This fiscal note is an estimate of what funds would be necessary for the Alaska Housing Finance Corporation should House Bill 369 become law. The preparation of a comprehensive financing plan would be completed once cost estimates for the project are available.
Contractual services will consist of Financial Advisors and legal counsel.
FY12: 0

DEC FY11: 121.1

The Department of Environmental Conservation (DEC) fiscal note reflects a project coordinator to be located in the Office of the Commissioner to coordinate with the joint in-state pipeline development team in evaluation of necessary environmental permitting, environmental impact statement review, Alaska Coastal Management

DEC (continued)

Program coordination, as well as compliance and enforcement activities for an in-state natural gas pipeline.

FY12+: Indeterminate

The costs of the environmental permitting for pipeline construction is indeterminate at this time, this fiscal note does not account for any permitting activities that may occur after the in-state pipeline plan is submitted to the legislature by July 1, 2011.

DOR FY11: 1000.0

Travel **50.0**
Contractual **950.0**
Department of Revenue working as part of the development team with experienced contractors and contractor firms to execute major elements of the assigned tasks.

1. Identify opportunities for delivering North Slope gas to rural & maritime Alaska
2. Identify and negotiate with potential gas suppliers and potential gas consumers
3. Develop pro-forma financials for the project
4. Develop a partnering agreement with a pipeline company
5. Provide a design, construction schedule, and cost estimate for an LNG plant
6. Develop and execute a public information and outreach plan

DOT FY11: 610.8 plus 367.7 for DNR State Pipeline Coordinators Office

The Department is a member of the joint pipeline development team and is the applicant for the right-of-way (ROW). A Engineer V will serve as the technical expert for the commissioner and as the technical lead for the Department's responsibilities. As the applicant for the ROW, a ROW agent will coordinate the ROW portions of the plan, providing the technical expertise to assist in determining the intricacies associated with potential routes, and will start initial coordination with utilities that are currently in the ROW. An environmental impact analysis manager will oversee and provide technical expertise for the environmental impacts and permits needed for activities in the department's ROW. Additional, costs are for

Personnel Services **418.7**
Travel **45.0**
Contractual **87.1**
Supplies **60.0**

ADDITONAL CONTRACTUAL FOR DOT: 367.7 needed for interagency funding to DNR State Pipeline Coordinators Office to be used by DNR as detailed below.

DOT FY12 +: Indeterminate
The costs for activities after the plan is submitted on July 1, 2011 are undetermined at this time.

(DNR FY11): 367.7

All State Pipeline Coordinator Office (SPCO) costs associated with the right-of-way permitting process, preparation of the Commissioner's Analysis, Proposed Decision and Action, construction oversight, and operational oversight are reimbursable pursuant to AS 38.35.140(b). Costs reflected in this fiscal note are reimbursable under AS38.35.140(b). Positions and efforts identified for SPCO work will utilize existing positions to the greatest extent possible. If additional SPCO or MLW positions are necessary they will be established as Long Term Non-Perm positions.

In the preparation of this fiscal note certain assumptions have been made:
State Pipeline Coordinators Office (SPCO)
1) Participating state agencies (ADF&G, ADEC, etc.) will provide separate fiscal notes, although their costs associated with permitting the right-of-way may be reimbursable by the applicant through the SPCO.

DNR (continued)

2) The right-of-way lease applicant, pursuant to AS 38.35. 140(b), will reimburse DNR's (and other participating state agencies as well) work associated with delivery of a right-of-way lease.
3) DLMW has completed a separate fiscal note, however portions of their costs may be reimbursable by the applicant through the SPCO.
4) Existing Program Receipt Authority will be used for the project.
5) DGGS cost estimate assumes that the state needs to understand the geohazards to ensure the applicant has identified and considered all geologic hazards along the route.
6) Construction and operational oversight begins in FY2012 and FY2014, respectively. The cost estimate for these activities is for DNR only and does not include estimates for other state agencies (ADF&G, ADEC, etc.), although their costs may be reimbursable by the applicant through the SPCO.
7) Assume SPCO will administer material sites after initial sale.
8) Assume a two-year construction schedule segregated into four geographic areas.

FY2011 costs to DNR/SPCO would include expenses to support the duties of the development team in preparing the project plan and the Analyses necessary to prepare project applications, supporting documentation, and the preparation for an expedited state review of the proposed actions. Costs for FY2011 do not include any expenses towards processing a right-of-way lease applications. Expenses associated with the right-of-way permitting process are projected to start in FY2012.

FY2011 PERSONAL SERVICES COST - $ 200.3 total (for 12 months)

BREAKDOWN of DNR FY11 costs

1- STATE PIPELINE COORDINATOR'S OFFICE
Positions in Anchorage; for preparing the project plan and analyses.
- one State Pipeline Coordinator (SPC) (range 26) - total 1 month at $9.7/month = $9.7
- one Natural Resource Specialist (NRS) III (range 18)- total 3 months/yr at 7.31/month = $21.93
-one Natural Resource Manager (NRM) II (range 20) - total 1 month at $9.41/month = $9.41
-one Engineer IV (range 27) - total 3 months at 13.70/month = $41.1
- Administrative Support - total = $8.20
$90.34 for **FY 11 Total**

2- OFFICE OF PROJECT MANAGEMENT AND PERMITTING
Position in Anchorage; for coordination of a project Health Impact Assessment.
- Natural Resource Specialist (NRS) III (range 18) - total = $10.0
$10.0 for **FY 11 Total**

DNR (continued)

3 - DIVISION OF COASTAL AND OCEAN MANAGEMENT
One position in Anchorage; for conducting the project Alaska Coastal Management Program process.
-one Natural Resource Specialist (NRS) III (range 18)-
total 1 month at 7.31/month = $7.31
$7.31 for FY 11 Total

3- STATE HISTORIC PRESERVATION OFFICE
Position in Anchorage; for review and monitoring the cultural resource project program. - one Archeologist = $20.0
$20.0 for **FY 11 Total**

4- DIVISION OF GEOLOGICAL AND GEOPHYSICAL SURVEYS
Positions in Fairbanks; for management of geohazards project related studies and review of existing information.
- one Geologist IV (range 21) - total 4 months = $35.80
- one LTNP Geologist III (range 19) - total 4 months = $25.52
- one Graduate Intern - total 4 months = $11.32
$72.64 for **FY 11 Total**

TRAVEL, CONTRACTUAL, SUPPLIES - $70.0 total for FY11
Travel, contractual, and supplies to support the duties of the development team in preparing the project plan and the Analyses necessary to prepare project applications, supporting documentation, and the preparation for an expedited state review of the proposed actions.
Other miscellaneous, contractual and supply costs include office space, telephones, core service charges and related expenses.

5- DIVISION OF MINING LAND & WATER
Assumptions
1) that DNR/DMLW will be required to prepare a title report regarding state owned lands in the pipeline ROW,
2) that DNR will not be required to transfer title to any state lands to DOT/PF,
3) that DOT/PF will be responsible for all title or ROW acquisitions from entities other that DNR managed state lands including lands owned by private persons, boroughs, ANCSA corporations, native allotments, and the federal government,
4) that DNR/DMLW will review and approve all land surveys associated with granting an in-state gasline ROW and developing an in-state gasline across state land,

DNR (continued)

5) DNR DMLW will participate in the ROW planning effort to some degree across state land, the review of the
AS 38.35 R/W lease to be prepared by SPCO for issuance to DOT/PF, and the ACMP review of the ROW, and
6) SPCO will issue AS 38.35 ROW accross state lands to DOT/PF.
The costs to DMLW would include expenses during FY 11 for providing assistance during the development teams planning efforts and preapplication meetings

PERSONAL SERVICES COST - $86.4 total (for 12 months in FY11)
One Natural Resource Specialist (NRS) III (range 18) - total 12 months at $86.4/year for assistance with the planning effort and preparation for the authorization work in FY12.
TRAVEL, CONTRACTUAL, SUPPLIES - $2.0 total
Travel would be for planning and public meetings. $2.0 in FY11
Other contractual costs include $5.2 for office space, telephones, core service charges and related
expenses for the new positions in FY11.
Supplies are budgeted at $3.8 for FY11, and includes one-time start-up costs for new computers and office equipment .

DNR FY12 & Beyond

The FY2012 costs to DNR/SPCO would include expenses to coordinate the participation of state agencies in the right-of-way permitting process, prepare the Commissioner's Analysis, Proposed Decision and Action, develop the draft lease and, if necessary, hold public hearings. In addition the costs include right-of-way permitting expenses for the participation of the State Historic Preservation Office (SHPO), Division of Coastal and Ocean Management (DCOM), Office of Project Management and Permitting (OPMP) and the Division of Geological and Geophysical and Surveys (DGGS). It should be noted that the proposed schedule is aggressive and in order to meet the specified timeline the right-of-way permitting process will need to be conducted independent of the federal NEPA process. The FY2012 and 13 costs reflect construction oversight activities by DNR. Operational oversight costs begin in FY2014 and continue forward.
FY2012 PERSONAL SERVICES COST - $ 522.42 total (for 12 months)

DNR (continued)

Breakdown of DNR FY12 and beyond.

STATE PIPELINE COORDINATOR'S OFFICE

Positions in Anchorage; for completing the right-of-way leasing process.
-one Natural Resource Specialist (NRS) IV (range 21) - total 10 months at $9.95/month= $99.50
-one Natural Resource Manager (NRM) II (range 20) - total 1 month at $9.41/month = $9.41
-one Natural Resource Specialist (NRS) III (range 18)- total 6 months at 7.31/month = $43.86
-one Engineer IV (range 27) - total 3 months at 13.70/month = $41.1
-Administrative Support - total = $38.77
$232.64 for **FY 12 Total**
Positions in Anchorage; for construction oversight.
- two Natural Resource Specialist (NRS) III (range 18)- total 6 months/yr at 7.31/month = $87.72
- one Natural Resource Manager (NRM) II (range 20) - total 1 month at $9.41/month = $9.41
- one Engineer IV (range 27) - total 2 months at 13.70/month = $27.4
- Administrative Support - total = $24.9
$149.43 for **FY 13 and 14**
Positions in Anchorage; for operational oversight.
- one Natural Resource Specialist (NRS) III (range 18)- total 4 months/yr at 7.31/month = $29.24
- one Natural Resource Manager (NRM) II (range 20) - total 1 month at $9.41/month = $9.41
-one Engineer IV (range 27) - total 1 months at 13.70/month = $13.70
- Administrative Support - total = $10.47
$62.82 for **FY15 Forward**

STATE HISTORIC PRESERVATION OFFICE
Position in Anchorage; for review and monitoring the cultural resource project program.
- one Archeologist = $20.0
$20.0 for **FY 12 Total**
Positions in Anchorage; for construction oversight.
- one Archeologist = $20.0
$20.0 for **FY 13 and 14 Totals**

DIVISION OF GEOLOGICAL AND GEOPHYSICAL SURVEYS
Positions in Fairbanks; for management of geohazards project related studies and review of existing information.
- one Geologist IV (range 21) - total 12 months = $107.4
- one LTNP Geologist III (range 19) - total 12 months = $76.45
- one Graduate Intern - total 12 months = $34.0
$217.85 for **FY 12 Total**

DNR (continued)

OFFICE OF PROJECT MANAGEMENT AND PERMITTING
Position in Anchorage; for coordination of a project Health Impact Assessment.
- Natural Resource Specialist (NRS) III (range 18) - total = $30.0
$30.0 for **FY 12 Total**

DIVISION OF COASTAL AND OCEAN MANAGEMENT
One position in Anchorage; for conducting the project Alaska Coastal Management Program process.
-one Natural Resource Specialist (NRS) III (range 18)- total 3 months at 7.31/month = $21.93
$21.93 for **FY 12 Total**

TRAVEL, CONTRACTUAL, SUPPLIES - $322.2 total for FY 12
Travel would be for public meeting, public hearings, agency coordination and monitoring of contractors performing field work. In addition, DGGS will require travel to complete field studies. **$30.0 in FY12**
Contractual costs include helicopter support for DGGS studies, office space, telephones, core service charges and related
Miscellaneous costs include aerial photos, satellite imagery, field supplies a and maps.
Other miscellaneous, contractual and supply costs include office space, telephones, core service charges and related expenses.
TRAVEL, CONTRACTUAL, SUPPLIES - $70.0 total for FY 13 and 14
TRAVEL, CONTRACTUAL, SUPPLIES - $10.0 total for FY 15 Forward

DIVISION OF MINING LAND& WATER, FY12
PERSONAL SERVICES COST - $465.7 total (for 12 months in FY12)
LAND TITLE ACTIONS
Four positions Anchorage; for land title review and report preparation and document review and processing.
-three Natural Resource Specialist (NRS) III (range 18) - total 6 months each at $7.24/month= $130.32
-one Natural Resource Specialist (NRS) II (range 16) - - total 6 months each at $6.40/month = $38.4
$168.72 for **FY 12 Total**
LAND SURVEY REVIEW
Two positions Anchorage; for reviewing land and project surveys .
-Two land surveyor II (LS) III (range 22) - 1 year each at $109.1/year
$218.2 for **FY 12 Total**

DNR (continued)

MATERIAL SALES
Two positions; for preparing and executing material sales for use in pipeline R/W.
- One Natural Resource Specialist (NRS) III (range 18) - total 12 months at $89.2/year for Northern Region Office Fairbanks = $89.2
- OneNatural Resource Specialist (NRS) III (range 18) - total 12 months at $86.4/year for SouthCentral Region Office Anchorage = $86.4
$175.6 for **FY 12 Total**

PROJECT REVIEWS
One position; to participate in the R/W planning effort, the review of the AS 38.35 ROW lease , and the ACMP review of the R/W.
- One Natural Resource Specialist (NRS) III (range 18) - total 8 months each at $86.4/year for SouthCentral Region Office Anchorage = $57.6
$86.4 for **FY 12 Total**

TRAVEL, CONTRACTUAL, SUPPLIES - $143.0 total (for 12 positions)
Travel would be for land survey review purposes, preparation of material sales, and planning, ROW and ACMP review. $35.0 in FY12
Other contractual costs include $52.0 for office space, telephones, core service charges and related
expenses for the new positions in FY12 at a rate of $5.2 per new position.
Supplies are budgeted at $38.0 per year FY12, and includes one-time start-up costs for new computers and office equipment of $3.8 per each new position.

Sec. 39.25.110. Exempt service.

Unless otherwise provided by law, the following positions in the state service constitute the exempt service and are exempt from the provisions of this chapter and the rules adopted under it:

(1) persons elected to public office by popular vote or appointed to fill vacancies in elected offices;

(2) justices, judges, magistrates, and employees of the judicial branch including employees of the judicial council;

(3) employees of the state legislature and its agencies;

(4) the head of each principal department in the executive branch;

(5) officers and employees of the University of Alaska;

(6) certificated teachers and noncertificated employees employed by a regional educational attendance area established and organized under AS 14.08.031 - 14.08.041 to teach in, administer, or operate schools under the control of a regional educational attendance area school board;

(7) certificated teachers employed by the Department of Education and Early Development as correspondence teachers, teachers in skill centers operated by the Department of Education and Early Development or by the Department of Labor and Workforce Development, or in Mt. Edgecumbe School;

(8) patients and inmates employed in state institutions;

(9) persons employed in a professional capacity to make a temporary or special inquiry, study or examination as authorized by the governor;

(10) members of boards, commissions, or authorities;

(11) the officers and employees of the following boards, commissions, and authorities:

(A) [Repealed, Sec. 13 ch 43 SLA 1994].

(B) Alaska Permanent Fund Corporation;

(C) Alaska Industrial Development and Export Authority;

(D) Alaska Commercial Fisheries Entry Commission;

(E) Alaska Commission on Postsecondary Education;

(F) Alaska Aerospace Corporation;

(G) Alaska Natural Gas Development Authority;

(12) the executive secretary and legal counsel of the Alaska Municipal Bond Bank Authority;

(13) the state medical examiner, deputy medical examiner, and assistant medical examiners appointed under AS 12.65.015 and pharmacists and physicians licensed to practice in this state and employed by the Department of Health and Social Services or by the Department of Corrections;

(14) petroleum engineers and petroleum geologists employed in a professional capacity by the Department of Natural Resources and by the Alaska Oil and Gas Conservation Commission, except for those employed in the division of geological and geophysical surveys in the Department of Natural Resources;

(15) [Repealed, Sec. 1 ch 32 SLA 1999].

(16) persons employed by the division of marine transportation as masters and members of the crews of vessels who operate the state ferry system and who are covered by a collective bargaining agreement provided in AS 23.40.040;

(17) officers and employees of the state who reside in foreign countries;

(18) employees of the Alaska Seafood Marketing Institute;

(19) emergency fire-fighting personnel employed by the Department of Natural Resources for a fire emergency or for fire prevention and related activities conducted under AS 41.15.030;

(20) employees of the Office of the Governor and the office of the lieutenant governor, including the staff of the governor's mansion;

(21) [Repealed, Sec. 47 ch 99 SLA 2004].

(22) youth employed by the Department of Natural Resources under the Youth Employment and Student Intern programs;

(23) [Repealed, Sec. 6 ch 28 SLA 2003].

(24) students employed by the state institutions in which the students are enrolled;

(25) [Repealed, Sec. 8 ch 2 SLA 2004].

(26) investment officers in the Department of Revenue;

(27) [Repealed, Sec. 10 ch 29 SLA 1999].

(28) persons engaged in employment or pre-employment training programs operated by the Department of Military and Veterans' Affairs;

(29) [Repealed, Sec. 9 ch 115 SLA 1989].

(30) a person employed as an actuary or assistant actuary by the division of insurance in the Department of Commerce, Community, and Economic Development;

(31) [Repealed, Sec. 91 ch 163 SLA 2004].

(32) a participant in the Alaska temporary assistance program under AS 47.27 who holds a temporary position with the state in order to obtain job training or experience;

(33) a person employed as a convener under AS 44.62.730 or as a facilitator under AS 44.62.760 related to a negotiated regulation making process under AS 44.62.710 - 44.62.800;

(34) the chief executive officer and employees of the Alaska Mental Health Trust Authority employed under AS 47.30.026(b);

(35) the assistant adjutant general for space and missile defense appointed under AS 26.05.185;

(36) the victims' advocate established under AS 24.65.010 and the advocate's staff;

(37) employees of the Alaska mental health trust land unit established under AS 44.37.050;

(38) the executive director of the Council on Domestic Violence and Sexual Assault established under AS 18.66.010;

(39) the executive director and employees of the Knik Arm Bridge and Toll Authority under AS 19.75.051 and 19.75.061;

(40) the chair of the Workers' Compensation Appeals Commission (AS 23.30.007);

(41) the Alaska Gasline Inducement Act coordinator appointed under AS 43.90.250;

(42) oil and gas audit masters employed in a professional capacity by the Department of Revenue and the Department of Natural Resources to collect oil and gas revenue by developing policy, conducting studies, drafting proposed regulations, enforcing regulations, and directing audits by oil and gas revenue auditors.

History -

(Sec. 5 ch 144 SLA 1960; am Sec. 1 ch 48 SLA 1961; am Sec. 1 ch 133 SLA 1961; am Sec. 3 ch 93 SLA 1962; am Sec. 3 ch 24 SLA 1966; am Sec. 31 ch 46 SLA 1970; am Sec. 65 ch 69 SLA 1970; am Sec. 13 ch 113 SLA 1970; am Sec. 3 ch 78 SLA 1971; am Sec. 18 ch 78 SLA 1974; am Sec. 42 ch 127 SLA 1974; am Sec. 2 ch 32 SLA 1975; am Sec. 2 ch 79 SLA 1975; am Sec. 37 ch 124 SLA 1975; am Sec. 1 ch 157 SLA 1976; am Sec. 3

ch 90 SLA 1978; am Sec. 7 ch 18 SLA 1980; am Sec. 43 ch 106 SLA 1980; am Sec. 10 ch 131 SLA 1980; am Sec. 4 ch 148 SLA 1980; am Sec. 4 ch 106 SLA 1981; am Sec. 2, 3 ch 37 SLA 1982; am Sec. 7 ch 112 SLA 1982; am Sec. 1 ch 11 SLA 1983; am Sec. 1 ch 103 SLA 1984; am Sec. 58 ch 21 SLA 1985; am Sec. 1 ch 50 SLA 1985; am Sec. 69 ch 14 SLA 1987; am Sec. 1 ch 61 SLA 1987; am Sec. 2 ch 37 SLA 1988; am Sec. 2 ch 78 SLA 1988; am Sec. 26 ch 141 SLA 1988; am E.O. No. 72 Sec. 2 (1989) am Sec. 11 ch 95 SLA 1989; am Sec. 7, 9 ch 115 SLA 1989; am Sec. 10 ch 88 SLA 1991; am Sec. 1 ch 17 SLA 1992; am Sec. 4 ch 47 SLA 1993; am Sec. 13 ch 43 SLA 1994; am Sec. 111 ch 62 SLA 1995; am Sec. 17 ch 103 SLA 1996; am Sec. 25 ch 107 SLA 1996; am Sec. 6 ch 108 SLA 1996; am Sec. 1 ch 121 SLA 1996; am Sec. 4 ch 117 SLA 1998; am Sec. 10 ch 29 SLA 1999; am Sec. 1 ch 32 SLA 1999; am Sec. 1 ch 15 SLA 2001; am Sec. 2 ch 30 SLA 2001; am Sec. 20 ch 92 SLA 2001; am Sec. 1 ch 27 SLA 2002; am Sec. 2 ch 91 SLA 2002; am Sec. 3 2002 Ballot Measure No. 3; am Sec. 6 ch 28 SLA 2003; am Sec. 5 ch 49 SLA 2003; am Sec. 3 ch 77 SLA 2003; am Sec. 8 ch 2 SLA 2004; am Sec. 91 ch 163 SLA 2004; am Sec. 69 ch 10 FSSLA 2005; am Sec. 1 ch 48 SLA 2006; am Sec. 4 ch 22 SLA 2007; am Sec. 10 ch 1 SSSLA 2007; am Sec. 50 ch 41 SLA 2009; am Sec. 5 ch 47 SLA 2009)

Revisors Notes -

Former paragraph (29) was enacted as (28). Renumbered in 1989. Paragraph (32) was enacted as (31); renumbered in 1996. Paragraphs (35) and (36) were enacted as (34); renumbered in 2001.

In 1999, "Department of Commerce and Economic Development" was changed to "Department of Community and Economic Development" in paragraph (30) in accordance with Sec. 88, ch. 58, SLA 1999, and "Department of Education" was changed to "Department of Education and Early Development" in paragraph (7) in accordance with Sec. 89, ch. 58, SLA 1999.

Paragraph (38) was enacted as paragraph (37) and renumbered in 2002.

In 2003, in paragraph (39), "AS 19.75.051 and 19.75.061" was substituted for "AS 44.90.051 and 44.90.061" to reflect the 2003 renumbering of AS 44.90.051 and 44.90.061.

In 2004, in paragraph (30) of this section, "Department of Community and Economic Development" was changed to "Department of Commerce, Community, and Economic Development", in accordance with Sec. 3, ch. 47, SLA 2004.

In 2009, under Sec. 2, ch. 60, SLA 2009, in paragraph (11) of this section "Alaska Aerospace Corporation" was substituted for "Alaska Aerospace Development Corporation".

Cross References -

For statement of legislative intent regarding the oil and gas revenue audit master positions authorized by paragraph (42) of this section, see Sec. 69, ch. 1, SSSLA 2007.

Amendment Notes -

The first 2001 amendment, effective April 28, 2001, added paragraph (34).

The second 2001 amendment, effective May 25, 2001, added paragraph (35).

The third 2001 amendment, effective July 1, 2002, added paragraph (36).

The first 2002 amendment, effective August 16, 2002, added paragraph (37).

The second 2002 amendment, effective June 28, 2002, added paragraph (38).

The third 2002 amendment, effective February 25, 2003, added subparagraph (11)(G).

The first 2003 amendment, effective July 1, 2003, repealed paragraph (23).

The second 2003 amendment, effective July 1, 2003, inserted "or by the Department of Labor and Workforce Development" in paragraph (7).

The third 2003 amendment, effective September 10, 2003, added paragraph (39).

The first 2004 amendment, effective May 16, 2004, repealed paragraph (25), relating to the executive director and staff of the Alaska Science and Technology Foundation.

The second 2004 amendment, effective June 26, 2004, repealed paragraph (21), relating to employees of the Citizens' Advisory Commission on Federal Areas in Alaska.

The third 2004 amendment, effective July 1, 2005, repealed paragraph (31), relating to administrative law judges appointed to the office of tax appeals.

The 2005 amendment, effective November 7, 2005, added paragraph (40).

The 2006 amendment, effective August 30, 2006, inserted "and pharmacists" in paragraph (13), and deleted "the Division of Mental Health and Developmental Disabilities in" preceding "the Department of Health" in that paragraph.

The first 2007 amendment, effective June 8, 2007, added paragraph (41).

The second 2007 amendment, effective December 20, 2007, added paragraph (42).

The first 2009 amendment, effective June 21, 2009, in (14), added "Alaska" preceding "Oil and Gas Conservation Commission".

The second 2009 amendment, effective July 1, 2009, in (38), deleted "and staff" following "the executive director".

Editors Notes -

Section 7, ch. 117, SLA 1998, which was to repeal paragraph (33) of this section effective July 1, 2003, was repealed by Sec. 2, ch. 44, SLA 2003.

History Reports -

For governor's transmittal letter for ch. 1, SSSLA 2007 (HB 2001), presenting, among other matter, a proposal relating to classification of petroleum revenue auditors under the State Personnel Act, see 2007 House Journal 1547 - 1550.

AG Opinions -

Staff administering the Alaska Military Youth Academy are members of the classified service, and are not in the exempt service, because they are not "persons engaged" in the employment training program, as required by subsection (28). Oct. 13, 2000, Op. Att'y Gen.

Decisions -

The thrust of the exemptions in this chapter, the Public Employees Retirement System, former AS 39.35.680(5)(c), and the statutory leave provisions for state employees, AS 39.20.310, is to provide for those public employees who are not susceptible to ordinary recruiting and examining procedures. Hafling v. Inlandboatmen's Union, 585 P.2d 870 (Alaska 1978).

No inconsistency between ferry crew exemption of this section and inclusion of such personnel with Public Employment Relations Act, AS 23.40.070 et seq. - See Hafling v. Inlandboatmen's Union, 585 P.2d 870 (Alaska 1978).

National Guard exempt from Personnel Act. - Because of the state's adoption of federal personnel rules and regulation regarding promotion and separation in the Alaska National Guard, it has "otherwise provided by law" that members of the National Guard are exempt from the Alaska Personnel Act. State, Dep't of Military & Veterans Affairs v. Bowen, 953 P.2d 888 (Alaska 1998).

Effect of being in exempt service. - The "exempt service" is a category of jobs which, for whatever reason, the Legislature wanted to exclude from the state personnel system. Not every person

in the exempt service is a confidential employee. The fact that plaintiff was in the exempt service did not mean that the Alaska Energy Center lacked the power to give him a three-year contract. Zerbetz v. Alaska Energy Ctr., 708 P.2d 1270 (Alaska 1985).

Cited in State v. Haley, 687 P.2d 305 (Alaska 1984); McGrath v. University of Alaska, 813 P.2d 1370 (Alaska 1991).

(23) sec. 100, ch. 2, FSSLA 1999, page 69, lines 29 - 30, and allocated on page 69, lines 31 - 32 (Department of Transportation and Public Facilities, National Highway System (NHS) state match - $22,602,059).

(b) The unexpended and unobligated balance, not to exceed $98,056, of the appropriation made in sec. 60, ch. 3, FSSLA 2005, page 140, lines 24 - 26 (Alaska Gateway, Dot Lake School mechanical upgrade - $1,087,118) is reappropriated to the Alaska capital income fund (AS 37.05.565).

(c) The unexpended and unobligated balance, not to exceed $54,753, of the appropriation made in sec. 60, ch. 3, FSSLA 2005, page 142, lines 13 - 14 (Southeast Island, Thorne Bay house access ramp - $141,415) is reappropriated to the Alaska capital income fund (AS 37.05.565).

*** Sec. 19.** NATURAL GAS PIPELINE. (a) The sum of $4,322,000 is appropriated from the Alaska capital income fund (AS 37.05.565) to the Office of the Governor for the development of an in-state natural gas pipeline.

(b) The unexpended and unobligated balance, estimated to be $2,700,000, of the appropriation made in sec. 8, ch. 1, 4SSLA 2008 (Department of Natural Resources, gas pipeline implementation - $5,500,000) is reappropriated to the Office of the Governor for the development of an in-state natural gas pipeline.

(c) For the appropriations made in (a) and (b) of this section, it is the intent of the legislature that

(1) the funds be used solely to plan, coordinate, and facilitate construction, ownership, and management of a natural gas pipeline serving Fairbanks, the Southcentral region of the state, and other communities wherever practicable, connecting with or enhancing the existing gas pipeline system, and reaching to tidewater;

(2) the funds be used for a full alternative analysis of possible routes;

(3) an economically feasible in-state pipeline and any connecting lines serve industrial, residential, and utility customers along the entire route, including any other regions of the state that could be served at commercially feasible rates;

(4) the Office of the Governor use the appropriations to

(A) coordinate with entities that could build, own, and operate the line;

(B) assist with preparing cost estimates for the project to determine its

economic feasibility and cost to consumers;

(C) apply for and obtain right-of-way permits for the project route, with the intent that the state would transfer the permits to, and receive compensation for the permits from, the entity best able to complete the project;

(D) work with other entities to promote the gas supply and gas purchase contracts that would be required for the project to be commercially viable;

(5) the coordination effort by the Office of the Governor use, to the fullest extent possible, any and all existing work by other state agencies before contracting for new reports, research, and analyses, and that the coordination effort by the Office of the Governor not expand beyond the scope of coordinating interests to build, own, and operate the gas pipeline;

(6) the Office of the Governor submit written monthly reports to the president of the senate, the speaker of the house of representatives, and all legislators, listing all current and future contracts executed for development of an in-state natural gas pipeline and specifying the scope of work and contract amount, a cumulative total monthly of all funds spent for development of an in-state natural gas pipeline, reporting progress to date on the project work plan, and presenting a work plan for each subsequent month.

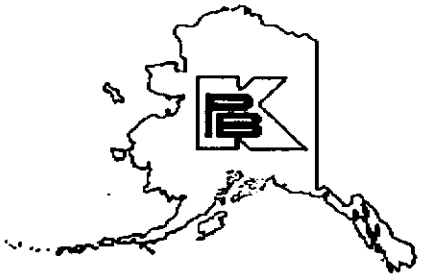
* **Sec. 20.** FUND TRANSFER. An amount equal to 20 percent of the revenue collected under AS 43.55.011(g), not to exceed $60,000,000, is appropriated from the general fund to the community revenue sharing fund (AS 29.60.850).

* **Sec. 21.** CONTINGENCIES. (a) Sections 14(f) and 14(g) of this Act are contingent on ratification by the members of the respective collective bargaining unit of its collective bargaining agreement.

(b) Section 7(e) of this Act is contingent on passage by the Twenty-Sixth Alaska State Legislature in the First Regular Session and enactment into law of a version of HB 172 relating to the education loan fund.

(c) Section 11(b) of this Act is contingent on passage by the Twenty-Sixth Alaska State Legislature in the First Regular Session and enactment into law of a version of SB 89 relating to retirement benefits for members of the Alaska Territorial Guard.

(d) Section 8(f) of this Act is contingent on passage by the Twenty-Sixth Alaska State Legislature in the First Regular Session and enactment into law of a version of HB 141



KENAI PENINSULA BOROUGH

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March 11, 2010

Honorable Mike Chenault
Speaker, Alaska House of Representatives
State Capitol Room 208
Juneau, AK 99801

Dear Speaker Chenault:

I am pleased to offer my support of House Bill 369: An Act relating to an in-state natural gas pipeline.

The Kenai Peninsula Borough and the entire South Central region of Alaska has long relied on the natural gas production from the Cook Inlet basin to heat our homes, schools and businesses; generate electrical energy and employment of thousands of workers. As the Cook Inlet supply is dwindling, a new source of natural gas is paramount to our economic stability and prosperity. I believe an "in-state" gas line will accomplish that.

Many Alaskan's have become frustrated by the apparent lack of movement by our elected officials to head off the day when a reliable source of natural gas ceases to exist here; in my view HB 369 attempts to consolidate the multiple and individual efforts into one common direction and does so with measurable timeframes for action.

The Kenai Peninsula Borough supports the construction of a natural gas spur pipeline, or "bullet line", connecting the North Slope to Cook Inlet. This pipeline would address Alaskan economic concerns and long-term energy needs. The Kenai Peninsula Borough supports the efforts of the Alaska Natural Gas Development Authority (ANGDA) to develop a spur pipeline, to bring North Slope natural gas to Southcentral Alaska, specifically to the Nikiski area, which is an established hub in Cook Inlet.

The Kenai Peninsula Borough welcomes the opportunity to be included as part of the Joint In-state Gasline Development Team as described in HB 369. Please consider this letter as my firm support of House Bill 369.

Sincerely,

David R. Carey

David R. Carey
Mayor

4812

Senate Resources Testimony

Offered by David Gottstein 04/01/2010

Thank you to the Chair, and members of the committee for offering me the opportunity to share my views today regarding CSHB 369, and a gas pipeline in general. My name is David Gottstein and I reside in Anchorage, Alaska. I come at the gas pipeline questions not only as an interested Alaskan, but as a twenty year company analyst and Registered Investment Advisor with a finance degree from Wharton, having also been a logistics and supply chain manager in a major grocery operation for almost ten years. Perhaps the intersection of these two disciplines allows me to look at the question at hand differently than most, because any pipeline project is largely a combination of economics, logistics and finance.

The most important thing I have to say regarding logistics is, since logistics is mostly about moving weight and cubic volumes at the lowest cost per unit of distance, that any effort to get Alaskan's gas to Alaskans that doesn't include material export capacity will be terribly short-sighted and will cost the State of Alaska at least tens of billions of dollars over time in lost opportunity, in addition to saddling most Alaskans with much higher energy costs for decades to come, than they would have to pay by otherwise piggybacking on top of an export volume-based and efficient, distribution network. **That means at the very minimum, a large diameter pipeline from the North Slope to a logistical "Sweet Spot" in the Interior must be the anchor of any pipeline project.** We should concurrently spur to Fairbanks and South Central, and then let the markets determine the fate of the remaining logistical foot-print, or rather sizing and routing, of any further distribution. When economics justify it, albeit Canada, Valdez/LNG, and any value added processing.

The oil companies and pipeline companies must wait until they fill a pipeline through the open season process before they can commit to build because they are looking for immediate economic rent and returns on capital. And they can't otherwise finance such a project. Therefore, regardless of how they may be posturing now, uncertainty about intermediate to long-term gas pricing and demand means it could be a decade or more before boards of directors will be in a position to vote to dedicate the large capital investments necessary for a massive project such as the Canadian route. Everything they do in the meantime is a cost of posturing to maintain an "Option" to actually build only when they want to. Whenever that might be.

We can't afford though to freeze in the dark waiting. Only the State of Alaska has the vested interest in making sure we get Alaskan's gas to Alaskans in the shortest amount of time, and provide for an efficient distribution network. One not offered by a small diameter line. We also need not leave our destiny to the calendars of outside boards of directors with very different interests. CSHB 369 recognizes that, and therefore could be the right instrument to move forward on; with some critical adjustments. But the document must first conform to the economics I believe, and not the other way around.

The most important thing I have to say regarding the economics, and I am not suggesting this position, but rather just offering the base-line economics, is that the State of Alaska, again just as a baseline, not a goal, is the only entity, as the owner of the resource, who could write a check for cash to pay for the pipeline, charge zero for the tariff, and make $50-100 billion. That is because we make the vast majority of our money selling the resource, not in the transportation of it. When you start off with that economic focus, and calculate what you get by investing the $3 billion extra it would take to increase the size of a pipe from the North Slope to the Interior suitable for export capacity, the economic and business decision becomes quite simple because the returns are enormous. Only the State can afford to incubate, or have a portion of the pipe idle for a period of time, and wait for the rest of the market to come to it. It puts us in a very powerful negotiating position. How long can we wait until the pipe needs to be filled before we lose the bet? The answer is 50-100 years if you look at it from an economic and financial perspective. I would be happy to share with staff how to make those financial calculations.

And I am not talking about having the State take any construction risk, or to design, build, maintain or manage the project. That would be done by private sector partners who gain rights to future tariffs as negotiated. Hopefully this would include The Big Three and maybe TransCanada. And we can further separate economic rights from governance rights in our negotiations.

So here are 12 things that the State of Alaska gets if it underwrites, and elevates to ***Investment Grade***, a gas pipeline with efficient export potential, made possible by $3 billion extra and patient development capital, which could be financed a number of different ways;

1. We avoid saddling Alaskans with high energy costs for thirty years, or however long it might take to pay off the bonds necessary for a small diameter high cost per unit line. Only when export volumes are achieved will economies-of-scale be available to pass on to consumers in the form of lower energy tariffs and costs.
2. We avoid putting an export project at materially greater risk in terms of time and money by moving from a highly inefficient logistical foot-print to a highly efficient one. Since we won't then have to build two sets of pipe to move the same amount of gas that could much more efficiently pass through one.
3. We get gas to Alaskans in as little as six to eight years.
4. We put our future and destiny on our timeframe instead of that necessary for an alignment of uncontrollable, unpredictable, disparate, and naturally competing factors and interests outside of our control.
5. By announcing to the energy community that we are prepared now to build, and we invite them to participate, we force them to act, for fear of being left behind.
6. We greatly invigorate the potential for adding volumes not only to the gas pipeline, but the oil pipeline as well. This is because not only will we have finally, after decades, brought our gas to market, but we will also make it possible for new oil and gas explorers, on a spot basis, not having participated in an open season necessary to secure capacity, the opportunity to explore and produce, knowing they can get their product to market. And when they look for gas, they

will find more oil, and vice versa. Yesterday's continental shelf rulings magnify this potential.

7. The Oil & Gas Commission, for the first time will be empowered to maximize their mandate by maximizing the trade-off of oil and gas values, un-constrained by capacity limitations.
8. We position many parts of rural Alaska to benefit with reliable access to lower cost energy over time because of economies-of-scale.
9. We create the opportunity to approach Hawaii most importantly, about Alaska being a long-term significant solution to their energy needs with a project that could actually happen. Unfettered with any export limitations.
10. We will jump start the economy and generate decades of improved prosperity for all Alaskans. With a long-term fiscal plan based upon the rational management of our energy wealth, resulting in being able to continue contributing to the Permanent in material ways for many years to come.
11. We avoid to a considerable degree, exposing the State to long-term fiscal decay, and hopefully put off until long in the future, pressures to use the Permanent Fund to help pay for state government.
12. If we have buyers, and a pipeline, the producers will have no choice but to supply our gas. The view that the producers hold the key to everything doesn't have to be.

So how do we do we earn all this? By doing the following;

Appropriate enough money this session to fully vet this approach. This can be done separately or by amending HB369 to focus on a large capacity line from the North Slope to an interior hub. Including what role the State of Alaska could play in order to insure the project moves forward as soon as possible, on an INVESTMENT GRADE basis. No research being done at the state level currently contemplates this scenario.

If we get our gas to a hub, the rate payers can afford to take it the rest of the way. Just doing this alone this year will put pressure on the majors to take this upcoming season more seriously.

We can wait for multiple open seasons before we get started, adding at least one to two years to a project, or we can start now. The sooner we announce to the world we are doing this, the sooner serious negotiations can begin with potential buyers.

In terms of the legislation, I support legislation that attempts to do something, but without focusing on the economics, we lose the economics. Putting a time limit on the process, handicaps and limits the results. I would rather see us engage in an expedited process rather than mandate a timeframe that limits a result.

I have no prejudice in terms of what State entity manages the process as long as the members are qualified, coupled with any extra advantages that might be inherent in a particular entity. I will offer that one could, it would seem, greatly expedite the process simply by renegotiating the AGIA license with TransCanada, as authorized within AGIA,

to convert the State of Alaska to a co-developer of the big pipe to the Interior, owning whatever rights the private sectors chooses not to adequately bid on. In the end, that could even be very little.

The only way we lose this bet is if China and India don't grow sufficiently in the next 50-100 years to make North Slope gas economic. That should be an easy bet. The only tough decision there might be is if we generate perhaps 2 BCF a day of demand from in-state use and Hawaii, along with Japan and South Korea perhaps, with an 80-90% chance of success, and we are also faced with a much larger Canadian opportunity, and there isn't enough gas for both projects. Only if the Canadian option rises significantly above the 50% likelihood in a predictable timeframe might there be a real choice to make. But we don't have to make that decision, until we are faced with that option.

Thank you members of the committee for allowing me to present.

HCR

2

SENATE COMMITTEE REPORT

DATE: 3/2/09

FURTHER: Finance

DATE TURNED IN TO OFFICE: 3/30/09

Resources Committee considered CS FOR HOUSE CONCURRENT RESOLUTION NO. 2(RES) am

HCR 2 IN-STATE GAS PIPELINE

Requesting the governor to provide energy security for all Alaskans first by pursuing development of a natural gas bullet pipeline from the North Slope to the Cook Inlet region; and requesting the governor to identify and negotiate where appropriate with one or more persons capable of producing natural gas from the Gubik area, and other areas on the North Slope if necessary, in sufficient quantities to support the energy needs of Alaskans and a bullet pipeline project.

and recommends:

[✓] be **replaced** with [X] **SCS** or [ ] **CS** CSHCR 2 (RES)

[ ] adopt **previous** [ ] **SCS** or [ ] **CS** _____ (_____)

[ ] attached amendment(s)

[ ] adopt _____ Letter of Intent

[ ] further referral to _____ Committee

SENATE BILL:
[ ] Same Title
[ ] New Title

HOUSE BILL:
[ ] Same Title
[ ] Technical Title Change
[X] New Title w/ SCR # NA

NEW FISCAL NOTE(S):

Department	Date	Fiscal	Indet	Zero	FN#

PREVIOUS FISCAL NOTE(S):

Department	Date	Fiscal	Indet	Zero	FN#

[ ] **APPROPRIATION - no fiscal note**

SIGNATURES AND RECOMMENDATIONS:	PRINTED LAST NAME	DO PASS	DO NOT PASS	NO REC	AMEND
	Ferry	X			
	Huggins	X			
	French	X			
CO-CHAIR:	McGuire	✓			
CO-CHAIR:	Wielechowski	✓			

FISCAL NOTE

STATE OF ALASKA
2010 LEGISLATIVE SESSION

Fiscal Note Number: 1
Bill Version: **SCS CSHCR 2(FIN)**
(S) Publish Date: 3/30/10

Identifier (file name):
Dept. Affected: All
Title HCR 2 IN-STATE GAS PIPELINE
RDU
Component
Sponsor Rep. Ramras
Requester Senate Finance Committee
Component Number

Expenditures/Revenues (Thousands of Dollars)

Note: Amounts do not include inflation unless otherwise noted below.

	Appropriation Required	Information					
OPERATING EXPENDITURES	**FY 2011**	**FY 2011**	**FY 2012**	**FY 2013**	**FY 2014**	**FY 2015**	**FY 2016**
Personal Services							
Travel							
Contractual							
Supplies							
Equipment							
Land & Structures							
Grants & Claims							
Miscellaneous							
TOTAL OPERATING	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
CAPITAL EXPENDITURES							
CHANGE IN REVENUES ( )							

FUND SOURCE (Thousands of Dollars)

1002 Federal Receipts							
1003 GF Match							
1004 GF							
1005 GF/Program Receipts							
1037 GF/Mental Health							
Other Interagency Receipts							
TOTAL	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**

Estimate of any current year (FY2010) cost:

POSITIONS

Full-time							
Part-time							
Temporary							

ANALYSIS: *(Attach a separate page if necessary)*

Prepared by: Senate Finance Committee
Co-Chair Bert Stedman/Co-Chair Lyman Hoffman
Phone 465-3873/465-4453
Date/Time

Approved by:
Date 3/29/2010

(Revised 11/6/2009 OMB)

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Chair, Economic Development, Trade & Tourism
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Representative Jay Ramras
District 10

Sponsor Statement for House Concurrent Resolution No. 2

Short Title: IN-STATE GAS PIPELINE **Contact: Margaret Dowling, 465-6841**

Purpose and Intent HCR 2:

The intent of House Concurrent Resolution No. 2 is to provide energy security for Alaskans. This resolution urges the Governor to take action that will facilitate development of a small natural gas pipeline, commonly referred to as the "bullet line." With completion of a large diameter gas line not expected until 2016 at the earliest, the bullet line, a smaller project that will be easier and quicker to complete, can bridge the gap in natural gas delivery and provide much needed natural gas to communities along its route between the North Slope and Cook Inlet. Because the gas will be extracted and delivered within the state, and for export, the cost of this resource to the ratepayers could be considerably less than the cost of other sources of fuel consumed by Alaska's residents today. Thus, the bullet line will provided certainty of supply and predictability of price for Alaskans along the bullet line route.

The Governor and key agencies in the executive branch are in a unique position to facilitate development of the bullet line. The executive branch has the authority and resources to locate companies or entities in Gubik or elsewhere in the North Slope that have significant quantities of natural gas and to negotiate contracts with those entities to guarantee commercially reasonable terms that will enhance economic viability of a bullet line. The time to act for energy certainty for all Alaskans is now.

Summary HCR 2:

- Requests that the Governor provide energy security for all Alaskans by taking action necessary to support the development of a natural gas pipeline that will deliver natural gas from the North Slope to Cook Inlet.

February 11, 2009 26-LS0264\S.A

Representative_Jay_Ramras@legis.state.ak.us

- Requests that the Governor identify entities in Gubik or elsewhere on the North Slope that have sufficient quantities of natural gas to support a gas line.
- Requests that the Governor negotiate a commitment with the identified entity for gas production on commercially reasonable terms that would support the economic viability of the gas line.

Benefits HCR 2:

- Secures an adequate supply of affordable natural gas for residential and industrial consumers from the North Slope to Cook Inlet.
- Increases jobs, and local and state revenue.

HCR 2 Testimony 2/3/09

Frank Abegg
Fairbanks resident, private citizen

I support building a Bullet Line to deliver in-state natural gas to the Railbelt.

I have been a volunteer working on the Interior Issues Council of the Fairbanks Economic Development Corporation (FEDC). This group was formed a few years ago to find ways to improve our health and lower the area's energy costs. During the past few months, and our community group investigated Alaska's gas fields, in-state pipeline/supply options, the gas market and potential future industry opportunities. The group identified three possible options for delivering InState gas to Alaskans: Fairbanks Natural Gas LNG from the North Slope, the ANGDA Spur Line from Delta Junction to Anchorage, and the ENSTAR Bullet Line from the North Slope to Anchorage. All three proposals have challenges to provide economical gas supply. However, I believe the Bullet Line is the best option for supplying future reliable and economical gas to Fairbanks and Anchorage. If the bullet line can secure sufficient market and operate at its projected 0.5 Bcf/day, then natural gas could be supplied from the North Slope in the $10 to $12/mcf range. FNG currently supplies gas to Fairbanks customers at $22.91/mcf.

One of the options we explored was the "Do Nothing" scenario. At present the Fairbanks area uses 50 million gallons of fuel oil for residential/commercial heating each year. At $2.50/gallon oil the Fairbanks spends $125 million annually. Switching to gas could save up to $60 million annually by switching to gas priced at $10-12/mcf. The local refineries, Flint Hills and PetroStar, and the electric utility, GVEA, also burn oil. If they switched to gas they could potentially save around $150 million annually, which could be over $200 million annual savings.

Currently the Anchorage area's residential/commercial customers and electric utilities use about 80 Bcf/yr of gas. With the Cook Inlet gas field depleting, they might need to import LNG in the future without instate gas from the bullet line. If the imported LNG cost an additional $3/mcf, then the Anchorage customers would need to spend an additional $240 million/year for gas.

Bottom line is that the Railbelt could see increased energy costs in the range of $500 million/year compared to building a bullet line. If the Bullet Line costs $4 billion at an investment rate of 12%, then its annual cost would be about $500 million. About the same cost. However, the Bullet Line would provide Alaskans' access to in-state resources, create jobs in its construction, opportunities for local industry and help Fairbanks solve the growing PM2.5 air quality non-attainment problem.

I recommend that the State provide assistance to private industry in the permitting and right-of-way and possibly roads needed for the bullet line construction. The goal should be to have gas delivered to Anchorage and Fairbanks within the next 5 years.

The FEDC Instate Gas Pipeline Supply Options Study will be officially released this week. The Study supports construction of the Bullet Line and recommends the State provide assistance. The Study supports building a limited size LNG facility on the North Slope to deliver gas to Fairbanks by 2011 and a Bullet Line that can deliver gas by 2016. The bullet line would provide access to market for the potential Nenana gas field, Yukon Flats, Gubik and Cook Inlet. Having multiple gas supplies should encourage competitive pricing of our future gas supply.

HCR

3

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Representative Jay Ramras
District 10

Sponsor Statement for House Concurrent Resolution No. 3

Short Title: IN-STATE GAS PIPELINE **Contact: Margaret Dowling, 465-6841**

Intent and Purpose HCR 3

The intent of House Concurrent Resolution No. 3 is to provide energy security for Alaskans by encouraging the Governor to take the lead in expediting reopening of Agrium U.S., Inc.; a facility that processes natural gas into urea fertilizer and other consumables. Reopening Agrium ensures a steady demand for natural gas that will enhance the economic viability of a gas bullet line, which will in turn benefit all Alaskans by providing certainty of supply and predictability of price for gas consumers.

The intent of HCR 3 is also to support the Alaska farming industry. Farms cover more than 25,000 acres in five boroughs with more than 300 farmers residing in the Matanuska-Susitna Borough and more than 130 farmers in the Fairbanks area. The value of those farms is approximately $22,700,000. Agrium U.S., Inc. was the only urea fertilizer plant in the state. After it closed in 2007, because it lacked sufficient supplies of natural gas with which to manufacture fertilizer, famers in Alaska experienced a 400% increase in the cost of fertilizer and the Alaskan job market lost over 150 jobs. Reopening Agrium will not only help increase the economic viability of a natural gas line, it will create jobs and reduce the cost of farming in Alaska.

Summary HCR 3:

- Requests that the Governor provide energy security for all Alaskans by taking action necessary to support the development of a natural gas pipeline that will deliver natural gas from the North Slope to Cook Inlet.

- Requests that the Governor initiate negotiations to reopen the Agrium U.S., Inc. facility, which closed in 2007 and which was a consumer of natural gas used in the production of fertilizer.

Benefits HCR 3:

- Secures an adequate supply of affordable natural gas for residential and industrial consumers from the North Slope to Cook Inlet.
- By reopening Agrium, demand for natural gas will be insured enhancing the economic viability of a natural gas bullet line, which in turn benefits Alaskans by providing certainty of supply and predictability of price for gas consumers along the bullet line route.
- Supports Alaska's farming industry by providing a local, cost competitive source of fertilizer.
- Increases jobs for Alaskans and state and local revenue.

HCR

4

Chair, Judiciary
Chair, Economic Development, Trade & Tourism
Energy
Military & Veteran Affairs
Joint Armed Services
1292 Sadler Way, Suite 324
Fairbanks, Alaska 99701
Phone: (907) 452-1088
Fax: (907) 452-1146

Alaska State Legislature
House of Representatives

While in Session
State Capitol, Room 118
Juneau, Alaska 99801-1182
(907) 465- 3004
Fax: (907) 465-2070
Toll Free: (877) 465-3004

Representative Jay Ramras
District 10

Sponsor Statement for House Concurrent Resolution No. 4

Short Title: IN-STATE GAS PIPELINE **Contact: Margaret Dowling, 465-6841**

Purpose and Intent HCR 4

The intent of House Concurrent Resolution No. 4 is to provide energy security for Alaskans by requesting that the Governor take all steps necessary to encourage development of a natural gas pipeline from the North Slope to the Cook Inlet Region, including advocating for an increase in the amount of natural gas that may be exported from the state under the authority granted by the United States Department of Energy. Increasing the volume of gas that may be exported from Alaska under U.S. Department of Energy licenses will increase demand and provide certainty and economic viability for a natural gas bullet line from the North Slope to the Cook Inlet Region.

Under current licenses with the U.S. Department of Energy, ConocoPhillips Alaska Natural Gas Corporation and Marathon Oil Company may export from the Kenai liquefied natural gas export facility up to 99,000,000,000,000 British thermal units (about 98,100,000,000 cubic feet) of liquefied natural gas during the two-year period from April 1, 2009 to March 31, 2011. After that time the Kenai liquefied natural gas export facility may be forced to close if the authority to export liquefied natural gas is not extended and if no new gas is discovered in the Cook Inlet region to meet both export and local demand. Local demand alone in the Cook Inlet region is expected to grow from 200,000,000 cubic feet a day to approximately 700,000,000 cubic feet a day during the period of 2010 to 2025. By supporting an increase in export licenses, the Governor will take the lead in insuring that Cook Inlet natural gas demand is supplied and that a natural gas bullet line from the North Slope to Cook Inlet is an economically viable project.

Summary HCR 4:

- Requests that the Governor provide energy security for all Alaskans by taking action necessary to support the development of a natural gas pipeline that will deliver natural gas from the North Slope to Cook Inlet.

- Requests that the Governor take appropriate action to advocate an increase in the volume of gas that may be exported under licenses issued by the U.S. Department of Energy to 60,000,000,000 cubic feet a year with that increase to be supplied by North Slope natural gas.

Benefits HCR 4:

- Secures an adequate supply of affordable natural gas for residential and industrial consumers from the North Slope to Cook Inlet.
- Enhances production and export of liquefied natural gas, thereby increasing jobs, and local and state revenue.
- Allows the Interior and other regions in the state to convert from fossil fuels to cheaper and cleaner burning natural gas, thereby increasing compliance with the fine particle air quality standard issued by the U.S. Environmental Protection Agency and enhancing Alaskan's health.

HCR

5

Chair, Judiciary
Chair, Economic Development, Trade & Tourism
Energy
Military & Veteran Affairs
Joint Armed Services
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Representative Jay Ramras
District 10

Sponsor Statement for House Concurrent Resolution No. 5

Short Title: IN-STATE GAS PIPELINE **Contact: Margaret Dowling, 465-6841**

Purpose and Intent HCR 5

The intent of House Concurrent Resolution No. 5 is to provide energy security for Alaskans by requesting that the Governor take all steps necessary to encourage development of a natural gas pipeline from the North Slope to the Cook Inlet region – and to do so with all due speed.

Alaskans' demand for reasonably priced, clean burning fuel for their homes is on the rise. With the cost of electricity and home heating fuel still at record breaking prices, and with completion of a large diameter natural gas pipeline not expected until 2016, at the earliest, now is the time to take action to build a smaller gas line. HCR 5 requests that the Governor work to support the timely construction of a natural gas bullet pipeline from the North Slope to the Cook Inlet region, including assisting and facilitating a private entity to commit to investing in the bullet pipeline before November 1, 2010.

Summary HCR 5:

- Requests that the Governor provide energy security for all Alaskans by taking action necessary to support the development of a natural gas pipeline that will deliver natural gas from the North Slope to Cook Inlet.
- Requests that the Governor assist and facilitate the commitment of a private entity to invest in the bullet pipeline before November 1, 2010.

Benefits HCR 5:

- Secures an adequate supply of affordable natural gas for residential and industrial consumers from the North Slope to Cook Inlet.
- Enhances production and exports of liquefied natural gas, thereby increasing jobs, and local and state revenue.

- Allows the Interior and other regions in the state to convert from fossil fuels to cheaper and cleaner burning natural gas, thereby increasing compliance with the fine particle air quality standard issued by the U.S. Environmental Protection Agency and enhancing Alaskan's health.

HCR

10

SENATE COMMITTEE REPORT

DATE: 4/11/09

FURTHER: RULES

DATE TURNED IN TO OFFICE: 4/9/10

Resources Committee considered CS FOR HOUSE CONCURRENT RESOLUTION NO. 10(RES)

HCR 10 OPPOSE FED. CONTROL OF STATE LAND & WATER

Urging the Governor to exercise all available legal options to restrain the United States Department of the Interior, National Park Service, from intruding on the sovereign right of the state to exercise jurisdiction over navigable water and submerged land and urging the Governor to allocate sufficient resources to the Department of Law, the Department of Natural Resources, and the Department of Fish and Game to defend the state's right to manage the public use of its navigable water.

and recommends:

[ ] be **replaced** with [ ] **SCS** or [ ] **CS** _____ (_____)

[ ] adopt **previous** [ ] **SCS** or [ ] **CS** _____ (_____)

[ ] attached amendment(s)

[ ] adopt _____Letter of Intent

[ ] further referral to _____Committee

SENATE BILL:
[ ] Same Title
[ ] New Title

HOUSE BILL:
[ ] Same Title
[ ] Technical Title Change
[ ] New Title w/ SCR #_____

NEW FISCAL NOTE(S):

Department	Date	Fiscal	Indet.	Zero	FN#
S.RES	4/9			✓	2

PREVIOUS FISCAL NOTE(S):

Department	Date	Fiscal	Indet.	Zero	FN#

[ ] **APPROPRIATION - no fiscal note**

SIGNATURES AND RECOMMENDATIONS:	PRINTED LAST NAME	DO PASS	DO NOT PASS	NO REC	AMEND
	Stevens	X			
	French			✓	
	WAGONER	✓			
CO-CHAIR:	Wielechowski			✓	
CO-CHAIR:	McGuire	✓			

Representative Mike Hawker
Alaska State Legislature

Session:
State Capitol
Juneau, AK 99801
907 465-4949 direct
800 478-4950 toll free
907 465-4979 fax

Interim:
716 W 4th Avenue
Anchorage, AK 99501
907 269-0244 office
907 269-0248 fax

House District 32:
Eagle River
Anchorage
Rainbow
Indian
Bird
Girdwood
Portage
Whittier
Sunrise
Hope

House Concurrent Resolution 10
Sponsor Statement
Version: CS HCR 10 (RES)

"Urging the Governor to exercise all available legal options to restrain the United States Department of the Interior, National Park Service, from intruding on the sovereign right of the state to exercise jurisdiction over navigable water and submerged land and urging the Governor to allocate sufficient resources to the Department of Law, the Department of Natural Resources, and the Department of Fish and Game to defend the state's right to manage the public use of its navigable water."

The State of Alaska owns and has the right to manage submerged land and navigable water in the state, unless Congress has specifically limited the state's authority. However, due to federal action, Alaska is quickly losing one if its most valuable assets and Alaskans are losing the ability to access these resources.

Starting in 1996, the United States Department of the Interior, National Park Service, began regulating public use of Alaska's navigable waterways. In the past 12 years, despite the state's continued protest and efforts to administratively address this problem, Alaskans' right to access and use Alaskan land has been eroded.

House Concurrent Resolution 10 reaffirms our sovereignty and asks for the governor to exercise all available legal options to protect our citizens from this inappropriate preemption of our state's rights. We must take action now to ensure that our right to manage our resources, as guaranteed by Alaska's Constitution, and both federal and state law, is protected.

Staff Contact: Juli Lucky 465-4949

4/1/2009

FISCAL NOTE

STATE OF ALASKA
2009 LEGISLATIVE SESSION

Fiscal Note Number: 1
Bill Version: CSHCR 10(RES)
(H) Publish Date: 4/1/2009

Identifier (file name):
Title OPPOSE FED. CONTROL OF STATE LAND & WATER
Sponsor REPRESENTATIVE HAWKER, Stoltze, Lynn, Coghill
Requester

Dept. Affected:
RDU
Component
Component Number

Expenditures/Revenues (Thousands of Dollars)

Note: Amounts do not include inflation unless otherwise noted below.

	Appropriation Required	Information					
OPERATING EXPENDITURES	**FY 2010**	**FY 2010**	**FY 2011**	**FY 2012**	**FY 2013**	**FY 2014**	**FY 2015**
Personal Services							
Travel							
Contractual							
Supplies							
Equipment							
Land & Structures							
Grants & Claims							
Miscellaneous							
TOTAL OPERATING	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
CAPITAL EXPENDITURES							
CHANGE IN REVENUES ( )							

FUND SOURCE (Thousands of Dollars)

1002 Federal Receipts							
1003 GF Match							
1004 GF							
1005 GF/Program Receipts							
1037 GF/Mental Health							
Other Interagency Receipts							
TOTAL	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**

Estimate of any current year (FY2009) cost:

POSITIONS

Full-time							
Part-time							
Temporary							

ANALYSIS: *(Attach a separate page if necessary)*

Prepared by: House Resources Committee
Division
Phone 465-3715
Date/Time

Approved by: Representative Craig Johnson, Co-Chair
House Resources Committee
Date 3/30/2009

(Revised 9/10/2008 OMB)

4836

STATE OF ALASKA

SARAH PALIN,
Governor

CITIZENS' ADVISORY COMMISSION
ON FEDERAL AREAS

3700 AIRPORT WAY
FAIRBANKS, ALASKA
99709

PHONE: (907) 374-3737
FAX: (907) 451-2751

February 13, 2009

Richard Svobodny
Acting Attorney General
State of Alaska
Department of Law
P.O. Box 110300
Juneau, Alaska 99811-0300

Dear Mr. Svobodny:

In 1996, over the strong objections of the State of Alaska and others, the National Park Service adopted regulations which improperly extended its management and enforcement authorities over state owned navigable waters within units of the National Park System. While the agency has been fairly restrained in its enforcement of the regulations, there have been a growing number of encounters between National Park Service rangers and the public. It is our understanding that one citation has been issued and commercial operators have been required to get permits to operate on the Yukon River within the Yukon Charley Rivers National Preserve, even though they do not use the upland areas of the preserve.

The regulations at 36 CFR §1.2(a)(3) state that National Park Service regulations apply to waters located within the boundaries of the National Park System, including navigable waters, "without regard to ownership of submerged lands, tidelands or lowlands." This is contrary to ANILCA Section 103(c) which clearly states that only public lands are included as a portion of a conservation system unit and that state or private lands are not subject to the regulations applicable solely to public lands within such units. As defined by ANILCA, public lands do not include State owned lands, including the submerged lands beneath navigable waters.

In publishing its rulemaking the Park Service classified Section 103(c) as a "minor technical provision." To the contrary, addition of this section was a key revision included in the concurrent resolution that led to the final passage of ANILCA. Section 103(c)

clearly indicates that Congress recognized that the authority of the State to regulate its lands and waters was not to be superseded by federal agency regulations.

Since adoption of the regulations the State of Alaska, through your office and the ANILCA Program, has worked to find an administrative solution to this issue. While the National Park Service generally does not dispute state ownership of submerged lands underlying navigable waters, it maintains that the NPS Organic Act and other general statutory authorities grant it the necessary authority to regulate activities on navigable waters.

In view of the National Park Service position, it appears that there can be no administrative solution to this issue. Therefore, under the authority granted by AS 41.37.240, the Citizens' Advisory Commission on Federal Areas respectfully requests the Department of Law bring suit against the National Park Service and ask the court to set aside these regulations.

We should note that Senator Bunde and Senator Therriault have introduced Senate Concurrent Resolution (SCR) No. 3 which urges the Governor to file suit challenging these regulations. The Commission fully concurs with that resolution.

We believe that this action is in the best interest of the State and is necessary to protect the State's authorities over its lands and waters. The Commission is committed to providing any help and support it can in this matter. Please contact us if we can be of assistance.

Sincerely,

Rick Schikora
Chairman

Cc: Gov. Palin
Sen. Gary Stevens
Sen. Con Bunde
Sen. Gene Therriault
Rep. Mike Chenault
Comm. Tom Irwin
Comm. Denby Lloyd

March 25, 2009

Raymond E. Hickel
5725 Yukon Charlie Lp.
Anchorage, AK 99502

Rep. Mike Hawker
Alaska State Legislature
Juneau, AK

Dear Rep. Hawker,

I am in full support of HCR 10 opposing federal interference in the management and enjoyment of state lands and navigable waterways. Once again we must defend Alaska and her sovereign inalienable rights against federal control.

I am proud to see the leadership you and have taken on this issue. I wish to remind others of the solemn oath taken by all Legislators, and the Governor herself, in the promise to protect and defend the Constitution of the State of Alaska.

The sovereign entity of Alaska is at the heart of this issue and there should be no opposition to the full and complete defense of it. Time is of the essence in order to rid our state of this cancer.

In my opinion, an elected official who would not employ whatever legal means necessary to correct this gross error, is in violation of the oath of office.

Very Truly Yours,

Raymond Hickel

Navigability Program

- PAAD Notice regarding Director's Chuitna Report, Chuitna Field Trip Report
  - Director's Chuitna Report (04/04/08)
  - Chuitna Field Trip Report (09/08/08)

The mission of the Division of Land's Navigability Project is to protect the public rights associated with navigable and public waters, and to ensure that the state's title to lands beneath navigable waters is protected. The Alaska State Constitution provides for free access and common use of public and navigable waters by any citizen of the United States or resident of the State of Alaska. State ownership of the beds of navigable waters is an inherent attribute of state sovereignty protected by the United States Constitution.

The Division's Navigability Project will enable the State of Alaska to assert ownership of lands beneath navigable waters. This is important for two reasons: first, the public will be ensured access to these state lands; and second, if these lands are already owned by the State of Alaska, they shouldn't be counted against Alaska's statehood land entitlement or conveyed by the Federal Government to non-state ownership.

Contact:
Scott Ogan
Natural Resource Manager II
Department of Natural Resources
Division of Mining, Land & Water
Phone: (907) 269-5515
E-mail: scott_ogan@dnr.state.ak.us
Fax: (907) 269-5043

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- Navigable Waters Web Map
  - Map Training Video NEW
- State's Policy on Navigability
- Recordable Disclaimers of Interest Fact Sheet
- State's Recordable Disclaimers of Interest for Navigable Waters
- BLM's website for Recordable Disclaimers of Interest for Navigable Waters

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State Policy on Navigability

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Policies and Proceduces on Ownership and Management of Navigable and Public Waters

June 18,1996 State ownership of the beds of navigable waters is an inherent attribute of state sovereignty protected by the United States Constitution. Utah v. United States, 482 U.S. 193 (1987). Under the doctrine, all states enter the Union on an equal footing with respect to sovereign rights and powers, title to the beds of navigable waters in Alaska vested in the newly formed State of Alaska in 1959. In addition, under the Alaska Constitution and the public trust doctrine, all waters in the state are held and managed by the state in trust for the use of the people, regardless of navigability and ownership of the submerged lands under the Equal Footing Doctrine.

The purpose of this paper is to describe the State of Alaska's policies and procedures for identifying and protecting the state's title to the beds of navigable waters. In addition, this paper outlines the legal and policy considerations which guide the ownership and management of submerged lands and public waters.

I. IDENTIFYING AND PROTECTING STATE TITLE TO THE BEDS OF NAVIGABLE WATERS

Identification and management of the beds of navigable waters is an important policy of the State of Alaska. In 1980, the state established a comprehensive navigability program to respond to federal land conveyances and land management activities under the Alaska Statehood act, the Alaska Native Claims Settlement Act (ANCSA), and the Alaska National Interest Lands Conservation Act (ANILCA). Pursuant to the provisions of those acts, the federal government has issued navigability determinations for thousands of lakes, rivers, and streams throughout the state in an effort to determine whether the state or federal government owns the submerged lands. Navigability determinations are also made prior to many state land disposals to insure that adequate public use easements are reserved.

The basic purpose of the state's program is to protect the public rights associated with navigable waters, including, in particular, the state's title to the submerged lands. Because state and native land selections and federal conservation units blanket the state, navigability questions have arisen for rivers, lakes, and

streams throughout Alaska. The navigability of many of those waterbodies has a lready been established. There are hundreds of others, however, where navigability is not yet determined.

To help resolve these navigability disputes, a major goal of the state's navigability program is to identify the proper criteria for determining title navigability in Alaska and to gather sufficient information about the uses and physical characteristics of individual waterbodies so that accurate navigability determinations can be made as disputes arise. Other important aspects of the program include monitoring federal land conveyance and management programs to identify particular navigability disputes, seeking cooperative resolution of navigability problems through negotiations and legislation, and preparing for statewide navigability litigation.

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RIPARIAN RIGHTS AND STATUTE OF LIMITATIONS

Disputes over ownership of submerged lands in Alaska have arisen under a variety of circumstances. The principal source of the disputes in Alaska is the survey and acreage accounting system used by the federal government for conveying land to the state and native corporations.

The standard procedures for surveying and conveying federal land are found in the Manual of Instructions for the Survey of the Public Lands of the United States, generally known as the BLM Manual of Surveying Instructions. Under those procedures, consistently used in every public land state except Alaska, only uplands are surveyed and conveyed in fulfillment of acreage entitlements, not submerged lands. The survey rules require that all lakes 50 acres or larger, and rivers and streams three chains (198 feet) in width or wider, regardless of navigability, be meandered and segregated (excluded) from the surveyed public lands. Only the surveyed uplands are conveyed. The acreage of meandered rivers, lakes, and streams is not included in computing the amount of land involved in the conveyance.

In Alaska, however, the federal government had not consistently followed these survey rules. Until 1983, the federal government treated submerged lands the same as uplands. All bodies of water that were considered non-navigable by the federal government, regardless of size, were surveyed as though they were uplands and the acreage of submerged lands was charged against the total acreage entitlement.

Because of these conveyance procedures, the navigability of waterbodies in Alaska has been an issue of contention since the enactment of the Alaska Statehood Act and ANCSA. In addition to the problems caused by a lack of information about many waterbodies, the situation was exacerbated by the narrow definition of navigability used by the federal government. Hundreds of rivers, lakes, and streams considered navigable by the state were determined non-navigable by the federal government.

In 1983, following years of negotiations, lawsuits and legislative attempts to solve the navigability problems created by the unusual survey and conveyance procedures in Alaska, the State of Alaska, the United States Department of the Interior and the Alaska Federation of Natives (AFN) agreed that the standard rules of survey should be followed for land conveyances in Alaska. The effect of that decision was to treat Alaska surveys and land conveyances like federal land surveys and conveyances in other states. The recipients of conveyances from the federal government are charged only for the amount of public land that is calculated by the survey, which does not include the areas of meandered rivers, lakes and streams.

The use of these survey procedures has eliminated many of the problems associated with the federal land conveyance programs in Alaska. Submerged lands are no longer being conveyed to fulfill acreage entitlements. With the exception of lakes smaller than 50 acres and streams narrower than 198 feet, navigability determinations are no longer being made prior to federal land conveyances. Determinations of ownership of submerged lands can be put off until a natural resource use or conflict requires resolution, such as issuance of an oil and gas lease, mining claim, or a gravel sale.

Through the joint efforts of the State of Alaska, AFN, and the Department of the Interior, the 1983 decision to use the standard survey procedures for land conveyances in Alaska was legislatively approved in August 1988 when the United States Congress passed legislation (94 Stat. 2430) amending Section 901 of the Alaska National Interest Lands Conservation Act, codified at 43 U.S.C. 1631. The 1988 amendment, sometimes referred to as the Alaska Submerged Lands Act, requires that the standard rules of survey in the BLM Manual of Surveying Instructions be used for all federal surveys under the Alaska Statehood Act and ANCSA. The 1988 amendment also repealed the Section 901 statute of limitations that would have required the state to file a lawsuit within a very short period of time in order to preserve its title to the beds of

navigable waters conveyed to native corporations by the federal government as a result of erroneous navigability determinations, poor maps, surveys or whatever. Even with this legislation, a major problem concerning navigability decisions made by the federal government under the old system remains unresolved. At issue are the hundreds of erroneous non-navigability decisions and the resulting submerged land conveyances made to ANCSA corporations in previous years. In addition, to comply with the meandering requirements of the BLM Survey Manual, the federal government is still required to make navigability determinations for lakes smaller than 50 acres and rivers or streams narrower than 198 feet in width to determine if these waters must be meandered.

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NAVIGABILITY CRITERIA

The greatest hurdle to overcome in the state's efforts to identify and manage navigable waters has been the long- standing differences of opinion between the State of Alaska and the United States regarding the application of the test for determining title navigability. Navigability is a question of fact, not a simple legal formula. Variations in waterbody use that result from different physical characteristics and transportation methods and needs must be taken into account. There are many legal precedents for determining navigability in other states based upon the particular facts presented in those cases. In Alaska, though, we are just beginning to get the final court decisions that are necessary to provide legal guidance for accurate navigability determinations.

The physical characteristics and uses of a waterbody used by the state for asserting navigability, commonly referred to as navigability "criteria", are based upon legal principles that have been established by the federal courts. These criteria are applied to rivers, lakes, and streams throughout the state and take into account Alaska's geography, economy, customary modes of water-based transportation, and the particular physical characteristics of the waterbody under consideration.

The federal test for determining navigability was established over a hundred years ago. In the landmark decision of The Daniel Ball, 77 U.S. (19 Wall.) 557, 563, (1870), the Supreme Court declared:

Those rivers must be regarded as public navigable rivers in law which are navigable in fact. And they are navigable in fact when they are used, or are susceptible of being used, in their ordinary condition, as highways of commerce, over which trade and travel are or may be conducted in the customary modes of trade and travel on water.

Although The Daniel Ball test is accepted as the correct standard for determining navigability, there has been a lot of disagreement over application of many of the terms and phrases used in The Daniel Ball test to the specific uses of Alaska's lakes, rivers and streams. The State of Alaska uses the following interpretation of that test as the basis for its navigability program.

The Waterbody Must Be Usable As a Highway For the Transportation of People or Goods. Interpreting the requirements that navigable waterbodies be used or usable as "highways of commerce", the courts have ruled that the central theme of title navigability is that the waterbody be capable of use as a highway which people can use for transporting goods or for travel. Neither the types of goods being transported nor the purpose of the travel are important in determining navigability. Transportation on water associated with recognized commercial activities in Alaska, such as mining, timber harvesting, and trapping is, evidence of navigability. The use of waterbodies for transportation in connection with natural resources exploration or development, government land management, management of fish and game resources, or scientific research is also evidence of navigability. Travel by local residents or visitors for the purpose of hunting, fishing, and trapping, or as a means of access to an area can be used to establish navigability. The same holds for recreational transportation, including personal travel and professionally guided trips.

Waters Which Are Capable of Being Used For Transporting Persons and Goods, Although Not Actually Used, Are Navigable. It is not necessary that a waterbody be actually used for transportation to be found navigable. It is enough that it is susceptible, or physically capable, of being used. Whether a waterbody is susceptible of use for transportation depends upon the physical characteristics of the water course such as length, width, depth, and, for a river, current and gradient. If those physical characteristics demonstrate that a waterbody could be used for the transportation of persons or goods, it is legally navigable.

The susceptibility element of title navigability is very important for the identification of navigable waterbodies in Alaska. Because of Alaska's sparse population and lack of development, there are hundreds

of remote rivers, lakes, and streams where there is little or no evidence of actual use. Because of their physical characteristics, however, many of these remote waterbodies could be used for transporting people or goods if there was a need. Under these circumstances, they are considered legally navigable.

Transportation Must Be Conducted In the Customary Modes of Trade and Travel On Water. A finding of navigability does not require use or capability of use by any particular mode of transportation, only that the mode be customary. The courts have held that customary modes of transportation on water include all recognized types and methods of water carriage. Unusual or freak contrivances adapted for use only on a particular stream are excluded. Customary modes of trade and travel on water in Alaska include, but are not limited to, barges, scows, tunnel boats, flat-bottom boats, poling boats, river boats, boats propelled by jet units, inflatable boats, and canoes. In places suitable for harvesting timber, the flotation of logs is considered a customary mode of transportation.

The mode of travel must also be primarily waterborne. Boats which may be taken for short, overland portages qualify. The courts have ruled that the use of a lake for takeoffs and landings by floatplanes is insufficient, in and of itself, to establish navigability.

Without expressly rejecting the claim, at least two court decisions in Alaska have suggested that winter travel on the surface of a frozen river or lake is probably not evidence of navigability. The rivers involved in the two adjudicated cases were both found navigable based upon summer use by boats, however, and it appears likely that most waterbodies in Alaska that are used as highways in winter can also be travelled by at least small boats in the summer. Because of this, the state need not rely upon winter travel to support navigability.

Waters Must Be Navigable In Their Natural and Ordinary Condition. A waterbody which can be used for transportation only because of substantial man-made improvements to the condition of the watercourse is not navigable for title purposes. However, if transportation does or could occur on the waterbody even without the improvements and the improvements would only make transportation easier or faster or possible for larger boats (e.g., dredging), it is still considered navigable for title purposes.

The presence of physical obstructions to navigation (rapids, falls, log-jams, etc.) does not render a waterway non- navigable if the obstruction can be navigated despite the difficulties or if the obstruction can be avoided by other means, such as portaging, lining, or poling. A waterbody is also navigable even if seasonal fluctuations do not allow it to be navigated at all times of the year. However, a waterbody which is only navigable at infrequent and unpredictable periods of high water is not normally considered navigable. The fact that a waterbody may be frozen for several months of the year does not render it non-navigable if it is navigable in its unfrozen condition.

Title Navigability Is Determined As Of The Date Of Statehood. To be considered navigable for title purposes, the waterbody must have been navigable in 1959 (when Alaska became a state). This element of the navigability test focuses on the physical characteristics of the waterbody and whether those characteristics have changed significantly since statehood. Most waterbodies have not physically changed enough since statehood to alter their navigability. Assuming there have been no significant changes in the physical characteristics of the waterbody, a waterbody that is navigable today would be considered legally navigable in 1959 as well. Exceptions might include the creation, by natural or man-made causes after statehood, of a totally new lake, river, or canal now used for navigation. Such a waterbody would not be considered navigable for title purposes. Conversely, a waterbody which was navigable in 1959 but, because of natural or man-made physical changes, is no longer navigable in fact would still be considered navigable for title purposes.

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NAVIGABILITY CRITERIA DISPUTES

Because of differing legal interpretations of court navigability decisions, several aspects of the criteria used by the state to determine navigability have been disputed by the federal government. As a direct result of these criteria disputes, many waterbodies considered navigable by the state have been determined non-navigable by the federal government.

The major criteria dispute has been over the type or purpose of the transportation required to establish navigability. The federal government has asserted that a waterway must be used, or capable of use, for transporting commerce to be considered navigable. Other, "noncommercial" transportation uses are not

considered sufficient to establish navigability. In this context, the federal government has claimed that the only relevant "commercial" transportation is the distribution of goods for sale or barter, or the transportation for hire of people or things. The federal government has admitted that professionally guided transportation on Alaska's rivers, lakes and streams constitutes commerce, but nevertheless has argued that the waters are not being used as a navigable "highway" when recreation is involved, but rather more as an amusement park. The federal government has therefore claimed that waters used only for commercial recreation are legally nonnavigable even though they may be navigable in fact.

Through the work of the state's navigability program, this definition has been repeatedly rejected by the courts, most recently in the Gulkana River case. Alaska v. United States, 662 F.Supp.455 (D.Alaska 1987), affirmed sub nom. Alaska v. Ahtna, Inc., 891 F.2d 1401 (9th Cir. 1989). Applying the correct definition of navigability, many of the submerged lands that the federal government attempted to convey to ANCSA corporations should have been recognized as belonging to the state. The state appealed many conveyances to protect its title. As occurred in the Kandik-Nation Rivers appeal, Appeal of Doyon, 86 I.D. 692 (ANCAB 1979), Alaska Native Corporations also found it necessary to challenge erroneous federal determinations of non-navigability to insure they would not be deprived of any portion of their entitlement by being charged for submerged land owned by the state.

The federal government has also argued that aluminum boats, boats propelled by jet units, inflatable boats, and canoes are not customary modes of travel for the purpose of determining navigability in Alaska. As a result, many waterbodies navigated by these types of watercraft have been found legally non-navigable by the federal government. The claim is that these boats represent post-statehood technological advances, are too small to be considered "commercial", or that most "commercial" use of the watercraft developed after statehood.

Another navigability dispute involves remote, isolated lakes. The federal government has found many of these lakes legally non-navigable, even though they are physically capable of being navigated. The federal government's contention is that a navigable connection to another area is necessary to make travel on a remote lake worthwhile. Otherwise, the federal government views the lack of development in the area around the isolated lake as an indication that the lake will never be used for commercial transportation.

To resolve these navigability criteria disputes, the state has actively pursued a limited number of court cases challenging particular findings of non-navigability by the federal government. With the sole exception of floatplanes, the courts have agreed with the navigability criteria presented by the State of Alaska and have rejected the limitations suggested by the federal government. These cases include:

Gulkana River. In this case, both in the U.S. District Court and on appeal to the U.S. Court of Appeals, the federal courts rejected the federal government's restrictive interpretation of the phrase " highway of commerce" in the title navigability test. The federal district court stated that to demonstrate navigability, it is only necessary to show that the waterbody is physically capable of "the most basic form of commercial use: the transportation of people or goods." Because the Gulkana River can be used for the transportation of people or goods, the Gulkana River was found navigable. Alaska v. United States, 662 F.Supp.455 (D.Alaska 1987). On appeal, the court of appeals affirmed the district court's finding of navigability. Alaska v. Ahtna, Inc., 892 F.2d 1401 (9th Cir. 1989). The court of appeals found that the modern use of the Gulkana River for guided hunting, fishing, and sightseeing trips is a commercial use and, since the physical characteristics of the river have not significantly changed since 1959, provides conclusive evidence that the river was susceptible of commercial use at statehood. The court also found that modern inflatable rafts can be used to establish navigability. In April 1990, the United States Supreme court denied a request by Ahtna, Inc. to reconsider and overturn the court of appeals decision. The Gulkana River precedent is now binding on all future navigability determinations in Alaska.

Kandik and Nation Rivers. In this administrative appeal, the State of Alaska and Doyon Limited, an ANCSA regional corporation, successfully established that the use or susceptibility of use of a river or stream by an 18-24 foot wooden riverboat capable of carrying at least 1,000 pounds of gear or supplies is sufficient to establish navigability. Based upon the use of these types of boats for the transportation of goods and supplies by fur trappers, as well as extensive historic and contemporary canoe use, the court found the Kandik and Nation rivers, in Interior Alaska, navigable. Appeal of Doyon, 86 I.D.692 (ANCAB 1979).

Alagnak River. In this federal district court case, the Alagnak River, the Nonvianuk River, Kukaklek Lake and Nonvianuk Lake were all found navigable. These interconnected waterbodies are located in the Bristol Bay region of Alaska, south of Lake Iliamna. Their primary transportation use is for commercially guided hunting, fishing, and sightseeing and for government research and management. They also serve as a means of access for local residents to their homes and to the surrounding areas for subsistence hunting and

fishing. After several years of litigation, the federal government conceded that these rivers and lakes are navigable. Alaska v. United States, No. 82-201 (D.Alaska Feb. 2, 1985).

Matanuska River. The recommended decision in this administrative appeal agreed with the State of Alaska's position that post-statehood commercial river rafting operations are sufficient to establish navigability. Based upon that type of use, the administrative law judge who heard the case recommended that the Matanuska River, in Southcentral Alaska, be found navigable. The Secretary of Interior, over the state's objections, assumed jurisdiction over the case and stayed implementation of the recommended decision. No action has been taken in the case since that time. Appeal of Alaska, No. 82-1133 (IBLA Rec. Decision Aug. 18, 1983)

Slopbucket Lake. The state claimed that the extensive use of floatplanes on Slopbucket Lake, a twenty acre lake adjacent to Lake Iliamna, was sufficient to establish navigability. The federal courts rejected this view. The courts reasoned that floatplanes do not use the lake as a navigable highway; they just take off and land there. Alaska v. United States, 754 F.2d 851 (9th Cir.) cert denied, 106 S. Ct. 333 (1985).

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IDENTIFICATION OF NAVIGABLE WATERS

Even if the criteria for determining navigability in Alaska were totally agreed upon, it still would be difficult to prepare a complete list of all of the navigable lakes, rivers, and streams in the state. Much of Alaska has not yet been surveyed and many maps are inaccurate and out-of-date. It is an immense and complex task simply to identify and locate all of the thousands of named and unnamed lakes, rivers, and streams in the state which might be considered navigable. Furthermore, once a potentially navigable lake, river, or stream has been identified, detailed information about its size and uses is necessary for an accurate navigability determination. Because of Alaska's undeveloped and remote character, gathering navigability information is both time consuming and expensive. Finally, administrative navigability determinations made by the state or the federal government are always subject to legal challenge, since only the courts can authoritatively determine title to submerged lands.

Despite these difficulties, both the state and the federal government are frequently called upon to issue navigability determinations. Although the requirement that BLM adhere to the meandering requirements of the BLM Survey Manual has eliminated the need for navigability determinations on the larger rivers, lakes, and streams, which must now be meandered regardless of navigability, navigability determinations are still required for the smaller rivers, lakes, and streams to determine if they are to be meandered at the time of survey. Because of this, some navigability determinations are still made for nearly every federal land conveyance under ANCSA or the Alaska Statehood Act. The management plan for nearly every federal Conservation System Unit (CSU) also addresses the navigability issue.

Federal navigability determinations are reviewed by the state to insure that available information sources were used and interpreted correctly. Where the federal government determines non-navigable a waterbody which is considered navigable by the state, the state may provide the government with supplemental information about the uses and characteristics of the waterbody to obtain a redetermination of navigability. Under some circumstances the state needs to make its own navigability determinations, such as for a oil and gas lease sale, land disposal, material sale, mining claim, or another use of state land or resources requiring a determination of ownership of submerged lands within the affected area.

For large, undeveloped regions of Alaska there may be little or no accurate waterbody use or physical characteristics information available for making navigability determinations. When information is lacking, and it must make a navigability determination, the state is forced to rely solely upon the physical characteristics shown on maps and aerial photographs. In these cases, the state identifies as navigable all streams depicted on the U.S.G.S. maps with double lines (generally at least 70 feet wide) and having an average gradient over the length of the stream of no more than 50 feet per mile. With rare exceptions, the state's experience has been that streams of this type are deep enough and wide enough to be navigable by boats carrying persons or goods and must, therefore, be considered legally navigable. Streams depicted with single lines, although narrower in width, may also be listed as potentially navigable if they have gradients of substantially less than 50 feet per mile and are at least 10 miles.

If there is no public use or physical characteristics information readily available for lakes, those lakes which are shown on maps and aerial photographs as having a navigable water connection with other navigable waters, or which are accessible by short overland portages, are considered navigable regardless of the size

of the lake. These lakes are part of a system of interconnected navigable waters. If a lake is totally isolated, it will be included on the state's navigability maps if it is at least 1 1/2 miles long. That length insures that the lake can be used as a "highway". Future judicial decisions interpreting the "highway" requirement for isolated lakes could shorten or lengthen this 1 1/2 mile "rule of thumb."

The state recognizes that, under some circumstances, lakes smaller than 1 1/2 miles long can be and are used as navigable highways. In those cases, when known, these smaller lakes are also depicted on the state's navigability map. Moreover, as a matter of administrative policy and convenience only, the state may sometimes make an exception to the 1 1/2 mile standard in the extremely wet regions of the state, including some areas in the Yukon- Kuskokwim Delta, Yukon Flats, and on the North Slope. In these areas, an isolated lake might need to be 2-3 miles long to be included on the state's navigability maps. Although smaller lakes in these areas are capable of being used for transportation and should be found navigable by the courts, the state has decided to concentrate its limited resources in protecting the larger waterbodies first.

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NAVIGABLE WATERS WITHIN PRE-STATEHOOD FEDERAL WITHDRAWALS

Although disputes over which waters in Alaska are navigable are the most frequent cause of submerged land ownership disputes, there is another major legal issue which poses a threat to Alaska's sovereign claim to the beds of navigable waters. Even where navigability is conceded, the federal government often contends that title to the submerged lands did not vest in the state if the area was withdrawn or reserved by the federal government on the date of statehood. Within native conveyance areas, the federal government has used this claim of "reserved submerged lands" to justify its attempts to convey the beds of navigable waters in fulfillment of the native entitlements. Within state selections, the federal government has used the same claim to charge the acreage of submerged lands against the state's entitlement.

The state strongly disagrees with this federal claim and has actively pursued a number of court challenges to resolve the issue. In addition to numerous appeals from federal decisions to convey or charge for the beds of navigable waters, the state was actively involved as a friend of the court in one case before the United States Supreme Court and continues to be involved in another Supreme Court case which presents this issue. The pending case is United States v. Alaska, U.S. Supreme Court 84 Original (filed June, 1979).

On June 8, 1987 the Court issued its decision in Utah v. United States, No. 85-1772 (filed Oct. 14, 1986). In this case the federal government, in 1976, issued oil and gas leases for land underlying Utah Lake, a navigable waterbody located in Utah. The suit sought a declaratory judgement that Utah, rather than the United States, holds the lands under navigable waters in the territories in trust for future states, and, absent a prior conveyance by the federal government to third parties, a state acquires title to such land upon entering the Union on an "equal footing" with the original 13 states.

The Supreme Court held that title did pass to the state upon Utah's admission to the Union. They held that there is a strong presumption against finding congressional intent to defeat a state's title, and, that in light of the longstanding policy of the federal government's holding land under navigable waters for the ultimate benefit of future state absent exceptional circumstances, an intent to defeat a state's equal footing entitlement could not be inferred from the mere act of the reservation itself. The United States would not merely be required to establish that Congress clearly intended to include land under navigable waters within the federal reservation, but would additionally have to establish that Congress affirmatively intended to defeat the future state's title to such land.

This decision has significant ramifications within Alaska, since over 95 million acres - more than 25% of the total area of the state - was enclosed within various federal withdrawals and reservations at the time Alaska became a state.

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NAVIGABLE WATERS WITHIN ANILCA CONSERVATION SYSTEM UNITS

On December 2, 1980, the Alaska National Interest Lands Conservation Act became law. This act created or added 104.3 million acres to various federal conservation system units. Because these "withdrawals" occurred after the date of statehood, there is no disagreement between the state and federal governments that navigable waters within the various CSU's are owned by the state. However, there is some

disagreement on the amount of authority the federal land managers may have to regulate these state owned submerged lands.

The U.S. Constitution gives Congress certain limited powers to control uses on state owned submerged land. These are known as the Property Clause, Navigational Servitude and the Commerce Clause. The extent of these powers involves complex legal questions. However, even assuming that Congress has the power to regulate state-owned submerged lands in Alaska, the United States Supreme Court has ruled that Congress may choose not to exercise that power, thus leaving regulation totally up to the state. Escanaba Co. v. Chicago, 107 U.S. (17 Otto.) 678 (1883). Whether Congress has done that can only be determined by examining the federal laws passed by Congress dealing with Alaska lands. Another possibility is that the state and federal governments have concurrent jurisdiction, sharing the authority to regulate submerged lands.

In ANILCA, Congress did not take away the state's power to regulate state-owned submerged lands within federal CSU's in Alaska. Numerous provisions in ANILCA recognize and respect the state's authority over state-owned land. In some cases, however, Congress may have attempted to give the federal land managers some concurrent authority to regulate navigable waters within CSU's.

The state, where possible, cooperates with rather than confronts the federal land managers. This cooperation often takes the form of a memorandum of understanding that discusses management issues and how they will be resolved. Differences do occur, however, over issues such as column management and restrictions on mining.

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II. LEGAL AND POLICY GUIDELINES GOVERNING MANAGEMENT OF SUBMERGED LANDS AND PUBLIC WATERS

PUBLIC TRUST DOCTRINE

The state has special duties and management constraints with respect to state-owned land underlying navigable waters. These special duties and management constraints arise from the Alaska Constitution. The Alaska Constitution contains numerous provisions embracing the principles commonly known as the public trust doctrine. The public trust doctrine is remarkable both for its age and for its vigor. Rooted in the customs of the seafaring Greeks and Romans, it has evolved to become one of the most effective safeguards of public rights. Basically, the trust reflects an understanding of the ancient concept that navigable waters, their beds and their banks, should be enjoyed by all the people because they are too important to be reserved for private use.

In America, the concept of public rights to public waters was recognized since the early days of the Massachusetts Bay Colony where the great Pond Ordinance of 1641 guaranteed the right to fish and fowl in ponds greater than 10 acres, along with the freedom to pass through private property to do so.

By 1821, American courts were pronouncing the law of public trust as we know it today. This does not mean that no water-related development can take place. The public trust doctrine permits states to improve waterways by constructing ports, docks and wharves, thus furthering the purposes of the trust. Generally speaking, the people's trust rights may be alienated only in ways that further overall trust uses, and in relatively small parcels.

Illinois Central Railroad Company v. Illinois, 146 U.S. 387,452 (1982), involved a grant by the State of Illinois of one thousand acres of the bed of Lake Michigan, constituting the entire harbor of the City of Chicago, to the Illinois Central Railroad. The U.S. Supreme Court held that the grant was revocable, that the state held the land in trust for the public, and that it was powerless to relinquish its rights as trustee.

The court went on to say that land underlying navigable waters is much more than a simple property right.

[I]t is a title different in character from that which the state holds in lands intended for sale. It is different from the title which the United States holds in the public lands which are open to preemption and sale. It is a title held in trust for the people of the state that they may enjoy the navigation of the waters, carry on commerce over them, and have liberty of fishing therein freed from the obstruction or interference of private parties... The trust devolving upon the state for the public, and which can only be discharged by the

management and control of property in which the public has an interest, cannot be relinquished by a transfer of the property.

In the 19th century the purposes of the trust were generally described as "commerce, navigation and fishery." This was logical because the major waterways were essential highways of commerce. But as other values became increasingly important, courts began to recognize recreation and environmental protection among the purposes for which the trust exists. As a California court said in 1971, "with our ever increasing leisure time...and the ever increasing need for recreational areas it is extremely important that the public need not be denied use of recreational water...the rule is that a navigable stream may be used by the public for boating, swimming, fishing, hunting and all recreational purposes." People ex rel. Baker v. Mack, 19 Cal. App. 3d 1040, 1044 (1971).

The Alaska constitution provides protections similar to the public trust doctrine protections that cannot be disregarded by the legislature or overruled by the courts. Article VIII, Sec. 3 provides; "Wherever occurring in their natural state, fish, wildlife and waters are reserved to the people for common use." After reviewing the public trust doctrine in Owsichek v. State, Guide Licensing, 763 P.2d 488 (Alaska 1988), the Alaska Supreme Court explained that "the common use clause was intended to engraft in our constitution certain trust principles guaranteeing access to the fish, wildlife and water resources of the state."

In CWC Fisheries, Inc. v. Bunker, 755 P2.d 1115 (Alaska 1988), the Alaska Supreme Court applied the public trust doctrine to tidelands, holding that, even after conveyance, the title remains subject to continuing public easements for purposes of navigation, commerce and fishery.

The 1985 Alaska legislature recognized the constitution application of public trust doctrine principles in Alaska. In an Act relating to the public or navigable waters of the state, the legislature found that "the people of the state have a constitutional right to free access to the navigable or public waters of the state" and that the state "holds and controls all navigable or public waters in trust for the use of the people of the state". 85 SLA Ch. 82. In the same act, the legislature ruled that submerged lands are "subject to the rights of the people of the state to use and have access to the water for recreational purposes or any other public purpose for which the water is used or capable of being used consistent with the public trust."

Courts in other states over the years have defined in somewhat different ways the public uses that are permitted and protected by the public trust as it applies to submerged lands. In reviewing these other cases, it can clearly be seen that through time an ever expanding definition of the public uses protected by the public trust doctrine is being adopted. The California Supreme Court recently held that:

Although early cases had expressed the scope of the public's right in (lands subject to the public trust) as encompassing navigation, commerce and fishing, the permissible range of public uses is far broader, including the right to hunt, bathe or swim, and the right to preserve the (public trust) lands in their natural state as ecological units for scientific study. City of Berkeley v. Superior Court of Alameda, 606 P.2d 362, 365 (Cal. 1980)

It is clear under the Alaska Constitution that the State of Alaska has the responsibilities of a trustee with respect to management of land underlying navigable waters. Moreover, the Alaska legislature has adopted a broad view of the public uses protected or permitted by the public trust. Accordingly, the Alaska Attorney General's Office has determined that, until the Alaska Supreme Court rules on the question, the state should assume that a broad definition of public rights protected by the Alaska Constitution and the public trust doctrine applies in Alaska, similar to the one adopted by the California Supreme Court. 1982 Atty. Gen. Op. No. 3 (June 10, 1982).

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PUBLIC WATERS

It is not only the beds of navigable waters in Alaska that are reserved in public ownership for public use. Under article VIII, Section 3 of the Alaska Constitution, all waters occurring in their natural state are reserved to the people for common use. Article VIII, Section 14 of the Alaska Constitution also provides for the broadest possible access to and use of state waters by the general public.

Section 14. Access to Navigable Waters. Free access to the navigable or public waters of the state, as defined by the legislature, shall not be denied any citizen of the United States or resident of the state, except that the legislature may by general law regulate and limit such access for other beneficial uses or

public purposes.

Pursuant to this grant of authority, the Alaska State Legislature, in AS 38.05.365(12), defined "navigable waters" as follows:

"navigable waters" means any water of the state forming a river, stream, lake, pond, slough, creek, bay, sound, estuary, inlet, strait, passage, canal sea or ocean, or any other body of water or waterway within the territorial limits of the state or subject to its jurisdiction, that is navigable in fact for any useful public purpose, including but not limited to water suitable for commercial navigation, floating of logs, landing and takeoff of aircraft, and public boating, trapping, hunting waterfowl and aquatic animals, fishing, or other public recreational purposes.

This definition of navigable waters does not define state ownership of submerged land in Alaska. The definition of navigability for ownership purposes was discussed earlier in this paper. This definition, however, does define what types of waterbodies in Alaska are available for public use under the Alaska statutes.

The Alaska State Legislature has broadly construed the constitutional protections for public use of the waters of the state. In an Act (85 SLA chap. 82, codified as AS 38.05.128) relating to the navigable or public waters of the state, the state legislature found:

(a)The people of the state have a constitutional right to free access to the navigable or public waters of the state.

(b) Subject to the federal navigational servitude, the state has full power and control of all of the navigable or public waters of the state, both meandered and unmeandered, and it holds and controls all navigable or public waters in trust for the use of the people of the state.

(c) Ownership of land bordering navigable or public waters does not grant an exclusive right to the use of the water and any rights of title to the land below the ordinary high water mark are subject to the rights of the people of the state to use and have access to the water for recreational purposes or any other public purposes for which the water is used or capable of being used consistent with the public trust.

(d) This Act may not be construed to affect or abridge valid existing rights or create any right or privilege of the public to cross or enter private land.

AS 38.05.128 provides:

OBSTRUCTIONS TO NAVIGABLE WATER

(a) A person may not obstruct or interfere with the free passage or use by a person of any navigable water unless the obstruction or interference is:

(1) authorized by a federal agency and a state agency; (2) authorized under a federal or state law or permit; (3) exempt under 33 U.S.C. 1344(f) (Clean Water Act); (4) caused by the normal operation of freight barging that is otherwise consistent with law; or (5) authorized by the commissioner after reasonable public notice.

(b) An unauthorized obstruction or interference is a public nuisance and is subject to abatement. The cost of abatement shall be borne by the violator and is in addition to any penalty imposed by the court.

(c) This section may not be construed to affect or abridge valid existing rights.

(d) Free passage or use of any navigable water includes the right to use land below the ordinary high water mark to the extent reasonably necessary to use the navigable water consistent with the public trust.

(e) Free passage or use of any navigable water includes the right to enter adjacent land above the ordinary high water mark as necessary to portage around obstacles or obstructions to travel on the water, provided:

(1) entry is made without injury or damage to the land; (2) entry is made in the least obtrusive manner possible; (3) there is no reasonable alternative available to avoid the use of the adjacent land above the

ordinary high water mark; and (4) the navigable water is reentered immediately below the obstacle or obstruction at the nearest point where it is safe to do so.

(f) A violation of (a) of this section is a class B misdemeanor.

Thus, under the Alaska Constitution and this statute, any surface waters capable of use by the public defined in AS 38.05.365(12) are available to the public, irrespective of streambed ownership. Further, such public use is not considered a taking and is not subject to inverse condemnation action. Private ownership is subject to the public rights that are protected by the public trust.

In two Montana Supreme Court cases involving the nature of public rights where the submerged lands are privately owned, the court rules that public portaging, anchoring, and other uses incidental to the use of the water are allowed. The court also found that if travel on the water or streambed is obstructed, the public is allowed to use the adjacent private land to portage around the barrier in the least intrusive way possible, avoiding damage to the property holder's rights. However, the public does not have the right to enter into or trespass across private property in order to enjoy the recreational use of state-owned waters. The State of Alaska agrees with this ruling and believes a similar ruling would be made by our state courts.

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BOUNDARIES OF NAVIGABLE WATERS

The state is often asked where public ownership of water bodies ends and private ownership begins. There are two types of water body boundaries to address: 1) non-tidal water boundaries and 2) tidal water boundaries. Non-tidal boundaries are boundaries of lakes, rivers, and streams. Tidal boundaries are the boundaries along any body of water which is influenced by the rise and fall of the tides.

1. Non-tidal Water Boundaries The boundary between public and private ownership is the "Ordinary High Water Mark" which is defined in 11 AAC 53.900(23) as being - The mark along the bank or shore up to which the presence and action of the non-tidal water are so common and usual, and so long continued in all ordinary years, as to leave a natural line impressed on the bank or shore and indicated by erosion, shelving, vegetation, or other distinctive physical characteristics. Also see the Alaska State Supreme Court definition in Department of Natural Resources v. Pankrantz 538 P.2d 984, 988-89 (Alaska 1975). The ordinary high water line can usually be observed by the laymen simply by noting the vegetation line or well defined stream banks.

2. Tidal Water Boundaries The boundary between tidal water bodies and private/public owned uplands is the Mean High Water Line. Mean high water line as defined by 11 AAC 53.900(15) is: The tidal datum plane of the average of all the high tides, as would be established by the National Geodetic Survey, at any place subject to tidal influence.

This line is not readily observable because it is a line of known elevation which intersects the land surface. The mean high water line can be a considerable distance below the vegetation line because extreme high water will denude the beach above the line of mean high water. The only way that the location of mean high water line can be accurately determined is by differential leveling from known bench marks or by operating a tide gauge for a sufficient period of time to determine the mean high water elevation. The line of mean high water line can be approximated by time coordinated observations of the daily predictions for high and low waters, predicted by NOAA, as they relate to the published mean high water elevation. This method can be highly unreliable because small errors in the predictions or observations can transform into large errors in the horizontal location; this is especially true in areas where the beach gradient is very flat.

It is important to note that in some areas, such as Prince William Sound, the mean high water line boundary is considerably higher than the current mean high water line because the boundary became fixed at the 1964 pre-quake location. In this instance the boundary between state-owned tidelands and the uplands would be established at an elevation which equals the sum of the mean high water elevation plus the published amount of uplift or, in some cases, submergence.

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CONCLUSION

This paper describes the state's policies and procedures for managing and protecting state submerged lands

and public waters. As further legal and practical developments occur in this area, these policies and procedures will be reexamined by the state and, if necessary, appropriate changes will be made.

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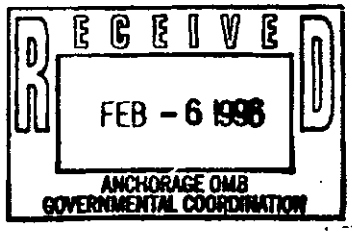

February 2, 1996

Ms. Maureen Finnerty
Associate Director, Operations
National Park Service
Department of the Interior
18th and C Streets, N.W.
Washington, D.C. 20240

Re: State of Alaska's Comments on the Proposed Rule at 60 Federal Register 62233 (December 5, 1995)

Dear Ms. Finnerty:

The State of Alaska has reviewed the proposed rule published December 5, 1995, at 60 Fed. Reg. 62233. These comments represent the consolidated views of various state agencies and replace the overview of comments previously provided to Solicitor Leshy.

The proposed rule would revise portions of the National Park Service's (NPS) general regulations, as well as certain provisions governing National Park System units in Alaska. Primarily at issue is whether NPS should extend regulatory jurisdiction over all navigable waters within park boundaries, regardless of ownership of the submerged lands. The proposed rule is not a simple "clarification" of prior law as the NPS has attempted to portray. The regulations would substantively and inappropriately extend NPS jurisdiction.

The State opposes the proposed rule and urges that it be withdrawn for the following reasons:

- The Federal Register notice fails to adequately address potential effects of this rulemaking in light of the draft NPS subsistence policy and management in Alaska and the State of Alaska v. Babbitt case.

- The federal government has no authority to regulate waters within the boundaries of conservation system units where Alaska owns the submerged lands.

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- The proposed rule is premature given that the Alaska National Interest Lands Conservation Act's definition of "public lands" is still in question.

- The NPS has failed to show other authority, e.g. the Commerce Clause, for its proposed action.

- Proposed definitional changes are inconsistent with existing law.

For these reasons, the NPS does not have the authority to extend its regulatory jurisdiction to all navigable waters within park boundaries, regardless of ownership of the submerged lands. These and other issues are documented in greater detail in the attachment, which should be considered part of the State's formal comments.

If NPS has concerns about particular activities occurring on navigable waters within park boundaries in Alaska, the State encourages NPS to discuss these concerns with the appropriate state representatives. We believe that many issues of particular concern to NPS can be resolved through ongoing cooperative efforts.

Thank you for your consideration of this letter and the attachment.

Very truly yours,

Bruce Botelho
Attorney General

Attachment

cc: Robert Barbee, Field Director, NPS
John Katz, Governor's Office, Washington, D.C.
Marilyn Heiman, Governor's Office, Juneau
Diane Mayer, Director, Division of Governmental Coordination
John Shively, Commissioner, Department of Natural Resources
Frank Rue, Commissioner, Department of Fish and Game
Joseph Perkins, Commissioner, Department of Transportation and Public Facilities
Michele Brown, Commissioner, Department of Environmental Conservation
William Hensley, Commissioner, Department of Commerce and Economic Development

ATTACHMENT

State of Alaska's Comments on the Proposed Rule at 60 Fed. Reg. 62233, December 5, 1995:

A. The Federal Register notice fails to adequately address potential effects of this rulemaking in light of the draft NPS subsistence policy and management in Alaska and the State of Alaska v. Babbitt case.

At the present time, an extensive statewide review of subsistence management and policy is underway within NPS. In fact, NPS has requested public review and comment until May 1, 1996 on its "Draft Review of Subsistence Law and National Park Service Regulations." In light of this ongoing internal review, the State believes the present rulemaking is premature and recommends that this rulemaking be postponed in order to consider the outcome of the subsistence program review. Remaining comments are provided without the benefit of this information.

B. The proposed rule is more than a "clarification" of prior law; it substantively extends NPS jurisdiction.

In the Federal Register notice, NPS states that the proposed rulemaking is designed to "clarify" that existing NPS regulations apply on navigable waters within National Park System units regardless of ownership of the submerged lands, and that the proposed rule does not create new or additional regulatory controls.

NPS claims this "clarification" of previous regulatory intent was made necessary by a seal hunting case in Glacier Bay National Park. United States v. Greg Brown. NPS states the seal hunting case made it aware that 36 C.F.R. § 1.2(b) "inadvertently incorporated language that seems ambiguous and could preclude park regulation of 'non-federally owned . . . waters.'" However, the proposed rule does not "clarify" existing regulations; it substantively extends NPS jurisdiction to areas not previously regulated.

Despite NPS' representations, 36 C.F.R. § 1.2(b) is not ambiguous. It clearly states that NPS regulations do not apply on non-federally owned waters.[1] The only exception

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1 Section 1.2(b) states:

> Except for regulations containing provisions that are specifically applicable, regardless of land ownership, on lands and waters within a park area that are under the legislative jurisdiction of the United States, the regulations

contained in parts 1 through 5 and part 7 of this chapter do not apply on non-federally owned

to this rule is for non-federally owned lands and waters under the legislative jurisdiction of the United States. For areas under the legislative jurisdiction of the United States, NPS regulations apply only when the regulations are made specifically applicable regardless of land ownership. 36 C.F.R. § 1.2(b). There is no dispute that state owned lands and waters within Glacier Bay National Park, and most every other park system unit in Alaska, are not within the legislative jurisdiction of the United States.

Other NPS regulations reaffirm the unambiguous language and intention of 36 C.F.R. § 1.2(b). For example, the regulations applying to park units in Alaska state: "The regulations contained in this part 13 are applicable only on federally owned lands within the boundaries of any park area. . . ." 36 C.F.R. § 13.2(e).[2] See also 36 C.F.R. § 13.1(p) (defining "public lands" to mean lands in Alaska "which are federally owned lands"); 36 C.F.R. § 13.65(a) (humpback whale protection regulations, expressly stating they are an exception to §§ 1.2(b) and 13.2(e) and therefore apply on all navigable waters within Glacier Bay National Park).

Indeed, in the Glacier Bay seal hunting case, the United States openly acknowledged the express limitation in 36 C.F.R. § 1.2(b) on its regulatory jurisdiction. See United States v. Brown, No. 94-30019, United States' brief to the Ninth Circuit Court of Appeals at 5-6, 9 (submitted May 12, 1994) (conceding that, for NPS general regulations to be enforceable against Mr. Brown, 36 C.F.R. § 1.2(b) requires that the United States prove either legislative jurisdiction over Glacier Bay National Park or ownership of the submerged lands in question). Thus, in dismissing the Brown prosecution, the United States recognized the unambiguous language of its regulations. The United States conceded it does not have legislative jurisdiction over Glacier Bay National Park, see id. at 5, and decided not to attempt to prove ownership of the submerged lands in that case.

Contrary to NPS' assertion in the Federal Register, both the language and intent of its 1983 and 1987 regulatory revisions were that NPS regulations did not apply to non-federally owned lands and waters, unless those lands and waters were under the legislative jurisdiction of the United States. See 48 Fed. Reg. 30252 at 30261, 30275 (June 30, 1983) (regulations do not apply to state owned inholdings within national park boundaries unless those areas are under the legislative jurisdiction of the United States).

The regulatory revision in 1987 simply "clarified" that state owned lands would

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lands and waters . . . within the boundaries of a park area.

2 For the reasons discussed in these comments, the State opposes the proposed deletion of this statement in 36 C.F.R. § 13.2(e).

be treated like privately owned lands, and NPS regulations would not apply as a matter of course to either private or state lands and waters within park boundaries. See 52 Fed. Reg. 12037 (April 14, 1987) (proposing to clarify that NPS regulations only would apply to state owned lands and waters within park boundaries if those areas were under the legislative jurisdiction of the United States); 52 Fed. Reg. 35238, 35239 (Sept. 18, 1987) (certain NPS regulations apply to non-federally owned lands and waters within park boundaries only if those areas are under the legislative jurisdiction of the United States).

For these reasons, it is at best misleading for NPS to characterize the proposed rule as a "clarification" and not a substantive extension of regulatory jurisdiction. The proposed action substantially extends NPS jurisdiction to areas not previously covered by its regulations. The exclusion of state owned lands and waters from prior and existing regulations was not "inadvertent" but by express design. By not acknowledging these facts in its December 5, 1995 Federal Register notice, NPS significantly understates the effect of its proposed rule.

C. The federal government has no authority to regulate waters within the boundaries of conservation system units where Alaska owns the submerged lands.

On the substance of NPS' proposed action, the State disagrees that NPS has authority to extend its regulatory jurisdiction to all waters within park system boundaries, including navigable waters, and without regard to ownership of submerged lands.

The State has consistently objected to previous attempts by NPS to grant itself such extraterritorial authority in proposed rulemaking, e.g., Alaska's comments dated Nov. 1, 1991 (regarding proposed rule published Aug. 5, 1991). We reiterate our objections to NPS' efforts to extend regulatory jurisdiction to lands and waters lawfully owned and managed by the State.[3]

The proposed extension of NPS authority appears to be particularly dramatic in Alaska. Numerous navigable waterways run through the exterior boundaries of nearly all of the thirteen multi-million acre park units in the state. These waterways are often used for transportation and for many other activities. Under the proposed rule, NPS would apparently

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3 Under the constitutional doctrine of equal footing and confirmed by the Submerged Lands Act of May 22, 1953, the Alaska Statehood Act of July 7, 1958, and the Alaska Constitution, the State of Alaska owns and therefore is responsible for the management of all water columns, shorelands, tidelands, and submerged lands, including the resources located within or on such lands and waters.

intend to regulate these activities. For example, under the proposed rule, NPS might require an NPS Commercial Use Permit for the commercial barging and ferry service interests currently operating on the navigable Yukon River as it passes through the Yukon-Charley Rivers Preserve, despite the fact that the State presently manages water uses, access and activities on those waters. Such an assertion of general jurisdiction is not permitted by the Alaska National Interest Lands Conservation Act (ANILCA) or other applicable law.

One of Congress' primary purposes in enacting ANILCA was to preserve vast quantities of lands and waters in Alaska. 16 U.S.C. § 3101. Congress implemented this purpose in part by creating "conservation system units" (CSUs). By definition, CSUs include any unit in Alaska of the National Park System. 16 U.S.C. § 3102(4).

However, not all lands within Glacier Bay National Park or other national park units in Alaska are included as part of the CSU. ANILCA section 103(c) states in relevant part:

> Only those lands within the boundaries of any conservation system unit which are public lands (as such term is defined in this Act) shall be deemed to be included as a portion of such unit.
>
> 16 U.S.C. § 3103(c).[4]

Similarly, in coastal areas, ANILCA section 103(a) excludes lands seaward of the mean high tide line from the boundaries of areas added by ANILCA to the National Park System. 16 U.S.C. § 3103(a).

ANILCA Section 103(c) further provides that those lands not included within the conservation system unit are not subject to federal regulation:

> No lands which, before, on, or after the date of enactment of this Act, are conveyed to the State, to any Native Corporation, or to any private party shall be subject to the regulations applicable solely to public lands within such units.
>
> 16 U.S.C. § 3103(c).

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4 The legislative history of ANILCA § 103(c) makes clear Congress' intent to exclude lands which are not owned by the U.S. from conservation system unit regulations. The history specifies that "only public lands (and not State or private lands) are to be subject to the conservation system unit regulations applying to public lands." 126 Cong. Rec. S15129-32 (daily ed. Dec. 1, 1980) (statement of Sen. Stevens).

Legislative history establishes that Congress took this action fully aware of Kleppe v. New Mexico, 426 U.S. 529 (1976) and its progeny, which might arguably support extension of federal regulatory control over non-federally owned lands.[5] Congress directly and knowingly limited federal regulatory authority to "public lands" within conservation system units and specifically exempted inholdings from regulation. 16 U.S.C. § 3103(c). NPS recognized this fact in promulgating 36 C.F.R. § 13.2(e). See 46 Fed. Reg. 31836, 31843 (June 17, 1981) (ANILCA §§ 103(c) and 906(o) restrict the applicability of NPS regulations to federally owned lands within park boundaries; therefore, 36 C.F.R. § 13.2(e) applies only to federally owned lands).

In the case of parks in Alaska, any submerged lands underlying navigable waters within park boundaries are "inholdings" belonging to the State of Alaska. See Submerged Lands Act of 1953, 43 U.S.C. § 1311(a); Utah Div. of State Lands v. United States, 482 U.S. 193 (1987). Federal regulation does not apply to these waters.[6] The NPS therefore does not have authority to regulate navigable waters within park boundaries regardless of ownership.

If identical regulations addressing both state and federally owned lands or waters are particularly desirable in certain instances or for certain issues, the State encourages NPS to discuss these with the appropriate state regulatory entity. Through a cooperative effort, the goal of consistent regulation of especially significant issues can be lawfully achieved. Without State consent and cooperation, however, NPS may not extend its regulatory jurisdiction as proposed.

D. The proposed rule is premature given that the definition of "public lands," over which ANILCA permits some federal regulation, is still in question.

As noted earlier, the Federal Register notice does not address the proposed rule's potential effect on the implementation of ANILCA's Title VIII subsistence priority, and the State requests that NPS address the rule's implications for subsistence management and

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5 The State does not concede this authority. While there is case law in the Eighth Circuit that appears to support this contention, the question of extra-territorial regulation is not yet resolved. In any event, NPS does not purport to rely on Congress' Property Clause power to justify this proposed action.

6 The fact that ANILCA (and existing NPS regulations) specifically exclude state lands and waters from NPS general jurisdiction is also reflected in the General Management Plans adopted for park units in Alaska.

policy.[7]

ANILCA specifically limits federal regulatory authority in conservation system units to "public lands." Accordingly, federal jurisdiction depends on whether the waters in question constitute "public lands" as defined in ANILCA.

Although the State asserts the definition of "public lands" does not include any navigable waters where the state owns the submerged lands, this question is currently unresolved. The Alaska Supreme Court's decision in Totemoff v. State, as well as Judge Hall's dissent from the Ninth Circuit opinion in State of Alaska v. Babbitt (also commonly known as the "Katie John" case), conclude that navigable waters are not "public lands" under ANILCA. See Totemoff v. State, 905 P.2d 954 (Alaska 1995); State of Alaska v. Babbitt, ___ F.3d ___, 1995 WL 749795 (9th Cir., Dec. 19, 1995). This issue is presently before the U.S. Supreme Court on a petition for certiorari. Accordingly, the NPS should withdraw these regulations until they can be reassessed in light of the Babbitt litigation once it has been finalized.

E. The NPS has failed to show other authority for its proposed action.

NPS asserts that Congress' Commerce Clause power provides authority for NPS' regulation of non-federally owned lands and waters within park boundaries. However, NPS fails to explain where it derives its Commerce Clause power, and how its power is co-extensive with Congress' Commerce Clause powers.

Moreover, even assuming NPS has some authority to regulate pursuant to the Commerce Clause, the United States Supreme Court has confirmed that the Commerce Clause power is not unlimited. See United States v. Lopez, ___ U.S. ___, 115 S. Ct. 1624 (1995). To rely on this power, NPS must satisfy traditional Commerce Clause analysis, including a showing as to how the regulated activities "substantially affect" interstate commerce. Id. at 1629-30.

NPS' Federal Register notice makes no effort to undertake a Commerce Clause analysis, and the state does not agree that the Commerce Clause permits the proposed action. Cf. State of Alaska v. Babbitt, ___ F.3d ___, 1995 WL 749795 (9th Cir., Dec. 19, 1995) (majority opinion concludes that Congress did not intend to exercise its Commerce Clause authority to regulate subsistence fishing in Alaska's navigable waters; dissenting opinion

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7 Along this line, we note that the proposed revision to 36 C.F.R. § 13.2(c) deletes Sitka National Historical Park from the list of park units where subsistence activities are prohibited. This change is not addressed by NPS in its notice.

concludes that subsistence fishing in navigable waters does not "substantially affect" interstate commerce).[8]

Nor does NPS otherwise justify its authority to extend general regulatory jurisdiction over non-federally owned waters within park boundaries. NPS cites to 16 U.S.C. § 1a-2(h); however, the authority set forth therein is limited. That section permits NPS to promulgate and enforce regulations concerning boating and related activities; it does not provide general jurisdiction over non-federally owned waters within park boundaries. Likewise, the fact that NPS may enforce Coast Guard regulations on navigable waters within park boundaries does not provide authority over navigable waters for other purposes.

As examples of its asserted authority, NPS cites park-specific regulations that have applied on navigable waters within certain parks. However, these limited instances do not justify this proposed rule. In the case of Glacier Bay National Park, the State cooperated with the National Marine Fisheries Service and NPS in the adoption of regulations deemed necessary to protect whales. These special whale regulations were identified as an exception to NPS' general regulatory authority. See 13 C.F.R. §13.65(a), (b)(2). This example does not imply that NPS has jurisdiction to enact other regulations applying to waters owned by the State.

F. Proposed definitional changes are inconsistent with existing law.

Though the State's objections to NPS' proposed definitional changes should be clear from the preceding comments, we address the following comments specifically to NPS' proposed definitional revisions.

NPS' proposed revision of "boundary" at 36 C.F.R. § 1.4 would broadly include "the limits of lands or waters administered by the National Park Service" as "published or posted by the National Park Service." This definition grants to NPS the ability to define "boundaries" essentially as it chooses, on a case-by-case basis.

This definition is not permissible under ANILCA. ANILCA Section 103 directs that the conservation system units created by ANILCA shall have specific and defined boundaries. 16 U.S.C. § 3103 (a), (b), (c). Pursuant to the mandate in ANILCA § 103(b),

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8 In any case, even if the proposed action could be justified under a Commerce Clause analysis, the Submerged Lands Act expressly limits that authority as it applies to this situation. See 43 U.S.C. § 1311(a) (confirming state title and ownership of lands beneath the navigable waters within the states, as well as the natural resources within those lands and waters, and providing states rights to manage those lands and natural resources).

NPS published in 1992 a legal description of the external boundaries of national park units established or expanded by ANILCA. 57 Fed. Reg. 45166 (Sept. 30, 1992).

As a result of these authorities, the proposed definition of "boundary" would conflict with the determined boundaries of park units and with ANILCA's defined areas of NPS authority. NPS is not free to ignore these existing legal boundaries, nor may it grant itself authority to amend park boundaries simply by posting a notice of intent. Accordingly, NPS may not broadly revise "boundary" as proposed.[9]

The proposed revision to 36 C.F.R. § 13.2(e), including the revised definition of "federally owned lands," likewise is not permitted by ANILCA. Under ANILCA, "federally owned lands" include lands, title to which is in the Untied States. 16 U.S.C. § 3102. Thus, State and privately owned lands cannot be defined as "federally owned lands," as they apparently would be under the proposed rule. ANILCA prohibits this definitional change, as well as NPS' attempt to extend its jurisdiction to state owned lands and waters.

G. No notice of the proposed rule was provided to the State despite ongoing meetings with NPS regarding Glacier Bay National Park.

To promote cooperation between state and federal resource managers, Alaska agency representatives participate in quarterly meetings with the NPS field director to discuss issues involving park units in Alaska. In addition, state representatives and commercial fishing interests have embarked upon good faith discussions with NPS to resolve potential conflicts arising from activities on state waters adjacent to Glacier Bay. In fact, on December 5, 1995, the day this proposed rule was published in the Federal Register, the Superintendent of Glacier Bay National Park met with state representatives, fishermen, special interest groups and others to seek cooperative resolution of problems related to activities on waters adjacent to the park.

The State is troubled that, despite these ongoing meetings, NPS provided no notice of the proposed extension of NPS regulations over all navigable waters within park boundaries, regardless of ownership, especially since the seal hunting case in Glacier Bay inspired the proposed rulemaking.

To avoid compromising the effectiveness of these ongoing cooperative efforts,

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9 Similarly, NPS may not use such a broadened definition of "boundary" to assert general jurisdiction over state-owned lands and waters administered by NPS pursuant to a cooperative agreement. NPS and the State have entered into several cooperative agreements which grant NPS some limited administrative authority over state lands or waters. We do not contemplate that these agreements can be construed to permit broader federal authority over these areas.

the State urges the NPS field office to alert us of pending rulemakings in the future and to promote discussion of the issues involved.

Conclusion

The State disagrees that NPS has authority to extend its regulatory jurisdiction to all navigable waters within park boundaries regardless of ownership of the submerged lands. Consistent with the above discussion, the state requests that NPS withdraw the proposed rule.

HJR

7

AMENDED

26-LS0400\E

MOVED 04/17/09

CS FOR HOUSE JOINT RESOLUTION NO. 7(RES)

IN THE LEGISLATURE OF THE STATE OF ALASKA

TWENTY-SIXTH LEGISLATURE - FIRST SESSION

BY THE HOUSE RESOURCES COMMITTEE

Offered: 2/25/09
Referred: Rules

Sponsor(s): REPRESENTATIVES MILLETT, Lynn, Dahlstrom, Johnson, Chenault, Neuman, Petersen, Hawker, Gardner, Joule, Crawford, Gatto, Johansen, Herron, Fairclough

SENATORS Therriault, Wagoner, Bunde

A RESOLUTION

Urging the United States Congress to pass legislation to open the coastal plain of the Arctic National Wildlife Refuge to oil and gas exploration, development, and production.

BE IT RESOLVED BY THE LEGISLATURE OF THE STATE OF ALASKA:

WHEREAS, in 16 U.S.C. 3142 (sec. 1002 of the Alaska National Interest Lands Conservation Act (ANILCA)), the United States Congress reserved the right to permit further oil and gas exploration, development, and production within the coastal plain of the Arctic National Wildlife Refuge; and

WHEREAS the oil industry, the state, and the United States Department of the Interior consider the coastal plain to have the highest potential for discovery of very large oil and gas accumulations on the continent of North America, estimated to be as much as 10,400,000,000 barrels of recoverable oil; and

WHEREAS the "1002 study area" is part of the coastal plain located within the North Slope Borough, and many of the residents of the North Slope Borough, who are predominantly Inupiat Eskimo, are supportive of development in the "1002 study area"; and

WHEREAS oil and gas exploration and development of the coastal plain of the refuge and adjacent land could result in major discoveries that would reduce our nation's future need for imported oil, help balance the nation's trade deficit, and significantly increase the nation's security; and

WHEREAS the state's future energy independence would be enhanced with additional natural gas production from the North Slope of Alaska including what are expected to be significant gas reserves in the Arctic National Wildlife Refuge, and the development of those reserves would enhance the economic viability of the proposed Alaska Natural Gas Pipeline; and

WHEREAS domestic demand for oil continues to rise while domestic crude production continues to fall, with the result that the United States imports additional oil from foreign sources; and

WHEREAS development of oil at Prudhoe Bay, Kuparuk, Endicott, Lisburne, and Milne Point has resulted in thousands of jobs throughout the United States, and projected job creation as a result of coastal plain oil development will have a positive effect in all 50 states; and

WHEREAS Prudhoe Bay production is declining; and

WHEREAS the Trans Alaska Pipeline System, a transportation facility that is a national asset and that would cost billions of dollars to replace, would have its useful physical life extended for a substantial period if the additional reserves of recoverable oil from the coastal plain were produced; and

WHEREAS, while new oil field developments on the North Slope of Alaska, such as Alpine, Northstar, and West Sak, may temporarily slow the decline in production, only giant coastal plain fields have the theoretical capability of increasing the production volume of Alaska oil to a significant degree; and

WHEREAS opening the coastal plain of the Arctic National Wildlife Refuge now allows sufficient time for planning environmental safeguards, development, and national security review; and

WHEREAS the 1,500,000-acre coastal plain of the refuge makes up only eight percent of the 19,000,000-acre refuge, and the development of the oil and gas reserves in the refuge's coastal plain would affect an area of ~~only~~ 2,000 acres, which is less than one-half of

one percent of the area of the coastal plain; and

WHEREAS 8,900,000 of the 19,000,000 acres of the refuge have already been set aside as wilderness; and

WHEREAS the oil industry has shown at Prudhoe Bay, as well as at other locations along the Arctic coastal plain, that it is capable of conducting oil and gas activity without adversely affecting the environment or wildlife populations; and

WHEREAS the state will strive to ensure the continued health and productivity of the Porcupine Caribou herd and the protection of land, water, and wildlife resources during the exploration and development of the coastal plain of the Arctic National Wildlife Refuge; and

WHEREAS the oil and gas industry is developing directional drilling technology that will allow horizontal drilling in a responsible manner by minimizing the development footprint within the Arctic National Wildlife Refuge and this directional drilling technology may be capable of drilling from outside of the boundaries of the 1002 study area; and

WHEREAS the oil industry is using innovative technology and environmental practices in the new field developments at Alpine and Northstar, and those techniques are directly applicable to operating on the coastal plain and would enhance environmental protection beyond traditionally high standards; and

WHEREAS the continued competitiveness and stability of the state and its economy require that the Alaska State Legislature consider national trends toward renewable energy development; and

WHEREAS the Alaska State Legislature encourages the use of revenue from any development in the Arctic National Wildlife Refuge for the development of renewable energy resources in the state;

BE IT RESOLVED by the Alaska State Legislature that the United States Congress is urged to pass legislation to open the coastal plain of the Arctic National Wildlife Refuge to oil and gas exploration, development, and production, and that the Alaska State Legislature is adamantly opposed to further wilderness or other restrictive designation in the area of the coastal plain of the Arctic National Wildlife Refuge; and be it

FURTHER RESOLVED that that activity be conducted in a manner that protects the environment and the naturally occurring population levels of the Porcupine Caribou herd on which the Gwich'in and other local residents depend, that uses directional drilling and other

advances in technology to minimize the development footprint in the 1002 study area, and that uses the state's work force to the maximum extent possible; and be it

FURTHER RESOLVED that the Alaska State Legislature urges the United States Congress to pass legislation opening the 1002 study area for oil and gas development while continuing to work on measures for increasing the development and use of renewable energy technologies; and be it

FURTHER RESOLVED that the Alaska State Legislature opposes any unilateral reduction in royalty revenue from exploration and development of the coastal plain of the Arctic National Wildlife Refuge and any attempt to coerce the State of Alaska into accepting less than the 90 percent of the oil, gas, and mineral royalties from the federal land in Alaska that was promised to the state at statehood.

COPIES of this resolution shall be sent to the Honorable Barack Obama, President of the United States; the Honorable Joseph R. Biden, Jr., Vice-President of the United States and President of the U.S. Senate; the Honorable Ken Salazar, United States Secretary of the Interior; the Honorable Nancy Pelosi, Speaker of the U.S. House of Representatives; the Honorable John Boehner, Minority Leader of the U.S. House of Representatives; the Honorable Harry Reid, Majority Leader of the U.S. Senate; the Honorable Mitch McConnell, Minority Leader of the U.S. Senate; the Honorable Jeff Bingaman, Chair of the Energy and Natural Resources Committee of the U.S. Senate; the Honorable Lisa Murkowski and the Honorable Mark Begich, U.S. Senators, and the Honorable Don Young, U.S. Representative, members of the Alaska delegation in Congress; and all other members of the 111th United States Congress.

FISCAL NOTE

STATE OF ALASKA
2009 LEGISLATIVE SESSION

Fiscal Note Number: 1
Bill Version: CSHJR 7(RES)
(H) Publish Date: 2/25/2009

Identifier (file name):
Dept. Affected:
Title ENDORSING ANWR LEASING
RDU
Component
Sponsor Representatives Millett, Lynn, Dahlstrom, Johnson
Requester
Component Number

Expenditures/Revenues (Thousands of Dollars)

Note: Amounts do not include inflation unless otherwise noted below.

	Appropriation Required	Information					
OPERATING EXPENDITURES	**FY 2010**	**FY 2010**	**FY 2011**	**FY 2012**	**FY 2013**	**FY 2014**	**FY 2015**
Personal Services							
Travel							
Contractual							
Supplies							
Equipment							
Land & Structures							
Grants & Claims							
Miscellaneous							
TOTAL OPERATING	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
CAPITAL EXPENDITURES							
CHANGE IN REVENUES ( )							

FUND SOURCE (Thousands of Dollars)

1002 Federal Receipts							
1003 GF Match							
1004 GF							
1005 GF/Program Receipts							
1037 GF/Mental Health							
Other Interagency Receipts							
TOTAL	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**

Estimate of any current year (FY2009) cost:

POSITIONS

Full-time							
Part-time							
Temporary							

ANALYSIS: *(Attach a separate page if necessary)*

Prepared by: Debra Higgins
Phone 465-3715
Division Committee Aide, House Resources Committee
Date/Time 2/19/09 8:00 AM
Approved by: Representative Craig Johnson, Co-Chair
Date 2/19/2009
House Resources Committee

(Revised 9/10/2008 OMB)

4869

Alaska State Legislature

Session:
State Capitol, Room 412
Juneau, AK 99801-1182
Phone: (907) 465-3879
Fax: (907) 465-2069

Representative Charisse Millett

Co-Chair, House Special Committee on Energy
District 30

January 26, 2009
Bill Version 26-LS0400\A

SPONSOR STATEMENT

HJR 7

Resolution Urging the U.S. Congress to Open ANWR to Oil and Gas Exploration

House Joint Resolution 7 urges the United States Congress to pass legislation to open the coastal plain of the Arctic National Wildlife Refuge to oil and gas exploration and production.

ANWR remains a key component of our nation's effort to achieve energy independence. Combining environmentally responsible oil production with renewable energy sources like wind, solar and hydro will reduce and could someday even eliminate our dependence on crude oil from nations that are hostile to the United States.

New directional drilling technology will protect the delicate arctic ecosystem and shrink the size of the development footprint. Someday it may even be possible to drill outside the 1002 area.

All the reasons for opening ANWR are still valid. Failing to even address the issue only slows down America's effort to gain true energy security in the future.

Opening ANWR is more important for America's economy and national security than ever. HJR 7 expresses the Alaska Legislature's desire to see the 1002 area open as soon as possible and respectfully asks congress to pass legislation permitting oil and gas exploration and development to go forward.

Alaska State Legislature

Session:
State Capitol, Room 412
Juneau, AK 99801-1182
Phone: (907) 465-3879
Fax: (907) 465-2069

Representative Charisse Millett

Co-Chair, House Special Committee on Energy
District 30

SECTIONAL ANALYSIS

House Joint Resolution 7 (RES) 26-LS0400\E

Page One, Line 12: Updates U.S. Department of the Interior estimate to 10,400,000,000 barrels of recoverable oil

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Senator Lisa Murkowski
Congressman Don Young
Governor Sarah Palin

February 20, 2009

Representative Craig Johnson and Representative Mark Neuman, Co-Chairmen
House Resources Committee
Alaska State Legislature
State Capitol
Juneau, AK 99801

Re: HJR7, Urging the U.S. Congress to open the Coastal Plain of ANWR to oil and gas exploration, development, and production

Dear Representative Johnson and Representative Neuman:

On behalf of the Resource Development Council for Alaska, Inc., (RDC), I am writing in support of HJR7, which urges Congress to open the Coastal Plain of ANWR to oil and gas exploration, development, and production.

RDC is a statewide, non-profit, membership-funded organization founded in 1975. The RDC membership is comprised of individuals and companies from Alaska's oil and gas, mining, timber, tourism, and fisheries industries, as well as Alaska Native corporations, local communities, organized labor, and industry support firms. RDC's purpose is to link these diverse interests together to encourage a strong, diversified private sector in Alaska and expand the state's economic base through the responsible development of our natural resources.

The 1002 Area of ANWR is considered the nation's most promising onshore oil and gas prospect, and there is strong support across Alaska for environmentally-responsible development of the oil and gas resources beneath the Coastal Plain. Such development could play a large role in Alaska's future prosperity, create hundreds of thousands of jobs across America, and reduce our reliance on foreign oil.

We encourage the Committee to vote in favor of this resolution. Thank you for your consideration.

Sincerely,

Jason Brune
Executive Director

121 West Fireweed Lane, Suite 250, Anchorage, Alaska 99503-2035
Phone: 907/276-0700 Fax: 907/276-3887 Email: Resources@akrdc.org Website: www.akrdc.org

H.R.49

American Energy Independence and Price Reduction Act (Introduced in House)

SEC. 5. GRANT OF LEASES BY THE SECRETARY.

(a) In General- The Secretary may grant to the highest responsible qualified bidder in a lease sale conducted pursuant to section 4 any lands to be leased on the Coastal Plain upon payment by the lessee of such bonus as may be accepted by the Secretary.

(b) Subsequent Transfers- No lease issued under this Act may be sold, exchanged, assigned, sublet, or otherwise transferred except with the approval of the Secretary. Prior to any such approval the Secretary shall consult with, and give due consideration to the views of, the Attorney General.

SEC. 6. LEASE TERMS AND CONDITIONS.

(a) In General- An oil or gas lease issued pursuant to this Act shall--

(1) provide for the payment of a royalty of not less than 12 1/2 percent in amount or value of the production removed or sold from the lease, as determined by the Secretary under the regulations applicable to other Federal oil and gas leases;

(2) provide that the Secretary may close, on a seasonal basis, portions of the Coastal Plain to exploratory drilling activities as necessary to protect caribou calving areas and other species of fish and wildlife;

(3) require that the lessee of lands within the Coastal Plain shall be fully responsible and liable for the reclamation of lands within the Coastal Plain and any other Federal lands that are adversely affected in connection with exploration, development, production, or transportation activities conducted under the lease and within the Coastal Plain by the lessee or by any of the subcontractors or agents of the lessee;

(4) provide that the lessee may not delegate or convey, by contract or otherwise, the reclamation responsibility and liability to another person without the express written approval of the Secretary;

(5) provide that the standard of reclamation for lands required to be reclaimed under this Act shall be, as nearly as practicable, a condition capable of supporting the uses which the lands were capable of supporting prior to any exploration, development, or production activities, or upon application by the lessee, to a higher or better use as approved by the Secretary;

(6) contain terms and conditions relating to protection of fish and wildlife, their habitat, subsistence resources, and the environment as required pursuant to section 3(a)(2);

(7) provide that the lessee, its agents, and its contractors use best efforts to provide a fair share, as determined by the level of obligation previously agreed to in the 1974 agreement implementing section 29 of the Federal Agreement and Grant of Right of Way for the Operation of the Trans-Alaska Pipeline, of employment and contracting for Alaska Natives and Alaska Native Corporations from throughout the State;

(8) prohibit the export of oil produced under the lease; and

(9) contain such other provisions as the Secretary determines necessary to ensure compliance with the provisions of this Act and the regulations issued under this Act.

(b) Project Labor Agreements- The Secretary, as a term and condition of each lease under this Act and in recognizing the Government's proprietary interest in labor stability and in the ability of construction labor and management to meet the particular needs and conditions of projects to be developed under the leases issued pursuant to this Act and the special concerns of the parties to such leases, shall require that the lessee and its agents and contractors negotiate to obtain a project labor agreement for the employment of laborers and mechanics on production, maintenance, and construction under the lease.

SEC. 7. COASTAL PLAIN ENVIRONMENTAL PROTECTION.

(a) No Significant Adverse Effect Standard To Govern Authorized Coastal Plain Activities- The Secretary shall, consistent with the requirements of section 3, administer the provisions of this Act through regulations, lease terms, conditions, restrictions, prohibitions, stipulations, and other provisions that--

(1) ensure the oil and gas exploration, development, and production activities on the Coastal Plain will result in no significant adverse effect on fish and wildlife, their habitat, and the environment;

(2) require the application of the best commercially available technology for oil and gas exploration, development, and production on all new exploration, development, and production operations; and

(3) ensure that the maximum amount of surface acreage covered by production and support facilities, including airstrips and any areas covered by gravel berms or piers for support of pipelines, does not exceed 2,000 acres on the Coastal Plain.

(b) Site-Specific Assessment and Mitigation- The Secretary shall also require, with respect to any proposed drilling and related activities, that--

(1) a site-specific analysis be made of the probable effects, if any, that the drilling or related activities will have on fish and wildlife, their habitat, subsistence resources, and the environment;

(2) a plan be implemented to avoid, minimize, and mitigate (in that order and to the extent practicable) any significant adverse effect identified under paragraph (1); and

(3) the development of the plan shall occur after consultation with the agency or agencies having jurisdiction over matters mitigated by the plan.

(c) Regulations To Protect Coastal Plain Fish and Wildlife Resources, Subsistence Users, and the Environment- Before implementing the leasing program authorized by this Act, the Secretary shall prepare and promulgate regulations, lease terms, conditions, restrictions, prohibitions, stipulations, and other measures designed to ensure that the activities undertaken on the Coastal Plain under this Act are conducted in a manner consistent with the purposes and environmental requirements of this Act.

(d) Compliance With Federal and State Environmental Laws and Other Requirements- The proposed regulations, lease terms, conditions, restrictions, prohibitions, and stipulations for the leasing program under this Act shall require compliance with all applicable provisions of Federal and State environmental law, and shall also require the following:

(1) Standards at least as effective as the safety and environmental mitigation measures set forth in items 1 through 29 at pages 167 through 169 of the `Final Legislative Environmental Impact Statement' (April 1987) on the Coastal Plain.

(2) Seasonal limitations on exploration, development, and related activities, where necessary, to avoid significant adverse effects during periods of concentrated fish and wildlife breeding, denning, nesting, spawning, and migration.

(3) That exploration activities, except for surface geological studies, be limited to the period between approximately November 1 and May 1 each year and that exploration activities shall be supported, if necessary, by ice roads, winter trails with adequate snow cover, ice pads, ice airstrips, and air transport methods, except that such exploration activities may occur at other times if the Secretary finds that such exploration will have no significant adverse effect on the fish and wildlife, their habitat, and the environment of the Coastal Plain.

(4) Design safety and construction standards for all pipelines and any access and service roads, that--

(A) minimize, to the maximum extent possible, adverse effects upon the passage of migratory species such as caribou; and

(B) minimize adverse effects upon the flow of surface water by requiring the use of culverts, bridges, and other structural devices.

(5) Prohibitions on general public access and use on all pipeline access and service roads.

(6) Stringent reclamation and rehabilitation requirements, consistent with the standards set forth in this Act, requiring the removal from the Coastal Plain of all oil and gas development and production facilities, structures, and equipment upon completion of oil and gas production operations, except that the Secretary may exempt from the requirements of this paragraph those facilities, structures, or equipment that the Secretary determines would assist in the management of the Arctic National Wildlife Refuge and that are donated to the United States for that purpose.

(7) Appropriate prohibitions or restrictions on access by all modes of transportation.

(8) Appropriate prohibitions or restrictions on sand and gravel extraction.

(9) Consolidation of facility siting.

(10) Appropriate prohibitions or restrictions on use of explosives.

(11) Avoidance, to the extent practicable, of springs, streams, and river system; the protection of natural surface drainage patterns, wetlands, and riparian habitats; and the regulation of methods or techniques for developing or transporting adequate supplies of water for exploratory drilling.

(12) Avoidance or minimization of air traffic-related disturbance to fish and wildlife.

(13) Treatment and disposal of hazardous and toxic wastes, solid wastes, reserve pit fluids, drilling muds and cuttings, and domestic wastewater, including an annual waste management report, a hazardous materials tracking system, and a prohibition on chlorinated solvents, in accordance with applicable Federal and State environmental law.

(14) Fuel storage and oil spill contingency planning.

(15) Research, monitoring, and reporting requirements.

(16) Field crew environmental briefings.

(17) Avoidance of significant adverse effects upon subsistence hunting, fishing, and trapping by subsistence users.

(18) Compliance with applicable air and water quality standards.

(19) Appropriate seasonal and safety zone designations around well sites, within which subsistence hunting and trapping shall be limited.

(20) Reasonable stipulations for protection of cultural and archeological resources.

(21) All other protective environmental stipulations, restrictions, terms, and conditions deemed necessary by the Secretary.

(e) Considerations- In preparing and promulgating regulations, lease terms, conditions, restrictions, prohibitions, and stipulations under this section, the Secretary shall consider the following:

(1) The stipulations and conditions that govern the National Petroleum Reserve-Alaska leasing program, as set forth in the 1999 Northeast National Petroleum Reserve-Alaska Final Integrated Activity Plan/Environmental Impact Statement.

(2) The environmental protection standards that governed the initial Coastal Plain seismic exploration program under parts 37.31 to 37.33 of title 50, Code of Federal Regulations.

(3) The land use stipulations for exploratory drilling on the KIC-ASRC private lands that are set forth in Appendix 2 of the August 9, 1983, agreement between Arctic Slope Regional Corporation and the United States.

(f) Facility Consolidation Planning-

(1) IN GENERAL- The Secretary shall, after providing for public notice and comment, prepare and update periodically a plan to govern, guide, and direct the siting and construction of facilities for the exploration, development, production, and transportation of Coastal Plain oil and gas resources.

(2) OBJECTIVES- The plan shall have the following objectives:

(A) Avoiding unnecessary duplication of facilities and activities.

(B) Encouraging consolidation of common facilities and activities.

(C) Locating or confining facilities and activities to areas that will minimize impact on fish and wildlife, their habitat, and the environment.

(D) Utilizing existing facilities wherever practicable.

(E) Enhancing compatibility between wildlife values and development activities.

(g) Access to Public Lands- The Secretary shall--

(1) manage public lands in the Coastal Plain subject to subsections (a) and (b) of section 811 of the Alaska National Interest Lands Conservation Act (16 U.S.C. 3121); and

(2) ensure that local residents shall have reasonable access to public lands in the Coastal Plain for traditional uses.

SEC. 8. EXPEDITED JUDICIAL REVIEW.

(a) Filing of Complaint-

(1) DEADLINE- Subject to paragraph (2), any complaint seeking judicial review of any provision of this Act or any action of the Secretary under this Act shall be filed--

(A) except as provided in subparagraph (B), within the 90-day period beginning on the date of the action being challenged; or

(B) in the case of a complaint based solely on grounds arising after such period, within 90 days after the complainant knew or reasonably should have known of the grounds for the complaint.

(2) VENUE- Any complaint seeking judicial review of any provision of this Act or any action of the Secretary under this Act may be filed only in the United States Court of Appeals for the District of Columbia.

(3) LIMITATION ON SCOPE OF CERTAIN REVIEW- Judicial review of a Secretarial decision to conduct a lease sale under this Act, including the environmental analysis thereof, shall be limited to whether the Secretary has complied with the terms of this Act and shall be based upon the administrative record of that decision. The Secretary's identification of a preferred course of action to enable leasing to proceed and the Secretary's analysis of environmental effects under this Act shall be presumed to be correct unless shown otherwise by clear and convincing evidence to the contrary.

(b) Limitation on Other Review- Actions of the Secretary with respect to which review could have been obtained under this section shall not be subject to judicial review in any civil or criminal proceeding for enforcement.

SEC. 9. FEDERAL AND STATE DISTRIBUTION OF REVENUES.

(a) In General- Notwithstanding any other provision of law, of the amount of adjusted bonus, rental, and royalty revenues from Federal oil and gas leasing and operations authorized under this Act--

(1) 50 percent shall be paid to the State of Alaska; and

(2) except as provided in section 12(d), the balance shall be transferred to the ANWR Alternative Energy Trust Fund established by this Act.

(b) Payments to Alaska- Payments to the State of Alaska under this section shall be made semiannually.

SEC. 10. RIGHTS-OF-WAY ACROSS THE COASTAL PLAIN.

(a) In General- The Secretary shall issue rights-of-way and easements across the Coastal Plain for the transportation of oil and gas--

(1) except as provided in paragraph (2), under section 28 of the Mineral Leasing Act (30 U.S.C. 185), without regard to title XI of the Alaska National Interest Lands Conservation Act (30 U.S.C. 3161 et seq.); and

(2) under title XI of the Alaska National Interest Lands Conservation Act (30 U.S.C. 3161 et seq.), for access authorized by sections 1110 and 1111 of that Act (16 U.S.C. 3170 and 3171).

(b) Terms and Conditions- The Secretary shall include in any right-of-way or easement issued under subsection (a) such terms and conditions as may be necessary to ensure that transportation of oil and gas does not result in a significant adverse effect on the fish and wildlife, subsistence resources, their habitat, and the environment of the Coastal Plain, including requirements that facilities be sited or designed so as to avoid unnecessary duplication of roads and pipelines.

(c) Regulations- The Secretary shall include in regulations under section 3(g) provisions granting rights-of-way and easements described in subsection (a) of this section.

SEC. 11. CONVEYANCE.

In order to maximize Federal revenues by removing clouds on title to lands and clarifying land ownership patterns within the Coastal Plain, the Secretary, notwithstanding the provisions of section 1302(h)(2) of the Alaska National Interest Lands Conservation Act (16 U.S.C. 3192(h)(2)), shall convey--

(1) to the Kaktovik Inupiat Corporation the surface estate of the lands described in paragraph 1 of Public Land Order 6959, to the extent necessary to fulfill the Corporation's entitlement under sections 12 and 14 of the Alaska Native Claims Settlement Act (43 U.S.C. 1611 and 1613) in accordance with the terms and conditions of the Agreement between the Department of the Interior, the United States Fish and Wildlife Service, the Bureau of Land Management, and the Kaktovik Inupiat Corporation effective January 22, 1993; and

(2) to the Arctic Slope Regional Corporation the remaining subsurface estate to which it is entitled pursuant to the August 9, 1983, agreement between the Arctic Slope Regional Corporation and the United States of America.

SEC. 12. LOCAL GOVERNMENT IMPACT AID AND COMMUNITY SERVICE ASSISTANCE.

(a) Financial Assistance Authorized-

(1) IN GENERAL- The Secretary may use amounts available from the Coastal Plain Local Government Impact Aid Assistance Fund established by subsection (d) to provide timely financial assistance to entities that are eligible under paragraph (2) and that are directly impacted by the exploration for or production of oil and gas on the Coastal Plain under this Act.

(2) ELIGIBLE ENTITIES- The North Slope Borough, the City of Kaktovik, and any other borough, municipal subdivision, village, or other community in the State of Alaska that is directly impacted by exploration for, or the production of, oil or gas on the Coastal Plain under this Act, as determined by the Secretary, shall be eligible for financial assistance under this section.

(b) Use of Assistance- Financial assistance under this section may be used only for--

(1) planning for mitigation of the potential effects of oil and gas exploration and development on environmental, social, cultural, recreational, and subsistence values;

(2) implementing mitigation plans and maintaining mitigation projects;

(3) developing, carrying out, and maintaining projects and programs that provide new or expanded public facilities and services to address needs and problems associated with such effects, including fire-fighting, police, water, waste treatment, medivac, and medical services; and

(4) establishment of a coordination office, by the North Slope Borough, in the City of Kaktovik, which shall--

(A) coordinate with and advise developers on local conditions, impact, and history of the areas utilized for development; and

(B) provide to the Committee on Resources of the House of Representatives and the Committee on Energy and Natural Resources of the Senate an annual report on the status of coordination between developers and the communities affected by development.

(c) Application-

(1) IN GENERAL- Any community that is eligible for assistance under this section may submit an application for such assistance to the Secretary, in such form and under such procedures as the Secretary may prescribe by regulation.

(2) NORTH SLOPE BOROUGH COMMUNITIES- A community located in the North Slope Borough may apply for assistance under this section either directly to the Secretary or through the North Slope Borough.

(3) APPLICATION ASSISTANCE- The Secretary shall work closely with and assist the North Slope Borough and other communities eligible for assistance under this section in developing and submitting applications for assistance under this section.

(d) Establishment of Fund-

[+] FEEDBACK

(1) IN GENERAL- There is established in the Treasury the Coastal Plain Local Government Impact Aid Assistance Fund.

(2) USE- Amounts in the fund may be used only for providing financial assistance under this section.

(3) DEPOSITS- Subject to paragraph (4), there shall be deposited into the fund amounts received by the United States as revenues derived from rents, bonuses, and royalties from Federal leases and lease sales authorized under this Act.

(4) LIMITATION ON DEPOSITS- The total amount in the fund may not exceed $11,000,000.

(5) INVESTMENT OF BALANCES- The Secretary of the Treasury shall invest amounts in the fund in interest bearing government securities.

(e) Authorization of Appropriations- To provide financial assistance under this section there is authorized to be appropriated to the Secretary from the Coastal Plain Local Government Impact Aid Assistance Fund $5,000,000 for each fiscal year.

SEC. 13. ANWR ALTERNATIVE ENERGY TRUST FUND.

(a) Establishment of Trust Fund- There is established in the Treasury of the United States a trust fund to be known as the 'ANWR Alternative Energy Trust Fund', consisting of such amounts as may be transferred to the ANWR Alternative Energy Trust Fund as provided in section 9.

(b) Expenditures From ANWR Alternative Energy Trust Fund-

(1) IN GENERAL- Amounts in the ANWR Alternative Energy Trust Fund shall be available without further appropriation to carry out specified provisions of the Energy Policy Act of 2005 (Public Law 109-58; in this section referred to as 'EPAct2005') and the Energy Independence and Security Act of 2007 (Public Law 110-140; in this section referred to as 'EISAct2007'), as follows:

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HJR

18

SENATE COMMITTEE REPORT

DATE: 3/20/09

FURTHER: Rules

DATE TURNED IN TO OFFICE: 4-17-09

Resources Committee considered CS FOR HOUSE JOINT RESOLUTION NO. 18(RES)

HJR 18 OPPOSING ANWR WILDERNESS DESIGNATION

Urging the United States Congress to refrain from passing legislation that designates land in Area 1002 of the Arctic National Wildlife Refuge as wilderness.

and recommends:

[ ] be **replaced** with [ ] **SCS** or [ ] **CS** _____ (_____)

[ ] adopt **previous** [ ] **SCS** or [ ] **CS** _____ (_____)

[ ] attached amendment(s)

[ ] adopt _____ Letter of Intent

[ ] further referral to _____ Committee

SENATE BILL:
[ ] Same Title
[ ] New Title

HOUSE BILL:
[ ] Same Title
[ ] Technical Title Change
[ ] New Title w/ SCR #_____

NEW FISCAL NOTE(S):

Department	Date	Fiscal	Indet.	Zero	FN#

PREVIOUS FISCAL NOTE(S):

Department	Date	Fiscal	Indet.	Zero	FN#
H.RES	2/19			✓	1

[ ] **APPROPRIATION - no fiscal note**

SIGNATURES AND RECOMMENDATIONS:	PRINTED LAST NAME	DO PASS	DO NOT PASS	NO REC.	AMEND
	Huggins	X			
	STEVENS	X			
	Fresh	X			
	WAGONER	X			
		✓			
CO-CHAIR:	McClure	✓			
CO-CHAIR:	Wielechowski			X	

(LIMITED RUN SHOWING ALL ADDITIONAL SPONSORSHIPS)

CS FOR HOUSE JOINT RESOLUTION NO. 18(RES)

IN THE LEGISLATURE OF THE STATE OF ALASKA

TWENTY-SIXTH LEGISLATURE - FIRST SESSION

BY THE HOUSE RESOURCES COMMITTEE

Offered: 2/25/09
Referred: Rules

Sponsor(s): REPRESENTATIVES MILLETT, Stoltze, Lynn, Johnson, Neuman, Keller, Ramras, Wilson, Kelly, Dahlstrom, Hawker, Joule, Gatto, Johansen, Crawford

SENATORS Therriault, Wagoner, Bunde, McGuire, Menard, Stedman, Meyer, Huggins, Olson, French, Dyson, Thomas, Stevens

A RESOLUTION

Urging the United States Congress to refrain from passing legislation that designates land in Area 1002 of the Arctic National Wildlife Refuge as wilderness.

BE IT RESOLVED BY THE LEGISLATURE OF THE STATE OF ALASKA:

WHEREAS Area 1002 of the Arctic National Wildlife Refuge is considered the most promising onshore oil and gas prospect in the United States; and

WHEREAS the United States Department of the Interior estimates that there may be 10,400,000,000 recoverable barrels of oil and significant quantities of natural gas in the Arctic National Wildlife Refuge; and

WHEREAS the potentially enormous oil and gas prospects are located in Area 1002 of the Arctic National Wildlife Refuge, and Area 1002 comprises only eight percent of the total area of the Arctic National Wildlife Refuge; and

WHEREAS the United States Congress, in 16 U.S.C. 3121 (sec. 1002, Alaska National Interest Lands Conservation Act), authorized oil and gas exploratory activity within the coastal plain of the Arctic National Wildlife Refuge and reserved the right to enact future laws to allow for entry into and development of oil and gas resources in the Arctic National Wildlife Refuge; and

WHEREAS Area 1002 of the Arctic National Wildlife Refuge was excluded from wilderness designation in 1980 as a result of a compromise in the negotiations that led to the conversion of the Alaska Wildlife Range into the Arctic National Wildlife Refuge, with the Arctic National Wildlife Refuge encompassing an area that is approximately double the size of the Alaska Wildlife Range; and

WHEREAS 16 U.S.C. 3101(d) (sec. 101(d), Alaska National Interest Lands Conservation Act) expresses the belief of the United States Congress that the need for future legislation designating new conservation system units, new national conservation areas, or new national recreation areas in Alaska has been obviated by the enactment of the Alaska National Interest Lands Conservation Act; and

WHEREAS development of the oil reserves in the Arctic National Wildlife Refuge would reduce the dependence of the United States on unstable sources of foreign oil and would make the economy of the United States stronger and more stable; and

WHEREAS the economy of the United States would suffer further if the large natural gas resources in Area 1002 of the Arctic National Wildlife Refuge are not available for transportation in the proposed Alaska natural gas pipeline; and

WHEREAS clean-burning natural gas delivered by way of the proposed Alaska natural gas pipeline could be used as an environmentally friendly energy source for homes and businesses in the lower 48 states for decades to come; and

WHEREAS new technology and environmental practices used by the oil and gas industry provide for efficient production and environmental protection; and

WHEREAS 8,900,000 acres of the 19,000,000 acres in the Arctic National Wildlife Refuge are already designated as wilderness areas; and

WHEREAS, assuming development of major oil and gas prospects and full leasing, oil and gas operations will have a footprint on only 2,000 acres out of a total of 1,500,000 acres in Area 1002 of the Arctic National Wildlife Refuge, approximately 0.13 percent of the area;

BE IT RESOLVED that the Alaska State Legislature urges the United States Congress to preserve its right to enact a law providing for the environmentally responsible exploration and development of oil and gas resources in the Arctic National Wildlife Refuge by not passing any legislation that designates land in Area 1002 of the Arctic National

Wildlife Refuge as wilderness.

COPIES of this resolution shall be sent to the Honorable Barack Obama, President of the United States; the Honorable Joseph R. Biden, Jr., Vice-President of the United States and President of the U.S. Senate; the Honorable Ken Salazar, United States Secretary of the Interior; the Honorable Nancy Pelosi, Speaker of the U.S. House of Representatives; the Honorable John Boehner, Minority Leader of the U.S. House of Representatives; the Honorable Harry Reid, Majority Leader of the U.S. Senate; the Honorable Mitch McConnell, Minority Leader of the U.S. Senate; the Honorable Jeff Bingaman, Chair of the Energy and Natural Resources Committee of the U.S. Senate; the Honorable Lisa Murkowski and the Honorable Mark Begich, U.S. Senators, and the Honorable Don Young, U.S. Representative, members of the Alaska delegation in Congress; and all other members of the 111th United States Congress.

FISCAL NOTE

STATE OF ALASKA
2009 LEGISLATIVE SESSION

Fiscal Note Number: 1
Bill Version: CSHJR 18(RES)
(H) Publish Date: 2/25/2009

Identifier (file name):
Title OPPOSING ANWR WILDNERNESS DESIGNATION
Sponsor Representatives Millett,Stoltze,Lynn,Johnson,Neuman...
Requester

Dept. Affected:
RDU
Component
Component Number

Expenditures/Revenues (Thousands of Dollars)

Note: Amounts do not include inflation unless otherwise noted below.

	Appropriation Required	Information					
OPERATING EXPENDITURES	**FY 2010**	**FY 2010**	**FY 2011**	**FY 2012**	**FY 2013**	**FY 2014**	**FY 2015**
Personal Services							
Travel							
Contractual							
Supplies							
Equipment							
Land & Structures							
Grants & Claims							
Miscellaneous							
TOTAL OPERATING	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
CAPITAL EXPENDITURES							
CHANGE IN REVENUES ( )							

FUND SOURCE (Thousands of Dollars)

1002 Federal Receipts							
1003 GF Match							
1004 GF							
1005 GF/Program Receipts							
1037 GF/Mental Health							
Other Interagency Receipts							
TOTAL	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**

Estimate of any current year (FY2009) cost:

POSITIONS

Full-time							
Part-time							
Temporary							

ANALYSIS: *(Attach a separate page if necessary)*

Prepared by: Debra Higgins — Phone 465-3715
Division: Committee Aide, House Resources Committee — Date/Time 2/19/09 8:00 AM
Approved by: Representative Craig Johnson, Co-Chair — Date 2/19/2009
House Resources Committee

(Revised 9/10/2008 OMB)

4883

Alaska House of Representatives

Session: Jan. – Apr.
State Capitol Building
Room 412
Juneau, AK 99801
907.465.3879
Fax 907.465.2069

Interim: May – Dec.
Anchorage LIO
716 W 4th Ave.
Anchorage, AK 99501
907.269.0222
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Representative Charisse Millett
District 30

February 11, 2009
Bill Version: 26-LS0403\A

House Joint Resolution 18
Sponsor Statement

House Joint Resolution 18 urges the United States Congress to reject any legislation seeking a wilderness designation for the 1002 Area of the Arctic National Wildlife Refuge.

Legislation has been introduced in Congress to do just that. The 1002 Area could be the largest untapped onshore oil prospect in the United States and that makes it both a national refuge and a strategic resource. The two are not incompatible.

Congress deliberately set aside the 1002 Area for future oil and gas exploration. Lawmakers at the time understood the day may come when those reserves will be needed to fuel the economy and reduce the flow of imported oil into America.

Alaska needs new jobs to grow its economy and new revenue to fund basic services like education, public safety and transportation infrastructure. America needs a stable, safe and secure supply of energy to help the economy get back on its feet. ANWR can do all of that without harming the fragile arctic environment.

Locking up a two thousand acre area that makes up less than one percent of the refuge and holds an estimated 10,400,000,000 barrels of oil does not make sense for America's economy and national security.

HJR 18 has been referred to the House Resources Committee. For more information, contact Representative Millett at (907) 465-3879.

###

Alaska State Legislature

Session:
State Capitol, Room 412
Juneau, AK 99801-1182
Phone: (907) 465-3879
Fax: (907) 465-2069

Representative Charisse Millett

Co-Chair, House Special Committee on Energy
District 30

SECTIONAL ANALYSIS
House Joint Resolution 18 (RES), 26-LS04000\E

Page One, Lines 4, 5: Slight changes in wording from original version

Page One, Line 7: Updates U.S. Department of the Interior estimate 10,400,000,000 barrels of recoverable oil.

Page One, Lines 10, 11: Additional language stating that the 1002 Area only comes to eight percent of the entire refuge

Page Two, Lines 1 to 5: Additional whereas included about how the 1002 Area was deliberately excluded from the Wilderness designation

Page Two, Lines 24 to 27: Additional whereas stating that full leasing and production will only have a footprint of 2,000 acres or 0.13 percent of the refuge

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arctic slope regional corp.

February 12, 2009

Representative Charisse Millett
Alaska State Legislature
State Capitol Building
Room 412
Juneau, AK 99801-1182

Dear Representative Millet:

I am writing to extend my sincerest appreciation for your leadership on HJR 18, urging the United States Congress to keep the Arctic National Wildlife Refuge open for future oil and gas development.

As you may know, Arctic Slope Regional Corporation owns subsurface title to 92,000 acres inside the Coastal Plain of ANWR, and our sister village corporation, Kaktovik Iñupiat Corporation (KIC), owns the surface title to the same acreage.

ASRC in partnership with KIC have worked this issue for over two decades. We have an up close and personal interest in this debate because potential development or Wilderness designation will have a direct impact on the residents of Kaktovik and those of the North Slope.

I am extending ASRC's assistance in providing your office with additional information on this important matter. Please do not hesitate to contact me directly. Thank you, again, for your leadership on the ANWR issue.

Regards,
ARCTIC SLOPE REGIONAL CORPORATION

Tara M. Sweeney
Vice President of External Affairs and Communications

Cc: Philip Tikluk, President of Kaktovik Iñupiat Corporation

Corporate Headquarters • P.O. Box 129 • Barrow • Alaska • 99723-0129 • (907) 852-8533 or (907) 852-8633 • FAX (907) 852-5733

RESOURCE DEVELOPMENT COUNCIL

Growing Alaska Through Responsible Resource Development

Founded 1975
Executive Director
Jason W. Brune
2008-2009 Executive Committee
Rick Rogers, President
Wendy Lindskoog, Sr. Vice President
Phil Cochrane, Vice President
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Senator Lisa Murkowski
Congressman Don Young
Governor Sarah Palin

February 20, 2009

Representative Craig Johnson and Representative Mark Neuman, Co-Chairmen
House Resources Committee
Alaska State Legislature
State Capitol
Juneau, AK 99801

Re: HJR18, Urging the U.S. Congress to refrain from passing legislation that designates lands in Area 1002 of ANWR as Wilderness

Dear Representative Johnson and Representative Neuman:

On behalf of the Resource Development Council for Alaska, Inc., (RDC), I am writing in support of HJR18, which urges Congress to refrain from passing legislation that designates the 1002 Area of ANWR as Wilderness.

RDC is a statewide, non-profit, membership-funded organization founded in 1975. The RDC membership is comprised of individuals and companies from Alaska's oil and gas, mining, timber, tourism, and fisheries industries, as well as Alaska Native corporations, local communities, organized labor, and industry support firms. RDC's purpose is to link these diverse interests together to encourage a strong, diversified private sector in Alaska and expand the state's economic base through the responsible development of our natural resources.

A Wilderness designation would preclude future action by Congress to provide for environmentally responsible exploration and production of oil and gas resources in ANWR. Federal Wilderness should not be expanded to include the 1002 Area, given the Coastal Plain is considered the nation's most promising onshore oil and gas prospect.

We encourage the Committee to vote in favor of this resolution. Thank you for your consideration.

Sincerely,

Jason Brune
Executive Director

121 West Fireweed Lane, Suite 250, Anchorage, Alaska 99503-2035
Phone: 907/276-0700 Fax: 907/276-3887 Email: Resources@akrdc.org Website: www.akrdc.org

HR 39 IH

111th CONGRESS

1st Session

H. R. 39

To preserve the Arctic coastal plain of the Arctic National Wildlife Refuge, Alaska, as wilderness in recognition of its extraordinary natural ecosystems and for the permanent good of present and future generations of Americans.

IN THE HOUSE OF REPRESENTATIVES

January 6, 2009

Mr. MARKEY of Massachusetts introduced the following bill; which was referred to the Committee on Natural Resources

A BILL

To preserve the Arctic coastal plain of the Arctic National Wildlife Refuge, Alaska, as wilderness in recognition of its extraordinary natural ecosystems and for the permanent good of present and future generations of Americans.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

SECTION 1. SHORT TITLE.

This Act may be cited as the `Udall-Eisenhower Arctic Wilderness Act'.

SEC. 2. FINDINGS AND STATEMENT OF POLICY.

(a) Findings- The Congress finds the following:

(1) Americans cherish the continued existence of expansive, unspoiled wilderness ecosystems and wildlife found on their public lands, and feel a strong moral responsibility to protect this wilderness heritage as an enduring resource to bequeath undisturbed to future generations of Americans.

(2) It is widely believed by ecologists, wildlife scientists, public land specialists, and other experts that the wilderness ecosystem centered around and dependent upon the Arctic coastal plain of the Arctic National Wildlife Refuge, Alaska, represents the very epitome of a primeval wilderness ecosystem and constitutes the greatest wilderness area and diversity of wildlife habitats of its kind in the United States.

(3) President Dwight D. Eisenhower initiated protection of the wilderness values of the Arctic coastal plain in 1960 wh[+] set aside 8,900,000 acres establishing the Arctic National Wildlife Refuge expressly `for the purpose of preserving unique wildlife, wilderness and recreational values'.

(4) In 1980, when the Congress acted to strengthen the protective management of the Eisenhower-designated area with the enactment of the Alaska National Interest Lands Conservation Act (Public Law 96-487), Representative Morris K. Udall led the effort to more than double the size of the Arctic National Wildlife Refuge and extend statutory wilderness protection to most of the original area.

(5) Before the enactment of the Alaska National Interest Lands Conservation Act, the House of Representatives twice passed legislation that would have protected the entire Eisenhower-designated area as wilderness, including the Arctic coastal plain.

(6) A majority of Americans have supported and continue to support preserving and protecting the Arctic National Wildlife Refuge, including the Arctic coastal plain, from any industrial development and consider oil and gas exploration and development in particular to be incompatible with the purposes for which this incomparable wilderness ecosystem has been set aside.

(7) When the Arctic National Wildlife Refuge was established in 1980 by paragraph (2) of section 303 of the Alaska National Interest Lands Conservation Act (Public Law 96-487; 94 Stat. 2390; 16 U.S.C. 668dd note), subparagraph (B)(iii) of such paragraph specifically stated that one of the purposes for which the Arctic National Wildlife Refuge is established and managed would be to provide the opportunity for continued subsistence uses by local residents, and, therefore, the lands designated as wilderness within the Refuge, including the area designated by this Act, are and will continue to be managed consistent with such subparagraph.

(8) Canada has taken action to preserve those portions of the wilderness ecosystem of the Arctic that exist on its side of the international border and provides strong legal protection for the habitat of the Porcupine River caribou herd that migrates annually through both countries to calve on the Arctic coastal plain.

(9) The extension of full wilderness protection for the Arctic coastal plain within the Arctic National Wildlife Refuge will still leave most of the North Slope of Alaska available for the development of energy resources, which will allow Alaska to continue to contribute significantly to meeting the energy needs of the United States without despoiling the unique Arctic coastal plain of the Arctic National Wildlife Refuge.

(b) Statement of Policy- The Congress hereby declares that it is the policy of the United States--

(1) to honor the decades of bipartisan efforts that have increasingly protected the great wilderness ecosystem of the Arctic coastal plain;

(2) to sustain this natural treasure for the current generation of Americans; and

(3) to do everything possible to protect and preserve this magnificent natural ecosystem so that it may be bequeathed in its unspoiled natural condition to future generations of Americans.

SEC. 3. DESIGNATION OF ADDITIONAL WILDERNESS, ARCTIC NATIONAL WILDLIFE REFUGE, ALASKA.

(a) Inclusion of Arctic Coastal Plain- In furtherance of the Wilderness Act (16 U.S.C. 1131 et seq.), an area within the Arctic National Wildlife Refuge in the State of Alaska comprising approximately 1,559,538 acres, as generally depicted on a map entitled 'Arctic National Wildlife Refuge--1002 Area Alternative E--Wilderness Designation' and dated October 28, 1991, is hereby designated as wilderness and, therefore, as a component of the National Wilderness Preservation System. The map referred to in this subsection shall be available for inspection in the offices of the Secretary of the Interior.

(b) Administration- The Secretary of the Interior shall administer the area designated as wilderness by subsection (a) in accordance with the Wilderness Act as part of the wilderness area already in existence within the Arctic National Wildlife Refuge as of the date of the enactment of this Act.

END

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S 231 IS

111th CONGRESS

1st Session

S. 231

To designate a portion of the Arctic National Wildlife Refuge as wilderness.

IN THE SENATE OF THE UNITED STATES

January 14, 2009

Mr. LIEBERMAN (for himself, Mrs. MURRAY, Ms. STABENOW, Mr. WHITEHOUSE, Mr. LEAHY, Mr. CARDIN, Mr. SCHUMER, Mr. KOHL, Mr. FEINGOLD, Mr. KENNEDY, Mr. DURBIN, Mr. DODD, Mrs. BOXER, Ms. CANTWELL, Mr. WYDEN, Mr. REED, Mrs. FEINSTEIN, Mr. SANDERS, Mr. UDALL of New Mexico, Mr. UDALL of Colorado, Mr. HARKIN, Mr. LAUTENBERG, Mr. KERRY, Ms. KLOBUCHAR, and Mr. MENENDEZ) introduced the following bill; which was read twice and referred to the Committee on Environment and Public Works

A BILL

To designate a portion of the Arctic National Wildlife Refuge as wilderness.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

SECTION 1. DESIGNATION OF PORTION OF ARCTIC NATIONAL WILDLIFE REFUGE AS WILDERNESS.

Section 4 of the National Wildlife Refuge System Administration Act of 1966 (16 U.S.C. 668dd) is amended by adding at the end the following:

'(p) Designation of Certain Land as Wilderness- Notwithstanding any other provision of this Act, a portion of the Arctic National Wildlife Refuge in Alaska comprising approximately 1,559,538 acres, as generally depicted on a map entitled 'Arctic National Wildlife Refuge--1002 Area. Alternative E--Wilderness Designation, October 28, 1991' and available for inspection in the offices of the Secretary, is designated as a component of the National Wilderness Preservation System under the Wilderness Act (16 U.S.C. 1131 et seq.).'.

END

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[+] FEEDBACK

HJR

21

FISCAL NOTE

STATE OF ALASKA
2009 LEGISLATIVE SESSION

Fiscal Note Number: 1
Bill Version: HJR 21
(H) Publish Date: 3/12/2009

Identifier (file name): 26-LS0668\E
Title: GROUNDFISH FISHERIES LICENSES
Sponsor: Representative Alan Austerman
Requester: House Fisheries Committee

Dept. Affected:
RDU
Component
Component Number

Expenditures/Revenues (Thousands of Dollars)

Note: Amounts do not include inflation unless otherwise noted below.

	Appropriation Required	Information					
OPERATING EXPENDITURES	**FY 2010**	**FY 2010**	**FY 2011**	**FY 2012**	**FY 2013**	**FY 2014**	**FY 2015**
Personal Services							
Travel							
Contractual							
Supplies							
Equipment							
Land & Structures							
Grants & Claims							
Miscellaneous							
TOTAL OPERATING	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
CAPITAL EXPENDITURES							
CHANGE IN REVENUES ( )							

FUND SOURCE (Thousands of Dollars)

1002 Federal Receipts							
1003 GF Match							
1004 GF							
1005 GF/Program Receipts							
1037 GF/Mental Health							
Other Interagency Receipts							
TOTAL	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**

Estimate of any current year (FY2009) cost:

POSITIONS

Full-time							
Part-time							
Temporary							

ANALYSIS: *(Attach a separate page if necessary)*

Prepared by: House Fisheries Committee
Division
Phone 907-465-4451
Date/Time 3/10/2009 10:00 a.m.
Approved by: Representative Bryce Edgmon, Chair, House Fisheries Committee
Date 3/10/2009

(Revised 9/10/2008 OMB)

DRAFT

ALASKA STATE LEGISLATURE

Senate Resources Committee

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NEWS FOR RELEASE / Wednesday, April 1, 2009

McGuire bill funding new energy technology advances to Finance

JUNEAU – The Senate Committee on Resources today approved and advanced to Senate Finance legislation establishing an Emerging Energy Technology Fund to encourage and support Alaska research in renewable and traditional sources of energy.

The fund is proposed in Senate Bill 150, sponsored by Resources Co-Chair Senator Lesil McGuire, R-Anchorage. It would be administered by the Alaska Center for Energy and Power at the University of Alaska, Fairbanks.

"Alaskans are working hard on breakthrough energy technology that is state-of-the-art and practical," McGuire said. "They're providing vision and hands-on energy. We have an obligation to provide appropriate support for their research."

Senate Bill 150 encourages new and advanced energy technology -from renewable sources including geothermal, wind, hydro, tidal, wave, biomass, in-river or solar energy, as well as Alaska's proven resources of oil and gas.

The measure stipulates that emerging energy research put a priority on projects developed by Alaska residents, organizations and institutions, including projects developed in partnership with the University of Alaska or other post-secondary institutions. It defines "energy technology" as technology that promotes diversity of available energy resources, means of transmission and reduces negative environmental effects.

The Resources committee expanded eligibility to include private and non-profit sectors; created a five-member advisory committee to handle grant applications and limited eligibility to projects realistically expected to be commercially viable within five years.

******

Representative Alan Austerman

Alaska State Legislature

Representative_Alan_Austerman@legis.state.ak.us

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State Capitol, Room 434
Juneau, Alaska 99801
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SPONSOR STATEMENT

HOUSE JOINT RESOLUTION 21

House Joint Resolution 21 requests the North Pacific Fishery Management Council (NPFMC) to cease consideration of an amendment package that would require a Pacific cod endorsement for a license limitation program (LLP) license holder to participate in the Pacific cod fixed gear fisheries in the Gulf of Alaska. It also supports the continuation of the existing LLP program for groundfish in the Gulf of Alaska, and supports a policy of broad participation in the harvest of marine resources in the Gulf of Alaska.

The NPFMC is the federal regulatory body that oversees management of the federal fisheries off the coast of Alaska, in the area from 3 to 200 miles from shore. The NPFMC is currently considering regulatory action that would create and require Pacific cod "endorsements" on Gulf of Alaska fixed gear license limitation program (LLP) licenses in order to harvest the Pacific cod resource. (In this proposed action, "fixed gear" includes pot and longline gear types.) These endorsements would be placed on only those LLPs that have been used in a specific range of recent years. LLPs without Pacific cod endorsements could not be used to fish for Pacific cod. This action renders those LLPs functionally useless and valueless to their owners and increases the barriers for re-entry or new entrance into the Pacific cod fisheries. Of the LLPs that would be impacted by this action, more than 60% are estimated to be owned by Alaska residents.

Pacific cod is among the most important of the fishery resources harvested in federal waters in the Gulf of Alaska. Pacific cod is harvested by four different gear types, and on vessels ranging in size from very small (<30 feet) to relatively large (>100 feet). The greatest number of vessels harvesting Pacific cod in the Gulf of Alaska use pot, longline or jig gear, and the vast majority of these vessels are ≤60 feet in length. This is the core of the coastal Alaska resident fleet in the Gulf of Alaska. Pacific cod are also harvested using trawl gear.

The creation and requirement of Pacific cod endorsements for participation in federal Pacific cod fisheries in the Gulf of Alaska would create significant barriers for new entrants to Alaska's commercial fisheries, and for re-entrance by fishermen who did not participate in a specific range of qualifying years. It would also impact a group of recent fishery entrants who made their fishery investments *after* the qualifying years. Impacted individuals would include young Alaskans and enterprising crewmen looking to advance into ownership positions in the industry.

This action is also likely to lead to consolidation of the fishing fleet and concentration of LLP ownership in fewer hands. Expected results of this action would include consolidation of the Gulf of Alaska Pacific cod fixed gear fleet, fewer crew jobs, less demand for support sector services in Alaska's coastal communities, and increased costs of entry into Gulf of Alaska fisheries.

In absence of a biological concern for resource sustainability, it is important to maintain fisheries with relatively low entry barriers to encourage and allow the entrance of the next generation of fishermen into Alaska's fisheries. While HJR21 carries no legal force, it put the Alaska Legislature on record as supporting a policy of broad participation in Gulf of Alaska groundfish fisheries.

Shalon Szymanski

From: Deana Pikus [pikus@acsalaska.net]
Sent: Monday, March 30, 2009 1:37 PM
To: Shalon Szymanski
Subject: HJR 21

Senate Resources Committee
Senator Mcguire, Co-chair
Senator Wielechowski, Co-chair

Re: HJR 21

Dear Sirs:

I own and operate the F/V Polar Star, a 58-foot fishing vessel based in Kodiak that fishes in the Gulf of Alaska for salmon, halibut, sablefish, tanner crab, and pacific cod. I have been a resident of Kodiak for 36 years and fishing has been my livelihood for that entire time. The Pacific cod fishery is an important fishery for myself and many others here in the Gulf of Alaska, so I feel compelled to comment on the HJR 21 bill that you are currently considering.

I am opposed to the passage of this bill for the following reasons. I support the North Pacific Fishery Management Council action to add P-cod endorsements to Federal LLPs as a means of limiting the future entry of latent capacity. This action is needed to stabilize the fishery for the current active participants who have committed themselves to the P-cod fishery and are fully dependent on it. The council process has been thorough and the public has had plenty of opportunities to comment on the P-cod endorsement action. I believe that the Alaska Legislature should not impose itself in the Federal NPFMC process at such a late date without a more thorough consideration of the issues.

I urge the Senate Resources Committee to deny passage of HJR 21.

Sincerely,
Patrick J. Pikus
F/V Polar Star
P.O. Box 2843
Kodiak, AK 99615

Don Bremner
P.O. Box 20161
Juneau. Alaska 99802

March 30, 2009

RE: Support for HJR 21

Dear Members of the Senate Resource Committee;

This letter is to speak on behalf of HJR 21 and request the Senate to adopt the resolution and take immediate action to prevent the NPFMC members from adopting a pacific cod limitation program.

When the Magnuson-Stevens Act of 1976 was adopted it was designed to Americanize the pacific ground fishery. But since this Act was passed further Acts have been adopted which have been designed to benefit large open-ocean fishing fleets at the expense of smaller in-shore fishing vessels and communities. The race for fish switched from a foreign fishery to a domestic one, at the expense of our coastal communities.

Over the years representatives from small communities have attended NPFMC meeting opposing further rationalization of our commercial sea food species with limited success. We have always stated that the commercial fishing and subsistence economies of coastal communities must be addressed as part of any action taken regarding management of species which directly or indirectly affect the inshore communities.

When the NPFMC and State takes action to sustain a fishery it must keep our smaller in-shore coastal community fishermen as a priority, this is the strongest in-shore economic influence that can be made on the future of rural community fisheries; Alaska and the NPFMC has put themselves out as a fish and game success story in sustaining fish species, however, at the NPFMC level the desired outcome has been at the expense of our rural fishing villages; our recommended course of action is to scale back on rationalization of fisheries which now favor larger fishing vessels and off-shore processors; When we look at the poverty rate, per capita income and unemployment rate of our rural fishing villages, its doesn't take much to recognize that the NPFMC and state has managed our rural commercial fishing villages out of existence; The survival of our rural fishing villages should be a common factor determining the success of any State or Federal fisheries program; and it should be recognized by now that in-shore commercial fisheries is a necessary form of economy in order for many of our coastal villages to survive financially.

Sincerely,

Don Bremner

North Pacific Fishery Management Council, December 2008
C-2(a) Gulf of Alaska Fixed Gear Recency Motion

The Council directed staff to develop an analysis based upon the following purpose and need statement, components, and options for initial public review. Final action is scheduled for April 2009.

C-2(a) Gulf of Alaska Fixed Gear Recency

Western GOA and Central GOA Pacific cod fisheries are subject to intense competition, particularly during the A season, when fish are aggregated and of highest value. Competition among fixed gear participants in the Western GOA and Central GOA Pacific cod fisheries has increased for a variety of reasons, including increased market value of Pacific cod products, a declining ABC/TAC, increased participation by harvesters displaced from other fisheries and introduction of capital that has been accrued from participation in rationalized fisheries. Additionally, fishery policies have created incentives that encourage non-traditional efficiency improvements for the less than 60 ft LOA vessel class. The possible future entry of latent effort and disproportionate vessel efficiency would have detrimental effects on LLP holders that have exhibited participation in, and dependence on, the fixed gear Pacific cod fisheries. Many fixed gear vessel owners have made significant investments, have long catch histories, and are dependent on the Western GOA and Central GOA Pacific cod resources. These long-term participants need protection from those who have little or no recent history and who have the ability to increase their participation in the Pacific cod fisheries. At the same time, retaining Federal waters opportunities for small community quota eligible (CQE) communities dependent on access to a range of fishery resources and expanding opportunities in Federal waters for small capacity jig operations is valued to promote community protections at a level that imposes minimal impact on historic catch shares of recent participants.

The intent of the proposed amendment is to prevent the future entry or re-entry of latent fixed gear groundfish fishing capacity that has not been utilized in recent years into the Pacific cod fisheries, and to preserve the traditional vessel operational efficiencies within the fisheries. This requires prompt action to promote stability in the fixed gear sectors of the GOA Pacific cod fisheries, and is expected to be implemented concurrently with the division of GOA Pacific cod among sectors which is currently under consideration. However, this action cannot address continued growth in the waters managed by the State of Alaska.

ALTERNATIVE 1.

No Action. No changes would be made to the current License Limitation Program.

ALTERNATIVE 2.

Add non-severable gear-specific Pacific cod endorsements to fixed gear licenses. Pacific cod endorsements would limit entry into the directed Pacific cod fisheries in Federal waters in the Western and Central Gulf of Alaska.

Component 1— Areas included

Western Gulf
Central Gulf (current LLP endorsement includes West Yakutat)

- Different options may be applied to each management area.

Component 2— Identify and define sectors

4898

The sector definitions for awarding Pacific cod endorsements may be different from those used for the GOA Pacific cod sector split action. The purpose of sector definitions in this action is to allow the Council to select different catch thresholds for the different gear types, operation types, and vessel lengths. Individual licenses may qualify for any combination of a jig, hook-and-line, and pot endorsement if the license meets the respective threshold(s) for the appropriate gear type, operation type, and vessel length.

- Hook-and-line CP
  Option: Hook-and-line CP ≥125
  Hook-and-line CP <125
- Hook-and-line CV
  Option: Hook-and-line ≥60
  Hook-and-line <60
- Pot CP
- Pot CV
  Option: Pot CV ≥60
  Pot CV <60
- Jig
  Exempt vessels using jig gear from the LLP requirement (including the Pacific cod endorsement requirement) that use a maximum of 5 jigging machines, 5 lines, and 30 hooks per line or one line of 150 hooks.

Option: Exempt vessels participating with fixed gear in the Western GOA B season directed Pacific cod fishery from the Pacific cod endorsement requirement.
Suboption: Exempt vessels using pot gear only.

Component 3 – Qualifying years

Option 1: 2000-2006
Option 2: 2002-2006
Option 3: Add the qualifying period January 1, 2007 through:
Suboption 1: June 4, 2008
Suboption 2: December 8, 2008

- Either of these suboptions will be selected in addition to one of the qualifying periods in Option 1 or Option 2.

  Suboption 3: If an LLP license qualifies only when the supplemental range of years in Suboption 1 or Suboption 2 is included, any Pacific cod endorsements granted to licenses under these suboptions would be extinguished upon transfer of the LLP license to another vessel or owner.

- If a GOA hook-and-line catcher processor LLP license holder was a voluntary non-participant in the Freezer Longliner Coalition informal PSC co-op efforts of 2006, 2007, or 2008, and does not qualify under Component 3, Options 1, 2, or 3, the LLP would not be extinguished. If Pacific cod endorsements are a result of this action in the GOA hook-and-line CP sector, the LLP would receive a Pacific cod endorsement.

4899

Component 4 – Catch thresholds

Thresholds shall be based on legally retained catch in the aggregate during all of the qualifying years in the Federal and parallel fisheries (excluding IFQ catch). Separate and distinct thresholds may be determined for each defined sector.

Option 1: All directed Pacific cod 1, 3, or 5 landings (resulting in a Pacific cod endorsement)
Option 2: All directed Pacific Cod 5, 10, 25, or 100 mt (resulting in a Pacific cod endorsement)

Option: Hardship provision. A GOA fixed gear LLP holder who had 5 or more Pacific cod landings in 1999, but had a vessel on which the LLP was used sink in 1999 or 2000, shall be credited with qualifying history so as to obtain a Pacific cod endorsement.

Directed Pacific cod catch is defined as landings made when the directed Pacific cod fisheries are open. For purposes of catch accounting, licenses are credited with deliveries or processing activity recorded up to 7 days after the directed season closes.

Component 5 – Stacked license provisions

Where there are multiple LLPs registered to a single vessel, also known as 'stacking' of LLPs, groundfish harvest history will be fully credited to all stacked licenses, each carrying its own qualifying endorsements and designations.

Component 6 – Capacity/efficiency limits to CV and CP fixed gear LLPs

Add a width restriction (efficiency restriction) on each CV and CP fixed gear LLP license that is eligible to access Pacific cod under this action. The width restriction would be 1 ft of width for each 3 ft of length, and is based on the LOA of the vessel assigned to the license on December 8, 2008. The licenses that are assigned to vessels on December 8, 2008 that exceed the width restriction will be grandfathered at their present LOA. For vessels under construction on December 8, 2008, the width restriction for the license shall be equal to the vessel width upon completion. Vessels would be required to report width measurements to RAM.

Option: Add a simple gross tonnage maximum to licenses.

Component 7 – CQE community resident exemption

CQE community residents currently holding latent, non-qualifying, LLP permits shall retain their LLP and area endorsement(s) and be exempt from the Pacific cod endorsement requirement. A hook-and-line or pot gear endorsement shall be made through (a) a one-time designation at the time the endorsement is issued or (b) designated at the time the first Pacific cod landing is made based on the gear type used. The CQE community resident's LLP, shall not be leased, and can only be transferred to an individual who has lived continuously in the permit holder's CQE community for 24 consecutive months prior to the transfer and who intends to remain a resident of the community. Residency shall be affirmed annually upon renewal. If a CQE community LLP holder with a restricted transfer LLP is no longer a resident of the CQE community or dies without a designated qualified LLP community beneficiary, the community CQE shall designate a qualified individual in the CQE community to hold the restricted transfer LLP.

4900

Option: Restrict exemption to LLPs with a MLOA endorsement less than 60 feet.

Additional information requested

- Additional information on the number of identical stacked licenses that meet the catch thresholds (Component 5).
- Additional information on possible approaches to identifying a maximum length to width ratio or maximum simple gross tonnage for purposes of adding a capacity endorsement to licenses (Component 6).

United Fishermen's Marketing Association, Inc.

P.O. Box 1035 Kodiak, Alaska 99615

Telephone 486-3453

Fax: 907-486-8362

March 9, 2009

Representative Bryce Edgmon, Chair
House Fisheries Special Committee
State Capitol, Room 416
Juneau, AK 99801-1182

Re: HJR 21 "Requesting the North Pacific Fishery Management Council to cease consideration of an amendment package that would require a Pacific cod endorsement for a license limitation program license holder to participate in the Pacific cod fisheries in the Gulf of Alaska"

Dear Representative Edgmon,

We respectfully submit the following comments in opposition to HJR 21 (i.e., "Requesting the North Pacific Fishery Management Council to cease consideration of an amendment package that would require a Pacific cod endorsement for a license limitation program license holder to participate in the Pacific cod fisheries in the Gulf of Alaska").

I. Introductory Comments

HJR 21 addresses a proposed regulatory action that is under consideration by the North Pacific Fishery Management Council ("NPFMC" or "Council"). The proposed regulatory action is intended to add gear-specific (i.e., pot, hook-and-line, and jig) Pacific cod "Endorsements" to fixed gear licenses for the purpose of limiting entry to the directed Pacific cod fisheries in Federal waters of the Western Gulf of Alaska (WGOA) and the Central Gulf of Alaska (CGOA). Briefly, licenses that meet the selected catch threshold (1, 3, or 5 landings, or 5 mt, 10 mt, 25 mt, or 100 mt of directed Pacific cod catch) using pot, hook-and-line, or jig gear would receive gear-specific Pacific cod "Endorsements". The NPFMC has the flexibility to select different catch thresholds for vessels within the array of gear (i.e., pot, hook and line, etc.), operation type (i.e., catcher vessel, catcher processor, etc.) and vessel length sectors that are included in this proposed action.

It is important to note that the proposed action to implement Gulf of Alaska (GOA) fixed gear P. cod Endorsements provides needed stability for the Alaska resident fleets that participate in the WGOA and CGOA fixed gear P. cod fisheries, and incorporates several tools to ensure ample opportunities for new participation and entry-level participation in these fisheries. The proposed Endorsements action seeks to arrest an ongoing and continued deterioration of, and to provide necessary protection for, the social, cultural and economic characteristics of WGOA and CGOA communities, and those fishing businesses, vessels, vessel owners, operators, crews, support businesses, etc. that are so important to Kodiak and

other Alaska coastal communities, and that depend on stability and growth in the CGOA fixed gear P. cod fishery. The proposed GOA fixed gear P. cod Endorsements action adopts a fleet management protocol that is very similar to that which is instituted in the State of Alaska Limited Entry system; that is, the proposed Endorsements action creates licenses that have a similar purpose and function, for example, as the Limited Entry Licenses that are created by the State of Alaska in the Kodiak salmon, herring and tanner crab fisheries.

In addition to comments that directly address our opposition to HJR 21, we have included a brief compilation of relevant and recent documentary resources that define and explain the complexity of the proposed GOA Fixed Gear P. cod Endorsements action, and the serious and significant attention that has been invested in such proposed action.

II. Comments on HJR 21

We respectfully request that the House Fisheries Special Committee (House Fisheries Committee) take no action on HJR 21.

We respectfully request that the House Fisheries Committee please understand that a regulatory process has been underway for a long period of time to develop a proposed action for GOA fixed gear P. cod Endorsements. We respectfully request the House Fisheries Committee to please understand that many of the Alaskan communities, fishing businesses, vessels, vessel owners, operators, crews, support businesses, etc. that depend on the GOA fixed gear p. cod fishery would be detrimentally impacted by the adoption of HJR 21. We fear that the individuals, businesses and coastal communities who are in need of the proposed Endorsements action may be harmed by any legislative insertion into this process that may be caused by HJR 21. HJR 21 seeks to insert the Alaska Legislature into a regulatory process that is governed by a federally established entity that has developed the proposed initiative for GOA fixed gear P. cod Endorsements. However, HJR 21 falls far short of providing an accurate, thorough, complete and comprehensive consideration and understanding of the issues that are associated with the proposed Endorsements action. We fear that a significant risk exists to the individuals, businesses and coastal communities who are impacted by the proposed Endorsements action if the Alaska Legislature does not guarantee a significant investment of their time and attention to fully and completely understand the significant complexity, considerations, ramifications and details of the statutory, regulatory, social, cultural, economic and statistical considerations and analysis that have heretofore already been invested in the Endorsements initiative.

To be clear, we respect and support the authority, interests and prerogatives of the Alaska Legislature, on behalf of the State of Alaska, its resources and its citizens, to convey official expressions and resolutions of interest, intent and policy for the purpose of addressing

specific resource management initiatives that may otherwise lie within the official jurisdiction of a resource management entity that is officially established apart from the jurisdiction of the State of Alaska. However, the action that is proposed in HJR 21 is misdirected, unproductive and unreasonable, and leads to no practical or beneficial result whatsoever. And the accuracy, efficacy, manner of expression and foundation of the provisions therein contained are in large part hyperbole, malapropos, uninformed and inaccurate. HJR 21 suggests action that would significantly disadvantage and harm Alaska-resident harvesters and Alaskan coastal communities, and, instead, permit the continuing erosion of Alaskan interests in the GOA fixed gear P. cod fishery that is caused by non-Alaskan interests, and other interests that are otherwise enriched by favorable management programs in other fisheries.

Please bear in mind that the consideration of the proposed action for GOA fixed gear P. cod Endorsements is given by federal statute to a federally established entity (i.e., the NPFMC) in which the State of Alaska has statutorily been provided with significant official standing, involvement, influence and participation. The State of Alaska has reasonably sufficient and experienced professional resources with which to engage, and which have, in fact, reasonably engaged, in the development of the proposed Endorsements action. The State of Alaska has significant and ample opportunity to consider, balance, judge and advocate the details and impacts, and the policy and other considerations, that are associated with the proposed Endorsements action.

Importantly, the proposed Endorsements action that is referenced in HJR 21 has been under development for several years, and is scheduled for final action during the April, 2009, NPFMC meeting. The proposed action is very important to the stability, survival and future growth of the traditional and customary social, cultural, economic and business framework of Kodiak and other Alaska coastal communities. In fact, aggressive action to address the problems, challenges and threats to such stability, survival and future growth, such as are addressed in the proposed GOA Endorsements action, should have been taken and implemented many years ago.

We respectfully request that the House Fisheries Special Committee, the House Resources Committee and the Alaska Legislature please do not insert themselves in the proposed GOA fixed gear P. cod Endorsements initiative, especially in the manner that is expressed in HJR 21. We respectfully request that the House Fisheries Committee take no action on HJR 21.

III. Brief Compilation of Relevant and Recent Documentary Resources

A. Analysis (Public Review Draft EA/RIR/IRFA; March 3, 2009)

"PUBLIC REVIEW DRAFT; ENVIRONMENTAL ASSESSMENT/REGULATORY IMPACT REVIEW/INITIAL REGULATORY FLEXIBILITY ANALYSIS for a Proposed Amendment to the Fishery Management Plan for Groundfish of the GOA Management Area to ADD PACIFIC COD ENDORSEMENTS TO WESTERN AND CENTRAL GOA FIXED GEAR LLP LICENSES; March 3, 2009" (129 pages)
<http://www.fakr.noaa.gov/npfmc/current_issues/pcod/fixedgearrecency309.pdf>

The above referenced document is commonly referred to as an "Analysis", and illustrates the most recent version of the analytical review of those conservation, management, community, statutory, regulatory, policy and other issues that the Council has determined to be included in such Analysis, in response to significant and diverse public testimony, agency comment (including from NOAA General Counsel, National Marine Fisheries Service Sustainable Fisheries Division and Enforcement Division personnel or "NMFS", Alaska Department of Fish & Game or "ADF&G", United States Coast Guard or "USCG", etc.), conformity with federal statutory and regulatory requirements (i.e., NEPA, etc.), etc.

Please see Chapter 1.1 ("Purpose and Need for the Action"; page 21), and the associated "GOA Fixed Gear Recency Purpose and Need Statement" (page 23).

Please also see that the subject Analysis identifies the most recent array of "Alternatives and Options" that are under consideration by the NPFMC for the proposed regulatory action (please see Chapter "1.2 Alternatives"; page 24).

B. December 2008 NPFMC Newsletter Article (see page 7) "GOA Fixed Gear LLP Pacific cod Endorsements"
<http://www.fakr.noaa.gov/npfmc/newsletters/news1208.pdf>

This NPFMC December 2008 newsletter article provides the public with a brief summary of the status, elements, direction and expectations for NPFMC action on the proposed GOA fixed gear P. cod Endorsements action that is the subject of HJR 21.

Thank you for your consideration of our comments on HJR 21.

Sincerely,

Jeffrey R. Stephan

Jeffrey R. Stephan

State of Alaska - Legislature
Senate Resources Committee

Public Comment of Shawn Dochtermann on HJR 21 re P.Cod Endorsements

Wednesday, March 18, 2009

Chairmen McGuire & Wielechowski and Senate Resource Members,

I'm Shawn Dochtermann, a second-generation commercial fisherman from Kodiak with over 30 years of fishing experience under my knife belt. I'm here representing my interests in Gulf of Alaska fisheries, today — even though I'm frequently a public advocate for many Alaskan fishermen, their families and coastal communities.

I'm here in support of HJR 21, for many reasons.

First I'd like to review a brief history of fisheries rationalization regimes:

- Fifty years ago, we became a state, and forced fisheries processors to start sharing profits of the resources that were being extracted from our state.
- Fast-forward to the early seventies, Limited Entry was introduced as state fishery law. **There was only one catch: in order to harvest the fish, the permit holder had to actually put his boots on and go down and work on the boat, go fishing, catch the fish and then deliver them for processing. It was an owner-on-board fishery**, and the crews got paid well.
- In 1995 the halibut and sablefish federal fisheries management program (FMP) was changed from open access to Individual Fish Quotas, a.k.a. IFQs, DAPs, LAPs, or 'Catch Shares'. The NPFMC gave quotas to vessel owners and the program created a superior right so they would never have to step foot on boat again if they so chose. **This is what you would call an absentee owner model.**

  For the record, approximately 15,000 halibut crewmen and skippers lost their jobs in one day. But at least when quotas are sold or the initial recipient expires from the fishery (my father will be 100 years old, I'll bet!) the IFQ has to be fished by the quota holder. That's what one would call fair – as compared to the newer privatization schemes. And the quotas were awarded only to fishermen as suppliers, not given to processors as buyers: who might dominate price setting.
- Next (BS) pollock was privatized in 1998 with the direct help of Ted Stevens and Trevor McCabe. **Now foreign owned companies that own processors and vessels are granted exclusive rights to catch and process pollock in the BS.** This greatly degraded Alaska's sovereign abilities to control its own resources.
- Lastly, in 2005 came Bering Sea Aleutian Island Crab Rationalization (CR) or CRAB RATZ. With a name like that one would know there's real "devils in the details", as over 1,000 crab crewmen were disenfranchised by Ted Stevens' Rider on a must-pass federal appropriations bill. **This gifted over 1 Billion Dollars in**

IFQ rights to about 100 individuals and corporations.

The processing rights were given to 7 major processing companies. Japanese trading companies own 40-50% of the processing rights, while Trident Seafoods has over 25% of processing and a large amount of IFQs. **All of the IFQs were given to the quota holders forever; consequently there is no program to get fishing privileges back into the hands of active fishermen.**

Crewmen in the Bering Sea are now getting paid at unfair and inequitable compensation rates due to high rent seekers taking exorbitant lease fees off the top. The average Bering Sea crabber now makes from 50-70% less than he did pre-rationalization. Now BS crab IFQ holders (who by majority live out of state) can play golf in Hawaii during the crab season — and collect a paycheck from Alaskan crab that was harvested without having to even own a boat or gear — by skimming 70% of the gross proceeds right off the top, before the boat it is fished on leaves the dock.

The next generation (myself included) is now sitting at this table and we've had enough of **fishery access removal** by the factions of fisheries lobbyists you will hear from today. If you're not born into a fishing family, it will take millions of dollars invested just to go catch some fish.

We fought Ben Stevens and his thuggery and stopped SB113 in this same building in 2005/6, and we won. Governor Palin was elected and she put the kibosh on the rush into GOA groundfish rationalization. **But now the NPFMC is trying to get GOA groundfish rationalization through by other means to suit the trawlers' need of getting quota ownership and securing the high value bycatch — incidental species now targeted that should by the standards of the Magnuson Stevens Act and related fisheries laws be brought to a halt.** The gear groups that fish the dirtiest should be penalized for excessive bycatch, not awarded allocations as a prize for lobbying efforts and campaign financing.

In summary, removing the latent LLPs from the GOA groundfish permit holders will leave state waters as the dumping ground for new entrants. Why shouldn't federal waters have a place for active fishermen as new entrants to transition into, for all of its fisheries? Where is the problem of too many fishing vessels? There is no great influx of vessels coming into the GOA Pacific cod fishery in the last 5-10 years. It's not financially viable for that many vessels to stay in the fishery, in any case — especially with the huge recent drop in ex-vessel cod prices. So, many vessels are now fishing only to secure rights to a catch history in case a rationalization management or privatization scheme gets imposed.

I'll be headed out jigging in state waters this week. But with these low prices, it looks like I'll be fishing first for my sanity and second to try to make an income. But there are no guarantees, it's fishing. I should be able to have access to the fisheries that are right outside of my doorstep, and the next generation should have that opportunity as well. **Fishing rights need to remain with those who go out on the boats.**

Removing these LLPs from the fixed-gear fishermen will simply **take rights from active and future fishermen and give exclusive rights to an investor-only faction who do not fish**.

The North Pacific Fishery Management Council presides over the federal waters off of one state only: Alaska. And the Council and State conduct joint Board of Fish and other coordinated efforts. Yet some have argued that you should not concern yourself with advising the Council on behalf of the People of Alaska whom you represent. Nothing could be further from the truth. It is both the right and duty of this Legislature to keep watch over these economic and social issues. In fact, it is inherent in our State's birthright and Constitution.

I urge the Senate Resources Committee to move HJR21a to the floor and ask all of the members here today to speak with other the state senator representing their district to move this Resolution forward to the NPFMC forthwith.

As always, I appreciate the time you've taken to listen to my comments.

Respectfully,

Shawn C Dochtermann
F/V Isanotski
PO Box 3886
Kodiak, AK 99615
Tel: 907-486-8777

Add'l. Bio: I've fished in the Gulf of Alaska (GOA), Bering Sea (BS), Aleutians, up to St. Matthew Island, and in the rivers of Bristol Bay. I'm a state salmon driftnet permit holder, and own a Bristol Bay vessel, and also fish halibut, cod, king crab and tanner crab.

Alaska State Legislature

Please enter into the record my testimony to the Senate Resource committee name

committee on HJR21 bill/subject, dated 3-30-09

PLEASE SEE TESTIMONY ATTACHED

Signed: Shawn Dochtermann
Testifier

Self
Representing (Optional)

PO Box 3886 Kodiak 99615
Address

907-486-8777
Phone No.

North Pacific Fishery Management Council
604 West 4th Avenue Suite #306
Anchorage, Alaska 99501

192nd Plenary Session – April 1-7, 2009
Hilton Hotel, Anchorage, AK

Re: C-1 GOA Groundfish Management

Public Comment By: Mr. Shawn C. Dochtermann
Kodiak, Alaska 99615 — Tel: (907) 486-8777

Mr. Secretary, Chairman Olson, Council members,
and Honorable Citizens of the United States,

My name is Shawn Dochtermann, a 2nd generation commercial fisherman from Kodiak. I have 31 years experience in the GOA, BS, Bristol Bay and in the Aleutian islands. I am here representing myself as well as many Alaskan citizens in the coastal communities.

I'm in opposition to the removal of LLPs from GOA groundfish license holders and to the implementation of Pacific Cod endorsement requirements by the Council. Therefore, I ask for the Council to remain with Status Quo for the GOA Groundfish Management.

The purpose and needs statements is flawed. There is no increased market value, in fact, the price has dropped by almost 50% from the 2008 to the 2009 cod season. Where is the intense competition, unless there are vessels that are racing for history that was perpetuated due to the Council moving forward with GOA rationalization, sector splits, and LLP removal threats?

Most of the federal fisheries in the state of Alaska have gone the way of privatization and it has disconnected the actual fishermen that prosecute the fisheries from having access to participate and ascend to vessel owner/skipper. If 500 of the 800 licenses that are in circulation at present are removed you will be handing 300 fixed gear license holders the keys to owning the resource as well as the trawler sector and it's past removal of LLPs from the GOA.

I ask only one question of the council:

Where is the link to conservation, sustainability of the resource and habit protection in removing LLPs?

The removal of the LLPs in the GOA Groundfish fisheries venomously violates NS #5 Sec. 600.330 " no such measure shall have economic allocations as it's sole purpose".

Once you remove 500 licenses, it takes away future fishermen having the chance to participate and awards 300 license holders the access to a sector split, which in essence is an economic allocation.

I'd like to review a brief history of fisheries rationalization regimes:

- Fifty years ago, we became a state, and forced fisheries processors to start sharing profits of the resources that were being extracted from our state. The federal government was nowhere to be found in promoting conservation of fisheries, sustainability, and protection of fish habitat.
- Fast-forward to the early seventies, Limited Entry was introduced as state fishery law. **There was only one catch: in order to harvest the fish, the permit holder had to actually put his boots on and go down and work on the boat, go fishing, catch the fish and then deliver them for processing. It was an owner-on-board fishery,** and the crews got paid well.
- In 1995 the halibut and sablefish federal fisheries management program (FMP) was changed from open access to Individual Fish Quotas, a.k.a. IFQs, DAPs, LAPs, or 'Catch Shares'. The Council gave quotas to vessel owners and the program created a superior right so they would never have to step foot on boat again if they so chose. **This is what you would call an absentee owner model.**

  For the record, approximately 15,000 halibut crewmen and skippers lost their jobs in one day. But at least when quotas are sold or the initial recipient expires from the fishery (my father will be 100 years old, I'll bet!) the IFQ has to be fished by the quota holder. That's what one would call fair – as compared to the newer privatization schemes. And the quotas were awarded only to fishermen as suppliers, not given to processors as buyers: who might dominate price setting.
- Next BS pollock was privatized in 1998 with the direct help of Ted Stevens and Trevor McCabe. **Now foreign owned companies that own processors and vessels are granted exclusive rights to catch and process pollock in the BS.** This greatly degraded Alaska's sovereign abilities to control its own resources.
- Lastly, in 2005 came Bering Sea Aleutian Island Crab Rationalization (CR) or CRAB RATZ. With a name like that one would know there's real "devils in the details", as over 1,000 crab crewmen were disenfranchised by Ted Stevens' Rider on a must-pass federal appropriations bill. **This gifted over 1 Billion Dollars in IFQ rights to about 100 individuals and corporations.**

  The processing rights were given to 7 major processing companies. Japanese trading companies own 40-50% of the processing rights, while Trident Seafoods has over 25% of processing and a large amount of IFQs. **All of the IFQs were given to the quota holders forever; consequently there is no program to get fishing privileges back into the hands of active fishermen.**

  Crewmen in the Bering Sea are now getting paid at unfair and inequitable

compensation rates due to high rent seekers taking exorbitant lease fees off the top. The average Bering Sea crabber now makes from 50-70% less than he did pre-rationalization. Now BS crab IFQ holders (who by majority live out of state) can play golf in Hawaii during the crab season — and collect a paycheck from Alaskan crab that was harvested without having to even own a boat or gear — by skimming 70% of the gross proceeds right off the top, before the boat it is fished on leaves the dock.

The next generation (myself included) is now sitting at this table and we've had enough of **fishery access removal** by the factions of fisheries lobbyists that have gotten us to this point and will continue to work for those that stand to gain the most monetarily. If you're not born into a fishing family, it will take millions of dollars invested just to go catch some fish. Where is the MSA protections for fisheries, not vessel and quota holders bank accounts and future revenues?

We fought Ben Stevens and his thuggery and stopped SB113 and coordinates GOA groundfish rationalization in the Alaska Legislature in 2005/6, and we won. Governor Palin was elected and she put the kibosh on the rush into GOA groundfish rationalization.

The lobbyists and the Council have worked together to move GOA groundfish rationalization through by other means to suit the trawlers' need of getting quota ownership and securing the high value bycatch — incidental species now targeted that should by the standards of the Magnuson Stevens Act and related fisheries laws be brought to a halt. The gear groups that fish the dirtiest should be penalized for excessive bycatch, not awarded allocations as a prize for lobbying efforts and campaign financing.

The Council should make an amendment to the GOA Groundfish Management plan to hand the cleanest gear group more of the quota. The jig sector is recognized as the group that has the least bycatch (almost none), least mortality on any bycatch, the least footprint on the sea floor, and the least carbon footprint. We've been here for 4 years asking for an exemption to own an LLP, to be able to prosecute the federal cod/groundfish fishery. We are a small vessel fleet connected to the communities in the GOA and promote family fisheries. The jig sector, never really had the chance to participate in GOA "A" season do due safety concerns from inclement weather. To abide by MSA law the gear groups with the least impact on the ocean should have the best opportunity to gain quota for their sector.

In summary, removing the latent LLPs from the GOA groundfish permit holders will leave state waters as the dumping ground for new entrants. Why shouldn't federal waters have a place for active fishermen as new entrants to transition into, for all of its fisheries? Where is the problem of too many fishing vessels? There is no great influx of vessels coming into the GOA Pacific cod fishery in the last 5-10 years.

It's not financially viable for that many vessels to stay in the fishery, in any case — especially with the huge recent drop in ex-vessel cod prices.

I'll be headed out jigging in state waters this week. But with these low prices, it looks like I'll be fishing first for my sanity and second to try to make an income. But there are no guarantees, it's fishing. I should be able to have access to the fisheries that are right outside of my doorstep, and the next generation should have that opportunity as well. **Fishing rights need to remain with those who go out on the boats.**

Removing these LLPs from the fixed-gear fishermen will simply **take rights from active and future fishermen and give exclusive rights to an investor-only faction who do not fish.**

I urge the NPFMC to stay with status quo for the GOA groundfish fisheries and use tools that are already in the tool box, such as trip limits, pot, hook and trawl net size limits and even *vessel capacity limits* to keep the fisheries healthy.

As always, I appreciate the time you've taken to listen to my comments.

Respectfully,

Shawn C Dochtermann
F/V Isanotski
PO Box 3886
Kodiak, AK 99615
Tel: 907-486-8777

ALASKA STATE LEGISLATURE

SENATOR LESIL McGUIRE
SENATOR BILL WIELECHOWSKI
Co-Chairs, Senate Resources Committee

MEMORANDUM

Date: March 30, 2009

To: Kirsten Waid, Senate Secretary

From: Senator Lesil McGuire, Co-Chair
Senator Bill Wielechowski, Co-Chair
Senate Resources Committee

Re: Senate Resources Committee Schedule

Committee Schedule
Senate Resources
For the week of March 30-April 3

Unless otherwise noted, all meetings will be held in the Butrovich, Room 205 @ 3:30 p.m.-5:00

Monday, March 30th

* = + SJR 13: Law of the Sea

* + HJR 21: Groundfish Fisheries Licenses

\+ Bills previously heard and scheduled

* First Hearing in First Committee of Referral
\+ Teleconferenced
= Bill was previously heard or scheduled

HJR

22

FISCAL NOTE

STATE OF ALASKA
2009 LEGISLATIVE SESSION

Fiscal Note Number: 1
Bill Version: HJR 22
(H) Publish Date: 3/19/2009

HJR 22 26-LS0065\R
Title: URGING U.S. TO RADIFY LAW OF SEA TREATY
Sponsor: Representative Seaton
Requester:

Dept. Affected:
RDU
Component
Component Number

Expenditures/Revenues (Thousands of Dollars)

Note: Amounts do not include inflation unless otherwise noted below.

	Appropriation Required	Information					
OPERATING EXPENDITURES	**FY 2010**	**FY 2010**	**FY 2011**	**FY 2012**	**FY 2013**	**FY 2014**	**FY 2015**
Personal Services							
Travel							
Contractual							
Supplies							
Equipment							
Land & Structures							
Grants & Claims							
Miscellaneous							
TOTAL OPERATING	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
CAPITAL EXPENDITURES							
CHANGE IN REVENUES ( )							

FUND SOURCE (Thousands of Dollars)

1002 Federal Receipts							
1003 GF Match							
1004 GF							
1005 GF/Program Receipts							
1037 GF/Mental Health							
Other Interagency Receipts							
TOTAL	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**

Estimate of any current year (FY2009) cost:

POSITIONS

Full-time							
Part-time							
Temporary							

ANALYSIS: *(Attach a separate page if necessary)*

Prepared by: Nancy Manly, Committee Aide — Phone 465-2794
Division: House State Affairs Committee — Date/Time 03/18/09 2:30pm
Approved by: Representative Bob Lynn — Date 3/18/2009
Chair

(Revised 9/10/2008 OMB)

4916

REPRESENTATIVE PAUL SEATON

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ALASKA STATE LEGISLATURE
House District 35

Sponsor Statement
HJR 22

HJR 22 urges the U.S. Senate to ratify the United Nations Convention on the Law of the Sea ("Law of the Sea treaty"). This resolution will help Alaska's Senate delegation bring the Law of the Sea treaty to the Senate floor for a vote on ratification. Ratification of this treaty is important to protect U.S. interests concerning the use and development of the high seas off Alaska.

The Law of the Sea treaty governs many aspects of oceans, such as mapping, state area control, environmental control, marine scientific research, economic and commercial activities, transfer of technology and the settlement of disputes relating to ocean matters.

150 countries are signatories to the treaty, including all of the arctic nations with the exception of the United States.

According to the office of U.S. Senator Lisa Murkowski, a resolution from the Alaska State Legislature would be helpful as she works this late spring or early summer to get a ratification vote to the Senate Floor. U.S. participation in the Law of the Sea Treaty was approved in 1994 by President Clinton after work was done on portions of the treaty to address concerns raised by President Reagan. The Bush Administration actively supported Senate ratification of the treaty. Among other entities on the record supporting ratification are the United States Coast Guard, the Department of the Navy, Governor Sarah Palin, The State Department, the Joint Chiefs of Staff, AT&T, The American Petroleum Institute, The International Association of Drilling Contractors, and the National Oceans Industries Association.

The U.S. is now the only arctic nation that is not a signatory to the treaty. Under the treaty, member nations can claim an exclusive economic zone (EEZ) to 200 miles, with sovereign rights to explore, develop, and manage the resources within that zone. A claim can extend beyond the 200 mile limit if a connection can be proven that the nation's continental shelf extends beyond 200 miles. It is estimated that the northern seabed off Alaska and beyond the 200 mile limit could be as large as the state of California.

http://www.RepPaulSeaton.com
Email: Rep_Paul_Seaton@legis.state.ak.us

Key features of the Law of the Sea treaty include the following:

- Coastal States exercise sovereignty over their territorial sea which may not exceed 12 nautical miles; foreign vessels are allowed "innocent passage" through those waters;
- Ships and aircraft of all countries are allowed "transit passage" through straits used for international navigation; States bordering the straits can regulate navigational and other aspects of passage;
- Coastal States have sovereign rights in the 200-nautical mile EEZ with respect to natural resources and certain economic activities, and exercise jurisdiction over marine science research and environmental protection;
- All other States have freedom of navigation and over flight in the EEZ, as well as freedom to lay submarine cables and pipelines;
- All States enjoy the traditional freedoms of navigation, overflight, scientific research and fishing on the high seas; they are obliged to adopt, or cooperate with other States in adopting, measures to manage and conserve living resources;
- States are bound to prevent and control marine pollution and are liable for damage caused by violation of their international obligations to combat such pollution;
- All marine scientific research in the EEZ and on the continental shelf is subject to the consent of the coastal State, but in most cases they are obliged to grant consent to other States when the research is to be conducted for peaceful purposes and fulfils specified criteria;
- States Parties are obliged to settle by peaceful means their disputes concerning the interpretation or application of the Convention;
- Disputes can be submitted to the International Tribunal for the Law of the Sea established under the Convention, to the International Court of Justice, or to arbitration. Arbitration is also available and, in certain circumstances, submission to it would be compulsory. The Tribunal has exclusive jurisdiction over deep seabed mining disputes.

The State of Alaska has much to gain from controlling development in the waters adjacent to our 200 mile EEZ and much to lose if we are the only arctic nation not to extend our ocean boundaries.

Subject: FW: Law of the Sea

From: Fuglvog, Arne (Murkowski) [mailto:Arne_Fuglvog@murkowski.senate.gov]
Sent: Thursday, March 19, 2009 7:33 AM
To: Louie Flora
Subject: RE: Law of the Sea

Members of the House State Affairs Committee,

I am writing in support of HJR 22, A resolution urging the United States Senate to ratify the United Nations Convention on the Law of the Sea. This resolution will be helpful to Senator Lisa Murkowski and Senator Mark Begich as they work to bring the Treaty to the floor for Senate consideration.

I recognize there are still some concerns that remain, in regards to the Treaty and I ask that the committee members thoroughly research the facts. I believe you will find that the concerns about detrimental affects to the United States are unfounded.

I believe that the strong support from members of all branches of the United States military, including national intelligence; former Secretaries of State; former Joint Chiefs of Staff; the oil and gas industry, shipping companies, telecommunication, offshore mining interests, commercial and recreational fishing groups, and environmental organizations is a testament to the benefits that ratifying the Convention offers the United States, including enhancing our nation's economic security. Otherwise, you simply would not have support from such a diverse and broad group of interests.

I encourage you to support HJR 22 in your committee and by the Legislature of the State of Alaska.

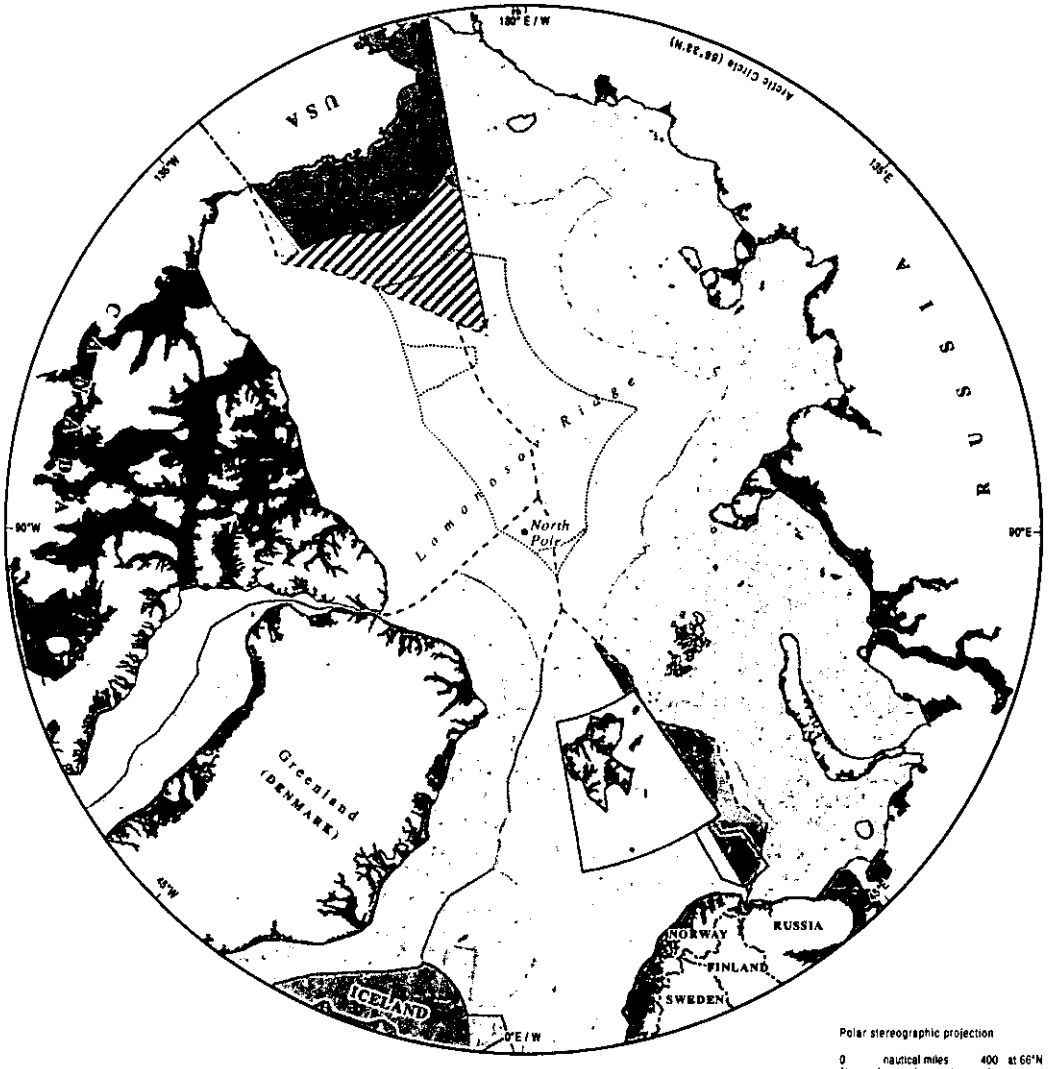
Sincerely,

Arne Fuglvog
Legislative Assistant for Natural Resources
Senator Lisa Murkowski

IBRU
International Boundaries

Durham University

Maritime jurisdiction and boundaries in the Arctic region



Polar stereographic projection

0 nautical miles 400 at 66°N

0 kilometres 600

- Internal waters
- Canada territorial sea and EEZ
- Potential Canada continental shelf beyond 200 nm
- Denmark territorial sea and EEZ
- Denmark claimed continental shelf beyond 200 nm
- Potential Denmark continental shelf beyond 200 nm)
- Iceland EEZ
- Iceland claimed continental shelf beyond 200 nm
- Norway territorial sea and EEZ / Fishery zone Jan Mayen) / Fishery protection zone (Svalbard)
- Norway claimed continental shelf beyond 200 nm
- Russia territorial sea and EEZ
- Russia claimed continental shelf beyond 200 nm
- Overlapping Norway / Russia EEZ
- Overlapping Norway EEZ / Russia claimed continental shelf beyond 200 nm
- Overlapping Norway / Russia claimed continental shelf beyond 200 nm
- USA territorial sea and EEZ
- Potential USA continental shelf beyond 200 nm
- Overlapping Canada / USA EEZ
- Straight baselines
- Agreed boundary
- Median line
- 350 nm from baselines
- 100 nm from 2500 m isobath (beyond 350 nm from baselines)
- Svalbard treaty area
- Iceland - Norway joint zone
- Norway - Russia 'Grey Area' (agreed fishing regime)
- Canada EEZ boundary claim
- Eastern Special Area

Notes

1. The depicted potential areas of continental shelf beyond 200 nautical miles (nm) for Canada, Denmark and the USA are theoretical maximum claims assuming that none of the states claims continental shelf beyond median lines with neighbouring states where maritime boundaries have not been agreed. **In reality, the claimable areas may fall well short of the theoretical maximums** (see the summary of the definition of the outer limit of the continental shelf below). It is also possible that one or more states will claim areas beyond the median lines.

   Where the continental margin of a coastal state extends beyond 200 nm from the state's territorial sea baseline, the outer limit of the continental shelf is defined with reference to two sets of points: (i) points 60 nm from the foot of the continental slope; (ii) points at which the thickness of sedimentary rocks is at least 1% of the shortest distance from the points in question to the foot of the continental slope. The outer limit of the continental shelf is defined by a series of straight lines (not exceeding 60 nm in length) connecting the seawardmost of the points in the two sets described above. This map does not attempt to depict such lines, which can only be identified with precision through bathymetric and seismic surveys. However, it is possible to depict the 'cut-off' limit beyond which states may not exercise continental shelf jurisdiction regardless of the location of the foot of the continental slope and the thickness of sediment seaward of that point. The cut-off limit is the seawardmost combination of two lines: (i) a line 350 nm from the state's territorial sea baseline; (ii) a line 100 nm seaward of the 2,500 metre isobath. Both the 350 nm line and (where it runs seaward of the 350 nm line) the 2,500 m + 100 nm lines are depicted on the map. The 2,500 m + 100 nm line is derived from the US National Geophysical Data Center's etopo2 bathymetry dataset.

2. The depicted claims of Denmark and Iceland to continental shelf beyond 200 nm in the northeast Atlantic Ocean are defined in the "Agreed Minutes on the Delimitation of the Continental Shelf beyond 200 Nautical Miles between the Faroe Islands, Iceland and Norway in the Southern Part of the Banana Hole of the Northeast Atlantic" of 20 September 2006. The agreed division of the continental shelf in this area is subject to confirmation by the Commission on the Limits of the Continental Shelf (CLCS) that there is a continuous continental shelf in the area covered by the agreement. Neither Denmark nor Iceland has yet made a submission to the CLCS.

3. An executive summary of Norway's submission to the CLCS of 27 November 2006 is available at http://www.un.org/Depts/los/clcs_new/submissions_files/nor06/nor_exec_sum.pdf. The Commission has yet to respond to Norway's submission.

4. Maps and coordinates defining the area covered by Russia's submission to the CLCS of 20 December 2001 are available at http://www.un.org/Depts/los/clcs_new/submissions_files/submission_rus.htm. The Commission asked Russia to revise its submission relating to its continental shelf in the Arctic Ocean.

5. Norway and the Soviet Union agreed a partial maritime boundary in Varangerfjord in 1957 but disagree on the alignment of their maritime boundary in the Barents Sea: Norway claims the boundary should follow the median line, while Russia seeks a 'sector' boundary extending due north (but deviating around the 1920 Svalbard Treaty area). As the Barents Sea is an important fishery for both states, in January 1978 the two governments agreed on a fishing regime in the so-called "Grey Zone", a 19,475 nm² area covering 12,070 nm² of overlapping EEZ claims, 6,588 nm² of undisputed Norwegian EEZ and 817 nm² of undisputed Russian EEZ. Within the Grey Zone Norway and Russia have jurisdiction over their own fishing vessels.

6. Canada argues that the maritime boundary in the Beaufort Sea was delimited in the 1825 treaty between Great Britain and Russia defining the boundary between Alaska and the Yukon as following the 141° W meridian "as far as the frozen ocean". The USA argues that no maritime boundary has yet been defined and that the boundary should follow the median line between the two coastlines. The area of overlap between the two claims is more than 7,000 nm².

7. Under a treaty signed in February 1920, Norway has sovereignty over the Svalbard archipelago and all islands between latitudes 74° and 81° north and longitudes 10° and 35° east. However, citizens and companies from all treaty nations enjoy the same right of access to and residence in Svalbard. Right to fish, hunt or undertake any kind of maritime, industrial, mining or trade activity are granted to them all on equal terms. All activity is subject to the legislation adopted by Norwegian authorities, but there may be no preferential treatment on the basis of nationality. Norway is required to protect Svalbard's natural environment and to ensure that no fortresses or naval bases are established. 39 countries are currently registered as parties to the Svalbard treaty.

8. The Eastern Special Area lies more than 200 nm from the baseline of the USA but less than 200 nm from the baseline of Russia. Under the June 1990 boundary agreement between the two states, the Soviet Union agreed that the USA should exercise EEZ jurisdiction within this area. A second Eastern Special Area and a Western Special Area (in which the opposite arrangement applies) were established adjacent to the boundary south of 60° north. The agreement has yet to be ratified by the Russian parliament but its provisions have been applied since 1990 through an exchange of diplomatic notes.

Agreed maritime boundaries

Canada-Denmark (Greenland): continental shelf boundary agreed 17 December 1973.

Denmark (Greenland)-Iceland: continental shelf and fisheries boundary agreed 11 November 1997.

Denmark (Greenland)-Norway (Jan Mayen): continental shelf and fisheries boundary agreed 18 December 1995 following adjudication by the International Court of Justice.

Denmark (Greenland)-Iceland-Norway (Jan Mayen) tripoint agreed 11 November 1997.

Denmark (Greenland)-Norway (Svalbard): continental shelf and fisheries boundary agreed 20 February 2006.

Iceland-Norway (Jan Mayen): fisheries boundary following the 200 nm limit of Iceland's EEZ agreed 28 May 1980; continental shelf joint zone agreed 22 October 1981 following the report of the Conciliation Commission.

Russia-USA: single maritime boundary agreed 1 June 1990 (see also note 8).

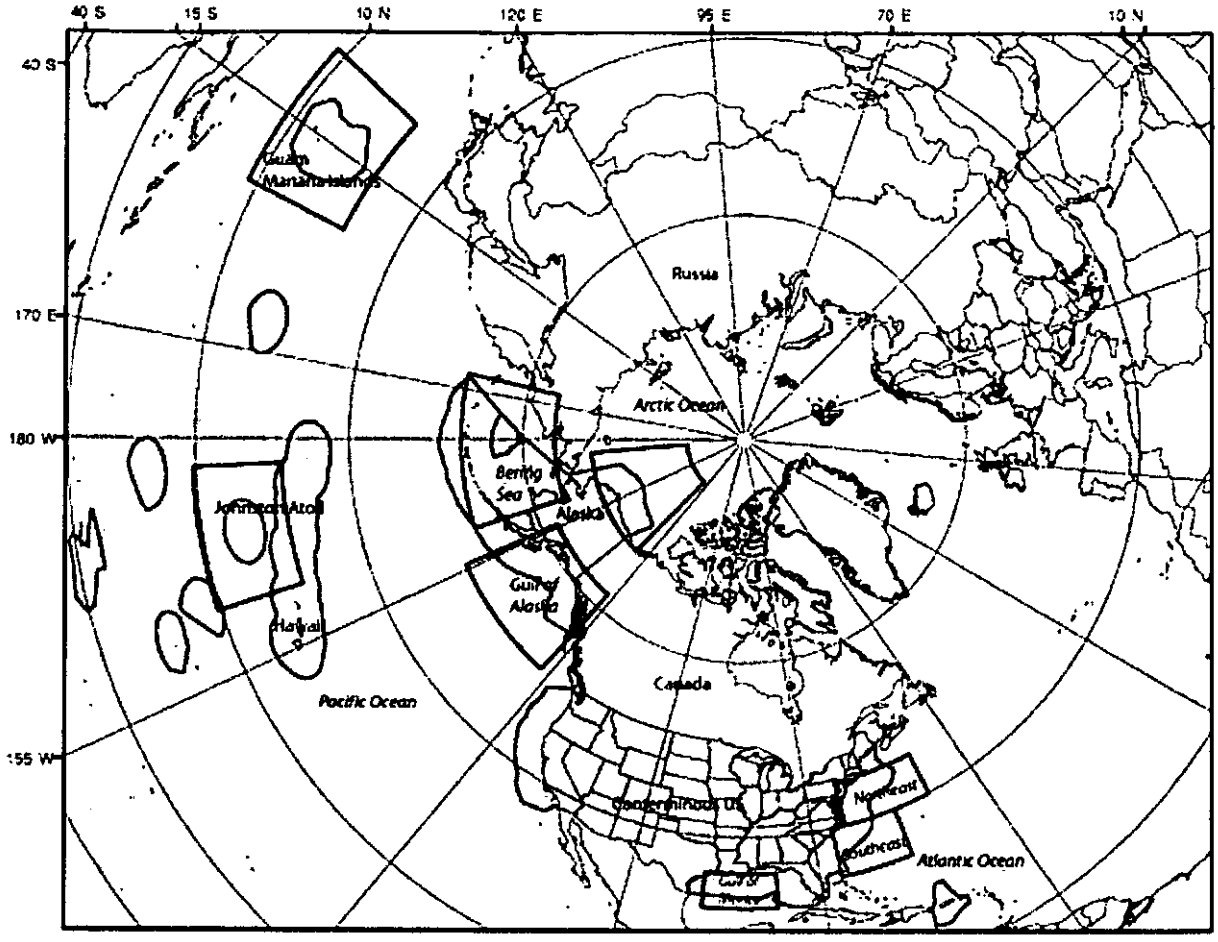


Figure 2: Eight regions (in red) adjacent to the United States and its dependences, where there likely exists extended continental shelf (ECS) beyond 200 nautical miles (in blue) identified by Mayer et al.(2002), The compilation and analysis of data relevant to a U.S. Claim under the United Nations Law of the Sea Article 76: A Preliminary Report. The regions presented in this figure are the result of an academic study, do not represent a formal position of the United States, and are without prejudice to any rights that the United States has with respect to its continental shelf.

US Department of State
Extended Continental Shelf Project

Arctic Meltdown

The Economic and Security Implications of Global Warming

Scott G. Borgerson

THE ARCTIC OCEAN is melting, and it is melting fast. This past summer, the area covered by sea ice shrank by more than one million square miles, reducing the Arctic icecap to only half the size it was 50 years ago. For the first time, the Northwest Passage—a fabled sea route to Asia that European explorers sought in vain for centuries—opened for shipping. Even if the international community manages to slow the pace of climate change immediately and dramatically, a certain amount of warming is irreversible. It is no longer a matter of if, but when, the Arctic Ocean will open to regular marine transportation and exploration of its lucrative natural-resource deposits.

Global warming has given birth to a new scramble for territory and resources among the five Arctic powers. Russia was the first to stake its claim in this great Arctic gold rush, in 2001. Moscow submitted a claim to the United Nations for 460,000 square miles of resource-rich Arctic waters, an area roughly the size of the states of California, Indiana, and Texas combined. The UN rejected this ambitious annexation, but last August the Kremlin nevertheless dispatched a nuclear-powered icebreaker and two submarines to plant its flag on the North Pole's sea floor. Days later, the Russians provocatively ordered strategic bomber flights over the Arctic Ocean for the first time since the Cold War. Not to be outdone, Canadian Prime Minister Stephen Harper announced

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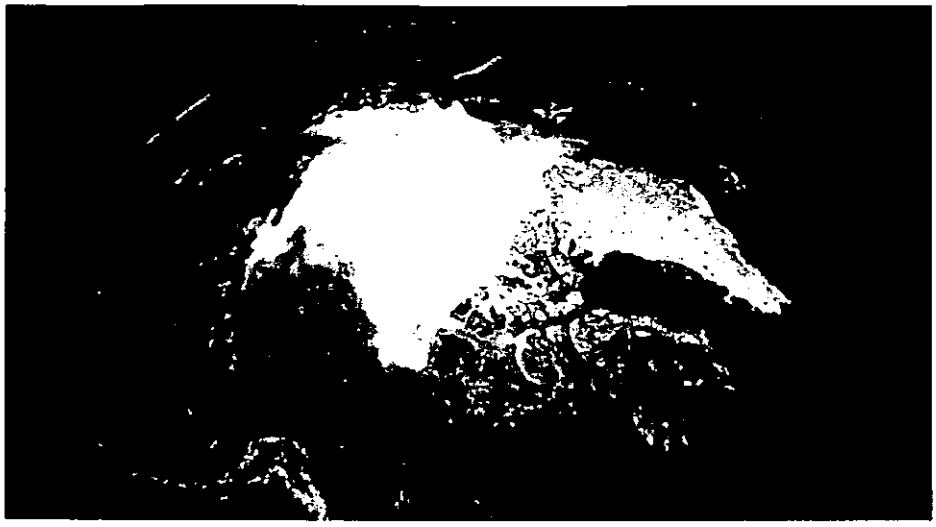

NASA

The Arctic icecap, September 2001

funding for new Arctic naval patrol vessels, a new deep-water port, and a cold-weather training center along the Northwest Passage. Denmark and Norway, which control Greenland and the Svalbard Islands, respectively, are also anxious to establish their claims.

While the other Arctic powers are racing to carve up the region, the United States has remained largely on the sidelines. The U.S. Senate has not ratified the UN Convention on the Law of the Sea (UNCLOS), the leading international treaty on maritime rights, even though President George W. Bush, environmental nongovernmental organizations, the U.S. Navy and U.S. Coast Guard service chiefs, and leading voices in the private sector support the convention. As a result, the United States cannot formally assert any rights to the untold resources off Alaska's northern coast beyond its exclusive economic zone—such zones extend for only 200 nautical miles from each Arctic state's shore—nor can it join the UN commission that adjudicates such claims. Worse, Washington has forfeited its ability to assert sovereignty in the Arctic by allowing its icebreaker fleet to atrophy. The United States today funds a navy as large as the next 17 in the world combined, yet it has just one seaworthy oceangoing icebreaker—a vessel that was built more than a decade ago and that is not optimally configured for Arctic missions. Russia, by comparison, has a fleet of 18 icebreakers. And even China operates one icebreaker, despite its lack of Arctic waters. Through its own neglect, the world's

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NASA

The Arctic icecap, September 2007

sole superpower—a country that borders the Bering Strait and possesses over 1,000 miles of Arctic coastline—has been left out in the cold.

Washington cannot afford to stand idly by. The Arctic region is not currently governed by any comprehensive multilateral norms and regulations because it was never expected to become a navigable waterway or a site for large-scale commercial development. Decisions made by Arctic powers in the coming years will therefore profoundly shape the future of the region for decades. Without U.S. leadership to help develop diplomatic solutions to competing claims and potential conflicts, the region could erupt in an armed mad dash for its resources.

GO NORTH, YOUNG MAN

THE ARCTIC has always experienced cooling and warming, but the current melt defies any historical comparison. It is dramatic, abrupt, and directly correlated with industrial emissions of greenhouse gases. In Alaska and western Canada, average winter temperatures have increased by as much as seven degrees Fahrenheit in the past 60 years. The results of global warming in the Arctic are far more dramatic than elsewhere due to the sharper angle at which the sun's rays strike the polar region during summer and because the retreating sea ice is turning into open water, which absorbs far more solar radiation. This dynamic is creating a vicious melting cycle known as the ice-albedo feedback loop.

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Arctic Energy Resources

SOURCE: UN Environment Program/GRID-Arendal.

Each new summer breaks the previous year's record. Between 2004 and 2005, the Arctic lost 14 percent of its perennial ice—the dense, thick ice that is the main obstacle to shipping. In the last 23 years, 41 percent of this hard, multiyear ice has vanished. The decomposition of this ice means that the Arctic will become like the Baltic Sea, covered by only a thin layer of seasonal ice in the winter and therefore fully navigable year-round. A few years ago, leading supercomputer climate models predicted that there would be an ice-free Arctic during the summer by the end of the century. But given the current pace of retreat, trans-Arctic voyages could conceivably be possible within the next five to ten years. The most advanced models presented at the

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2007 meeting of the American Geophysical Union anticipated an ice-free Arctic in the summer as early as 2013.

The environmental impact of the melting Arctic has been dramatic. Polar bears are becoming an endangered species, fish never before found in the Arctic are migrating to its warming waters, and thawing tundra is being replaced with temperate forests. Greenland is experiencing a farming boom, as once-barren soil now yields broccoli, hay, and potatoes. Less ice also means increased access to Arctic fish, timber, and minerals, such as lead, magnesium, nickel, and zinc—not to mention immense freshwater reserves, which could become increasingly valuable in a warming world. If the Arctic is the barometer by which to measure the earth's health, these symptoms point to a very sick planet indeed.

Ironically, the great melt is likely to yield more of the very commodities that precipitated it: fossil fuels. As oil prices exceed $100 a barrel, geologists are scrambling to determine exactly how much oil and gas lies beneath the melting icecap. More is known about the surface of Mars than about the Arctic Ocean's deep, but early returns indicate that the Arctic could hold the last remaining undiscovered hydrocarbon resources on earth. The U.S. Geological Survey and the Norwegian company StatoilHydro estimate that the Arctic holds as much as one-quarter of the world's remaining undiscovered oil and gas deposits. Some Arctic wildcatters believe this estimate could increase substantially as more is learned about the region's geology. The Arctic Ocean's long, outstretched continental shelf is another indication of the potential for commercially accessible offshore oil and gas resources. And, much to their chagrin, climate-change scientists have recently found material in ice-core samples suggesting that the Arctic once hosted all kinds of organic material that, after cooking under intense seabed pressure for millennia, would likely produce vast storehouses of fossil fuels.

The Arctic could hold the last great undiscovered hydrocarbon resources on earth.

The largest deposits are found in the Arctic off the coast of Russia. The Russian state-controlled oil company Gazprom has approximately 113 trillion cubic feet of gas already under development in the fields it owns in the Barents Sea. The Russian Ministry of Natural

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Resources calculates that the territory claimed by Moscow could contain as much as 586 billion barrels of oil—although these deposits are unproven. By comparison, all of Saudi Arabia's current proven oil reserves—which admittedly exclude unexplored and speculative resources—amount to only 260 billion barrels. The U.S. Geological Survey is just now launching the first comprehensive study of the Arctic's resources. The first areas to be studied are the 193,000-square-mile East Greenland Rift Basins. According to initial seismic readings, they could contain 9 billion barrels of oil and 86 trillion cubic feet of gas. Altogether, the Alaskan Arctic coast appears to hold at least 27 billion barrels of oil.

Although onshore resources, such as the oil in Alaska's Arctic National Wildlife Refuge, have dominated debates about Arctic development in Washington, the real action will take place offshore, as the polar ice continues to retreat. An early indication of the financial stakes and political controversies involved is a lawsuit that was filed against Royal Dutch/Shell in the U.S. Ninth Circuit Court. Filed jointly by an unusual alliance of environmental groups and indigenous whalers, the case has held up the development of Shell's $80 million leases in the newly accessible Beaufort Sea, off Alaska's northern coast. By 2015, such offshore oil production will account for roughly 40 percent of the world's total. The Alaskan coast might one day look like the shores of Louisiana, in the Gulf of Mexico, lit up at night by the millions of sparkling lights from offshore oil platforms.

POLAR EXPRESS

AN EVEN GREATER prize will be the new sea-lanes created by the great melt. In the nineteenth century, an Arctic seaway represented the Holy Grail of Victorian exploration, and the seafaring British Empire spared no expense in pursuing a shortcut to rich Asian markets. Once it became clear that the Northwest Passage was ice clogged and impassable, the Arctic faded from power brokers' consciousness. Strategic interest in the Arctic was revived during World War II and the Cold War, when nuclear submarines and intercontinental missiles turned the Arctic into the world's most militarized maritime space, but it is only now that the Arctic sea routes so coveted by nineteenth-

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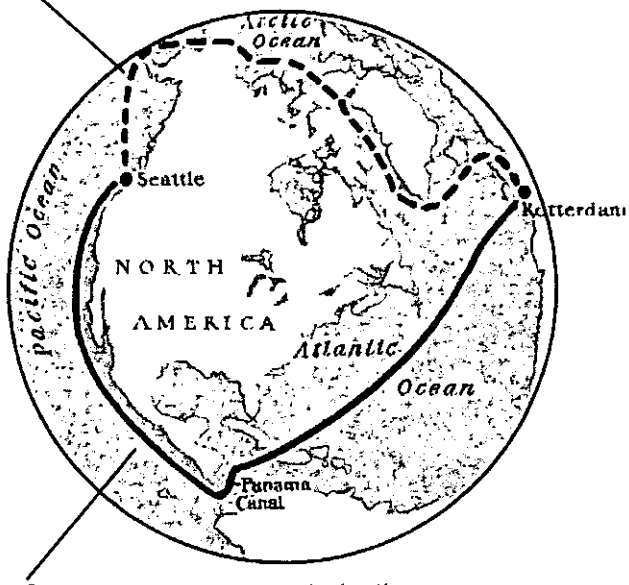
century explorers are becoming a reality.

The shipping shortcuts of the Northern Sea Route (over Eurasia) and the Northwest Passage (over North America) would cut existing oceanic transit times by days, saving shipping companies—not to mention navies and smugglers—thousands of miles in travel. The Northern Sea Route would reduce the sailing distance between Rotterdam and Yokohama from 11,200 nautical miles—via the current route, through the Suez Canal—to only 6,500 nautical miles, a savings of more than 40 percent. Likewise, the Northwest Passage would trim a voyage from Seattle to Rotterdam by 2,000 nautical miles, making it nearly 25 percent shorter than the current route, via the Panama Canal. Taking into account canal fees, fuel costs, and other variables that determine freight rates, these shortcuts could cut the cost of a single voyage by a large container ship by as much as

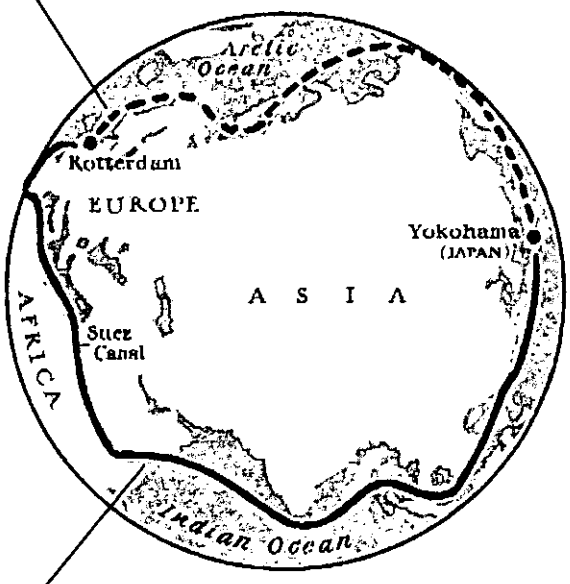
Arctic Shipping Shortcuts

Northwest Passage: 7,000 nautical miles



Current route: 9,000 nautical miles

Northern Sea Route: 6,500 nautical miles



Current route: 11,200 nautical miles

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20 percent—from approximately $17.5 million to $14 million—saving the shipping industry billions of dollars a year. The savings would be even greater for the megaships that are unable to fit through the Panama and Suez Canals and so currently sail around the Cape of Good Hope and Cape Horn. Moreover, these Arctic routes would also allow commercial and military vessels to avoid sailing through politically unstable Middle Eastern waters and the pirate-infested South China Sea. An Iranian provocation in the Strait of Hormuz, such as the one that occurred in January, would be considered far less of a threat in an age of trans-Arctic shipping.

Arctic shipping could also dramatically affect global trade patterns. In 1969, oil companies sent the *S.S. Manhattan* through the Northwest Passage to test whether it was a viable route for moving Arctic oil to the Eastern Seaboard. The *Manhattan* completed the voyage with the help of accompanying icebreakers, but oil companies soon deemed the route impractical and prohibitively expensive and opted instead for an Alaskan pipeline. But today such voyages are fast becoming economically feasible. As soon as marine insurers recalculate the risks involved in these voyages, trans-Arctic shipping will become commercially viable and begin on a large scale. In an age of just-in-time delivery, and with increasing fuel costs eating into the profits of shipping companies, reducing long-haul sailing distances by as much as 40 percent could usher in a new phase of globalization. Arctic routes would force further competition between the Panama and Suez Canals, thereby reducing current canal tolls; shipping chokepoints such as the Strait of Malacca would no longer dictate global shipping patterns; and Arctic seaways would allow for greater international economic integration. When the ice recedes enough, likely within this decade, a marine highway directly over the North Pole will materialize. Such a route, which would most likely run between Iceland and Alaska's Dutch Harbor, would connect shipping megaports in the North Atlantic with those in the North Pacific and radiate outward to other ports in a hub-and-spoke system. A fast lane is now under development between the Arctic port of Murmansk, in Russia, and the Hudson Bay port of Churchill, in Canada, which is connected to the North American rail network.

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In order to navigate these opening sea-lanes and transport the Arctic's oil and natural gas, the world's shipyards are already building ice-capable ships. The private sector is investing billions of dollars in a fleet of Arctic tankers. In 2005, there were 262 ice-class ships in service worldwide and 234 more on order. The oil and gas markets are driving the development of cutting-edge technology and the construction of new types of ships, such as double-acting tankers, which can steam bow first through open water and then turn around and proceed stern first to smash through ice. These new ships can sail unhindered to the Arctic's burgeoning oil and gas fields without the aid of icebreakers. Such breakthroughs are revolutionizing Arctic shipping and turning what were once commercially unviable projects into booming businesses.

THE COMING ANARCHY

DESPITE THE melting icecap's potential to transform global shipping and energy markets, Arctic issues are largely ignored at senior levels in the U.S. State Department and the U.S. National Security Council. The most recent executive statement on the Arctic dates to 1994 and does not mention the retreating ice. But the Arctic's strategic location and immense resource wealth make it an important national interest. Although the melting Arctic holds great promise, it also poses grave dangers. The combination of new shipping routes, trillions of dollars in possible oil and gas resources, and a poorly defined picture of state ownership makes for a toxic brew.

The situation is especially dangerous because there are currently no overarching political or legal structures that can provide for the orderly development of the region or mediate political disagreements over Arctic resources or sea-lanes. The Arctic has always been frozen; as ice turns to water, it is not clear which rules should apply. The rapid melt is also rekindling numerous interstate rivalries and attracting energy-hungry newcomers, such as China, to the region. The Arctic powers are fast approaching diplomatic gridlock, and that could eventually lead to the sort of armed brinkmanship that plagues other territories, such as the desolate but resource-rich Spratly Islands, where multiple states claim sovereignty but no clear picture of ownership exists.

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There are few legal frameworks that offer guidance. The Arctic Council does exist to address environmental issues, but it has remained silent on the most pressing challenges facing the region because the United States purposefully emasculated it at birth, in 1996, by prohibiting it from addressing security concerns. Many observers argue that UNCLOS is the correct tool to manage the thawing Arctic. The convention provides mechanisms for states to settle boundary disputes and submit claims for additional resources beyond their exclusive economic zones. Furthermore, UNCLOS sets aside the resources in the high seas as the common heritage of humankind, it allows states bordering ice-covered waters to enforce more stringent environmental regulations, and it defines which seaways are the sovereign possessions of states and which international passages are open to unfettered navigation.

Diplomatic gridlock could lead the Arctic to erupt in an armed mad dash for its resources.

However, UNCLOS cannot be seamlessly applied to the Arctic. The region's unique geographic circumstances do not allow for a neat application of this legal framework. The Arctic is home to a number of vexing problems that, taken in their entirety, make it a special case. These unresolved challenges include carving up the world's longest uncharted and most geologically complex continental shelf among five states with competing claims, resolving differences between Canada and the rest of the world over how to legally define the Northwest Passage, demarcating maritime borders between the United States and Canada in the Beaufort Sea and between Norway and Russia in the Barents Sea, and regulating vessels shielded behind flags of convenience (which obscure the true origin and ownership of the vessels) as they travel across numerous national jurisdictions. Finally, increased oil and gas exploration and the trans-Arctic shipping that comes with it will pose serious environmental risks. Oil tankers present a particularly grave environmental threat, as illustrated by three recent oil spills in the much safer waters of the San Francisco Bay, the Black Sea, and the Yellow Sea.

There are also a handful of unresolved issues at play in the Arctic that are not covered under UNCLOS. Between 1958 and 1992, Russia dumped 18 nuclear reactors into the Arctic Ocean, several of them still

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fully loaded with nuclear fuel. This hazard still needs to be cleaned up. Furthermore, the Arctic region is home to one million indigenous people, who deserve to have a say in the region's future, especially as regards their professed right to continue hunting bowhead whales, their safety alongside what will becomé bustling shipping lanes, and their rightful share of the economic benefits that Arctic development will bring. With the prospect of newfound energy wealth, there is also growing talk of Greenland petitioning Denmark for political independence. Finally, there has been an explosion in polar tourism, often involving ships unsuited for navigation in the region. Last year, 140 cruise ships carried 4,000 intrepid travelers for holidays off Greenland's icy coast, a dangerous journey in largely uncharted waters.

Although it is tempting to look to the past for solutions to the Arctic conundrum, no perfect analogy exists. The 1959 Antarctic Treaty, which froze all territorial claims and set aside the continent for scientific research, provides some lessons, but it concerns a continent rather than an ocean. Moreover, Antarctica is far removed from major trade routes, and negotiations unfolded in the entirely different context of the Cold War. As a body of water that links several large economies, the Mediterranean Sea is somewhat similar to the Arctic Ocean, but its littoral states have always had clearer historical claims, and it has never been covered with ice, at least not in human history. There is simply no comparable historical example of a saltwater space with such ambiguous ownership, such a dramatically mutating seascape, and such extraordinary economic promise.

The region's remarkable untapped resource wealth and unrealized potential to become a fast lane between the Atlantic and Pacific Oceans makes it a key emerging pressure point in international affairs. At this critical juncture, decisions about how to manage this rapidly changing region will likely be made within a diplomatic and legal vacuum unless the United States steps forward to lead the international community toward a multilateral solution.

NORTHERN EXPOSURE

UNTIL SUCH a solution is found, the Arctic countries are likely to unilaterally grab as much territory as possible and exert sovereign control

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over opening sea-lanes wherever they can. In this legal no man's land, Arctic states are pursuing their narrowly defined national interests by laying down sonar nets and arming icebreakers to guard their claims.

Washington must get over its isolationist instincts and lead the way toward a multilateral Arctic treaty.

Russia has led the charge with its flag-planting antics this past summer. Moscow has been arguing that a submarine elevation called the Lomonosov Ridge is a natural extension of the Eurasian landmass and that therefore approximately half of the Arctic Ocean is its rightful inheritance. The UN commission that is reviewing the claim sent Russia back to gather additional geological proof, leading Artur Chilingarov, a celebrated Soviet-era explorer and now a close confidant of Russian President Vladimir Putin, to declare, "The Arctic is ours and we should manifest our presence" while leading a mission to the North Pole last summer.

Naturally, other Arctic states are responding. Norway submitted its claim for additional Arctic resources to the commission in 2006; Canada and Denmark are now doing their homework in order to present their own claims. Ottawa and Copenhagen are currently at odds over the possession of Hans Island, an outcropping of desolate rocks surrounded by resource-rich waters in the Nares Strait, between Canada's Ellesmere Island and Greenland. Even the United States, despite its refusal to ratify UNCLOS, has for the past few summers dispatched its sole icebreaker to the Arctic to collect evidence for a possible territorial claim in the event the Senate eventually ratifies the treaty.

There are also battles over sea-lanes. Canada has just launched a satellite surveillance system designed to search for ships trespassing in its waters. Even though the Northern Sea Route will likely open before the Northwest Passage, the desire to stop ships from passing through the Canadian archipelago—especially those from the U.S. Coast Guard and the U.S. Navy—is the cause of much saber rattling north of the border. "Use it or lose it," Canadian Prime Minister Harper frequently declares in reference to Canada's Arctic sovereignty—an argument that plays well with Canadians, who are increasingly critical of their southern neighbor. So far, the delicate 1988 "agreement to disagree" between the United States and Canada over the final disposition

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of these waters has remained intact, but the United States should not underestimate Canadian passions on this issue.

The ideal way to manage the Arctic would be to develop an overarching treaty that guarantees an orderly and collective approach to extracting the region's wealth. As part of the ongoing International Polar Year (a large scientific program focused on the Arctic and the Antarctic that is set to run until March 2009), the United States should convene a conference to draft a new accord based on the framework of the Arctic Council. The agreement should incorporate relevant provisions of UNCLOS and take into account all of the key emerging Arctic issues. With a strong push from Washington, the Arctic states could settle their differences around a negotiating table, agree on how to carve up the region's vast resource pie, and possibly even submit a joint proposal to the UN for its blessing.

But even as it pushes for a multilateral diplomatic solution, the United States should undertake a unilateral effort to shore up U.S. interests in the Arctic. The few in the United States who still stubbornly oppose U.S. accession to UNCLOS claim that by ratifying the treaty Washington would cede too much U.S. sovereignty and that customary international law and a powerful navy already allow the United States to protect its Arctic interests. But these are not enough. The United States is the only major country that has failed to ratify UNCLOS, and Washington is therefore left on the outside looking in as a nonmember to various legal and technical bodies. In addition to becoming a party to the convention, the United States must publish an updated Arctic policy, invest in ice-mapping programs, and breathe new life into its inefficient, uncompetitive shipyards, thus enabling it to update the country's geriatric icebreaker fleet, as soon as possible.

The United States should also strike a deal with Canada, leading to a joint management effort along the same lines as the 1817 Rush-Bagot Agreement, which demilitarized the Great Lakes and led to the creation (albeit more than a century later) of the nonprofit St. Lawrence Seaway Development Corporation to manage this critical, and sometimes ice-covered, binational waterway. In the same spirit, the United States and Canada could combine their resources to help police thousands of miles of Arctic coastline. Washington and

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Ottawa now work collaboratively on other sea and land borders and together built the impressive North American Aerospace Defense Command, or NORAD, system. They are perfectly capable of doing the same on the Arctic frontier, and it is in both countries' national interests to do so.

There is no reason that economic development and environmental stewardship cannot go hand in hand. To this end, Canada could take the lead in establishing an analogous public-private Arctic seaway management corporation with a mandate to provide for the safe and secure transit of vessels in North American Arctic waters while protecting the area's sensitive environment. Shipping tolls levied by this bilateral management regime could pay for desperately needed charts (much of the existing survey information about the Northwest Passage dates to nineteenth-century British exploration), as well as for search-and-rescue capabilities, traffic-management operations, vessel tracking, and similar services that would guard life and property. Such a jointly managed Arctic seaway system could establish facilities for the disposal of solid and liquid waste, identify harbors of refuge for ships in danger, and enforce a more rigorous code for ship design in order to ensure that vessels traveling through the Northwest Passage have thicker hulls, more powerful engines, and special navigation equipment. The captains and crews of these vessels could also be required to have additional training and, if the conditions warrant, to take aboard an agency-approved "ice pilot" to help them navigate safely.

This bilateral arrangement could eventually be expanded to include other Arctic countries, especially Russia. The United States and Russia, as an extension of the proposed Arctic seaway management corporation, could develop traffic-separation schemes through the Bering Strait and further invest in the responsible development of safe shipping along the Northern Sea Route. Eventually, a pan-Arctic corporation could coordinate the safe, secure, and efficient movement of vessels across the Arctic. Japan, which is vitally dependent on the Strait of Malacca for the overwhelming majority of its energy supplies, would be a natural investor in such a project since it has an interest in limiting the risk of a disruption in its oil supply.

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IT'S EASY BEING GREEN

In 1847, a British expedition seeking the fabled Northwest Passage ended in death and ignominy because Sir John Franklin and his crew, seeing themselves as products of the pinnacle of Victorian civilization, were too proud to ask the Inuit for help. At the height of its empire, the United States sometimes sees itself as invincible, too. But the time has come for Washington to get over its isolationist instincts and ratify UNCLOS, cooperate with Canada on managing the Northwest Passage, and propose an imaginative new multilateral Arctic treaty.

Washington must awaken to the broader economic and security implications of climate change. The melting Arctic is the proverbial canary in the coal mine of planetary health and a harbinger of how the warming planet will profoundly affect U.S. national security. Being green is no longer a slogan just for Greenpeace supporters and campus activists; foreign policy hawks must also view the environment as part of the national security calculus. Self-preservation in the face of massive climatic change requires an enlightened, humble, and strategic response. Both liberals and conservatives in the United States must move beyond the tired debate over causation and get on with the important work of mitigation and adaptation by managing the consequences of the great melt.

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Letters and Backup Info

March 19, 2004

Senators James M. Inhofe
U.S. Senate
Washington, D.C.

Senator James M. Jeffords
U.S. Senate
Washington, D.C.

Dear Senators Inhofe and Jeffords:

The American Petroleum Institute (API), the International Association of Drilling Contractors (IADC) and the National Ocean Industries Association (NOIA), are pleased to provide for the Senate Environmental and Public Works Committee a copy of our statement in support of U.S. ratification of the United Nations Law of the Sea (LOS) Convention. The statement was delivered during an October 2003 hearing before the Senate Foreign Relations Committee. We would ask that our statement be made part of your committee's record for the March 23, 2004 hearing on the LOS.

Thank you for considering the views expressed in this statement.

American Petroleum Institute

International Association of Drilling Contractors

National Ocean Industries Association

CHAMBER OF SHIPPING
OF AMERICA

19 March 2004

The Honorable James M. Inhofe
Chairman, Senate Environment and Public Works Committee
United States Senate
Washington, DC 20510

The Honorable James M. Jeffords
Ranking Member, Senate Environment and Public Works Committee
United States Senate
Washington, DC 20510

Dear Mr. Chairman and Ranking Member:

Thank you for holding a hearing on the UN Law of the Sea Treaty. The purpose of this letter is to advise that the Chamber of Shipping of America very strongly supports ratification of the United Nations Law of the Sea Convention (UNCLOS) as it is in the best interests of the United States to do so.

The Chamber of Shipping of America represents 22 American companies that own, operate or charter ships used in the domestic and international trades of the United States. We represent all types of ships including container ships, tankers, ocean-going tug/barges vessels, roll-on roll-off ships and bulk ships. We were founded in 1917 to coordinate U.S. shipowner positions at the initial deliberations leading to the Safety of Life at Sea Convention. Today, we represent our members on safety, environmental and security issues addressed domestically and at the international fora including the International Maritime Organization and the International Labor Organization.

UNCLOS is the codification of the traditional law of the sea and protects, inter alia, our rights of innocent passage and freedom of navigation. We are concerned that our status as a non-ratifying party places us in a dangerous position when the treaty comes open for amendment in October of this year. It is simply in our sovereign interest to ensure that we are at the international negotiating table in the strongest possible position. The U.S. should not ignore the potential for treaty amendments that could have large negative impacts on our interests and we have no vote.

I enclose here a copy of testimony I gave before the Senate Foreign Relations Committee on October 21, 2003 wherein I explain some of the potential problem areas where amendments may limit our navigation freedoms. I request that my letter and enclosure be made part of this hearing record. If you or your staff has any questions, please feel free to contact me.

Sincerely,

Joseph J. Cox
President

1730 M Street, NW ▪ Suite 407 ▪ Washington, DC 20036-4517
Voice: 202.775.4399 ▪ Fax: 202.659.3795

DEPARTMENT OF THE NAVY
OFFICE OF THE CHIEF OF NAVAL OPERATIONS
2000 NAVY PENTAGON
WASHINGTON, D.C. 20350-2000

IN REPLY REFER TO

18 Mar 04

Dear Senator Jeffords,

I write to express my strong support for United States accession to the Law of the Sea Convention. It has been the consistent, longstanding position of the Navy that accession to the Convention will benefit the United States by advancing our national security interests and ensuring continued U.S. leadership in the development and interpretation of the law of the sea.

The Law of the Sea Convention helps assure access to the largest maneuver space on the planet - the sea - under authority of widely recognized and accepted law and not the threat of force. The Convention protects military mobility by codifying favorable transit rights that support our ability to operate around the globe, anytime, anywhere, allowing the Navy to project power where and when needed. The Convention also provides important safeguards for protecting the marine environment while preserving operational freedoms.

Although the Convention was drafted over 20 years ago, the Convention supports U.S. efforts in the war on terrorism by providing important stability and codifying navigational and overflight freedoms, while leaving unaffected intelligence collection activities. Future threats will likely emerge in places and in ways that are not yet known. For these and other as yet unknown operational challenges, we must be able to take maximum advantage of the established navigational rights codified in the Law of the Sea Convention to get us to the fight rapidly. The diversity of challenges to our national security combined with a more dynamic force structure makes strategic mobility more important than ever. The oceans are fundamental to that maneuverability and, by joining the Convention, we further ensure the freedom to get to the fight, twenty-four hours a day and seven days a week, without a permission slip.

I appreciate your continued strong support of the Law of the Sea Convention and the Navy.

Sincerely,

VERN CLARK
Admiral, U.S. Navy

The Honorable James M. Jeffords
Committee on Environment and Public Works
United States Senate
Washington, DC 20510

DATE: May 17, 2007 16:54:26 EST
Document Number: 234

FOR IMMEDIATE RELEASE

Office of Public Affairs
U.S. Coast Guard

U.S. Department of Homeland Security
United States Coast Guard

Press Release

Date: May 17, 2007

Contact: Cmdr. Jeff Carter
(202) 372-4635

STATEMENT BY ADM. THAD ALLEN, COMMANDANT OF THE COAST GUARD, ON THE CONVENTION ON THE LAW OF THE SEA

WASHINGTON – Adm. Thad Allen, commandant of the U.S. Coast Guard, issued the following statement today reiterating long-standing Coast Guard support for joining the Convention on the Law of the Sea.

"Becoming a party to the 1982 United Nations Convention on the Law of the Sea would greatly enhance our global position in maritime affairs. Because of our maritime security and law enforcement missions, the Coast Guard has long been a proponent of achieving a comprehensive and stable regime with respect to traditional uses of the oceans. The convention greatly enhances our ability to protect the American public as well as our efforts to protect and manage fishery resources and to protect the marine environment. From the Coast Guard's perspective, we can best maintain a public order of the oceans through a universally accepted law of the sea treaty that preserves and promotes critical U.S. national interests.

"The convention strikes the appropriate balance between the interests of countries in controlling activities off their coasts with the interests of all countries in protecting freedom of navigation. The convention provides the framework under which the Coast Guard is able to interdict illicit drug traffickers and illegal immigrants far beyond our own waters. The convention also gives the coastal state the right to protect its marine environment, manage its fisheries and off-shore oil and gas resources within the 200-nautical mile exclusive economic zone, and secure sovereign rights over resources of the continental shelf beyond 200 nautical miles.

"U.S. military forces, including Coast Guard units, already rely heavily on the freedom of navigation principles codified in the convention. These principles allow the use of the world's oceans to meet changing national security requirements, including those necessary to fight the global war on terrorism. Becoming a party to the convention will enhance our ability to carry out the many maritime missions of the Coast Guard, refute excessive maritime claims, and participate in interpreting and applying the convention to day-to-day realities."

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The U.S. Coast Guard is a military, maritime, multi-mission service within the Department of Homeland Security dedicated to protecting the safety and security of America.

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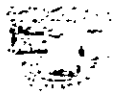
GOVERNOR
GOVERNOR@GOV.STATE.AK.US



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STATE OF ALASKA
OFFICE OF THE GOVERNOR
JUNEAU

September 13, 2007

The Honorable Ted Stevens
United States Senate
522 Hart Senate Building
Washington, DC 20510

The Honorable Lisa Murkowski
United States Senate
709 Hart Senate Building
Washington, DC 20510

Dear Senator Stevens and Senator Murkowski:

It is my understanding that the U.S. Senate may consider the United Nations Convention on the Law of the Sea in the fall. With this in mind, I am writing to express my strong support for Senate ratification of the convention. In my opinion, the convention would be beneficial to the U.S. and Alaska in various ways, but I want to focus on one aspect in this correspondence.

As you know, several Arctic nations have recently asserted claims to submerged lands off their coasts. The Convention on the Law of the Sea establishes the framework for these assertions. To date, 155 nations, including Canada and Russia, have approved the convention. If the U.S. does not ratify the convention, the opportunity to pursue our own claims to offshore areas in the Arctic Ocean might well be lost.

As a consequence, our rightful claims to hydrocarbons, minerals, and other natural resources could be ignored. In this regard, geologists have prognosticated that billions of barrels of crude oil and vast quantities of natural gas, not to mention various hard rock minerals, might be present in the Arctic. In the absence of affirmative action by the Senate, these resources could become the property of nations with less valid claims.

It is my understanding that the Bush administration and many senators, both republicans and democrats, have expressed support for Senate ratification of the

convention. However, as you know, ratification has been thwarted by a small group of senators who are concerned about the perceived loss of U.S. sovereignty. I believe that quite the contrary is the case. If the U.S. does not ratify the convention, we will be denied access to the forum established by the international community to adjudicate claims to submerged lands in the Arctic.

I also urge Congress to authorize the programs and funds necessary for the U.S. to assert its sovereign rights. The assertion of such rights requires significant research and information gathering. Other Arctic nations have recently begun this process, and I understand that the U.S. is moving in this direction as well.

I believe that you have previously supported Senate ratification of the convention. With this letter, I want to put my administration on record in support of the convention as the predicate for asserting sovereign rights that will be of benefit to Alaska and the nation. Hopefully, this letter will assist you in articulating Alaska's position to your colleagues in the Senate.

Thank you for considering my views.

Sincerely,

Sarah Palin
Governor

Western
Pacific
Regional
Fishery
Management
Council

March 18, 2004

Hon. Daniel K. Akaka
US Senator
SH-141 Hart Senate Office Building
Washington, DC
20510-1103

Dear Senator Akaka:

I would like to express the support of Western Pacific Fishery Management Council for the ratification of the United Nations Convention on the Law of the Sea by the United States. This Council, by virtue of its geography, is the most internationally focused of the eight Regional Fishery Management Councils in the USA, and international fishery management is an integral part of our Pelagic Fishery Management Plan. Thus, the provisions of UNCLOS as they apply to the exploitation of natural resources are of key interest to the Council, quite apart from the important security aspects and key rights of navigation enshrined within the treaty.

Many of the provisions of UNCLOS, and international instruments that have stemmed therefrom, have been incorporated into this Council's management of highly migratory pelagic fish. In the 1980s, even before the UN ban, the Western Pacific Council was aware of the controversy surrounding this gear and banned its use within the EEZ of the US Flag Pacific Islands. This Council was also among those agencies and individuals who supported you and your colleagues in having tuna included within the Magnuson Act, an initiative which recognized the rights of individual countries to manage pelagic fishery resources within their EEZs as outlined within UNCLOS.

More recently, the Western Pacific Council has actively supported the development of an international convention for managing tuna fisheries in the Central and Western Pacific, hosting four out of the seven seminal meetings through which this new management initiative was crafted. This new fishery commission developed by the convention will come into force some time in 2004. This is the first international fishery management arrangement that fully incorporates UNCLOS principles in the articles of the convention, and will assume responsibility for the largest tuna fishery grounds on the globe. Such a development is timely due to the need to limit unconstrained expansion of fishing effort on these important shared economic resources.

As pointed out by your colleagues Senator Lugar and Senator Stevens in recent correspondence with Senate members, the failure to ratify UNCLOS would mean that the US would be unable to participate in the amendment to the Convention and safeguard aspects of concern to this country, including international fishery agreements such as the new fishery commission in the Central and Western Pacific. Naturally this is of paramount concern to this Council, embedded as it is within Micronesia and Polynesia, and with economies reliant to a large degree on ocean resources. The Council therefore hopes that the Senate will recognize the importance of ratifying UNCLOS, both from a strategic and security perspective, and also from our perspective in the US Pacific Islands, where the US voice needs to be heard in the management of shared fishery resources in the Pacific.

Sincerely,

Kitty M. Simonds

THE LEGAL ADVISER
DEPARTMENT OF STATE
WASHINGTON

April 6, 2004

Dear Senator Warner:

During recent briefings of Senate staff by officials from the Department of State, the Department of Defense, and other relevant agencies on the Law of the Sea Convention, the question was raised whether the Convention would prohibit or otherwise adversely affect U.S. intelligence activities. I would like to take this opportunity to respond to that question. I have coordinated this response with the Department of Defense and those other relevant agencies.

U.S. accession to the Convention would support ongoing U.S. military operations, including the continued prosecution of the war on terrorism. The Convention reinforces our military's ability to move – without hindrance and under authority of law – forces, weapons, and materiel to the fight, which is critical to our accomplishing national security objectives. The Convention does not prohibit U.S. intelligence activities; nor would we recognize any restrictions on those activities.

Since President Reagan's 1983 Ocean Policy Statement, the United States has conducted its activities consistent with the non-deep seabed provisions of the Convention. Further, the Convention's "innocent passage" provisions are actually more favorable to U.S. military and navigational interests than those in the 1958 Convention on the Territorial Sea and the Contiguous Zone, to which the United States is a party. Not

The Honorable
John Warner,
Chairman,
Committee on Armed Services,
United States Senate.

only is the Convention's list of non-innocent activities an exhaustive one, but it generally uses objective, rather than subjective, criteria in the listing of activities.

Sincerely,

William H. Taft, IV

cc: Sen. Carl Levin
Sen. Richard G. Lugar
Sen. Joseph R. Biden
Sen. Pat Roberts
Sen. John D. Rockefeller, IV
Sen. James M. Inhofe
Sen. James M. Jeffords
Congressman Porter J. Goss
Congresswoman Jane Harman

R. Reed Harrison III
Vice President/Chief Information and Investment Officer
Network and Computing Services
Room 4C107
900 Route 202/206
P.O. Box 752
Bedminster, NJ 07921-0752
908 234-5200, FAX 908 234-8414

Dear Senator Helms:

AT&T depends upon undersea fiber optic cables to carry the bulk of our international telecommunications traffic. We enclose for your reference an information packet describing AT&T's submarine cable network. We believe this information underscores the critical commercial significance of that network. We hope it also helps to acquaint you with AT&T's interest in the use of the seabed for its provision of global telecommunications services over that network.

It is essential that we protect that undersea cable network from damage and disruption. The main purpose of this letter, therefore, is to urge the United States Senate to give its advice and consent to accede to the Law of the Sea Convention. and to ratify the Agreement relating to the Implementation of Part XI of the Convention. The requested action by the Senate will enable us to better protect our cables and recover for damage to the cables. AT&T respectfully asks that this advice and consent be given at the earliest opportunity.

AT&T's concern is straightforward. AT&T and other U. S. owners of such undersea telecommunications facilities become involved in matters of international law in their efforts to recover their losses from parties whose vessels have damaged their undersea cables. AT&T's efforts against such offending vessel owners and their underwriters have had limited success. Over the past 17 years, we have achieved some recovery in cases involving only 13 such cable failures. The scope of the problem is o evident when one considers that, since 1990, almost half of the 134 reported failures of international submarine cable were caused by third party vessels.

The recovery of damages in these cases reduces the operating expense of the cable owners and enables them, in turn, to benefit their customers in the form of lower rates for international telecommunications. services News of a significant damage recovery also provides a deterrent against careless or uncaring vessel owners. As indicated, however, AT&T and other U. S. cable owners have been frustrated in their cable protection and damage recovery efforts by serious shortcomings in existing submarine cable law. Illustrations of this problem are readily available.

In the typical case of damage by third party vessels, repairing damaged undersea cable and restoring service to telecommunications users costs in excess of $2 million. Yet our existing federal statute (47 U.S.C., Section 21) imposes a maximum criminal penalty of only $5,000 upon those who violate submarine cable laws and cause this level of damage to undersea cables.

Under these circumstances it is not surprising that, in February 1996, the U. S. Attorney in Florida declined to prosecute a vessel owner caught intentionally destroying an undersea telephone cable. And on several other occasions, the U. S. Coast Guard has declined to enforce obligations imposed on vessels and their owners under international law Despite Strong evidence against the violators in each of these cases, these agencies evidently determined that there would be insufficient return on their resource investment to support the assignment of full time legal and investigative personnel to an incident carrying such an Insignificant maximum criminal penalty.

These examples make clear that if we are to have any meaningful protection, we must have in place a level of fines that considers and reflects the level of damage inflicted by such criminal violations. In addition we need legal framework that establishes clear jurisdiction in cable damage cases, and that provides specific

authority to award damages. When nearly half of the 134 failures in intonational submarine cable since 1990 have been externally inflicted as previously noted, the need for increased legal protection is clear.

Many of the shortcomings in existing law are addressed and corrected in the U N. Convention on the Law of the Sea (UNCLOS,). UNCLOS expands the right to lay submarine cable in the oceans of the world and expands international protection for those cables. Articles 79 and 112 of UNCLOS have established the rights of nations and private parties to lay cable on the continental shelf (subject to reasonable review by the adjoining coastal state) and in the bed of the high seas. Universal codification of these rights would inhibit any single such coastal state from attempting unilaterally and unreasonably to thwart such rights.

Article 113 requires that all states must adopt laws that make damage to submarine cable, done willfully or through negligence - including behavior likely to result in cable damage - a punishable offense. Article 114 provides that if owners of a submarine cable, in landing or repairing their cables damage the cable of another, they must bear the cost of repairs. Article 115 provides that vessel owners who can prove they sacrificed an anchor or fishing gear to avoid damaging a cable, can recover their loss against the cable owner, provided that the vessel took reasonable precautionary measures beforehand.

To take full advantage of UNCLOS, the United States must become party and implement its provisions through legislation. This requirement is readily satisfied by much needed updating of the Submarine Cable Act of 1888. This law can and should be amended to conform to UNCLOS. We would be pleased to provide additional information and suggested amendments to your Committee.

Ratification of UNCLOS is of extreme importance to all U.S. providers of intonational telecommunications services. Beyond the obvious matters of national security associated with the protection of our undersea facilities, there are economic impact issues. The U. S. companies whose undersea facilities are at stake here are major U. S. enterprises and significant source of revenue, jobs and economic wellbeing for American citizens and businesses, at home and abroad.

Due to the rapid globalization of business, fiber optic capacity will have increased some 3000% from 1989 to the year 2000. With the explosion of data traffic on the information superhighway, fueled by greater use of the Internet, multimedia services and video conferencing, it has never been more important to our U. S. economic infrastructure to assure the protection and reliability of international submarine cables. UNCLOS will enable us to achieve that goal and maintain that protection.

We have attempted In this letter. Mr. Chairman, to outline the salient points of UNCLOS as they very positively affect U. S. owners and operators of Intonational submarine cables. I would be more than happy, at your convenience, to brief you or any of your staff in person with regard to any of the matters raised in this letter. In addition, AT&T remains ready and willing to appear and testify at any hearings that your Committee may schedule on this subject.

We remain most grateful, Mr. Chairman, for your attention to this matter.

Very truly yours,

R. Reed Harrison III
Vice President
Chief Information and Investment Officer
Network & Computing Services

Copy to: Mr. James W. Nance
Staff Director
Senate Committee on Foreign Relations
403 Dirksen Senate Office Building
Washington D.C. 20510

NAVY LEAGUE of the United States
"Citizens in Support of the Sea Services"

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May 2004

JOIN NOW!

President's Message

Law of the Sea Convention is Essential to U.S. Naval Power

The sea services of our nation must maintain their leading role in shaping global rules and policies that affect our freedom of navigation and maritime mobility, two essential elements of U.S. naval power. That is why it is now time for Congress to ratify the Law of the Sea Convention and thereby strengthen our national security.

The Convention codifies access and transit rights for our ships and enhances the nation's prosecution of the global war on terrorism. Our nation has much to gain and nothing to lose by becoming a party to the Convention, which is a comprehensive international legal framework governing the world's oceans. The United States should now join 145 nations that use the Convention as a means to assure access to the oceans. In November, the Convention will be opened for amendment. As a party to the Convention, the United States would have a major role in shaping changes to come.

The Law of the Sea Convention is a complex document that touches on wide range of U.S. maritime concerns. Since it was finalized in 1982, a primary U.S. interest in the Convention has been to preserve essential navigational freedoms and thereby enhance the mobility of U.S. naval power. That is why every chief of naval operations (CNO), the Joint Chiefs of Staff and the Department of Defense have consistently and strongly supported U.S. ratification.

Our current CNO, Adm. Vern Clark, said in a March 18 letter to Sen. Richard G. Lugar, R-Ind., chairman of the Senate Committee on Foreign Relations, that accession to the Convention will support "our ability to operate around the globe, anytime, anywhere, allowing the Navy to project power where and when needed."

The Convention guarantees, for example, that ships and aircraft may transit straits that otherwise may have been closed by the territorial claims of nearby states. More than 135 straits are affected, including the Strait of Hormuz, entryway to the Persian Gulf, and the Strait of Malacca, the main sea route between the Indian and Pacific oceans.

In fact, the United States' interest as a global naval power was behind its initial participation in talks on the Convention as the United Nations conducted negotiations from 1973 to 1982. Our policy makers were concerned that transit and access rights of U.S. warships could be restricted by the rising number of claims from other nations over territorial seas, fishing zones and offshore high seas areas. Today, Adm. Clark wants the United States to join because, he said, "the Law of the Sea Convention helps assure access to the largest maneuver space on the planet — the sea — under authority of widely recognized and accepted law and not the threat of force."

Much of our government's initial delay in ratification was linked to objections by many industrialized countries to sections related to deep seabed mining. However, changes to the Convention in 1994 remedied each of the U.S. objections.

Despite its advantages, the Law of the Sea Convention remains controversial because of widespread — and erroneous — belief that it would adversely affect U.S. sovereignty, inhibit our intelligence gathering activities or hamper the U.S. Proliferation Security Initiative (PSI) through which our forces seek to interdict shipments of weapons of mass destruction.

Critics point to the International Tribunal for the Law of the Sea, created to settle disputes, as a threat to U.S. sovereignty. However, parties to the Convention are free to agree on any method of dispute settlement they desire — and the U.S. will not select the Tribunal.

Fears that ratification would diminish our collection of intelligence are linked to a section of the Convention containing a list of activities that would deprive a vessel of the right of innocent passage through territorial seas. These activities include the collection of certain types of information and the requirement that submarines navigate on the surface. However, such activity is not a violation of the Convention. Intelligence-gathering activities are not prohibited nor adversely affected by the Convention.

The Bush Administration's PSI — potentially a major weapon in the global war on terrorism — seeks the support of all nations in international efforts to board and search

vessels suspected of transporting weapons of mass destruction. Adm. Michael G. Mullen, vice chief of naval operations, told Lugar's committee that being party to the Convention "would greatly strengthen" the Navy's ability to support the PSI by reinforcing freedom of navigation rights on which the service depends for its operational mobility.

We learned in Iraq that even allies sometimes will block access to key battle areas. Our freedom of navigation cannot be contingent on the approval of nations along global sea lanes. A legal regimen for the world's oceans will help guarantee worldwide mobility for our military.

The Law of the Sea Convention is good for our sea services. It strengthens our country. The time for ratification is at hand.

Sheila M. McNeill, National President

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CHAIRMAN OF THE JOINT CHIEFS OF STAFF
WASHINGTON, D.C. 20318-9999

7 April 2004

The Honorable Richard G. Lugar
Chairman, Committee on Foreign
Relations
United States Senate
Washington, D.C. 20510-6225

Dear Mr. Chairman,

The testimony of the Chief of Naval Operations, Admiral Vern Clark, to the Senate Armed Services Committee regarding the Law of the Sea Convention (LOSC) reflects the views of the combatant commanders and the Joint Chiefs. We strongly support US accession to LOSC.

The Convention remains a top national security priority. In today's fast changing world, it ensures the ability of the US Armed Forces to operate freely across the vast expanse of the world's oceans under the authority of widely recognized and accepted international law. It supports efforts in the War on Terrorism by providing much-needed stability and operational maneuver space, codifying essential navigational and overflight freedoms.

The rules under which US forces have operated for over 40 years to board and search ships or to conduct intelligence activities will not be affected. The LOSC does not require permission from the United Nations to conduct these searches and leaves US intelligence activities unaffected. Moreover, the Proliferation Security Initiative is designed to be consistent with international law and frameworks, including the LOSC. While the Administration previously raised a concern regarding dispute resolution, that has been satisfactorily addressed by the proposed Resolution on Advice and Consent. Accession will provide continued US leadership in the development and interpretation of the Law of the Sea and ensure changes are compatible with future military initiatives.

I appreciate your continued strong support of the LOSC and the US Armed Forces.

Sincerely,

RICHARD B. MYERS
Chairman
of the Joint Chiefs of Staff

4954

THE WHITE HOUSE

WASHINGTON

February 8, 2007

Dear Mr. Chairman:

Recognizing the historic bipartisan support for the Law of the Sea Convention, I anticipate our shared interest in moving it forward. As the President believes, and many members of this Administration and others have stated, the Convention protects and advances the national security, economic, and environmental interests of the United States. In particular, the Convention supports navigational rights critical to military operations and essential to the formulation and implementation of the President's National Security Strategy, as well as the National Strategy for Maritime Security. I appreciate your efforts as Chairman in bringing this important Convention to the Senate for consideration and look forward to its approval as early as possible during the 110th Congress.

Sincerely,

Stephen J. Hadley
Assistant to the President
for National Security Affairs

The Honorable Joseph R. Biden, Jr.
Chairman
Committee on Foreign Relations
United States Senate
Washington, D.C. 20510

4955

RICE SAYS ADMINISTRATION SUPPORTS EARLY ACTION ON UN LAW OF SEA TREATY

January 25, 2004 -- During her nomination hearings on January 18-19, 2005, Dr. Condoleezza Rice asserted Administration support for "early Senate action" on the UN Convention on the Law of the Sea and urged the Foreign Relations Committee to report it to the floor again in the 109th Congress. Although the Senate Committee on Foreign Relations unanimously approved the treaty last year, the convention and implementing agreement must be re-reported for consideration in the new Congress. It is reported that the Committee may send the treaty to the floor for consideration as early as the first week of April.

In her testimony, Dr. Rice asserted that "Joining the Convention will advance the interests of the U.S. military," and that the U.S. "will gain economic and resource benefits from the Convention."

Full text of Dr. Rice's responses:

Questions from Senator Richard G. Lugar
Nomination Hearing for Dr. Condoleezza Rice
January 18 & 19, 2005

Law of the Sea: Ratification Efforts

Question #1:

The most recent Treaty Priority List submitted by the Administration to the Committee listed the Law of the Sea Convention as a treaty "for which there is an urgent need for Senate approval." How can we work together to make certain that the treaty is ratified on an urgent basis?

Answer:

The Administration supports early Senate action on the Convention.
The Administration urges the Senate Foreign Relations Committee to again favorably report out the Convention and Implementing Agreement, with the Resolution of Advice and Consent to Ratification as reported by the Committee last March.
The Administration will work with the Senate leadership to bring the Convention and implementing Agreement to a floor vote in the 109th Congress.

Law of the Sea: Benefits for National Security

Question #2:

I was pleased to see in the U.S. Ocean Action Plan that he submitted to the Congress on December 17, the President states that "as a matter of national security, economic self-interest, and international leadership, the administration is strongly committed to U.S. accession to the UN Convention on the Law of the Sea." Can you cite specific benefits that accession will have for U.S. national security?

Answer:

Joining the Convention will advance the interests of the U.S. military.

As the world's leading maritime power, the United States benefits more than any other nation from the navigation provisions of the Convention. Those provisions, which establish international consensus on the extent of jurisdiction that States may exercise off their coasts, preserve and elaborate the rights of the U.S. military to use the world's oceans to meet national security requirements. They achieve this, among other things:
• by stabilizing the outer limit of the territorial sea at 12 nautical miles;
• by setting forth the navigation regime of innocent passage for all ships in the territorial sea, through an exhaustive and objective list of activities that are inconsistent with innocent passage – an improvement over the subjective language in the 1958 Convention on the Territorial Sea and Contiguous Zone;

- by protecting the right of passage for all ships and aircraft, through, under, and over straits used for international navigation, as well as archipelagoes;
- by reaffirming the traditional freedoms of navigation and overflight in the exclusive economic zone and the high seas beyond; and
- by providing for the laying and maintenance of submarine cables and pipelines.

U.S. Armed Forces rely on these navigation and overflight rights daily, and their protection is of paramount importance to U.S. national security.

Becoming a party to the Convention would strengthen our ability to deflect potential proposals that would be inconsistent with U.S. national security interests, including those affecting freedom of navigation.

Law of the Sea: Economic Benefits

Question #3:

Support for U.S. accession to the Law of the Sea Convention has been expressed by U.S. companies and industry groups whose businesses depend on the oceans. These include the American Petroleum Institute, the U.S. Oil and Gas Association, the Chamber of Shipping of America, the U.S. Tuna

Foundation, the American Chemistry Council, the National Oceans Industries Association, and the U.S. Council for International Business. Do you agree with these U.S. companies that acceding to the Law of the Sea Convention will advance U.S. economic interests and benefit American businesses?

Answer:

Yes. The United States, as the country with the longest coastline and the largest exclusive economic zone, will gain economic and resource benefits from the Convention:

- The Convention accords the coastal State sovereign rights over non-living resources, including oil and gas, found in the seabed and subsoil of its continental shelf.
- The Convention improves on the 1958 Continental Shelf Convention, to which the United States is a party, in several ways:

by replacing the "exploitability" standard with an automatic♣ continental shelf out to 200 nautical miles, regardless of geology;
by♣ allowing for extension of the shelf beyond 200 miles if it meets certain geological criteria; and
by establishing an institution that can promote♣ the legal certainty sought by U.S. companies concerning the outer limits of the continental shelf.

Concerning mineral resources beyond national jurisdiction, i.e., not subject to the sovereignty of the United States or any other country, the 1994 Agreement meets our goal of guaranteed access by U.S. industry on the basis of reasonable terms and conditions.

Joining the Convention would facilitate deep seabed mining activities of U.S. companies, which require legal certainty to carry out such activities in areas beyond U.S. jurisdiction.

The Convention also accords the coastal State sovereign rights over living marine resources, including fisheries, in its exclusive economic zone, i.e., out to 200 nautical miles from shore.

The Convention protects the freedom to lay submarine cables and pipelines, whether military, commercial, or research.

In addition, the Convention establishes a legal framework for the protection and preservation of the marine environment from a variety of sources, including pollution from vessels, seabed activities, and ocean dumping.

The provisions effectively balance the interests of States in protecting the environment and natural resources with their interests in freedom of navigation and communication.

With the majority of American living in coastal areas, and U.S. coastal areas and EEZ generating vital economic activities, the United States has a strong interest in these aspects of the Convention.

Law of the Sea: Military Operations

Question#4:

It is my understanding that it has been U.S. policy since President Reagan's 1983 Statement of Ocean Policy that the United States, including the U.S. military, will act in accordance with the Law of the Sea Convention's provisions relating to the traditional uses of the oceans. Would acceding to the Law of the Sea Convention require the United States military to make any changes in its existing policies or procedures with respect to the use of the oceans to conduct military operations?

Answer:

No.

As the Chief of Naval Operations, Admiral Vern Clark, testified before the Senate Armed Services Committee on April 8, 2004, "I am convinced that joining the Law of the Sea Convention will have no adverse effect on our operations ..., but rather, will support and enhance ongoing U.S. military operations, including continued prosecution of the global war on terrorism."
The Vice Chief of Naval Operations, Admiral Mike Mullen, testified before the House International Relations Committee on May 12, 2004, that the Navy "currently operate[s] – willingly because it is our national security interests – within the provisions of the Law of the Sea Convention in every area related to navigation. We would never recommend an international commitment that would require us to get a permission slip – from anyone – to conduct our operations." Admiral Mullen concluded his oral statement by emphasizing, "Simply, the Convention does not require a permission slip or prohibit these activities; we would continue operating our military forces as we do today."

Law of the Sea: Weapons Of Mass Destruction

Question #5:

Some commentators have asserted that acceding to the Law of the Sea Convention would prevent the United States from taking action necessary to stop the transportation of weapons of mass destruction across the oceans. I note,

however, that State Department Legal Adviser William Taft testified before the House International Relations Committee that "the Convention will not affect applicable maritime law or policy regarding interdiction of weapons of mass destruction, their means of delivery and related materials." Do you believe that acceding to the Law of the Sea Convention will in any way diminish the ability of the United States to take necessary action to prevent the transport of weapons of mass destruction?

Answer:

No.

The Convention's navigation provisions derive from the 1958 law of the sea conventions, to which the United States is a party, and also reflect customary international law accepted by the United States.
As such, the Convention will not affect applicable maritime law or policy regarding interdiction of weapons of mass destruction.
Like the 1958 conventions, the LOS Convention recognizes numerous legal bases for taking enforcement action against vessels and aircraft suspected of engaging in proliferation of weapons of mass destruction:

- exclusive port and coastal State jurisdiction in internal waters and national airspace;
- coastal State jurisdiction in the territorial sea and contiguous zone;
- exclusive flag State jurisdiction over vessels on the high seas (which the flag State may, either by general agreement in advance or approval in response to a specific request, waive in favor of other States); and
- universal jurisdiction over stateless vessels.

Nothing in the Convention impairs the inherent right of individual or collective self-defense (a point which is reaffirmed in the Resolution of Advice and Consent proposed in the last Congress).

Law of the Sea: Proliferation Security Initiative

Question #6:

Some commentators have asserted that acceding to the Law of the Sea Convention would prevent or inhibit the United States from implementing the Proliferation Security Initiative. I note, however, that State Department Legal Adviser William Taft testified before our Committee that the PSI is consistent with the Law of the Sea Convention, and that the obligations under the Convention do not present any difficulties for successfully carrying out this important initiative. Chief of Naval Operations Admiral Vern Clark gave similar testimony before the Senate Armed Services Committee. I also note that all of the other countries that are partners with the United States in PSI are themselves parties to the Law of

the Sea Convention. In your view, will acceding to the Convention inhibit the United States and its partners from successfully pursuing the PSI?

Answer:

No.

PSI requires participating countries to act consistent with national legal authorities and "relevant international law and frameworks," which includes the law reflected in the Law of the Sea Convention.
The Convention's navigation provisions derive from the 1958 law of the sea conventions, to which the United States is a party, and also reflect customary international law accepted by the United States.
As such, the Convention will not affect applicable maritime law or policy regarding interdiction of weapons of mass destruction, their means of delivery, and related materials.

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- universal jurisdiction over stateless vessels.

Nothing in the Convention impairs the inherent right of individual or collective self-defense (a point which is reaffirmed in the Resolution of Advice and Consent proposed in the last Congress).

Law of the Sea: Role of the UN

Question #7:

Some commentators have asserted that the Law of the Sea Convention gives the United Nations the power to regulate the use of the oceans and that U.S. accession to the Convention would allow the United Nations to veto uses of the ocean by the United States, including by the U.S. military. It is my understanding that, under the Convention, the United Nations has no decision-making role with respect to any uses of the oceans. Please explain what role, if any, the United Nations would have in regulating uses of the oceans by the United States if the United States were to accede to the Law of the Sea Convention.

Answer:

The United Nations has no decision-making role under the Convention in regulating uses of the oceans by any State Party to the Convention. Commentators who have made this assertion have argued that the International Seabed Authority (ISA) somehow has regulatory power over all activities in the oceans.
The authority of the ISA is limited to administering the exploration and exploitation of minerals in areas of deep seabed beyond national jurisdiction, generally more than 200 miles from shore. The ISA has no other role and has no general regulatory authority over the uses of the oceans, including freedom of navigation and oversight.

Law of the Sea: Taxation by International Seabed Authority

Question #8:

Some commentators have asserted that acceding to the Law of the Sea Convention would involve giving the International Seabed Authority the power to impose taxes on U.S. citizens. State Department Legal Adviser William Taft has testified before Congress that the International Seabed Authority has no ability or authority to levy taxes. In your view, is there any basis for concern that U.S. accession to the Law of the Sea Convention will result in U.S. citizens being subject to taxation by the International Seabed Authority?

Answer:

No. The Convention does not provide for or authorize taxation of individuals or corporations.

Law of the Sea: Technology Transfer

Question #9:

Some commentators have asserted that the United States would be required to transfer sensitive technology, including technology with military applications, to developing countries if it acceded to the Law of the Sea Convention. It is my understanding, however, that provisions of the Law of the Sea Convention containing mandatory technology transfer requirements were eliminated by the 1994 Agreement addressing the Convention's deep seabed mining regime. Do you believe there is any reason for concern that acceding to the Convention would require the United States to transfer any technology to developing countries?

Answer:

No, technology transfers are not required by the Convention.

Law of the Sea: U.S. Sovereignty over Ocean Resources

Question #10:

Some commentators have asserted that acceding to the Law of the Sea Convention will involve ceding to the International Seabed Authority sovereignty currently enjoyed by the United States over ocean resources. It is my understanding, however, that the jurisdiction of the International Seabed Authority addresses only mining of minerals in areas of the deep seabed beyond the jurisdiction of any country, and that the United States has never asserted sovereignty over such areas. Do you believe that acceding to the Convention would involve any surrender of existing United States claims to sovereignty over ocean resources?

Answer:

No, the United States has never claimed sovereignty over areas or resources of the deep seabed.

The Convention's provisions on the exclusive economic zone and continental shelf preserve and expand U.S. sovereign rights over the living and non-living ocean resources located within, and with regard to the continental shelf beyond, 200 miles of our coastline.

Law of the Sea: Effect of 1994 Implementing Agreement

Question #11:

Some commentators have asserted that there is uncertainty as to the legal status of the 1994 Agreement Relating to the Implementation of Part XI of the Law of the Sea Convention, which addresses the Convention's deep seabed mining regime. I have received a letter from eight former Legal Advisers to the Department of State from both Republican and Democratic Administrations stating that the 1994 Agreement "has binding legal effect in its modification of the LOS Convention." Do you believe there is any basis for questioning the legal effect of the 1994 Agreement?

Answer:

No. My understanding is that the notion that the 1994 Agreement has no legal effect is incorrect.

Last updated:

Statement of Senator Lisa Murkowski
Senate Foreign Relations Committee
Hearing on the UN Convention on the Law of the Sea
September 27, 2007

Mr. Chairman – thank you for holding this hearing and the opportunity to comment on a treaty that is of particular importance to Alaska.

Some of my colleagues may not be aware, but over half of the United States' coastline is in Alaska. Likewise, the Arctic Ocean covers only 3% of the earth's surface, yet it accounts for over 25% of the world's continental shelf area. So when we are considering a Treaty that governs the planet's oceans and the ocean floor, the people of Alaska have a very strong interest.

There are some who do not see the point in joining the rest of the world in ratifying the Convention on the Law of the Sea. They say that the U.S. already enjoys the benefits of the Treaty even though we are not a member – that by not becoming a party to the Treaty we can pick and choose which sections of the Treaty we abide by while not subjecting our actions to international review.

But I would point out, while the situation is favorable now, that may not always be the case. The Treaty opened to amendment in 2004. Do we want a seat at the table to ensure our voice is heard, or do we place our interests in the hands of other nations?

I will give one example. When the U.S. declined to sign the Law of the Sea Treaty in 1982 out of concern over deep sea-bed mining provisions in Part XI, one of the objections was that the United States was not guaranteed a seat on the executive council of the international seabed authority. With the renegotiation in the 1994 agreement, the U.S. is essentially assured a seat on the 36-member State Council by virtue of the "largest economy" provision within the Implementation Agreement.

And I would note that while some decisions by the Council are subject to majority vote if a consensus cannot be formed, there are circumstances where decisions must be made by consensus – including the adoption of rules concerning sea-bed mining, and the adoption of amendments to Part XI of the Treaty. As a party to the Law of the Sea, the U.S. can promote rules and regulations based on market principles and investment protection. But if we do not ratify this Treaty, the Senate will have capitulated the United States' ability to block unfavorable rules and amendments – including potential amendments that could revoke the United States' guarantee of a seat in the Council.

The U.S. waged a global campaign in the developed world to hold off ratifying the Treaty until the sea-bed mining provisions were changed. We got what we wanted, but still we have declined to ratify the Law of the Sea. How can we expect parties in the future to take the U.S. seriously when we negotiate treaties or agreements if we are not willing to follow through in this instance? I believe it is very important for the U.S. to be a party to

this Treaty and be a player in the process, rather than an outsider hoping our interests are not damaged.

Now, there are several topics I would like to comment on relating to the Treaty and its potential impact on Alaska. The first being claims over the continental shelf.

In the 1958 Convention on the Continental Shelf, which the U.S. is a party to, the issue of limitations on the continental shelf was not resolved due to lack of information about the continental shelf. With technological advances and greater knowledge the Law of the Sea provides that a coastal state's continental shelf can extend for 200 nautical miles, with the potential to extend that claim even further.

Russia has submitted a number of claims to the Commission on the Limits of the Continental Shelf that would grant them 45% of the Arctic Ocean's bottom resources – first in 2002 and of course the most recent when Russia placed a flag on the ocean bottom earlier this year. We are fortunate that the Commission so far has withheld its approval of Russia's claim.

According to the U.S. Arctic Research Commission, if we were to become a party to the Treaty, the U.S. stands to lay claim to an area in the Arctic of about 450,000 square kilometers – or approximately the size of California.

But if we do not become a party to the Treaty our opportunity to make this claim, and have the international community respect it, diminishes considerably – as does our ability to prevent claims like Russia's from coming to fruition.

Not only is that a negligent forfeiture of valuable oil, gas, and mineral deposits, but also the ability to perform critical scientific research. The Arctic Ocean is the most poorly understood ocean on the planet. Now is the time to be studying the thinning of the polar cap and its potential impact on the global climate, as well as potential economic activity in the area – not the least of which is the opening of polar routes for maritime commerce.

Also in relation to the Arctic Ocean – and the potential thinning of the polar cap – is the opening of polar routes for maritime commerce. There are predictions that the Arctic Ocean will be ice free for ninety days or more in the summer by the year 2050 – which in turn translates into greater access, and greater utilization.

By utilizing a polar route, the distance between Asia and Europe is 40% shorter than current routes via the Suez or Panama Canals – and is in a much more stable part of the world.

But with greater usage comes greater responsibility. A number of nations have Arctic research programs. Alaska's coastline on the Arctic Ocean is over 1,000 nautical miles. The U.S. can either exercise sea control and protection in this area of the world, or cede that role to whichever nation is willing to assume it. As a party to the Law of the Sea, the

United States' ability to enforce our territorial waters and our Exclusive Economic Zone (EEZ) in the Arctic Ocean is strengthened even further.

Mr. Chairman, the Convention on the Law of the Sea also provides a basis for several international treaties with great relevance to our nation's most productive fisheries, which occur off the coast of Alaska and are of significant value to the economies of Alaska and other Pacific Northwest states.

The Convention on Straddling and Highly Migratory stocks provides both access to, and protections for fish stocks which migrate through the high seas and the jurisdictions of other countries. Among the stocks for which this agreement is of paramount significance is the Bering Sea stock of Alaska pollock, which is the basis for this country's largest single fishery.

The Convention on Fisheries in the Central Bering Sea is another critical piece, which allows us an unprecedented degree of control over the activities of other fishing nations in the central portion of the Bering Sea, beyond both the U.S. and the Russian Exclusive Economic Zones. Without the influence of the Law of the Sea, neither of these important fishing agreements would likely have come into being.

Also, Mr. Chairman, let me note the importance – and the somewhat fragile status of – our maritime boundary agreement with Russia. As you may know, this agreement delineates a specific boundary between our two countries. It is necessary because the agreement under which the United States acquired what is now the State of Alaska was interpreted differently by the two parties.

Both the boundary agreement, and the fisheries enforcement mechanisms that stem from it, are critical to the conduct of fisheries policy in the U.S. and Russian EEZs in the Bering Sea. Although the United States ratified the maritime boundary agreement shortly after it was presented to the Senate, the Russian government has yet to do so, under pressure both from nationalist political interests and Russian Far East economic interests. While observing the provisions of the boundary treaty, the Russian government also has attempted to persuade the U.S. to make a number of significant concessions regarding Russian access to U.S. fishery resources, suggesting meanwhile that such concessions would improve the atmosphere for Russian ratification.

The terms of the boundary treaty are widely regarded as highly favorable to the United States, and are themselves consistent with the Law of the Sea. However, rejection of the latter by the United States could trigger similar rejection by the Russian Duma of the boundary treaty. If that were to occur, it would extremely difficult to renegotiate the boundary agreement with similar positive results for the United States.

The United States and Alaska have tremendous interests in the Arctic Ocean. Our technological capabilities in calculating the extent of the continental shelf are welcomed by other nations. As a party to the Law of the Sea Treaty, we have the opportunity to

stake our claim to a significant chunk of real estate that has the potential for impact on our economy and our national security.

We also have the opportunity to further U.S. leadership in the international community on maritime issues and ensure the continuation of those provisions in the Convention that are so vital to the United States' fisheries industries.

The Convention on the Law of the Sea has my strong support and I look forward to its consideration on the Senate floor.

INFORMATION MEMO
SENATOR MURKOWSKI
From: Isaac
Date: December 10, 2007

RE: Law of the Sea: Myths v. Fact

Below are three of the most common arguments in opposition to the Law of the Sea Treaty and what the text of the Convention actually says.

United Nations:
Myth: This is an abrogation of our sovereignty and hands over control of the United States' waters and seabed to the United Nations.

Reality: The only connection the United Nations Convention on the Law of the Sea has with the United Nations is its title.* Although negotiated under the auspices of the United Nations, the U.N. has no role in the governance of the Treaty nor in the commissions set up by the Treaty. The Treaty establishes several international bodies, most notably the Commission on the Limits of the Continental Shelf and the International Seabed Authority.

The Continental Shelf Commission is composed of 21 members who are "experts in the fields of geology, geophysics, or hydrography" and are nationals of Parties to the Law of the Sea Treaty. This means that unless the United States is a party to the Treaty, no one from the U.S. can serve on the Commission and we will have no say on whether other nations' extended continental shelf claims are internationally recognized. This takes on increased significance with Russia's latest claim to a large portion of the Arctic Ocean. We will not have the opportunity to receive international recognition for our own claims in the Arctic, or refute Russian and other nation's claims, without ratifying the Treaty.

The International Seabed Authority is composed of all parties to the Law of the Sea Treaty. Within the Seabed Authority, a 36-member Council is set up which functions as the executive power of the Seabed Authority. Based on election criteria, the United States would be guaranteed a permanent seat on the Council if we ratify the Treaty. As a result, because most of the Council's substantive decisions are made on a consensus basis, the United States would be able to prevent action against our interests from being adopted.

The Seabed Authority only has jurisdiction over the ocean floor outside of each nation's Exclusive Economic Zone (EEZ). The Law of the Sea grants a nation the exclusive rights over all living and non-living resources within its Exclusive Economic Zone, which extends 200 nautical miles from the shoreline. That includes all fisheries and mineral deposits. No nation may exploit the natural resources within the United States' EEZ without our permission.

* The United Nations does provide a forum for parties to the Treaty to elect members to the Continental Shelf Commission, and funds a secretariat to the Continental Shelf Commission, but plays no other role.

Military:

Myth: The United States Navy's ability to continue its current operations around the world will be subject to an international tribunal. Certain articles in the Treaty prevent military activity, or allow a nation to prevent military passage, in that nation's territorial sea (out to 12 miles from shore). For example, Article 19 says innocent passage is not innocent if a foreign ship undertakes any exercise or practice with weapons of any kind, launches or lands any aircraft, or launches, lands, or takes on board any military device. Article 20 says a submarine must travel on the surface in a nation's territorial sea. Article 30 says that if a warship does not comply with the coastal state's laws, it can be forced to leave. Opponents also say that the exception provided under Article 298 is not clear (more on that below) and would subject U.S. military action to international arbitration or international court.

Reality: A nation has complete sovereignty in its territorial waters and it is understandable that a nation would not want U.S. or any other nation's warships moving through their waters without permission, just as we would not want foreign warships in U.S. waters without abiding by our laws. There are two provisions that refute the opponents arguments.

Article 298 says that when signing, ratifying, or acceding to the Convention, or at any time thereafter, the State may declare that it does not accept any one or more of the procedures with respect to...

> (1)(b) disputes concerning military activities, including military activities by government vessels and aircraft engaged in non-commercial service,

Opponents argue that there is no definition of military activity and another nation could challenge the United States' claim of military activity – thus subjecting our military activities to an international tribunal.

So far Argentina, Belarus, Canada, Cape Verde, Chile, China, France, Mexico, Portugal, South Korea, Russia, Slovenia, Tunisia, Ukraine, and the UK have made declarations opting out of dispute settlement provisions with respect to military activities. This includes every other member of the UN Security Council. In the Senate Resolution of Advice and Consent to the Treaty, the U.S. opts out of the dispute resolution mechanisms for disputes concerning military activities. Further, in the Senate Resolution, the U.S. further declares that "its consent to accession to the Convention is conditioned upon the understanding that, under Article 298(1)(b), each State Party has the exclusive right to determine whether its activities are or were military activities and that such determinations are not subject to review." This is a permissible declaration under the Convention.

Innocent Passage: Article 17 grants ships of all states the right of innocent passage through the territorial sea and archipelagic waters (ie: Indonesia). Based on this right, a U.S. warship will always be able to traverse a nation's territorial waters.

On a side note, it is worth pointing out that just about every Resolution on Advice and Consent that the Senate passes contains a RUD (Reservation, Understanding, or Declaration) and sometimes multiple RUDs. Treaties are purposefully written to be vague so that more nations will support them – the RUDs provide for the individual interpretation of the Treaty. By arguing that a certain item is not specifically spelled out (ie: definition of military activity) you're essentially saying that you don't support any treaty the U.S. has ever become a party to because a RUD is needed to clarify the text.

International Tribunal – Dispute Resolution:

Myth: The United States will be subjecting itself to mandatory international arbitration when we currently enjoy the benefits of the Law of the Sea Treaty without limiting our sovereignty.

Reality: Start with the fact that as a non-party to the Treaty, the U.S. enjoys Law of the Sea Treaty benefits at the pleasure of other nations – they have no obligation to recognize U.S. claims (12 mile territorial sea, 200 mile Exclusive Economic Zone, etc...).

Article 287 permits states to choose from a number of mechanisms for dispute resolution, including: the International Tribunal for the Law of the Sea; the International Court of Justice; an arbitral tribunal; or a special arbitral tribunal. Under the Senate's Resolution of Advice and Consent, the U.S. will choose arbitration. At present, the U.S. is party to 16 multilateral agreements, and a large number of bilateral agreements that require dispute settlement through arbitration. Not the least of these is the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks agreement which is based on the Law of the Sea dispute resolution mechanisms and is highly important to Alaska and the Pacific Northwest's fisheries. The Senate has ratified this Treaty.

Under the special arbitration process, which is principally chosen, both parties select two arbitrators and then those four arbitrators select a fifth and final arbitrator. If they are unable to agree on a fifth arbitrator, they can agree on a third party to select a fifth arbitrator. If still no agreement can be reached, the Secretary General of the U.N. appoints an arbitrator.

In a regular arbitration, each party selects one arbitrator, and then mutually agree on three other arbitrators. If there is no agreement, a third party may appoint the three remaining arbitrators.

Bottom line is that if an arbitration panel returns a decision that the United States strongly opposes, there is no true enforcement mechanism and the U.S. can veto and U.N. Security Council measure.

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Law of the Sea Treaty crucial to U.S. - COMPASS: Points of view from the community

Anchorage Daily News (AK) - November 8, 2007

Author: *SEN. LISA MURKOWSKI ; Commentary*

It's ironic that an international treaty that can do much good for the nation, especially Alaska, is only now moving closer to Senate approval because of actions by Russia, Denmark and Canada. Steps taken by those three nations to strengthen or establish claims in the Arctic Ocean have highlighted for many Americans -- and many of my colleagues -- the need of the Senate to approve the Law of the Sea Treaty. Otherwise, we could be left standing on the shore, watching as other nations divvy up the wealth and scientific riches of the valuable Arctic seabed.

Without ratification, the U.S. will have no permanent seat on the decision-making body that would settle disputed claims.

Without ratification, the United States, with 1,000 miles of Arctic coast along Alaska, would be the only Arctic nation not party to the treaty. Currently, 155 nations have ratified the treaty, including all of our allies and the world's maritime powers.

International negotiators first approved the Convention on the Law of the Sea in 1982. President Ronald Reagan wisely saw a serious shortcoming in how the new treaty would deal with deep-seabed mining. Negotiators went back to work and, in 1994, presented an improved treaty.

U.S. Senate approval is required of all international treaties, and a Senate committee held hearings in 1994 but the full Senate never voted on the measure. Committee hearings resumed in 2003 and 2004, but still no vote.

The Senate Foreign Relations Committee, of which I am a member, again took up the treaty last month. I hope this is the year for final passage.

Several events of the past few months have pushed the treaty to the front of the agenda, including Russia's decision to send two small submarines into Arctic waters in August to plant their nation's flag under the North Pole. Russia believes its continental shelf extends that far into the Arctic. Like-minded Denmark has sent scientists to determine if a mountain ridge beneath the Arctic Ocean is connected to its territory of Greenland. And Canada, getting nervous at the thought of underwater flags and ice-free shipping lanes through the Northwest Passage, is talking about setting up military bases and expanding its fleet to patrol the waters.

The United States cannot sit by and watch as other nations draw their own maps.

Under the Law of the Sea Treaty, member nations can claim an exclusive economic zone out to 200 miles, with sovereign rights to explore, develop and manage the resources within that zone. Nations' claims can extend even farther if they can prove a real connection to their continental shelf. The U.S. Arctic Research Commission believes the United States could lay claim, beyond our 200 mile exclusive economic zone, to the northern seabed around Alaska equal in size to the state of California.

This isn't just about the oil, gas and mineral resources in the Arctic. It's also about managing the critical scientific research that is so important to Alaskans' way of life. It's about the United States defining and defending its rights on uses of the sea, rules of navigation,

economic development and environmental standards. This is about our future, for without Senate ratification of the treaty, the future of miles of ocean north of Alaska is in someone else's hands.

"We have more to gain from legal certainty and public order in the world's oceans than any other country," Deputy Secretary of State John Negroponte said in Senate committee hearings last month. Negroponte, who also has served as director of national intelligence and U.N. ambassador, said the treaty would not interfere with U.S. intelligence-gathering efforts or our Navy's navigational freedom.

Support for Senate ratification is coming from all sides of the political world, including the ranking Republican on the Foreign Relations Committee, Indiana Sen. Richard Lugar, and the Democratic chairman of the committee, Delaware Sen. Joseph Biden.

I urge Alaskans to join me in supporting the Law of the Sea Treaty. It's time the United States signed on the bottom line to protect our rights.

Republican Lisa Murkowski represents Alaska in the U.S. Senate.

Caption: Graphic 1: Lisa Murkowski BW_110807.eps

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Oceans and Law of the Sea

Division for Ocean Affairs and the Law of the Sea

The United Nations Convention on the Law of the Sea
(A historical perspective)

- A historical perspective
- Third United Nations Conference on the Law of the Sea
- Key provisions of the Convention
- The United Nations and the Convention
- The future
- Links to the texts of the 1958 Geneva Conventions on the Law of the Sea

Convention on the Territorial Sea and the Contiguous Zone, 1958

Convention on the High Seas, 1958

Convention on Fishing and Conservation of the Living Resources of the High Seas, 1958

Convention on the Continental Shelf, 1958

Optional Protocol of Signature concerning the Compulsory Settlement of Disputes, 1958

A Historical Perspective

The oceans had long been subject to the freedom of-the-seas doctrine - a principle put forth in the seventeenth century essentially limiting national rights and jurisdiction over the oceans to a narrow belt of sea surrounding a nation's coastline. The remainder of the seas was proclaimed to be free to all and belonging to nc While this situation prevailed into the twentieth century, by mid-century there was an impetus to extend national claims over offshore resources. There was growi concern over the toll taken on coastal fish stocks by long-distance fishing fleets and over the threat of pollution and wastes from transport ships and oil tankers car noxious cargoes that plied sea routes across the globe. The hazard of pollution was ever present, threatening coastal resorts and all forms of ocean life. The navies maritime powers were competing to maintain a presence across the globe on the surface waters and even under the sea.

A tangle of claims, spreading pollution, competing demands for lucrative fish stocks in coastal waters and adjacent seas, growing tension between coastal nation rights to these resources and those of distant-water fishermen, the prospects of a rich harvest of resources on the sea floor, the increased presence of maritime pow and the pressures of long-distance navigation and a seemingly outdated, if not inherently conflicting, freedom-of-the-seas doctrine - all these were threatening to transform the oceans into another arena for conflict and instability.

In 1945, President Harry S Truman, responding in part to pressure from domestic oil interests, unilaterally extended United States jurisdiction over all natural resources on that nation's continental shelf - oil, gas, minerals, etc. This was the first major challenge to the freedom-of-the-seas doctrine. Other nations soon follo suit.

In October 1946, Argentina claimed its shelf and the epicontinental sea above it. Chile and Peru in 1947, and Ecuador in 1950, asserted sovereign rights over a 2 mile zone, hoping thereby to limit the access of distant-water fishing fleets and to control the depletion of fish stocks in their adjacent seas.

Soon after the Second World War, Egypt, Ethiopia, Saudi Arabia, Libya, Venezuela and some Eastern European countries laid claim to a 12-mile territorial sea clearly departing from the traditional three-mile limit.

Later, the archipelagic nation of Indonesia asserted the right to dominion over the water that separated its 13,000 islands. The Philippines did likewise. In 1970, Canada asserted the right to regulate navigation in an area extending for 100 miles from its shores in order to protect Arctic water against pollution.

From oil to tin, diamonds to gravel, metals to fish, the resources of the sea are enormous. The reality of their exploitation grows day by day as technology opens ways to tap those resources.

In the late 1960s, oil exploration was moving further and further from land, deeper and deeper into the bedrock of continental margins. From a modest beginni 1947 in the Gulf of Mexico, offshore oil production, still less than a million tons in 1954, had grown to close to 400 million tons. Oil drilling equipment was already as far as 4,000 metres below the ocean surface.

The oceans were being exploited as never before. Activities unknown barely two decades earlier were in full swing around the world. Tin had been mined in the shallow waters off Thailand and Indonesia. South Africa was about to tap the Namibian coast for diamonds. Potato-shaped nodules, found almost a century earlie lying on the seabed some five kilometres below, were attracting increased interest because of their metal content.

And then there was fishing. Large fishing vessels were roaming the oceans far from their native shores, capable of staying away from port for months at a time. Fish stocks began to show signs of depletion as fleet after fleet swept distant coastlines. Nations were flooding the richest fishing waters with their fishing fleets virtually unrestrained: coastal States setting limits and fishing States contesting them. The so-called "Cod War" between Iceland and the United Kingdom had brought about the spectacle of British Navy ships dispatched to rescue a fishing vessel seized by Iceland for violating its fishing rules.

Offshore oil was the centre of attraction in the North Sea. Britain, Denmark and Germany were in conflict as to how to carve up the continental shelf, with its rich oil resources.

It was late 1967 and the tranquillity of the sea was slowly being disrupted by technological breakthroughs, accelerating and multiplying uses, and a super-Power rivalry that stood poised to enter man's last preserve - the seabed.

It was a time that held both dangers and promises, risks and hopes. The dangers were numerous: nuclear submarines charting deep waters never before explored; designs for antiballistic missile systems to be placed on the seabed; supertankers ferrying oil from the Middle East to European and other ports, passing through congested straits and leaving behind a trail of oil spills; and rising tensions between nations over conflicting claims to ocean space and resources.

The oceans were generating a multitude of claims, counterclaims and sovereignty disputes.

The hope was for a more stable order, promoting greater use and better management of ocean resources and generating harmony and goodwill among States that would no longer have to eye each other suspiciously over conflicting claims.

Third United Nations Conference on the Law of the Sea

On 1 November 1967, Malta's Ambassador to the United Nations, Arvid Pardo, asked the nations of the world to look around them and open their eyes to a looming conflict that could devastate the oceans, the lifeline of man's very survival. In a speech to the United Nations General Assembly, he spoke of the super-Power rivalry that was spreading to the oceans, of the pollution that was poisoning the seas, of the conflicting legal claims and their implications for a stable order and of the rich potential that lay on the seabed.

Pardo ended with a call for "an effective international regime over the seabed and the ocean floor beyond a clearly defined national jurisdiction". "It is the only alternative by which we can hope to avoid the escalating tension that will be inevitable if the present situation is allowed to continue", he said.

Ambassador Tommy Koh, President, UN Conference on the Law of the Sea

Pardo's urging came at a time when many recognized the need for updating the freedom-of-the-seas doctrine to take into account the technological changes that had altered man's relationship to the oceans. It set in motion a process that spanned 15 years and saw the creation of the United Nations Seabed Committee, the signing of a treaty banning nuclear weapons on the seabed, the adoption of the declaration by the General Assembly that all resources of the seabed beyond the limits of national jurisdiction are the common heritage of mankind and the convening of the Stockholm Conference on the Human Environment. What started as an exercise to regulate the seabed turned into a global diplomatic effort to regulate and write rules for all ocean areas, all uses of the seas and all of its resources? These were some of the factors that led to the convening of the Third United Nations Conference on the Law of the Sea, to write a comprehensive treaty for the oceans.

The Conference was convened in New York in 1973. It ended nine years later with the adoption in 1982 of a constitution for the seas - the United Nations Convention on the Law of the Sea. During those nine years, shuttling back and forth between New York and Geneva, representatives of more than 160 sovereign States sat down and discussed the issues, bargained and traded national rights and obligations in the course of the marathon negotiations that produced the Convention.

United Nations Convention on the Law of the Sea - key provisions

- Setting Limits
- Navigation
- Exclusive Economic Zone
- Continental Shelf
- Deep Seabed Mining

- The Exploitation Regime
- Technological Prospects
- The Question of Universal Participation in the Convention
- Pioneer Investors
- Protection of the Marine Environment
- Marine Scientific Research
- Settlement of Disputes

The Convention

Navigational rights, territorial sea limits, economic jurisdiction, legal status of resources on the seabed beyond the limits of national jurisdiction, passage of ships through narrow straits, conservation and management of living marine resources, protection of the marine environment, a marine research regime and, a more unique feature, a binding procedure for settlement of disputes between States - these are among the important features of the treaty. In short, the Convention is an unprecedented attempt by the international community to regulate all aspects of the resources of the sea and uses of the ocean, and thus bring a stable order to mankind's very source of life.

"Possibly the most significant legal instrument of this century" is how the United Nations Secretary-General described the treaty after its signing. The Convention was adopted as a "Package deal", to be accepted as a whole in all its parts without reservation on any aspect. The signature of the Convention by Governments carries the undertaking not to take any action that might defeat its objects and purposes. Ratification of, or accession to, the Convention expresses the consent of a State to be bound by its provisions. The Convention came into force on 16 November 1994, one year after Guyana became the 60th State to adhere to it.

Across the globe, Governments have taken steps to bring their extended areas of adjacent ocean within their jurisdiction. They are taking steps to exercise their rights over neighbouring seas, to assess the resources of their waters and on the floor of the continental shelf. The practice of States has in nearly all respects been carried out in a manner consistent with the Convention, particularly after its entry into force and its rapid acceptance by the international community as the basis for all actions dealing with the oceans and the law of the sea.

The definition of the territorial sea has brought relief from conflicting claims. Navigation through the territorial sea and narrow straits is now based on legal principles. Coastal States are already reaping the benefits of provisions giving them extensive economic rights over a 200-mile wide zone along their shores. The right of landlocked countries of access to and from the sea is now stipulated unequivocally. The right to conduct marine scientific research is now based on accepted principles and cannot be unreasonably denied. Already established and functioning are the International Seabed Authority, which organize and control activities in the deep seabed beyond national jurisdiction with a view to administering its resources; as well as the International Tribunal for the Law of the Sea, which has competence to settle ocean related disputes arising from the application or interpretation of the Convention.

Wider understanding of the Convention will bring yet wider application. Stability promises order and harmonious development. However, Part XI, which deals with mining of minerals lying on the deep ocean floor outside of nationally regulated ocean areas, in what is commonly known as the international seabed area, had raised many concerns especially from industrialized States. The Secretary-General, in an attempt to achieve universal participation in the Convention, initiated a series of informal consultations among States in order to resolve those areas of concern. The consultations successfully achieved, in July 1998, an Agreement Related to the Implementation of Part XI of the Convention. The Agreement, which is part of the Convention, is now deemed to have paved the way for all States to become parties to the Convention.

Setting Limits

The dispute over who controls the oceans probably dates back to the days when the Egyptians first plied the Mediterranean in papyrus rafts. Over the years and centuries, countries large and small, possessing vast ocean-going fleets or small fishing flotillas, husbanding rich fishing grounds close to shore or eyeing distant harvests, have all vied for the right to call long stretches of oceans and seas their own.

Conflicting claims, even extravagant ones, over the oceans were not new. In 1494, two years after Christopher Columbus' first expedition to America, Pope Alexander VI met with representatives of two of the great maritime Powers of the day - Spain and Portugal - and neatly divided the Atlantic Ocean between them. A Papal Bull gave Spain everything west of the line the Pope drew down the Atlantic and Portugal everything east of it. On that basis, the Pacific and the Gulf of Mexico were acknowledged as Spain's, while Portugal was given the South Atlantic and the Indian Ocean.

Before the Convention on the Law of the Sea could address the exploitation of the riches underneath the high seas, navigation rights, economic jurisdiction, or any other pressing matter, it had to face one major and primary issue - the setting of limits. Everything else would depend on clearly defining the line separating national and international waters. Though the right of a coastal State to complete control over a belt of water along its shoreline - the territorial sea - had long been recognized in international law, up until the Third United Nations Conference on the Law of the Sea, States could not see eye to eye on how narrow or wide this belt should be.

At the start of the Conference, the States that maintained the traditional claims to a three-mile territorial sea had numbered a mere 25. Sixty-six countries had by then claimed a 12-mile territorial sea limit. Fifteen others claimed between 4 and 10 miles, and one remaining major group of eight States claimed 200 nautical miles.

Traditionally, smaller States and those not possessing large, ocean-going navies or merchant fleets favoured a wide territorial sea in order to protect their coastal waters from infringements by those States that did. Naval and maritime Powers, on the other hand, sought to limit the territorial sea as much as possible, in order to protect their fleets' freedom of movement.

As the work of the Conference progressed, the move towards a 12-mile territorial sea gained wider and eventually universal acceptance. Within this limit, States are in principle free to enforce any law, regulate any use and exploit any resource.

The Convention retains for naval and merchant ships the right of "innocent passage" through the territorial seas of a coastal State. This means, for example, that a Japanese ship, picking up oil from Gulf States, would not have to make a 3,000-mile detour in order to avoid the territorial sea of Indonesia, provided passage is not detrimental to Indonesia and does not threaten its security or violate its laws.

In addition to their right to enforce any law within their territorial seas, coastal States are also empowered to implement certain rights in an area beyond the territorial sea, extending for 24 nautical miles from their shores, for the purpose of preventing certain violations and enforcing police powers. This area, known as the "contiguous zone", may be used by a coast guard or its naval equivalent to pursue and, if necessary, arrest and detain suspected drug smugglers, illegal immigrants and customs or tax evaders violating the laws of the coastal State within its territory or the territorial sea.

The Convention also contains a new feature in international law, which is the regime for archipelagic States (States such as the Philippines and Indonesia, which are made up of a group of closely spaced islands). For those States, the territorial sea is a 12-mile zone extending from a line drawn joining the outermost points of the outermost islands of the group that are in close proximity to each other. The waters between the islands are declared archipelagic waters, where ships of all States enjoy the right of innocent passage. In those waters, States may establish sea lanes and air routes where all ships and aircraft enjoy the right of expeditious and unobstructed passage.

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Navigation

Perhaps no other issue was considered as vital or presented the negotiators of the Convention on the Law of the Sea with as much difficulty as that of navigational rights.

Countries have generally claimed some part of the seas beyond their shores as part of their territory, as a zone of protection to be patrolled against smugglers, warships and other intruders. At its origin, the basis of the claim of coastal States to a belt of the sea was the principle of protection; during the seventeenth and eighteenth centuries another principle gradually evolved: that the extent of this belt should be measured by the power of the littoral sovereign to control the area.

In the eighteenth century, the so-called "cannon-shot" rule gained wide acceptance in Europe. Coastal States were to exercise dominion over their territorial seas as far as projectiles could be fired from a cannon based on the shore. According to some scholars, in the eighteenth century the range of land-based cannons was approximately one marine league, or three nautical miles. It is believed that on the basis of this formula developed the traditional three-mile territorial sea limit.

By the late 1960s, a trend to a 12-mile territorial sea had gradually emerged throughout the world, with a great majority of nations claiming sovereignty out to that seaward limit. However, the major maritime and naval Powers clung to a three-mile limit on territorial seas, primarily because a 12-mile limit would effectively close off and place under national sovereignty more than 100 straits used for international navigation.

A 12-mile territorial sea would place under national jurisdiction of riparian States strategic passages such as the Strait of Gibraltar (8 miles wide and the only open access to the Mediterranean), the Strait of Malacca (20 miles wide and the main sea route between the Pacific and Indian Oceans), the Strait of Hormuz (21 miles wide and the only passage to the oil-producing areas of Gulf States) and Bab el Mandeb (14 miles wide, connecting the Indian Ocean with the Red Sea).

At the Third United Nations Conference on the Law of the Sea, the issue of passage through straits placed the major naval Powers on one side and coastal States controlling narrow straits on the other. The United States and the Soviet Union insisted on free passage through straits, in effect giving straits the same legal status as the international waters of the high seas. The coastal States, concerned that passage of foreign warships so close to their shores might pose a threat to their national security and possibly involve them in conflicts among outside Powers, rejected this demand.

Instead, coastal States insisted on the designation of straits as territorial seas and were willing to grant to foreign warships only the right of "innocent passage", a term that was generally recognized to mean passage "not prejudicial to the peace, good order or security of the coastal State". The major naval Powers rejected this concept, since, under international law, a submarine exercising its right of innocent passage, for example, would have to surface and show its flag C an unacceptable security risk in the eyes of naval Powers. Also, innocent passage does not guarantee the aircraft of foreign States the right of overflight over waters where only such passage is guaranteed.

In fact, the issue of passage through straits was one of the early driving forces behind the Third United Nations Conference on the Law of the Sea, when, in early 1967, the United States and the Soviet Union proposed to other Member countries of the United Nations that an international conference be held to deal specifically with the entangled issues of straits, overflight, the width of the territorial sea and fisheries.

The compromise that emerged in the Convention is a new concept that combines the legally accepted provisions of innocent passage through territorial waters and freedom of navigation on the high seas. The new concept, "transit passage", required concessions from both sides.

The regime of transit passage retains the international status of the straits and gives the naval Powers the right to unimpeded navigation and overflight that they had insisted on. Ships and vessels in transit passage, however, must observe international regulations on navigational safety, civilian air-traffic control and prohibition of vessel-source pollution and the conditions that ships and aircraft proceed without delay and without stopping except in distress situations and that they refrain from any threat or use of force against the coastal State. In all matters other than such transient navigation, straits are to be considered part of the territorial sea of the coastal State.

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Exclusive Economic Zone

The exclusive economic zone (EEZ) is one of the most revolutionary features of the Convention, and one which already has had a profound impact on the management and conservation of the resources of the oceans. Simply put, it recognizes the right of coastal States to jurisdiction over the resources of some 38 million square nautical miles of ocean space. To the coastal State falls the right to exploit, develop, manage and conserve all resources - fish or oil, gas or gravel,

nodules or sulphur - to be found in the waters, on the ocean floor and in the subsoil of an area extending 200 miles from its shore.

The EEZs are a generous endowment indeed. About 87 per cent of all known and estimated hydrocarbon reserves under the sea fall under some national jurisdiction as a result. So too will almost all known and potential offshore mineral resources, excluding the mineral resources (mainly manganese nodules and metallic crusts) of the deep ocean floor beyond national limits. And whatever the value of the nodules, it is the other non-living resources, such as hydrocarbons, that represent the presently attainable and readily exploitable wealth.

The most lucrative fishing grounds too are predominantly the coastal waters. This is because the richest phytoplankton pastures lie within 200 miles of the continental masses. Phytoplankton, the basic food of fish, is brought up from the deep by currents and ocean streams at their strongest near land, and by the upwelling of cold waters where there are strong offshore winds.

The desire of coastal States to control the fish harvest in adjacent waters was a major driving force behind the creation of the EEZs. Fishing, the prototypical cottage industry before the Second World War, had grown tremendously by the 1950s and 1960s. Fifteen million tons in 1938, the world fish catch stood at 86 million tons in 1989. No longer the domain of a lone fisherman plying the sea in a wooden dhow, fishing, to be competitive in world markets, now requires armadas of factory-fishing vessels, able to stay months at sea far from their native shores, and carrying sophisticated equipment for tracking their prey.

The special interest of coastal States in the conservation and management of fisheries in adjacent waters was first recognized in the 1958 Convention on Fishing and Conservation of the Living Resources of the High Seas. That Convention allowed coastal States to take "unilateral measures" of conservation on what was then the high seas adjacent to their territorial waters. It required that if six months of prior negotiations with foreign fishing nations had failed to find a formula for sharing, the coastal State could impose terms. But still the rules were disorderly, procedures undefined, and rights and obligations a web of confusion. On the whole, these rules were never implemented.

The claim for 200-mile offshore sovereignty made by Peru, Chile and Ecuador in the late 1940s and early 1950s was sparked by their desire to protect from foreign fishermen the rich waters of the Humboldt Current (more or less coinciding with the 200-mile offshore belt. This limit was incorporated in the Santiago Declaration of 1952 and reaffirmed by other Latin American States joining the three in the Montevideo and Lima Declarations of 1970. The idea of sovereignty over coastal-area resources continued to gain ground.

As long-utilized fishing grounds began to show signs of depletion, as long-distance ships came to fish waters local fishermen claimed by tradition, as competition increased, so too did conflict. Between 1974 and 1979 alone there were some 20 disputes over cod, anchovies or tuna and other species between, for example, the United Kingdom and Iceland, Morocco and Spain, and the United States and Peru.

And then there was the offshore oil.

The Third United Nations Conference on the Law of the Sea was launched shortly after the October 1973 Arab-Israeli war. The subsequent oil embargo and skyrocketing of prices only helped to heighten concern over control of offshore oil reserves. Already, significant amounts of oil were coming from offshore facilities: 376 million of the 483 million tons produced in the Middle East in 1973; 431 million barrels a day in Nigeria, 141 million barrels in Malaysia, 246 million barrels in Indonesia. And all of this with barely 2 per cent of the continental shelf explored. Clearly, there was hope all around for a fortunate discovery and a potential to be protected.

Today, the benefits brought by the EEZs are more clearly evident. Already 86 coastal States have economic jurisdiction up to the 200-mile limit. As a result, almost 99 per cent of the world's fisheries now fall under some nation's jurisdiction. Also, a large percentage of world oil and gas production is offshore. Many other marine resources also fall within coastal-State control. This provides a long-needed opportunity for rational, well-managed exploitation under an assured authority.

Figures on known offshore oil reserves now range from 240 to 300 billion tons. Production from these reserves amounted to a little more than 25 per cent of total world production in 1996. Experts estimate that of the 150 countries with offshore jurisdiction, over 100, many of them developing countries, have medium to excellent prospects of finding and developing new oil and natural gas fields.

It is evident that it is archipelagic States and large nations endowed with long coastlines that naturally acquire the greatest areas under the EEZ regime. Among the major beneficiaries of the EEZ regime are the United States, France, Indonesia, New Zealand, Australia and the Russian Federation.

But with exclusive rights come responsibilities and obligations For example, the Convention encourages optimum use of fish stocks without risking depletion through overfishing. Each coastal State is to determine the total allowable catch for each fish species within its economic zone and is also to estimate its harvest capacity and what it can and cannot itself catch. Coastal States are obliged to give access to others, particularly neighbouring States and land-locked countries, to the surplus of the allowable catch. Such access must be done in accordance with the conservation measures established in the laws and regulations of the coastal State.

Coastal States have certain other obligations, including the adoption of measures to prevent and limit pollution and to facilitate marine scientific research in their EEZs.

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Continental Shelf

In ancient times, navigation and fishing were the primary uses of the seas. As man progressed, pulled by technology in some instances and pushing that technology at other times in order to satisfy his needs, a rich bounty of other resources and uses were found underneath the waves on and under the ocean floor - minerals, natural gas, oil, sand and gravel, diamonds and gold. What should be the extent of a coastal State's jurisdiction over these resources? Where and how should the lines demarcating their continental shelves be drawn? How should these resources be exploited? These were among the important questions facing lawyers, scientists and diplomats as they assembled in New York in 1973 for the Third Conference.

Given the real and potential continental shelf riches, there naturally was a scramble by nations to assert shelf rights. Two difficulties quickly arose. States with a naturally wide shelf had a basis for their claims, but the geologically disadvantaged might have almost no shelf at all. The latter were not ready to accept geological discrimination. Also, there was no agreed method on how to define the shelf's outer limits, and there was a danger of the claims to continental shelves

being overextended - so much so as to eventually divide up the entire ocean floor among such shelves.

Although many States had started claiming wide continental-shelf jurisdiction since the Truman Proclamation of 1945, these States did not use the term "continental shelf" in the same sense. In fact, the expression became no more than a convenient formula covering a diversity of titles or claims to the seabed and subsoil adjacent to the territorial seas of States. In the mid-1950s the International Law Commission made a number of attempts to define the "continental shelf" and coastal State jurisdiction over its resources.

In 1958, the first United Nations Conference on the Law of the Sea accepted a definition adopted by the International Law Commission, which defined the continental shelf to include "the seabed and subsoil of the submarine areas adjacent to the coast but outside the area of the territorial sea, to a depth of 200 metres, or, beyond that limit, to where the depth of the superjacent waters admits of the exploitation of the natural resources of the said areas".

Already, as the Third United Nations Conference on the Law of the Sea got under way, there was a strong consensus in favour of extending coastal-State control over ocean resources out to 200 miles from shore so that the outer limit coincides with that of the EEZ. But the Conference had to tackle the demand by States with a geographical shelf extending beyond 200 miles for wider economic jurisdiction.

The Convention resolves conflicting claims, interpretations and measuring techniques by setting the 200-mile EEZ limit as the boundary of the continental shelf for seabed and subsoil exploitation, satisfying the geologically disadvantaged. It satisfied those nations with a broader shelf C about 30 States, including Argentina, Australia, Canada, India, Madagascar, Mexico, Sri Lanka and France with respect to its overseas possessions C by giving them the possibility of establishing a boundary going out to 350 miles from their shores or further, depending on certain geological criteria.

Thus, the continental shelf of a coastal State comprises the seabed and its subsoil that extend beyond the limits of its territorial sea throughout the natural prolongation of its land territory to the outer edge of the continental margin, or to a distance of 200 miles from the baselines from which the territorial sea is measured, where the outer edge of the continental margin does not extend up to that distance.

In cases where the continental margin extends further than 200 miles, nations may claim jurisdiction up to 350 miles from the baseline or 100 miles from the 2,500 metre depth, depending on certain criteria such as the thickness of sedimentary deposits. These rights would not affect the legal status of the waters or that of the airspace above the continental shelf.

To counterbalance the continental shelf extensions, coastal States must also contribute to a system of sharing the revenue derived from the exploitation of mineral resources beyond 200 miles. These payments or contributions - from which developing countries that are net importers of the mineral in question are exempt C are to be equitably distributed among States parties to the Convention through the International Seabed Authority.

To control the claims extending beyond 200 miles, the Commission on the Limits of the Continental Shelf was established to consider the data submitted by the coastal States and make recommendations

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Deep Seabed Mining

Deep seabed mining is an enormous challenge that has been compared to standing atop a New York City skyscraper on a windy day, trying to suck up marbles off the street below with a vacuum cleaner attached to a long hose.

Mining will take place at a depth of more than fifteen thousand feet of open ocean, thousands of miles from land. Mining ships are expected to remain on station five years at a time, working without a stop, and to transfer the seabed minerals they bring up to auxiliary vessels.

At the centre of the controversy were potato-sized manganese nodules found on the deep ocean floor and containing a number of important metals and minerals.

On 13 March 1874, somewhere between Hawaii and Tahiti, the crew of the British research vessel HMS *Challenger*, on the first great oceanographic expedition of modern times, hauled in from a depth of 15,600 feet a trawl containing the first known deposits of manganese nodules. Analysis of the samples in 1891 showed the Pacific Ocean nodules to contain important metals, particularly nickel, copper and cobalt. Subsequent sampling demonstrated that nodules were abundant throughout the deep regions of the Pacific.

In the 1950s, the potential of these deposits as sources of nickel, copper and cobalt ore was finally appreciated. Between 1958 and 1968, numerous companies began serious prospecting of the nodule fields to estimate their economic potential. By 1974, 100 years after the first samples were taken, it was well established that a broad belt of sea floor between Mexico and Hawaii and a few degrees north of the equator (the so-called Clarion Clipperton zone) was literally paved with nodules over an area of more than 1.35 million square miles.

In 1970 the United Nations General Assembly declared the resources of the seabed beyond the limits of national jurisdiction to be "the common heritage of mankind". For 12 years from then, up to 1982 when the Convention on the Law of the Sea was adopted, nothing tested so sorely the ability of diplomats from various corners of the world to reach common ground than the goal of conserving that common heritage and profiting from it at the same time.

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The Exploitation Regime

Having established that the resources of the seabed beyond the limits of national jurisdiction are the common heritage of mankind, the framers of the treaty faced the question of who should mine the minerals and under what rules. The developed countries took the view that the resources should be commercially exploited by mining companies in consortia and that an international authority should grant licenses to those companies. The developing countries objected to this view on the grounds that the resource was unique and belonged to the whole of mankind, and that the most appropriate way to benefit from it was for the international community to establish a public enterprise to mine the international seabed area.

Thus, the gamut of proposals ran from a "weak" international authority, noting claims and collecting fees, to a "strong" one with exclusive rights to mine the common heritage area, involving States or private groups only as it saw fit. The solution found was to make possible both the public and private enterprises on one hand and the collective mining on the other - the so-called "parallel system".

This complex system, though simplified to a great degree by the Agreement on Part XI, is administered by the International Seabed Authority, headquartered in Jamaica. The Authority is divided into three principal organs, an Assembly, made up of all members of the Authority with power to set general policy, a council, with powers to make executive decisions, made up of 36 members elected from among the members of the Authority, and a secretariat headed by a secretary-general.

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Technological Prospects

Unfortunately, the road to the market is long, hard and expensive. The nodules lie two to three miles - about 5 kilometres - down, in pitch-black water where pressures exceed 7,000 pounds per square inch and temperatures are near freezing. Many of the ocean floors are filled with treacherous hills and valleys. Appropriate deep-sea mining technology must be developed to accommodate this environment.

Many mining systems have been tried, and some have appeared more promising than others. For a while, hydraulic suction dredge airlifts and a continuous-line bucket system were thought to be a promising answer to the mining dilemma. Another system, the so-called shuttle system, involves sending down a remotely operated, Jules Verne-like vehicle, with television "eyes" and powerful lights, to crawl over the ocean floor, gobble up and crush nodules and resurface with its catch.

Today, the continuous-line bucket system, where empty buckets are lowered to the bottom of the ocean and later raised, partially filled with nodules, has been discarded because of low recovery rates. The shuttle system has been shelved because its operational and investment costs far exceeded the costs of more conventional approaches. However, this system is thought to be the technology of the future. Thus, the current focus is on the hydraulic suction and dredge method. But there are a number of technological problems to be worked out before it will be ready for commercial application.

Keeping a steady ship position, since a vessel cannot anchor 5 kilometres above the sea floor and making sure that the pipe does not snap or that the recovery vehicle is not lost or permanently stuck on the ocean floor are among the many headaches involved in developing the necessary technology for commercial exploitation.

Extracting metals from the nodules is another task altogether. All agree that this phase will be the most expensive, even if only at the initial investment stage. Technologically, however, processing does not pose as much of a challenge as the recovery of manganese nodules. That is because it is thought that the two processing techniques applied to land-derived ores - heat and chemical separation of the metals - will apply just as well to the seabed resources.

Because of their porous nature, recovered nodules retain a great deal of water. Heat processing would therefore require a great amount of energy in order to dry the nodules prior to extracting the metals. It is for that reason that some believe that chemical techniques will prove to be the most efficient and least costly.

Moreover, processing would involve such waste that special barren sites would have to be found to carry out operations. Yet, others believe that the economic viability of seabed mining would be greatly enhanced if a method is devised to process the nodules at sea, saving enormous energy costs involved in the transfer of nodules to land-based processing plants.

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The Question of Universal Participation in the Convention

Prospects for seabed mining depend to a large degree on the market conditions for the metals to be produced from seabed nodules. While one of the driving forces behind the Convention on the Law of the Sea was the prevailing belief in the 1970s that commercial seabed mining was imminent, today the prospects for the inherently expensive process of mining the seabed have greatly receded with changing economic and other conditions since the early 1980s. Indeed, some experts predict that commercial mining operations are not likely to begin until well after the year 2000.

A number of important political and economic changes have taken place in the 10 years that have elapsed since the adoption of the Convention, some directly affecting the deep seabed mining provisions of the Convention, others affecting international relations in general. In the meantime, the prevailing economic prognosis on which the seabed mining regime was built has not been realized.

The Convention on the Law of the Sea holds out the promise of an orderly and equitable regime or system to govern all uses of the sea. But it is a club that one must join in order to fully share in the benefits. The Convention - like other treaties - creates rights only for those who become parties to it and thereby accept its obligations, except for the provisions which apply to all States because they either merely confirm existing customary law or are becoming customary law.

However, as its preamble states, the Convention starts from the premise that the problems of ocean space are closely interrelated and need to be considered as a whole. The desire for a comprehensive Convention arose from the recognition that traditional sea law was disintegrating and that the international community could not be expected to behave in a consistent manner without dialogue, negotiations and agreement.

In this context, it must be underscored that the Convention was adopted as a "package deal", with one aim above all, namely universal participation in the Convention. No State can claim that it has achieved quite all it wanted. Yet every State benefits from the provisions of the Convention and from the certainty that it has established in international law in relation to the law of the sea. It has defined rights while underscoring the obligations that must be performed in order to benefit from those rights. Any trend towards exercising those rights without complying with the corresponding obligations, or towards exercising rights inconsistent with the Convention, must be viewed as damaging to the universal regime that the Convention establishes.

The adoption of the Agreement on Part XI has eliminated this threat. With nearly all States now adhering, even on a provisional basis pending ratification or accession, to the Convention, the threat to the Convention has been eliminated. The Agreement has particularly removed those obstacles which had prevented the industrialized countries from adhering to the Convention. Those same countries have either ratified the Convention or submitted it for their internal legislative procedures. Even more important, is their active participation in the institutions created by the Convention and their strong support for the regime contained in it.

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Pioneer Investors

The Preparatory Commission for the International Seabed Authority and for the International Tribunal for the Law of the Sea was established, prior to the entry into force of the Convention, to prepare for the setting up of both institutions. The Preparatory Commission proceeded with the implementation of an interim regime adopted by the Third United Nations Conference on the Law of the Sea, designed to protect those States or entities that have already made a large investment in seabed mining. This so-called Pioneer Investor Protection regime allows a State, or consortia of mining companies to be sponsored by a State, to be registered as a Pioneer Investor. Registration reserves for the Pioneer Investor a specific mine site in which the registered Investor is allowed to explore for, but not exploit, manganese nodules. Registered Investors are also obligated to explore a mine site reserved for the Enterprise and undertake other obligations, including the provision of training to individuals to be designated by the Preparatory Commission.

The Preparatory Commission had registered seven pioneer investors: China, France, India, Japan, the Republic of Korea, and the Russian Federation, as well as a consortium known as the Interoceanmetal Joint Organization (IMO). With the Convention in force and the International Seabed Authority being functioning, those pioneer investors will become contractors along the terms contained in the Convention and the Agreement, as well as regulations established by the International Seabed Authority.

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Protection of the Marine Environment

Thor Heyerdahl, sailing the Atlantic in his papyrus raft, Ra, found globs of oil, tar and plastics stretching from the coast of Africa to South America. Parts of the Baltic, Mediterranean and Black Sea are already so polluted that marine life is severely threatened. And waste dumped in the Pacific and Atlantic Oceans has washed up on the shores of Antarctica.

In the United States, long stretches of beaches are often closed because of medical and other waste washing up on shore. And every time an oil tanker is involved in an accident, the world's pulse quickens a bit in fear of a major catastrophe. In fact, every time a tanker cleans its tanks at sea, every time a factory channels toxic residues to coastal waters or a city conveniently releases raw sewage into the sea, every time a service station changes the oil of an automobile and pours the waste oil into the sewers, the oceans become a little more polluted. Eventually, scientists fear, the oceans' regenerative capacity will be overwhelmed by the amount of pollution it is subjected to by man. Signs of such catastrophe are clearly observed in many seas—particularly along the heavily populated coasts and enclosed or semi-enclosed seas.

There are six main sources of ocean pollution addressed in the Convention: land-based and coastal activities; continental-shelf drilling; potential seabed mining; ocean dumping; vessel-source pollution; and pollution from or through the atmosphere.

The Convention lays down, first of all, the fundamental obligation of all States to protect and preserve the marine environment. It further urges all States to cooperate on a global and regional basis in formulating rules and standards and otherwise take measures for the same purpose.

Coastal States are empowered to enforce their national standards and anti-pollution measures within their territorial sea. Every coastal State is granted jurisdiction for the protection and preservation of the marine environment of its EEZ. Such jurisdiction allows coastal States to control, prevent and reduce marine pollution from dumping, land-based sources or seabed activities subject to national jurisdiction, or from or through the atmosphere. With regard to marine pollution from foreign vessels, coastal States can exercise jurisdiction only for the enforcement of laws and regulations adopted in accordance with the Convention or for "generally accepted international rules and standards". Such rules and standards, many of which are already in place, are adopted through the competent international organization, namely the International Maritime Organization (IMO).

On the other hand, it is the duty of the "flag State", the State where a ship is registered and whose flag it flies, to enforce the rules adopted for the control of marine pollution from vessels, irrespective of where a violation occurs. This serves as a safeguard for the enforcement of international rules, particularly in waters beyond the national jurisdiction of the coastal State, i.e., on the high seas.

Furthermore, the Convention gives enforcement powers to the "port State", or the State where a ship is destined. In doing so it has incorporated a method developed in other Conventions for the enforcement of treaty obligations dealing with shipping standards, marine safety and pollution prevention. The port State can enforce any type of international rule or national regulations adopted in accordance with the Convention or applicable international rules as a condition for the entry of foreign vessels into their ports or internal waters or for a call at their offshore terminals. This has already become a significant factor in the strengthening of international standards.

Finally, as far as the international seabed area is concerned, the International Seabed Authority, through its Council, is given broad discretionary powers to assess the potential environmental impact of a given deep seabed mining operation, recommend changes, formulate rules and regulations, establish a monitoring programme and recommend issuance of emergency orders by the Council to prevent serious environmental damage. States are to be held liable for any damage caused by either their own enterprise or contractors under their jurisdiction.

With the passage of time, United Nations involvement with the law of the sea has expanded as awareness increases that not only ocean problems but global problems as a whole are interrelated. Already, the 1992 United Nations Conference on Environment and Development (UNCED) held in Rio de Janeiro, Brazil in 1992, placed a great deal of emphasis on the protection and preservation of the oceans' environment in harmony with the rational use and development of their living resources, thus establishing the concept of "sustainable development" embodied in Agenda 21, the programme of action adopted at the Conference.

The necessity to combat the degradation and depletion of fish stocks, both in the zones under national jurisdiction and in the high seas and its causes, such as overfishing and excess fishing capacity, by-catch and discards, has been one of the recurrent topics in the process of implementation of the programme of action adopted in Rio de Janeiro.

In this respect, among the most important outputs of the Conference was the convening of an intergovernmental conference under United Nations auspices with a view to resolving the old conflict between coastal States and distant-water fishing States over straddling and highly migratory fish stocks in the areas adjacent to the 200 nautical-mile exclusive economic zones. This Conference adopted the 1995 Agreement on Straddling Fish Stocks and Highly Migratory Fish Stocks which introduces a number of innovative measures, particularly in the area of environmental and resource protection obliging States to adopt a precautionary approach to fisheries exploitation and giving expanded powers to port States to enforce proper management of fisheries resources.

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Marine Scientific Research

With the extension of the territorial sea to 12 miles and the establishment of the new 200-mile EEZ, the area open to unrestricted scientific research was circumscribed. The Convention thus had to balance the concerns of major research States, mostly developed countries, which saw any coastal-state limitation on research as a restriction of a traditional freedom that would not only adversely affect the advancement of science but also deny its potential benefits to all nations in fields such as weather forecasting and the study of effects of ocean currents and the natural forces at work on the ocean floor.

On the other side, many developing countries had become extremely wary of the possibility of scientific expeditions being used as a cover for intelligence gathering or economic gain, particularly in relatively uncharted areas, scientific research was yielding knowledge of potential economic significance.

The developing countries demanded "prior consent" of a coastal State to all scientific research on the continental shelf and within the EEZ. The developed countries offered to give coastal States "prior notification" of research projects to be carried out on the continental shelf and within the EEZ, and to share any data pertinent to offshore resources.

The final provisions of the Convention represent a concession on the part of developed States. Coastal State jurisdiction within its territorial sea remains absolute. Within the EEZ and in cases involving research on the continental shelf, the coastal State must give its prior consent. However, such consent for research for peaceful purposes is to be granted "in normal circumstances" and "shall not be delayed or denied unreasonably", except under certain specific circumstances identified in the Convention. In case the consent of the coastal State is requested and such State does not reply within six months of the date of the request, the coastal State is deemed to have implicitly given its consent. These last provisions were intended to circumvent the long bureaucratic delays and frequent burdensome differences in coastal State regulations.

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Settlement of Disputes

Provisions for the settlement of disputes arising out of an international treaty are often contained in a separate optional protocol. Parties to the treaty could choose to be bound by those provisions or not by accepting or not accepting the Protocol. The Convention on the Law of the Sea is unique in that the mechanism for the settlement of disputes is incorporated into the document, making it obligatory for parties to the Convention to go through the settlement procedure in case of a dispute with another party.

During the drafting of the Convention, some countries were opposed in principle to binding settlement to be decided by third party judges or arbitrators, insisting that issues could best be resolved by direct negotiations between States without requiring them to bring in outsiders. Others, pointing to a history of failed negotiations and long-standing disputes often leading to a use of force, argued that the only sure chance for peaceful settlement lay in the willingness of States to bind themselves in advance to accept the decisions of judicial bodies.

What emerged from the negotiations was a combination of the two approaches, regarded by many as a landmark in international law.

If direct talks between the parties fail, the Convention gives them a choice among four procedures - some new, some old: submission of the dispute to the International Tribunal for the Law of the Sea, adjudication by the International Court of Justice, submission to binding international arbitration procedures or submission to special arbitration tribunals with expertise in specific types of disputes. All of these procedures involve binding third-party settlement, in which an agent other than the parties directly involved hands down a decision that the parties are committed in advance to respect.

The only exception to these provisions is made for sensitive cases involving national sovereignty. In such circumstances, the parties are obliged to submit their dispute to a conciliation commission, but they will not be bound by any decision or finding of the commission. The moral pressure resulting was argued as being persuasive and adequate to ensure compliance with the findings. The Convention also contains so-called "optional exceptions", which can be specified at the time a country signs, ratifies or accedes to the Convention or at any later time. A State may declare that it chooses not to be bound by one or more of the mandatory procedures if they involve existing maritime boundary disputes, military activities or issues under discussion in the United Nations Security Council.

Disputes over seabed activities will be arbitrated by an 11-member Seabed Disputes Chamber, within the International Tribunal for the Law of the Sea. The Chamber has compulsory jurisdiction over all such conflicts, whether involving States, the International Seabed Authority or companies or individuals having seabed mining contracts.

The United Nations and the Law of the Sea

Throughout the years, beginning with the work of the Seabed Committee in 1968 and later during the nine-year duration of the Third United Nations Conference on the Law of the Sea, the United Nations has been actively engaged in encouraging and guiding the development and eventual adoption of the Law of the Sea Convention. Today, it continues to be engaged in this process, by monitoring developments as they relate to the Convention and providing assistance to States, when called for, in either the ratification or the implementation process.

The goal of the Organization is to help States to better understand and implement the Convention in order to utilize their marine resources in an environment relatively free of conflict and conducive to development, safeguarding the rule of law in the oceans.

In this context, the Division for Ocean Affairs and the Law of the Sea (DOALOS) of the United Nations Office of Legal Affairs helps to coordinate the Organization's activities and programmes in the area of marine affairs. It is active in assisting and advising States in the integration of the marine sector in their development planning. It also responds to requests for information and advice on the legal, economic and political aspects of the Convention and its implications for States. Such information is used by States during the ratification process, in the management of the marine sector of their economies and in the development of a national sea-use policy.

The United Nations also gives assistance to the two newly created institutions - the International Seabed Authority and the International Tribunal for the Law of the Sea.

The Future

The entry into force of the Convention, together with extended jurisdiction, new fields of activity and increased uses of the oceans, will continue to confront all States with important challenges. These challenges will include how to apply the new provisions in accordance with the letter and spirit of the Convention, how to harmonize national legislation with it and how to fulfil the obligations incumbent upon States under the Convention.

Another major challenge will be to provide the necessary assistance, particularly to developing States, in order to allow them to benefit from the rights they have acquired under the new regime. For example, a great many of the States that have established their EEZs are not at present in a position to exercise all their rights and perform duties under the Convention. The delimitation of EEZ, the surveying of its area, its monitoring, the utilization of its resources and, generally speaking, its management and development are long-term endeavours beyond the present and possibly near-term capabilities of most developing countries.

The United Nations will continue to play a major role in the monitoring of, collection of information on and reporting on State practice in the implementation of the new legal regime. It will also have a significant role to play in reporting on activities of States and relevant international organizations in marine affairs and on major trends and developments. This information will be of great assistance to States in the acceptance and ratification of the Convention, as well as its early entry into force and implementation.

A number of new duties falls upon the Secretary-General of the United Nations. These include the depositing of charts and coordinates showing the maritime limits of coastal States and servicing of the Commission on the Limits of the Continental Shelf The Secretary-General is also called upon to convene meetings of States Parties to elect the members of the International Tribunal for the Law of the Sea and to adopt its budget. Meetings of States Parties may also be called for a Review Conference dealing with the provisions on deep seabed mining or for amending the Convention.

The United Nations will continue to strengthen the cooperation that has developed over the last two decades among the organizations in the United Nations system involved in marine affairs. Such close cooperation would be of great benefit to States, since it would avoid duplication and overlapping of activities. It would also help to coordinate multidisciplinary activities related to the management of marine affairs.

With the passage of time, United Nations involvement with the law of the sea is expected to expand as awareness increases that not only ocean problems but also global problems as a whole are interrelated.

Originally prepared for the International Year of the Ocean, 1998

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Prepared by the Division for Ocean Affairs and the Law of the Sea, Office of Legal Affairs, United Nations.

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HJR

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Sponsor Statement for
CSHJR 25 Urging Congress to Classify Hydroelectric Power as Renewable

One of the most readily available sources of renewable energy in Alaska is hydroelectric power. Alaska has a vast amount of high elevation lakes and run-of-the-river systems which have the potential, in many areas, to completely displace diesel generated power with little to no environmental impact. Hydroelectric power is so abundant in Alaska that most areas of the state can make use of it in some form or another.

With such a plentiful source of non-diesel generated power, it is unfortunate that the Federal Government does not have a working definition of renewable or alternative that includes hydroelectric power. This effectively cuts hydroelectric power projects off from many potential sources of federal funding, and therefore, hinders Alaska's efforts to displace diesel generated power.

CSHJR 25 asks Congress to develop a working definition of renewable and alternative which includes hydropower so that reliable renewable energy policy can be developed, and valuable projects receive adequate support.

I urge your support of CSHJR 25.

CS FOR HOUSE JOINT RESOLUTION NO. 25(ENE) am

IN THE LEGISLATURE OF THE STATE OF ALASKA

TWENTY-SIXTH LEGISLATURE - FIRST SESSION

BY THE HOUSE SPECIAL COMMITTEE ON ENERGY

Amended: 4/13/09
Offered: 3/25/09

Sponsor(s): REPRESENTATIVES THOMAS, Johansen, Edgmon, Millett, Austerman, Kerttula, Muñoz, Wilson, Johnson, Dahlstrom, Gruenberg, Crawford, Gardner, Tuck, Lynn, Gara, Guttenberg, Olson, Gatto, Petersen, Chenault, Holmes

A RESOLUTION

Urging the United States Congress to classify hydroelectric power as a renewable and alternative energy source.

BE IT RESOLVED BY THE LEGISLATURE OF THE STATE OF ALASKA:

WHEREAS fossil fuels such as oil, natural gas, and coal are important sources of energy for the electric power supply system of the United States; and

WHEREAS the cost of most fossil fuels, particularly oil, has increased dramatically in recent years; and

WHEREAS increases in the cost of fossil fuels such as oil have caused, and continue to cause, substantial increases in the electric bills of residential, business, and governmental rate-payers at a time when the economy of the United States is in a major recession; and

WHEREAS the United States is dependent on foreign sources for a majority of its oil supply; and

WHEREAS oil and other fossil fuels are finite resources that contribute to growing worldwide concerns over carbon and other environmental effects; and

WHEREAS Alaskans, particularly those in rural parts of the state, are dependent on oil-fired electric generation with retail rates as high as $1 a kilowatt-hour; and

WHEREAS hydroelectric power is a viable source of clean, renewable, and long-lasting electric energy in many areas of the state; and

WHEREAS hydroelectric energy can be developed in Alaska using high-elevation lakes and run-of-the-river systems that have few or no negative environmental effects; and

WHEREAS it is the policy of the state to encourage development of its abundant hydroelectric potential and wind, geothermal, and other renewable and alternative energy sources to reduce dependence on fossil fuels for electric power generation and to reduce the cost of electricity to rate payers; and

WHEREAS some federal laws and federal renewable and alternative energy programs do not classify hydroelectric power as a renewable or alternative energy source; and

WHEREAS regions of the United States outside of Alaska have limited water supplies or water shortages that could lead to classifying hydroelectric power as nonrenewable, but many areas of Alaska have ample water supplies that are capable of providing a renewable energy source for hydroelectric projects in the state;

BE IT RESOLVED that the Alaska State Legislature urges the United States Congress to take the necessary action to classify hydroelectric power as a renewable and alternative energy source so that the state can participate in federal programs without restriction to facilitate development of the state's hydroelectric resources for the benefit of its residents.

COPIES of this resolution shall be sent to the Honorable Barack Obama, President of the United States; the Honorable Joseph R. Biden, Jr., Vice-President of the United States and President of the U.S. Senate; the Honorable Harry Reid, Majority Leader of the U.S. Senate; the Honorable Mitch McConnell, Minority Leader of the U.S. Senate; the Honorable Nancy Pelosi, Speaker of the U.S. House of Representatives; and the Honorable Lisa Murkowski and the Honorable Mark Begich, U.S. Senators, and the Honorable Don Young, U.S. Representative, members of the Alaska delegation in Congress.

CS FOR HOUSE JOINT RESOLUTION NO. 25(ENE)

IN THE LEGISLATURE OF THE STATE OF ALASKA

TWENTY-SIXTH LEGISLATURE - FIRST SESSION

BY THE HOUSE SPECIAL COMMITTEE ON ENERGY

Offered: 3/25/09
Referred: Resources

Sponsor(s): REPRESENTATIVES THOMAS, Johansen, Edgmon, Millett, Austerman, Kerttula, Muñoz, Wilson, Johnson, Dahlstrom, Gruenberg, Crawford, Gardner, Tuck

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HOUSE JOINT RESOLUTION NO. 25

IN THE LEGISLATURE OF THE STATE OF ALASKA

TWENTY-SIXTH LEGISLATURE - FIRST SESSION

BY REPRESENTATIVES THOMAS, Johansen, Edgmon, Millett, Austerman, Kerttula, Muñoz, Wilson, Johnson, Dahlstrom, Gruenberg, Crawford, Gardner, Tuck

Introduced: 3/13/09
Referred: House Special Committee on Energy, Resources

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WHEREAS hydroelectric power is a viable source of clean, renewable, and long-lasting electric energy in many areas of the state, including the southeast, western, southwestern, and southcentral areas of the state; and

WHEREAS hydroelectric energy can be developed in Alaska largely using high-elevation lakes and run-of-the-river systems that require little or no dam construction and have little or no negative environmental effects; and

WHEREAS it is the policy of the state to encourage development of its abundant hydroelectric potential and wind, geothermal, and other renewable and alternative energy sources to reduce dependence on fossil fuels for electric power generation and to reduce the cost of electricity to rate-payers; and

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NHA
National Hydropower Association

"Assessment of Waterpower Potential and Development Needs" By the Numbers

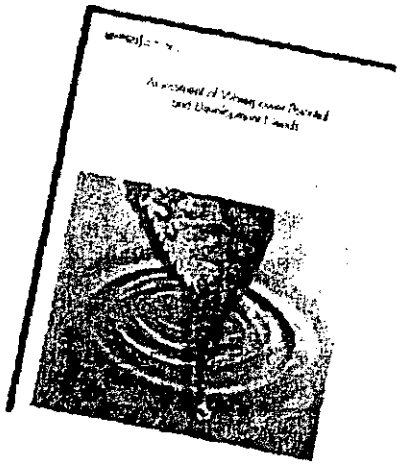
A quick look at the growth potential of hydropower by the year 2025, as detailed in the March 2007 report released by the Electric Power Research Institute.

GENERAL OVERVIEW

- **270,000 GWH** - existing hydropower generation in the United States (75 percent of U.S. renewable energy generation—the largest renewable source)
- **90,000 MW** - overall water potential available
- **23,000 MW** - potential capacity increase by 2025

BY 2025, CONVENTIONAL POTENTIAL

- **10,000 MW** - overall potential increase
  - **2,700 MW** - from new small and low-power conventional hydropower
  - **2,300 MW** - from capacity gains and efficiency improvements at existing hydropower facilities
  - **5,000 MW** - from new hydro at existing non-powered dams



Copies of the EPRI report are available at www.wpri.com. Search for report #1014762.

By 2025, NEW WATERPOWER TECHNOLOGY POTENTIAL

- **10,000 MW** - increase from ocean and wave energy devices
- **3,000 MW** - increase from new hydrokinetic technologies

The power of moving water

National Hydropower Association
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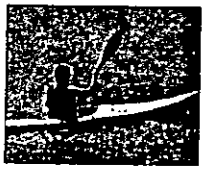
4991

Hydropower is a domestic source of renewable, reliable, and affordable electricity. No other energy source offers so many advantages.

Domestic and Secure

Water from our rivers is a domestic resource that is not subject to disruptions from foreign suppliers, cost fluctuations, and transportation issues.

Efficient



Today's hydropower turbines are capable of converting more than 90% of available energy into electricity, which is more efficient than any other form of generation (the best fossil fuel power plant is only about 50% efficient).

Popular

Nationally, 93% of individuals believe hydropower is important or very important for meeting future electricity needs.

Source: 2002 public opinion poll by Bisconti Research Inc.

Renewable

Like wind, solar, and geothermal, hydropower's "fuel" is essentially infinite and is not depleted during the production of electricity. Hydropower facilities simply harness the natural energy of flowing and falling water to generate electricity.

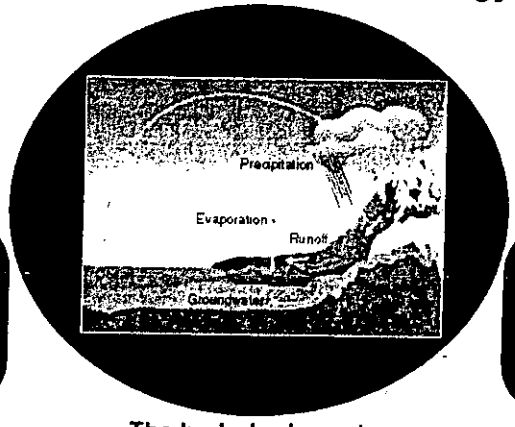
Clean

Hydropower uses water to generate electricity. It is climate-friendly and does not produce air pollution or create any toxic by-products.

HydroPOWER
the power of moving water

Clean power for a secure energy future

Any moving-water has the potential to make power



Water used for power is returned to the water cycle

The hydrologic cycle

source: http://hydropower.inel.gov/hydrofacts/how_hydro_works.shtml

Reliable

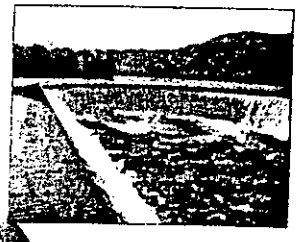
Hydropower can go from zero power to maximum output rapidly and predictably. This makes hydropower exceptionally good at meeting changing demands for electricity and providing ancillary electrical services that maintain the balance between supply and demand.

Flexible

Hydropower has the unique ability to change output quickly. Its unique voltage control, load-following, and peaking capabilities are critical for electric grid stability. This ability also provides an efficient and cost-effective way to support the use of intermittent renewable sources of power such as wind and solar energy.

Non-power benefits

Hydropower projects do more than just produce electricity; they create wildlife conservation lands, provide stable habitat for many kinds of wildlife, support healthy fisheries, provide water supply, control floods, irrigate land for food production, and create recreational opportunities for millions of Americans.



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2009-03-16

US Senator Murkowski says higher taxes on oil, gas could backfire

Washington (Platts)--16Mar2009

US Senator Lisa Murkowski, ranking Republican on the Energy and Natural Resources Committee, said Monday that increasing taxes on the oil and gas industry would have the unintended consequence of driving natural gas producers and independent companies out of the country.

In his fiscal 2010 budget released last month, President Barack Obama called for excluding the petroleum industry from a manufacturer's tax credit, which might raise $31 billion in additional taxes from the industry.

"People get up in the morning to hate the oil industry," said Murkowski, speaking at Platts Energy Podium in Washington. Murkowski represents Alaska, which after Texas produces the most oil of any US state.

Still, if Congress approves the president's proposal to raise taxes on the industry, that could reduce production of gas and its use as a lower-carbon alternative to coal-fired electricity generation.

She said that the committee will likely not agree on a renewable energy standard, although she said she could support a low-carbon electricity standard which includes nuclear energy and hydroelectric generation.

"If your goal is reduction of emissions, why would you not want to recognize those existing resources that aren't contributing to carbon output?" she said.

Energy and Natural Resources Committee Chairman Jeff Bingaman of New Mexico, a Democrat, plans to offer a renewable energy standard that would require investor-owned utilities to draw 20% of their output from wind, solar and other renewables by 2021. His proposal does not classify hydropower as renewable energy.

Nonetheless, Murkowski said she is optimistic that she and Bingaman will agree on a range of issues that could pass their panel with broad bipartisan support, including increased federal authority over

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transmission siting, ways
to boost energy production on public lands and perhaps
language creating a new
clean energy bank to finance new projects.

She also said the bill could include a provision
addressing energy
futures market regulation, though that issue had lost
some urgency as oil
prices have declined over the last several months. "The
heat has been turned
down on the issue of market regulation," she said.

--Jean Chemnick,
jean_chemnick@platts.com

Similar stories appear in Platts Inside Energy.
See more information at http://insideenergy.platts.com.

For a podcast of the Platts Energy Podium with Senator
Murkowski, please visit
http://www.platts.com/energypodium/

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The McGraw-Hill Companies

- **True-up period.** A three-month true-up period is provided at the end of each year during which generators may obtain the required number of RECs or makeup any shortfall. During this period, purchases of RECs can be made from renewable-resource generators that have unsold RECs, or from generators that have RECs exceeding their requirement.

- **Credit banking.** Generators and renewable energy producers could be allowed to "bank" credits indefinitely. This will help to even out variations in output associated with natural resources, and provide generators with additional methods for ensuring that they are in full compliance.

- **Force majeure provision.** An extended true-up period could be provided to allow response time for extreme deviations in expected renewables generation resulting from events that are impossible to control, i.e., "act of God" situations such as a damaging hurricane. Such fluctuations should not affect the entire REC market, but may affect individual generators who have contracted for RECs from certain facilities.

TOP

Hydropower

It is necessary to exclude large hydropower from the RPS for several reasons. Though hydro brings public benefits in terms of avoiding the air emissions and wastes associated with conventional power plants, hydro is technologically mature, is fully commercialized (representing a significant share of the electricity market), and has limited development potential. Most importantly, including hydro in the RPS would create several intractable practical problems: (a) output from the large base of Canadian hydro projects could potentially be rerouted into the U.S. market and "flood" that market, depressing prices to levels too low to support non-hydro renewables; (b) the large year-to-year fluctuations in hydro output would make it difficult to meet a fixed standard each year and at the same time provide a predictable market for renewables; and (c) many hydro facilities have more than one use and have been built with the aid of large government subsidies. Therefore, it may be difficult to avoid cross-subsidizing irrigation, recreation, flood control, etc., through payments to hydro via the RPS. Including hydro projects under some size limit (no more than 30 MW) may help to keep in operation those projects that will have difficulty competing in the market (especially those with high environmental mitigation costs).

Encouraging a Diversity of Renewables

The RPS in its simplest form is a strategy for diversifying the electric supply with the lowest-cost renewable power available, as judged through market competition. Its primary purpose is not aimed directly at technology commercialization, though it will certainly encourage private investment in technology advancement. A diversity of renewable resources will be encouraged because generators and investors are likely to seek out the most cost-effective technologies and technology applications, thereby taking advantage of the most cost-effective applications of each resource (i.e., the low-cost end of the supply curve for each resource). Because the cost of many renewable technologies, e.g., wind, geothermal, landfill gas and some solid-fuel biomass and some solar thermal facilities, are in the same competitive range, the market is likely to result in a diversity of resources and technologies. The market can also be expected to seek out cost-effective niche applications of renewables, such as distributed applications of photovoltaics. Higher-cost technologies can be encouraged through commercialization programs (e.g., those funded by system benefits charges), which can work along side the RPS. Because the RPS creates a market for renewables, it will help to close the gap between the cost of pre-commercial technologies and the renewables-market price. As a result, technology commercialization program dollars can go farther as a result of the RPS.

Self-generation

Surplus renewables generation that is metered and sold at retail from customer-owned, grid-connected renewable facilities could be eligible for RECs. If a simple method is available to measure the power produced by these systems that is consumed on-site, that generation could also qualify for RECs. Though off-grid renewable self-generation applications could qualify for RECs, there are two reasons for not including them: (1) most off- grid self-generation applications are already competitive as compared to T&D line extensions; and (2) off-grid applications are not metered or sold at retail, and thus verification of production would be difficult. If policy-makers nevertheless want to encourage off-grid renewables, procedures could be developed to estimate production, though verification could entail high transactions costs.

Allocating RECs from Existing Facilities

An RPS policy creates a new, unanticipated source of income for existing renewable

AMENDMENT NO. Calendar No.

Purpose: To provide a renewable portfolio standard.

IN THE SENATE OF THE UNITED STATES—111th Cong., 1st Sess.

(no.)

(title)

Referred to the Committee on and
ordered to be printed

Ordered to lie on the table and to be printed

AMENDMENT intended to be proposed by

Viz:

At the appropriate place, add the following:

TITLE VIII—RENEWABLE PORTFOLIO STANDARD

SEC. 01. RENEWABLE PORTFOLIO STANDARD.

(a) IN GENERAL.—Title VI of the Public Utility Regulatory Policies Act of 1978 (16 U.S.C. 2601 et seq.) is amended by adding at the end the following:

"SEC. 610. FEDERAL RENEWABLE PORTFOLIO STANDARD.

"(a) DEFINITIONS.—In this section:

"(1) BASE QUANTITY OF ELECTRICITY.—

"(A) IN GENERAL.—The term 'base quantity of electricity' means the total quantity of electricity sold by an electric utility to electric consumers in a calendar year.

"(B) EXCLUSIONS.—The term 'base quantity of electricity' does not include—

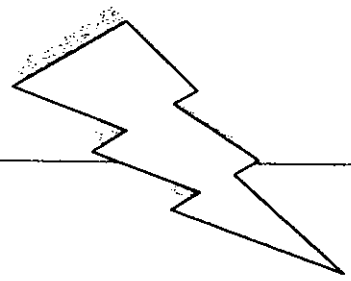
"(i) electricity generated by a hydroelectric facility (including a pumped storage facility but excluding incremental hydropower); or

"(ii) electricity generated through the incineration of municipal solid waste.

"(2) DISTRIBUTED GENERATION FACILITY.—The term 'distributed generation facility' means a facility at a customer site.

"(3) EXISTING RENEWABLE ENERGY.—Except as provided in paragraph (7)(B), the term 'existing renewable energy' means electric energy generated at a facility (including a distributed generation facility) placed in service prior to January 1, 2006, from solar, wind, or geothermal energy, ocean energy, biomass [(as defined in section 203(b) of the Energy Policy Act of 2005 (42 U.S.C. 15852(b)))], or landfill gas.

Southeast Conference Energy Program



Legislative Report – January 2009

Southeast Conference

P.O. Box 21989, 612 W. Willoughby Avenue, Suite B
Juneau Alaska 99802-1989
(907) 523-2310
Fax (907) 463-5670

Mike Korsmo: SEC Board President
Shelly Wright: SEC Executive Director
J.C. Conley: SEC Energy Committee Chair
Robert Venables: SEC Energy Coordinator

Executive Summary

Mission Statement

The mission of Southeast Conference is to undertake and support activities that promote strong economies, healthy communities, and a quality environment in Southeast Alaska.

Southeast Conference is a private membership organization that works to advance the collective interests of the people, communities, and businesses of Southeast Alaska. It is the Alaska Regional Development Organization (ARDOR), Federal Economic Development District (EDD), and USDA Resource Conservation and Development (RC&D) Council for the region.

Energy Committee Mission

Our vision for Southeast Alaska is to reduce, to the maximum extent possible, the use of diesel as a primary fuel source for the generation of electricity.

This will be accomplished through the utilization of the regions plentiful hydroelectric potential and the development of an interconnected transmission system to share these resources throughout the region.

ACCOMPLISHMENTS:

The Southeast Conference, working with its member communities and utilities, has been successful in developing regional plans and obtaining state and federal funds for many energy projects in the region. Our energy committee represents communities, organizations and utilities throughout the region. This is a 'working committee' dedicated to working together to solve the region's energy problems.

Plans and Organizational Work

- Completed an engineering/economic analysis of the entire Southeast Alaska Intertie Project (**Acres Report, 1998 and D. Hittle & Associates, 2003 & 2005**).
- Secured U.S. Congressional Authorization for SE Electrical Intertie System Plan (PL 106-511).
- Took a lead role in the formation of Kwaan Electric Transmission Intertie Cooperative (KWETICO), potential owner/operator of portions of the SE Intertie.
- Worked with AEA to develop the Southeast Alaska Energy Export Study (2007).
- Kake-Petersburg Transmission Intertie Study Update (due March 2009).

Current Utility Projects Underway

- Kasidaya Hydro Project near Haines/Skagway (Project operational, 2008).
- Juneau to Hoonah Intertie Segment (Project partially completed to Greens Creek).
- Swan-Tyee Intertie Segment (Project on schedule for completion October 2009).
- Kake-Petersburg Intertie Segment (Planning Study/Economic Analysis, update in progress, joint design/permitting project with AKDOT&PF and AEA).
- Reynolds Creek, Haida Corp. (partially funded, ready to construct this year).
- Prince of Wales Intertie (partially funded, ready to construct).
- Elfin Cove Utility Commission (in final design for hydroelectric facility).
- Gustavus Falls Creek Hydro (operational 2009, final phase ready to construct).

Southeast Conference Energy Program FY10

Funding Overview

To maintain its Energy program, Southeast Conference (SEC) is working to locate short-term funding and to identify long-term (and sustained) sources of income. The immediate goal is to secure funding for two years to maximize the effectiveness of the energy program and assist communities in their ongoing efforts to reduce energy costs and increase efficiencies.

Program Goals

- Reduce dependence on fossil fuels. This is critical in light of the recent volatility in oil prices.
- Bring affordable hydro power to communities where this is technically and economically feasible.
- Develop a regional electrical grid interconnecting Southeast communities and utilities with hydroelectric generation.
- Work with member communities and utilities to develop adequate energy infrastructure including alternative energy sources to meet current and future needs.
- Lower costs to rate payers and communities and increase economic development opportunities.

Priorities / Tasks

- Secure funding for permitting and design for Kake-Petersburg Intertie ($4.3 million).
- Work with IPEC and rural communities on solutions for their energy needs.
- Support Haida Corporation's efforts to advance the Reynolds Creek Hydro to completion.
- Begin working with federal and state funding agencies to construct the Kake-Petersburg Intertie.
- Facilitate efforts in Southeast to develop a regional Intertie and projects that increase hydro capacity.
- Work with member communities and utilities in their efforts to secure permits and funding for hydro and other alternative energy project development.
- Study alternative energy sources – biomass, hydrogen, wind, geo-thermal, tidal, and waste-to-energy.

Southeast Conference feels it is essential to develop and implement a regional energy plan for Southeast Alaska. We are working with the Alaska Energy Authority (AEA) and the Tlingit & Haida Energy Department to develop a regional energy plan and working with the communities to implement the opportunities that exist in their areas. Substantial and measurable progress has been made over the past couple of years, and it is important to keep the momentum of this program moving forward. The Southeast Conference Board of Directors has voted to maintain its energy coordinator position and its energy program as a core program within Southeast Conference and voted to support its staff in the pursuit of these goals. The position is currently being funded from reserves.

The following information is intended to demonstrate many areas where the State of Alaska can make an investment with significant impact and benefits to the region. These projects come from the communities and have been vetted through the public process. It is a work in progress and will be updated as more information comes to us from the communities.

Southeast Alaska Energy Projects with Estimated Funding Needs

Facilities and Infrastructure Construction Needs

- **Metlakatla Intertie to Ketchikan**: This is the southernmost leg of the SE Intertie system and is designed to transmit surplus hydroelectricity (approx. 8,500,000kW per year) to Ketchikan where the energy will be used to offset diesel generation (about 580,000 gallons). **CONSTRUCTION READY AT A PROJECT COST OF $7,652,000.**

- **POW Island Intertie**: AP&T proposes to construct a 48 mile line extension to the communities of Coffman Cove and Naukati Bay (both use 100% diesel generated power). This project will place these communities onto the POW grid which is supplied by hydroelectric power. This intertie will reduce fossil fuel consumption by 71,082 gallons per year and reduce the electrical rate by up to 60%. **CONSTRUCTION READY, PARTIALLY FUNDED, AP&T HAS REQUESTED $3,752,181 TO COMPLETE.**

- **Reynolds Creek Hydroelectric Power Project**: This 5 MW hydro facility is located 10 miles east of Hydaburg and is a joint venture between Haida Corporation and AP&T. The development of this resource is essential to meet the electrical needs of the POW Island as it grows and will prevent the use of supplemental diesel power. **CONSTRUCTION READY, PARTIALLY FUNDED, HAIDA POWER REQUESTING $13,720,000 TO COMPLETE.**

- **Gustavus Electric**: The Falls Creek Hydro Electric Project is an 800 kWh run-of-river hydroelectric facility which will provide electric power to the community of Gustavus. The project will displace existing diesel generation. Construction of the project is approximately 90% complete and will provide 90% of the community's electric needs. **FUNDING REQUESTED BY GUSTAVUS FOR COMPLETION, $750,000.**

- **Kake – Petersburg Intertie**: This is a high priority need in the region. Funding has been identified through HB 152 for final design and permitting. Detailed construction cost estimates will be available in March, but the project is estimated to cost between **$25-34 MILLION** and could be funded in phases. The AK DOT&PF has begun field work and is an active partner in the development of this project.

Capacity Development Projects: Final Design and Permitting

Ketchikan - Whitman Lake: The proposed Whitman Lake Hydroelectric Project is located approximately four miles east of Ketchikan, Alaska. KPU proposes to install 4.6 MW of hydropower generating capacity at the existing Whitman Lake Dam to provide an additional source of clean renewable energy to the city of Ketchikan and the Borough area including Saxman Village, while also enhancing the conversion of oil heat to electric heat and displacing expensive and nonrenewable diesel generation. Phases 1 & 2 are complete. **FUNDING FOR FINAL DESIGN IS REQUESTED BY KPU AT $1,300,000 (KPU MATCH, $320K).**

Sitka- Blue Lake Hydroelectric Project: This project will raise the height of the dam by 83 feet and expand the plant's capacity from 8MW to 18MW of capacity. Sitka has nearly maxed out available hydro resources. Multiple funding partners are expected to participate in order to bring this facility on line by 2015. The City and Borough of Sitka **REQUESTS FINANCIAL ASSISTANCE IN FY2010 OF $7,500,000.**

Hoonah Energy Needs: With the costs of the proposed Juneau to Hoonah intertie escalating to an estimated $40 million, Alaska Energy Authority (AEA) commissioned a conceptual study of the hydroelectric resources in the immediate area of Hoonah along with an analysis of the power plant needs that should be addressed concurrently. The findings are as follows:

- $4,061,317 Power Plant Replacement (2,600kW @ $1,562/kW)
- $4,558,500 Gartina Creek Hydroelectric Project (600kW)
- $3,946,500 Water Supply Creek Hydroelectric Project (600kW)
- $4,393,500 Elephant Falls Hydroelectric Project (600kW)

The development of any one of the three proposed hydro facilities would offset approx. 30% of Hoonah's projected annual demand. This would result in a savings of approx. 129,000 gallons of diesel fuel per year (saving approx. $380,000 using an est. fuel cost of $3.00/gallon). The development of any two of the three proposed hydroelectric facilities would offset about 50% of Hoonah's annual demand, with an approx. savings of $640K. No formal request has yet been made, **CAPITAL NEEDS ABOVE TOTAL, $16,959,817**. These projects will benefit the community significantly but will not meet all of Hoonah's energy needs. The Juneau to Hoonah Intertie Project is construction-ready and is still a long-term objective as part of the regional electrical grid network.

Elfin Cove Utility Commission: This hydroelectric power plant and associated infrastructure for access and connection will serve the community of Elfin Cove. Upon completion, the hydroelectric facility will include: a 1,000-foot long diversion conduit; a 1,300-foot long penstock to tidewater; and upgrades to the hydro power house. **FUNDING REQUEST BY ELFIN COVE FOR FINAL DESIGN AND FERC PERMITTING IS $395,200.**

Community Planning Efforts: Feasibility and Assessment

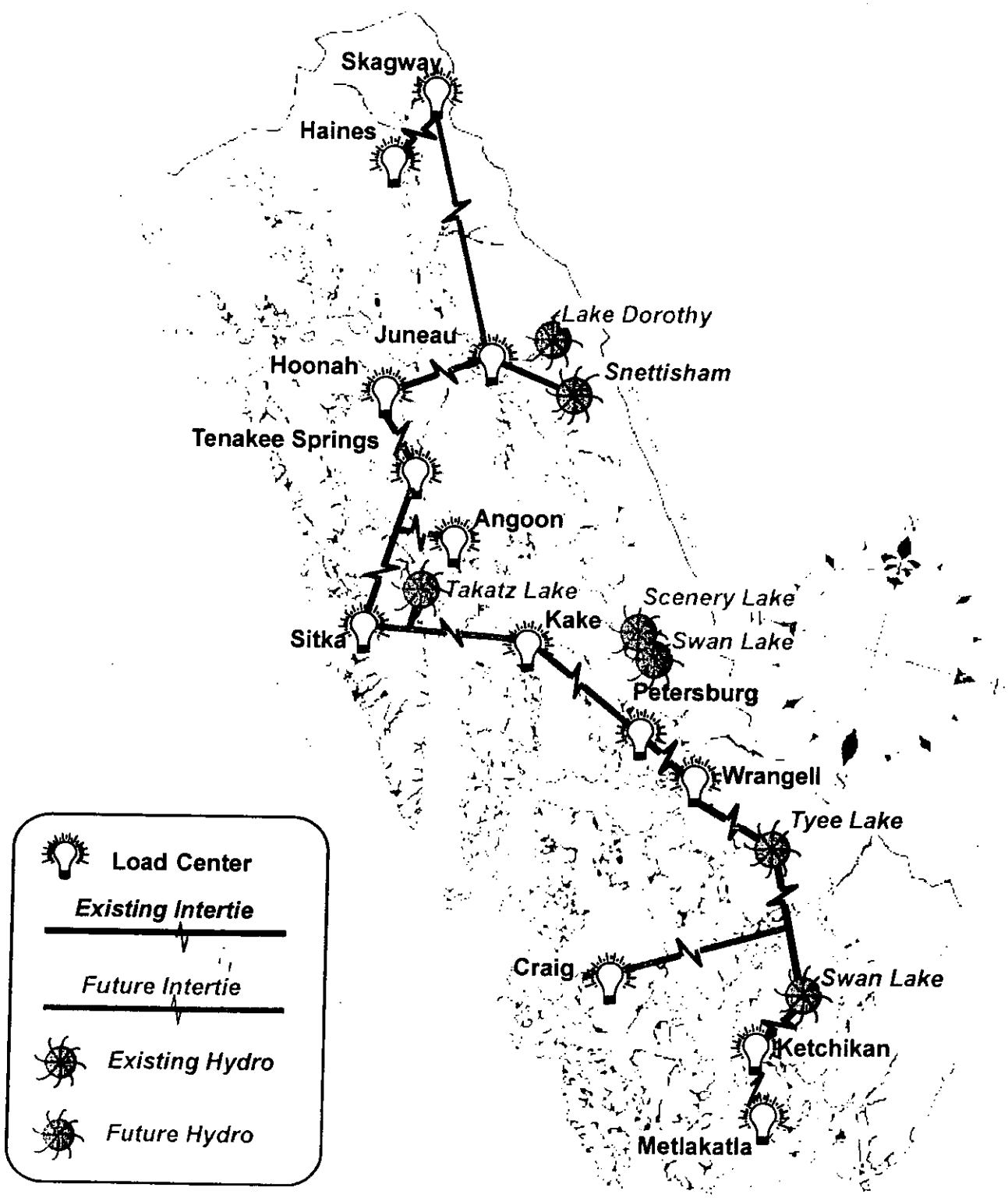
Petersburg – Ruth Lake: This Project would develop the hydro potential at Ruth Lake, with a total installed capacity of the powerhouse of 20 MW. The proposed Ruth Lake Hydroelectric Project would be interconnected to the existing transmission infrastructure currently owned and operated by the FDPPA. Ruth Lake would be a major addition to the energy resources to serve communities in an interconnected Southern Southeast Alaska grid. **PHASE 1 FUNDING REQUEST FROM THE CITY OF PETERSBURG FOR PRE-FEASIBILITY IS $160,000 AND PHASE 2 PERMITTING IS $2 MILLION.** Petersburg is providing matching funds of $540,000 for the two phases.

Metlakatla – Triangle Lake: This proposed 4MW hydroelectric project is located along the proposed transmission line intertie to Ketchikan. The Triangle Lake project will provide additional hydro power to Metlakatla and will offset diesel power generated in Ketchikan. **FUNDING REQUESTED BY METLAKATLA FOR FEASIBILITY ANALYSIS AND CONCEPTUAL DESIGN IS $500,000.**

Sitka – Takatz Lake: Sitka is engaged in a long range strategy to decrease its dependence on oil by developing its renewable energy resources, particularly the known hydroelectric resources on Baranof Island. This project is the study and investigation phase of developing Sitka's hydroelectric resources to determine the feasibility of developing the estimated 28MW Takatz Lake Hydroelectric Project. **THE ESTIMATED COST OF THIS STUDY AND INVESTIGATION OF THE HYDROELECTRIC POTENTIAL OF TAKATZ LAKE IS $2,000,000.**

This is a compilation of community projects that have gone through the public process. Most are part of the Southeast Intertie Plan authorized by Congress in 2001. More detailed information is available upon request. Other projects, such as Thayer Creek in Angoon will be added to this list as information becomes available.

Attachments to this report:
Map1_1997 Electrical Intertie System Plan
Map2_Kupreanof Island
Map3_POW & Reynolds Creek
Map4_Ruth Lake Hydroelectric Project
Map5_Upper Lynn Canal Regional Energy Infrastructure

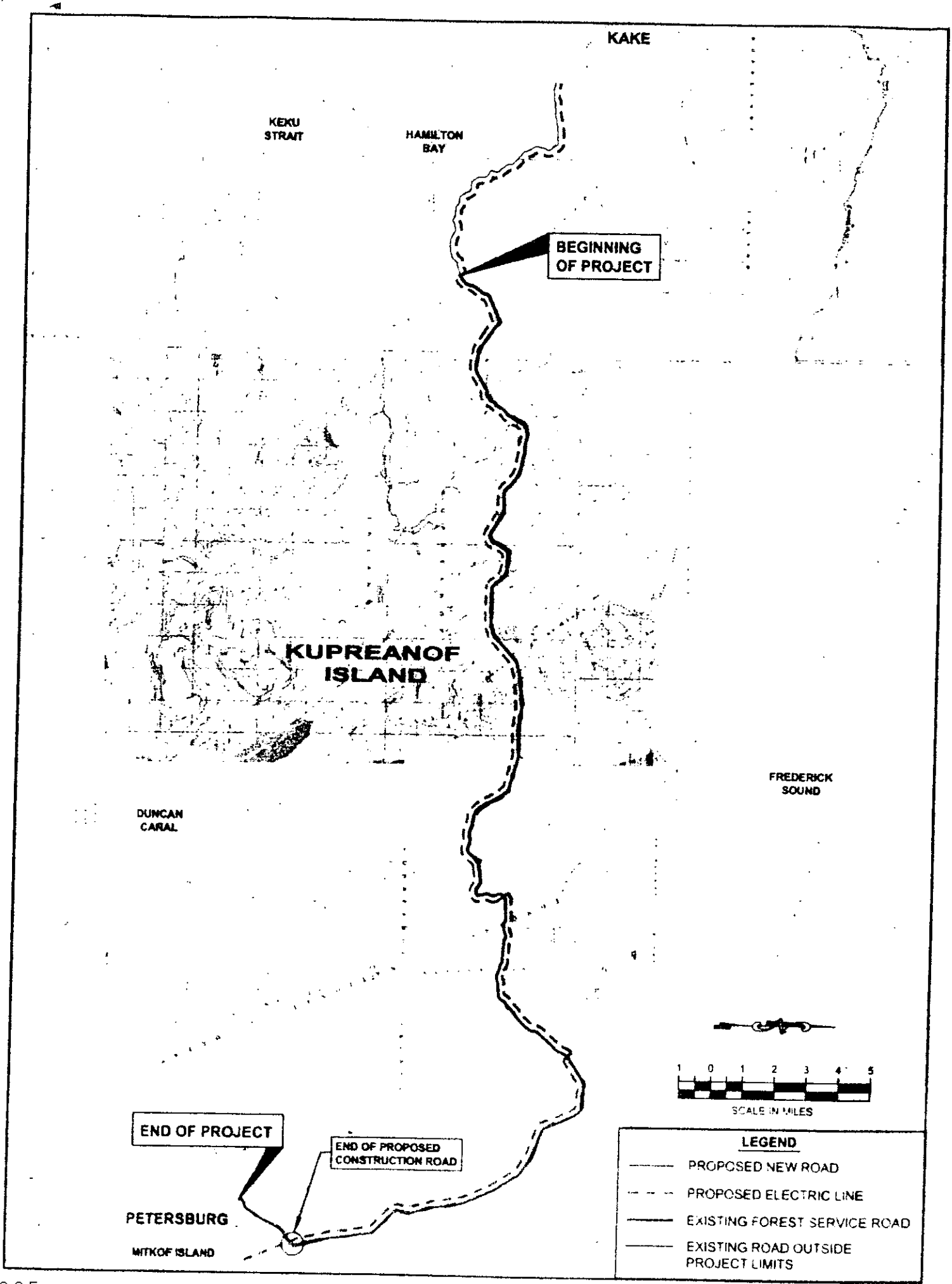


HATCH ACRES

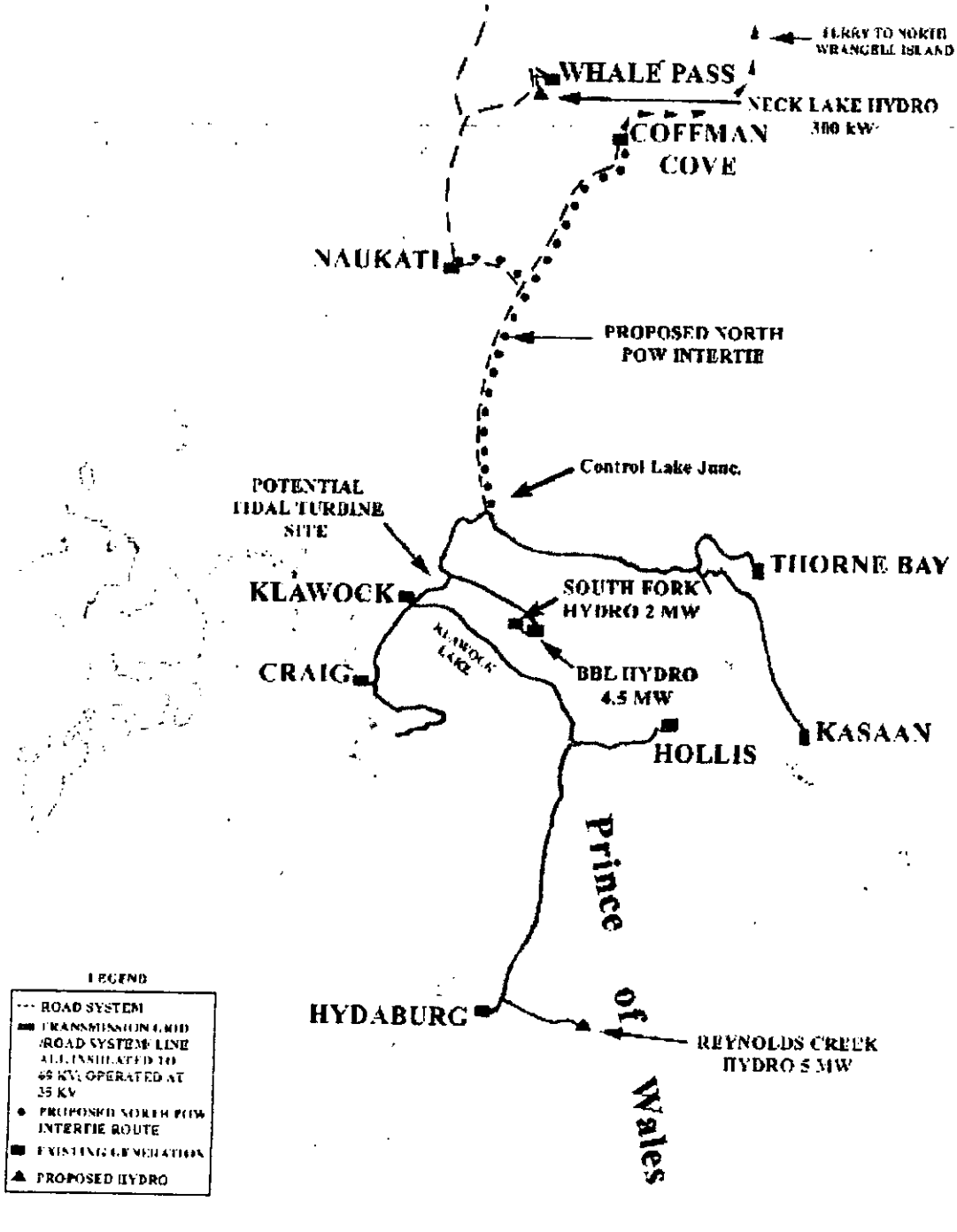
Southeast Alaska Utilities

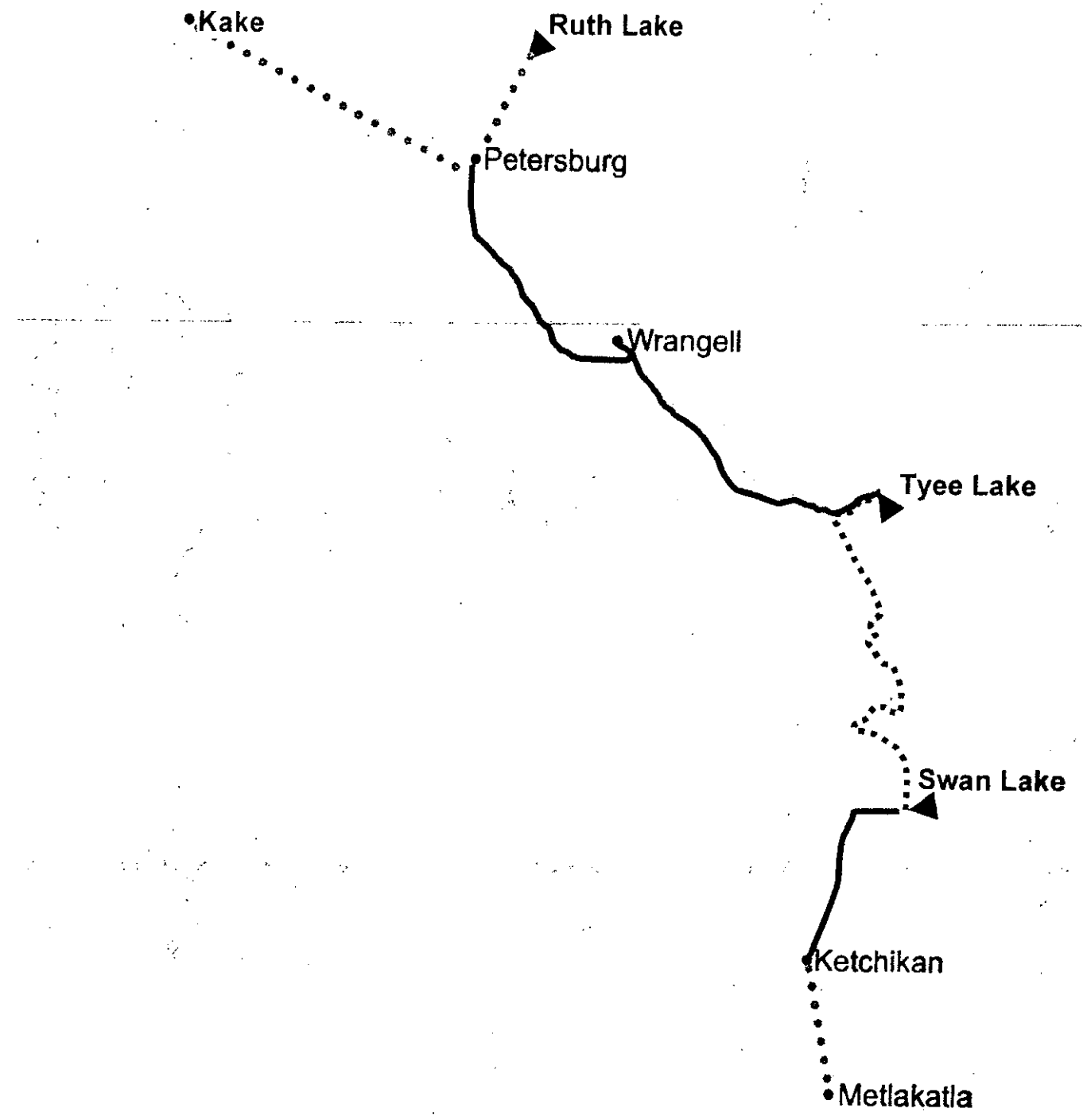
1997 ELECTRICAL INTERTIE SYSTEM PLAN

5004


KAKE
KEKU STRAIT
HAMILTON BAY
BEGINNING OF PROJECT
KUPREANOF ISLAND
FREDERICK SOUND
DUNCAN CANAL
END OF PROJECT
END OF PROPOSED CONSTRUCTION ROAD
PETERSBURG
MITKOF ISLAND
1 0 1 2 3 4 5
SCALE IN MILES
LEGEND
PROPOSED NEW ROAD
PROPOSED ELECTRIC LINE
EXISTING FOREST SERVICE ROAD
EXISTING ROAD OUTSIDE PROJECT LIMITS

Prince of Wales Island Intertie & Reynolds Creek Electrical System





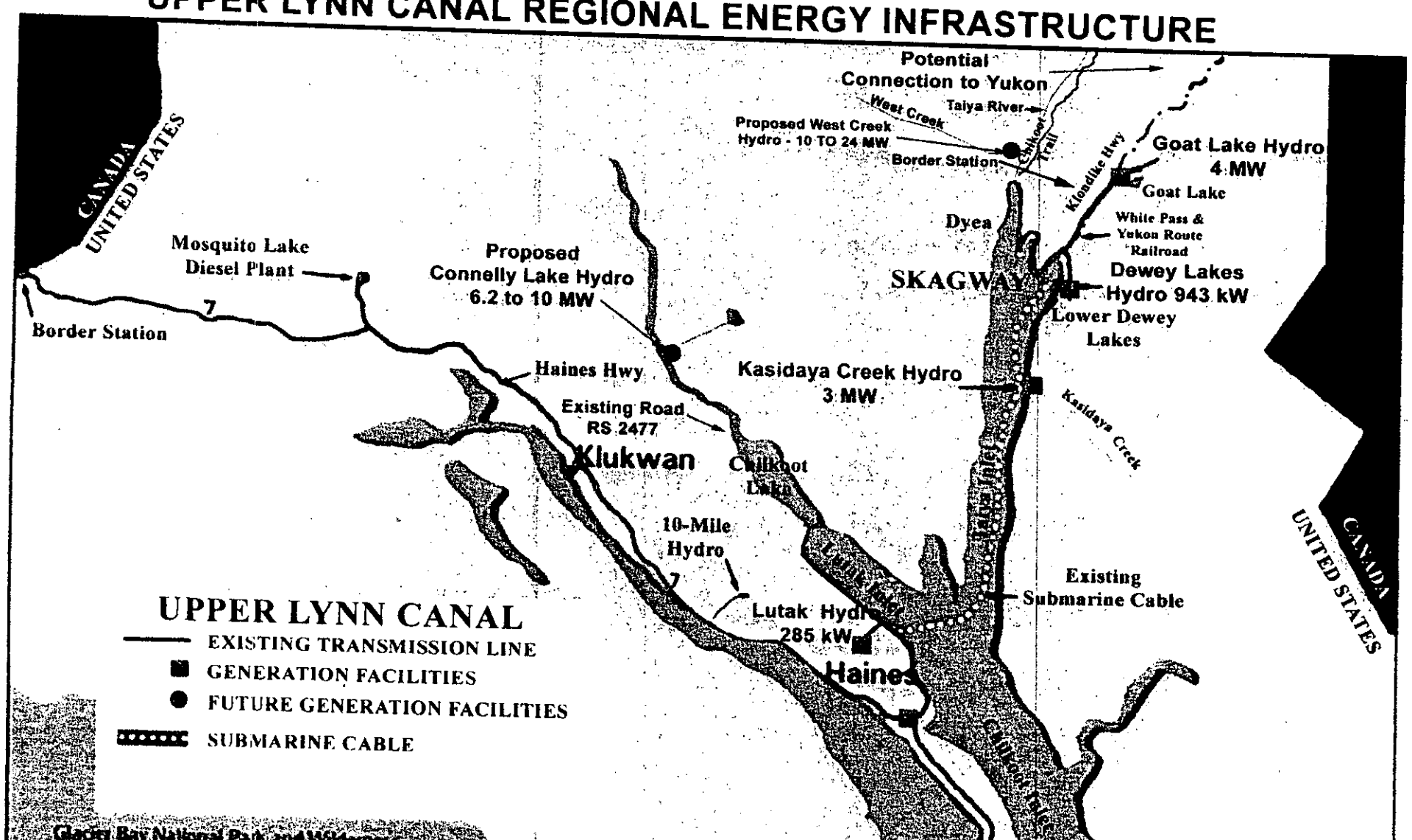
Transmission System Legend

- Existing
- Under Construction
- Proposed

Exhibit F.2
Ruth Lake Hydroelectric Project

Southern SE Alaska Transmission System

UPPER LYNN CANAL REGIONAL ENERGY INFRASTRUCTURE



HJR

26

SENATE COMMITTEE REPORT

DATE: 2/17/10

FURTHER: Rules

DATE TURNED IN TO OFFICE: 4/9/10

Resources Committee considered HOUSE JOINT RESOLUTION NO. 26

HJR 26 STATEHOOD/ANCSA LAND SURVEY FUNDING

Urging the United States Congress to adequately fund land surveys in Alaska in order to issue patents to the State of Alaska and Alaska Native corporations.

and recommends:

[ ] be **replaced** with [ ] **SCS** or [ ] **CS** _____ (_____)

[ ] adopt **previous** [ ] **SCS** or [ ] **CS** _____ (_____)

[ ] attached amendment(s)

[ ] adopt _____ Letter of Intent

[ ] further referral to _____ Committee

SENATE BILL:
[ ] Same Title
[ ] New Title

HOUSE BILL:
[ ] Same Title
[ ] Technical Title Change
[ ] New Title w/ SCR #_____

NEW FISCAL NOTE(S):

Department	Date	Fiscal	Indet.	Zero	FN#

PREVIOUS FISCAL NOTE(S):

Department	Date	Fiscal	Indet.	Zero	FN#
H. RLS	2/15			✓	2

[ ] **APPROPRIATION - no fiscal note**

SIGNATURES AND RECOMMENDATIONS:	PRINTED LAST NAME	DO PASS	DO NOT PASS	NO REC	AMEND
	Stevens			✓	
	French			✓	
	WAGONER	X			
CO-CHAIR:	Wielechowski			✓	
CO-CHAIR:	McGuire	✓			

5010

PASSED

26-LS0739\R.2
Bullock
3/16/10

AMENDMENT #1

OFFERED IN THE SENATE

TO: HJR 26

Page 2, line 8:

Delete "December 31, 2008, more than 66,000,000"

Insert "January 31, 2010, more than 57,000,000"

Page 2, line 9:

Delete "40,000,000"

Insert "42,000,000"

Page 2, line 10:

Delete "14,000,000"

Insert "15,000,000"

Page 2, line 11:

Delete "12,000,000"

Insert "7,000,000"

5011

Alaska State Legislature

Representative Anna Fairclough – House District 17

House Joint Resolution 26

"Urging the United States Congress to adequately fund land surveys in Alaska in order to issue patents to the State of Alaska and Alaska Native corporations."

House Joint Resolution 26 urges the United States Congress to adequately fund land surveys in Alaska in order to issue patents to the State of Alaska and Alaska Native Corporations. This is critical concern in Alaska because surveys and subsequent land patents issued to the State and Native Corporations are critical to the future use and development of land in Alaska.

At Statehood, Alaska was granted a land entitlement from the federal government of 103,350,000 acres. Alaska Natives, through the Alaska Native Claims Settlement Act (ANCSA), were granted a land entitlement from the federal government of over 45 million acres. In 2004, Congress passed the Alaska Land Transfer Acceleration Act (ALTAA) with the intent of largely completing state and ANCSA land entitlements by 2009.

The United States Bureau of Land Management (BLM) has aggressively and diligently worked to implement the ALTAA, however, despite BLM's efforts, considerable land conveyance work remains to be accomplished, particularly in the area of land survey. Land surveys are necessary to issue patents to the state and ANCSA Corporations, and are essential to determining with certainty what lands are owned by the state and ANCSA corporations. This certainty regarding boundaries and ownership is needed long term for land use and development.

Congress provided interim title to the state and ANCSA corporations by granting Tentative Approval (TA) to the State and Interim Conveyance (IC) to ANCSA Corporations, but with the understanding that the land would eventually be surveyed and patent issued. Under both the Statehood Act and ANCSA, the federal government is responsible for preparing these land surveys. As of December 31, 2008, over 66 million acres of land still awaits patent in Alaska, including more than 40 million acres of land that has been TA'd to the State and 14 million acres IC'd to ANCSA corporations, and over 12 million additional acres await conveyance.

This resolution asks the United States Congress to budget sufficient funds to BLM to ensure the timely completion of land surveys in Alaska in order that land promised to Alaska Natives and the State of Alaska can be patented. This is especially important with current federal budget constraints.

I urge your support on the passage of this legislation.

Session: Alaska State Capitol • Juneau, AK 99801 • 907-465-3777 • Fax 907-465-2819
Interim: 10928 Eagle River Road, Suite 238 • Eagle River, AK 99577 • 907-694-8944 • Fax 907-694-8945
Representative_Anna_Fairclough@legis.state.ak.us

FISCAL NOTE

STATE OF ALASKA
2009 LEGISLATIVE SESSION

Fiscal Note Number: 1
Bill Version: HJR 26
(H) Publish Date: 4/7/2009

Identifier (file name):
Title STATEHOOD/ANCSA LAND SURVEY FUNDING
Sponsor REPRESENTATIVE FAIRCLOUGH, Joule, Foster, Thomas...
Requester

Dept. Affected:
RDU
Component
Component Number

Expenditures/Revenues (Thousands of Dollars)

Note: Amounts do not include inflation unless otherwise noted below.

	Appropriation Required	Information					
OPERATING EXPENDITURES	**FY 2010**	**FY 2010**	**FY 2011**	**FY 2012**	**FY 2013**	**FY 2014**	**FY 2015**
Personal Services							
Travel							
Contractual							
Supplies							
Equipment							
Land & Structures							
Grants & Claims							
Miscellaneous							
TOTAL OPERATING	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
CAPITAL EXPENDITURES							
CHANGE IN REVENUES ( )							

FUND SOURCE (Thousands of Dollars)

1002 Federal Receipts							
1003 GF Match							
1004 GF							
1005 GF/Program Receipts							
1037 GF/Mental Health							
Other Interagency Receipts							
TOTAL	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Estimate of any current year (FY2009) cost:

POSITIONS

Full-time							
Part-time							
Temporary							

ANALYSIS: *(Attach a separate page if necessary)*

Prepared by: House Resources Committee
Division
Phone 465-3715
Date/Time

Approved by: Representative Craig Johnson, Co-Chair
House Resources Committee
Date 4/3/2009

FISCAL NOTE

STATE OF ALASKA
2010 LEGISLATIVE SESSION

Fiscal Note Number: 2
Bill Version: HJR 26
() Publish Date: 2/15/2010

Identifier (file name):
Title STATEHOOD/ANCSA LAND SURVEY FUNDING
Sponsor REPRESENTATIVE FAIRCLOUGH, Joule, Foster, Thomas
Requester

Dept. Affected:
RDU
Component
Component Number

Expenditures/Revenues (Thousands of Dollars)

Note: Amounts do not include inflation unless otherwise noted below.

	Appropriation Required	Information					
OPERATING EXPENDITURES	**FY 2011**	**FY 2011**	**FY 2012**	**FY 2013**	**FY 2014**	**FY 2015**	**FY 2016**
Personal Services							
Travel							
Contractual							
Supplies							
Equipment							
Land & Structures							
Grants & Claims							
Miscellaneous							
TOTAL OPERATING	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
CAPITAL EXPENDITURES							
CHANGE IN REVENUES ( )							

FUND SOURCE (Thousands of Dollars)

1002 Federal Receipts							
1003 GF Match							
1004 GF							
1005 GF/Program Receipts							
1037 GF/Mental Health							
Other Interagency Receipts							
TOTAL	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**

Estimate of any current year (FY2010) cost:

POSITIONS

Full-time							
Part-time							
Temporary							

ANALYSIS: *(Attach a separate page if necessary)*

Prepared by: House Rules Committee
Division
Phone
Date/Time

Approved by: Representative Nancy Dahlstrom, Chair
House Rules
Date 2/15/2010

(Revised 11/6/2009 OMB)

5014

Order Code RL32734

CRS Report for Congress
Received through the CRS Web

The Alaska Land Transfer Acceleration Act: Background and Summary

January 14, 2005

Nathan Brooks
Legislative Attorney
American Law Division

5015

The Alaska Land Transfer Acceleration Act: Background and Summary

Summary

On December 10, 2004, the President signed into law P.L. 108-452, the Alaska Land Transfer Acceleration Act. The act represents an attempt to clear up the conflicting land claims of three distinct parties in Alaska – the State, Alaska Native Corporations, and Native allottees – in time for the fiftieth anniversary of Alaska's statehood in 2009. These claims are grounded in the Alaska Statehood Act, the Alaska Native Claims Settlement Act, and the Native Allotment Act of 1906. This report provides a background on these Acts, the claims they support, and a summary of the provisions of the Alaska Land Transfer Acceleration Act.

Contents

Introduction 1
Background 1
The Alaska Land Transfer Acceleration Act 3
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Title II 5
Title III 8
Title IV 9
Title V 9
Title VI 9

5017

The Alaska Land Transfer Acceleration Act: Background and Summary

Introduction

On December 10, 2004, the President signed into law P.L. 108-452, the Alaska Land Transfer Acceleration Act. The act represents an attempt to clear up the land claims of various groups in Alaska in time for the fiftieth anniversary of Alaska's statehood in 2009. This report provides a background on these claims and a summary of the act's provisions.

Background

The Alaska Statehood Act ("the Statehood Act") was passed in 1958 and allowed the State to select for ownership approximately 104 million acres of unclaimed and unreserved federal land.[1] Soon after passage of the Statehood Act, however, Alaska natives began to challenge many of the State's selections, arguing that native lands were not available for State selection under the Statehood Act. In 1969, the Ninth Circuit ruled in favor of the Alaska natives,[2] making it difficult for the State to continue the selection process without clarification as to the specific boundaries of Alaska native lands. Congress attempted to resolve this problem in 1971 with the Alaska Native Claims Settlement Act[3] (ANCSA), which was designed to settle the aboriginal claims of the Alaska natives. ANCSA authorized the transfer of over 45 million acres of land and the payment of nearly $1 billion to Alaska Natives.

The ANCSA approach to the native land transfers is unique in its reliance on the corporate form. To manage the lands transferred to the Alaska natives, ANCSA created two tiers of Native Corporations: the Village Corporations, of which there are over 200; and the larger Regional Corporations, of which there are thirteen.[4] A Village Corporation files an application selecting certain lands and, if this application is approved, then the Village Corporation is conveyed title to the surface estate, while the Regional Corporation is generally conveyed title to the subsurface estate. The conveyance process is similar to the state application process, in that the Corporations first file applications for selections of land, which BLM then reviews and, if approved, surveys, transfers, and issues a final patent to the land to the appropriate Native Corporation.

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[1] P.L. 85-508 (72 Stat. 339). Alaska became a state the following year.

[2] *Alaska v. Udall*, 420 F.2d 938 (9th Cir. 1969).

[3] P.L. 92-203 (codified, as amended, at 43 U.S.C. §§ 1601-1629).

[4] ANCSA granted natives 100 shares of the Village and Regional Corporations in which they were enrolled.

The conveyance process has proven difficult to complete, due in large part to complications in the surveying of lands. Neither the Statehood Act conveyance process nor the ANCSA conveyance process has been completed. BLM estimates that, of the 104.5 million acres to which the State is entitled under the Statehood Act, BLM has completed the survey, transfer, and patent process for about 43 million acres. An additional 47 million acres have been transferred, but the State is still awaiting patent of those lands. This leaves 15 million acres on which, according to BLM, the conveyance process has not even begun.[5]

BLM further estimates that, of the 45.6 million acres to which the Native Corporations are entitled under ANCSA, BLM has issued final patents on approximately 18 million acres. BLM has transferred an additional 19 million acres that are still awaiting final patents. BLM officials say that they cannot complete the survey and conveyance process on the remaining 8.4 million acres of land for a variety or reasons, the primary one being that many of the Native Corporations have overselected lands beyond their entitlements.[6] The Native Corporations were encouraged to do this so that they would receive their full entitlement even if certain lands were not approved for transfer, but these overselections require BLM to determine which of the overselected lands will be used to fulfill the Corporations' entitlements.

Further complicating the land transfer process is the Native Allotment Act of 1906.[7] Under this act, Alaska Natives were authorized to acquire individual allotments of up to 160-acre parcels of unreserved and unappropriated land. Alaska Natives filed roughly 10,000 applications for 16,000 parcels of land before the Allotment Act was repealed by ANCSA.[8] In 1998, Congress passed the Alaska Native Veterans Allotment Act,[9] which allowed those Vietnam veterans who missed the opportunity to apply for allotments under the 1906 Act the chance to do so. BLM estimates that it still has pending applications for 3,256 acres of land under these two Acts,[10] all of which must be finalized before the State and ANCSA entitlements can be filled.

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[5] *See* S. Hrg. 108-416, *Alaska Native Subdivision Act; Alaska Land Transfer Facilities* (sic) *Act; Ojito Wilderness Act; and Inventory and Management Program for Public Domain Lands: Hearing Before the Subcommittee on Public Lands and Forests of the Committee on Energy and Natural Resources, United States Senate*, 108th Cong., 14 (2003) [hereinafter S. Hrg. 108-416] (prepared statement of Kathleen Clarke, Director, Bureau of Land Management).

[6] *Id.*

[7] 34 Stat. 197.

[8] *See* S. Hrg. 108-163, *Alaska Native Allotment Subdivision Act; Cape Fox Entitlement Act; Alaska Land Transfer Acceleration Act: Hearing Before the Subcommittee on Public Lands and Forests of the Committee on Energy and Natural Resources, United States Senate*, 108th Cong., 20 (2003) [hereinafter S. Hrg. 108-163] (testimony of Henri Bisson, State Director, Bureau of Land Management, Department of the Interior).

[9] 43 U.S.C. § 1629g.

[10] S. Hrg. 108-163, at 20 (testimony of Henri Bisson, State Director, Bureau of Land Management, Department of the Interior).

The entitlements created by the Statehood Act, ANCSA, and the Native Allotment Act have resulted in a tangled web of interests vying for a finite amount of land -- land which also happens to be the subject of very bitter, long-running disputes between environmental groups and private oil, timber, and mining interests. In 2001, BLM came up with a plan to complete the land transfer process by 2020. Many have expressed the strong desire, however, that the process be completed by 2009, the 50th anniversary of Alaska's statehood. In order to meet this deadline, BLM and the Department of the Interior requested legislative action to streamline a process that has traditionally moved very slowly. The Alaska Land Transfer Acceleration Act is Congress's response.

The Alaska Land Transfer Acceleration Act

Title I. Title I represents an attempt to speed up the State selection process. Under section 6(a) of the Statehood Act, the State is allowed to select 400,000 acres of national forest land and 400,000 acres of other public lands, all adjacent to existing communities. Approval authority for these community development grants is vested in the Secretary of Agriculture for national forest lands and in the Secretary of the Interior for all other public lands.[11] The Statehood Act requires BLM to convey tracts of at least 160 acres, but many pending applications for selections of public lands are in violation of this minimum tract requirement. Further, because the statutory application deadline has passed, these applications cannot be amended, giving the Secretary of the Interior no alternative but to reject the applications.[12] The act waives the minimum tract requirement for five grant applications totaling almost 400 acres.[13] In addition, the act approves any community grant applications for other public lands on file with the Interior Secretary on the date of enactment.[14]

Many of the State's current community grant selections are in areas likely to be conveyed to ANCSA corporations, which could leave the State without sufficient remaining selections to fulfill its community grant entitlement to 400,000 acres. To remedy this problem, the act allows the State to convert selection applications from its much larger general entitlement under section 6(b) of the Statehood Act[15] into community grant selection applications.[16] These 6(b) entitlements amount to more than 102 million acres of vacant, unappropriated, and unreserved federal lands, and cannot be selected from national forests.

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[11] P.L. 85-508, § 6(a) (note preceding 43 U.S.C. § 21).

[12] This information was provided to the author in phone interviews with BLM officials.

[13] P.L. 108-452, § 101(a). The five areas are: Yakutat Airport; Bear Valley (Portage); hyder-Fish Creek; Elfin Cove; Edna Bay Admin Site; and Point Hilda. *Id.*

[14] *Id. See* S. Hrg. 108-163, at 20 (testimony of Henri Bisson, State Director, Bureau of Land Management, Department of the Interior).

[15] P.L. 85-508, § 6(b) (72 Stat. 340).

[16] P.L. 108-452, § 101(b)

When Congress enacted the Alaska National Interests Land Conservation Act[17] (ANILCA) in 1980, Congress granted the State the ability to prioritize its selections. The act clarifies the State's responsibilities as to these prioritizations.[18] Some of the lands prioritized by the State have a reversionary interest vested in the United States, as the statutes under which the lands were conveyed to the State require the federal government to retain such an interest to ensure the lands are used consistent with the respective purposes of the conveyances. The act allows the State to fulfill its land entitlement by selecting these reversionary interests.[19] This would have the effect of removing the federal government's control and oversight of these lands, and possibly allowing development inconsistent with any surrounding federal lands. In testimony before a Senate Subcommittee, a BLM official conceded that much of these lands are within National Wildlife Refuges, but argued that the lands are generally adjacent to towns and villages and are already developed in ways beneficial to the local communities (e.g., they have schools or community centers built on them).[20]

Since the passage of ANILCA, the State has been allowed to fulfill its 6(a) and 6(b) entitlements by selecting lands that are presently withdrawn for some other purpose but may become open for selection at a future date.[21] The State is still waiting for much of the land selected according to these so-called "top filings" to become available. The act makes available eight parcels of land top-filed for selection that were previously reserved for power projects or withdrawn as hot or medicinal springs.[22] The act excludes land within conservation system units (CSUs)[23] from availability under this provision.[24]

Congress in 1929 granted a 100,000-acre land entitlement to the University of Alaska,[25] but disputes abound as to just how much land remains to be conveyed under this entitlement. The act sets the remaining entitlement at 456 acres, and allows the State, on behalf of the University, to fulfill the University's entitlement by selecting mineral interests in land, the unreserved portion of which is held by the University,

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[17] P.L. 96-487 (codified, as amended, at 16 U.S.C. § 3101 et seq; 43 U.S.C. §§ 1631-1641).

[18] P.L. 108-452, § 102.

[19] *Id.* at § 103.

[20] S. Hrg. 108-163, at 20 (2003) (testimony of Henri Bisson, State Director, Bureau of Land Management, Department of the Interior).

[21] 43 U.S.C. § 1635(e). The State cannot, however, select land within a conservation system unit or the Alaska National Petroleum Reserve. *Id.*

[22] P.L. 108-452, § 104(a). These parcels are in the following areas: Bradley Lake; Eagle River/Ship Creek/Peters Creek; Salmon Creek; Nenana River; Solomon Gulch at Valdez; and Kruzgamepa River Pass Creek. *Id.*

[23] ANILCA defines CSUs as any unit of Alaska land within the National Park System, National Wildlife Refuge System, National Wild and Scenic Rivers System, National Trails System, National Wilderness Preservation System, or a National Forest Monument. 16 U.S.C. § 3102(4).

[24] P.L. 108-452, § 104(b).

[25] Act of January 21, 1929, Chap. 92 (45 Stat. 1091).

or the United States' reversionary interests in land, the unreserved portion of which is held by the University.[26]

The act grants the Secretary of the Interior the flexibility to enter into binding agreements with the State to finalize Alaska's entitlements under the Statehood Act.[27] In addition, the act allows the State to select or top-file specific parcels of land in the Chugach National Forest and the Trans-Alaska Pipeline System that were mistakenly omitted from previous applications or top-filings.[28]

The act institutes a streamlined procedure for the conversion of certain federal mining claims to state mining claims.[29] Some lands selected by the State are encumbered by federal mining claims, making the lands unavailable for selection. The surrounding lands can be conveyed to the State, but that creates isolated tracts of federal land which BLM has complained are very difficult to manage.[30] The act allows for the holder of a valid federal mining claim on State-selected or top-filed lands to relinquish that claim and have it converted to a state mining claim. The lands attached to the mining claim are then transferred to the State so long as the land was selected or top-filed as of January 3, 1994.[31]

Title II. Title II of the act attempts to finalize the Regional and Village Corporation land selections under ANCSA. Under ANCSA, Regional and Village Corporations had a limited time in which to select lands, and could only select lands that were available during that period. In other words, they did not have the option to "top-file" withdrawn lands for future selection when they became available. Title II of the act allows the Corporations to select previously unavailable land that is part of or adjacent to a town in which a Village Corporation is located.[32]

Section 12 of ANCSA gave the Village Corporations two separate selections of land: selections of land within which the Native Villages were located ("12(a) selections"); and excess land reallocable to the Village Corporations by the Regional Corporations on an equitable basis ("12(b) selections").[33] The Regional Corporations have been slow to reallocate the 12(b) lands, and the act requires the Regional Corporations to complete the process by October 1, 2005.[34] The act also attempts to counter the effects of overselections and ease BLM's surveying duty by allowing the 12(a) and 12(b) selections to be combined for the purpose of surveying and

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[26] P.L. 108-452, § 105.

[27] *Id.* at § 106.

[28] *Id.* at § 108.

[29] *Id.* at § 107.

[30] *See* S. Hrg. 108-163, at 10 (prepared statement of Henri Bisson, State Director, Bureau of Land Management, Department of the Interior).

[31] P.L. 108-452, § 107.

[32] *Id.*, at § 201(a).

[33] 43 U.S.C. § 1611(a), (b).

[34] P.L. 108-452, § 202(1).

conveying those lands.[35] If a village has overselected its 12(a) lands, for example, it can take a smaller amount of 12(b) lands to fulfill its entitlement.

BLM has argued that one of the primary obstacles to completing the conveyance process is the requirement that BLM survey down to the very last acre to ensure that conveyances do not exceed the Corporation's entitlement. According to BLM, this often takes more than one field survey season to accomplish.[36] The act addresses this problem by allowing the Interior Secretary to enter into an agreement with the affected Corporation, according to which the Secretary conveys some or all of the next whole prioritized section (640 acres) of land if doing so would satisfy that Corporation's entitlement.[37] Exactly how much the Secretary is allowed to "round up" under this provision depends on the status of the land:

- If the land is managed by BLM and is not within a CSU, then the Secretary can convey the next whole section;
- If the land is not within a CSU and is managed by an agency other than BLM, then the Secretary can convey the next quarter-section (with the concurrence of the other agency); and
- If the land is within a CSU, then the Secretary can convey the next quarter of a quarter-section (if managed by an agency other than BLM, then the concurrence of that agency is also required).[38]

ANCSA authorized the Secretary of the Interior to withdraw 2 million acres of unreserved and unappropriated public lands and convey them to Corporations and Native groups for special situations and purposes, such as cemetery land and reserved mineral charges against Regional Corporation entitlements.[39] Delays in finalizing these conveyances have, according to BLM, created significant delays in enabling Regional Corporations to know their final entitlements.[40] The act creates an expedited process for the conveyance of roughly 1,800 existing cemetery and historical sites.[41] According to ANCSA, any of these 2 million acres of special purpose land left over are to be distributed among the Regional Corporations

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[35] *Id.* at § 202(2).

[36] *See* S. Hrg. 108-163, at 11 (prepared statement of Henri Bisson, State Director, Bureau of Land Management, Department of the Interior).

[37] P.L. 108-452, § 203.

[38] *Id.*

[39] 43 U.S.C. § 1613(h).

[40] *See, e.g.*, S. Hrg. 108-163, at 11 (prepared statement of Henri Bisson, State Director, Bureau of Land Management, Department of the Interior).

[41] P.L. 108-452, § 204. The act also requires that Regional Corporations filing applications for historic sites under this provision must include statements of the historical significance of the site within one year of the bill's passage. *Id.*

according to population.[42] Determining just how much remains of that 2 million acres has proved difficult, however, and so the act deems there to be 200,000 acres remaining to be divided.[43]

The act provides that if a Regional Corporation does not have sufficient land selected to fulfill its entitlement under the remainder provision, then the Secretary may withdraw land to fulfill that entitlement, so long as the land is vacant, unappropriated, and unreserved.[44]

Section 17(d)(1) of ANCSA gave the Secretary of the Interior the authority to withdraw lands for further study and reclassify them for various uses in the public interest.[45] Much of this land remains withdrawn today but has yet to be reclassified, and the question of what to do with these "lingering withdrawals" - estimated by BLM to comprise over 53 million acres of land - proved to be one of the most controversial aspects in the debates leading to the passage of the act.[46] Of this 53 million acres, BLM estimates that roughly 28 million acres are selected by the State, a Native Corporation, or both, leaving 25.3 million acres potentially open for economic activities under federal law should the lands withdrawn under 17(d)(1) be opened up.[47] The act requires that, within 18 months of its enactment, the Interior Secretary must conduct a review of these lingering withdrawals and submit a report to the Senate Energy Committee and the House Resources Committee identifying portions that can be opened up for appropriation.[48]

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[42] 43 U.S.C. § 1613(h)(8)(A).

[43] P.L. 108-452, § 205. There are two minor exceptions: the Chugach Native Corporation's portion of the 200,000 acres is determined according to a 1982 agreement with the Corporation; and Cook Inlet Region's portion is held by the United States. *Id.*

[44] *Id.* at § 206.

[45] 43 U.S.C. § 1616(d)(1).

[46] The first few versions of S. 1466, which eventually became P.L. 108-452, would have vested the Interior Secretary with varying degrees of discretion to open and/or close these lands, touching off a debate between the mining and environmental communities. While the mining interests argued that the Secretary should only have the authority to *open* these lands, environmental groups countered that the Secretary should only be able to *close* them. In addition, the environmental groups did not want the Interior Secretary to be able to open these lands without going through the process mandated by the Federal Land Policy Management Act (FLPMA) (43 U.S.C. § 1701 et seq.). FLPMA requires that the Secretary develop land use plans governing management of public lands considering, among other things, present and potential uses, principles of sustained yield, long term vs. short-term benefits to the public, and compliance with applicable pollution control laws (43 U.S.C. § 1712(c)). For both sides of these debates, *see* S. Hrg. 108-163, at 32 (prepared statement of Steven C. Borrell, Executive Director, Alaska Miners Association, Inc.); and S. Hrg. 108-163, at 60 (statement of Eleanor Huffines, Alaska Regional Director, and Allen E. Smith, Alaska Senior Policy Analyst, the Wilderness Society).

[47] These statistics were provided to CRS by BLM's Alaska Office.

[48] P.L. 108-452, § 207. In conducting this review, the Secretary must provide for public notice and comment. *Id.*

While overselection of lands by Native Corporations presents practical obstacles to the completion of the land transfer process, there is also a relatively small number of Corporations that have not selected enough lands to fulfill their entitlements. Federal officials have been grappling with these "underselections" for years; Congress included in ANILCA a process for dealing with underselections,[49] but BLM argued that this process is too cumbersome.[50] This process includes two steps. First, the Secretary issues a Public Land Order (PLO) withdrawing twice the amount of land necessary to fulfill the Corporation's entitlement. Then, the Corporation has ninety days in which to file an application selecting from that amount enough land to fulfill its entitlement.[51] The act allows the parties to agree in advance which lands are to be selected. The Secretary may then withdraw the agreed-upon amount of land, which the Corporation would formally select.[52]

Similar to the authority that granted to the Secretary of the Interior to negotiate with the State to finalize its entitlements, the act grants the Secretary that same authority with regards to the Native Corporations.[53]

Title III. In 2003, BLM estimated that the remaining pending allotment applications totaled 3,256 acres of land, approximately 1,100 acres of which were erroneously conveyed to the State or to Native Corporations, and so no longer belong to the United States.[54] Recovery of title[55] of these lands has proven especially difficult, and the act seeks to ameliorate this problem by allowing the Secretary of the Interior to either correct erroneous conveyances (i.e., the conveyances that caused the lands to pass from the federal government's ownership in the first place) to exclude allotment land[56] or enter into agreements with Native Corporations whereby the Corporations reconvey the land to the United States.[57]

If the parties cannot agree to use the processes described above, then the act allows the State or Native Corporation to enter into an agreement with the applicant in which the applicant would receive substitute Native Corporation lands in place of

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[49] 43 U.S.C. § 1621(j)(2).

[50] *See* S. Hrg. 108-163, at 10 (prepared statement of Henri Bisson, State Director, Bureau of Land Management, Department of the Interior).

[51] 43 U.S.C. § 1621(j)(2).

[52] P.L. 108-452, § 208.

[53] *Id.* at § 209.

[54] *See* S. Hrg. 108-163, at 9 (prepared statement of Henri Bisson, State Director, Bureau of Land Management, Department of the Interior).

[55] For many years, the Department of the Interior routinely denied allotment applications for land conveyed to the State or Village Corporations. In 1979, however, a federal District Court ruled this was illegal, and ordered the Department to recover title to such lands. *Ethel Aguilar v. United States*, 474 F. Supp. 840 (D. Alaska 1979).

[56] P.L. 108-452, § 301.

[57] *Id.* at § 302.

those originally included in the allotment application.[58] If, as a result of any of the processes described above or any other effort to accelerate the Alaska land transfers, the State or a Native Corporation loses land in relation to its entitlement, then the Secretary of the Interior is empowered to adjust the remaining entitlement accordingly.[59]

The act allows for the reinstatement or reconstruction of previously closed allotment applications, and authorizes the Interior Secretary to seek the voluntary reconveyance of the land described in the application.[60] Native Veterans are allowed to amend their applications to include land valuable for its sand and gravel deposits, unless that land is part of a National Park.[61] In addition, the act amends the process for determining cause of death for applications filed on behalf of deceased Native Veterans to ensure that such determinations are supported by sufficient evidence.[62]

Title IV. In order to complete the land transfers by 2009, the act establishes sequential deadlines for prioritizing selections, with six-month intervals in between to allow the next group in line to know what the preceding group chose. The deadlines would expire in the following order: 1) Village Corporations;[63] 2) Regional Corporations;[64] and 3) the State.[65]

Title V. The act authorizes the Secretary of the Interior to establish a field office of DOI's Office of Hearings and Appeals in Alaska to handle disputes related to the Alaska land transfers.[66]

Title VI. The act requires the Secretary of the Interior, within three years of the bill's passage, to submit to Congress a report including a statement of progress on the Alaska land transfers and recommendations for completing the conveyances.[67] Finally, the act authorizes the appropriation of the sums necessary to carry out the purposes of the act.[68]

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[58] *Id.* at § 303.

[59] *Id.* at § 304.

[60] *Id.* at § 305.

[61] *Id.* at § 306.

[62] *Id.*

[63] *Id.* at § 403(a)(1).

[64] *Id.* at § 403(a)(2).

[65] *Id.* at § 404.

[66] *Id.* at § 501.

[67] *Id.* at § 601.

[68] *Id.* at § 602.

HOUSE COMMITTEE REPO

(9)
Date Referred to Committee: March 18, 2009 **FURTHER REFERRALS:**

Date of Committee Action: 4/6/09

The RESOURCES Committee considered: **HOUSE JOINT RESOLUTION NO. 26**

Urging the United States Congress to adequately fund land surveys in Alaska in order to issue patents to the State of Alaska and Alaska Native corporations.

HJR 26 STATEHOOD/ANCSA LAND SURVEY FUNDING

Recommends it be replaced with [ ] HCS *or* [ ] CS *for* _____ (_____)
For Senate Bills with new title: [ ] Technical Title [ ] New Title: HCR_____ **[ ] Same Title [ ] New Title**

[ ] attach amendments
[ ] add new referral to _____ Committee
[ ] Letter of Intent _____ Committee

List of Abbrev for Depts:
ADM
CED
COR
CRT
EED
DEC
DFG
GOV
DHS
LWF
LAW
LEG
MVA
DNR
DPS
REV
DOT
UA

NEW **FISCAL NOTES** *Assigned by Chief Clerk's Office				
List by Dept(s):	*FN#	Fiscal	Indet.	Zero
LEG				

PREVIOUS **FISCAL NOTES**				
List by Dept(s):	FN#	Fiscal	Indet.	Zero

Signing with recommendations	Printed Last Name	DP	DNP	NR	AM
	OLSON			✓	
	SEATON			✓	
	TUCK			✓	
	WILSON	✓			
Chair:	JOHNSON	✓			
Chair:	C. ELKINS	✓			

HJR

27

SENATE COMMITTEE REPORT

DATE RETURNED: 4/18/09

FURTHER:

DATE TURNED
IN TO OFFICE: _____

Resources Committee considered CS FOR HOUSE JOINT RESOLUTION NO. 27(RES)

HJR 27 STATE SOVEREIGNTY

Relating to sovereign powers of the state.

and recommends:

[ ] be **replaced** with [✓] **SCS** or [ ] **CS** HJR 27 (RES)

[ ] adopt **previous** [ ] **SCS** or [ ] **CS** _____ (_____)

[ ] attached amendment(s)

[ ] adopt _____Letter of Intent

[ ] further referral to _____Committee

SENATE BILL:
[✓] Same Title
[ ] New Title

HOUSE BILL:
[ ] Same Title
[ ] Technical Title Change
[ ] New Title w/ SCR #_____

NEW FISCAL NOTE(S):

Department	Date	Fiscal	Indet	Zero	FN#

PREVIOUS FISCAL NOTE(S):

Department	Date	Fiscal	Indet	Zero	FN#
H RES	3/30			✓	1

[ ] **APPROPRIATION - no fiscal note**

SIGNATURES AND RECOMMENDATIONS:	PRINTED LAST NAME	DO PASS	DO NOT PASS	NO REC	AMEND
	Stevens			X	
	French			X	
CO-CHAIR:	McGuire	✓			
CO-CHAIR:				X	

26-LS0760\S
Cook
4/18/09

SENATE CS FOR CS FOR HOUSE JOINT RESOLUTION NO. 27( )

IN THE LEGISLATURE OF THE STATE OF ALASKA

TWENTY-SIXTH LEGISLATURE - FIRST SESSION

BY

Offered:
Referred:

Sponsor(s): REPRESENTATIVES KELLY, Keller, Wilson, Johnson, Neuman, Millett, Olson, Lynn, Johansen, Gatto

SENATORS Therriault, Dyson, Wagoner

A RESOLUTION

Relating to sovereign powers of the state.

BE IT RESOLVED BY THE LEGISLATURE OF THE STATE OF ALASKA:

WHEREAS the Tenth Amendment to the Constitution of the United States reads, "The powers not delegated to the United States by the Constitution, nor prohibited by it to the States, are reserved to the States respectively, or to the people"; and

WHEREAS the Tenth Amendment defines the total scope of federal power as being that specifically granted by the Constitution of the United States and no more; and

WHEREAS some federal actions weaken states' rights protected by the Tenth Amendment to the Constitution of the United States; and

WHEREAS the Tenth Amendment assures that we, the people of the United States of America and each sovereign state in the Union of States, now have, and have always had, rights the federal government may not usurp; and

WHEREAS art. IV, sec. 4, Constitution of the United States, reads, "The United States shall guarantee to every State in this Union a Republican Form of Government," and the Ninth Amendment to the Constitution of the United States reads, "The enumeration in the Constitution, of certain rights, shall not be construed to deny or disparage others retained by the people"; and

WHEREAS the United States Supreme Court has ruled in New York v. United States, 112 S.Ct. 2408 (1992), that the United States Congress may not simply commandeer the legislative and regulatory processes of the states; and

WHEREAS all states, including Alaska, find themselves regularly facing proposals from the United States Congress that weaken states' rights protected by the Tenth Amendment;

BE IT RESOLVED that the Alaska State Legislature hereby claims sovereignty for the state under the Tenth Amendment to the Constitution of the United States over all powers not otherwise enumerated and granted to the federal government by the Constitution of the United States; and be it

FURTHER RESOLVED that this resolution serves as Notice and Demand to the federal government to cease and desist, effective immediately, mandates that are beyond the scope of these constitutionally delegated powers.

COPIES of this resolution shall be sent to the Honorable Barack Obama, President of the United States; the Honorable Joseph R. Biden, Jr., Vice-President of the United States and President of the U.S. Senate; the Honorable Nancy Pelosi, Speaker of the U.S. House of Representatives; the Honorable Lisa Murkowski and the Honorable Mark Begich, U.S. Senators, and the Honorable Don Young, U.S. Representative, members of the Alaska delegation in Congress; all other members of the 111th United States Congress; the presiding officers of the legislatures of each of the other 49 states; and the governors of each of the other 49 states.

CS FOR HOUSE JOINT RESOLUTION NO. 27(RES)

IN THE LEGISLATURE OF THE STATE OF ALASKA

TWENTY-SIXTH LEGISLATURE - FIRST SESSION

BY THE HOUSE RESOURCES COMMITTEE

Offered: 4/1/09
Referred: Rules

Sponsor(s): REPRESENTATIVES KELLY, Keller, Wilson, Johnson, Neuman, Millett, Olson, Lynn, Johansen, Gatto

SENATORS Therriault, Dyson, Wagoner

A RESOLUTION

Relating to sovereign powers of the state.

BE IT RESOLVED BY THE LEGISLATURE OF THE STATE OF ALASKA:

WHEREAS the Tenth Amendment to the Constitution of the United States reads, "The powers not delegated to the United States by the Constitution, nor prohibited by it to the States, are reserved to the States respectively, or to the people"; and

WHEREAS the Tenth Amendment defines the total scope of federal power as being that specifically granted by the Constitution of the United States and no more; and

DELETED

WHEREAS the scope of power defined by the Tenth Amendment means that the federal government was created by the states specifically to be an agent of the states; and

WHEREAS some federal actions weaken states' rights protected by the Tenth Amendment to the Constitution of the United States; and

WHEREAS the Tenth Amendment assures that we, the people of the United States of America and each sovereign state in the Union of States, now have, and have always had, rights the federal government may not usurp; and

WHEREAS art. IV, sec. 4, Constitution of the United States, reads, "The United States shall guarantee to every State in this Union a Republican Form of Government," and

the Ninth Amendment to the Constitution of the United States reads, "The enumeration in the Constitution, of certain rights, shall not be construed to deny or disparage others retained by the people"; and

WHEREAS the United States Supreme Court has ruled in New York v. United States, 112 S.Ct. 2408 (1992), that the United States Congress may not simply commandeer the legislative and regulatory processes of the states; and

WHEREAS all states, including Alaska, find themselves regularly facing proposals from the United States Congress that weaken states' rights protected by the Tenth Amendment;

BE IT RESOLVED that the Alaska State Legislature hereby claims sovereignty for the state under the Tenth Amendment to the Constitution of the United States over all powers not otherwise enumerated and granted to the federal government by the Constitution of the United States; and be it

DELETED

FURTHER RESOLVED that this resolution serves as Notice and Demand to the federal government, as our agent, to cease and desist, effective immediately, mandates that are beyond the scope of these constitutionally delegated powers; and be it

FURTHER RESOLVED that all compulsory federal legislation that directs states to comply under threat of civil or criminal penalties, or sanctions, or requires states to pass legislation or lose federal funding be prohibited or repealed.

COPIES of this resolution shall be sent to the Honorable Barack Obama, President of the United States; the Honorable Joseph R. Biden, Jr., Vice-President of the United States and President of the U.S. Senate; the Honorable Nancy Pelosi, Speaker of the U.S. House of Representatives; the Honorable Lisa Murkowski and the Honorable Mark Begich, U.S. Senators, and the Honorable Don Young, U.S. Representative, members of the Alaska delegation in Congress; all other members of the 111th United States Congress; the presiding officers of the legislatures of each of the other 49 states; and the governors of each of the other 49 states.

FISCAL NOTE

STATE OF ALASKA
2009 LEGISLATIVE SESSION

Fiscal Note Number: 1
Bill Version: CSHJR 27(RES)
(H) Publish Date: 4/1/2009

Identifier (file name):
Title STATE SOVEREIGNTY
Sponsor REPRESENTATIVE KELLY, Keller
Requester

Dept. Affected:
RDU
Component
Component Number

Expenditures/Revenues (Thousands of Dollars)

Note: Amounts do not include inflation unless otherwise noted below.

	Appropriation Required	Information					
OPERATING EXPENDITURES	**FY 2010**	**FY 2010**	**FY 2011**	**FY 2012**	**FY 2013**	**FY 2014**	**FY 2015**
Personal Services							
Travel							
Contractual							
Supplies							
Equipment							
Land & Structures							
Grants & Claims							
Miscellaneous							
TOTAL OPERATING	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
CAPITAL EXPENDITURES							
CHANGE IN REVENUES ( )							

FUND SOURCE (Thousands of Dollars)

1002 Federal Receipts							
1003 GF Match							
1004 GF							
1005 GF/Program Receipts							
1037 GF/Mental Health							
Other Interagency Receipts							
TOTAL	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**

Estimate of any current year (FY2009) cost:

POSITIONS

Full-time							
Part-time							
Temporary							

ANALYSIS: *(Attach a separate page if necessary)*

Prepared by: House Resources Committee
Division
Phone 465-3715
Date/Time

Approved by: Representative Craig Johnson, Co-Chair
House Resources Committee
Date 3/30/2009

(Revised 9/10/2008 OMB)

5034

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Representative Mike Kelly

House District 7

CS HJR 27(RES) SPONSOR STATEMENT

HJR 27 re-asserts Alaska's rights as a sovereign. The resolution reminds the federal government that the 10th Amendment limits the scope of federal power to that specifically granted by the Constitution of the United States and no more. Each state possesses a vast array of rights that our Founders strove to make certain the federal government could not usurp, rights the federal government seems to increasingly have ignored or diminished.

This year several resolutions before the House refer to the abuse of federal powers and the consequences that abuse poses for Alaska including:

- HR 8 and SR 6 – Resolutions opposing the Transportation Security Administration's (TSA) proposal to require in-state general aviation to implement a Large Aircraft Security Plan, similar to that in effect for major Interstate and International airports and flights.
- HJR 17 – A Resolution opposing the "Blair Holt's Firearm Licensing and Record of Sale Act" which would violate Alaskans' 2nd Amendment right to keep and bear arms.
- SCR 3 – A Resolution Urging the Governor to take action against the US Department of the Interior for violating our right to manage our millions of acres of navigable waters and submerged lands.
- HB 186 – A bill exempting firearms manufactured and kept in Alaska from federal regulation.

The federal government's encroachment on state's rights doesn't stop there. According to the National Conference of State Legislatures, "the volume of federal legislation that preempts state authority has increased" and "pressure continues to mount for Congress and the White House to support federal usurpation of state authority in a variety of areas such as criminal law, tort reform, driver's license security and the environment."

Unfunded mandates in Medicare, Medicaid and Education spending, preemption of state absentee voting laws and product liability and consumer protection standards should be added to the list of over-reaching federal authority. As the 9th and 10th amendments to the United States Constitution anticipated, the states must forever retain the power and flexibility to craft innovative solutions to their own problems.

Often the broad manner in which laws are written in congress can most politely be described as overreaching and cavalier. One example that concerns Alaskans is a Congressional proposal that could turn into the confiscation of our firearms in violation of the 2nd Amendment. HJR 27 tells the feds to back off, that Alaska has the authority and right to determine how best to govern our state.

I would appreciate your support for this resolution.

HJR

28

CSHJR 28(RES) am

OPPOSING RESTRICTIONS ON OIL/GAS ACTIVITIES

By Representative Craig Johnson

Changes made to HJR 28 (26-LS0566\S)

Page 1, line 4; Page 2, line 21 and line 31:

Delete "50" after "within"
Insert "200"

Page 3, line 3, following "continued":

Insert "responsible"

ALASKA STATE LEGISLATURE

SENATOR LESIL McGUIRE
SENATOR BILL WIELECHOWSKI
Co-Chairs, Senate Resources Committee

MEMORANDUM

Memorandum

To: Leg. Legal

From: Shalon Szymanski, Committee Aide
Senate Resources Committee

Date: April 13, 2009

Re: Final CS Request

Please create a FINAL Senate Resources CS for HJR 28 incorporating the attached amendment.

HJR 28 did move out of Senate Resources today and we would like to have it read across tomorrow on the Senate Floor.

Thank you!

26-LS0566\S.A

AMENDMENT #1

TO: CS HJR 28 (RES) am
OFFERED BY: Senator French

Page 2, Lines 18-21

Delete:

*"**WHEREAS** key members of the Obama Administration and members of the leadership of the United States Congress have stated as key priorities imposing restrictions on the development of Alaska's offshore oil and gas reserves and reimposing the ban on drilling on the United States outer continental shelf within 200 miles of shore; and"*

FISCAL NOTE

STATE OF ALASKA
2009 LEGISLATIVE SESSION

Fiscal Note Number: 1
Bill Version: CSHJR 28(RES)
(H) Publish Date: 4/1/2009

Identifier (file name):
Title OPPOSE RESTRICTIONS ON OIL/GAS ACTIVITIES
Sponsor REPRESENTATIVE JOHNSON, Millett
Requester

Dept. Affected:
RDU
Component
Component Number

Expenditures/Revenues (Thousands of Dollars)

Note: Amounts do not include inflation unless otherwise noted below.

	Appropriation Required	Information					
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Travel							
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Supplies							
Equipment							
Land & Structures							
Grants & Claims							
Miscellaneous							
TOTAL OPERATING	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CAPITAL EXPENDITURES							
CHANGE IN REVENUES ( )							

FUND SOURCE (Thousands of Dollars)

1002 Federal Receipts							
1003 GF Match							
1004 GF							
1005 GF/Program Receipts							
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Other Interagency Receipts							
TOTAL	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Estimate of any current year (FY2009) cost:

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Full-time							
Part-time							
Temporary							

ANALYSIS: *(Attach a separate page if necessary)*

Prepared by: House Resources Committee
Division
Phone 465-3715
Date/Time

Approved by: Representative Craig Johnson, Co-Chair
House Resources Committee
Date 3/30/2009

(Revised 9/10/2008 OMB)

5041

ALASKA STATE LEGISLATURE

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REPRESENTATIVE CRAIG JOHNSON
HOUSE DISTRICT 28

Sponsor Statement

CS for House Joint Resolution No. 28 (RES) am

"Urging the President of the United States and the US Congress not to adopt any policy, rule or administrative action or enact legislation that would restrict energy exploration, development and production in federal and state waters around Alaska, the OCS within 200 miles of shore, and elsewhere in the continental US."

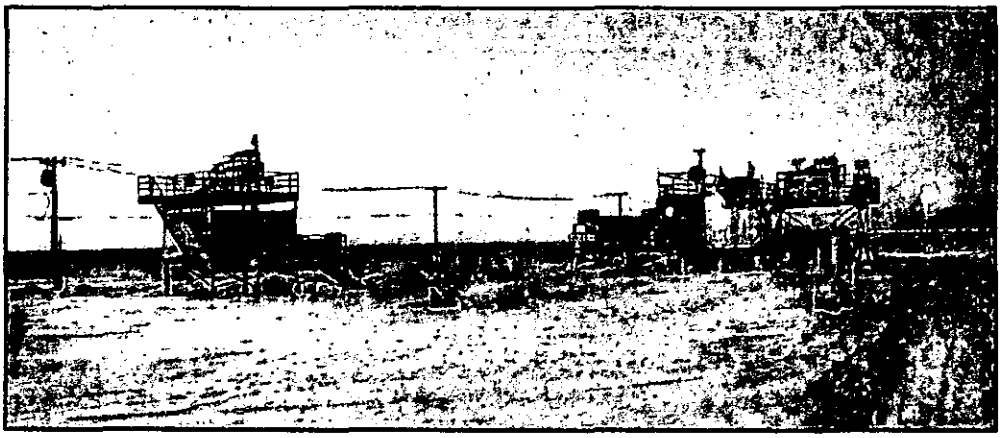
The Alaskan Outer Continental Shelf (OCS) is a potentially important source of future energy supply. Recent estimates of the potential resources in the OCS place the undiscovered reserves at 27 billion barrels of oil and 132 trillion CF of natural gas. Add this to the estimated 35,000 jobs that OCS development could potentially create and the economic benefits are clear.

Recent actions and statements from the President of the United States and his Administration have caused uncertainty among producers and regulators regarding the future of OCS development in Alaska and the continental United States. Considering the unprecedented escalation of gasoline and heating oil prices that were seen last year, as well as the current economic crisis America is facing today, now is not the time to restrict businesses that are creating jobs and generating revenue.

It is more important than ever that we work with the oil and gas industry and federal regulators to ensure that Alaska's pipeline continues to provide oil and gas to the nation and revenue to the state. To facilitate this, President Obama and his Administration need to avoid enacting regulations, rules or administrative actions that would hinder or ban OCS development.

CS HJR 28 (RES) urges President Obama, key members of his Administration and members of Congress to not adopt any policy, rule, administrative action or legislation that would restrict energy exploration, development and production in federal or state waters around Alaska, the OCS within 200 miles of shore or elsewhere in the continental United States. CS HJR 28 (RES) further urges the President and Congress to encourage and promote continued exploration, development and production of domestic oil and gas resources.

Co-Chair, House Resources Committee
Member of Rules, State Affairs, Transportation Committees



By Tim Bradner, Alaska Journal of Commerce

Offshore development off Alaska's coasts could create an annual average of 35,000 new jobs in Alaska and $72 billion in total new payroll over a 50-year period, according to a study by the University of Alaska Anchorage's Institute of Social and Economic Research and Northern Economics Inc.

The growth in jobs resulting from outer continental shelf development could also lead to a 5 percent increase in statewide population, the study said. Most of the growth would be concentrated in Alaska's existing population centers but small coastal communities near the exploration areas could see dramatic expansion, the researchers said.

Shell Exploration and Production paid for the study, which was done over the last year, company spokesman Curtis Smith said. Shell hopes to explore leases in the Beaufort and Chukchi seas.

The study assumed development of a number of offshore projects in three active federal outer continental shelf leasing areas, the Beaufort and Chukchi seas, and the North Aleutian Shelf off the state's southwest coast. Scenarios used were those developed by the U.S. Minerals Management Service in planning the sales, according to Patrick Burden, president of Northern Economic.

The new jobs would include 6,000 directly employed in production and by oil field services companies, 3,000 in support of the infrastructure needed for production, such as pipelines, 22,000 in indirect support work such as engineering and transportation, and 4,000 in the state and local governments near the offshore production areas, Burden said in a briefing held Monday for Anchorage business leaders.

Offshore oil and gas production would also result in an estimated $15.3 billion in additional state government revenue assuming an average price of $65 per barrel over the 50-year period, Burden said.

About $10 billion of that would result because of additional crude flowing through the Trans-Alaska Pipeline System from OCS production. Additional liquids in TAPS would lower tariffs for all oil moved through the pipeline, resulting in higher state royalty and tax revenues to the state from production on state-owned lands, Burden said.

OCS development would also increase municipal government revenues for local governments near the production areas by $4.5 billion, mostly through new property tax income on onshore pipelines and other support facilities.

Most of the new municipal revenue would go to the North Slope Borough, which borders the Beaufort and Chukchi regions where OCS development could occur.

The scenarios used in the analysis, which were developed by the MMS, include seven major offshore fields and seven production platforms in the Beaufort Sea, four major fields and four platforms in the Chukchi Sea and two field and two platforms in the North Aleutian Shelf area.

Assumptions used in the study, also by the MMS, include new oil production resulting from the developments totaling about 1.5 million barrels per day in 2032.

"Outer continental shelf-related employment growth could more than offset losses from the decline of petroleum production on state lands and could help sustain Alaska's economy for several decades," Burden said.

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Dive Industry, Dive Jobs, Jobs, News, Offshore Diving Operations, Outlook

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Alaska, Anchorage, Chukchi Sea, North Aleutian Shelf, Outer Continental Shelf drilling, Public policy, Royal Dutch Shell, Shell, Trans-Alaska Pipeline System, U.S. Minerals Management Service

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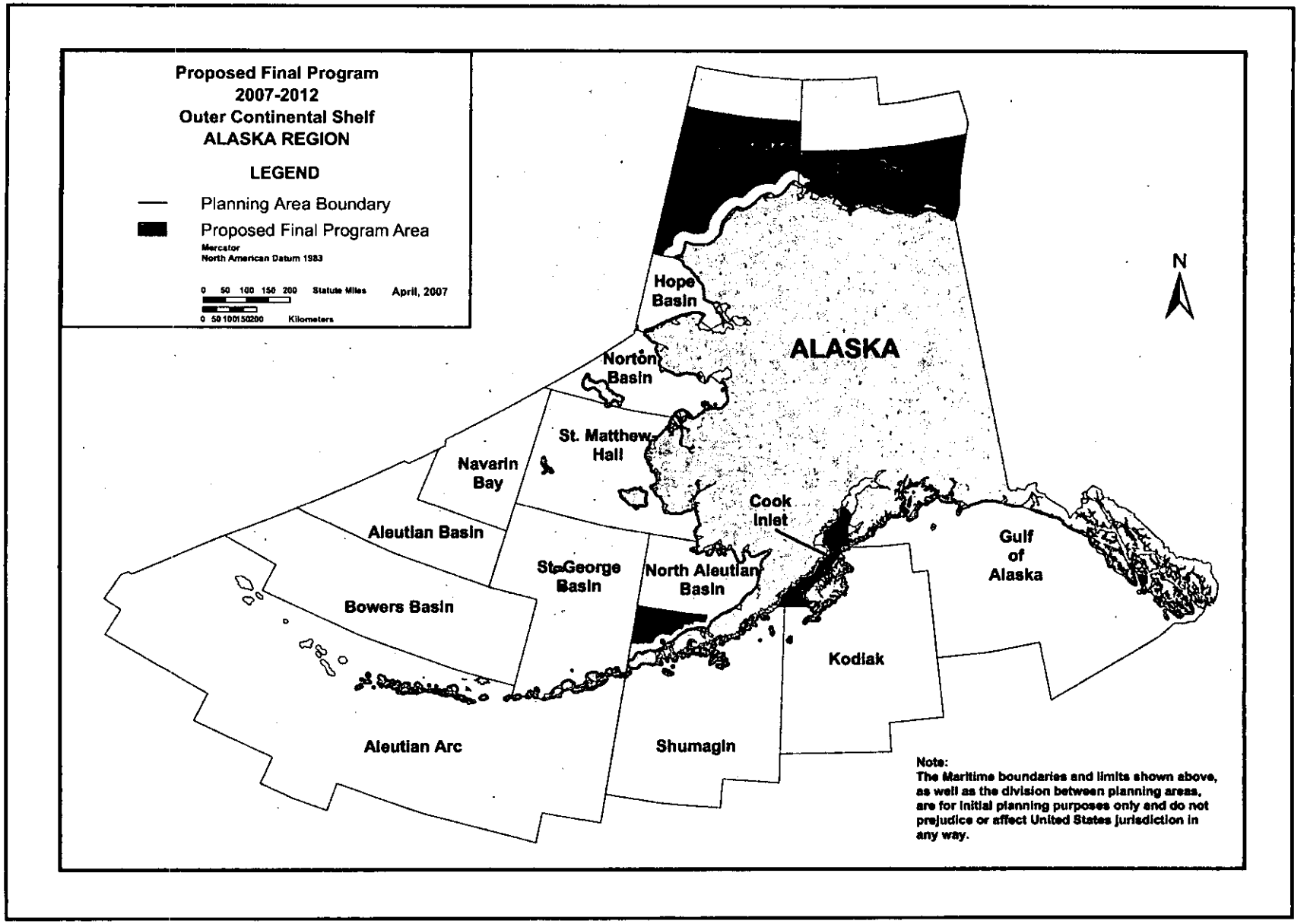
Proposed Final Program
2007-2012
Outer Continental Shelf
ALASKA REGION
LEGEND
Planning Area Boundary
Proposed Final Program Area
Mercator
North American Datum 1983
0 50 100 150 200 Statute Miles
0 50 100 150 200 Kilometers
April, 2007
N
ALASKA
Hope Basin
Norton Basin
St. Matthew Hall
Navarin Bay
Aleutian Basin
Bowers Basin
St. George Basin
North Aleutian Basin
Cook Inlet
Gulf of Alaska
Kodiak
Aleutian Arc
Shumagin
Note:
The Maritime boundaries and limits shown above, as well as the division between planning areas, are for initial planning purposes only and do not prejudice or affect United States jurisdiction in any way.

OUTER CONTINENTAL SHELF DEFINITIONS

Outer Continental Shelf: The Federal Government administers the submerged lands, subsoil, and seabed, lying between the seaward extent of the States' jurisdiction and the seaward extent of Federal jurisdiction.

State jurisdiction is defined as follows:

- Texas and the Gulf coast of Florida are extended 3 marine leagues (9 nautical miles) seaward from the baseline from which the breadth of the territorial sea is measured.
- Louisiana is extended 3 imperial nautical miles (imperial nautical mile = 6080.2 feet) seaward of the baseline from which the breadth of the territorial sea is measured.
- All other States' seaward limits are extended 3 nautical miles (approximately 3.3 statute miles) seaward of the baseline from which the breadth of the territorial sea is measured.

Federal jurisdiction is defined under accepted principles of international law. The seaward limit is defined as the farthest of 200 nautical miles seaward of the baseline from which the breadth of the territorial sea is measured or, if the continental shelf can be shown to exceed 200 nautical miles, a distance not greater than a line 100 nautical miles from the 2,500-meter isobath or a line 350 nautical miles from the baseline.

Outer Continental Shelf limits greater than 200 nautical miles but less than either the 2,500 meter isobath plus 100 nautical miles or 350 nautical miles are defined by a line 60 nautical miles seaward of the foot of the continental slope or by a line seaward of the foot of the continental slope connecting points where the sediment thickness divided by the distance to the foot of the slope equals 0.01, whichever is farthest.

From:

http://www.mms.gov/aboutmms/ocsdef.htm

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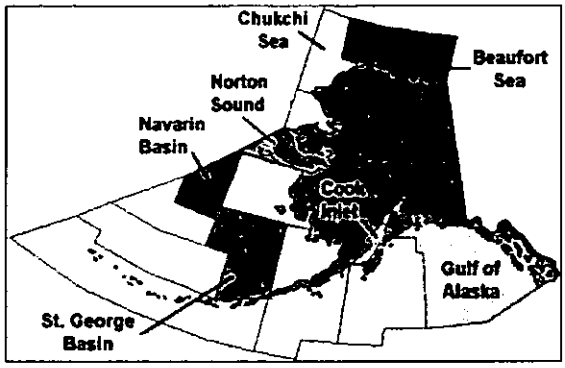
This page last updated:
10/24/2008

Exploratory Drilling by Sale Area

Area	Wells Drilled
Beaufort Sea	31
Chukchi Sea	4
Norton Sound	6
Navarin Basin	8
St. George Basin	10
Cook Inlet	13
Gulf of Alaska	12
Total	84



Field Operations and Drilling Information

MMS *Securing Ocean Energy & Economic Value For America*

Assessment of Undiscovered Technically Recoverable Oil and Gas Resources of the Nation's Outer Continental Shelf, 2006

Using a play-based assessment methodology, the Minerals Management Service estimated a mean of 85.9 billion barrels of undiscovered recoverable oil and a mean of 419.9 trillion cubic feet of undiscovered recoverable natural gas in the Federal Outer Continental Shelf of the United States.

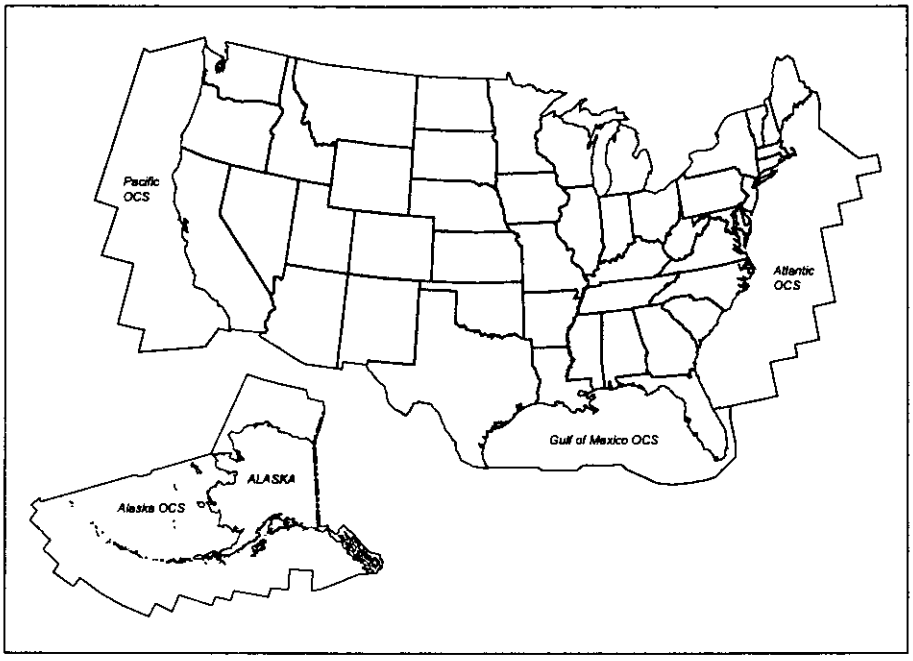


Figure 1. Federal OCS Areas of the United States.

Introduction

This report summarizes the results of the Minerals Management Service (MMS) 2006 assessment of the technically recoverable oil and gas resources for the U.S. Outer Continental Shelf (OCS) (see figure 1). The OCS comprises the portion of the submerged seabed whose mineral estate is subject to Federal jurisdiction. The 2006 assessment represents a comprehensive appraisal that considered relevant data and information available as of January 1, 2003, incorporated advances in petroleum exploration and development technologies, and employed new methods of resource assessment.

This assessment provides estimates of the undiscovered, technically and economically recoverable oil and natural gas resources located outside of known oil and gas fields on the OCS. It considers recent geophysical, geological, technological, and economic information and utilizes a probabilistic play-based approach to estimate the undiscovered technically recoverable resources (UTRR) of oil and gas for individual plays. This methodology is suitable for both conceptual plays where there is little or no specific information available, and for developed plays where there are discovered oil and gas fields and considerable information is available. After estimation, individual play results are aggregated to larger areas such as basins and regions. Estimates of the quantities of historical production, reserves, and future reserves appreciation are presented to provide a frame of reference for analyzing the estimates of UTRR.

More detailed information about the geology, assessment methodology, and economics will be published in separate regional assessment reports.

Commodities Assessed

The petroleum commodities assessed in this inventory are crude oil, natural gas liquids (condensate), and natural gas that exist in conventional reservoirs and are producible with conventional recovery techniques. Crude oil and condensate are reported jointly as oil; associated and nonassociated gas are reported as gas. Oil volumes are reported as stock tank barrels and gas as standard cubic feet. Oil-equivalent gas is a volume of gas (associated and/or nonassociated) expressed in terms of its energy equivalence to oil (i.e., 5,620 cubic feet of gas per barrel of oil) and is reported in barrels. The combined volume of oil and oil-equivalent gas resources is referred to as barrel of oil-equivalent (BOE) and is reported in barrels.

This assessment does not include potentially large quantities of hydrocarbon resources that could be recovered from known and future fields by enhanced recovery techniques, gas in

geopressured brines, natural gas hydrates, or oil and natural gas that may be present in insufficient quantities or quality (low permeability "tight" reservoirs) to be produced by conventional recovery techniques. In some instances the boundary between these resources is somewhat indistinct; however, we have not included in this assessment any significant volume of unconventional resources.

Estimates of undiscovered recoverable resources are presented in two categories, undiscovered technically recoverable resources (UTRR) and undiscovered economically recoverable resources (UERR). In addition, the quantities of historical production, reserves, and future reserves appreciation are presented to provide a frame of reference for analyzing the estimates of UTRR. The UERR results are presented as price-supply curves which show the relationship of price to economically recoverable resource.

Methodology

This assessment incorporated a comprehensive play-based (see list of terms) approach toward the analysis of hydrocarbon potential. A major strength of this method is that it has a strong relationship between information derived from oil and gas exploration activities and the geologic model developed by the assessment team. An extensive effort was involved in developing play models, delineating the geographic limits of each play, and compiling data on critical geologic and reservoir engineering parameters. These parameters were crucial input in the determination of the total quantities of recoverable resources in each play.

Due to the inherent uncertainties associated with an assessment of undiscovered resources, probabilistic techniques were employed and the results reported as a range of values corresponding to different probabilities of occurrence. For plays in frontier areas with sparse data, analogs were developed using subjective probabilities to cover the range of uncertainties. Most plays in the Alaska, Atlantic and some in the Pacific OCS were assessed this way. For mature areas with significant amounts of data, such as the Gulf of Mexico and southern California, plays were analyzed using a method based on statistical parameters of discovered pools and historical trends.

Assessment Results

The MMS completed an assessment of the undiscovered technically recoverable oil and natural gas resources of the OCS, which reflects data and information available as of January 1, 2003. This assessment was the culmination of a multi-year effort that included data and information not available at the time of the previous assessment (MMS, 2001), incorporated advances in petroleum exploration and development technologies, and employed new methods of resource assessment.

UTRR estimates are presented at 95th and 5th percentile levels, as well as the mean estimate. This range of estimates corresponds to a 95-percent probability (a 19 in 20 chance) and a 5-percent probability (a 1 in 20 chance) of there being more than those amounts present, respectively. The 95- and 5-percent probabilities are considered reasonable minimum and maximum values, and the mean is the average or expected value. Results for individual plays, basins, and planning areas will be presented in subsequent regional reports.

Estimates of UTRR for the entire OCS range from 66.6 Bbo at the F_{95} fractile to 115.1 Bbo at the F_5 fractile with a mean of 85.9 Bbo (figure 2 and table 1). Similarly, gas estimates range from 326.4 to 565.9 Tcf with a mean of 419.9 Tcf. On a barrel of oil-equivalence (BOE) basis 54 percent of the potential is located within the Gulf of Mexico. The Alaska OCS ranks second with 31 percent. The Pacific is third among the regions

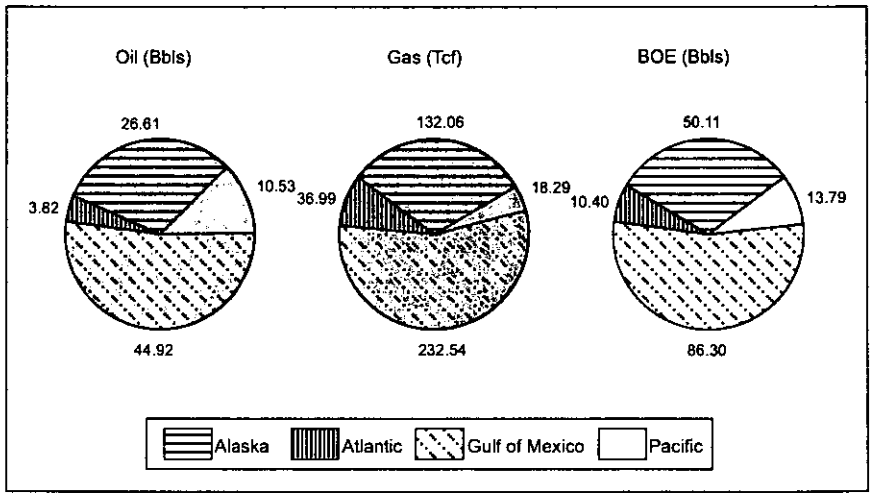


Figure 2. Undiscovered Technically Recoverable Resources by type and region.

in terms of oil potential and fourth with respect to gas. The Atlantic region, on the other hand, ranks third when considering gas potential and fourth in terms of oil.

Technological advances in hydrocarbon exploration and development are sure to occur in the future, yet the nature of advancement is extremely hard to predict and its impact difficult to estimate. However, past experience indicates most technological breakthroughs occur during high-cost scenarios and impact exploration and development by lowering the cost and sometimes by improving the chance of success. For the purpose of this assessment, recent technological advances in gathering, processing, and interpreting seismic data contributed to the identification and mapping of geological plays and development of geologic parameters used to model the plays. Similarly, recent technological advances in offshore drilling and development operations were incorporated through the assumptions associated with the costs of these activities.

However, no attempt was made to determine an empirical relationship between the future technological advancements and the estimated undiscovered resources. MMS believes that future technological advances will significantly affect the

Table 1. Undiscovered Technically Recoverable Resources of the OCS

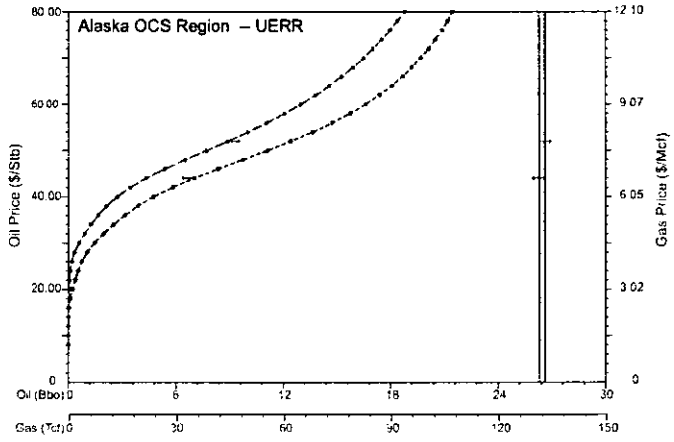
(Bbo, billion barrels of oil, Tcf, trillion cubic of gas. F95 indicates a 95 percent chance of at least the amount listed, F5 indicates a 5 percent chance of at least the amount listed. Only mean values are additive.)

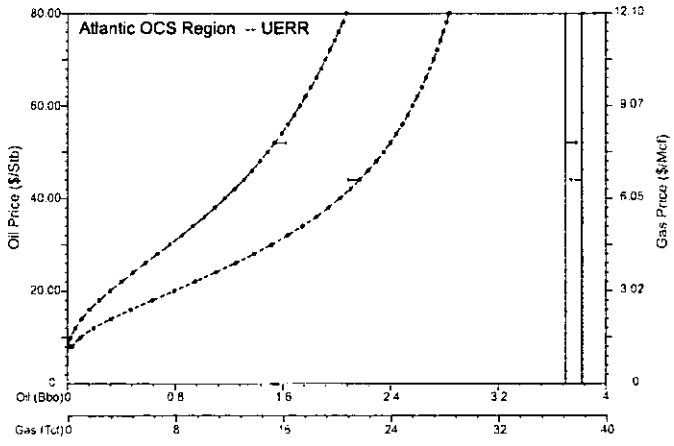
Region	Oil (Bbo)			Natural Gas (Tcf)			BOE (Bbo)		
	95%	Mean	5%	95%	Mean	5%	95%	Mean	5%
Alaska OCS	8.66	26.61	55.14	48.28	132.06	279.62	17.25	50.11	104.89
Atlantic OCS	1.12	3.82	7.57	14.30	36.99	66.46	3.67	10.40	19.39
Gulf of Mexico OCS	41.21	44.92	49.11	218.83	232.54	249.08	80.15	86.30	93.43
Pacific OCS	7.55	10.53	13.94	13.28	18.29	24.12	9.91	13.79	18.24
Total U.S. OCS	66.60	85.88	115.13	326.40	419.88	565.87	124.68	160.60	215.82

portion of the undiscovered resources represented by estimates of UTRR, resulting in an increased percentage being classified as economically recoverable resources.

Estimates of UERR are presented as price-supply curves for the entire OCS as well as individual regions (figure 3). A price-supply curve shows the relationship of price to economically recoverable resource volumes (i.e., a horizontal line from the price axis to the curve yields the quantity of economically recoverable resources at the selected price). The price-supply curve for each region shows two curves and two price scales, one for oil and one for gas. The curves represent mean values at any specific price. They are not independent of each other; that is, one specific oil price cannot be used to obtain an oil resource and a separate gas price used to get a gas resource. The gas price is dependent on the oil price and must be used in conjunction with the oil price on the opposite axis to calculate resources. The reason for this condition is that oil and gas frequently occur together and the individual pool economics are calculated using the coupled pricing. A different gas price associated with the oil price would result in a different resource number than that shown on the curve.

The two vertical lines (green for oil and red for natural gas) indicate the mean estimates of UTRR. At high prices, the economically recoverable resource volumes approach the conventionally recoverable volumes. These curves represent resources available with sufficient exploration and development efforts and do not imply an immediate response to price changes.





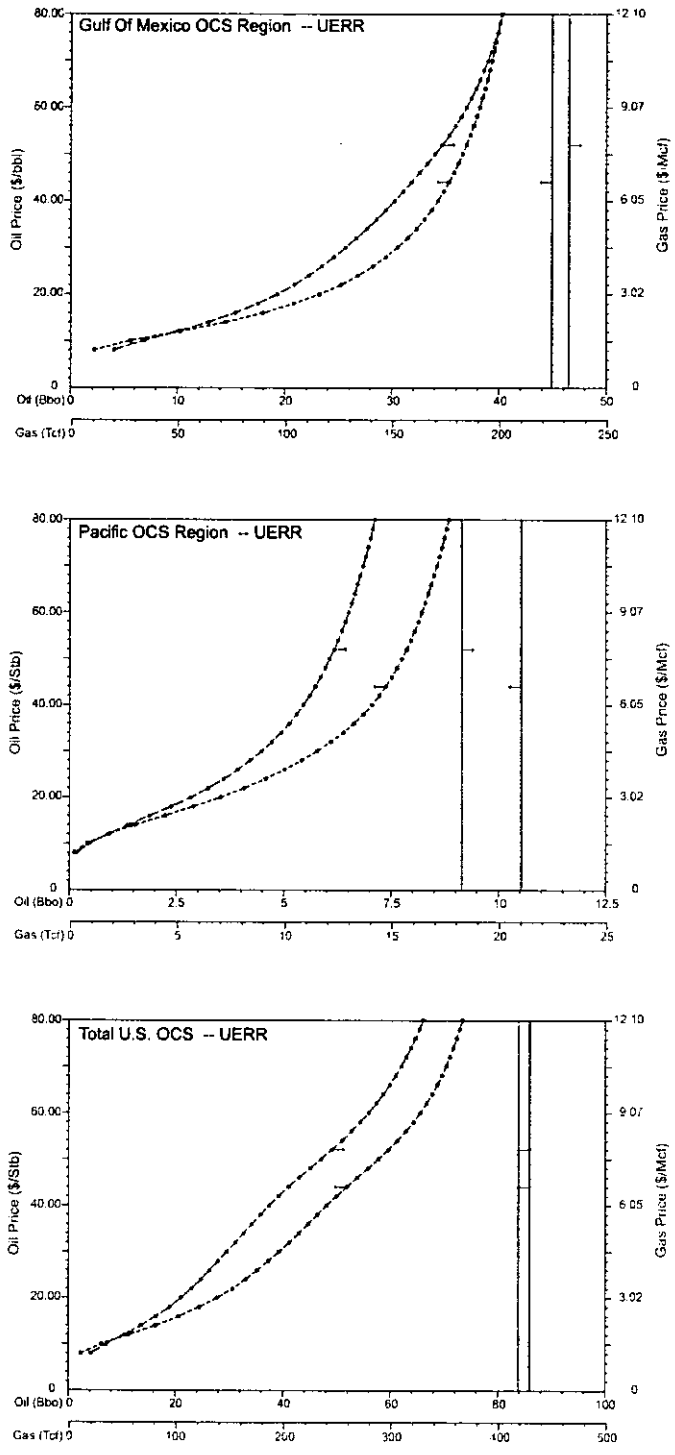


Figure 3. Price Supply Curves for Federal OCS Regions and Total Federal OCS.

Estimates of the quantities of historical production, reserves, and future reserves appreciation are presented to provide a frame of reference for analyzing the estimates of UTRR. The *total endowment* is the sum of historic production, reserves, future reserves appreciation, and UTRR. Mean estimates of the total endowment for the entire OCS are 115.4 Bbo and 633.6 Tcfg (228.2 BBOE). The total endowment distribution by resource category can be seen in figure 4 and table 2. More than 18 percent of the total endowment in terms of the mean estimate of BOE has already been produced. An additional 11 percent is contained within the various reserves categories, the source of near and midterm production. After more than 50 years of OCS exploration and development, 70 percent of the mean BOE total endowment is still represented by undiscovered resources.

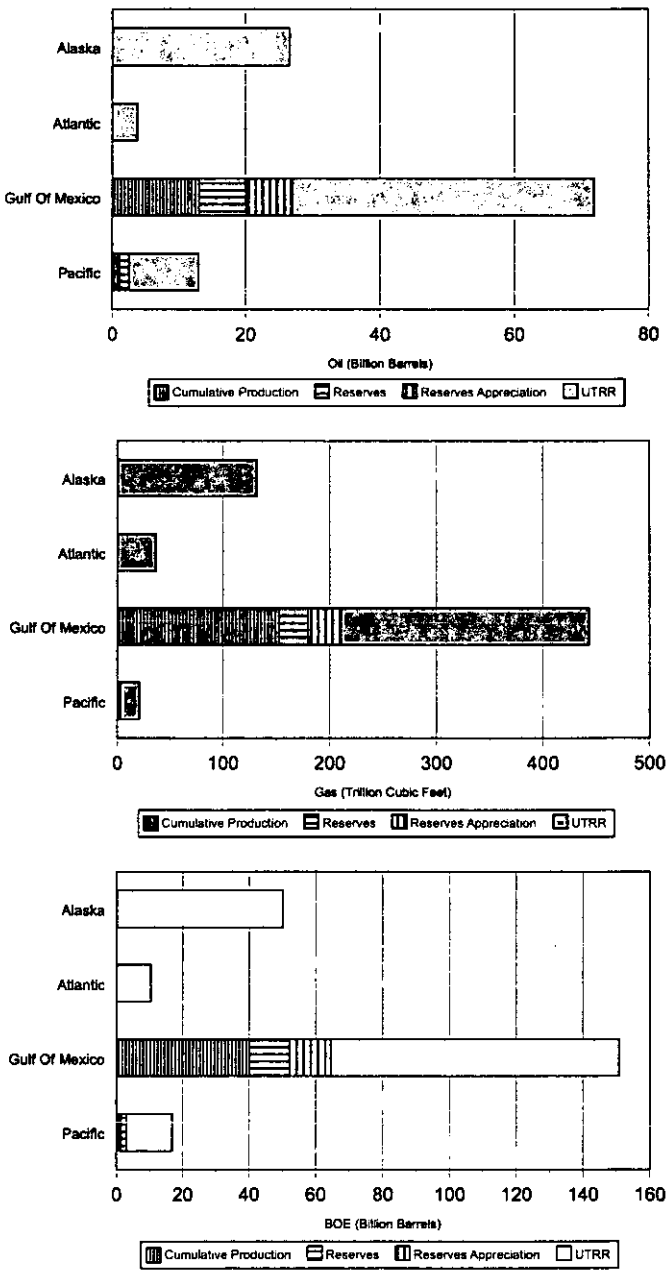


Figure 4. Distribution of total hydrocarbon endowment by type, region and resource category.

Table 2. Distribution of total hydrocarbon endowment by type, region and resource category.

Resource Category		Alaska	Atlantic	Gulf of Mexico	Pacific	Total OCS
Cumulative Production	Oil (Bbo)	.01	0	13.05	1.06	14.12
	Gas (Tcf)	0	0	152.25	1.32	153.57
	BOE (Bbo)	.01	0	40.14	1.29	41.45
Reserves	Oil (Bbo)	.03	0	7.06	1.46	8.55
	Gas (Tcf)	0	0	27.70	1.56	29.26
	BOE (Bbo)	.03	0	11.98	1.74	13.76
Reserves Appreciation	Oil (Bbo)	-	-	6.88	-	6.88
	Gas (Tcf)	-	-	30.91	-	30.91
	BOE (Bbo)	-	-	12.38	-	12.38
UTRR (Mean)	Oil (Bbo)	26.61	3.82	44.92	10.53	85.88
	Gas (Tcf)	132.06	36.99	232.54	18.29	419.88
	BOE (Bbo)	50.11	10.40	86.30	13.79	160.60
Total Endowment	**Oil (Bbo)**	**26.65**	**3.82**	**71.91**	**13.05**	**115.43**
	Gas (Tcf)	**132.06**	**36.99**	**443.40**	**21.17**	**633.62**
	BOE (Bbo)	**50.15**	**10.40**	**150.81**	**16.82**	**228.18**

Comparison with Previous Assessments

A general comparison of 1996, 2001, and 2006 assessment UTRR results is shown in figure 5. At the mean level, the estimates of UTRR for the entire OCS represent an increase compared to the previous (2001) assessment of 10.9 Bbo and 57.7 Tcfg or about 15 percent for oil and gas. The vast majority of this increase occurred in the Gulf of Mexico, where estimates of UTRR range from 41.2 to 49.1 Bbo and 218.8 to 249.1 Tcfg with a mean of 44.9 Bbo and 232.5 Tcfg respectively. Significant increases in the estimates for the deepwater areas were the major contributor to the overall growth in the estimates of UTRR for oil. The majority of the increase in the estimate of UTRR from gas was related to deep gas plays located beneath the shallow water shelf of the Gulf of Mexico. This increase in UTRR was also accompanied by approximately 4.5 Bbo and 14 Tcfg that were discovered in fields such as Thunder Horse and Holstein, whose resources were moved to the reserve category during this time period.

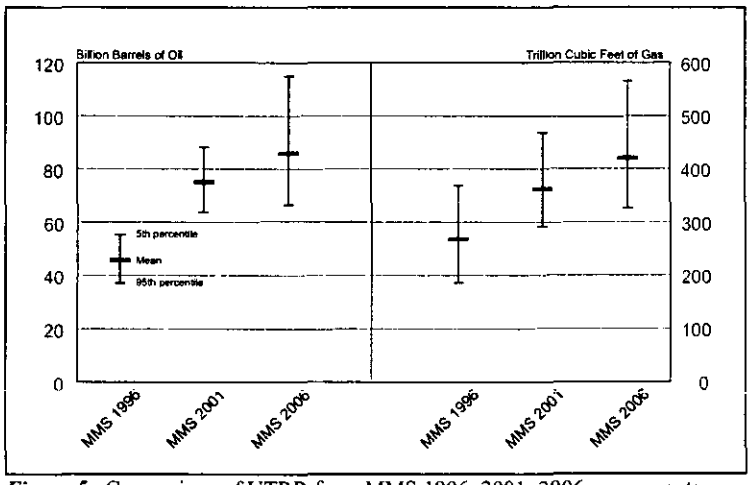


Figure 5. Comparison of UTRR from MMS 1996, 2001, 2006 assessments.

In the Pacific Region, the mean estimate for UTRR of 10.5 Bbo and 18.3 Tcfg represented a slight decrease for both oil and natural gas. The Atlantic estimate of UTRR ranges from 1.1 to 7.6 Bbo and 14.3 to 66.5 Tcfg with a mean of 3.8 Bbo and 37.0 Tcfg. The estimates represent a 66 percent increase in oil resources and a 33 percent increase in gas resources in the Atlantic OCS, when compared with the MMS 2001 assessment. The last remaining leases in the Atlantic OCS, on the Manteo Prospect, expired in 2002 without a well being drilled. However, significant new analog information was available as the result of recent exploration in the Scotian Shelf offshore Canada and the West African Continental Slope offshore Mauritania. Applying these new exploration ideas to the older Atlantic play models led to adjustments to risks in previously defined plays and the identification of additional new plays.

Estimates of UTRR on the Alaska OCS changed only slightly compared to the previous assessment. The mean oil estimate

increased by 1.7 Bbo, while the mean natural gas estimate declined by 6.7 Tcf. The first Alaskan OCS production occurred in 2001 from the joint state/Federal Northstar unit in the Beaufort Sea.

Fifty-four percent of the mean estimate of UTRR on a BOE basis was projected to be present in the Gulf of Mexico OCS. The Alaska, Pacific and Atlantic OCS comprise 31, 9 and 6 percent respectively of the total UTRR.

List of Terms

Cumulative production: The sum of all produced volumes of oil and gas prior to a specified point in time.

Pool: A discovered or undiscovered accumulation of hydrocarbons, typically within a single stratigraphic interval.

Play: A group of pools that share a common history of hydrocarbon generation, migration, reservoir development, and entrapment.

Probability: A means of expressing an outcome on a numerical scale that ranges from impossibility to absolute certainty; the chance that a specified event will occur.

Prospect: A geologic feature having the potential for trapping and accumulating hydrocarbons; a pool or potential field.

Reserves: The quantities of hydrocarbon resources anticipated to be recovered from known accumulations from a given date forward. All reserve estimates involve some degree of uncertainty.

Reserves appreciation: The observed incremental increase through time in the estimates of reserves (proved and unproved) of an oil and/or natural gas field as a consequence of extension, revision, improved recovery, and the addition of new reservoirs.

Resources: Concentrations in the earth's crust of naturally occurring liquid or gaseous hydrocarbons that can conceivably be discovered and recovered.

Undiscovered resources: Resources postulated, on the basis of geologic knowledge and theory, to exist outside of known fields or accumulations.

Undiscovered technically recoverable resources (UTRR): Oil and Gas that may be produced as a consequence of natural pressure, artificial lift, pressure maintenance, or other secondary recovery methods, but without any consideration of economic viability. They are primarily located outside of known fields.

Undiscovered economically recoverable resources (UERR): The portion of the undiscovered conventionally recoverable resources that is economically recoverable under imposed economic and technologic conditions.

Selected References

Minerals Management Service. 1996: An assessment of the undiscovered hydrocarbon potential of the Nation's outer continental shelf. OCS Report MMS 96-0034, 40 p.

———. 2001: Outer Continental Shelf Petroleum Assessment, 2000, 12 p.

Society of Petroleum Engineers and World Petroleum Congress. 1997: Petroleum Reserves Definitions, p. 4-7.

For Further Information

Supporting geological studies, previous assessment results, and methodologies used by MMS for resource assessment can be found on MMS's web site, *www.mms.gov/offshore*.

For further information on this study please contact:
Gary Lore, 703-787-1628
gary.lore@mms.gov

For detailed regional information please contact:

Alaska OCS:	Rance Wall, 907-334-5321 *rance.wall@mms.gov*
Atlantic OCS:	Dave Marin, 504-736-2710 *david.marin@mms.gov*
Gulf of Mexico OCS:	Dave Marin, 504-736-2710 *david.marin@mms.gov*
Pacific OCS:	Drew Mayerson, 805-389-7707 *drew.mayerson@mms.gov*

RESOURCE DEVELOPMENT COUNCIL

Growing Alaska Through Responsible Resource Development

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March 30, 2009

Representative Craig Johnson and Representative Mark Neuman, Co-Chairmen
House Resources Committee
Alaska State Legislature
State Capitol
Juneau, AK 99801

Re: HJR28, Urging the President and U.S. Congress not to restrict energy exploration, development, and production in federal and state waters around Alaska

Dear Representative Johnson and Representative Neuman:

On behalf of the Resource Development Council for Alaska, Inc., (RDC), I am writing in support of HJR28, which urges the President and U.S. Congress not to restrict energy exploration, development, and production in federal and state waters around Alaska.

RDC is a statewide, non-profit, membership-funded organization founded in 1975. The RDC membership is comprised of individuals and companies from Alaska's oil and gas, mining, timber, tourism, and fisheries industries, as well as Alaska Native corporations, local communities, organized labor, and industry support firms. RDC's purpose is to link these diverse interests together to encourage a strong, diversified private sector in Alaska and expand the state's economic base through the responsible development of our natural resources.

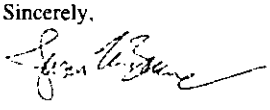
Oil and gas resources located in the Outer Continental Shelf out to 200 miles are vital to the economic viability of a gas pipeline to the Lower 48 and the continued operation of the Trans Alaska Pipeline System. Indeed, an additional 15 TCF of natural gas must be discovered for either the Trans-Canada or Denali pipeline projects to be economically viable over the long term. In addition, throughput in TAPS continues its decline from 2.1 million barrels of oil per day in the late 80s to one-third of that today. This trend can be reversed with production from the OCS where we should be encouraging development, not hampering it.

No one has more care for the environment than Alaskans, and OCS development has a strong track record. It has coexisted with other industries including fishing, in Cook Inlet, the North Sea, and the Gulf of Mexico. Energy exploration, development, and production in federal and state waters around Alaska will occur in an environmentally-sensitive and responsible manner overseen by the strongest of regulatory regimes. When necessary, seasonal operating restrictions and mitigation measures to avoid conflicts with other resource users will be employed.

Given the nation will remain heavily reliant on oil and gas development for decades, America must harness the significant energy resources beneath its most promising onshore and offshore oil and gas basins. It is important to take into consideration, when formulating public policy, that for every barrel of oil America refuses to develop domestically, it will have little choice but to import an equal amount from overseas – where weaker environmental regulations often apply.

With the impact high-energy prices have on Americans and their economy, the U.S. has a moral obligation to develop domestic energy sources, and the OCS is the ideal location. The resources located in the OCS will buy us the time we need to develop the alternative and renewable energy resources that will someday break our reliance on foreign oil. We encourage the Committee to vote in favor of this resolution. Thank you for your consideration.

Sincerely,



Jason Brune
Executive Director

121 West Fireweed Lane, Suite 250, Anchorage, Alaska 99503-2035
Phone: 907/276-0700 Fax: 907/276-3887 Email: Resources@akrdc.org Website: www.akrdc.org

Shell Exploration & Production Company
3601 C Street, Suite 1000
Anchorage, AK 99503
907.770.3700

March 30, 2009

The Honorable Craig Johnson
Alaska State Representative
VIA FACSIMILE

Dear Representative Johnson,

Thank you for your work on HJR 28 and your support for increased access to the offshore.

Shell supports HJR 28 as additional access to the Outer Continental Shelf (OCS) oil and gas would provide resources critical to our nation's energy supply and security. While Shell supports development of a number of energy alternatives to keep up with future demand, oil and natural gas make up two-thirds of our nation's energy needs and will be our main source of fuel for the foreseeable future. In fact, global demand for oil and natural gas is expected to increase 50 percent by 2030 and double by 2050. Currently, 65 percent of our nation's oil supply and nearly 20 percent of our natural gas are imported - accounting for an annual transfer of $600 Billion to foreign suppliers.

The resources believed to be in the in the offshore could play a major role in offsetting that imbalance. Unfortunately, almost 90 percent of all federally controlled coastal waters are currently off-limits, including an estimated 466 trillion cubic feet of natural gas and 91 billion barrels of crude oil. There is enough natural gas off our coasts to heat 100 million homes for the next 60 years and drive 85 million cars for 35 years. A great deal of that gas is located in the Alaska OCS. The US Minerals Management Service conservatively estimates that the federal waters adjacent to the State of Alaska contain 25 billion barrels of oil and 122 trillion cubic feet of natural gas.

Again, thank you for your efforts on this bill.

Sincerely,

Cam Toohey
Manager, Government Relations
Alaska

HJR

40

SENATE COMMITTEE REPORT

DATE: 3/2/10

FURTHER:

DATE TURNED
IN TO OFFICE: _____

Resources Committee considered CS FOR HOUSE JOINT RESOLUTION NO. 40(RES)

HJR 40 COOK INLET/KACHEMAK BELUGA POPULATION

Opposing the proposed designation by the National Marine Fisheries Service of 3,000 square miles of upper Cook Inlet, the mid-inlet, all of the inlet's western shores, and Kachemak Bay as critical habitat for beluga whales.

and recommends:

[ ] be **replaced** with [✓] **SCS** or [ ] **CS** HJR 40 (RES)

[ ] adopt **previous** [ ] **SCS** or [ ] **CS** _____ (_____)

[ ] attached amendment(s)

[ ] adopt _____Letter of Intent

[ ] further referral to _____Committee

SENATE BILL:
[✓] Same Title
[ ] New Title

HOUSE BILL:
[ ] Same Title
[ ] Technical Title Change
[ ] New Title w/ SCR #_____

NEW FISCAL NOTE(S):

Department	Date	Fiscal	Indet.	Zero	FN#

PREVIOUS FISCAL NOTE(S):

Department	Date	Fiscal	Indet.	Zero	FN#
HRES	2/22			✓	

[ ] **APPROPRIATION - no fiscal note**

SIGNATURES AND RECOMMENDATIONS:	PRINTED LAST NAME	DO PASS	DO NOT PASS	NO REC	AMEND
	STEVENS			X	
	Fresa			✓	
	WARNER	X			
CO-CHAIR:	McGuire	✓			
CO-CHAIR:	Wielechowski			✓	

26-LS1376\P
Kane
4/9/10

SENATE CS FOR CS FOR HOUSE JOINT RESOLUTION NO. 40(RES)

IN THE LEGISLATURE OF THE STATE OF ALASKA

TWENTY-SIXTH LEGISLATURE - SECOND SESSION

BY THE SENATE RESOURCES COMMITTEE

Offered:
Referred:

Sponsor(s): REPRESENTATIVES MILLETT, Neuman, Lynn, Johnson, Keller, Gatto, Olson, Stoltze, Johansen

A RESOLUTION

Opposing the proposed designation by the National Marine Fisheries Service of 3,000 square miles of upper Cook Inlet, the mid-inlet, all of the inlet's western shores, and Kachemak Bay as critical habitat for beluga whales.

BE IT RESOLVED BY THE LEGISLATURE OF THE STATE OF ALASKA:

WHEREAS the Endangered Species Act requires economic effects to be taken into account for critical habitat designations, and areas may be excluded from critical habitat if it is determined that the benefit of such exclusion outweighs the benefit of specifying such areas as critical habitat; and

WHEREAS the National Marine Fisheries Service has proposed declaring 3,000 square miles of upper Cook Inlet, the mid-inlet, all of the inlet's western shores, and Kachemak Bay as critical habitat for beluga whales; and

WHEREAS scientists in the National Marine Fisheries Service have concluded that the primary reason for the population decline was the unsustainable subsistence harvest in the 1990s; and

WHEREAS a cooperative harvest management plan was put into place in 2000; and

WHEREAS scientists predicted signs of recovery of the beluga whale population would take five to seven years after a cooperative harvest management plan was instituted; and

WHEREAS, in 2005, the population of beluga whales was 278, and, in 2009, the population was 321, a four percent increase a year; and

WHEREAS the State of Alaska has given notice of its intent to sue challenging the Cook Inlet beluga whale Endangered Species Act listing; and

WHEREAS there is little evidence that human activity has harmed the beluga whale's environment, migration, or ecology; and

WHEREAS the National Marine Fisheries Service has stated that the additional regulatory oversight will cost only an additional $600,000 over the next decade; and

WHEREAS the cost estimate does not factor in the extra costs that existing and future operations may have to pay to meet unnecessary new regulatory burdens; and

WHEREAS a critical habitat designation in Cook Inlet may hurt community and economic development; and

WHEREAS permitting and construction projects may suffer costly delays, and economic development could be curtailed; and

WHEREAS the proposed Knik Arm Bridge, Port Mackenzie, tourism, and vessel traffic may be negatively affected; and

WHEREAS infrastructure development in Cook Inlet for resource development and energy projects could be threatened by critical habitat designations; and

WHEREAS the Port of Anchorage serves 85 percent of the population of the state and receives 90 percent of the goods coming into the state, and the port has already fully addressed the conservation needs of the Cook Inlet beluga whales relating to the whales' activity, based on the best scientific information available, working with the National Marine Fisheries Service and other experts; and

WHEREAS military deployments from the Port of Anchorage, military flight patterns, and military operations could be negatively affected or limited with no benefit to beluga whales; and

WHEREAS environmental lawsuits may add significant delays and millions of dollars to the cost of economic development projects in the Cook Inlet area; and

WHEREAS decades of safe and environmentally responsible oil and gas production, vessel transportation, community development, commercial, sport, and subsistence fishing, and other economic activity in Cook Inlet have taken place without harming Cook Inlet beluga whales; and

WHEREAS future oil and gas exploration, development, and production could be gravely affected by critical habitat designations; and

WHEREAS southcentral Alaska energy needs have been met predominantly through responsible oil and gas production in Cook Inlet for nearly 50 years while beluga whale populations thrived; and

WHEREAS there is little evidence that commercial or sport fishing is harming the beluga whale population; and

WHEREAS the commercial and sport fishing industries could be gravely threatened by a critical habitat designation because the beluga whale's primary food source is fish; and

WHEREAS lost development opportunities because of critical habitat designations could ultimately lead to lost revenue to the State of Alaska and to local governments; and

WHEREAS all three members of Alaska's congressional delegation and Governor Sean Parnell are opposed to the critical habitat designation; and

WHEREAS designation of such broad areas of municipal, commercial, and industrial interest, without any known or identifiable link between these activities and the conservation status of the Cook Inlet beluga whale is contrary to the public interest; and

WHEREAS the conservation benefits, which are entirely uncertain and speculative, are outweighed by the costs and impediments posed by designation of critical habitat in this instance in most, if not all, of the proposed designation area;

BE IT RESOLVED that the Alaska State Legislature opposes the proposed designation by the National Marine Fisheries Service of 3,000 square miles of upper Cook Inlet, the mid-inlet, all of the inlet's western shores, and Kachemak Bay as critical habitat for beluga whales; and be it

FURTHER RESOLVED that the State of Alaska requests a more robust economic analysis be completed by the National Marine Fisheries Service before finalizing any critical habitat designation; and be it

FURTHER RESOLVED that the State of Alaska urges that any final critical habitat

designation, including any research conducted by State of Alaska marine mammal experts, that clearly links any designated critical habitat to the conservation and recovery of the Cook Inlet beluga whales be supported by sound science.

COPIES of this resolution shall be sent to the Honorable Barack Obama, President of the United States; the Honorable Joseph R. Biden, Jr., Vice-President of the United States and President of the U.S. Senate; the Honorable Nancy Pelosi, Speaker of the U.S. House of Representatives; the Honorable Gary F. Locke, United States Secretary of Commerce; Dr. Jane Lubchenko, Under Secretary of Commerce for Oceans and Atmosphere, United States Department of Commerce; Kaja Brix, Director, Protected Resources Division, Alaska Region, National Marine Fisheries Service, National Oceanic and Atmospheric Administration; the Honorable Dan Sullivan, Mayor of the Municipality of Anchorage; the Honorable John C. Combs, Mayor of the City of Palmer; the Honorable Verne E. Rupright, Mayor of the City of Wasilla; the Honorable Talis Colberg, Mayor of the Matanuska Susitna Borough; the Honorable James C. Hornaday, Mayor of the City of Homer; the Honorable Pat Porter, Mayor of the City of Kenai; the Honorable Peter A. Micciche, Mayor of the City of Soldotna; the Honorable Dave Carey, Mayor of the Kenai Peninsula Borough; and the Honorable Lisa Murkowski and the Honorable Mark Begich, U.S. Senators, and the Honorable Don Young, U.S. Representative, members of the Alaska delegation in Congress.

26-LS1376\P
Kane
4/9/10

Amended

Adopted

SENATE CS FOR CS FOR HOUSE JOINT RESOLUTION NO. 40(RES)

IN THE LEGISLATURE OF THE STATE OF ALASKA

TWENTY-SIXTH LEGISLATURE - SECOND SESSION

BY THE SENATE RESOURCES COMMITTEE

Offered:
Referred:

Sponsor(s): REPRESENTATIVES MILLETT, Neuman, Lynn, Johnson, Keller, Gatto, Olson, Stoltze, Johansen

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FISCAL NOTE

STATE OF ALASKA
2010 LEGISLATIVE SESSION

Fiscal Note Number:
Bill Version: **HJR 40**
() Publish Date:

Identifier (file name):
Dept. Affected:
Title COOK INLET/KACHEMAK BELUGA POPULATION
RDU
Component
Sponsor Representative MILLETT, Neuman, Lynn, Johnson, Keller
Requester House Resources Committee
Component Number

Expenditures/Revenues (Thousands of Dollars)

Note: Amounts do not include inflation unless otherwise noted below.

	Appropriation Required	Information					
OPERATING EXPENDITURES	**FY 2011**	**FY 2011**	**FY 2012**	**FY 2013**	**FY 2014**	**FY 2015**	**FY 2016**
Personal Services							
Travel							
Contractual							
Supplies							
Equipment							
Land & Structures							
Grants & Claims							
Miscellaneous							
TOTAL OPERATING	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
CAPITAL EXPENDITURES							
CHANGE IN REVENUES ( )							

FUND SOURCE (Thousands of Dollars)

1002 Federal Receipts							
1003 GF Match							
1004 GF							
1005 GF/Program Receipts							
1037 GF/Mental Health							
Other Interagency Receipts							
TOTAL	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**

Estimate of any current year (FY2010) cost:

POSITIONS

Full-time							
Part-time							
Temporary							

ANALYSIS: *(Attach a separate page if necessary)*

Prepared by: Debra Higgins, Committee Aide
Phone 465-3715
Division House Resources Committee
Date/Time 2/22/10 3:00pm
Approved by: Representative Craig Johnson, Co-Chair
House Resources Committee
Date 2/22/2010

(Revised 11/6/2009 OMB)

5066

Alaska Legislature
Representative Charisse Millett

Session:
State Capitol Building, Room 412
Juneau, AK 99801
Phone (907) 465-3879
Fax (907) 465-2069

Interim:
Anchorage LIO
716 W 4th Ave., Room 630
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District 30
Co-chair, House Special Committee on Energy

Date: 1/29/10
Version: 26-LS1376\S

Sponsor Statement – HJR 40

"Opposing the proposed designation by the National Marine Fisheries Service of 3,000 square miles of upper Cook Inlet, the mid-inlet, all of the inlet's western shores, and Kachemak Bay as critical habitat for beluga whales."

House Joint Resolution 40 seeks to protect the economy of the entire Cook Inlet region from an unnecessary critical habitat designation for beluga whales. The designation would apply to 3,000 square miles of Cook Inlet. The National Marine Fisheries Service is considering the designation a way to protect Cook Inlet beluga whales.

NMFS scientists concluded years ago that an unsustainable harvest caused the decline in the beluga population. The beluga numbers are now increasing at the rate of four percent a year because a revised harvest management program was instituted in place in 2000.

All activities in and around Cook Inlet from the Port of Anchorage, to military operations, to sport and commercial fishing could be slapped with new restrictions if a critical habitat designation is issued.

I urge all my colleagues to join me, our congressional delegation and Governor Parnell in opposing the critical habitat designation.

NORTH STAR TERMINAL AND STEVEDORE COMPANY, LLC
Contracting Stevedores Terminal Operators Materials Handling Equipment Rental

OWNERS and OPERATORS of ANDERSON TERMINAL

P.O. BOX 102019 ANCHORAGE, AK. 99510

TEL: (907) 272-7537
FAX: (907) 274-7608

February 23, 2010

Attn: Kaja Brix
Assistant Regional Administrator Protected Resources Division, Alaska Region NMFS
PO Box 21668 Juneau, Alaska 99802

Re: RIN 0648-XT72 Proposed Critical Habitat Designation for Cook Inlet Beluga Whales

Thank you for the opportunity to comment on the above referenced proposed critical habitat designation. In general, the proposed critical habitat designation is far too broad and encompasses an area much larger than would seem to be necessary for protection of Cook Inlet Beluga whales.

First, it is worth commenting that the endangerment finding was flawed in the first place because indications are that the Beluga population in Cook Inlet is increasing. It is well documented that over harvest was the cause of the decline in population and recent curtailment of harvest has already reversed the trend. It would appear that existing marine related activity, such as shipping and energy development that utilize the proposed critical habitat area is not a significant factor in past decline of the population.

Having worked on the marine terminal in Anchorage for over 30 years as well as recreational boating and fishing in upper cook inlet, I have observed Beluga whales on many occasions. My observations is that the mouths and lower reaches of major rivers, such as the Little Susitna, Susitna and Beluga experience concentrations of Beluga whales, especially during salmon runs. The upper reaches of Turnagain Arm also attract significant numbers during times of hooligan and salmon migration. Otherwise, the whales seem to be fairly widely dispersed in the broader areas of the Inlet. If critical habitat designation is needed, it seems like it should be limited to such areas of high use and concentration. The fact that Belugas transit the larger parts of the Inlet does not justify critical habitat protection.

North Star Terminal & Stevedore Company operates at Anderson Dock in Anchorage, the Port of Anchorage, Port McKenzie, Rig Tenders Marine Terminal in Nikiski, and at both terminals in Homer. Critical habitat designation in the Port Mackenzie area and for the shipping lanes through upper Cook Inlet could be a serious impediment to all current and potential import and export opportunities. All of the necessary goods, commodities and supplies for over 70% of Alaska's population rely on these Ports to provide for the necessary shipment and handling of these necessities.

Alaskan's pay some of the highest energy costs in America. Development of our energy, mineral and other natural resources always has been, and will continue to be, vital to maintaining a healthy economy and good jobs for our citizens.. Hampering resource development and the flow of commerce in and around Cook Inlet will have far reaching

detrimental effects for most Alaskan's far and away many times more substantial in economic impact than estimated to date.

Cook Inlet is the most densely developed and heavily used region in Alaska with respect to resource development, human population and recreational activity. At the same time, it remains one of the biologically most productive regions in the State. Well developed management programs and diligent attention to environmental protection by industry have demonstrated that the marine environment and people can flourish in Cook Inlet. There is no reason the Beluga whales cannot recover and flourish again as well, without the harsh restrictions imposed by the proposed critical habitat designations.

In conclusion, no real Alaskan would approve of activities that truly endanger the Cook Inlet Beluga whales. Many, like me, have experienced the pleasure of watching these unique animals as part of our enjoyment of Cook Inlet. However, the proposal to place half of Cook Inlet in critical habitat designation will do nothing to protect the whales and has the potential to cripple future economic development in the region. I have 6 children and if Alaska's economy does not grow, they will be forced to leave to find gainful employment elsewhere. I want them to have the opportunity to enjoy Alaska's natural wonders as residents, not visitors.

Thank you for your consideration of my comments.

Sincerely,

Jeff Bentz
President
North Star Terminal & Stevedore Company LLC

escopeta oil
Oil & Gas Development

February 25, 2010

Mr. Jason Brune
Executive Director
Resource Development Council for Alaska, Inc.

(Email: jbrune @akrdc.org)

Re: HJR40

Dear Jason,

I was on the telephone yesterday and attended the hearing of HJR40. I did not get a chance to speak so here are my thoughts. Escopeta is in total support of HJR40 and stand with all those who testified yesterday.

Unfortunately Escopeta (and the people of Alaska indirectly) have already been affected by the Beluga proposal. Escopeta had contracts with very strong partners to bring a jack-up rig to the Cook Inlet this spring and drill the #1 Kitchen Lights Unit well. The project was put on hold indefinitely, due to the proposed Beluga Habitat designation. This is a fact, and once again places Escopeta on hold to develop the natural gas supply badly needed by each and every one of you.

I believe that this is just the beginning of serious financial trouble for all of you, if HJR40 does not stop the Federal Government from telling you how to run and operate your state.

Escopeta Oil is a small oil and gas company, but we are big on conservation. We believe in protecting every aspect of this great earth and all of its inhabitants. To this extent we must act with common sense, and combine conservation with business and commerce, which supports not only our industries and jobs, but also the future that lay in front of each of us. Escopeta has been put on hold by the Federal Government which has prevented Escopeta from moving forward to develop the Kitchen Lights Unit in 2010 as planned and promised. We are in total support of HJR40.

Jason, please pass my comments on to those you wish. Thank you for including me yesterday.

Yours truly,

Danny S. Davis

CC: Mr. Bruce Webb

15005 Riverway, Suite 440 · Houston, Texas 77056 Office · 713.623.2219 · Fax 713.439.1205 · E-mail escopeta@swbell.net

MUNICIPALITY OF ANCHORAGE

Office of the Mayor

Phone: 907-343-7100
FAX: 907-343-7180

Mayor Dan Sullivan

February 19, 2010

The Honorable Charisse Millett
Alaska State Legislature
State Capitol Room 412
Juneau, AK 99801

Re: HJR 40 – Opposing Proposed Designation of Cook Inlet as Critical Habitat for Cook Inlet Beluga

Dear Representative Millett:

I support your resolution to oppose the proposed designation of 3,000 miles of the Cook Inlet as critical habitat for the Cook Inlet Beluga whale.

The Municipality of Anchorage (MOA) is committed to ensuring the long-term health and productivity of the Cook Inlet and to the conservation of its beluga population. Cook Inlet supports significant oil and gas production, fishing, mining and a year-round tourism industry to the benefit of all Alaskans. The Port of Anchorage is the essential conduit through which passes an astounding 85% of all goods entering the state, and 26% of the tonnage of U.S. international air freight moves through the city via Ted Stevens Anchorage International Airport.

Anchorage's strategic location continues to be vitally important to our nation's overall defense strategy. We are an excellent staging point for an array of military operations and equipment that is deployed – and redeployed – through our Port in support of our national strategic interests.

The proposed critical habitat designation adds nominal value to the protection of the Cook Inlet beluga. It is fundamentally vague, and because the Endangered Species Act already applies, the MOA is addressing the needs of the beluga responsibly, directly, and with best available science. The projections of economic costs associated with the proposed designation do not pass the red face test; the potential for new regulations, delayed development and increased costs will most certainly total more than the $575,000 that NMFS included along with its proposal.

Thank you for your work and for the opportunity to provide comments. Please contact my intergovernmental affairs director, Stacy Schubert, if she can be of assistance to you. She can be reached at 343-7112 or by email: schuberts@muni.org.

Sincerely,

Dan Sullivan
Mayor

Export Council of Alaska

February 12, 2010

Ms. Kaja Brix
Assistant Regional Administrator, Protected Resources
Alaska Region
National Marine Fisheries Service
P.O. Box 21668
Juneau, AK 99802-1668

ATTN: Ellen Sebastian

RIN 0648-AX50

Dear Ms. Brix:

The following comments are provided on behalf of the Export Council of Alaska (ECA) in response to the National Marine Fisheries Service (NMFS) proposed rule and request for comment regarding Endangered and Threatened Species; Designation of Critical Habitat for Cook Inlet Beluga Whale [Docket No. 090224232-91321-03] published in the Federal Register on December 2, 2009. The ECA is commenting on both the November 17, 2009, Draft Regulatory Impact review/Section 4(b)(2) Preparatory Assessment/Initial Regulatory Flexibility Act Analysis (RIR/4(b)(2)PA/IRFA) and the proposed rule.

The ECA is one of a nationwide network of export councils intended to foster the international competitiveness of the United States. Nationwide, export councils link together 1,500 leaders of business, government, and academia with the International Trade Administration of the U.S. Department of Commerce. Each member is appointed to a limited term by the Secretary of Commerce on behalf of the President. We serve as an advisory group and communications link between the exporting community and the U.S. Department of Commerce. In Alaska, we focus on expanding awareness of companies and individuals to opportunities in markets abroad and assist those firms engaged in exporting. Exports of liquefied natural gas, fish, minerals, and other items valued at hundreds of millions of dollars move through Cook Inlet and its ports every year. Many projects are proposed or under development in this area; some of these projects are directly related to exports, while others are infrastructure projects that are indirectly related to exports in that they improve the international competitiveness of Alaska and the United States. The designation of Cook Inlet beluga whale critical habitat should be tailored to have minimal or no impact on these exports.

Comments on Draft RIR/4(b)(2)PA/IRFA:

The Draft RIR/4(b)(2)PA/IRFA significantly undercounts the costs, and exaggerates the benefits, of the critical habitat designation and arbitrarily and capriciously concludes that the benefits of such designation exceed its costs. NMFS should revise this document to address the weaknesses described in the following paragraphs:

Significantly Undercounts the Costs:

The Draft RIR/4(b)(2)PA/IRFA significantly undercounts the costs of the critical habitat designation by failing to include the costs associated with several energy and transportation projects in the Cook Inlet region. These projects include the following:

Turnagain Arm Tidal Energy Generation Project: On November 17, 2009, the Turnagain Arm Tidal Energy Corporation filed an application with the Federal Energy Regulatory Commission (FERC) for a preliminary permit to study the feasibility of a tidal energy generation system on the Turnagain Arm of Cook Inlet. Section 7.7 of the Draft RIR/4(b)(2)PA/IRFA analyzed cost impacts of critical habitat designation for two other tidal energy projects, and should be revised to include the potential costs of critical habitat designation to the Turnagain Arm Tidal Energy Generation project as well.

Mt. Spurr Geothermal Power Plant: Section 7.7 of the Draft RIR/4(b)(2)PA/IRFA states that this project was reviewed, but it was not analyzed further because a decision to go forward with the plant has not been made. Table 6-28 of the Draft RIR/4(b)(2)PA/IRFA describes the status of the project as "pre-decisional, geothermal lease in place, no permits have been requested". Ormat Technologies, a company with a history of successfully developing geothermal projects in other countries, is the major lease holder for the Mt. Spurr geothermal development. It has a better record of success than any of the tidal energy companies whose projects were analyzed in the Draft RIR/4(b)(2)PA/IRFA. Power transmission lines for this project may need to cross Cook Inlet to reach Anchorage or the Kenai Peninsula. Ormat has identified the North Forelands Dock and Industrial Area as its logistics base for construction and operation of this project, which would result in an increase in vessel traffic through this area. This project is expected to have a total construction cost, including supporting infrastructure, of approximately $1 billion. Because this project is highly unlikely to jeopardize the existence of Cook Inlet beluga whales but may affect a small portion of the whales' habitat, project modification costs should be estimated. Section 7.7 should be revised to include the potential costs of critical habitat designation to the Mt. Spurr Geothermal Power Plant project as well.

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Chakachamna Hydropower Plant: Section 6.4.7 of the Draft RIR/4(b)(2)PA/IRFA states that this project was reviewed, but determined to not have a connection with the critical habitat designation due to its inland location and lack of physical connection with Cook Inlet. However, the project description clearly describes the projects planned measures to protect salmon, which are designated as a primary constituent element (PCE) of the critical habitat. The project would discharge water flow from the facility into the MacArthur River near its confluence with Cook Inlet. The power transmission lines may need to cross the MacArthur River, and potentially Cook Inlet, to reach Anchorage or the Kenai Peninsula. Chakachamna Power has identified the North Forelands Dock and Industrial Area as its logistics base for construction and operation of this project, which would result in an increase in vessel traffic through this area. A preliminary permit application for this project was filed with FERC on December 10, 2009. This project is expected to have a total construction cost, including supporting infrastructure, of $1.75 billion. Because this project is highly unlikely to jeopardize the existence of Cook Inlet beluga whales but may affect a small portion of the whales' habitat, project modification costs should be estimated. Section 7.7 of the Draft RIR/4(b)(2)PA/IRFA should be revised to include the potential costs of critical habitat designation to the Chakachamna Hydropower Plant project.

North Forelands Dock and Industrial Area aggregate mining and export: The Tyonek Native Corporation is developing plans to mine and export high quality aggregate from its North Forelands Dock and Industrial Area using the existing adjacent pier, which would require modification (see www.tyonek.com/Presentations/tnc_wci08.pdf). This project would result in increased vessel traffic through this area. This project is expected to have a total construction cost of approximately $20 million. Because this project is highly unlikely to jeopardize the existence of Cook Inlet beluga whales but may affect a small portion of the whales' habitat, project modification costs should be estimated. Sections 6.4.2, 7-2 and 9-2-1.1 and Table 6-28 of the Draft RIR/4(b)(2)PA/IRFA should be revised to include the potential cost impacts of critical habitat designation to this project.

Beluga Coal to Liquids Plant: Alaska Natural Resources to Liquids recently completed a $1.5 million preliminary feasibility study with the help of the Alaska Industrial Development and Export Authority (see www.aidea.org/PDF%20files/BelugaCTLoverview9-20-06.pdf). Plans call for using coal from the Chuitna coal fields to produce 80,000 barrels per day of diesel and naphtha for U. S. West Coast markets in addition to jet fuel and petrochemical feedstocks. This fuel would be shipped out of the existing North Forelands Dock, which would require modification, and result in increased vessel traffic through this area. This project is expected to have a total construction cost, including supporting infrastructure, of approximately $12 billion. Because this project is highly unlikely to jeopardize the

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existence of Cook Inlet beluga whales but may affect a small portion of the whales' habitat, project modification costs should be estimated. Sections 6.4.2, 7-2 and 9-2-1.1 and Table 6-28 of the Draft RIR/4(b)(2)PA/IRFA should be revised to include the potential cost impacts of critical habitat designation to this project.

Alaska natural gas pipeline projects: Multiple major natural gas pipeline projects are in various stages of development in Alaska, all of which would require the shipment of large quantities of materials through Cook Inlet to the Anchorage area for staging and shipment inland. Because these projects are highly unlikely to jeopardize the existence of Cook Inlet beluga whales but may affect a small portion of the whales' habitat, project modification costs should be estimated. Sections 6.4.2, 7-2 and 9-2-1.1 and Table 6-28 of the Draft RIR/4(b)(2)PA/IRFA should be revised to indude the potential cost impacts of critical habitat designation to these projects

North Slope to Lower 48 through Canada: Public Law 108-324 authorized the development of this pipeline and $18B in federal loan guarantees to facilitate its construction. In 2009, the Senate Energy and Natural Resources Committee reported out legislation to increase the federal loan guarantee amount to $30 billion. Two projects are competing to build this pipeline: AGIA (TransCanada's $26 billion, 1,715 mile pipeline) and Denali (BP and Conoco Phillips' $32 billion, 1,500 mile pipeline). The Alaska Natural Gas Transportation Projects, Office of the Federal Coordinator is reviewing both projects, and both have initiated the FERC application process.

ANGDA spur pipeline to Cook Inlet: Alaska Natural Gas Development Project (ANGDA) is planning a $2 billion pipeline to divert a portion of the gas from the above pipeline project to Cook Inlet to replace dwindling local reserves and provide processed natural gas liquids for export from a to-be-developed facility through Cook Inlet. This pipeline would run from Delta, through Glennallen to a Beluga gas facility near Wasilla.

Enstar bullet pipeline: This $4B pipeline would connect Alaska North Slope gas fields through Fairbanks to the Beluga gas facility. This project is competing with the ANGDA spur line project above for both local consumption and liquid products export. Enstar is currently pursuing Alaska environmental permits for this project.

Port MacKenzie Projects: Sections 6.4.4, 7-4 and 9-2-1.1 and Table 6-28 of the Draft RIR/4(b)(2)PA/IRFA analyzed cost impacts of critical habitat designation for two port MacKenzie projects: Deep Draft Dock Expansion and Barge Dock Expansion. The port also plans to spend $18M to construct a ferry terminal for the service to Anchorage and Tyonek. On July 17, 2009, the Surface Transportation Board, a federal agency, published a Notice of Availability of Final Scope of Study for the Environmental

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Impact Statement (EIS) for an extension from Port MacKenzie to the Alaska Railroad Corporation (ARRC) main line between Wasilla and north of Willow, Alaska. The purpose of this extension is to transport mined minerals to Port MacKenzie for export. The ARRC Port MacKenzie to Willow project is expected to cost $200M, with most of the required materials being shipped through Cook Inlet to Port MacKenzie. Both of these projects would significantly increase vessel traffic through Port MacKenzie, so they should be included in the above sections and table of the Draft RIR/4(b)(2)PA/IRFA. Because these projects are highly unlikely to jeopardize the existence of Cook Inlet beluga whales but may affect a small portion of the whales' habitat, project modification costs should be estimated.

Ferry service to Tyonek: Sections 6.4.3, 7.3, and 7.7 and Table 6-28 of the Draft RIR/4(b)(2)PA/IRFA describe the Cook Inlet ferry service as being planned only for service between Port MacKenzie and Anchorage. However, the Matanuska-Susitna Borough signed a memorandum of understanding with the Native Village of Tyonek in July, 2008, to provide ferry service between Tyonek and the Matanuska-Susitna valley. This was reported in Alaska News on July 16, 2008. Either the existing Ladd Landing or North Foreland waterfront sites would be used for this purpose and a suitable ferry landing would have to be constructed at either site. This project is expected to have a total construction cost of approximately $14 million. Because this project is highly unlikely to jeopardize the existence of Cook Inlet beluga whales but may affect a small portion of the whales' habitat, project modification costs should be estimated. The above sections and table of the Draft RIR/4(b)(2)PA/IRFA should be revised to include the potential costs of critical habitat designation to the Tyonek ferry landing development and the extended ferry service.

Road and bridge projects connecting West Cook Inlet settlements and projects: The Alaska Department of Transportation has designated rights of way for a system of roads to connect West Cook Inlet settlements and development sites. These road systems include bridges crossing several of the medium and high flow-accumulation rivers entering Cook Inlet identified in the proposed rule as supporting prey species for the Cook Inlet beluga whale (see http://www.fakr.noaa.gov/protectedresources/whales/beluga/management.htm#habitat). These projects would connect Anchorage to several of the West Cook Inlet energy projects described in this letter and the Draft RIR/4(b)(2)PA/IRFA. They are expected to have a total construction cost of approximately $200 million. Because these projects are highly unlikely to jeopardize the existence of Cook Inlet beluga whales but may affect a small portion of the whales' habitat, project modification costs should be estimated. Sections 6.4.3, 7-3 and 9-2-1.1 and Table 6-28 of the Draft RIR/4(b)(2)PA/IRFA should be revised to include the potential cost impacts of critical habitat designation to these projects.

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Section 4.1.2 of the Draft RIR/4(b)(2)PA/IRFA describes how project modification costs are to be calculated in addition to federal agency consultation costs. However, in the Section 7 analysis of total potential costs of critical habitat designation, no project modification costs are included. In addition to the project modification costs for the projects described above, such costs should also be estimated for the other projects included in Section 7.

The Draft RIR/4(b)(2)PA/IRFA should be revised to expand the valuation of the anticipated costs to address the above concerns.

Exaggerates the Benefits:

The Draft RIR/4(b)(2)PA/IRFA exaggerates the benefits of the critical habitat designation by: (1) failing to adequately differentiate between the benefits that accrue from the designation of the Cook Inlet beluga whale as endangered and the benefits of the designation of the whale's critical habitat; (2) failing to account for the baseline requirements of the Endangered Species Act (ESA) that, without the designation of critical habitat, NMFS would be required to not take any action that would jeopardize the Cook Inlet beluga whale's existence due to inadequate stocks of prey fish species; and (3) attributing benefits to fishermen from such critical habitat designation while ignoring legal requirements other than the ESA for fisheries conservation and the increased consumption of fish by the resulting larger whale population.

Section 3.3.1 of the Draft RIR/4(b)(2)PA/IRFA states that "The baseline for the critical habitat designation analysis is the existing state of regulation that provides protection to the Cook Inlet beluga whales under the ESA, as well as under other federal, state, and local laws and guidelines, without the critical habitat designation...Absent a designation of CH, Section 7 of the ESA requires Federal agencies to consult with NMFS to ensure that any action authorized, funded, or carried out will not likely jeopardize the continued existence of any endangered or threatened species."

While Section 5.5 of the Draft RIR/4(b)(2)PA/IRFA states that "in all cases, the types of economic benefits associated with CHD are largely co-extensive with listing the Cook Inlet beluga whale as endangered", Section 5.2.1.1 proposes that the designation of critical habitat may sustain healthy stocks of Cook Inlet beluga whale prey fish and increase the consumptive value from fishing in and adjacent to such critical habitat. Sections 7.8, 7.9, and 7.10 of the Draft RIR/4(b)(2)PA/IRFA also presume an increase in fish stocks from critical habitat designation. These presumptions ignore the baseline requirements for NMFS and the Alaska Department of Natural Resources to maintain the reproductive capacity of such fish stocks through managing human harvesting of

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these stocks and the increased consumption of such fish stocks by a larger Cook Inlet beluga whale population that NMFS expects to result from such critical habitat designation. Preserving designated critical habitat is more likely to help maintain such prey fish at current stock levels, not increase them, since such designation merely retains the status quo with respect to the condition of such habitat and does not require improving such habitat. On the other hand, to the extent to which the designation of critical habitat would increase the Cook Inlet beluga whale population above the baseline condition, the consumption of such fish stocks by such whale population would clearly increase, leaving fewer fish available for fishermen to catch. In summary, the net effect of critical habitat designation is more likely to be a reduction in the consumptive value from fishing in and adjacent to such critical habitat, and therefore would not be a benefit to fishermen.

Appendix A is titled "Nonuse Values of Critical Habitat for the Cook Inlet Beluga Whale". However, the analysis included in Appendix A discusses the nonuse value of both the critical habitat and protecting Cook Inlet beluga whales and most of the studies cited therein pertain to valuation of a species, not the critical habitat of such species. The protection of the species from extinction is a baseline requirement of the ESA without critical habitat designation. Therefore, it should be separated from the nonuse valuation of the protection of such species' critical habitat before comparing costs and benefits of critical habitat designation. As with calculating the costs of critical habitat designation, the calculation of the benefits of such designation must be limited to the incremental value provided by such designation over the baseline protections afforded by the ESA without such designation. Unfortunately, the statement on page A-4 that "Therefore, it is logical to conclude that in the absence of critical habitat the species would go extinct" and the analysis that follows fail to adequately separate out the protections that would provided to such habitat under the ESA under the baseline condition without designation of critical habitat.

In its discussion of the Kontoleon and Swanson (2003) study, Appendix A fails to show that the preference for preserving a species in its natural habitat versus in a reserve does not represent a valuation of a preference that a species remain in its natural habitat rather than being relocated to a reserve (i.e., a negative reaction to the unnatural condition of animal) and not a valuation of preserving the habitat itself. Therefore, the conclusion that the Kontoleon and Swanson (2003) study provides grounds for believing that some portion of the public's value for the Cook Inlet beluga whale is attributable specifically to critical habitat is premature, as the choice in this case does not involve preservation of the beluga whale in an unnatural habitat.

The literature cited in the Draft RIR/4(b)(2)PA/IRFA may represent the best available science on the subject of valuation of protecting endangered species and their critical

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habitat, however, the analysis in this document of this scientific data clearly falls short of meeting the requirements of the ESA. The Draft RIR/4(b)(2)PA/IRFA should be revised to narrow the valuation of anticipated benefits to address the above concerns.

Arbitrarily and Capriciously Concludes that Benefits Exceed Costs:

Section 5 and Appendix A of the Draft RIR/4(b)(2)PA/IRFA describe several methods for calculating the value of several forms of benefits, but do not attempt to place a quantitative value on the benefits of Cook Inlet beluga whale critical habitat designation above the benefits of the baseline protection of the ESA without such designation. Similarly, the document also does not attempt to develop a qualitative measurement of such value or attempt to describe how such benefits were compared with the more easily calculated (although in this case, undercounted) costs of such designation. Instead, section 8 of the Draft RIR/4(b)(2)PA/IRFA in two short paragraphs simply states that the anticipated benefits would outweigh the anticipated costs and a net benefit to the nation would result. No support is provided for this statement. No basis is provided that would allow an outside disinterested expert to reach such a conclusion using the same information provided in the document. NMFS simply throws up its hands and says that a valuation of the benefits can't be done, yet it concludes that such benefits would exceed the expected costs. The lengthy separate discussions of the costs and benefits do not overcome the opaque, arbitrary and capricious manner in which the comparison of the two was made and in which the conclusion was reached. This is especially egregious when the agency undercounts the costs and exaggerates the benefits for the purposes of this comparison.

The Draft RIR/4(b)(2)PA/IRFA should be revised to include a detailed method of comparing quantitative and qualitative valuations of costs and benefits and an explanation of how such a comparison was made using costs and benefits information revised to address the inaccuracies described above. The resulting net cost or benefit conclusion should be supported in a manner that is repeatable by outside disinterested experts using the same data.

Comments on Proposed Rule (all page numbers reference the December 2, 2009 Federal Register Vol. 74, No. 230):

Page 63081, second column, second full paragraph, seventh sentence: Change the estimated economic impact range to account for the additional costs identified above.

Page 63084, Figure 1: Revise Figure 1 to include the proposed changes to Areas 1 and 2 described later in this letter.

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Page 63087, second column, first full paragraph, second sentence: Change to read: 'The effects of prolonged harassment may also indude the prolonged abandonment of habitat."

Rationale: To remove the potential for incorrectly interpreting the original sentence to mean that momentary incidents of harassment could result in the prolonged abandonment of habitat by the endangered species.

Page 63087, second column, physical or biological feature number 1: Insert before the semicolon at the end the following: ", except as excluded by the descriptions of Areas 1 and 2".

Rationale: To clarify that these features only apply to the waters included in Areas 1 and 2.

Page 63087, second column, physical or biological feature number 3: Change to read: "The absence of non-naturally occurring toxins or other agents of a type and amount that would kill or injure Cook Inlet beluga whales or cause the prolonged abandonment of their critical habitat areas;"

Rationale: These changes clarify that federal agencies are not required to eliminate naturally occurring irritants to Cook Inlet beluga whales and replace the vague standard of harm with effects-based language from physical or biological feature number 5.

Page 63087, second column, physical or biological feature number 4: Change to read: "The absence of prolonged impediments to unrestricted passage within or between the critical habitat areas; and".

Rationale: To remove the potential for incorrectly interpreting the original sentence to mean that the changes in direction by Cook Inlet beluga whales to avoid a vessel or structure in Cook Inlet does not necessarily equate to denial of unrestricted passage.

Page 63087, second column, physical or biological feature number 5: Change to read: "The absence of in-water noise at levels and durations resulting in the prolonged abandonment of critical habitat by Cook Inlet beluga whales."

Rationale: This discussion on page 63088 of the impacts of noise on beluga whales describes two thresholds: one for impulsive noises and one for continuous noise. The revised language recognizes the duration basis for the two noise thresholds and incorporates the same abandonment clarification that is included in the previous

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paragraphs. Again, this removes the potential for incorrectly interpreting this sentence to mean that the temporary avoidance by Cook Inlet beluga whales of a vessel operating in Cook Inlet at a noise level below the stated thresholds, which the whales would detect by sound, does not equate to abandonment of critical habitat. Cook Inlet experiences significant natural in-water noise levels from the shifting of ice during winter tidal changes, yet beluga whales continue to inhabit the region. Noise limits for vessels and other human activities should be set at levels higher than this natural noise level.

Page 63087, third column, Area 1 description: Insert before the period at the end the following: ", excluding those waters within ½ mile of the Port MacKenzie dock complex (61.27 N, 149.92 W) and within ½ mile of the Anchorage marine terminal (61.22N, 149.91W)".

Rationale: Part 424.19 of title 50 of the Code of Federal Regulations authorizes the Secretary to exclude any portion of an area being considered for designation as critical habitat if benefits of such exclusion outweigh the benefits of specifying the area as part of the critical habitat, and such exclusion does not result in the extinction of the species. Four economically significant activities are planned for Port MacKenzie: (1) deep draft dock expansion, (2) barge dock expansion, (3) ferry service to Anchorage and Tyonek, and (4) extension of the Alaska Railroad to Port MacKenzie from the main line between Wasilla and north of Willow, Alaska. These marine terminals are the gateways to the bulk of Alaskan exports and imports. The expansion of the Port of Anchorage has already started, an initial beluga whale incidental take authorization from NMFS, and several measures are being taken to protect the whales. Additionally, ferry service between Port MacKenzie and Tyonek will serve Anchorage. While these projects are in different stages of development, combined, they are critical to the economic development of the Cook Inlet region and the mobility of its residents. The inclusion of these small areas within Area 1 would likely result in the imposition of significant limitations on the development and use of the above projects, resulting in economic harm to the region. While Cook Inlet beluga whales have been sighted in the vicinity of Port MacKenzie and the Port of Anchorage marine terminal, the areas to be excluded are miniscule in comparison to the remaining critical habitat and their exclusion would have no significant impact on the Cook Inlet beluga whale's critical habitat or its continued existence. Clearly, the benefits of excluding these small portions of Area 1 exceed the benefits of including them in the critical habitat designation.

Page 63087, third column, Area 2 description: Insert before the period at the end the following: ", excluding those waters within 2 miles of the Ladd Landing pier (61.13N, 151.10W), within 1 mile of the North Forelands Dock (61.04N, 151.16W), within 1 mile of the Upland Rock Quarry at Cottonwood Bay (59.64N, 153.63W), and within ½ mile of the Kenai LNG export terminal (60.68N, 151.40W)." Strike "and the mouth of the

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Douglas River (59.04 N., 153.45 W)," and insert "and 60.00 N. latitude," or, alternatively, add to the excluded areas in the first sentence of this paragraph the following: "within 1 mile of the multimodal port site in Iniskin Bay (59.66N, 153.46W),".

Rationale: The rationale for these changes is similar to that described in the preceding proposed change. Ladd Landing may be used for the export of Chuitna coal and as a landing for the ferry service to Port MacKenzie and Anchorage (which would require modifications to these piers). The North Forelands Dock may be used to export locally mined aggregate and locally produced coal to liquids fuel and may be used as a landing for the ferry service to Port MacKenzie and Anchorage (any of which may require modifications to the pier). A multimodal port facility may be built in Iniskin Bay to enable shipment by water of materials extracted from the Pebble Mine. The Upland Rock Quarry waterfront in Cottonwood Bay requires filling and dredging to support extraction and export of excavated materials. The Kenai LNG export terminal provides important revenue and a significant source of employment to the Kenai area. Combined, these facilities are critical to the economic development of the Cook Inlet region. The inclusion of these small areas within Area 2 would likely result in the imposition of significant limitations on the development and use of the above projects, resulting in economic harm to the region. The Alaska Fisheries Science Center 2008 Supplemental Status Review and Extinction Assessment of Cook Inlet Belugas shows: (1) a small presence of 2-10 belugas within 2 miles of the Ladd Landing site only during the 1993-1997 period, (2) no presence of belugas within 1 mile of the North Forelands Dock between 1978 and 2008, (3) a small presence of 2-10 belugas within Iniskin Bay only during the 1993-1997 period, (4) no information on beluga presence in Cottonwood Bay, (5) a small presence of 3-10 belugas in the Kenai River only during the 1978-1979 period, and (6) the 95% population area boundary for Cook Inlet beluga whales as far back as 1978-1979 does not include either Iniskin Bay or Cottonwood Bay. Clearly, the benefits of excluding these portions of Area 2 exceed the benefits of including them in the critical habitat designation.

Page 63090, first column, second full paragraph, second sentence: Insert before the period at the end the following: ", which may include adjusting agency actions to protect Cook Inlet beluga whale habitat".

Rationale: To clarify that the baseline condition without critical habitat designation may still require Federal agencies to adjust their actions to protect Cook Inlet beluga whale habitat to prevent jeopardizing that species' existence.

Page 63090, first column, third full paragraph, sixth sentence: Insert "beyond those prohibited by the Clean Water Act and other federal, state or local laws or regulations" between "Cook Inlet" and the comma.

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Rationale: To clarify that the pollution reduction benefit of critical habitat designation is limited to only that which exceeds pollution limits required by current laws and regulations.

Page 63090, second column, first full paragraph, first sentence: Insert "beyond that required by the ESA Section 7 jeopardy provision" between "derived from protection of critical habitat" and "),".

Rationale: To clarify that the increase in Cook Inlet beluga whale lives saved, longevity, health, productivity, etc. derived from critical habitat designation is limited to that which exceeds the baseline protections without critical habitat designation afforded by Section 7 of the ESA.

Page 63093, first column, first paragraph, first full sentence: Insert "geothermal and" between "FERC permits for" and "turbine".

Rationale: To include the potential for geothermal project transmission line interactions with Cook Inlet.

Page 63093, second column, first paragraph, first full sentence: Strike "destruction of adverse modification" and insert "destruction or adverse modification".

Rational: Correct typographical error.

Page 63094, third column, Area 1 description: Insert before the period at the end the following: ", excluding those waters within ½ mile of the Port MacKenzie dock complex (61.27N, 149.92W) and within ½ mile of the Anchorage marine terminal (61.22N, 149.91W)".

Rationale: Same as described for page 63087 change.

Page 63094, third column, Area 2 description: Insert before the period at the end the following: ", excluding those waters within 2 miles of the Ladd Landing pier (61.13N, 151.10W), within 1 mile of the North Forelands Dock (61.04N, 151.16W), within 1 mile of the Upland Rock Quarry at Cottonwood Bay (59.64N, 153.63W), and within ½ mile of the Kenai LNG export terminal (60.68N, 151.40W)." Strike "and the mouth of the Douglas River (59.04 N., 153.45 W)," and insert "and 60.00 N. latitude," or, alternatively, add to the excluded areas in the first sentence of this paragraph the following: "within 1 mile of the multimodal port site in Iniskin Bay (59.66N, 153.46W),".

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Rationale: Same as described for page 63087 change.

Page 63095 map: Revise the map to include the proposed changes to Areas 1 and 2..

Page 63095, first column, primary constituent element number (1): Insert before the period at the end the following: ", except as excluded by the descriptions of Areas 1 and 2".

Rationale: Same as described on page 63087 for physical or biological feature number 1.

Page 63095, first column, primary constituent element number (3): Change to read: "The absence of non-naturally occurring toxins or other agents of a type and amount that would kill or injure Cook Inlet beluga whales or cause the prolonged abandonment of their critical habitat areas."

Rationale: Same as described on page 63087 for physical or biological feature number 3.

Page 63095, first column, primary constituent element number (4): Change to read: "The absence of prolonged impediments to unrestricted passage within or between the critical habitat areas.".

Rationale: Same as described on page 63087 for physical or biological feature number 4.

Page 63095, first column, primary constituent element number (5): Change to read: "The absence of in-water noise at levels and durations resulting in the prolonged abandonment of critical habitat by Cook Inlet beluga whales."

Rationale: Same as described on page 63087 for physical or biological feature number 5.

Conclusion

Due to the flaws in the Draft RIR/4(b)(2)PA/IRFA, its conclusion that there would be a net benefit to the Nation by designating critical habitat for Cook Inlet beluga whales is suspect. The Draft RIR/4(b)(2)PA/IRFA should be revised as described above and a new analysis of whether such critical habitat designation would result in a net cost or a net benefit should be performed. Should such an analysis result in a justified and repeatable conclusion that a net benefit would result, the above proposed changes to

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the proposed rule should be included in that rule. Should such an analysis result in a justified and repeatable conclusion that a net cost would result, the ECA recommends that the proposed rule be revised to not designate critical habitat for the Cook Inlet beluga whale.

Respectfully yours,

Export Council of Alaska

Anthony B. Follett, Chairman

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Changes to HJR 40\R that are included in CS HJR 40 ( )\E

1. Page 2, lines 13, 14, 16, 19 and 27, strike "will" and insert "may";

2. Page 2, strike lines 22 through 23 and insert the following:

"WHEREAS the Port of Anchorage serves 85 percent of the population of the state and receives 90 percent of the goods coming into the state, and the Port has already fully addressed the conservation needs of the Cook Inlet beluga whales relating to the whales' activities based on the best scientific information available, working with the National Marine Fisheries Service and other experts; and"

3. Page 3, strike lines 7 through 10.

HJR

45

FISCAL NOTE

STATE OF ALASKA
2010 LEGISLATIVE SESSION

Fiscal Note Number: 1
Bill Version: CSHJR 45(ENE)
(H) Publish Date: 2/24/10

Identifier (file name):
Title: Urging U.S. Congress not to enact Cap and Trade legislation
Sponsor: Rep. Bill Stoltze
Requester:

Dept. Affected:
RDU
Component
Component Number

Expenditures/Revenues (Thousands of Dollars)

Note: Amounts do not include inflation unless otherwise noted below.

	Appropriation Required	Information					
OPERATING EXPENDITURES	**FY 2011**	**FY 2011**	**FY 2012**	**FY 2013**	**FY 2014**	**FY 2015**	**FY 2016**
Personal Services	0.0						
Travel	0.0						
Contractual	0.0						
Supplies	0.0						
Equipment	0.0						
Land & Structures	0.0						
Grants & Claims	0.0						
Miscellaneous	0.0						
TOTAL OPERATING	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
CAPITAL EXPENDITURES							
CHANGE IN REVENUES ( )							

FUND SOURCE (Thousands of Dollars)

1002 Federal Receipts							
1003 GF Match							
1004 GF							
1005 GF/Program Receipts							
1037 GF/Mental Health							
Other Interagency Receipts							
TOTAL	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**

Estimate of any current year (FY2010) cost:

POSITIONS

Full-time							
Part-time							
Temporary							

ANALYSIS: *(Attach a separate page if necessary)*

Prepared by: Jeff Turner, Staff to Rep. Charisse Millett
Phone (907) 465-6588
Division
Date/Time
Approved by:
Date 2/23/2010

(Revised 11/6/2009 OMB)

5088

FISCAL NOTE

STATE OF ALASKA
2010 LEGISLATIVE SESSION

Fiscal Note Number: 2
Bill Version: CSHJR 45(FIN)
(H) Publish Date: 3/15/10

Identifier (file name): CS HJR 45(ENE)
Dept. Affected: Legislature
Title: Urging the United States Congress not to enact Cap and Trade legislation.
RDU: Legislative Council
Component: Council and Subcommittees
Sponsor: "Representatives Stoltze, Millett, Chenault, Dahlstrom..."
Requester: House Finance Committee
Component Number: 783

Expenditures/Revenues (Thousands of Dollars)

Note: Amounts do not include inflation unless otherwise noted below.

	Appropriation Required	Information					
OPERATING EXPENDITURES	**FY 2011**	**FY 2011**	**FY 2012**	**FY 2013**	**FY 2014**	**FY 2015**	**FY 2016**
Personal Services							
Travel							
Contractual							
Supplies							
Equipment							
Land & Structures							
Grants & Claims							
Miscellaneous							
TOTAL OPERATING	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
CAPITAL EXPENDITURES							
CHANGE IN REVENUES ( )							

FUND SOURCE (Thousands of Dollars)

1002 Federal Receipts							
1003 GF Match							
1004 GF							
1005 GF/Program Receipts							
1037 GF/Mental Health							
Other Interagency Receipts							
TOTAL	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**

Estimate of any current year (FY2010) cost: _____

POSITIONS

Full-time							
Part-time							
Temporary							

ANALYSIS: *(Attach a separate page if necessary)*

This Legislation has zero fiscal impact on the Legislative Affairs Agency.

Prepared by: Karla Schofield, Deputy Director
Phone 465-6626
Division: Legislative Affairs Agency
Date/Time 3/8/10 1:32 PM
Approved by: Pamela Varni, Executive Director
Legislative Affairs Agency
Date 3/8/2010

(Revised 11/6/2009 OMB)

HJR

49

SENATE COMMITTEE REPORT

DATE: 3/31/10

FURTHER: Rules

DATE TURNED IN TO OFFICE: 4/15/10

Resources Committee considered CS FOR HOUSE JOINT RESOLUTION NO. 49(RES)

HJR 49 OPPOSING EPA CLEAN AIR ACT REGULATIONS

Urging the United States Congress to enact S.J. Res. 26, a resolution disapproving the Environmental Protection Agency's imposition of climate regulations that would harm Alaska's economy and the livelihoods of the state's citizens.

and recommends:

[ ] be **replaced** with [ ] **SCS** or [ ] **CS** _____ (_____)

[ ] adopt **previous** [ ] **SCS** or [ ] **CS** _____ (_____)

[ ] attached amendment(s)

[ ] adopt _____ Letter of Intent

[ ] further referral to _____ Committee

SENATE BILL:
[ ] Same Title
[ ] New Title

HOUSE BILL:
[ ] Same Title
[ ] Technical Title Change
[ ] New Title w/ SCR #_____

NEW FISCAL NOTE(S):

Department	Date	Fiscal	Indet.	Zero	FN#

PREVIOUS FISCAL NOTE(S):

Department	Date	Fiscal	Indet.	Zero	FN#
H.RES	3-10-200			X	1

[ ] **APPROPRIATION - no fiscal note**

SIGNATURES AND RECOMMENDATIONS:	PRINTED LAST NAME	DO PASS	DO NOT PASS	NO REC	AMEND
	Huggins				
	Stevens				
	French			✓	
CO-CHAIR:	McGuire	✓			
CO-CHAIR:	Wielechowski			✓	

5091

Sean Parnell
Governor
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STATE OF ALASKA
OFFICE OF THE GOVERNOR

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FOR IMMEDIATE RELEASE **No. 10-041**

State Challenges EPA Move to Regulate Greenhouse Gases

March 17, 2010, Juneau, Alaska – The State of Alaska filed a motion in court to intervene in a lawsuit over a recent U.S. Environmental Protection Agency decision that triggers expanded federal regulation of greenhouse gas emissions. In challenging the EPA's decision in the U.S. Court of Appeals for the D.C. Circuit, the Parnell administration seeks to join several states and trade groups, and the U.S. Chamber of Commerce.

"Alaska is challenging a decision that, by EPA's own admission, will vastly expand the EPA's regulation of all sectors of the state's economy," said Governor Sean Parnell. "We remain concerned the EPA is extending its authority too aggressively and in a manner that harms the state's interests. We will continue to fight this type of federal overreach."

At issue is the process EPA used in finding that six greenhouse gases contribute to global climate change, endangering human health and welfare and the substantial regulatory implications of that finding. This finding was prompted by the U.S. Supreme Court decision of *Massachusetts v. EPA*, where the court rejected the agency's reasons for denying a petition to regulate greenhouse gases emissions from motor vehicles.

"Since 2003, Alaska has been a party to the litigation over the EPA's authority to regulate greenhouse gas emissions under the Clean Air Act," Attorney General Dan Sullivan said. "Our filing continues Alaska's involvement in this important case. With its endangerment finding, EPA has clearly signaled that its next step is to regulate emissions from 'stationary sources' -- a regulatory burden that would severely hamper economic growth and resource development throughout the state."

The state is not challenging the science on climate change underlying EPA's decision, according to Sullivan. Rather, the state is challenging EPA's position that Congress intended the agency and states to regulate greenhouse gas emissions through the permitting requirements of the Clean Air Act, as well as the process by which the EPA came to this decision.

Regulations triggered by EPA's decision would increase the number of emissions permits that the federal Clean Air Act forces EPA and the state to administer from several thousand to more than a million.

"The Clean Air Act was not designed with regulating greenhouse gases in mind and is not well-suited for that purpose," said Commissioner of Environmental Conservation

Larry Hartig, who chairs the Governor's Executive Sub-Cabinet on Climate Change. "Climate change presents a complex challenge involving critical social and economic issues in addition to important long-term environmental concerns. A Congressional solution with strong input from states and communities is the best way to address the climate change challenge."

A copy of the motion to leave to intervene is available at:
http://gov.alaska.gov/parnell/media/documents/gov_MotionforLeavetoIntervene.pdf

More information on the EPA's finding and the state's motion to leave to intervene is available at:
http://gov.alaska.gov/parnell/media/documents/gov_StateChallengesEPA.pdf

###

State Challenges EPA Move to Regulate Greenhouse Gases

Background Information

In December 2009, the Environmental Protection Agency (EPA) issued an "endangerment finding" that greenhouse gases cause climate change and put at risk the public health and welfare. This finding would dramatically increase the EPA's regulatory authority over the nation's economy.

Many interested parties have appeals filed or pending in the Circuit Court of Appeals for the D.C. Circuit. Parties challenging the EPA's decision include Texas, Nebraska, Oklahoma, Louisiana, Alabama, Virginia, South Dakota, North Dakota, Indiana, Kentucky, South Carolina, the Chamber of Commerce, Industrial Minerals Association, National Cattlemen's Beef Association and oil refiners. Many of the states challenging the decision generate much of the nation's energy.

Parties defending the EPA decision include environmental groups and a coalition of 16 states and New York City. The states and New York City argue that they have the right to intervene because they have a direct and substantial interest in the outcome of the court's action. The states seeking to intervene in support of EPA are: Arizona, California, Connecticut, Delaware, Illinois, Iowa, Maine, Maryland, Massachusetts, New Hampshire, New Mexico, New York, Oregon, Rhode Island, Vermont and Washington.

The EPA's finding stems from litigation that began in 2003. At that time, the State of Alaska intervened as a party in the case, filing briefs with the D.C. Circuit and the United States Supreme Court arguing that the EPA should not regulate greenhouse gases under the Clean Air Act.

In the motion to intervene, the state is asking the court to allow Alaska to continue its involvement in this significant litigation.

Groups challenging the EPA's finding have articulated various reasons for their appeal. For example, many of the parties, including some states, dispute the science underlying the EPA's decision.

Other parties, however, are challenging the EPA's position that Congress in the Clean Air Act intended to authorize EPA to regulate and issue permits for emitters of greenhouse gases, as well as the process by which EPA came to its decision. The State of Alaska's brief will focus on these issues.

The State of Alaska is intervening for three primary reasons.

First, the state is very concerned that the EPA, across a number of areas, is extending its authority too aggressively and in a manner that harms the state's interests. The state believes that the EPA's endangerment finding exceeds the agency's statutory mandate. The Parnell administration's policy is to preserve state autonomy against overreaching federal regulation. Intervening in this case is consistent with this policy.

Second, the consequences of the EPA's finding will have a profound and far-reaching effect on the country and on Alaska. It is clearly in the state's interest to have a seat at the table as this issue moves forward in the courts, especially because Alaska is on the front lines of climate change. If the state is not a party to the litigation, it cannot influence the outcome of the litigation, nor can it participate in any potential settlement discussions.

Third, the EPA's endangerment finding, as the EPA has acknowledged, will result in extensive regulation of greenhouse gases from "stationary sources" such as office buildings, restaurants and churches. This decision could have severe repercussions for Alaska's economy. It could have an adverse impact on the gas pipeline, TAPS, new oil and gas developments, and current oil and gas operations. The state will also be burdened by the tremendous increase in permit applications that it now will have to process.

More specifically, if this decision stands, it will require the EPA and the states to dramatically increase their regulation of the U.S. economy. For example, because of the endangerment finding the EPA estimates that states and the EPA will now have to process over a *million* permits for stationary sources.

This means that in Alaska the EPA will have the authority to regulate and permit everything from fish processors to hospitals to churches. Those permitting requirements would include, among other things, a determination of and the installation of the "best available control technology" for greenhouse gas emissions from the source seeking the permit. Additionally, many stationary sources of greenhouse gas emissions would be required to apply to the EPA for operating permits. State agencies will also be required to be involved in such permitting.

Perhaps more troubling is that under the Clean Air Act private parties have the ability to file lawsuits whenever they believe the EPA has not adequately permitted stationary sources of greenhouse gases. This could almost certainly result in a flood of lawsuits in Alaska, against the very businesses that produce jobs for Alaskans. Indeed, some environmental groups have already used the EPA's endangerment finding as a basis for challenging Shell's air permits, which it recently acquired to explore the Outer Continental Shelf. These lawsuits will chill economic activity because they significantly increase the cost and uncertainty of developing Alaska's natural resources.

At a time when the state is at a critical juncture in working with industry to further develop oil and gas reserves, it is clearly not in the state's interest to sit idly by while the EPA unreasonably expands its authority and empowers environmental groups to stall or shut down development activities.

While some parties are challenging the science underlying the EPA's endangerment finding, Alaska will focus on whether Congress intended for the EPA to have the broad authority to regulate millions of businesses and require them to acquire permits. The state believes the Supreme Court has never squarely addressed this issue.

This is not to say that climate change is not a cause for concern. The Governor's Sub-cabinet on Climate Change is focused on this issue. To address the challenges caused by climate change, the state is also working closely with the federal government. Nonetheless, the state believes that the EPA is ill-equipped to effectively address the problem and that by intervening to regulate GHG emissions, the agency has over-reached.

NFIB

The Voice of Small Business

ALASKA

February 24, 2010

Representative Bill Stoltze
State Capitol Building
Juneau, Alaska 99801-1182

RE: House Joint Resolution 49

Representative Stoltze:

On behalf of the National Federation of Independent Business/Alaska (NFIB/AK), the state's leading small business advocacy organization, I am writing in support of House Joint Resolution 49 supporting U.S. Senator Murkowski's S.J. Res 26 disapproving the Environmental Protection Agency's (EPA) endangerment finding on greenhouse gases (GHGs) and implementation of climate regulations that would harm Alaska's economy.

On December 15, 2009, the EPA announced a final rule regarding the "Endangerment and Cause or Contribute Findings for GHGs under Section 202(a) of the Clean Air Act (CAA)". The rule finds that six greenhouse gases taken in combination endanger the public health and welfare. This effectively allows the EPA to continue to announce new emissions regulations on businesses and individuals under the CAA. NFIB/AK believes that the CAA is an inefficient and ineffective vehicle to address climate protection and that Congress solely should address GHG emissions. The CAA was designed to control air pollution by requiring individual stationary pollutant sources to institute emission control technologies.

Environmental regulations have been and continue to be a challenge for small businesses, as small entities are not major polluters and least able to sustain or even understand new restrictions. This regulation will create new burdens such as federal permitting requirements, restrictions on fuel choices and energy use, and expensive requirements for installation of new energy efficient equipment.

The EPA's Prevention of Significant Deterioration (PSD) Program is one such program that will impose major new costs on small business. The PSD permitting process itself is time consuming and expensive. The costs include legal, engineering and consulting fees, as well as permitting and administrative fees. Small entities that would now be subject to PSD program requirements include many restaurants, office and apartment buildings, hotels, malls, retail stores and warehouses, schools, hospitals, nursing facilities, churches, and small manufacturing plants. Unfortunately, hundreds of thousands of previously unregulated small entities would be regulated as a 'major' emitter.

In addition to the PSD Program, NFIB/AK expects small businesses to be regulated under the Title V permitting program and the Hazardous Air Pollutant program. Adding more regulatory costs and administrative burdens would be a serious blow to already overburdened small business owners, who according to the January 2010 NFIB Small Business Economic Trends survey, are still suffering from weak sales and profits numbers.

Subjecting over a million new sources to the CAA's complex and expensive permitting process will not materially reduce the nation's greenhouse gases. NFIB/AK strongly supports the independent actions of business to become more energy efficient. According to NFIB's *2006 National Small Business Poll on Energy Consumption*, over the past three years, over 43 percent of America's small business owners have taken steps to reduce the amount of energy their businesses consume. Small business believes that the free market is best suited to develop new energy efficient technologies and renewable sources of fuel, and our nation's job creators stand ready to do so without the heavy hand of government mandates.

NFIB/AK strongly supports the Murkowski resolution of disapproval. We strongly support HJR 49 that puts the state of Alaska on record opposing this bureaucratic action by the EPA that would cause higher energy prices, higher food prices, lost jobs, and reduced production of domestic oil, natural gas and coal.

Sincerely yours,

Dennis L. DeWitt
Alaska State Director

Cc: NFIB/AK Leadership Council
House Resources Committee

U.S. GOVERNMENT INFORMATION GPO

111TH CONGRESS
2D SESSION

H. J. RES. 76

Disapproving a rule submitted by the Environmental Protection Agency relating to the endangerment finding and the cause or contribute findings for greenhouse gases under section 202(a) of the Clean Air Act.

IN THE HOUSE OF REPRESENTATIVES

FEBRUARY 25, 2010

Mr. SKELTON (for himself, Mr. PETERSON, and Mrs. EMERSON) introduced the following joint resolution; which was referred to the Committee on Energy and Commerce

---

JOINT RESOLUTION

Disapproving a rule submitted by the Environmental Protection Agency relating to the endangerment finding and the cause or contribute findings for greenhouse gases under section 202(a) of the Clean Air Act.

Resolved by the Senate and House of Representatives of the United States of America in Congress assembled, That Congress disapproves the rule submitted by the Environmental Protection Agency relating to the endangerment finding and the cause or contribute findings for greenhouse gases under section 202(a) of the Clean

Air Act (published at 74 Fed. Reg. 66496 (December 15, 2009)), and such rule shall have no force or effect.

○

U.S. GOVERNMENT INFORMATION GPO

111TH CONGRESS
2D SESSION

S. J. RES. 26

Disapproving a rule submitted by the Environmental Protection Agency relating to the endangerment finding and the cause or contribute findings for greenhouse gases under section 202(a) of the Clean Air Act.

IN THE SENATE OF THE UNITED STATES

JANUARY 21, 2010

Ms. MURKOWSKI (for herself, Mrs. LINCOLN, Mr. BARRASSO, Mr. NELSON of Nebraska, Mr. CHAMBLISS, Ms. LANDRIEU, Mr. THUNE, Mrs. HUTCHISON, Mr. GRAHAM, Mr. COBURN, Mr. VITTER, Mr. CORNYN, Mr. ISAKSON, Mr. GRASSLEY, Mr. ALEXANDER, Mr. BOND, Mr. INHOFE, Mr. BUNNING, Mr. CRAPO, Mr. BROWNBACK, Mr. ROBERTS, Mr. MCCONNELL, Mr. ENZI, Mr. MCCAIN, Mr. WICKER, Mr. LUGAR, Mr. CORKER, Mr. COCHRAN, Mr. KYL, Mr. BENNETT, Mr. RISCH, Mr. JOHANNS, Mr. SESSIONS, Mr. VOINOVICH, Mr. BURR, Mr. SHELBY, Mr. GREGG, Mr. HATCH, Mr. LEMIEUX, and Mr. DEMINT) introduced the following joint resolution; which was read twice and referred to the Committee on Environment and Public Works

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JOINT RESOLUTION

Disapproving a rule submitted by the Environmental Protection Agency relating to the endangerment finding and the cause or contribute findings for greenhouse gases under section 202(a) of the Clean Air Act.

Resolved by the Senate and House of Representatives of the United States of America in Congress assembled, That Congress disapproves the rule submitted by the Environmental Protection Agency relating to the

endangerment finding and the cause or contribute findings for greenhouse gases under section 202(a) of the Clean Air Act (published at 74 Fed. Reg. 66496 (December 15, 2009)), and such rule shall have no force or effect.

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FISCAL NOTE

STATE OF ALASKA
2010 LEGISLATIVE SESSION

Fiscal Note Number: 1
Bill Version: CSHJR 49(RES)
(H) Publish Date: 3/10/2010

Identifier (file name):
Title OPPOSING EPA CLEAN AIR ACT REGULATIONS
Sponsor Representatives STOLTZE, Chenault, Gatto, Keller...
Requester

Dept. Affected:
RDU
Component
Component Number

Expenditures/Revenues (Thousands of Dollars)

Note: Amounts do not include inflation unless otherwise noted below.

	Appropriation Required	Information					
OPERATING EXPENDITURES	**FY 2011**	**FY 2011**	**FY 2012**	**FY 2013**	**FY 2014**	**FY 2015**	**FY 2016**
Personal Services							
Travel							
Contractual							
Supplies							
Equipment							
Land & Structures							
Grants & Claims							
Miscellaneous							
TOTAL OPERATING	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
CAPITAL EXPENDITURES							
CHANGE IN REVENUES ( )							
FUND SOURCE		(Thousands of Dollars)					
1002 Federal Receipts							
1003 GF Match							
1004 GF							
1005 GF/Program Receipts							
1037 GF/Mental Health							
Other Interagency Receipts							
TOTAL	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**

Estimate of any current year (FY2010) cost:

POSITIONS							
Full-time							
Part-time							
Temporary							

ANALYSIS: *(Attach a separate page if necessary)*

Prepared by: Debra Higgins, Committee Aide — Phone 465-3715
Division House Resources Committee — Date/Time 3/01/10 4:00pm
Approved by: Representative Craig Johnson, Co-Chair — Date 3/1/2010
House Resources Committee

(Revised 11/6/2009 OMB)

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