1-27-09 Overview: Alaska Energy Authority Statewide Energy Plan

<target><bill></bill><subject>1-27-09 Overview Alaska Energy Authority Statewide Energy Plan</subject><comm>HENE26</comm></target>

Alaska Legislature
House Special Committee on Energy

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MEETING AGENDA

Tuesday, January 27th 2009

3:00 – 5:00 p.m.

1) Alaska Energy Authority's Statewide Energy Report

Presented by Steve Haagenson, Executive Director, AEA

###

AIDEA Alaska Industrial Development and Export Authority

ALASKA ENERGY AUTHORITY

January 21, 2009

Honorable Gary Stevens
Senate President
State Capitol, Room 103
Juneau, Alaska 99801-1182

Honorable Mike Chenault
Speaker of the House
State Capitol, Room 505
Juneau, Alaska 99801-1182

RE: Renewable Energy Fund- Time Extension for Round II Application Review

Dear Sirs:

The Alaska Energy Authority (AEA) was directed as follows in Ch. 31, SLA 2008 (HB152):

> "(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".

Due to the time required to provide a complete and thorough evaluation of the 114 applications received in Round I, we request a time extension from January 30, 2009 to March 3, 2009. This will allow time to complete the review of the 120 applications received in Round II.

We are committed to providing a high quality review of each grant application. We have a comprehensive review program in place and have completed the Round I (FY09) reviews. The time extension will allow AEA staff and the Renewable Energy Fund Advisory Committee to complete the evaluation of Round II (FY10) applications and deliver a quality work product to the Legislature that will provide a recommended priority for the award of these FY10 projects.

Sincerely,

ALASKA ENERGY AUTHORITY

Steven Haagenson
Executive Director

cc: Senator Kevin Meyers- LB&A Chair
Commissioner Pat Galvin, AEA Chair
Commissioner Notti, DCCED

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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.

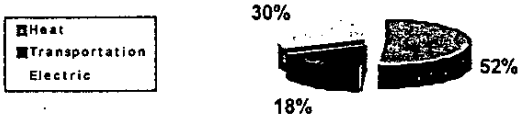
A project titled: Bethel Wind Power x 4 has been submitted by: City of Bethel for a Wind Diesel Hybrid project. The total project budget is: $3,197,986 with $2,598,320 requested in grant funding and $199,889 as matching funds.

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



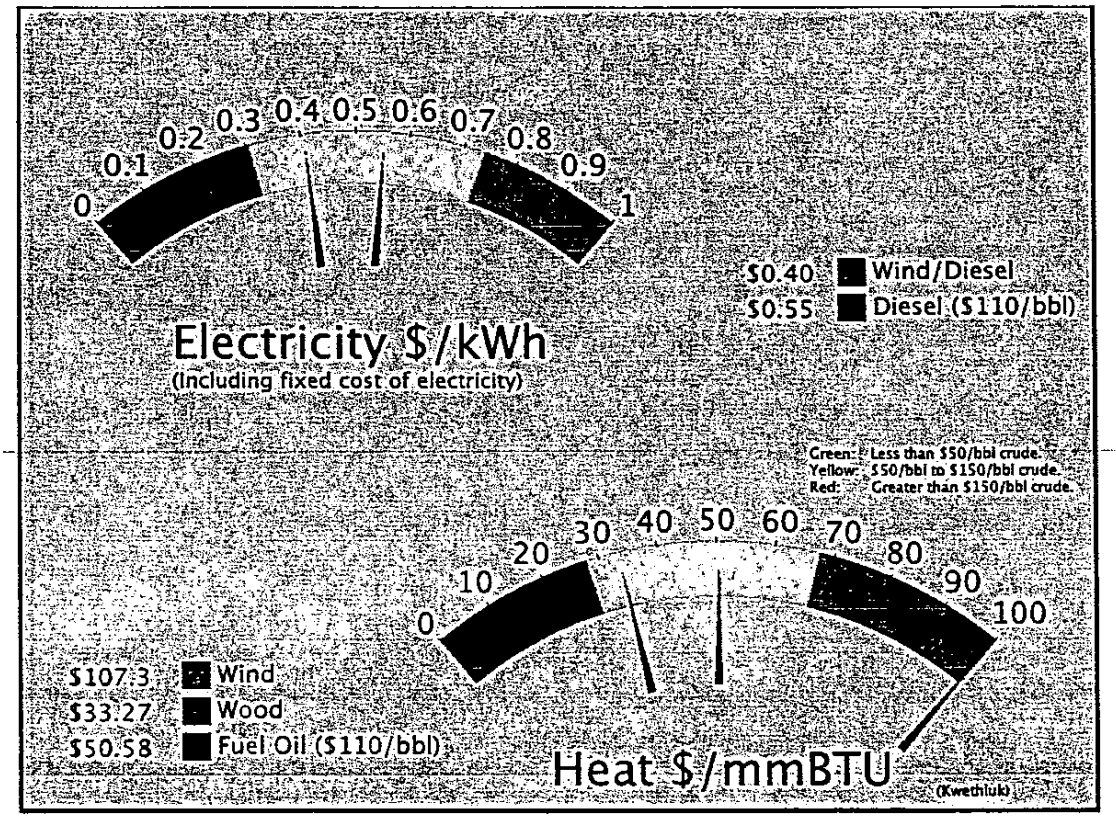
Total: **$2,989** Per capita

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)

Current efficiency	13.49	kW-hr/gal	Fuel COE	$0.46	/kw-hr	Estimated Local Fuel cost @ $110/bbl	$4.59 /kw-hr
Consumption in 200	116,368	gal	Est OM	$0.02	/kw-hr	Estimated Diesel OM	$23,138
Average Load	132	kW	NF COE:	$0.07	/kw-hr	Other Non-Fuel Costs:	$83,133
Estimated peak loa	264.13	kW	Total	$0.55		Current Fuel Costs	$534,083
Average Sales	1,156,885	kW-hours				**Total Electric**	**$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		**Total Heating Oil**
Electricity:	5.2%	Community heat needs in MMBtu	23,687		**$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		**Savings**
Avg Non-Fuel Costs:	$106,271	$0.07		**($89,609)**
New cost of electricity		$0.51	per kW-hr	

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		**Savings**
Heat cost	$19.89	$/MMBtu	**$59,197**

Alternative Energy Resources

Wind Diesel Hybrid

Installed KW	**400**		
kW-hr/year	**907550**		
Met Tower?	**no**		
Homer Data?	**yes**		
Wind Class	**5**		
Avg wind speed	**7.50**	m/s	

			Heat Cost $/MMBtu :
Capital cost	**$3,071,563**	per kW-hr	
Annual Capital	**$206,457**	$0.23	$66.65
Annual OM	**$42,579**	$0.05	$13.75
Fuel cost:	**$0**	$0.00	
Total Annual Cost	**$249,036**	$0.27	**$80.40**
Non-Fuel Costs		$0.09	
Alternative COE:		**$0.37**	
% Community energy		78%	**Savings**
New Community COE		**$0.39**	**$188,058**

(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	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

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

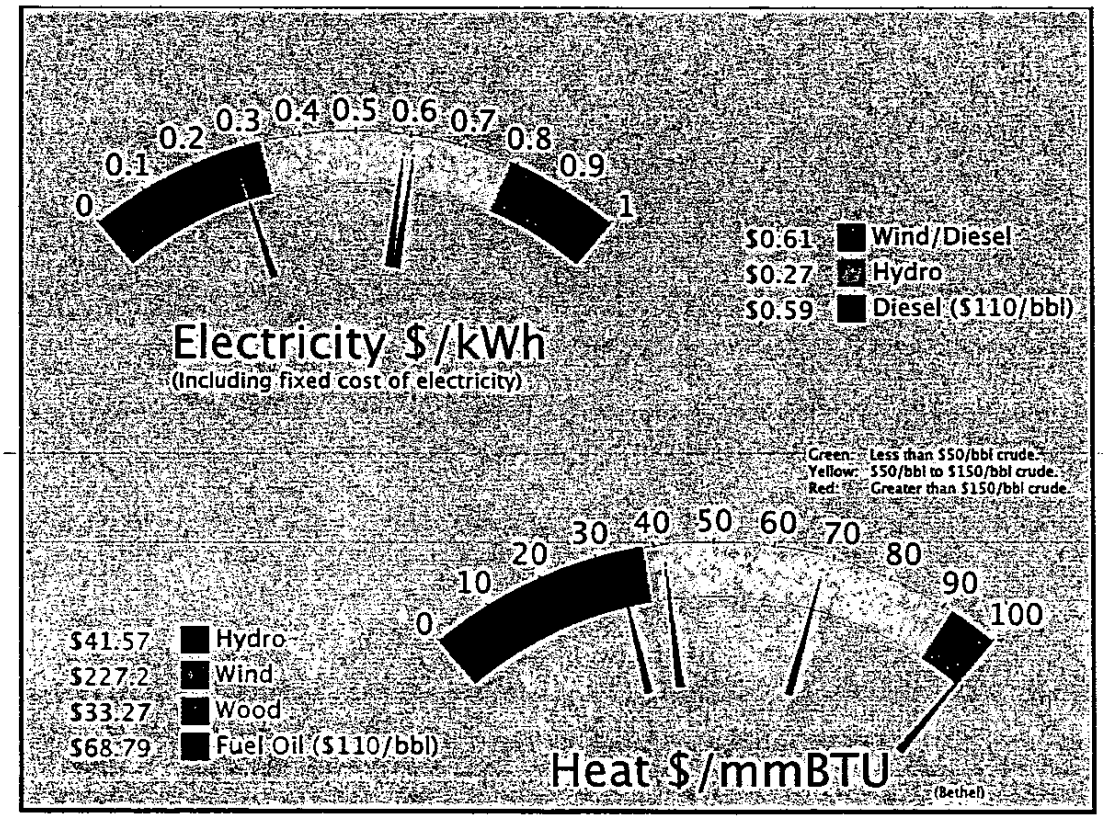
Total: **$7,332** Per capita

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:

#N/A

Status **NA**

Acheivable efficiency **14.8** kW-

New Fuel use **2,852,575**

Capital cost	$0		
Annual Capital cost	$0	$0.00	/kw-hr
Estimated Diesel OM	$799,105	$0.02	
New fuel cost	$18,831,562	$0.47	**Savings**
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	**$0.32**		**$11,039,683**

(includes non-fuel and diesel costs)

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	**$0.28**		**$15,927,124**

(includes non-fuel and diesel costs)

Alternative Energy Resources

Hydro

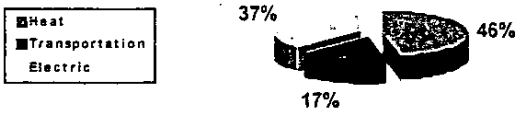
Installed KW: 22000
kW-hr/year: 50000000
Site: **Newhalen River**
Study plan effort: **reconnaissance**
Plant Factor: %
Penetration: **0.55**

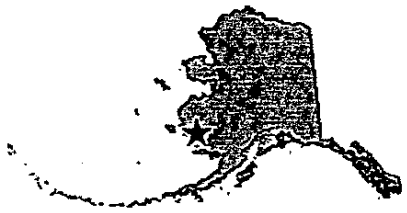
		per kW-hr	Heat Cost $/MMBtu:
Capital cost	**$378,645,160**		
Annual Capital	**$23,561,665**	$0.47	$138.07
Annual OM	**$423,000**	$0.01	$2.48
Fuel cost:	**$0**	$0.00	
Total Annual Cost	**$23,984,665**	$0.48	**$140.55**
Non-Fuel Costs		$0.08	
Alternative COE:		**$0.56**	
% Community energy	125%		**Savings**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

(includes non-fuel and diesel costs)

Eek

Energy Used





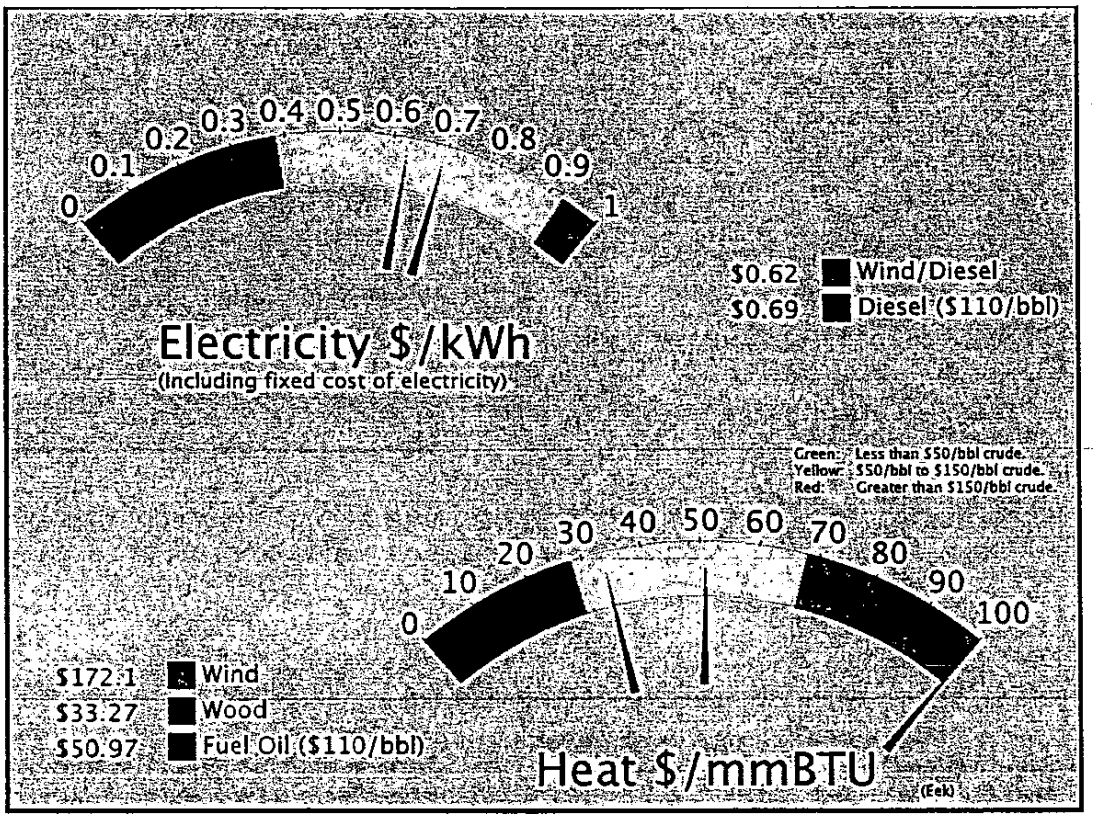
Total: **$4,643** Per capita

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**

Achievable 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**
kW-hr/year	**453775**
Met Tower?	**no**
Homer Data?	**yes**
Wind Class	**5**
Avg wind speed	**7.50** m/s

		per kW-hr	Heat Cost $/MMBtu :
Capital cost	**$1,760,485**		
Annual Capital	**$118,332**	$0.26	$76.41
Annual OM	**$21,289**	$0.05	$13.75
Fuel cost:	**$0**	$0.00	
Total Annual Cost	**$139,622**	$0.31	**$90.15**
Non-Fuel Costs		$0.28	
Alternative COE:		**$0.59**	
% Community energy		64%	**Savings**
New Community COE		**$0.61**	**$58,579**

(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	19.4%

Other Resources

Eek

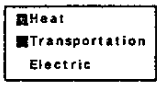
Tidal:	
Wave:	
Coal Bed Methane:	
Natural Gas:	
Coal:	
Propane:	

Renewable Fund Project List:

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

Quinhagak

Energy Used



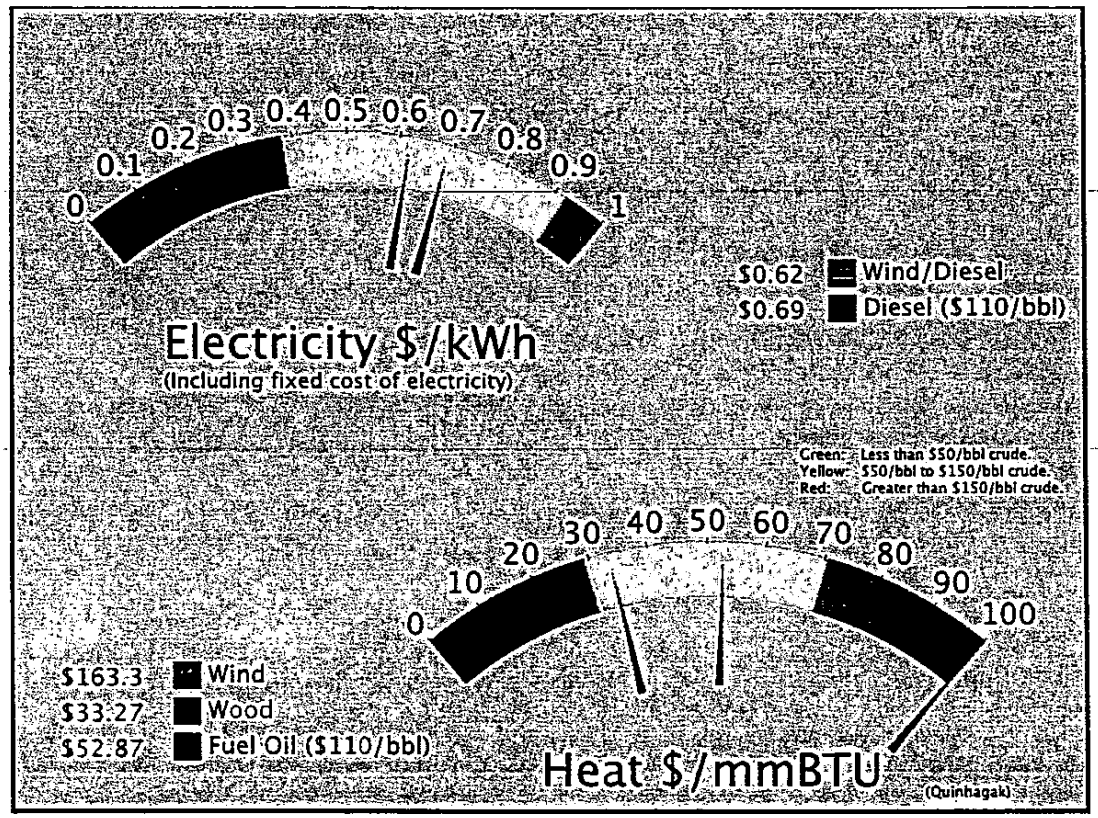
Total: **$4,163** Per capita

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)

Current efficiency	13.61	kW-hr/gal	Fuel COE	$0.41	/kw-hr	Estimated Local Fuel cost @ $110/bbl	$4.84 /kw-hr
Consumption in 200	143,191	gal	Est OM	$0.02	/kw-hr	Estimated Diesel OM	$33,760
Average Load	193	kW	NF COE:	$0.26	/kw-hr	Other Non-Fuel Costs:	$438,882
Estimated peak loa	385.39	kW	Total	$0.69		Current Fuel Costs	$693,474
Average Sales	1,688,006	kW-hours				**Total Electric**	**$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:		Capital cost	$1,300,000			
Powerhouse Module		Annual Capital cost	$108,897	$0.06	/kw-hr	
Status	**Pending**	Estimated Diesel OM	$33,760	$0.02		
Acheivable efficiency	14 kW-	New fuel cost	$674,170	$0.40		**Savings**
New Fuel use	139,205	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

		per kW-hr	Heat Cost $/MMBtu :
Capital cost	**$3,071,563**		
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	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	11.6%

Other Resources

Quinhagak

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

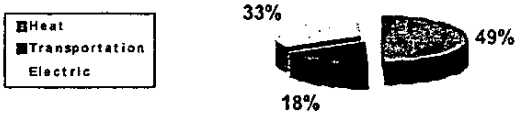
Renewable Fund Project List:

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



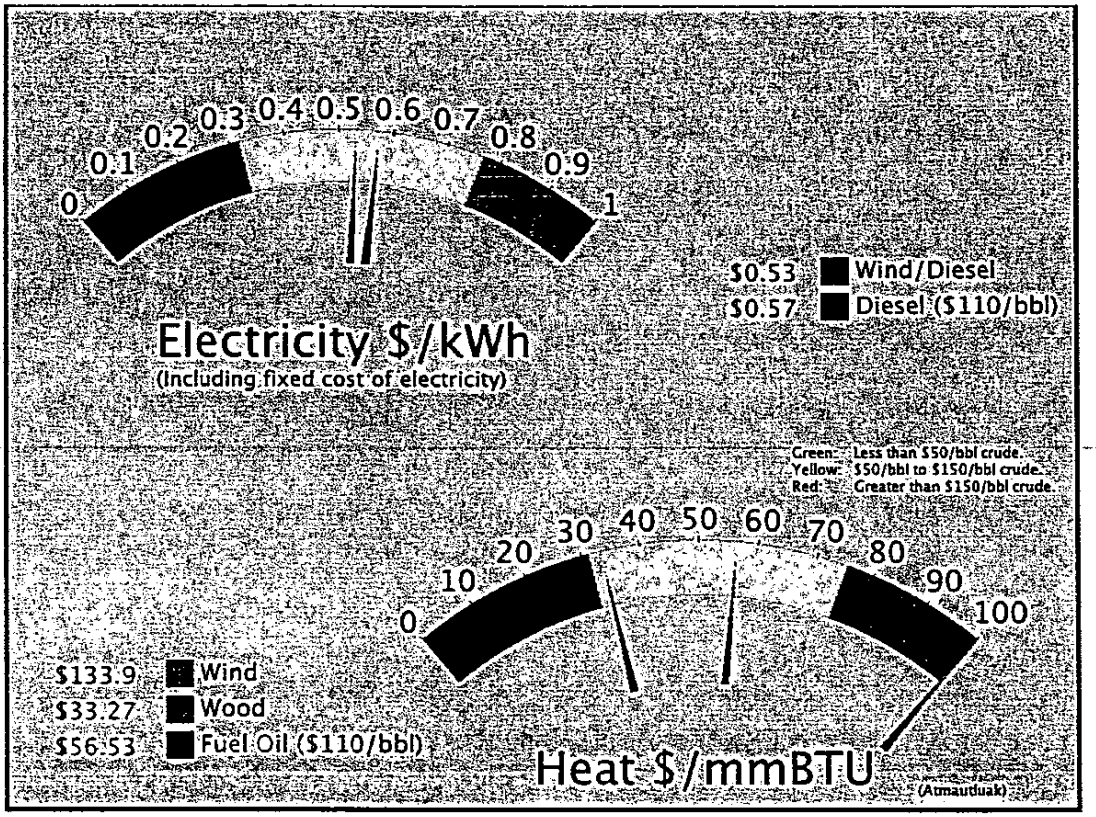
Total: **$3,190** Per capita

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

Alaska Renewable Energy Fund
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ALASKA ENERGY AUTHORITY

	Project					Cost and Request			
Energy Region	ID	Project Name	Applicant	Applicant Type	Project Type	Project Cost	Grant Request	Match Offered	Recommended Funding
Aleutians	58	Chuniisax Creek Hydroelectric Construction	City of Atka	Utility	Hydro	2,440,000	996,000	1,344,000	996,000
	89	Nikolski Wind Integration Construction	Umnak Power / Nikolski IRA Council	Government	Wind	451,030	409,430	41,600	409,430
	90	St. George Wind Farm Construction	City of St. George - St. George Municipal Electric	Government	Wind	3,000,000	1,500,000	1,500,000	1,500,000
	11	Aleutians East Borough Renewable Energy	Aleutians East Borough	Government	Other	40,000	25,000	15,000	25,000
	95	Makushin Geothermal Feasibility Study	Kiiguusi Suuluta Land Company, LLC	IPP	Geothermal	250,000,000	3,225,500		-
		TOTAL				**255,931,030**	**6,155,930**	**2,900,600**	**2,930,430**
Bering Straits	52	Nome/Newton Peak Wind Farm Construction	City of Nome d/b/a Nome Joint Utility System	Utility	Wind	15,534,309	13,951,326	1,582,983	4,000,000
	50	Unalakleet Wind Farm Construction	Unalakleet Valley Electric Cooperative, Inc. (UVEC)	Utility	Wind	8,996,832	8,774,080	222,752	4,000,000
	47	Nome Banner Peak Wind Farm Transmission Construction	City of Nome d/b/a Nome Joint Utilities System	Utility	Transmission	890,000	801,000	89,000	801,000
	106	Nome/ Banner Peak Wind Farm Construction	Banner Wind, LLC	IPP	Wind	5,157,000	4,126,000	1,031,000	
		TOTAL				**30,578,141**	**27,652,406**	**2,925,735**	**8,801,000**
Bristol Bay	64	Lake Pen Borough Wind Feasibility Study	Lake and Peninsula Borough	Government	Wind	8,000,000	184,000	40,000	184,000
	62	Chignik Lake Area Wind-Hydro Final Design	Lake and Peninsula Borough	Government	Wind	8,150,000	375,000	96,000	375,000
	63	Lake Pen Borough Wood Heating Final Design	Lake and Peninsula Borough	Government	Biomass	1,265,000	77,000	18,000	77,000
	40	Indian Creek Hydro Feasibility Study	City Of Chignik	Government	Hydro	207,500	207,500	-	207,500
	6	Lake Elva Hydropower Construction	Nushagak Electric & Telephone Cooperative,	Utility	Hydro	22,000,000	10,000,000	12,000,000	4,006,500
	14	Chignik Lagoon Hydroelectric Final Design	Chignik Lagoon Power Utility (CLPU)	Utility	Hydro	1,900,000	150,000		150,000
	18	Pike's Ridge Geothermal Final Design	Naknek Electric Association	Utility	Geothermal	10,020,000	5,000,000	5,000,000	-
	7	Naknek/King Salmon Fish Waste Feasibility Study	Naknek Electric Association	Utility	Biofuels	100,000	80,000	20,000	-
	55	Snake Mountain Wind Farm Construction **(Withdrawn)**	Bristol Bay Area Health Corporation	Government	Wind	13,100,000	10,100,000	2,800,000	-
		TOTAL				**64,742,500**	**26,173,500**	**19,974,000**	**5,000,000**

Alaska Renewable Energy Fund
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ALASKA ENERGY AUTHORITY

	Project					Cost and Request			
Energy Region	ID	Project Name	Applicant	Applicant Type	Project Type	Project Cost	Grant Request	Match Offered	Recommended Funding
Copper River/ Chugach	21	Humpback Creek Hydroelectric Construction	Cordova Electric Cooperative	Utility	Hydro	11,600,000	5,500,000	6,100,000	4,000,000
	22	Cordova Heat Recovery Construction	Cordova Electric Cooperative	Utility	Heat Recovery	5,260,000	1,780,000	3,480,000	1,780,000
	26	Cordova Wood Processing Plant Construction	Native Village of Eyak	Government	Biomass	628,825	364,225	264,600	147,720
	27	Allison Lake Hydro Feasibility Study	Copper Valley Electric Association, Inc (CVEA)	Utility	Hydro	45,058,000	2,288,000	572,000	2,288,000
	15	Chistochina Central Wood Heating Construction	Cheesh'na Tribal Council	Government	Biomass	839,000	827,000	12,000	500,000
	46	Kenny Lake Wood Heating Construction	Copper River School District	Government	Biomass	1,200,000	1,200,000		120,000
	2	Gulkana Central Wood Heating Construction	Gulkana Village Council	Government	Biomass	898,000	898,000	-	500,000
		TOTAL				**65,483,825**	**12,857,225**	**10,428,600**	**9,335,720**
Kodiak	103	Pillar Mountain Wind Farm Construction	Kodiak Electric Associaiton, Inc.	Utility	Wind	23,319,539	9,650,000	2,000,000	4,000,000
	73	Old Harbor Hydroelectric Final Design	Alaska Village Electric Cooperative	Utility	Hydro	4,100,000	225,000	25,000	225,000
		TOTAL				**27,419,539**	**9,875,000**	**2,025,000**	**4,225,000**
Lower Yukon/ Kuskokwim	122	Bethel Wind Power Project Times 4	City of Bethel	Government	Wind	3,197,986	2,598,320	599,666	2,598,320
	110	Kongiganak Wind Farm Construction	Puvurnaq Power Company	Utility	Wind	3,200,000	1,700,000	1,500,000	1,700,000
	107	Kwigillingok Wind Farm Construction	Native Village of Kwigillingok	Utility	Wind	3,200,000	1,600,000	1,600,000	1,600,000
	67	Bethel Wind Farm Construction (BNC land)	Village Wind Power, LLC	IPP	Wind	8,710,000	6,960,000	1,750,000	-
	70	Quinhagak Wind Farm Construction	Alaska Village Electric Cooperative	Utility	Wind	4,313,603	3,882,243	431,360	3,882,243
	72	Mekoryuk Wind Farm Construction	Alaska Village Electric Cooperative	Utility	Wind	3,506,406	3,155,765	350,641	3,155,765
	91	Napaimute Solar PV Construction	Native Village of Napaimute	Government	Solar	123,494	109,471	14,023	-
	71	Toksook Bay Wind Farm Expansion Construction	Alaska Village Electric Cooperative	Utility	Wind	1,153,056	1,037,750	115,306	1,037,750
	35	Hooper Bay Wind Farm Construction	City of Hooper Bay	Government	Wind	2,220,141	2,220,141	-	80,000
	113	Napaskiak Wind Farm Feasibility Study	Napaskiak Utility (electric) - City of Napaskiak	Utility	Wind				-
	96	Crooked Creek Renewable Energy Reconnaissance Study	Crooked Creek Traditional Council	Government	Other	178,000	137,543	58,000	-
		TOTAL				**29,802,686**	**23,401,233**	**6,418,996**	**14,054,078**

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ALASKA ENERGY AUTHORITY

	Project					Cost and Request			
Energy Region	ID	Project Name	Applicant	Applicant Type	Project Type	Project Cost	Grant Request	Match Offered	Recommended Funding
Northwest Arctic	59	Kobuk River Valley Woody Biomass Feasibility Study	Northwest Inupiat Housing Authority	Government	Biomass	7,500,000	249,500	248,980	249,500
	75	Ambler Solar PV Construction	Alaska Village Electric Cooperative	Utility	Solar	605,000	550,000	55,000	550,000
	76	Noatak Solar PV Construction	Alaska Village Electric Cooperative	Utility	Solar	605,000	550,000	55,000	
	77	Shungnak Solar PV Construction	Alaska Village Electric Cooperative	Utility	Solar	605,000	550,000	55,000	
	85	Kotzebue Wind Farm Expansion Construction	Kotzebue Electric Association	Utility	Wind	14,807,535	12,075,535	2,800,000	4,000,000
	56	Buckland/Deering/Noorvik Wind Farm Construction	Northwest Arctic Borough	Government	Wind	10,921,428	10,758,928	162,500	10,758,928
	74	Upper Kobuk Region Hydroelectric Feasibility	Alaska Village Electric Cooperative	Utility	Hydro	1,500,000	1,025,000	50,625	1,025,000
	83	Kotzebue Wind Farm Red-Ox Flow Battery Storage	Kotzebue Electric Association	Utility	Wind	3,930,399	3,144,399	786,000	-
	121	Ambler Solar and Wind Power Construction	City of Ambler	Government	Other	150,000	150,000		-
		TOTAL				**40,624,362**	**29,053,362**	**4,213,105**	**16,583,428**
Railbelt	68	Anchorage Landfill Gas Electricity Construction	Municipality of Anchorage, Solid Waste Services Dept	Government	Biofuels	7,400,000	3,700,000	3,700,000	2,000,000
	57	South Fork Hydroelectric Construction	South Fork Hydro, LLC	IPP	Hydro	3,087,000	1,000,000	2,087,000	1,000,000
	94	Nikolaevsk Wind Farm Final Design	Alaska Wind Energy, LLC, d/b/a Wind Energy Alaska	IPP	Wind	21,923,000	4,334,600	17,588,400	180,600
	109	Eva Creek Wind Farm Construction	Golden Valley Electric Association	Utility	Wind	93,341,555	79,340,322	14,001,233	2,000,000
	53	North Pole Biomass Electricity/Heat Construction	Chena Power Utility, LLC	Utility	Biofuels	4,007,900	2,000,000	2,007,900	2,000,000
	93	Anchorage Landfill Gas Electricity Final Design	Alaska Wind Energy, LLC, d/b/a Wind Energy Alaska	IPP	Biofuels	8,257,850	2,100,000	6,157,850	
	87	Fishhook Hydroelectric Construction	Fishhook Renewable Energy, LLC	IPP	Hydro	4,555,922	2,142,961	2,412,961	2,000,000
	34	Grant Lake/Falls Creek Hydro Feasibility Study	Kenai Hydro, LLC	IPP	Hydro	26,924,120	816,000	204,000	816,000
	105	North Pole Heat Recovery Construction	Golden Valley Electric Association	Utility	Heat Recovery	1,050,000	840,000	210,000	840,000
	66	Coal Mine Road Wind Farm Final Design	Alaska Wind Power, LLC	IPP	Wind	96,000,000	105,000	26,250	105,000
	102	Delta Junction Wind Farm Construction	Alaska Environmental Power LLC	IPP	Wind	8,363,886	6,269,750	2,094,136	2,000,000
	98	Nikiski Wind Farm Construction	Kenai Winds, LLC	IPP	Wind	46,800,000	11,700,000	35,100,000	80,000
	78	Girdwood Gas CHP/Hydro/Wind Solar Construction	Alaska Green Energy, LLC	IPP	Other	12,231,750	5,231,750	7,000,000	47,625
	48	Whittier Creek Hydroelectric Reconnaissance	City of Whittier	Government	Hydro	3,000,000	85,000	115,000	85,000

Alaska Renewable Energy Fund
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ALASKA ENERGY AUTHORITY

	Project					Cost and Request			
Energy Region	ID	Project Name	Applicant	Applicant Type	Project Type	Project Cost	Grant Request	Match Offered	Recommended Funding
	86	Fourth of July Creek Hydroelectric Reconnaissance	Independence Power, LLC	IPP	Hydro	15,675,000	7,837,500	7,837,500	20,000
	97	Nenana Hydrokinetic Construction	University of Alaska Fairbanks, Office of	Government	Ocean/River	1,937,072	1,854,026	83,046	450,000
	112	Delta Junction Wood Chip Heating Feasibility Study	Delta/Greely School District	Government	Biomass	2,868,000	2,868,000	-	2,704,684
	108	McKinley Village Solar Thermal Construction	Golden Valley Electric Association	Utility	Solar	190,000	190,000	3,600	
	8	Anchorage Geothermal District Heating Feasibility Study	Iceland America Energy, Inc.	IPP	Geothermal	1,070,000,000	4,047,230	4,295,580	
	3	Anchorage Waste Gasification Feasibility Study	Alaska Recycling Energy, LLC	IPP	Biofuels	200,000,000	1,100,000	100,000	
	39	Delta Junction Barley/Wood Pellet Central Heating	State of AK, Dept. of Natural Resources,	Government	Biomass	831,203	831,203	-	
	5	Fairbanks Waste Gasification Feasibility Study	Alaska Recycling Energy, LLC	IPP	Biofuels	100,000,000	775,000	-	
	4	Palmer Waste Gasification Feasibility Study	Alaska Recycling Energy, LLC	IPP	Biofuels	60,000,000	650,000	-	
	16	Mt. Redoubt/Mt. Spur Geothermal Construction	Cook Inlet Power	IPP	Geothermal	98,150,000	950,000	97,200,000	
	17	Jack River Hydroelectric Feasibility Study	Native Village of Cantwell	Government	Hydro	200,000	194,540	5,460	
	43	Palmer Gas CHP Construction	Alpine Energy, LLC	IPP	Gas	15,000,000	7,500,000	7,500,000	
	44	Whittier Gas CHP Construction	Alpine Energy, LLC	IPP	Gas	15,000,000	7,500,000	7,500,000	
	45	Anchorage Wood Processing and Heating Construction	EarthRun Energy	IPP	Biomass	300,000	300,000		
	51	Mt. Alice Harbor Renewable Energy Construction	Mt. Alice Development, Inc.	Government	Other	140,229,650	14,673,250		
	79	Palmer Coal Bed Methane CHP Construction	Alaska Green Energy, LLC	IPP	Other	20,824,011	19,401,411	1,422,600	
	92	Delia Creek Hydro Construction	HPML, LLC	IPP	Hydro	600,000	50,000	-	
	–	Kenai Hydro Recon Assessment	Homer Electric Associtation	Utility	Hydro				200,000
		TOTAL				**2,078,747,919**	**190,387,543**	**218,652,516**	**16,528,909**

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ALASKA ENERGY AUTHORITY

	Project					Cost and Request			
Energy Region	ID	Project Name	Applicant	Applicant Type	Project Type	Project Cost	Grant Request	Match Offered	Recommended Funding
Southeast	23	Coffman Cove-Naukati Intertie Construction	Alaska Power & Tetephone Company	Utility	Transmission	6,155,019	3,752,181	2,402,838	3,752,181
	29	Kake-Petersburg Intertie Final Design	Kwaan Electric Transmission Intertie	Utility	Transmission	40,000,000	2,990,000	2,500,000	2,990,000
	10	Falls Creek Hydroelectric Construction	Gustavus Electric Company	Utility	Hydro	10,153,000	750,000	-	750,000
	104	Reynolds Creek Hydroelectric Construction	Haida Power, Inc.	Utility	Hydro	17,145,000	10,500,000	6,645,000	2,000,000
	111	Juneau Ground Source Heat Pump Construction (Aquatic	City & Borough of Juneau	Government	Geothermal	1,950,000	1,450,000	500,000	1,450,000
	37	Whitman Lake Hydro Construction	Ketchikan Public Utilities-Electic Division	Utility	Hydro	17,750,000	1,300,000	320,000	1,300,000
	33	Haines Central Wood Heating System Construction (Low	Chilkoot Indian Association	Government	Biomass	441,229	288,222	28,446	288,222
	60	Yakutat Biomass Gasification Construction	Yakutat Power	Utility	Biofuels	3,633,600	3,393,600	240,000	249,600
	38	Ruth Lake Hydro Reconnaissance	City of Petersburg d/b/a Petersburg Municipal &	Utility	Hydro	109,975,000	160,000	45,000	160,000
	42	Burro Creek Hydro Feasibility Study	Burro Creek Holdings, LLC	IPP	Hydro	60,000	48,000	12,000	48,000
	28	Hoonah - Hawk Inlet Intertie Construction	Kwaan Electric Transmission Intertie	Utility	Transmission	37,459,970	36,709,970	750,000	-
	20	Metlakatla-Ketchikan Intertie Construction	Metlakatla Indian Community	Government	Transmission	7,652,000	7,152,000	500,000	820,000
	41	Haines Central Wood Heating Feasibility Study (Community	Haines Borough	Government	Biomass	2,090,500	120,500	20,000	120,500
	65	Indian River Hydroelectric Construction	City of Tenakee Springs	Utility	Hydro	2,500,000	2,400,000	100,000	-
	9	Wrangell Hydro Based Electric Boilers Construction	City and Borough of Wrangell	Government	Other	3,260,000	3,260,000	123,000	2,000,000
	19	Gustavus/Angoon/Wrangell/Nikiski Tidal Feasibility Study	Alaska Tidal Energy Company	IPP	Ocean/River		1,940,000	515,000	-
	1	Takatz Lake Hydroelectric Feasibility	City & Borough of Sitka	Government	Hydro	225,000,000	2,000,000		
	101	Ketchikan Biomass Gasification Construction	Diesel Brewing Company, LLC dba Diesel Brewing of	IPP	Biofuels	25,625,000	20,500,000	5,125,000	-
	12	Juneau Waste Gasification Reconnaissance Study	Alaska Recycling Energy, LLC	IPP	Biofuels		95,000		-
	13	Ketchikan Waste Gasification Reconnaissance Study	Alaska Recycling Energy, LLC	IPP	Biofuels		105,620		-
	25	Haines Ground Source Heat Pump Construction	Haines Assisted Living, Inc	IPP	Geothermal	2,379,007	1,432,906	946,101	-
	--	Juneau Ground Source Heat Pump Construction (Airport)	City & Borough of Juneau	Government	Geothermal	1,076,000	1,026,000	513,000	513,000
		TOTAL				**514,305,325**	**101,373,999**	**21,285,385**	**16,441,503**

Alaska Renewable Energy Fund
Proposed Grant Allocation Round 1
January 14, 2009

ALASKA ENERGY AUTHORITY

	Project					Cost and Request			
Energy Region	ID	Project Name	Applicant	Applicant Type	Project Type	Project Cost	Grant Request	Match Offered	Recommended Funding
Yukon-Koyukuk/ Upper Tanana	61	McGrath Heat Recovery Construction	McGrath Light & Power, Co.	Utility	Heat Recovery	991,815	824,815	167,000	712,415
	54	Galena Wood Heating Construction	Interior Regional Housing Authority (IRHA)	Government	Biomass	382,779	382,779	4,659,760	382,779
	84	Ruby Hydrokinetic Construction	Yukon River Inter-Tribal Watershed Council	IPP	Hydro	461,950	446,950	10,555	446,950
	49	Tok Wood Heating Construction	Alaska Gateway School District	Government	Biomass	3,805,349	3,245,349	560,000	3,245,349
	24	Yerrick Creek Hydroelectric Construction	Alaska Power & Telephone Company	Utility	Hydro	14,500,000	11,600,000	2,900,000	-
	30	McGrath Central Wood Heating Construction	McGrath Power and Light	Utility	Biomass	4,005,000	3,052,000	953,000	322,000
	31	Fort Yukon Central Wood Heating Construction	Gwitchyaa Zhee Utility Company	Utility	Biomass	4,285,161	2,945,991	1,200,000	210,000
	--	Manley Hot Springs Geothermal Construction	TDX Power	Utility	Geothermal	1,880,000	1,880,000	1,665,000	215,000
		TOTAL				**30,312,054**	**24,377,884**	**12,115,315**	**5,534,493**
Statewide	88	Statewide Hydrokinetic Feasibility Study	Thomas Ravens, Ph.D. and Myree McDonald,	Government	Ocean/River	565,439	565,439	-	565,439
	36	Statewide Heat Recovery Demonstration Project	Precision Power, LLC	IPP	Heat Recovery	7,000,000	300,000	60,000	-
	82	Juneau Based Statewide Hydro/Ammonia Electricity	Alaska Electric Light & Power	Utility	Other	800,000	800,000	-	
	32	Statewide Biomass Reconnaissance Study	University of Alaska, Fairbanks	Government	Biofuels	286,149	286,149	-	-
	81	Statewide Heat Recovery/Electric Demonstration Construction	Ormat Nevada Inc.	IPP	Heat Recovery	28,000,000	495,000	-	-
		TOTAL				**36,651,588**	**2,446,588**	**60,000**	**565,439**
TOTAL						**3,174,598,969**	**453,754,671**	**300,999,252**	**100,000,000**

ALASKA ENERGY AUTHORITY

Alaska Renewable Energy Fund

Summary of Methodology for Proposal Evaluation and Grant Recommendation

January 20, 2009

Overview of Review Process

Renewable Energy Fund applications were evaluated in three stages. For more detail please refer to Evaluation Guidelines in the appendices and to documents posted on the Renewable Energy Fund webpage http://www.akenergyauthority.org/RE_Fund.html.

In the first stage each application was evaluated for completeness, eligibility, and responsiveness to the request for applications (RFA). This evaluation was conducted by Alaska Energy Authority (AEA) staff.

The second stage evaluated the technical and economic feasibility of the proposed projects. This stage was conducted by AEA staff with the assistance of DNR staff, outside economists, and other consultants.

The third stage was a final scoring based on the specific guidelines in the RFA that was conducted by AEA staff. The scoring was done based on a number of matrices and pre-established weighting for each of the criteria.

1. Cost of Energy (30%):
2. Matching Funds (25%)
3. Economic and Technical Feasibility (20%): score from stage 2
4. Project Readiness (5%)
5. Economic and Other Alaska Benefit (10%)
6. Sustainability (5%)
7. Local Support (5%)

Upon completion of the evaluation all applications were ranked by region with the final funding recommendation being made based on the number and rank of applications with each region, the cost of energy, and a balance of statewide funding.

Projects may have been recommended for partial funding if they were viable but:

- Documentation submitted with the application was not sufficient to justify full funding for more than one phase of a project.
- Project construction was scheduled for 2010 or later, the project was expensive or higher risk, or there were competing projects for which planning is desirable
- The applicant requested AEA to manage the project and the AEA program manager could confidently estimate a lower cost.
- The proposal included operating costs or other costs not recommended for funding.

In addition AEA adopted a maximum funding cap to provide for the ability to award more projects.

Where AEA offers less than the requested amount, AEA will work with grantees to assure that the revised scope of the final grant award is consistent with the grantee's proposal and meets the public purposes of the program.

Roles of AEA Staff and the Renewable Energy Fund Advisory Committee

AEA staff requested and received input from the Renewable Energy Fund Advisory Committee regarding the process and final funding recommendations. Following is a summary of Committee involvement.

AEA staff prepared a draft RFA package including the RFA, application form, worksheet form, and a sample grant agreement in summer 2008. The Advisory Committee met on 8/22 and 8/25 to discuss the RFA package. AEA staff revised the draft and issued the finalized RFA on 9/3 taking into account the Committee's comments.

Midway through the AEA staff review of the Round 1 applications AEA met with the Committee on 11/21 to brief them on the process and how AEA was handling specific issues. Issues addressed included ensuring that grant funding to independent power producers would benefit the public appropriately, protocols for offering partial or multi-phase funding, handling competing and interacting projects, eligibility of biofuel projects, and eligibility of statewide resource assessment projects.

On 12/18 during the last stages of AEA Round 1 review, AEA briefed the Committee on how AEA was addressing issues discussed in the November meeting, the draft evaluation guidelines, and schedule.

Following AEA evaluation of all Round 1 applications, AEA staff and the Committee met on 1/12 to establish how to address the HB152 requirement for a statewide balance of matching funds. Based on this discussion AEA has finalized its recommendations.

APPENDIX A

Evaluation Guidelines and Instructions for Evaluation of RFA for Renewable Energy Fund Grant Projects

General:

- Applications that do not comply with AS 42.45.45 and all of the material and substantial terms, conditions, and requirements of the RFA may be rejected.
- If an application is rejected the applicant will be notified in writing that its application has been rejected and the basis for rejection.
- The Authority may waive minor requirements of the RFA that do not result in a material change in the requirements of the RFA and do not give an applicant an unfair advantage in the review process.
- Upon submission of the final recommendations to the Legislature the Authority will make all applications available for review on the Authority's web site.
- All communications with applicants during the evaluation process will go through the Grant Manager.
- The Executive Director is the Executive Director of AEA, Program Managers are staff at AEA who have oversight for AEA programs (e.g. biomass, hydroelectric, wind energy, geothermal, etc.). Program Managers are the subject matter technical experts, and the Grant Manager is the person responsible for overseeing the grant process for the Authority.
- All applications will be reviewed using the same process and criteria established in the RFA.
- Decisions made in each stage of the review process will be documented in writing and made a part of the grant file.
- If reviewers think they may have a potential conflict of interest, (financial or personal interest, such as friend or family members) they should inform their supervisor immediately of the potential nature of the conflict.
- Reviewers should make notes of any questions they may have about an application. Reviewers should not contact applicants directly.
- If reviewers have questions about an application or process contact they should contact the Grant Manager. If reviewers have technical questions they should contact the Program Managers.
- If an application is rejected or not recommended the applicants will be sent a letter from the Grant manager explaining why their application has been rejected or not recommended. Reviewers will be required to provide to the Grant Manager the reasons for why the application is being rejected
- Notes should be made directly into the database on line. All written notes should be kept with the application file.

- All notes are considered public records and subject to Alaska public records act disclosure requirements.
- Any appeals from rejected applicants in Stage 1 or Stage 2 reviews will be directed to the Grant Manager. The Grant Manager will review the appeal with the Executive Director, Senior Program Manager, and Legal staff as required to determine an appropriate course of action.

Stage 1 Review Process:

All applications received by the deadline will initially be reviewed by the Authority staff to assess if the application is complete, meets the minimum submission requirements, and has adequate information to proceed to Stage 2 – Technical Evaluation.

Reviewers –

Grant Manager and two Senior Program Managers

Criteria

- All criteria are scored pass/fail. Failure to meet any of these criteria results in rejection of the Application.

1. The application is submitted by an Eligible Applicant (sec 1.4).
2. The project meets the definition of an Eligible Project (sec 1.5).
3. A resolution or other formal authorization of the applicant's governing body is included with the application to demonstrate the applicant's commitment to the project (sec 1.4).
4. The application provides a detailed description of the phase(s) of project proposed—i.e. reconnaissance, feasibility analysis/conceptual design, final design/permitting, and/or construction (sec 2.2).
5. The application is complete in that the information provided is sufficiently responsive to the RFP to allow AEA to consider the application in the next stage of evaluation.
6. The applicant provides evidence of having the minimum technical, financial, and management capability to complete the work as proposed in the grant or a reasonable plan to obtain it.

Process

- The Grant Manager will evaluate criteria 1-3 above.
- The Senior Program Managers or Program Managers will evaluate criteria 4-6 above.
- If it appears that the application could be complete with a clarification or minor additional data the Program Managers may make a recommendation to the Grant Manager for additional information. The Grant manager will request clarifying

information from the applicant. The applicant will have a specified amount of time to provide the requested information. Failure of the applicant to respond timely or provide information that completes their application will result in the application being rejected.

- Applications that are determined by the Grant Manager and Program Managers and determined to be incomplete or fail to meet the minimum requirements will be reviewed by the Executive Director with the assistance of Legal or procurement staff prior to being rejected at Stage 1.
- Applications that fail to pass will be provided written notice as to why their application failed stage 1.
- Any requests for reconsideration from rejected applicants in Stage 1 will be directed to the Grant Manager. The Grant Manager will review the request with the Executive Director, Senior Program Manager, and Legal staff as required to determine an appropriate course of action.

Stage 2 Review Process:

All applications that pass Stage 1 will be reviewed for feasibility in accordance with the criteria below.

Reviewers –

- Program Managers – the AEA technical subject matter experts.
- Staff from Department of Natural Resources – technical experts providing specific review and comment on projects that may have issues related to permitting and natural resource development.
- Economists - Contracted economist who will review cost benefit and other cost and pricing information provided for each application submitted for the purpose of providing the authority and independent assessment of the economics of the proposed project.
- ISER – University of Alaska Institute of Social and Economic Research – is providing Quality Assurance review of Economic Analysis work.
- Senior Program Manager – Overseer of the work of the Program Managers

Criteria

- Each of the numbered criteria below will be scored with a numerical score 1-10 and weighted per the percentages below.

Criteria	Weight
1. Project Management, Development, and Operation a. The proposed schedule is clear, realistic, and described in	20%

adequate detail. b. Project development, operation, maintenance, fuel, and other cost and savings estimates are realistic. c. The project team's method of communicating, monitoring, and reporting development progress is described in adequate detail. d. Logistical, business, and financial arrangements for operating and selling energy from the completed project are reasonable and described in adequate detail.	
2. Qualifications and Experience a. The applicant, partners, and contractors have sufficient knowledge and experience to successfully complete, and operate the project b. The project team has staffing, time, and other resources to successfully complete and operate the project. c. The project team is able to understand and address technical, economic, and environmental barriers to successful project completion and operation. d. Use of local labor and training of local labor workforce.	20%
3. Technical Feasibility a. The renewable energy resource is available on a sustainable basis and project permits and other authorizations can reasonably be obtained. b. A site is available and suitable for the proposed energy system. c. Project technical and environmental risks are reasonable. d. The proposed energy system can reliably produce and deliver energy as planned. e. If a demonstration project is being proposed: • specific benefits of proposed technology are likely (such as application in other areas of the State); • need for this project is shown; (and • risks of the proposed system are reasonable and warrant demonstration.	20%
4. Economic Feasibility a. The project is shown to be economically feasible b. The project has an adequate financing plan for completion of the grant-funded phase and has considered options for funding subsequent phases of the project.	20%
5. Benefits Other benefits to the Alaska public are demonstrated.	20%

Process

- Program Managers will carefully review the proposals for their assigned technology group and provide an initial feasibility score on all criteria and a funding recommendation.
- An economist hired by AEA will review the performance and economic information and provide an independent analysis of cost and benefits of each project. The

reviewers will consider the independent analysis when scoring the economic feasibility and benefits criteria.

- Reviewers will use the formula and criteria in the Scoring Matrix Guide (see below) for designated criteria in Stage 2.
- If the Program Manager believes they need additional information they will coordinate their request for follow-up information with the Grant Manager. The purpose of follow-up is for clarification and to help the Project Manager gain sufficient understanding of the project proposed.
- Any requests for additional information will be made by the Grant Manager to the applicant by e-mail, Bcc to Program Manager, with a response time of 7 days or less.
- Failure of the applicant to respond timely or provide an adequate clarification as requested will result in the application being rejected in Stage 2.
- The Senior Program Managers will meet with the Program Managers to review the applications and discuss final stage 2 scoring. Scoring per the stage 2 criteria may be adjusted based on final discussions between the Program Manager, Senior Program Managers, Economists, and Executive Director.
- A final weighted "feasibility" score will be given for each application reviewed.
- Applications that fail to adequately address the criteria in the technical review may not be recommended for funding or further review.
- Applications that fail to pass will be provided written notice as to why their application failed stage 2.
- The Authority will develop a preliminary list of feasible applications based on the Stage 2 review with AEA recommendations on technical and economic feasibility and a recommended funding level to be considered in the Stage 3 review.

Stage 3 Review Process:

The third stage of evaluation will result in the final score, ranking by region, and recommendation of projects for grant funding.

The Feasibility score from Stage 2 will be automatically weighted and scored in Stage three.

The average of the Economic and Public Benefit score of stage 2 will be used for initial scoring of Economic and Other Public Benefit Score. This score will be reviewed by the Program Managers.

The Grant Manager, with staff assistance, will score the cost of energy, type and amount of matching funds, and local support, using the formulas and methods outlined in the Scoring Matrix Guide (Appendix B).

Two Senior Program Managers will review the scoring of the Program Managers and Grant Manager and provide a score for readiness and previous success, and sustainability.

AEA will develop a regional ranking of applications and a draft ranking of all projects for the Advisory committee to review.

The Advisory Committee will review the final Stage 3 scores regional ranking recommendations of the Authority. The Committee may make recommendations to assist in achieving a statewide balance but will not be rescoring based on the criteria.

Reviewers –

- Grant Manager (Local Support and Match Criteria)
- Program Managers (i.e. specialists in hydro, wind, biomass, geothermal, ocean/river, biofuels)
- Two Senior Program Managers
- Executive Director of AEA.
- Advisory Committee (Review of Regional Ranking and Funding Recommendations)

Criteria

- Criteria noted below will be scored and weighted as noted.

Criteria	Weight
Cost of energy per resident in the affected project area relative to other areas (From Worksheet)	30
The type and amount of matching funds and other resources an applicant will commit to the project. (See formula)	25
Project feasibility (Score from Stage 2 weighted)	20
Project readiness. How quickly the proposed work can begin and be accomplished and/or success in previous phases of project development.	5
Economic & Other Alaska Public Benefit (such as ability to use technology in other parts of Alaska).	10
Sustainability – Operations and Maintenance	5
Local Support (See formula)	5

Process

- Each application will be given a single weighted score.
- Where more than one evaluator is scoring a specific criterion the scores of all evaluators for that criterion will be averaged.
- Any requests for additional information will be made by the Grant Manager by e-mail, Bcc to Program Manager, with a response time of 7 days or less.

- The evaluation team may conduct interviews of applicants to determine a more complete understanding of the technical or financial aspects of their application. (Refer to RFA Section 4 Stage 3 Review.) However given the time constraints this is not likely for this round of applications.

Recommendation Guidelines

- The final recommendations will be one of the following:
  - Recommend – Full funding per application
  - Recommend – Partial funding with a recommended funding amount
  - Do not recommend for grant funding – (basis for not recommending to be explained)
- Final AEA recommendations may also suggest specific terms or conditions be imposed on the grantee to assure the project is successful and the public receives proper benefit for the funds to be expended
- Multi-phase funding guidelines
  - Fund all phases: Project can be constructed in 2009, and is well-defined, relatively inexpensive, and low-risk.
  - Fund fewer than all phases: Project construction in 2010+, not well-defined, expensive, higher risk, or there are competing projects for which planning is desirable.
- Competing or interactive projects guidelines
  - If AEA is aware of the potential for substantial interaction among proposed and/or other known projects, then recommend planning with appropriate level of analysis and public input before committing substantial funding to one or more alternatives.
  - Railbelt: If installed capacity > 10 MW or system transmission constraints are likely, then construction funding not recommended until after Railbelt integrated resource plan (IRP) consideration.
- Partial Funding Guidelines
  - Partial funding levels will correspond to amount proposed in phases that are recommended.
  - Exception 1: If proposal asks AEA to manage the project, and AEA thinks project can be built for less, then lower figure can be recommended.
  - Exception 2: Proposal requests funding for operating expense (labor, fuel) not recommended for funding.
  - Exception 3 – AEA proposes to limit funding to a maximum dollar limit for specific areas, groups, or types of projects in order to increase the total number of projects that may be awarded and address the statewide balance of funds.

- Guidelines for recommendations for biofuel projects for Private vs Governmental entities
    - Government projects eligible for construction/equipment funding
    - Non-government : limited to funding recommended preconstruction activities
- Consideration of Resources Assessment Projects
    - Resource assessment associated with one or more site-specific projects is eligible for phase 2 funding. General regional or statewide assessment, not tied to particular proposed projects, is not eligible, and more appropriately done through the DNR/AEA Alaska Energy Inventory Data project.
- Recommendation Guidelines will be documented and a part of the grant file.

Ranking of Applications and Funding Recommendations

- Upon completion of scoring and specific project recommendations by AEA all applications will be grouped within geographical regions,
    - See Map Delineating regions http://www.akenergyauthority.org/RE_Fund_map.html
- Each group of applications will be ranked within their geographical region based on the final stage three score.
- Each application under consideration for funding will have stage three score and regional rank.
- A draft recommendation of projects for funding (based on available funds) will be presented to the Advisory Committee for Review along with the complete list of all projects.
- To be able to provide support for a maximum number of projects the maximum recommended funding per grant will be limited to:
    1. $2,000,000 for Railbelt and Southeast where the Cost of Energy score is19 or less
    2. $4,000,000 for all other regions and Southeast communities with Cost of Energy score 20 or greater
- The final list of recommended projects for funding will provide a reasonable statewide balance of funds taking into consideration the overall score, the cost of energy, the rank of projects within a region.

Recommendations to the Legislature

The final recommendation to the legislature will include:

- A list of recommended grants to applications based on 09 funding
- A list of recommended grants to applications based on 10 funding.
- A list of applications recommended if additional funds may be available.
- A list of applications not recommended for funding.
- A list of applications rejected as ineligible.

The Final recommendation to the legislature will also contain specific information for each project as requested by the legislature and a summary of each project.

Applicants may be required to provide additional information to the Legislature upon request (RFA Section 1.21).

APPENDIX B

Scoring Matrix Guide

General Scoring Criteria

- Pass/Fail scoring means either the criteria are met or they are not.
- A weighted score for each of the criteria will calculated and each complete application will be given a total score at the end of the Stage 2 and Stage 3 review process unless the application is determined not to meet the requirements of the RFA.
- Reviewers should use the following weighted scoring of criteria as a guide in addition to the specific formula scoring matrices for some criteria defined in Appendix A of these procedures.

Score	Guidelines (Intent to provide a range	
10	A+	The application demonstrates a thorough understanding of the criteria requirements and completely addresses them thoughtful manner. The application addresses the criteria in a manner clearly superior to other applications received. There is no need for additional follow-up with the applicant to understand how they meet the requirements of the criteria
7	B	The application provides information that is generally complete and well-supported. Evaluators may still have a few questions regarding how the applicant meets the criteria but it is clear the applicant understands what is required.
5	C	The application addresses the criteria in an adequate way. Meets minimum requirements under each of the criteria. Some issues may still need to be clarified prior to awarding a grant.
3	D	The application information is incomplete or fails to fully address what is needed for the project or information has errors. The Authority may need more info to be able to complete the evaluation or need to resolve issues before recommending or awarding a grant.
0	F	The application fails to demonstrate understanding of the criteria requirements or project proposed. Required information is poor or absent in the proposal.

Stage 2, Criterion 4 Economic Benefit Review Guideline

Compare AEA and Applicant B/C and determine which of the B/C ranges below are appropriate. If there is wide discrepancy between the two B/C ratios use judgment to assign a score. Reduce the score to the extent that you judge that the project does not show that it has an adequate financing plan for completion of the grant-funded phase or has not considered options for funding subsequent phases of the project. Scores must be >= 0.	**Benefit / Cost (B/C) Ratio Value**	**Score**
	Less than 0.80	**0**
	=>0.80 – =<0.90	**3**
	>0.90 – =<1.00	**4**
	>1.00 – =<1.10	**5**
	>1.10 – =<1.50	**6**
	>1.50 – =<1.60	**7**
	>1.60 – =<1.80	**8**
	>1.80 - < 2.00	**9**
	=>2.0	**10**

Stage 3 Criteria – Match

Total of 25 points will be calculated as follows

Type of Match	**5 Pts**	+	**Percentage of Match to total Grant Request**	**15 Pts**	+	**Total Amount of Match (1)**	**5 Pts**
Support of any kind referenced but not given a specific value IE housing offered to outside workers, administration of project without compensation	***1***		*.01% - <5% of Grant =*	***4***		*> $1 - < $15K*	***1***
Previous investment towards project completion	***2***		*=>5% - =<10% of Grant =*	***6***		*$15K - <$100K*	***2***
Another grant [State] as Match	***3***		*>10% - =<15% of Grant =*	***8***		*$100K <$1 mil*	***3***
Other (Grant Fed) Or private	***4***		*>15% - =<30% of Grant*	***11***		*$1 mil - <$6 mil*	***4***
Loan or Local Cash or any documented In-kind Match	***5***		*>30% - =<49% of Grant =*	***13***		*> $6 mil*	***5***
			> 49% of Grant	***15***			

(1) If there are multiple types of Match that with highest value is scored.

Stage 3 Criteria Local Support

Total of 5 Points Available

Documented unresolved issues concerning the application no points will be given if these exist regardless of demonstrated support	0 points
Resolution from city or village council	2 points
Support demonstrated by local entity other than applicant	3 points
Support demonstrated by two local entities other than the applicant	4 points
Support demonstrated by three or more local entities other than the applicant	5 points

Stage 3 Criteria Cost of Energy

Based on Cost of Power by Community Location

Posting Description	RCA Total Res Rate	Utility Last Reported Residential Rate	Use for RE Fund	Raw RE Fund Score (1-10)	**Adj RE Fund Score (1-10)**
Anchorage	0.0893		0.0893	1.12	**1.12**
Juneau	0.1103		0.1103	1.38	**1.38**
Anchorage	0.1171		0.1171	1.46	**1.46**
Matanuska Valley	0.1271		0.1271	1.59	**1.59**
Homer-North Kachemak Bay	0.1387		0.1387	1.73	**1.73**
Homer-South Kachemak Bay	0.1423		0.1423	1.78	**1.78**
Fairbanks	0.1729		0.1729	2.16	**2.16**
North Slope	0.1781		0.1781	2.23	**2.23**
Dillingham/Aleknagik PCE		0.2278	0.2278	2.85	**2.85**
Haines/Covenant Life PCE	0.2304	0.2302	0.2302	2.88	**2.88**
Skagway PCE	0.2304	0.2302	0.2302	2.88	**2.88**
King Cove PCE		0.2400	0.2400	3.00	**3.00**
Craig PCE	0.2599	0.2581	0.2581	3.23	**3.23**
Hollis PCE	0.2599	0.2581	0.2581	3.23	**3.23**
Hydaburg PCE	0.2599	0.2581	0.2581	3.23	**3.23**
Klawock/Kassan PCE	0.2599	0.2581	0.2581	3.23	**3.23**
Thorne Bay/Kasaan PCE	0.2599	0.2581	0.2581	3.23	**3.23**
Nome PCE		0.3169	0.3169	3.96	**3.96**
Cordova PCE		0.3183	0.3183	3.98	**3.98**
Kipnuk PCE	0.5094	0.3200	0.3200	4.00	**4.00**
Akutan PCE		0.3230	0.3230	4.04	**4.04**

Unalakleet PCE	0.3900	0.3368	0.3368	4.21	**4.21**
Ouzinkie PCE		0.3400	0.3400	4.25	**4.25**
Naknek/S.Naknek/Kng Slmn PCE		0.3562	0.3562	4.45	**4.45**
Kotzebue PCE		0.3605	0.3605	4.51	**4.51**
Toksook Bay PCE		0.3889	0.3889	4.86	**4.86**
Tununak PCE		0.3889	0.3889	4.86	**4.86**
Galena PCE		0.3980	0.3980	4.98	**4.98**
Larsen Bay PCE		0.4000	0.4000	5.00	**5.00**
Buckland PCE		0.4036	0.4036	5.05	**5.05**
Kasigluk PCE		0.4165	0.4165	5.21	**5.21**
Nunapitchuk PCE		0.4165	0.4165	5.21	**5.21**
Elfin Cove PCE		0.4200	0.4200	5.25	**5.25**
Chenega Bay PCE		0.4350	0.4350	5.44	**5.44**
Kwethluk PCE		0.4400	0.4400	5.50	**5.50**
Koyukuk PCE		0.4500	0.4500	5.63	**5.63**
Manokotak PCE		0.4500	0.4500	5.63	**5.63**
Shishmaref PCE		0.4519	0.4519	5.65	**5.65**
Fort Yukon PCE	1.0406	0.4529	0.4529	5.66	**5.66**
Minto PCE		0.4553	0.4553	5.69	**5.69**
Old Harbor PCE		0.4606	0.4606	5.76	**5.76**
Lower Kalskag PCE		0.4621	0.4621	5.78	**5.78**
Upper Kalsag PCE		0.4621	0.4621	5.78	**5.78**
Togiak PCE		0.4644	0.4644	5.81	**5.81**
Mt. Village PCE		0.4666	0.4666	5.83	**5.83**
St. Michael PCE		0.4672	0.4672	5.84	**5.84**
Shaktoolik PCE		0.4709	0.4709	5.89	**5.89**
Emmonak PCE		0.4739	0.4739	5.92	**5.92**
Hooper Bay PCE		0.4761	0.4761	5.95	**5.95**
Elim PCE		0.4766	0.4766	5.96	**5.96**
Koyuk PCE		0.4815	0.4815	6.02	**6.02**
Marshall PCE		0.4818	0.4818	6.02	**6.02**
Pitkas Point PCE		0.4820	0.4820	6.03	**6.03**
St. Mary's/Andreafsky PCE		0.4820	0.4820	6.03	**6.03**
Mekoryuk PCE		0.4821	0.4821	6.03	**6.03**
Russian Mission PCE		0.4830	0.4830	6.04	**6.04**
Brevig Mission PCE		0.4878	0.4878	6.10	**6.10**
Chevak PCE		0.4888	0.4888	6.11	**6.11**
Dot Lake/Dot Lake Village PCE	0.4708	0.4925	0.4925	6.16	**6.16**
Tetlin PCE	0.4708	0.4925	0.4925	6.16	**6.16**

Tok/Tanacross PCE	0.4708	0.4925	0.4925	6.16	**6.16**
Wales PCE		0.4925	0.4925	6.16	**6.16**
Alakanuk PCE		0.4963	0.4963	6.20	**6.20**
Eek PCE		0.4987	0.4987	6.23	**6.23**
Quinhagak PCE		0.4989	0.4989	6.24	**6.24**
Stebbins PCE		0.4995	0.4995	6.24	**6.24**
Ekwok PCE		0.5000	0.5000	6.25	**6.25**
Kwigillingok PCE		0.5000	0.5000	6.25	**6.25**
Levelock PCE		0.5000	0.5000	6.25	**6.25**
Koliganek PCE		0.5000	0.5000	6.25	**6.25**
Nikolai PCE		0.5000	0.5000	6.25	**6.25**
Platinum PCE		0.5000	0.5000	6.25	**6.25**
Pilot Station PCE		0.5004	0.5004	6.26	**6.26**
Savoonga PCE		0.5010	0.5010	6.26	**6.26**
Nightmute PCE		0.5041	0.5041	6.30	**6.30**
Kaltag PCE		0.5067	0.5067	6.33	**6.33**
Central PCE	0.7399	0.5089	0.5089	6.36	**6.36**
Goodnews Bay PCE		0.5106	0.5106	6.38	**6.38**
Selawik PCE		0.5114	0.5114	6.39	**6.39**
New Stuyahok PCE		0.5145	0.5145	6.43	**6.43**
Chignik Lagoon PCE		0.5159	0.5159	6.45	**6.45**
Gambell PCE		0.5177	0.5177	6.47	**6.47**
Nelson Lagoon PCE		0.5200	0.5200	6.50	**6.50**
Tuntutuliak PCE		0.5200	0.5200	6.50	**6.50**
Holy Cross PCE		0.5236	0.5236	6.55	**6.55**
Huslia PCE		0.5260	0.5260	6.58	**6.58**
Grayling PCE		0.5283	0.5283	6.60	**6.60**
Nunam Iqua PCE		0.5300	0.5300	6.63	**6.63**
Yakutat PCE		0.5318	0.5318	6.65	**6.65**
Noorvik PCE		0.5333	0.5333	6.67	**6.67**
Kivalina PCE		0.5368	0.5368	6.71	**6.71**
Scammon Bay PCE		0.5392	0.5392	6.74	**6.74**
Golovin PCE		0.5400	0.5400	6.75	**6.75**
Tenakee Springs PCE		0.5400	0.5400	6.75	**6.75**
Kiana PCE		0.5413	0.5413	6.77	**6.77**
Nulato PCE		0.5424	0.5424	6.78	**6.78**
Unalaska PCE		0.5433	0.5433	6.79	**6.79**
Beaver PCE		0.5500	0.5500	6.88	**6.88**
Chefornak PCE		0.5500	0.5500	6.88	**6.88**
Kongiganak PCE		0.5500	0.5500	6.88	**6.88**
Twin Hills PCE		0.5500	0.5500	6.88	**6.88**

Atka PCE		0.5520	0.5520	6.90	**6.90**
Anvik PCE		0.5603	0.5603	7.00	**7.00**
Teller PCE		0.5614	0.5614	7.02	**7.02**
Tanana PCE	0.5962	0.5693	0.5693	7.12	**7.12**
Kotlik PCE		0.5712	0.5712	7.14	**7.14**
Takotna PCE		0.5810	0.5810	7.26	**7.26**
Shageluk PCE		0.5813	0.5813	7.27	**7.27**
Chitina PCE		0.5850	0.5850	7.31	**7.31**
Bethel/Oscarville PCE	0.5251	0.5972	0.5972	7.47	**7.47**
Naukati PCE	0.5407	0.5995	0.5995	7.49	**7.49**
Akiak PCE		0.6000	0.6000	7.50	**7.50**
Akiachak PCE		0.6000	0.6000	7.50	**7.50**
Karluk PCE		0.6000	0.6000	7.50	**7.50**
Diomede PCE		0.6000	0.6000	7.50	**7.50**
Napaskiak PCE		0.6000	0.6000	7.50	**7.50**
Pedro Bay PCE		0.6000	0.6000	7.50	**7.50**
Tuluksak PCE		0.6000	0.6000	7.50	**7.50**
Nikolski PCE		0.6000	0.6000	7.50	**7.50**
White Mountain PCE		0.6000	0.6000	7.50	**7.50**
Manley Hot Springs PCE	0.9017	0.6010	0.6010	7.51	**7.51**
Iliamna/Newhalen/Nondalton PCE		0.6024	0.6024	7.53	**7.53**
Igiugig PCE		0.6030	0.6030	7.54	**7.54**
Coffman Cove PCE	0.5471	0.6045	0.6045	7.56	**7.56**
McGrath PCE	0.5216	0.6078	0.6078	7.60	**7.60**
Sand Point PCE	0.6008	0.6091	0.6091	7.61	**7.61**
Hughes PCE		0.6100	0.6100	7.63	**7.63**
Angoon PCE	0.8354	0.6126	0.6126	7.66	**7.66**
Chilkat Valley PCE	0.8354	0.6126	0.6126	7.66	**7.66**
Hoonah PCE	0.8354	0.6126	0.6126	7.66	**7.66**
Kake PCE	0.8354	0.6126	0.6126	7.66	**7.66**
Klukwan PCE	0.8354	0.6126	0.6126	7.66	**7.66**
Deering PCE		0.6215	0.6215	7.77	**7.77**
Chignik PCE	0.5816	0.6270	0.6270	7.84	**7.84**
Atmautluak PCE		0.6400	0.6400	8.00	**8.00**
St. Paul PCE		0.6400	0.6400	8.00	**8.00**
Eagle/Eagle Village PCE	0.5891	0.6453	0.6453	8.07	**8.07**
Whale Pass PCE	0.5572	0.6578	0.6578	8.22	**8.22**
Napakiak PCE	0.6601	0.6601	0.6601	8.25	**8.25**
Circle PCE		0.6700	0.6700	8.38	**8.38**
Chistochina PCE	0.6552	0.6856	0.6856	8.57	**8.57**

Kokhanok Bay PCE		0.6900	0.6900	8.63	**8.63**
Northway/Northway Village PCE	0.6261	0.6915	0.6915	8.64	**8.64**
Bettles/Evansville PCE	0.6213	0.6921	0.6921	8.65	**8.65**
Port Alsworth PCE		0.7022	0.7022	8.78	**8.78**
Cold Bay PCE	0.9850	0.7024	0.7024	8.78	**8.78**
Newtok PCE		0.7200	0.7200	9.00	**9.00**
Shungnak PCE		0.7364	0.7364	9.21	**9.21**
Slana PCE	0.6082	0.7452	0.7452	9.32	**9.32**
Noatak PCE		0.7572	0.7572	9.47	**9.47**
Tatitlek PCE		0.7600	0.7600	9.50	**9.50**
Gustavus PCE	1.2277	0.7669	0.7669	9.59	**9.59**
Chuathbaluk PCE	0.8191	0.7749	0.7749	9.69	**9.69**
Crooked Creek PCE	0.8191	0.7749	0.7749	9.69	**9.69**
Red Devil PCE	0.8191	0.7749	0.7749	9.69	**9.69**
Sleetmute PCE	0.8191	0.7749	0.7749	9.69	**9.69**
Stony River PCE	0.8191	0.7749	0.7749	9.69	**9.69**
Mentasta PCE	0.7178	0.7750	0.7750	9.69	**9.69**
Allakaket/Alatna PCE	0.7166	0.7805	0.7805	9.76	**9.76**
Aniak PCE	0.6934	0.8013	0.8013	10.02	**10.00**
Healy Lake PCE	0.7541	0.8090	0.8090	10.11	**10.00**
Ambler PCE		0.8259	0.8259	10.32	**10.00**
Ruby PCE		0.9800	0.9800	12.25	**10.00**
Egegik PCE	1.5128	0.9841	0.9841	12.30	**10.00**
Stevens Village PCE		1.0700	1.0700	13.38	**10.00**
Lime Village PCE	1.5156	1.1700	1.1700	14.63	**10.00**

Alternative Energy and Energy Efficiency Assistance Plan

July 1, 2007 to June 30, 2009

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Introduction

Alaska Energy Authority's (AEA) Alternative Energy and Energy Efficiency programs aim to lower the cost of power and heat to eligible communities while maintaining system safety and reliability. Projects seek to increase efficiency of existing power production and energy end use and to develop alternatives to diesel-based energy technology.

This plan, required under 3 AAC 108.310, describes 1) available funding and funding that AEA plans to request for alternative energy and energy efficiency assistance, 2) the types of assistance that AEA provides and plans to provide, and 3) the criteria for allocating funds.

Note that this plan does not address all of AEA's activities in the area of alternative energy and energy efficiency. Other program activities such as geothermal and tidal energy resource assessment or biodiesel field testing are described at AEA's website: www.akenergyauthority.org. For further information on program activities not covered by this plan, please call Peter Crimp at 269-3000

Energy Cost Reduction

Program Description

The Energy Cost Reduction program, funded chiefly by the Denali Commission, provides grant and loan financing for project proposals that reduce the cost of power and heat in Alaskan communities. The program has been conducted through a competitive request for proposals (RFP). Four RFPs have been released and awarded between 2001 and 2006. AEA plans to release a fifth RFP in late fall 2007.

Funding

Existing

All available grant funding has been allocated to projects. Over the four solicitations, $8.41 million in grant funding has been awarded for 23 projects costing $20.79 million. Life cycle savings are estimated at $40.66 million. Loan financing is available through AEA's Power Project Loan Fund (PPF).

Proposed

AEA has been granted $3.0 million from the Denali Commission for the fifth Energy Cost Reduction Program solicitation. Further information on how to apply for assistance from this additional funding will be posted on AEA's website when it becomes available.

Criteria for Funding Allocation

Eligibility

1. Power project applicants must be certificated electric utilities or independent power producers. Heat recovery project applicants must be certificated electric

utilities, independent power producers, or local governments. Energy conservation project applicants must be certificated electric utilities, independent power producers, local governments, or government entities, including tribal councils and housing authorities.

2. Projects must use commercially proven technology and operation procedures.
3. Projects must be sustainable. The owner must demonstrate plans for proper O&M, sufficient revenues to cover costs, and financial capability to replace the project after its useful life.
4. Projects must show clear intent to begin implementation within the following year.

Selection Process

AEA staff and contractors perform life cycle cost analysis of 1) the proposed measure, and 2) the status quo base case. Benefit is estimated as the savings of the proposed measure over the status quo. Projects are ranked by Benefit/Cost (B/C) ratios. Projects with B/C greater than or equal to 1 are eligible for loan and grant funding as available from the PPF and Denali Commission respectively.

For eligible projects, normal savings are estimated for the first few years. The maximum amount of debt these savings could support over the life of the project (15-30 yrs depending on project type) is calculated at the current PPF interest rate (currently 4.6%). The local share is half of this amount, while the grant is the remaining project cost.

Local cost-share is mandatory to demonstrate local "buy-in." Cost-share can be in the form of loans from the PPF or other sources, cash contribution, or a combination of loans and cash.

Energy Efficiency Technical Assistance

Program Description

The Energy Efficiency Technical Assistance Program (EETAP) addresses energy efficiency improvements to help communities with high fuel costs reduce fuel consumption to generate power and to heat major facilities. Phase I of EETAP, in progress, has assisted 10-15 communities in evaluating potential energy efficiency measures and in developing information for them to use in applying for grant or loan funding to implement the measures. Examples of possible measures are installation of electronically-controlled diesel generators, recovery of "waste" heat, replacement of inefficient transformers, installation of high-efficiency lighting in community buildings, and replacement and tuning of boiler systems at schools, and other power system generation and distribution improvements and end use efficiency (conservation) measures at major facilities. (This program does not address substitution of diesel fuel with other energy sources that are not already part of the existing energy system.)

Funding

Existing

AEA has allocated $200,000 toward this program, consisting of

1. $150,000 in Rebuild America funding ($100,000 U.S. Department of Energy (USDOE) and $50,000 AEA capital funds).

2. $50,000 in State Energy Program funding ($37,500 USDOE and $12,500 AEA capital funds.)

All available funding has been allocated.

Proposed

Rebuild America no longer exists. AEA will request additional funds for this program through USDOE's State Energy Program in FY08.

Criteria for Funding Allocation

Eligibility

Eligibility criteria are as follows:

1. The community must have an average residential electric rate of 17.0 cents per kilowatt hour or greater as listed in Table 2.4b of the publication *Alaska Electric Power Statistics 1960-2001* www.iser.uaa.alaska.edu/Publications/akelectricpowerfinal.pdf

2. Eligible participants are certificated electrical utilities, local governments (including cities, boroughs, and other governmental subdivisions), tribal entities, and State of Alaska agencies. The program does not provide assistance to individual residents or businesses.

Selection Process

Communities are selected through a Request for Statement of Interest to receive assistance as follows:

1. Each eligible entity within a community that is interested in participating in the program submits the following:

   a. Fuel Cost. The total cost of diesel and other distilled fuels used for power and heating in the latest year.

   b. Local Match. Local cash match offered for efficiency assessment or measures. Funds from state and federal sources do not qualify as local.

   c. Other Government Funding. Amount of funding assistance from state or federal government agencies that the entity has received for energy

improvements and assessments within the last five years or expects to receive within the next year. Examples of funding assistance are

i. Feasibility, design, and construction projects funded by the Denali Commission, Alaska Native Tribal Health Consortium, U.S. Department of Energy, the USDA Rural Development, the U.S. Department of Commerce, and the Village Safe Water and other State of Alaska programs. Rural Power System, Bulk Fuel upgrade programs and major power system improvements.

ii. Energy audits funded by the state or federal government.

2. AEA sums the total Fuel Cost, Local Match, and Other Government Funding by community based on the submittals from all facilities included in statements of interest. Submittals are ranked using an index based on total Fuel Cost, Local Match per capita, and Other Government Funding per capita. AEA allocates available funding according to the ranking. In order for a community to increase chances of being selected, it is strongly suggested that interested utilities and facility owners coordinate their responses to the request for statement of interest.

Biofuel Development

Program Description

As part of its fish oil biodiesel development activities, AEA will offer a grant to cost-share development and demonstration of a mobile fish oil rendering module in fall 2007.

The Alaska seafood industry processes approximately 4.4 billion pounds of fish annually, producing approximately 2.2 billion pounds of "waste," those portions of the fish not processed for human or industrial consumption. Of that waste, approximately 62 percent is discharged into state waters. The discharged fish waste contains an estimated 13 million gallons of unrecovered fish oil.

The intent of this project is to provide grant funding and technical/business support toward the development, construction, and demonstrated operation of a mobile fish oil recovery module. This module will be employed at, and relocated between, multiple existing processing sites thereby increasing its annual utilization and economic return. It is expected that at some processing sites, the fish oil product will be retained and utilized by the host facility and/or community to displace the use of conventional diesel engine or boiler fuels.

Please refer to the Alaska Energy Authority website for more information: www.akenergyauthority.org.

Funding

Existing

A total of $188,054 is available in grant financing. Project funding contributors include U.S. Environmental Protection Agency through its West Coast Collaborative Diesel Emissions Reduction Program ($90,638), AEA capital funds ($60,545), and University of Alaska Marine Advisory Program ($36,870). The grant recipient will be required to match grant funding with, at a minimum, $90,000 in cash or in kind.

Proposed

No additional funding is proposed.

Criteria for Funding Allocation

Eligibility

1. Commercial seafood processor operating in or near Alaska waters with shore-based, at-sea, and/or barge facilities.

2. Alaska community, community/regional organization, utilities, processing group, CDQ group, regional fishing or marketing association within which seafood processing occurs.

3. Any collaborative grouping or partnership of the above, existing or purpose-formed to respond to this RFP.

Selection Process

Grant applications will be ranked according to the following factors

1. Quality of the proposed operating plan and module concept
2. Fuel displacement/fish oil utilization
3. Project readiness & feasibility
4. Qualifications and experience

Rural Energy Conference Travel Stipends

Program Description

Alaska Energy Authority provides stipends to offset costs of travel to the 1½ yearly Alaska Rural Energy Conference. The Conference is scheduled for September 2008, in Southcentral. Depending on available funding travel stipends will be available. In April 2007 stipend allocations were as follows:

Closest Hub City to Point of Origin	Grant Amount
Barrow	$700
Dutch Harbor/Cold Bay	$1,000
Kodiak, Dillingham, Fairbanks	$500

Nome, Kotzebue, Bethel	$600
King Salmon	$400
Anchorage	$200
Juneau, Sitka, and Ketchikan	$800

Funding

Existing

For the last conference AEA allocated approximately $30,000 of Denali Commission funds.

Proposed

AEA will request $30,000 from the Denali Commission or other agencies for the stipend program for the 2008 conference.

Criteria for Funding Allocation

Eligibility

Stipends are available for rural utility managers, tribal and community leaders, power plant and tank farm operators, State of Alaska and federal agencies, University of Alaska and laboratory researchers, and equipment suppliers. Recent recipients of utility projects are encouraged to attend.

Selection Process

Funding is allocated on a first come-first serve basis. Attendance from one community is limited to three individuals. Applications and a detailed description of the selection process will be posed at the AEA website.

Village End Use Efficiency Measures

Program Description

The Village End Use Efficiency Measures (VEUEM) initiative has provided financing for end use efficiency (energy conservation) measures in 31 rural communities that have received bulk fuel facility or power system upgrades funded by the Denali Commission. Work is being completed by a contractor AEA selected through a request for proposal to provide a complete work package to include: furnish and installation of all wiring, fixtures, thermostats, motors, pumps, and necessary electrical and control system modifications to complete the upgrade of the lighting system and mechanical systems at various buildings. Detailed scope was provided for each building.

AEA plans to expand this program into other communities during 2007 and 2008.

Funding

Existing

AEA has currently budgeted $1.3M in Denali Commission funding for this program.

Proposed

AEA has requested $1 million from Denali Commission for state FY08.

Criteria for Funding Allocation

Eligibility

Communities that have or will receive bulk fuel facility or power system upgrades funded by the Denali Commission.

Selection Process

Communities are selected by the Denali Commission according to the bulk fuel and power system priority list, available at:
www.denali.gov/Program_Documents.cfm?Section=Energy

Wind Energy Assessment

Program Description

This program, also known as the "anemometer loan program," provides hardware and technical assistance to assess local wind resources for development of power projects. AEA maintains a fleet of 30 meteorological (met) towers for loan to communities with high potential for wind-generated electrical power that have operators capable of taking possession of the towers and associated wind monitoring equipment, operating the towers and equipment for approximately one year, and returning the towers and equipment in operable condition to AEA. The met towers are approximately 100 feet tall and consist of nesting tube sections, which are guyed to four anchors with steel cable. In fall 2007 AEA plans to obtain 60-80 meter towers that will be available to assess wind resources for potential deployment of larger turbines.

AEA assists in identifying viable sites, installing and removing the towers, and arranging for federal or state authorizations that may be needed for the placement and operation of the towers, and analyzing collected data. The operator must assume liability associated with the installation of the tower and be responsible for acquiring permission from the landowner for placement and operation of the towers for one year. The operator is responsible for visiting the site every month to replace data storage cards and check that the system is operating adequately. The operator is responsible for replacing equipment that is damaged by the operator's negligence; AEA is responsible for replacing equipment that is damaged for any reason other than the operator's negligence. All data generated from the project is publicly available. AEA staff and contractors are available to analyze data from met towers to the extent within time and budget constraints.

Funding

Existing

Funding for the wind resource assessment program currently totals $542,000 ($495,000 Federal, 47,000 State).

Proposed

AEA has requested $665,000 from USDOE for Railbelt wind energy assessment and planning activities. AEA has offered a match of $165,000 in state capital funds.

Criteria for Funding Allocation

Eligibility

Eligible entities are electric utilities, municipalities, Alaska Native villages, and ANCSA corporations.

Selection Process

In the past, because of limited availability of equipment, AEA selected participants competitively through a Request for Statement of Interest. Currently, AEA is providing wind energy assessment assistance as requested by communities due to the greater availability of MET towers. For further information, contact James Jensen at (907) 269-4682 or JJensen@aidea.org.

Wind Energy Development

Program Description

The Wind Energy Development initiative provided two rounds of funding for construction of wind generation systems in rural Alaska funded by a federal earmark through the USDOE and matching state capital funds.

Funding

Existing

Funds totaling $2.224 M have been made available through this initiative.

Proposed

No further funding requested for FY07 and no additional funding is anticipated.

Criteria for Funding Allocation

Eligibility

Eligibility included local governments (either municipal or tribal), State of Alaska agencies, boroughs and other governmental subdivisions, and certificated electrical utilities. Entities must serve a Power Cost Equalization (PCE) community.

Selection Process

AEA made funds available through a competitive solicitation. Details are posted on AEA website.

Wood Energy Development

Program Description

This program provides funding for assessment, design, and construction of facilities that demonstrate the viable use of wood and/or sawmill waste as a cost-effective way to displace fuel oil for heating schools and other larger facilities in Alaska. Expected benefits will include lower cost, improved or neutral air emissions, local economic development, reduced risk of oil spills, and use of wood waste that may otherwise need to be landfilled.

AEA has provided grant funding to the Juneau Economic Development Council to coordinate feasibility assessment. AEA is providing grant funding to the City of Craig for design and construction of a wood-fired district heating system.

Funding

Existing

Currently AEA has budgeted approximately $669,674 for existing wood energy activities ($530,329 USDOE and Denali Commission and $139,345 AEA capital funds), chiefly construction of the Craig Wood-fired District Heating system and feasibility analyses.

Proposed

No new funding is proposed for wood energy development at this time.

Criteria for Funding Allocation

Eligibility

Eligible parties are local governments (either municipal or tribal), State of Alaska agencies, federal agencies including U.S military installations, public housing authorities, boroughs and other governmental subdivisions, not-for-profit organizations, and certificated electrical utilities.

Selection Process

Projects are selected through Requests for Statements of Interest by the Alaska Wood Energy Development Task Group (Task Group), a coalition of federal and state agencies and other not-for-profit organizations coordinating the State's efforts to explore opportunities to increase the utilization of wood for energy and biofuels production in Alaska.

The Task Group has issued a for assistance for demonstration projects that displace fossil fuels through direct combustion of wood (logs, chunks, chips, bark, sawdust, etc.) for heating schools, other public facilities, and buildings owned and operated by not-for-profit organizations.

The Task Group selected participants based on the following criteria:

1. The opportunity for displacing fuel oil, natural gas, propane or diesel-generated electricity used by targeted facilities for heating needs (i.e., current fuel type, gallons of fuel per year, annual cost per year).
2. Local presence of high-hazard forest fuels and potential for utilizing these fuels for heating schools, other public facilities, and buildings owned and operated by not-for-profit organizations.
3. Availability of local wood processing residues (e.g., sawdust, planer shavings, and slabs).
4. Project cost versus yearly savings (cost-effectiveness).
5. Sustainability of the wood fuel supply.
6. Community support and project advocacy.
7. Ability to implement the project.
8. Ability to operate and maintain the project.

AIDEA Alaska Industrial Development and Export Authority

ALASKA ENERGY AUTHORITY

Alaskan Small-Scale Renewable Energy Equipment and Service Providers*

ABS Alaskan Attn: Tech Support 2130 Van Horn Rd. Fairbanks, AK 99701 Tel: (907) 451-7145 Toll-Free, in Alaska: 800-478-7145 Fax: (907) 451-1949 E-mail: sales@absak.com Web Site: http://www.absak.com	**Polar Wire Products, Inc.** 7941 Brayton Drive Anchorage, AK 99507 Tel: (907) 561-5955 Fax: (907) 561-4233 E-mail: info@polarwire.com Web Site: http://www.polarwire.com
Alaska Battery Mfg. Attn: Sales 166 E. Potter Dr., #2 Anchorage, AK 99518 Tel: (907) 562-4949 Fax: (907) 563-4900 E-Mail: abm@absak.com Web Site: http://www.absak.com	**Remote Power Inc.** Attn: Greg Egan 981 Gold Mine Trail Fairbanks, AK 99712 Tel: (907) 457-4299 Fax: (907) 457-4299 E-mail: greg@remotepowerinc.com Web Site: http://www.remotepowerinc.com
Alaska Wind & Solar Attn: John Dailey HC 1, Box 3102A Healy, AK 99743 Tel: (907) 683-2327 Fax: (907) 683-2327 E-mail: jdailey@mtaonline.net	**Solar-Alaska** Attn: Sales 2480 Killarney Way Fairbanks, Alaska USA 99708 Tel: (907) 479-2505 E-mail: info@solaralaskc.com Web Site: http://www.solaralaska.com/
Arctic Technical Services P.O. Box 72701 1318 Well Street Fairbanks, Alaska 99701 Tel: (907) 452-8368 Fax: (907) 452-8007 E-mail: nrgtech@polarnet.com	**Susitna Energy Systems** Attn: Kirk Garoutle 2509 Fairbanks St., Suite C Anchorage, AK 99503 Tel: (877) 485-1100 (toll-free) Tel: (907) 337-1300 Fax: (907) 644-4120 E-mail: susitna@gci.net Web Site: http://www.susitnaenergy.com/
Invertech Alaska Attn: George Menard P.O. Box 13169 Trapper Creek, AK 99683 Tel: (907) 733-2515 Fax: (907) 733-2515	**Solarwind Energy** Attn: Eric Zuber P.O. Box 304 Sterling, AK 99672 Tel: (907) 260-3782 E-mail: solarwindenergy@hotmail.com

***Alaska Energy Authority does not endorse any of the listed vendors nor represent this list as complete. For proposed additions to the list, please contact James Jensen, AEA at jjensen@aidea.org or (907) 771-3043**

LAWS OF ALASKA

2008

Source
SCS CSHB 152(FIN) am S

Chapter No.
_____

AN ACT

Establishing a renewable energy grant fund and describing its uses and purposes; establishing a renewable energy grant recommendation program; for the fiscal year ending June 30, 2009, authorizing the Alaska Energy Authority to distribute renewable energy grants and setting out the procedures to be followed to award those grants; establishing a state heating assistance program in addition to the federal heating assistance program; establishing an Alaska Renewable Energy Task Force; 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 a renewable energy grant fund and describing its uses and purposes; establishing a renewable energy grant recommendation program; for the fiscal year ending June 30, 2009, authorizing the Alaska Energy Authority to distribute renewable energy grants and setting out the procedures to be followed to award those grants; establishing a state heating assistance program in addition to the federal heating assistance program; establishing an Alaska Renewable Energy Task Force; and providing for an effective date.

*** Section 1.** The uncodified law of the State of Alaska is amended by adding a new section to read:

LEGISLATIVE FINDINGS AND INTENT. (a) For secs. 3 and 6 of this Act, the legislature finds that

(1) an adequate, reliable, reasonably priced, and safe supply of energy is

necessary for Alaska's basic infrastructure and economic and technological development;

(2) Alaska possesses vast amounts of renewable energy resources in the form of wind, solar, geothermal, hydrothermal, wave, tidal, biomass, river in-stream, and hydropower;

(3) the legislature established the Alaska Energy Policy Task Force in 2003 to review and analyze the state's current and long-term energy needs;

(4) the task force found that one of Alaska's long-term energy needs is to identify and evaluate long-term fuel resources, and recommended that the state should increase the proportion of renewables in long-term fuel sources;

(5) the cost of fuels such as natural gas and diesel that Alaskans rely on in large part to generate electric power is steadily rising;

(6) residents of rural Alaska pay far more for electricity than residents who live on the Railbelt energy grid;

(7) there is virtually no fuel cost associated with renewable energy resources;

(8) other states and nations are working successfully to develop their renewable energy resources;

(9) the continued competitiveness and stability of the state's economy requires that the legislature consider national trends toward renewable energy development;

(10) renewable energy technology development promotes industry and creates jobs;

(11) clean renewable energy has many environmental and health benefits;

(12) locally produced renewable energy has many security benefits;

(13) modern, affordable, and efficient renewable energy technologies now exist;

(14) it is in the interest of the public for Alaska to develop its renewable energy resources; and

(15) natural gas can be considered as a last alternative for communities with no other reasonable renewable resources.

(b) It is the intent of the legislature that each year for the next five years $50,000,000 in capital funds be appropriated to fund projects recommended by the Alaska Energy Authority as described in secs. 3 and 6 of this Act.

(c) For sec. 7 of this Act, the legislature finds that

(1) energy issues are among the most critical issues in the state; and

(2) a thorough assessment of present and future state energy needs and requirements is necessary.

* **Sec. 2.** AS 36.30.850(b) is amended by adding a new paragraph to read:

(46) contracts for delivery of home heating assistance under AS 47.25.626.

* **Sec. 3.** AS 42.45 is amended by adding a new section to read:

Sec. 42.45.045. Renewable energy grant fund and recommendation program. (a) A renewable energy grant fund is established as a separate fund to finance certain energy projects in Alaska.

(b) The authority shall administer the fund as a fund distinct from other funds of the authority. The fund consists of

(1) money appropriated to the fund by the legislature to provide grants for certain energy projects determined by the legislature;

(2) gifts, bequests, contributions from other sources, and federal money;

(3) interest earned on the fund balance; and

(4) investments to be managed by the Department of Revenue, which shall be the fiduciary of the fund under AS 37.10.071.

(c) The fund is not a dedicated fund.

(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;

(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.

(e) In consultation with the advisory committee established in (i) of this section, the authority shall make recommendations to the legislature regarding eligible applicants' projects that finance feasibility studies, reconnaissance studies, energy resource monitoring, and construction of renewable energy projects, natural gas projects, or transmission or distribution infrastructure located in Alaska that meet the requirements of (f), (g), or (h) of this section, as applicable, and shall, at least once each year, solicit from the advisory committee funding recommendations for all grants.

(f) For a renewable energy project to qualify for a grant recommendation under (e) of this section, the project must

(1) be a new project not in operation on the effective date of this section or an addition to an existing project made after the effective date of this section; and

(2) be a

(A) hydroelectric facility;

(B) direct use of renewable energy resources;

(C) facility that generates electricity from fuel cells that use hydrogen from renewable energy resources or natural gas; or

(D) facility that generates energy from renewable energy resources.

(g) To qualify for a grant recommendation under (e) of this section, a project that is a natural gas project must benefit a community that

(1) has a population of 10,000 or less; and

(2) does not have economically viable renewable energy resources it can develop.

(h) To qualify for a grant recommendation under (e) of this section, transmission or distribution infrastructure must link a renewable energy project or natural gas project to the transmission or distribution infrastructure. A grant may be recommended under this subsection even if the grant applicant is not itself financing the construction of the renewable energy project or natural gas project.

(i) An advisory committee is established and consists of seven members, appointed as follows:

(1) five members shall be appointed by the governor to staggered three-year terms, with one representative to be appointed from each of the following groups:

(A) small Alaska rural electric utilities;

(B) large Alaska urban electric utilities;

(C) Alaska Native organizations;

(D) businesses or organizations engaged in the renewable energy sector; and

(E) the Denali Commission established under P.L. 105-277, 42 U.S.C. 3121 note;

(2) one member of the house of representatives shall be appointed by the speaker of the house of representatives; and

(3) one member of the senate shall be appointed by the president of the senate.

(j) A member of the advisory committee appointed under (i) of this section serves without compensation but is entitled to travel and per diem expenses as provided in AS 39.20.180.

(k) The legislature may appropriate money for grants from the renewable energy grant fund for renewable energy projects described in this section.

(*l*) In this section,

(1) "eligible applicant" means an electric utility holding a certificate of public convenience and necessity under AS 42.05, independent power producer, local government, or other governmental utility, including a tribal council and housing authority;

(2) "fund" means the renewable energy grant fund;

(3) "hydroelectric facility" has the meaning given to the term "project" under AS 42.45.350;

(4) "natural gas project" means use or access of natural gas other than landfill or digester gas;

(5) "renewable energy resources" means

(A) wind, solar, geothermal, wasteheat recovery, hydrothermal, wave, tidal, river in-stream, or hydropower;

(B) low-emission nontoxic biomass based on solid or liquid organic fuels from wood, forest and field residues, or animal or fish products;

(C) dedicated energy crops available on a renewable basis; or

(D) landfill gas and digester gas.

* **Sec. 4.** AS 47.25 is amended by adding new sections to read:

Article 3A. Alaska Heating Assistance Program.

Sec. 47.25.621. Alaska heating assistance program. (a) The Alaska 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 appropriated by the legislature for that purpose.

(b) The 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. 47.25.622. Duties. The department shall

(1) administer the Alaska 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. 47.25.623. Eligibility. An individual is eligible for home heating assistance payments under the Alaska home 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) 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. 47.25.624. Appeal rights. Except as provided in AS 47.25.626(e), an individual who receives a determination from the department that denies, limits, or modifies home heating payments under AS 47.25.621 - 47.25.626, other than a determination based on insufficient funding of the program, may request a hearing before the department under regulations adopted by the department.

Sec. 47.25.625. Ability to recover or recoup improper home heating assistance payments. An individual is liable to the department for the value of assistance improperly paid under AS 47.25.623 if the improper payment was based on inaccurate or incomplete information provided by the individual. In a civil action brought by the state to recover from the individual the value of the assistance improperly paid, the state may recover from the individual the costs of investigation and prosecution of the civil action, including attorney fees as determined under court rules.

Sec. 47.25.626. Regional heating assistance program. (a) The 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).

(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 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.

(c) The department may award a contract under this section only to an organization that

(1) has been awarded a tribal energy assistance grant under 42 U.S.C. 8623(d) for a program that includes that region;

(2) agrees to administer home heating assistance under AS 47.25.621 - 47.25.626 to state residents in the region; and

(3) agrees to implement an appeals process as described in (e) of this section.

(d) Records pertaining to recipients of home heating assistance under a contract awarded under this section are confidential and not subject to disclosure under AS 40.25.100 - 40.25.220.

(e) An organization that receives a contract under this section shall provide an appeals process to applicants for or recipients of home heating assistance covered by the contract awarded under this section. The appeals process must be the same as the method available under AS 47.25.624, except that the decision reached shall be considered a recommended decision to the department. Within 30 days after receiving a recommended decision, the department shall review the recommended decision and issue a decision accepting or rejecting the recommended decision. If the department rejects the recommended decision, the department shall independently review the record and issue its final decision. The final decision of the department on the matter is appealable to the courts of this state.

(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. 5.** AS 42.45.045 is repealed June 30, 2013.

* **Sec. 6.** The uncodified law of the State of Alaska is amended by adding a new section to read:

RENEWABLE ENERGY GRANTS DURING STATE FISCAL YEAR 2009. (a) For the fiscal year ending June 30, 2009, from an appropriation made under the statement of intent set out in sec. 1(b) of this Act, the Alaska Energy Authority shall distribute grants to applicants determined by the authority and that meet the criteria in AS 42.45.045(f) - (h), added by sec. 3 of this Act, based on the procedure described in (b) of this section.

(b) For administering grants under AS 42.45.045(f) - (h), added by sec. 3 of this Act, for the fiscal year ending June 30, 2009, notwithstanding AS 42.45.045(d), (e), and (i) - (*l*), added by sec. 3 of this Act,

(1) the Alaska Energy Authority shall submit to the Legislative Budget and Audit Committee for review a revised program setting out the proposed grants;

(2) 45 days shall elapse before commencement of expenditures under the revised program unless the Legislative Budget and Audit Committee earlier recommends otherwise;

(3) should the Legislative Budget and Audit Committee recommend within the 45-day period that the Alaska Energy Authority not award the grants as set out in the revised program, the Alaska Energy Authority shall again review the grant applications and, if the Alaska Energy Authority determines to authorize the expenditures, the Alaska Energy Authority shall provide the Legislative Budget and Audit Committee with a statement of the Alaska Energy Authority's reasons before commencement of expenditures making the approved grants.

* **Sec. 7.** The uncodified law of the State of Alaska is amended by adding a new section to read:

ALASKA RENEWABLE ENERGY TASK FORCE. (a) There is established in the legislative branch of state government the Alaska Renewable Energy Task Force. The task force consists of seven voting members appointed as follows:

(1) the speaker of the house of representatives shall appoint three members from the house of representatives;

(2) the president of the senate shall appoint three members from the senate; and

(3) the governor shall appoint one member.

(b) The chair of the task force shall be a legislative member selected by a majority vote of the members of the task force. The staff of the members who are legislators shall serve as staff to the task force.

(c) The task force shall prepare a report that includes

(1) an assessment of future statewide renewable energy needs; and

(2) recommendations for a statewide energy plan to fulfill the state's renewable energy needs.

(d) Members of the task force are entitled to transportation expenses and per diem allowances provided by law.

(e) The task force shall meet at least four times. The task force may meet in communities in the state that are using or considering sources of renewable energy.

(f) The task force shall submit written reports of its findings and recommendations to the legislature

(1) before March 1, 2009; and

(2) before March 1, 2010.

(g) The Alaska Renewable Energy Task Force is terminated on April 16, 2010.

*** Sec. 8.** The uncodified law of the State of Alaska is amended by adding a new section to read:

TRANSITION: RENEWABLE ENERGY PROJECT ADVISORY COMMITTEE. For the initial appointments made to the advisory committee under AS 42.45.045(i)(1), added by sec. 3 of this Act, two members serve for one year, two for two years, and three for three years.

*** Sec. 9.** The uncodified law of the State of Alaska is amended by adding a new section to read:

TRANSITION: RETROACTIVITY OF REGULATIONS. Notwithstanding a contrary provision of AS 44.62.240, if the Department of Health and Social Services expressly

designates in a regulation adopted under AS 47.25.622(2), enacted by sec. 4 of this Act, that the regulation applies retroactively to November 1, 2007, and is necessary to implement, interpret, make specific, or otherwise carry out AS 47.25.621 and 47.25.623, enacted by sec. 4 of this Act, the regulation may apply retroactively to November 1, 2007.

* **Sec. 10.** Sections 1(c) and 7 of this Act are repealed April 16, 2010.

* **Sec. 11.** The uncodified law of the State of Alaska is amended by adding a new section to read:

RETROACTIVITY OF CERTAIN PROVISIONS OF THIS ACT. AS 47.25.621 and 47.25.623, enacted by sec. 4 of this Act, are retroactive to November 1, 2007.

* **Sec. 12.** Sections 2, 4, 9, and 11 of this Act takes effect immediately under AS 01.10.070(c).

2-05-09 Overview: Alaska Housing Finance Corporation

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646

Alaska Housing FINANCE CORPORATION

Housing for Alaskans.

Energy-Efficiency Programs

Progress Update for Alaska Legislature 2.2.2009

Weatherization PROGRAM

Home Energy Rebate PROGRAM

Overview

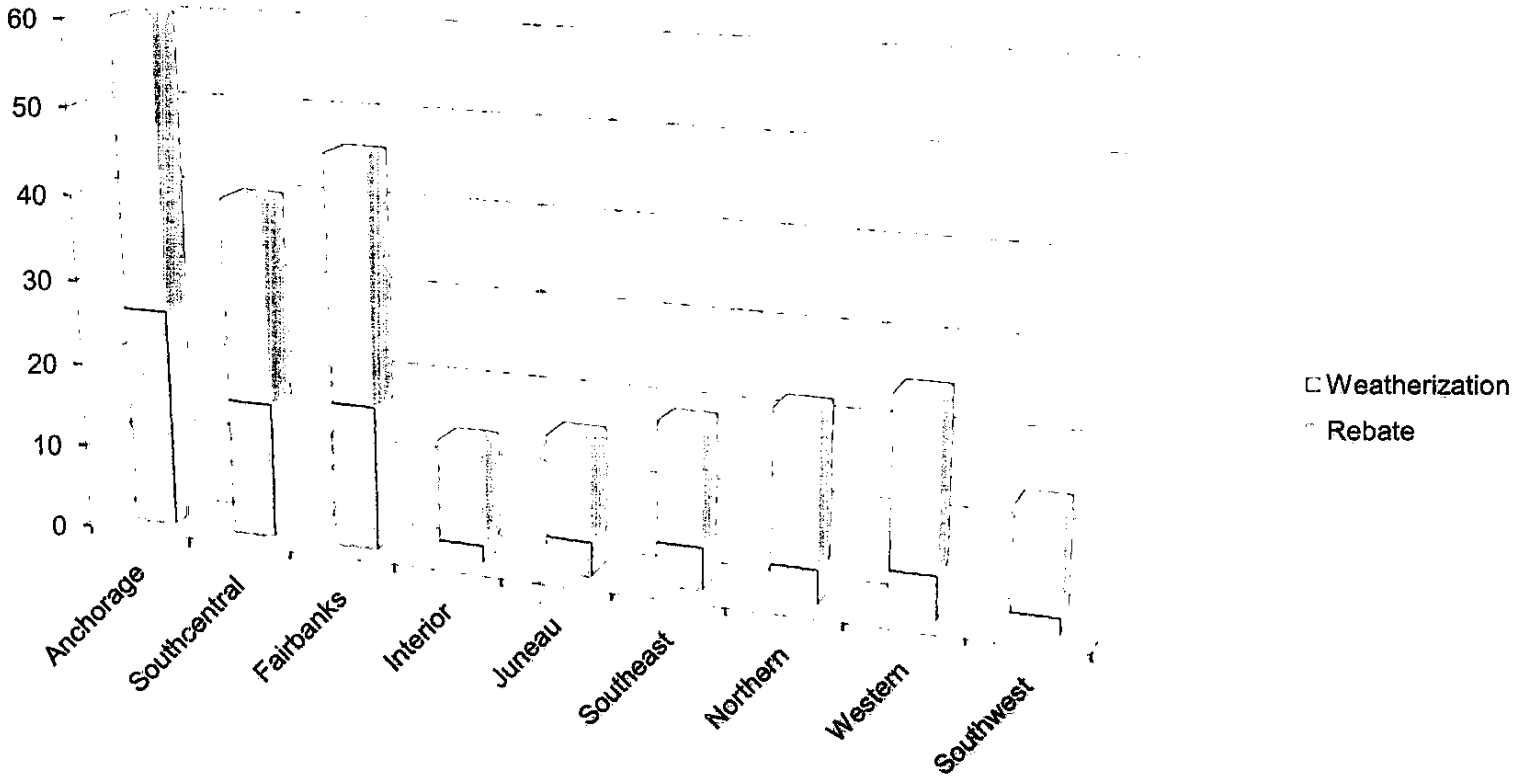
- $200 million for **weatherization**
  (income-based, no-cost program)
- $100 million for **rebates**
  (for those NOT qualifying for weatherization program:
  rebates for eligible improvements - ratings required)
- $60 million additional for rebates 9/2008
  (to carry program into 2009 calendar year)
- Large training component for both programs

Allocations

	Rebate	Weatherization
Anchorage Region	$26 million	• $34 million
Southcentral Region	$16 million	• $24 million
Fairbanks Region	$17 million	• $29 million
Interior Region	$2 million	• $12 million
Juneau Region	$4 million	• $12 million
Southeast Region	$5 million	• $14 million
Northern Region	$4 million	• $18 million
Western Region	$5 million	• $20 million
Southwest Region	$2 million	• $12 million

Rebate & Weatherization Allocations

$300 million



Alaska Housing

2.2.2009

Program Start-Up

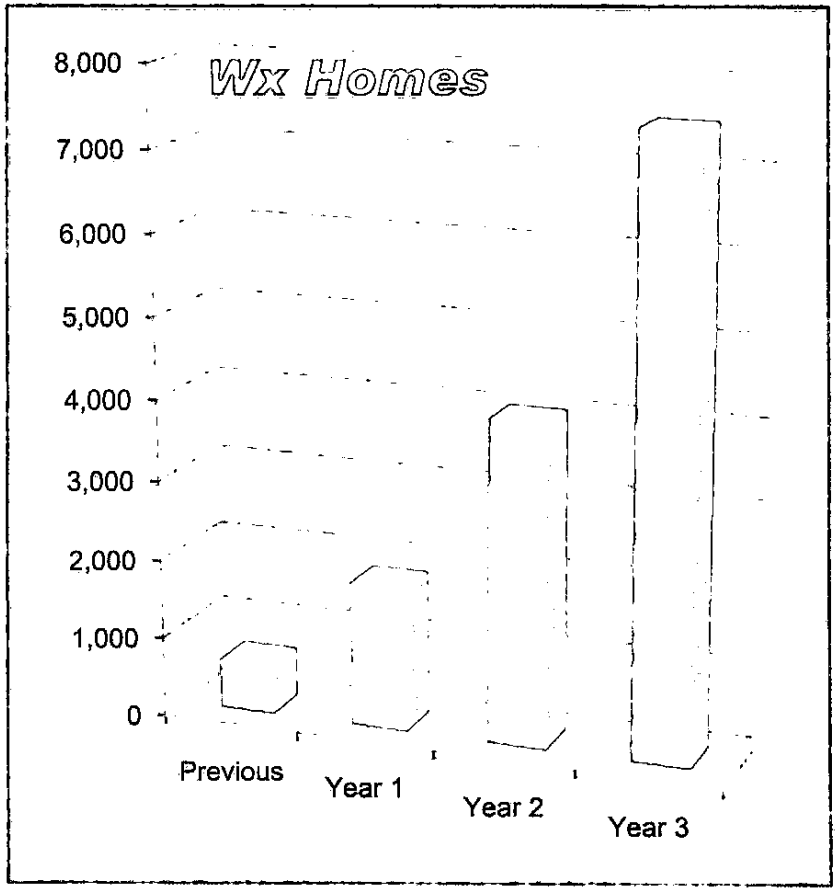
- April 2008: Programs approved
  - AHFC operates under emergency regulations
  - Training & personnel ramp-up started
- May 2008: Programs launched
- July 2008: Public hearing & final regulations adopted
- Summer 2008: Continued ramp-up & training

Weatherization
PROGRAM

Weatherization PROGRAM

Progress Report

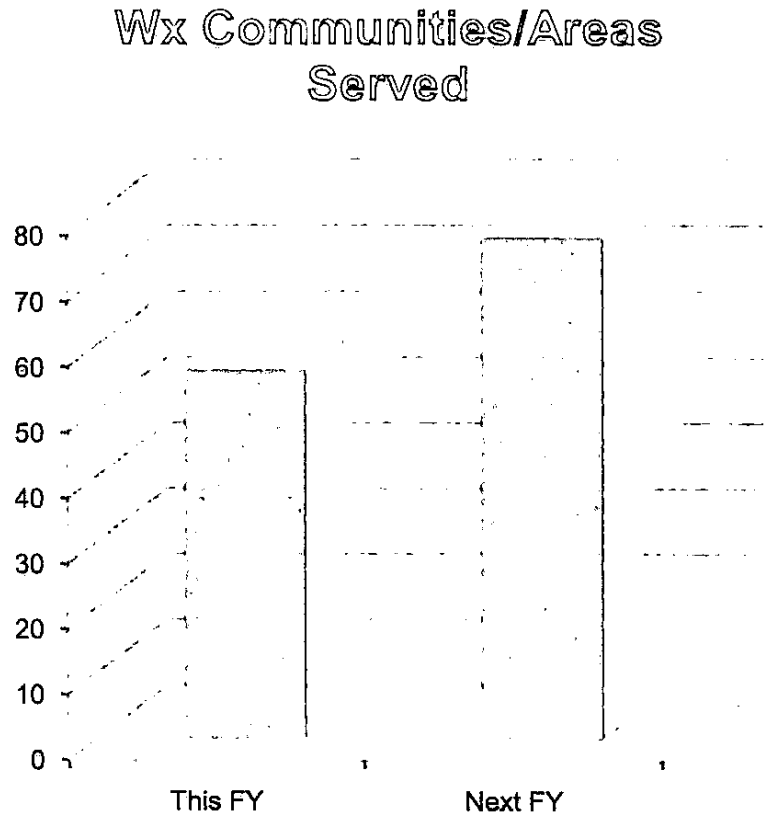
- Previous program weatherized 600 homes.
- This year that number will triple to 1800.
- Year 2: 4000
- Year 3: 7500



Weatherization PROGRAM

Progress Report

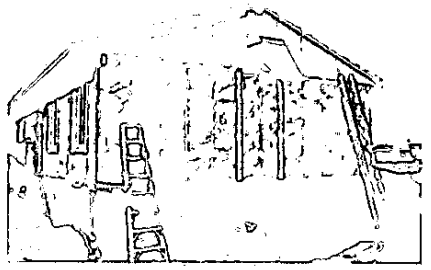
- $30 million currently on the street.
- $59.9 million projected for next fiscal year.
- Communities and surrounding areas served: 56 this year and 76 next year.
- Statewide weatherization providers & housing authorities continue ramping up.



Weatherization PROGRAM

Program Snapshot

Weatherization homes this fiscal year



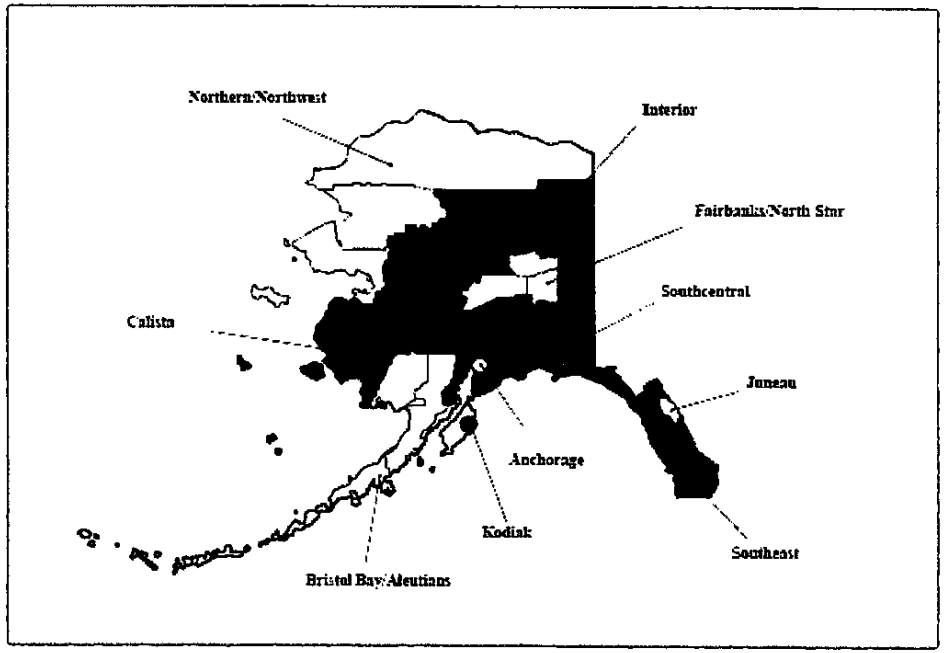
Current Status of Wx Homes

700	Completed
500	Near Completion
600	Assessment/Early Construction

Weatherization
PROGRAM

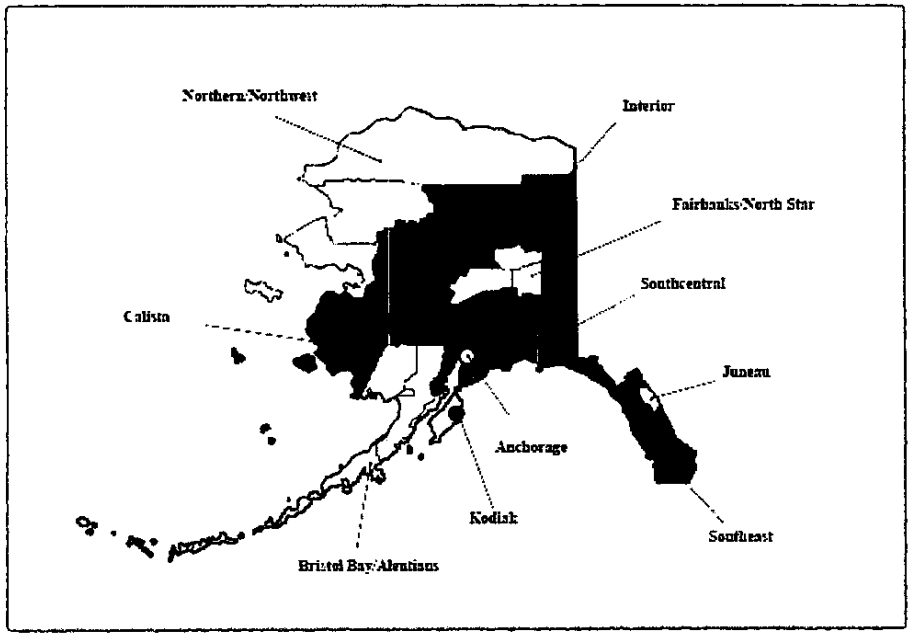
Statewide Weatherization Providers

- Alaska Community Development Corporation
- Interior Weatherization
- Municipality of Anchorage
- Rural Community Action Program
- RuralCap-Juneau
- Tanana Chiefs Conference



Weatherization
PROGRAM

Alaska Housing Authorities Weatherization



- Aleutian Housing Authority
- AVCP Regional Housing Authority
- Baranof Island Housing Authority
- Bering Straits Regional Housing Authority
- Bristol Bay Housing Authority
- Cook Inlet Housing Authority
- Copper River Basin Reg. Housing
- Interior Regional Housing Authority
- Kodiak Island Housing Authority
- North Pacific Rim Housing Authority
- Northwest Inupiat Housing Authority
- Tagiugmiullu Nunamiullu (TNHA) through North Slope Borough
- Tlingit-Haida Regional Housing Authority
- Ketchikan Indian Community
- Metlakatla Housing Authority

Home Energy Rebate
PROGRAM

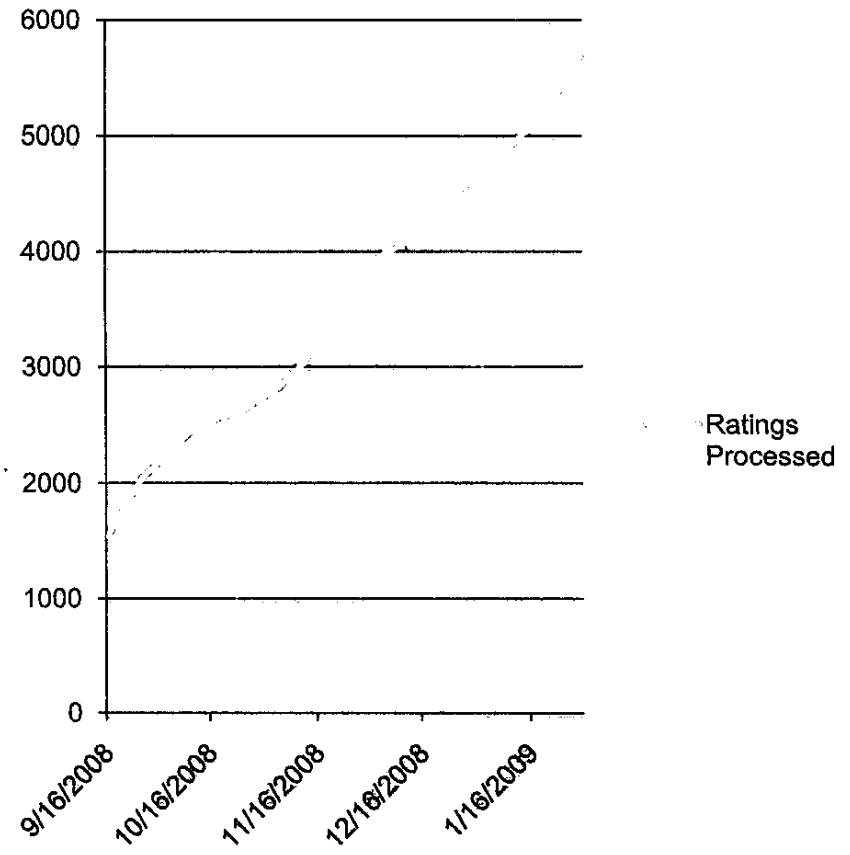
Alaska Housing
FINANCE CORPORATION

www.ahfc.state.ak.us/energy

Home Energy Rebate PROGRAM

Ratings Processed

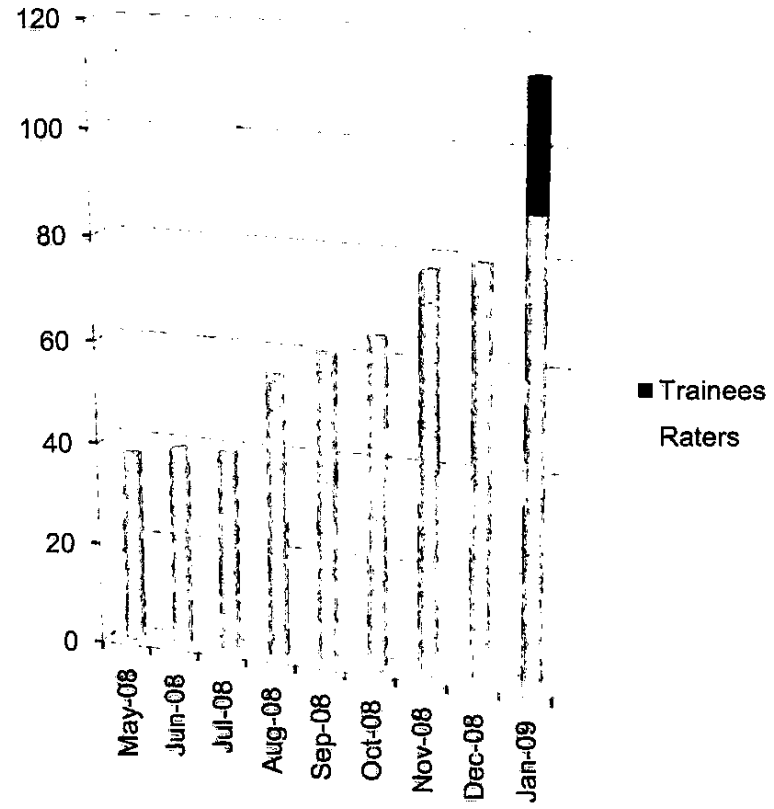
- *Estimate: Over* 8000 ratings performed by raters
- 5681 ratings processed
- Approximately $53.8 million committed
- 100-150 applications received per day
- Over 200 inquiries per day
- 329 Post-Improvement rebates paid average: $5907
- 162 New 5 Star Plus rebates paid totaling $1.2 million



Home Energy Rebate PROGRAM

Rater Availability

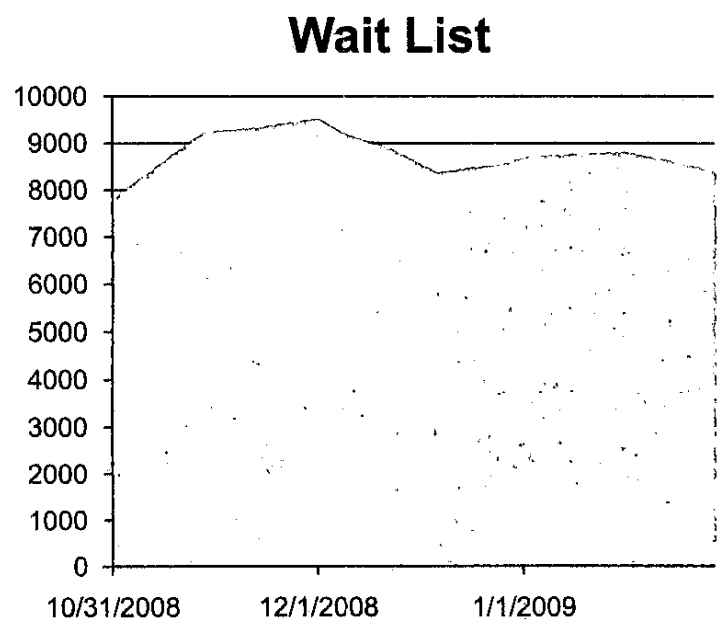
- Raters
  - 38 at program start
  - 89 at present
  - 24 in training status
- Roving rater program
- Centralized sign-up list
  - www.akrebate.com or call 1-877-AK-REBATE
  - Ability to check place on waiting list



Home Energy Rebate PROGRAM

Wait List

Statewide: 8380



Sample Communities

Anchorage-5882

Kodiak-181

Juneau-96

Fairbanks-40

Bethel-3

Dillingham-4

Total Dispatched: 6441

Alaska Housing

www.ahfc.state.ak.us/energy

1/30/2009

Home Energy Rebate PROGRAM

Program Snapshot

Rebates vs. Amount Spent by Sampled Homeowners

AHFC Rebate Amount

$1,782,664

divided by 300 rebates

= **$5942** average rebate

Homeowner Paid Costs

=$9,470 average spent

-$5942 average rebate

=$3528 homeowner investment

Alaska Housing

www.ahfc.state.ak.us/energy

Home Energy Rebate PROGRAM

Program Snapshot

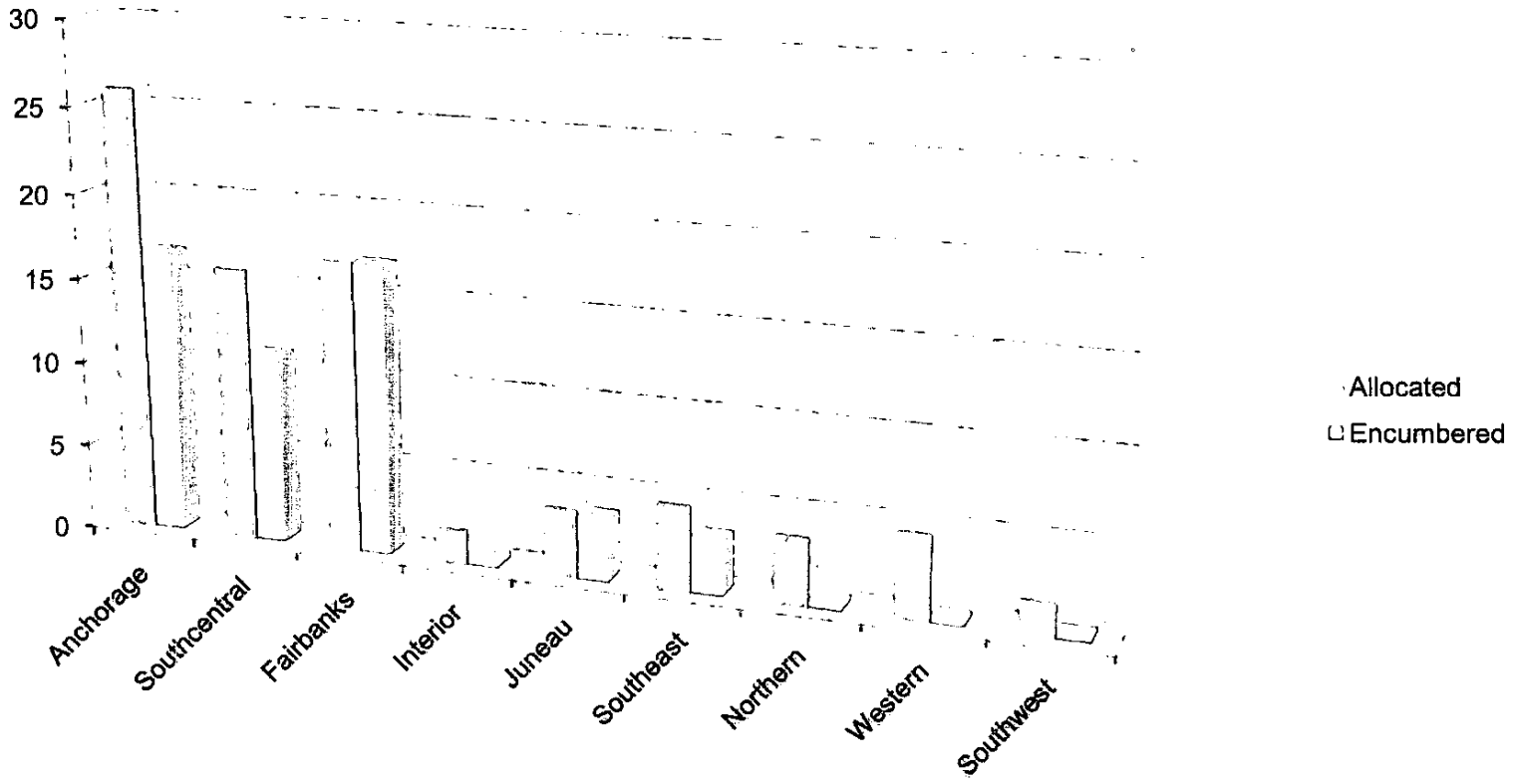
Energy & CO2 Impacts from Sampled Homes

HOMES	Before	After	Total Savings	Per Home
Energy Cost	$1,211,080	$941,242	$269,837	$1355/year
CO2 lbs/year	9,627,880	7,194,342	2,433,538	12,228 lbs/yr
Rating Stars	2.8	4.1		1.21 increase

Total energy saved in BTUs = 17.2 billion

Home Energy Rebate PROGRAM

Original Allocation vs Encumbrances by Region (millions $)*



**Does not include additional $60 million*

1.29.2009

Home Energy Rebate PROGRAM

	Allocated	Encumbered
Anchorage Region	$26 million	• $16.6 million
Southcentral Region	$16 million	• $11 million
Fairbanks Region	$17 million	• $16.9 million
Interior Region	$2 million	• $0.36 million
Juneau Region	$4 million	• $3.6 million
Southeast Region	$5 million	• $3.2 million
Northern Region	$4 million	• $0.36 million
Western Region	$5 million	• $0.25 million
Southwest Region	$2 million	• $0.19 million

Allocations do not include additional $60 million

Alaska Housing Finance Corporation

www.ahfc.state.ak.us/energy

1.29.2009

Training

Weatherization
PROGRAM

Home Energy Rebate
PROGRAM

Alaska Housing Finance Corporation

www.ahfc.state.ak.us/energy

Training

Classes for:

- Weatherization Service Providers
- Housing Authorities
- Energy Raters
- Contractors
- General Public

Training Progress Report

April-December 2008

Professional Classes: 121

Professional Students: 2615

Consumer Classes: 13

Consumer Students: 464

TOTAL Classes: 134

TOTAL Students: 3079

Training provided in 14 regional communities

- Cordova
- Fairbanks
- Juneau
- Hydaburg
- Ketchikan
- King Salmon
- Kodiak
- Kotzebue
- Nome
- Palmer/Wasilla
- Seward

Alaska Housing

www.ahfc.state.ak.us/energy

Weatherization PROGRAM

Home Energy Rebate PROGRAM

Training Partners

- Alaska Building Science Network
- Alaska Works
- Alaska Craftsman Home Program
- Northern Building Science Group
- UAF Cooperative Extension
- UAS Building Science Program
- Wisdom & Associates
- Cold Climate Housing Research Center
- Opportunity Council
- Building Performance Institute

Alaska Housing Finance Corporation

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Weatherization PROGRAM

Home Energy Rebate PROGRAM

Alaska Housing
FINANCE CORPORATION

Housing for Alaskans.

Energy-Efficiency Programs

Weatherization
PROGRAM

Home Energy Rebate
PROGRAM

WITH HEATED GARAGE INCLUDED

Alaska Housing
FINANCE CORPORATION

HOME ENERGY RATING CERTIFICATE

The Home Located At:
XXX N Douglas HWY
Juneau, Alaska

Has Been Energy-Rated As:

★+

One Star Plus

Overall Efficiency of Home
48.9 points

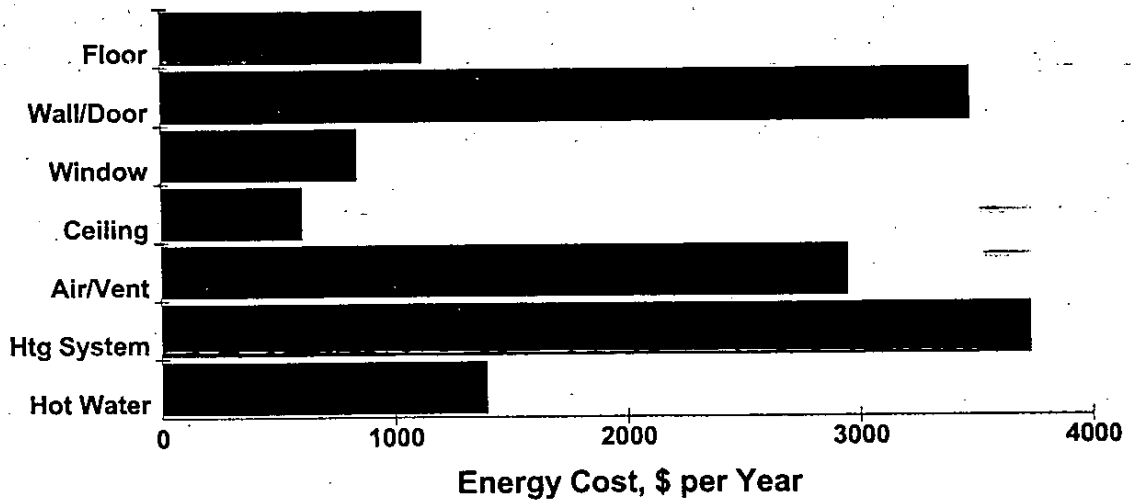
Projected Annual Energy Costs

$15,435 per year

Amount of CO2 Produced by the Home

54,382 pounds per year

BREAKDOWN OF HEATING COSTS



Client: Rating Sample **Rater:** Marquam George **Date:** 1/2/09

Rater's City:~b Juneau, AK 99801 Phone: **907 209 4444** FAX:

ver. 1.03d, library: 11/8/2008

ENERGY COST AND FEATURES REPORT

Property: Rating Sample
XXX N Douglas HWY
Juneau, Alaska

Rater: Marquam George
Juneau, AK 99801

House: Single Family
Living Floor Area: 3,043 square feet
No Attached Garage

Rating: As Is

ENERGY FEATURES

Envelope Efficiency

Floor Insulation	R-11.3 *
Wall/Door Insulation	R-5.5 *
Ceiling Insulation	R-21
Window R-Value	R-1.51
Window to Wall Ratio, Living Space	11.6%
South Facing Window Area	114 square feet
Air Leakage	12.8 Air Changes per Hour at 50 Pascals 0.86 Air Changes per Hour Natural

* Includes the insulating value of the ground in contact with these envelope components.

Space Heating System

System Efficiency	85%
Fuel Type	#2 Oil
Supplemental Fuel	Spruce Wood
Thermostat Setting	70.0 degrees F
Setback Thermostat	None

Water Heater

Efficiency	61%
Location	Semi-Conditioned Space
Fuel Type	#2 Oil

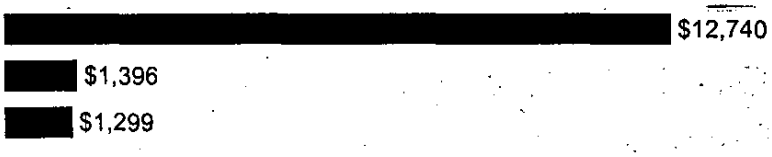
Ventilation

System Type	None

Other

Number of Occupants	5
Clothes Dryer Fuel	Electricity
Cooking Range Fuel	Propane
Miscellaneous Lights/Appliances Use	Average

ESTIMATED ENERGY USE



Space Heating 742 kWh of Electricity, 2,136 gallons of #2 Oil, 15.54 cords of Spruce Wood
Water Heating 289 gallons of #2 Oil
Lights and Appliances 8,741 kWh of Electricity, 56 gallons of Propane

Actual use and costs may vary from these estimates depending upon weather conditions, occupant life styles and utility rates currently in effect.

ver. 1.03d, library: 11/8/2008

Economics of Energy Efficiency

This calculator determines the rate of return (interest earned) and the net present value of an energy-saving investment. Fill out the 'Inputs' section below and click the 'Calculate' button to complete the calculation.

Inputs

Description

You can enter a description of this calculation in the box below.

02/05/2009 Sample Rating w/Garage

Investment Cost of Measure

Enter the up-front cost of the efficiency measure and the number of years that the measure will produce savings.

Cost of Measure: $ 25000 **Life of Measure:** 25 years

Annual Energy Savings

Enter the dollars of energy savings that will be realized from the measure in the first year. Also, select how fast you think energy prices will increase in the future.

First Year Savings: $ 9803 **Energy Price Inflation:** 3% per year

Annual Operating Cost Impact

Enter any operating and maintenance cost impact caused by the efficiency measure (not counting energy savings). If operating and maintenance costs go up due to the measure, enter a positive number below. If operating costs decrease due to the measure, enter a negative number. Also, enter your estimate of how fast the impact will increase in future years due to price inflation.

Operating Cost Impact: $ 0 **Op. Cost Inflation:** 3% per year

Financing Interest Rate

Enter the interest rate of the money that will be used to finance this efficiency measure. *NOTE: This input is only used in the net present value calculation, not in the internal rate of return calculation.*

Financing Interest Rate: 7% per year

Click Here to Calculate the Results: Calculate

Results

Internal Rate of Return: 42.2% per year

This rate of return can be compared against the rates of returns or interest rates of alternative investments, such as stocks, bonds, certificates of deposit, etc. If energy costs are not tax deductible, which is the case with residential energy costs, the rate of return of the efficiency measure is an *after-tax* return. It should be compared against *tax-free* investments (e.g. tax-free municipal bonds) or against the after-tax rate of return of taxable investments.

Net Present Value: $ 125531

If the Net Present Value (NPV) is greater than $0, then the energy efficiency measure provides a better return than the alternative investment. The NPV is calculated by adding together all the benefits of the efficiency measure over its life and subtracting out the costs. Benefits and costs are "discounted" to account for the time-value of money (the ability of money to earn interest).

The Net Present Value is a better measure to use than Internal Rate of Return when comparing a number of possible efficiency measures that are "mutually exclusive", meaning only *one* can be implemented. For example, NPV is a

good measure to use when trying to determine what level of insulation to add to an attic. Only one level of insulation can be chosen, i.e. they are mutually exclusive. Analyze each level of insulation as a separate calculation in the above calculator. Choose the level that produces the highest NPV.

If you have questions or comments, please send mail to info@energytools.com.

AkWarm Energy Efficiency Improvement Options

Property: **Sample Rating**
XXXX N Douglas Hwy.
Juneau, AK 99801

House: Single Family
Heated Floor Area: 3,043 sq.ft

Rater: Marquam George
Juneau, AK 99801
907 209 4444

ID:

As-Is Rating: One Stars Plus, 48.9 points
Additional Rating Points needed to reach higher Rating Levels:
1.1 more points needed to reach **2 Stars** (a minimum 5 point increase is required to receive an AHFC rebate)
11.1 more points needed to reach **2+ Stars**
19.1 more points needed to reach **3 Stars**
24.1 more points needed to reach **3+ Stars**
29.1 more points needed to reach **4 Stars**
34.1 more points needed to reach **4+ Stars**
39.1 more points needed to reach **5 Stars**
43.1 more points needed to reach **5+ Stars**

The following are possible energy-saving improvements for your home.
Note: The "*Ballpark Cost*" column gives a very approximate cost of the improvement assuming a typical situation. You should only rely on an actual contractor quote or a more refined cost estimate. The "*Break-Even Cost*" column provides a useful figure to compare with a more accurate cost estimate. The Break-Even cost is the *most* you could pay for the improvement and still have it be cost-effective based on energy savings over the life of the measure.

Improvement Description / Location	Cost-Effective?[1]	Annual Savings[2]	Ballpark Cost[3]	Break-Even Cost[4]	Rating Points Gained[5]	Rating, after all Improvements thru this one[6]
Add R-14 rigid foam to interior or exterior of existing wall; cost does not include wall coverings. Location - Above-Grade Wall: House/lower	Yes	$559	$148	$7,331	2.3	51.2 points 2 Stars Increase: 2.3 pts, 1 step
Install a Programmable Thermostat; zone controls extra	Yes	$779	$250	$7,651	1.6	52.8 points 2 Stars Increase: 3.9 pts, 1 step
Install R-14 rigid foam board to interior or exterior side of wall. Does not include coverings or excavation costs. Location - Below- (part or all) Grade Wall: House/second/crawl	Yes	$439	$278	$5,756	1.9	54.7 points 2 Stars Increase: 5.8 pts, 1 step
Install R-21 insulation on basement wall Location - Below- (part or all) Grade Wall: House	Yes	$1,620	$1,344	$21,233	7.1	61.8 points 2+ Stars Increase: 12.9 pts, 2 steps
Install 4' of R-10 rigid board insulation on Perimeter of Crawl Space Floor. Location - On- or Below-Grade Floor, Perimeter: House/second/crawl	Yes	$84	$195	$1,105	0.3	62.1 points 2+ Stars Increase: 13.2 pts, 2 steps
Install 2' of R-14 rigid board insulation around perimeter of Slab (vertical or horizontal). Location - On- or Below-Grade Floor, Perimeter: House/garage	Yes	$202	$499	$2,648	0.9	63.0 points 2+ Stars Increase: 14.1 pts, 2 steps

Improvement Description / Location	Cost – Effective?[1]	Annual Savings[2]	Ballpark Cost[3]	Break-Even Cost[4]	Rating Points Gained[5]	Rating, after all Improvements thru this one[6]
Install 2' of R-14 rigid board insulation around perimeter of Slab (vertical or horizontal). Location - On- or Below-Grade Floor, Perimeter: House/lower	Yes	$313	$774	$4,102	1.4	64.4 points 2+ Stars Increase: 15.5 pts, 2 steps
Caulk and Seal so that Home Air Leakage is Reduced by 4000 CFM at 50 Pascals.	Yes	$3,016	$4,000	$20,126	11.8	76.2 points 3+ Stars Increase: 27.3 pts, 4 steps
Remove existing glass and install triple lowE arg glass. Location - Window/Skylight: House/sp	Yes	$417	$1,223	$5,469	1.8	78.0 points 4 Stars Increase: 29.1 pts, 5 steps
Remove existing door and install standard pre-hung R-14 insulated door, including hardware. Location - Exterior Door: House/garage/man	Yes	$135	$404	$1,774	0.6	78.6 points 4 Stars Increase: 29.7 pts, 5 steps
Remove existing glass and install triple lowE arg glass. Location - Window/Skylight: House/garage	Yes	$119	$376	$1,564	0.5	79.1 points 4 Stars Increase: 30.2 pts, 5 steps
Add R-14 rigid foam to interior or exterior of existing wall; cost does not include wall coverings. Location - Above-Grade Wall: House/wood/lower	Yes	$100	$444	$1,309	0.4	79.5 points 4 Stars Increase: 30.6 pts, 5 steps
Add R-14 rigid foam to interior or exterior of existing wall; cost does not include wall coverings. Location - Above-Grade Wall: House/garage	Yes	$255	$1,135	$3,342	1.1	80.6 points 4 Stars Increase: 31.7 pts, 5 steps
Add R-14 rigid foam to interior or exterior of existing wall; cost does not include wall coverings. Location - Above-Grade Wall: House	Yes	$489	$2,420	$6,405	2.1	82.7 points 4 Stars Increase: 33.8 pts, 5 steps
Add R-30 fiberglass batts to attic Location - Ceiling w/ Attic: House/garage	Yes	$158	$943	$2,077	0.7	83.4 points 4+ Stars Increase: 34.5 pts, 6 steps
Add R-30 fiberglass batts to attic Location - Ceiling w/ Attic: House	Yes	$363	$2,171	$4,757	1.6	85.0 points 4+ Stars Increase: 36.1 pts, 6 steps
Remove existing glass and install triple low E argon glass. Location - Window/Skylight: House/other	Yes	$148	$956	$1,935	0.7	85.7 points 4+ Stars Increase: 36.8 pts, 6 steps
Remove existing glass and install triple low E argon glass. Location - Window/Skylight: House/south	Yes	$56	$392	$739	0.2	85.9 points 4+ Stars Increase: 37.0 pts, 6 steps
Remove existing glass and install triple low E argon glass. Location - Window/Skylight: House/d/.5	Yes	$124	$972	$1,625	0.6	86.5 points 4+ Stars Increase: 37.6 pts, 6 steps

Improvement Description / Location	Cost – Effective?[1]	Annual Savings[2]	Ballpark Cost[3]	Break-Even Cost[4]	Rating Points Gained[5]	Rating, after all Improvements thru this one[6]
Remove existing door and install standard pre-hung R-14 insulated door, including hardware. Location - Exterior Door: House/garage/oh	Yes	$307	$2,514	$4,025	1.3	87.8 points 4+ Stars Increase: 38.9 pts, 6 steps
Remove existing glass and install triple low E argon glass. Location - Window/Skylight: House/south/.5	Yes	$118	$1,019	$1,551	0.5	88.3 points 5 Stars Increase: 39.4 pts, 7 steps
Replace Oil-fired tank-type water heater with efficient "side arm" to 40,000 Btu boiler	No	$0	$850	$0	0.0	88.3 points 5 Stars Increase: 39.4 pts, 7 steps
Total, All Measures		**$9,803**	**$23,309**	**$106,525**	**39.4**	

Annual CO2 Reduction after all improvements: 36,293 pounds per year

Notes:

1. *Cost-Effective* means that the energy savings that occur over the life of the improvement are sufficient to pay back the cost of the improvement including reasonable interest. This analysis does not consider additional benefits from the improvement unrelated to energy savings, such as increased comfort or additional longevity of the improved part of your home.

2. *Annual Savings* is the potential savings in your home's energy cost per year.

3. The *Ballpark Cost* is a very approximate estimate of the cost of the improvement measure. It does not substitute for an actual contractor quote or a more refined cost estimate.

4. *Break-Even Cost* is the most you could pay for this improvement and still have it be cost-effective based on energy savings over the life of the measure.

5. *Rating Points Gained* are the additional rating points that would be added to your As-Is Rating score if the measure were installed.

6. *Rating, after all Improvements thru this one:* This column shows the energy rating that would result if all improvements prior to and including this one were done. As well as showing the final rating, the column shows how much the rating will improve in terms of rating points and in terms of rating steps. For example, an increase from a 2 star rating to a 2 star plus rating is one step.

Detailed Improvement Information

Improvement Description	Location in Home	Cost – Effective?[1]	Annual Savings[1]	Rating Points Gained[5]	Rating, after all Improvements thru this one[6]
Add R-14 rigid foam to interior or exterior of existing wall; cost does not include wall coverings.	**Above-Grade Wall: House/lower floor/wood framed walls**	**Yes**	**$559**	**2.3**	**51.2 points 2 Stars Increase: 2.3 pts, 1 step**

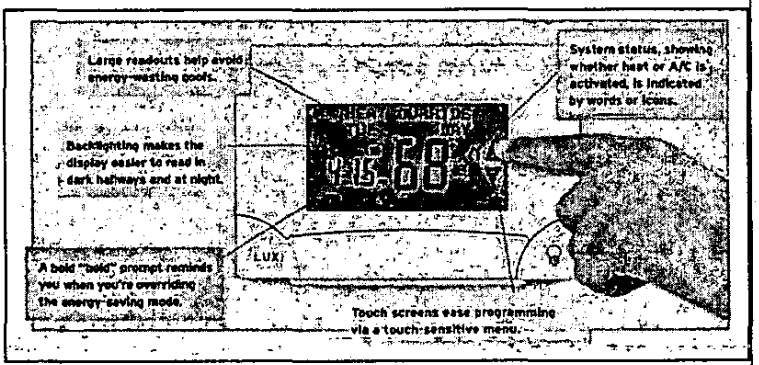
You may have several options for increasing the R-value of the walls. Proper air sealing will significantly improve the performance of the new insulation.

Interior Retrofit. Any type of rigid foam can be used although the highest R-value per inch will be found with polyisocyanurate (such as Thermax or R-max). If the rigid insulation is foil-faced, the aluminum foil can serve as the vapor retarder. If used as the vapor retarder, all seams and fasteners need to be sealed with aluminum foil tape. Cover with gypsum board.

Exterior Retrofit. For added heat loss protection, consider adding rigid insulation to the exterior walls. This provides more insulation as well as reducing outside air penetration and preventing wet siding from transmitting moisture into the wall cavity. Because rigid insulation is an excellent moisture retarder, and because it keeps the wall cavity warmer, walls with exterior insulating sheathing are significantly drier than walls without it. You should try for at least R20 which is 4" of blue/pink foam. More information on this system is available from the Cold Climate Housing Research Center website at www.cchrc.org. A DVD on the process is available for free from the Alaska Building Science Network (562-9927).

Install a Programmable Thermostat; zone controls extra		**Yes**	**$779**	**1.6**	**52.8 points 2 Stars Increase: 3.9 pts, 1 step**

A thermostat that adjusts the temperature at different times during the day saves energy, compared with a simple room thermostat. *Setback* or *programmable thermostats* can automatically reduce the house temperature for certain periods such as when the home is unoccupied or during sleeping hours. Thermostats generally have only two low-voltage wires and are easy to install. You will need one thermostat for each zone.



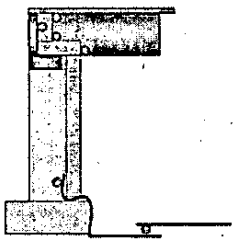
Confusing controls on some programmable thermostats may make it difficult to save energy. When choosing a programmable thermostat look for one that is easily programmed with a display that is easy to read at arm's length. All programmable thermostats let you override their energy-saving modes. Some use bold letters or lights to tell you the override is on. Others have override prompts that are relatively easy to miss, and you may not realize you are not saving energy.

Improvement Description	Location in Home	Cost – Effective?[1]	Annual Savings[1]	Rating Points Gained[5]	Rating, after all Improvements thru this one[6]
Install R-14 rigid foam board to interior or exterior side of wall. Does not include coverings or excavation costs.	**Below- (part or all) Grade Wall: House/front section below kitchen/crawl space**	**Yes**	**$439**	**1.9**	**54.7 points 2 Stars Increase: 5.8 pts, 1 step**

Sealed, insulated and unvented crawl space retrofits provide a solution to comfort, energy and moisture concerns in homes. Extensive field experience indicates that it provides exceptional environmental control for a safe and healthy crawl space environment. Your best approach is to seal and insulate the foundation walls rather than the floor.

Before any efforts are made to control ground or airborne moisture, all bulk moisture entering the crawlspace (e.g., rainwater, subsurface) must be controlled. The following steps should be followed in their entirety or the desired results might not be achieved.

- Ensure exterior grade slopes away from the foundation at least 5% (6 inches per 10 feet) to direct rain and surface water away from the house. Empty downspouts 8 to 10 feet from the foundation.
- Maintain foundation drain system to control groundwater. If the outside grade is higher than the inside grade, a damp-proof coating on the exterior foundation wall is recommended. If the interior grade is higher than the exterior grade, damp proofing and foundation drains may be eliminated.
- A new vapor retarder should be installed sealing the ground from the building. Ideally this should be constructed as if it were to be a swimming pool liner. Lap seams and seal with acoustical sealant. Taping these sealed seams is not necessary but highly recommended; taping the seams will help compress the sealant bead. The vapor retarder should extend above the top of the footing roughly 6 inches. This termination should also be mechanically fastened sealing the sealant between the vapor retarder and the foundation wall.



- The rim joists (the perimeter joist cavities) should also be insulated with spray or extruded polystyrene (XPS) rigid foam insulation. One of the best retrofit methods is to cut blocks of 4 inch XPS rigid insulation to fit in the cavities and caulk or foam each block into place. This material should overlap with the inside of the foundation wall insulation. After the foam has been sealed to the rim joists, mudsill, and subfloor, fiberglass batt insulation can be added to the interior crawl space side of the rim joist to increase total R-value.
- Green dots indicate where air sealing is necessary.

Install R-21 insulation on basement wall	**Below- (part or all) Grade Wall: House/Block wall foundation/ lower floor**	**Yes**	**$1,620**	**7.1**	**61.8 points 2+ Stars Increase: 12.9 pts, 2 steps**

Control moisture. Before insulating foundation walls, make sure they are in good repair and check site drainage. Be sure that the walls are properly sealed and that no moisture is getting in. If the basement is damp or the walls have wet spots after a rain, the foundation should be

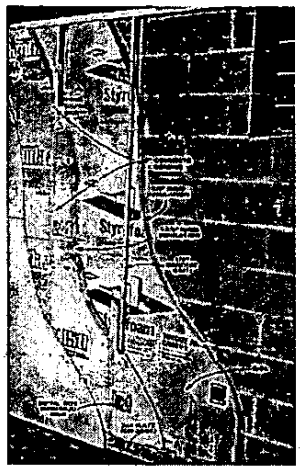
Improvement Description	Location in Home	Cost – Effective?[1]	Annual Savings[1]	Rating Points Gained[5]	Rating, after all Improvements thru this one[6]

checked by a professional before beginning your project.

Use approved, rigid-board insulation thick enough to give R-13 and finish it with a fire-resistant material, for example, gypsum board;

Headers should have at least R-13 rigid foam, friction-fit into each cavity and sealed with caulking or foam-in insulation to reduce air leakage. Blown-in polyurethane foam can also be used.

The most convenient option may be installing several inches of rigid foam insulation using a foam-compatible adhesive and mechanical fasteners. Vertical wood strips spaced 24 inches apart allow drywall to be fastened to the walls.

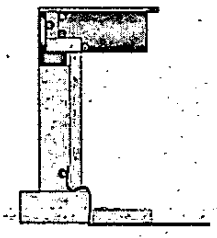


Insulating the basement walls could also be accomplished by installing rigid insulation on the exterior side.

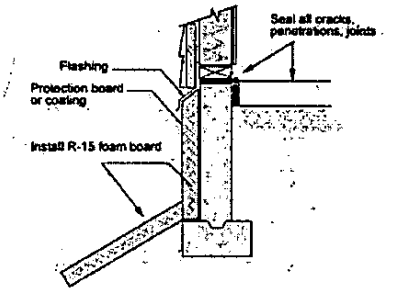
In most areas, basement walls should be insulated to at least R-10 if they are more than fifty percent below the grade. If they are more than fifty percent above the grade, they should be insulated the same as above grade walls.

After the insulation is in place, a wall finish should be applied directly to the studs.

Install 4' of R-10 rigid board insulation on Perimeter of Crawl Space Floor.	**On- or Below-Grade Floor, Perimeter: House/below kitchen/crawl space**	**Yes**	**$84**	**0.3**	**62.1 points 2+ Stars Increase: 13.2 pts, 2 steps**



While not a common practice, this can help pick up rating points and will save energy. Simply lay 4' wide XPS foam insulation around the inside perimeter of the foundation footing. This insulation performs best below the vapor retarder, but will also be effective paced on top of the vapor retarder.

Improvement Description	Location in Home	Cost – Effective?[1]	Annual Savings[1]	Rating Points Gained[5]	Rating, after all Improvements thru this one[6]
Install 2' of R-14 rigid board insulation around perimeter of Slab (vertical or horizontal).	**On- or Below-Grade Floor, Perimeter: House/garage floor**	**Yes**	**$202**	**0.9**	**63.0 points 2+ Stars Increase: 14.1 pts, 2 steps**
With a slab foundation, the energy loss is greatest at the edge. Excavate to a depth of 2' around the slab and attach rigid insulation to the foundation wall. Make sure the insulation comes all up to the bottom of the siding. Cover the above grade portion of the insulation with flashing. Then backfill. You can stop more energy loss by adding 2' of insulation, extending out from the foundation wall. 					
Install 2' of R-14 rigid board insulation around perimeter of Slab (vertical or horizontal).	**On- or Below-Grade Floor, Perimeter: House/lower floor/living space**	**Yes**	**$313**	**1.4**	**64.4 points 2+ Stars Increase: 15.5 pts, 2 steps**
See above improvement measure					
Caulk and Seal so that Home Air Leakage is Reduced by 4000 CFM at 50 Pascals.		**Yes**	**$3,016**	**11.8**	**76.2 points 3+ Stars Increase: 27.3 pts, 4 steps**

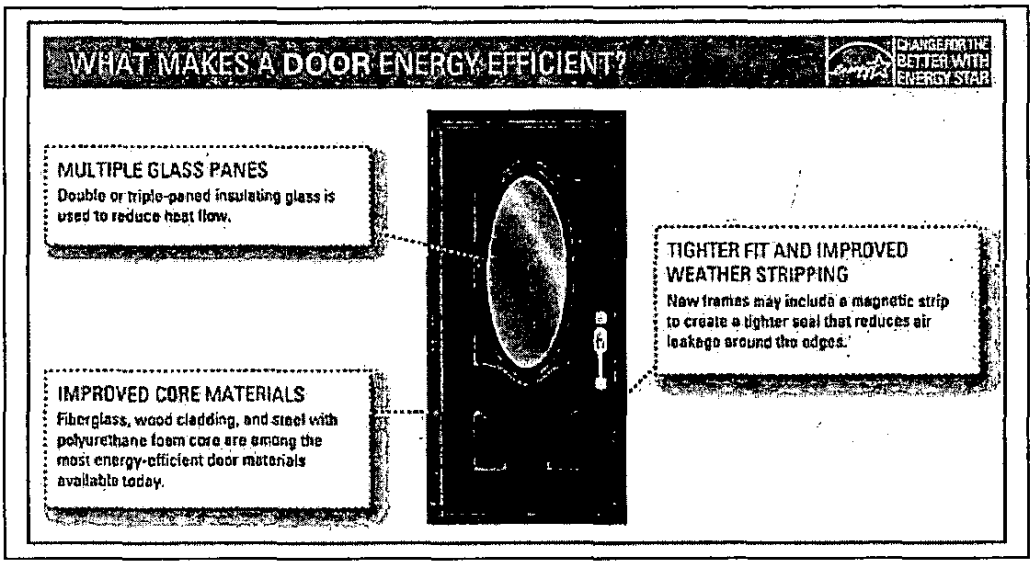
Air sealing tasks include:

- Seal joints and penetrations in the crawlspace rim joist.
- Remove baseboard trim and seal the wall/floor joints at the wood floors. Replace the baseboards.
- Seal wall/ceiling joints
- Seal window and door frame/wall joints if windows are not replaced. Remove trim and seal the gaps with caulk or low-expanding foam.
- Seal window sash/frame joints if the windows are not replaced.
- Seal around plumbing, mechanical, and electrical penetrations into the attics.
- Seal around the old fireplace flue at the ceiling level. If possible, remove the old chimney and seal up the hole. You may need to get access to this area from the outside.
- Outlet and switch plates. Use foam gaskets and child protector plugs to seal these items. If leakage is still a problem caulk the wiring penetrations through the box (turn off the breakers first!).
- Install brush quality weatherstripping on exterior doors if they are not replaced.
- Replace or seal around recessed lights. Optimally the lights could be removed, the penetrations sealed, and new, surface-mount lighting installed. The second option is to replace the existing unsealed recessed fixtures with air-tight, sealed recessed fixtures that are rated for insulation contact. Finally, the existing fixtures could be covered with insulated

Improvement Description	Location in Home	Cost – Effective?[1]	Annual Savings[1]	Rating Points Gained[5]	Rating, after all Improvements thru this one[6]
boxes. The boxes can be made with rigid insulation (Thermax, RMax, or extruded polystyrene) and the joints sealed with foil or plastic tape. Seal the box to the vapor retarder with an adhesive sealant. Caution: boxes must be large enough to allow heat dissipation from the fixture. Use CFL lights to reduce overheating risk. • Seal over kitchen soffit. Use rigid insulation (same types as noted above) to create a vapor retarder at the top of the kitchen soffit. It should be in the same plane as the main ceiling and be sealed to the polyethylene vapor retarder and/or the bottom chord of the trusses. The existing fiberglass insulation can be placed on top of the rigid (not in the soffit). • The best material for sealing these hidden air leaks depends on the size of the gaps and where they are located. Caulk is best for cracks and gaps less than about 1/4" wide. • Expanding foam sealant is an excellent material to use for sealing larger cracks and holes that are protected from sunlight and moisture. Today's products are safe for atmospheric ozone. Backer rod or crack filler is a flexible foam material, usually round in cross-section (1/4" to 1" in diameter), and sold in long coils. Use it for sealing large cracks and to provide a backing in very deep cracks that are to be sealed with caulk. • Use rigid foam insulation for sealing very large openings such as plumbing chases and attic hatch covers. Fiberglass insulation can also be used for sealing large holes, but it will work better if wrapped in plastic or stuffed in plastic bags, because air can leak through exposed fiberglass. Specialized materials such as metal flashing and high-temperature silicone sealants may be required for sealing around chimneys and flue pipes. Check with your building inspector or fire marshal if unsure about fire-safe details in these locations. • Additional air sealing benefits will come from replacing the boiler and water heater with a sealed combustion system. This will eliminate both the need for a combustion air supply and the flues.					
Remove existing glass and install triple low E argon glass.	**Window/Skylight: House/single pane/non-south**	**Yes**	**$417**	**1.8**	**78.0 points 4 Stars Increase: 29.1 pts, 5 steps**
The critical energy issue for new window is the U-factor. The lower the U-factor, the more efficient the product. For our area you should look for U-factors of .3 or lower. If large windows are replaced, consider reducing the area. For the short-term, consider the shrink wrap window film to reduce this winter's energy costs. In the cost/benefit analysis, the AKWarm software does not consider the additional savings gained from reduced window air leakage					
Remove existing door and install standard pre-hung R-14 insulated door, including hardware.	**Exterior Door: House/garage/ person door**	**Yes**	**$135**	**0.6**	**78.6 points 4 Stars Increase: 29.7 pts, 5 steps**
Quality exterior doors are filled with foam insulation and have insulating values of about R-7 to R-14, compared to R-2.2 for conventional solid wood doors. They come in a variety of styles. Metal doors last longer than wood doors, do not warp easily, and provide greater security. Often, they cost no more than solid wood exterior doors. You may also consider a fiberglass replacement door. These provide energy efficiency and durability comparable to a metal door and have a wood grain appearance. The major drawback of metal and fiberglass doors is their inflexibility. They cannot be easily trimmed, so if the door frame is not square, it may have to be rebuilt.					

Improvement Description	Location in Home	Cost – Effective?[1]	Annual Savings[1]	Rating Points Gained[5]	Rating, after all Improvements thru this one[6]

Make sure the installer reads the directions that come with the door before beginning. Some adjustments can be made after the door is installed, but they will require extra time. A properly installed insulated door will seal tightly for years.



Remove existing glass and install triple low E argon glass.	**Window/Skylight: House/garage windows**	**Yes**	**$119**	**0.5**	**79.1 points 4 Stars Increase: 30.2 pts, 5 steps**
See earlier window note					
Add R-14 rigid foam to interior or exterior of existing wall; cost does not include wall coverings.	**Above-Grade Wall: House/wood framed walls/lower floor**	**Yes**	**$100**	**0.4**	**79.5 points 4 Stars Increase: 30.6 pts, 5 steps**
You may have several options for increasing the R-value of the walls. Proper air sealing will significantly improve the performance of the new insulation. See earlier adding wall insulation note.					
Add R-14 rigid foam to interior or exterior of existing wall; cost does not include wall coverings.	**Above-Grade Wall: House/garage walls**	**Yes**	**$255**	**1.1**	**80.6 points 4 Stars Increase: 31.7 pts, 5 steps**
See earlier note					
Add R-14 rigid foam to interior or exterior of existing wall; cost does not include wall coverings.	**Above-Grade Wall: House walls**	**Yes**	**$489**	**2.1**	**82.7 points 4 Stars Increase: 33.8 pts, 5 steps**
See earlier note					

Improvement Description	Location in Home	Cost – Effective?[1]	Annual Savings[1]	Rating Points Gained[5]	Rating, after all Improvements thru this one[6]
Add R-30 fiberglass batts to attic	**Ceiling w/ Attic: House/garage attic**	**Yes**	**$158**	**0.7**	**83.4 points 4+ Stars Increase: 34.5 pts, 6 steps**

- **Air seal ceiling plane.** Air sealing should be performed as part of any attic or ceiling construction or retrofit, before any new or additional insulating is done. In many homes, more heat is lost by air leakage than by heat transfer through insulation. Air leakage can also reduce the ability of the insulation to perform its function, so that insulating without also air sealing results in effectively lower R-values. When air sealing, you should consider the cost and method(s), and be aware of impacts on ventilation and the behavior of naturally drafted "appliances" such as furnaces, water heaters, and fireplaces.
- Check to verify dryer and bathroom fans are not exhausting into the attic.
- **Install additional insulation.** You can use batts, blown fiberglass, or rigid sheathing.
  - **Batt insulation.** Laying fiberglass rolls is easiest for a DIY job. If you have any type of insulation between the rafters, install the second layer over and perpendicular to the first (again, the second layer of roll insulation should be unfaced– with no vapor retarder). This will help cover the tops of the joists and reduce heat loss or gain through the frame. Also, when laying down additional insulation, work from the perimeter toward the attic opening. Never lay insulation over recessed light fixtures or soffit vents.
  - **Blown insulation** – cellulose or fiberglass - must be carefully installed to assure even coverage, avoiding high and low areas with varying R-values, and avoiding blocking ventilation paths. Ask how the insulation contractor controls for the proper amount of insulation material and depth. Loose-fill cellulose or fiberglass insulation can be blown over existing loose-fill or over batts and blankets. To keep loose-fill from shifting into vents or eaves or from coming into contact with fan motors or other heat-producing equipment, place sheet metal flashing or other non-flammable material around these areas. Make sure you install baffles to keep eave openings clear for attic ventilation. Install the insulation from the outer edges inward. Dividing the attic into segments and installing the proportionate amount of insulation in each segment will help you cover the entire attic area evenly. At the eaves consider staggering rigid urethane board such as Thermax or R-max to increase the potential R-value in this area.
  - Keep all insulation at least 3 inches away from "can" lights, unless they are rated IC (Insulated Ceiling). If you are using loose fill insulation, use sheet metal to create barriers around the openings. If using fiberglass, wire mesh can be used to create a barrier.
- **Improve ventilation**, preferably with continuous ridge and soffit vents
- **Insulate** attic access hatches and stairways
- **Air seal** attic access hatches and stairways
- **Air seal** chases (shafts) and dropped soffits (bulkheads)

Add R-30 fiberglass batts to attic	**Ceiling w/ Attic: House attic**	**Yes**	**$363**	**1.6**	**85.0 points 4+ Stars Increase: 36.1 pts, 6 steps**

See previous improvement note

Remove existing glass and install triple low E argon glass.	**Window/Skylight: House/non-south**	**Yes**	**$148**	**0.7**	**85.7 points 4+ Stars Increase:**

Improvement Description	Location in Home	Cost – Effective?[1]	Annual Savings[1]	Rating Points Gained[5]	Rating, after all Improvements thru this one[6]
					36.8 pts, 6 steps
Remove existing glass and install triple low E argon glass.	Window/Skylight: House/south	Yes	$56	0.2	85.9 points 4+ Stars Increase: 37.0 pts, 6 steps
See earlier window note					
Remove existing glass and install triple low E argon glass.	Window/Skylight: House/double pane/.5" spacer	Yes	$124	0.6	86.5 points 4+ Stars Increase: 37.6 pts, 6 steps
See earlier window note					
Remove existing door and install standard pre-hung R-14 insulated door, including hardware.	Exterior Door: House/garage/ over head door	Yes	$307	1.3	87.8 points 4+ Stars Increase: 38.9 pts, 6 steps
Quality garage doors are filled with foam insulation and have insulating values of about R-7 to R-14, compared to R-2.2 for conventional solid wood doors.					
Remove existing glass and install triple low E argon glass.	Window/Skylight: House/south/doub le pane/.5" spacer	Yes	$118	0.5	88.3 points 5 Stars Increase: 39.4 pts, 7 steps
See earlier window note					
Replace Oil-fired tank-type water heater with efficient "side arm" to 40,000 Btu boiler		No	$0	0.0	88.3 points 5 Stars Increase: 39.4 pts, 7 steps
If you use a boiler, ask your contractor about installing an indirect water heater, (sometimes called a "boiler mate", e.g. Amtrol Boilermate). These use your boiler as the heat source by circulating hot water from the boiler through a heat exchanger in a well-insulated water heater tank. It is more efficient than a stand-alone water heater and does not require combustion air. It may also have a higher recovery rate than a regular water heater. When used with a modern, high-efficiency boiler, with appropriate controls (cold boiler), these energy savings hold true even in the summer when your boiler isn't needed for heat. These systems can be purchased in an integrated form, incorporating the boiler or furnace and water heater with controls, or as separate components. Gas, oil, and propane-fired systems are available. The efficiency of a combination water and space heating system is indicated by it combined appliance efficiency rating (CAE). The higher the number, the more energy efficient. Combination appliance efficiency ratings vary from 0.59 to 0.90. Look for CAE of 0.85 or higher					

2-07-09 Alaska Energy Authority Statewide Energy Report, Kotzebue Testimony

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STATE OF ALASKA

DEPARTMENT OF FISH AND GAME

DIVISION OF WILDLIFE CONSERVATION

SARAH PALIN, GOVERNOR

Kotzebue Office:
P.O. Box 689
Kotzebue, AK 99752
PHONE: (907) 442-3420
FAX: (907) 442-2420

To: Jackie Hill
Representative Reggie Joule

From: Jim Dau

Subject: Impacts of high gasoline costs in Kotzebue Sound

Jackie and Reggie,

I apologize I will not be able to attend your meeting regarding impacts of high energy costs on residents of Kotzebue Sound. Here are my observations regarding what could be fuel-related effects of high gas prices in this region:

1. Since the late 1980s, I've flown 400-650 hrs each year, mostly within Unit 23 and mostly while conducting wildlife surveys for the Alaska Dept. of Fish and Game. In the 1990s, I rarely got out of range of snow machine tracks on my daily flights. For the past 3 or 4 years, it has been obvious that snow machine activity in this unit has substantially declined based on tracks and direct observations of hunters in the field. I now see few sno-go tracks beyond roughly 30 mi of individual villages where I used to encounter heavy sno-go trails.

2. For about 1 week each September, we collect blood samples and radio collar caribou at Onion Portage on the middle Kobuk River. In the past several years, there seems to have been a decrease in the number of boats hunting caribou in this area. I've been told that some hunters in the upper Kobuk villages have switched from using boats to hunt caribou to using 4-wheelers because the latter use less gas. I've also been told that hunters are pooling their money to purchase gas for extended boat hunts, and this is consistent with what we've observed on the river.

3. In the past, residents of Unit 23 were often reluctant to accept meat from visiting hunters who were interested primarily in trophy moose or caribou. For the past several years, it has seemed that local residents have been more willing to accept this meat. This may be partly attributable to high fuel costs making it more difficult for local people to get into the field, and also to educational efforts by local agencies targeting visiting hunters regarding proper care of meat.

Please contact me at 442-1711 or jim.dau@alaska.gov if you have additional question or need me to follow up on any of these points. Again, I apologize for not being able to attend the meeting to be available to answer questions.

MANIILAQ ASSOCIATION

February 6, 2009

Briefing Paper: **Energy Crisis in Northwest Alaska**

The objective of this briefing paper is to quantify the impact of the dramatic increase in energy costs to Maniilaq Association (Maniilaq). The recent increase in the cost of crude oil is affecting the entire nation and world but affects arctic regions of rural Alaska significantly more.

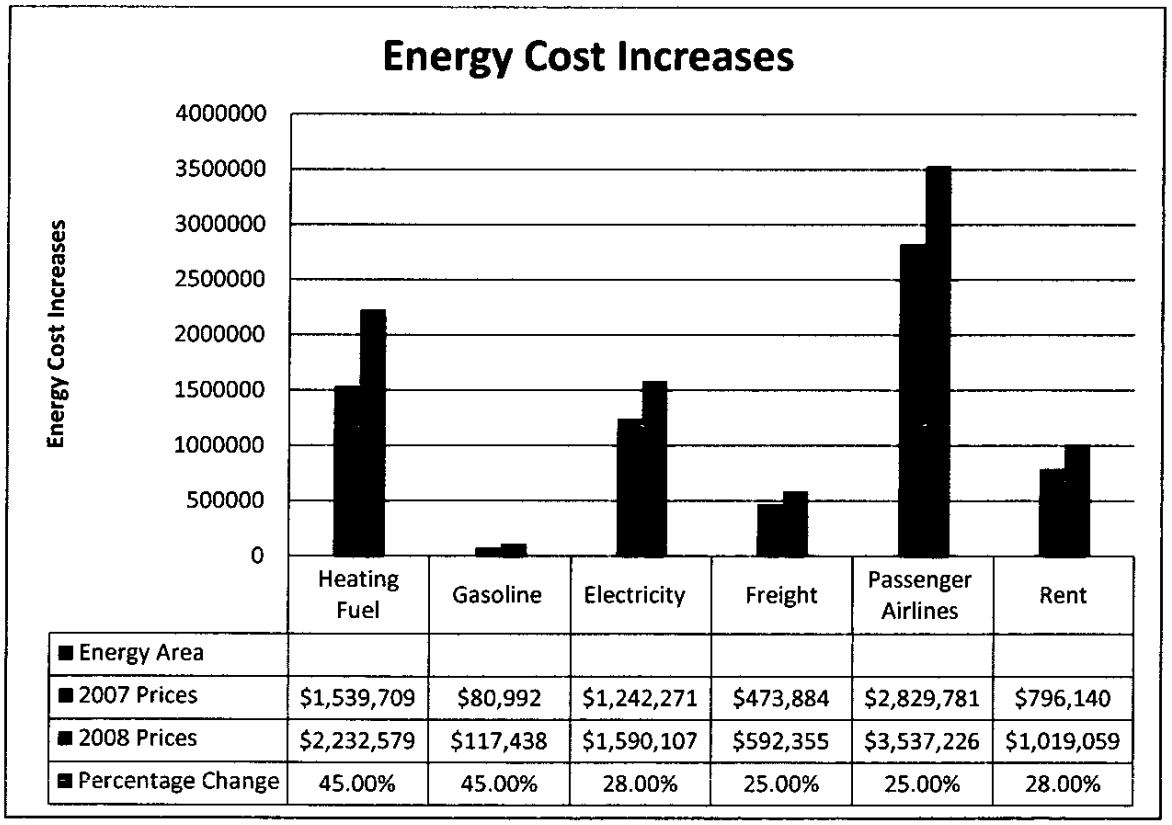
Maniilaq is a Tribal Non-Profit Health Care corporation with a staff of over 500 people located throughout our service area in Northwest Alaska. Maniilaq has been providing the healthcare, social services, and many Tribal services to the people of the region for over twenty years. Our service area is approximately the size of the state of Indiana with most of our service delivery area located just above the Arctic Circle in Northwest Alaska. Our service delivery area includes the hub village of Kotzebue and the surrounding villages of Ambler, Buckland, Deering, Kiana, Kivalina, Kobuk, Noorvik, Noatak, Point Hope, Selawik, and Shungnak. The population of the service area is approximately 8,500 people.

Since there are no roads to the hub village of Kotzebue from the State of Alaska road system and no roads from one village to another, transportation is limited to air travel and either snow machine, ATV, or boats when conditions permit.

The only alternative renewable energy source currently available locally is wind. It is used to generate approximately twenty percent of the electricity in Kotzebue and a small amount in Selawik. All other heating and energy generation is provided by fossil fuel systems. All of the oil and gasoline used in the region must be either barged in or flown in. The primary source of heat is #1 fuel oil. With the summer barge deliveries completed to Kotzebue, the cost of fuel increased by 45 percent and the cost of gasoline increased by 42%. Most electricity is generated from #2 heating oil. Based on fuel cost estimates, Kotzebue Electric Association is projecting an electric rate increase of 28 percent for the year.

Unfortunately, the impact of these increases is not limited to heat and electricity. We have endured rate increases in housing and commercial rental units from vendors to cover the costs of the energy increases. Similarly, we have experienced increases in airline fares, transportation costs, medical evacuation costs, food costs, and many other services areas affected by the increase in energy costs.

What this all boils down to is that we are managing a crisis situation in all aspects of our business expenses and service delivery to our clientele. If this was simply a retail business then we could simply adjust our prices and past the costs on to the customers. However, since we are a tribal and medical service provider for this Region, there is not a simple answer to increasing the costs of our services. Finding a viable solution to the "Energy Disaster" in Rural Alaska is critical if we are to ensure the health and safety of our people.



■ Energy Area	Heating Fuel	Gasoline	Electricity	Freight	Passenger Airlines	Rent
■ 2007 Prices	$1,539,709	$80,992	$1,242,271	$473,884	$2,829,781	$796,140
■ 2008 Prices	$2,232,579	$117,438	$1,590,107	$592,355	$3,537,226	$1,019,059
■ Percentage Change	45.00%	45.00%	28.00%	25.00%	25.00%	28.00%

Kotzebue, Ambler Ak 10 Feb 2009

Report from the NWAB Resource & Energy Coordinator.

The infrastructure of the Villages in the North West Arctic Borough is at this point in peril due to high fuel prices.
The two most affected areas are The City Governments and the Schools.
The City Governments can no longer continue to operate their water and sewer systems effectively and without basic services the people will move out.
Currently W&S in the Village of Ambler is $ 140.00/month, however the actual cost is closer to $ 450.00/month per Household.
The Schools are in the same shape with large areas to heat and high electric cost.

A good solution would be to allow the City and the Schools to co-generate electricity and set up solar-arrays and maybe wind turbines, co-generating power with the utility.

House bill HB-66 would allow Co-generation Kw for Kw . Creating credits to use in later billing cycles.
The School could then generate solar-electricity in the summer when it is closed and use the credits accumulated in the fall season.
This could offset a 3rd of their electric bill.
Extra energy could be used to heat buildings using dump loads, however this would only work if the School owned the alternate energy system.

It would be nice to combine this with a bill to create a curriculum, starting at high-school level and extending into College for a vocational education in different technologies.
This would get the whole Alaska Bush the skilled personal necessary for the future.
The High-school student could get hands on experience, installing their own solar systems.

This same scenario can apply to the City Governments also, to offset their electric usage on the W&S systems.

The same scenario could be done in all

HB-66 is important, we need it to pass, to be able to have leverage with the energy producers.

Sincerely
Ingemar Mathiasson
NWAB Resource & Energy Coordinator
907-445-2031 & 2102
IMathiasson@Nwabor.org

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February 4, 2009

House Special Committee on Energy
Co-chair Bryce Edgmon & Co-chair Charisse Millett
State of Alaska – Capitol
Juneau, AK 99811

Dear Committee Members:

On behalf of the Northwest Arctic Borough, welcome to our borough and region. As you know, affordable energy is key to the quality of life in our borough and has become a high priority regionally as well as for each community. We welcome your assistance and resources to help our residents and communities during this crisis.

As background, the borough's economic development department in partnership with NANA and Maniilaq held a Regional Energy Summit during July 2008 to address the high cost of energy. This was a well attended summit and included many recommendations by communities to begin addressing needs with ideas that could work in our unique arctic environment. The summit report documents our average cost of heating oil is currently $7.02/gallon, and average for gas is $7.14/gallon, with the highest for heating oil at $9.79/gallon and for gas at $9.29/gallon both in Noatak.

The borough assists in comprehensive planning in the communities of Ambler, Buckland, Deering, Kiana, Kivalina, Kobuk, Kotzebue, Noatak, Noorvik, Selawik, and Shungnak. Attached for your review are goals, objectives and projects related to energy projects from the community plans. Although these plans were made prior to the energy crisis currently upon us, it shows the forward thinking of our villages to address already high costs of living and promote clean-renewable resources.

We look forward to working with you especially with the high needs of our borough with remote locations and poverty rates of families. Taikuu/thank you for your consideration.

Sincerely,

Ukallaysaaq Tom Okleasik, Planning Director

Cc: Mayor Siikauraq Whiting

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Northwest Arctic Borough Comprehensive Plan – March 1993

Comprehensive Plan Mission Statement

The Northwest Arctic Borough will help the people of the Borough build a higher quality of life while promoting Inupiat cultural values and ways of life

Capital Projects and Infrastructure Issues and Objectives / Utilities Objectives

- Continue efforts to ensure full-funding for the Power Cost Equalization program
- Work to establish standards of basic levels of service for all utilities within the Borough
- Work with villages to develop strategies to upgrade all sub-standard utility systems within the Borough
- Coordinate with all community and regional utilities to ensure adequate funding and training for system operation maintenance and upkeep
- Work with villages, regional utilities and organizations and strive to find innovative and cost-effective alternatives and technologies to manage and administer public utilities

Borough Strategies – Power Generation

1. Agency and Program Coordination
   Work with appropriate villages, utilities and the Alaska Energy Authority to gain support and funding for the following programs:
   - Waste heat utilization
   - Energy audits
   - Bulk fuel purchasing and storage
   - Alternative power generation technologies and fuel sources

2. Funding Assistance
   Continue advocating for maintaining or increasing funding to the PCE program.

3. Village Assistance
   Work with villages, AVEC and Kotzebue Electric Authority (KEA) to determine the feasibility of conducting village energy audits on power generation systems and public facilities, and consolidation, maintenance and management alternatives.

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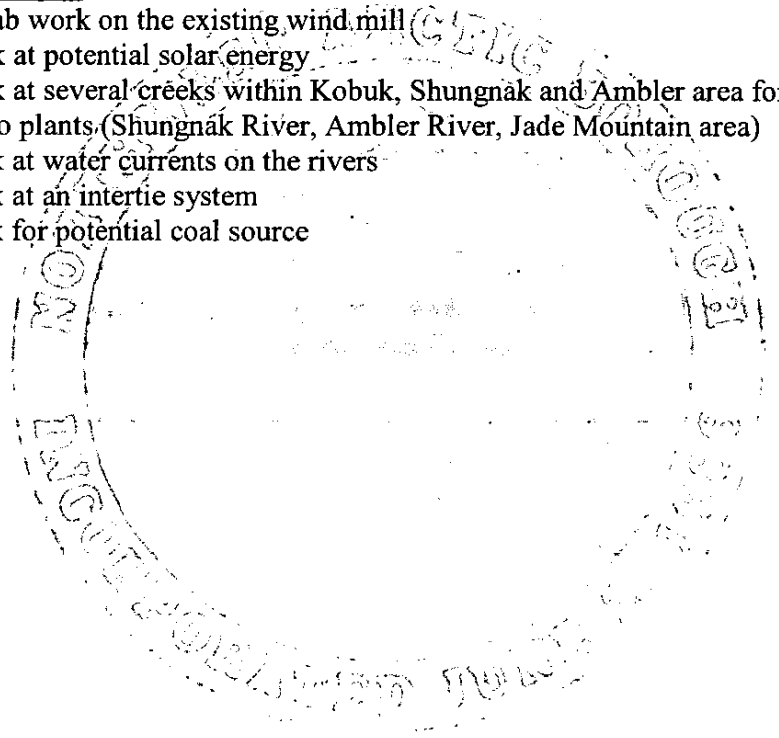
Ambler Comprehensive Planning Meetings – April 14, 1999

Energy Vision: to provide a low cost energy source for the communities of Ambler, Shungnak and Kobuk

Energy Strategies

1. Rehab work on the existing wind mill
2. Look at potential solar energy
3. Look at several creeks within Kobuk, Shungnak and Ambler area for possible hydro plants (Shungnak River, Ambler River, Jade Mountain area)
4. Look at water currents on the rivers
5. Look at an intertie system
6. Look for potential coal source



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Buckland Community Comprehensive Development Plan, 2006-2016

Buckland Development Goal 2:
To plan and develop safe utility infrastructure and services for our growing community while protecting our environment and ensuring sustainability

Objective 2.4: To upgrade the power and communication utility systems for community and economic growth with affordability and conservation

Recommendations to apply Buckland's community values to the objective and projects:

- ✧ Encourage our local students to seek higher education in utility systems so that we could have local people staff the operations and maintenance
- ✧ Share your knowledge and talents with outsiders when developing alternative energy

Projects in priority order:

1. Alternative energy development – e.g. wind, hydro, natural gas, etc.
2. Upgrade electrical utility and generators to meet the needs of a growing community and future housing growth
3. Cell phone communication system installed
4. Oil and gas development for local energy source – e.g. the Flats area

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Deering Community Comprehensive Development Plan, 2006-2016

Deering Development Goal 3:
To improve, construct and maintain a healthy business and community environment with infrastructure for development and sustainability of employment and economy with equal opportunity

Objective 3.4: To pursue and encourage long-term, affordable and sustainable energy for supporting community development.

Recommendations to apply Deering's community values to the objective and projects:

- ✧ Community members remember to adjust to modern technology when researching, studying and implementing alternative energy such as solar power
- ✧ Work with the Northwest Arctic Borough for reducing fuel costs that uses our value of cooperation and interaction

Projects in priority order:

1. Alternative and renewable energy development (wind, solar, hydro, tidal, coal) – lower electric costs and add capacity for future community growth
2. Fuel conservation and efficiencies – electrical generators, home heating, vehicles
3. Improve fuel distribution services
4. Lower fuel prices by (a) working with legislative representatives for state funding, and (b) working with the Northwest Arctic Borough for cooperative buying to lower the cost per gallon

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Kiana Community Comprehensive Development Plan, 2006-2016

Kiana Development Goal 3:
To build and strengthen the capacity of our community and to meet community needs

Objective 3.1: To develop infrastructure and economic growth for the betterment of our community

Recommendations to apply Kiana's community values to the objective and projects:

- ✧ Land, Water and Sewer, Natural Resources, Safety & Health, Subsistence Resources, Community Wellness

Projects in priority order:

Natural Resources Development
1. ***Wind Turbine***

Housing
1. Need Housing
2. ***Weatherization for homes***

Roads and Transportation
1. Fixing roads
2. Street Lights
3. ***Inter-village connecting roads to and from Kotzebue***

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Kobuk Community Comprehensive Development Plan, 2006-2011

Kobuk Development Goal 3:
To have improved sanitation and waste management, sustainable clean low cost energy and environmental responsible development.

Objective 3.1: To improve and expand on existing sanitation and waste management, while developing appropriate renewable energy such as wind and solar, and protecting our subsistence resources for sustainable, and clean and lower cost energy and environmentally responsible resource and economic development.

Recommendations to apply Kobuk's community values to the objective and projects:

- ✧ Land, Water and Sewer, Natural Resources, Safety & Health, Subsistence Resources, Community Wellness

Projects in priority order:

Natural Resource Development

1. No Hydro energy (community feels it would have negative effects on environment)
2. Local Mining experts and education (community wants to be properly educated on all issues dealing with mining so they can make informed decisions when it comes to the issue of mining that could have a negative impact on their community and environment)
3. Wind power energy
4. Solar energy

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City of Kotzebue – Comprehensive Plan, Adopted December 7, 2000

Vision - Kikiktagruk: A healthy, viable, proactive Inupiaq community of excellence.

3. Economic Development Goals

Alternative Energy: support alternative energy sources and types. Support KEA experimentation on alternative forms of energy and investigate ways the City can reduce fuel/energy costs [e.g. not heating the water lines so much in the system-insulating pipes and storage better, use waste heat, air circulation instead of heat as is used in the Devil's Lake intake system]

This will include active support of private industry efforts to find alternative or to reduce energy needs. KEA's efforts at wind, solar, waste heat, fuel cells and other such innovations will be fully supported. Likewise, insulation products such as those proposed by Tupiq Services will be supported. Improving insulation on water pipes, thus reducing the energy needs for heating water, is the type of activity directly under the City's control. This goal may include a combination of many sub-objectives and ongoing or continued studies and partnering actions.

Economic or Enterprise Development Plans / E. Utility Expansions

KEA has an ongoing wind energy system under development and testing. This is likely to expand from the current 10 windmills, to provide over 30% of the electric power for the community and reduce rates by 10% or more. Experimentation in use of waste heat, fuel cells, and solar panels are also planned by KEA. It is important that all energy alternatives to the expense of shipping fuel into Kotzebue continue to be explored.

It is important to consider locating fuel tanks, bulk storage, and distribution lines in a safer, more centralized location. The long-term plan could include moving the fuel storage to the old dump area south of the Airport [however, this area is currently being extensively monitored for hazardous materials or leakage]. Additionally, moving fuel storage would require trucking or a fuel line running from the new location, and fuel lines or trucking back into town. These alternatives may be less desirable than the present situation and require more study.

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Noatak Community Comprehensive Development Plan, 2006-2016

Noatak Development Goal 2:
To maintain and develop public infrastructure and services for accommodating community growth with maximum efficiencies, cost-effectiveness and environmental protection

Objective 2.3: To plan and coordinate with utility entities for maximizing efficiencies, reducing costs and promoting service stability and enhancements

Recommendations to apply Noatak's community values to the objective and projects:

- ✧ Involve our children in the community during planning and organizational meetings to help consider future growth and development
- ✧ Utilize partnerships among our government entities – e.g. tribe, state, federal agencies, etc.
- ✧ Encourage improvements to our utility services for lower energy costs and are environmentally friendly

Projects in priority order:

1. Repair and maintain the underground fuel line from the airport to the tanks
2. Build a new centrally located bulk fuel tank farm for improving safety, avoiding drainage into the river and providing savings in operational costs
3. Improve the AVEC power plant for reduced costs and less air pollution
4. Develop alternative energy to reduce electrical costs – wind, solar, hydro (river), geothermal, etc.

NORTHWEST ARCTIC BOROUGH
P.O. Box 1110
Kotzebue, Alaska 99752
(907) 442.2500 or (800) 478.1110
Fax: (907) 442.3740 or 2930

Noorvik Community Comprehensive Development Plan, 2006-2016

Noorvik Development Goal 2:
To construct and improve community housing and infrastructure for supporting affordability, cost effectiveness and future growth

Objective 2.2: To build and utilize community infrastructure for increasing cost effectiveness, delivering quality services and enhancing future growth activities

Recommendations to apply Noorvik's community values to the objective and projects:

- ✧ By designing and constructing affordable and durable infrastructure with employment opportunities, community members can become self-reliant and self-supportive
- ✧ Consolidate all public and safety services/buildings in order to retain dedicated and safe workers, and save efforts

Projects in priority order:

1. Complete a Noorvik infrastructure plan – e.g. a need assessment for present and future community infrastructure and utilities with options for expansion and plan to combat erosion
2. Generator and jack hammer equipment for the grave yard
3. Acquire and operate community weather monitoring equipment – temperature, wind, solar, etc.
4. Alternative energy development and implementation to help produce electricity – e.g. wind generator and solar

NORTHWEST ARCTIC BOROUGH

P.O. Box 1110

Kotzebue, Alaska 99752

(907) 442.2500 or (800) 478.1110

Fax: (907) 442.3740 or 2930

Selawik Community Comprehensive Development Plan, 2007-2017

Selawik Development Goal 1:
To jointly and in unity develop community plans, funding and projects for cost-effective infrastructure and services that advance the well-being of residents

Objective 1.1: To improve our public utilities and services for promoting unity, strengthening local capacity and realizing cost savings

Recommendations to apply community values to the objective and projects:

- ✧ We need to meet together among the City and IRA to better our modern conveniences with our residents.
- ✧ Secure funding jointly and in unity to improve community sanitation systems and services.

Projects in priority order:

A. Governance Capacity Building and Public Services Enhancement

B. Utilities Management Enhancement

1. Solar energy development to lower electricity costs/rates
2. Street lights – current ones more efficient (smaller or more energy efficient light bulbs, co-power with solar panels or mini-wind mills, etc) and add new lights for safe walking/driving in the winter when dark
3. Develop a warranty clause for City/IRA construction contracts in Selawik before signing agreements with contractors to ensure the community is not left paying for faulty work and design mistakes – e.g. past construction of the water and sewer with contractor design and installation problems could have been avoided
4. Water and sewer operations improvements – e.g. one accounts receivable/payable, regular maintenance, regular collection of bills, etc.
5. See the wind generator savings in residential rates and bills – already installed but need to see the savings in implementation
6. Address the wind noise of the Selawik wind generators
7. GIS mapping of Selawik lands, roads, trails, camp sites, etc.

NORTHWEST ARCTIC BOROUGH
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Kotzebue, Alaska 99752
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Fax: (907) 442.3740 or 2930

Shungnak Community Comprehensive Development Plan, 2006-2016

Shungnak Development Goal 5:
To use our natural resources responsibly to create employment opportunities, stabilize our economy and lower our cost of living

Objective 5.1: To use natural resources responsibly and sustainably for lowering our cost of living and creating jobs.

Recommendations to apply community values to the objective and projects:

- ✧ Alternative energy sources
- ✧ Lower costs of fuel/groceries
- ✧ Feasibility studies to ensure good investment
- ✧ Small business support locally

Projects in priority order:

1. Alternative energy resources
2. Solar energy
3. Windmills for energy
4. Big game guidelines
5. Water source
6. Gravel source
7. Community gardening projects
8. Responsible mining
9. Community-industry partnership
10. Affordable electricity
11. Creating our own portable sawmill

AVCP Calista Region

Biennial Energy Plan 2008-2010

Nuvista Light and Electric Cooperative, Inc.
A regional wholesale cooperative participated by
Calista Corporation/AVCP/AVCPRHA/YKHC/AVEC/Chaninik Wind Group/MKEC/Kwethluk Power/Lower Yukon Delta

Biennial Energy Plan 2008-2010

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Introduction

The Biennial Energy Plan is the work and the progress of the AVCP Calista regional leadership, to develop and adopt a long term energy policy for a development of a plan for sustainable energy for the region. It is the goal of the stakeholders to work collectively and combine the resources to achieve a sustainable energy plan. The Biennial Energy Plan will work towards identifying conventional and non-conventional renewable energy development; identify strategies for funding; and to identify deployments methods that will provide affordable and sustainable energy. The biennial energy planning process will identify action and activity plans for each strategy identified.

AVCP Calista Regional Energy Leadership consists of the executive officers, board members, staff of the major regional organizations, local governments, utilities and the business community. The Leadership is using the Nuvista Light and Electric Cooperative to work on the Biennial Energy Plan. The Nuvista Light and Electric Cooperative, Inc. a regional wholesale utility formed by Calista Corporation and currently administered by the Association of Village Council Presidents. In the mid-1990's Calista Corporation worked with other regional organizations and helped establish Nuvista Light and Electric Cooperative to conduct energy feasibility studies for the region and the development project at Donlin Creek. An energy study was completed by Nuvista in 2002 and a feasibility study in 2004. Nuvista is now fully engaged in this energy planning and development process for the AVCP Calista region.

During the policy development process, three working committees were formed to complete certain sections of the policy:

Bob Charles, AVCP / Nuvista provided staff support to each committee.

Legislative Committee
Chair- Michelle Sparck, AVCP
Elaine Brown, North Star Gas
Bob Herron, YKHC
Allen Joseph, AVCP Regional Housing Authority
Meera Kohler, AVEC
Mary Nelson, Donlin Creek LLC

Renewable Energy Committee
Chair - John Sargent, City of Bethel
William Igkurak, Chaninik Wind Group
Brent Petrie, AVEC

Western Alaska Fuel Task Force
Chair - Meera Kohler, AVEC
Elaine Brown, Northstar Gas
Greg McIntyre, YKHC
Ivan M. Ivan, Akiak TC
Willie Kasayulie, Calista Corporation
Deborah Vo, Yukon Delta Fisheries Development Association
Gary Fredericks, LKSD
Allen Joseph, AVCP Regional Housing

AVCP Regional Energy Panel for 2008 AVCP Convention
Bob Charles, AVCP / Nuvista Light & Electric Cooperative
Western Alaska Fuel Task Force:
Ron Hoffman, AVCPHA (Home Construction)
Meera Kohler, AVEC (Electrical)
Elaine Brown, North Star Gas (Fuel)
Greg McIntyre, YKHC (Health Care)
John Sargent, City of Bethel (Renewable Energy)
Lyman Hoffman, State Legislature

Nuvista Board of Directors and Energy Planning Participants

Sven Paukan, Nuvista Chairman, AVCP Board, Andreafski Tribe

Paul George Guy, Nuvista Vice-Chairman, Calista Board, Kwethluk Power Company and Kwethluk Inc.

Arthur S. Heckman Sr., Nuvista Secretary, Calista Board, Pilot Station Village Corporation

Daniel Waska, Nuvista Treasurer, AVCP Board, Atmautluak Tribe

Moses Owen, Nuvista Board, AVCP Board, Akiak Tribe

Willie Kasayulie, Nuvista Board, Calista Board

Myron Naneng, AVCP President

Ron Hoffman, AVCP Regional Housing Authority CEO

Robert Nick, AVCP Regional Housing Authority Board Chairman

Martin B. Moore, City of Emmonak

William Igkurak, Chaninik Wind Group Chairman

Matthew Nicolai, Calista Corp., President & CEO

Andrew Guy, Calista Corp., General Counsel

Doug Nicholson, Donlin Creek, LLC, General Manager

Brent Petrie, Alaska Village Electric Cooperative, VP

Ernie Baumgartner, Middle Kuskokwim Electric Cooperative, CEO

Gene Peltola, Yukon Kuskokwim Health Corporation, CEO

AVCP Calista Region's Energy Agenda

Vision

The AVCP Calista Region will attain affordable, long term energy sustainability and self-sufficiency.

Mission

The mission of the AVCP Calista Regional Leadership in this energy plan is to ensure that the people of the AVCP Calista region have an adequate supply of reliable and affordable energy and is secure from outside economic influences, by helping tribal and community members save energy, develop clean energy resources, promote renewable energy and economic development.

Values

The Core Values as expressed by the AVCP Calista Regional Leadership include the following statements:

Integrity and Ethical Standards
To uphold the integrity of each participating organization, corporation and tribe while maintaining the highest ethical standards and professional performance

Respect
To hold in high esteem the diversity and value of all individuals, corporations, tribes and organizations

Communication
To maintain open, consistent communications

Excellence
Pursue continuous improvement, development and learning

Local Cultural Knowledge and Resources
To appreciate and enhance the cultures, traditions of the AVCP Calista Region and the human, technical and organizational resources of each organization, corporation and tribe

Collaboration
Working in partnership with each organization, corporation and tribes in the AVCP Calista Region to achieve long term energy security and sustainability

Environmental Stewardship
Maintain the respect for and future sustainability of the land and resources of the AVCP Calista Region.

I. Policy

The AVCP Calista Region promotes the development and implementation of public/private support strategies that effectively reduce the cost of energy for utilities and consumers in the region.

The AVCP Calista Region promotes the development of local community energy conservation and efficiency policies and plans that brings together local residents, schools, local governments, businesses and organizations.

The AVCP Calista Region supports all of its utilities and their need for efficient operations, maintenance, upgrades and new development.

The AVCP Calista Region promotes the utilization of energy efficiency technologies, conservation and weatherization programs for commercial and public facilities, and private homes as a way to maximize the effectiveness of energy resources.

> The State of Alaska is encouraged to expand its weatherization and energy efficiency programs to include community facilities and buildings to enable weatherization improvements and deployment of energy cost savings technologies.

The AVCP Calista Region will engage its combined efforts in renewable energy resource assessment, development and deployment that assist in achieving energy self-sufficiency.

> The State of Alaska is encouraged to provide a renewable resource deployment assessment of the region based upon a MM/BTU cost. This would assist in development and deployment of renewable energy projects based upon available renewable resources in the region.

The AVCP Calista Region will develop multiple, sub-regional proposals for the region which will identify specific renewable energy projects based upon appropriate resources available in each sub-region.

The AVCP Calista Region promotes the planning and development of regional wind energy projects along the eastern Bering Sea coast, the lower Kuskokwim coast, the Bethel area; and potential build-out from these areas to other nearby communities.

The AVCP Calista Region promotes the development and deployment of Biomass projects in the Middle Kuskokwim and Lower Yukon regions to provide community facility heating needs with biomass boilers, and wood chippers that would provide feed stock for these and a variety of community facility and home heating wood boilers.

Participants in this energy plan promote investigation of the application of In-Stream Turbines in the Kuskokwim and Yukon Rivers to determine whether or not in-stream turbines will work in different communities in the region. The state is encouraged to develop financing to help organizations buy these devices. The community can then apply for funding to purchase the in-stream turbine once they have established feasibility.

The AVCP Calista Regional Energy Leadership desires that the state determine ocean wave energy development potential, and electrical equipment and transmission requirements for communities along the eastern Bering Sea coast.

The AVCP Calista Regional Energy Leadership seeks the state to help determine geothermal potential at Ophir Creek near the NYAC mine, including in-river hydroelectric potential for the nearby communities.

The AVCP Calista Region promotes the exploration and development of oil and gas resources that may exist in the region for local market utilization.

Tribes for the first time have recently rescinded their long standing resolution banning oil and gas exploration. There are two potential targets identified in the AVCP region permissive for hydrocarbon exploration.

The participants in this AVCP Calista Region Energy Plan respects the rights and privileges of each land owner /stakeholder directly involved in the utilization and development of renewable resource energy on their property

and will cooperate with affected land owners and stakeholders concerning land owner/stakeholder policies and procedures for utilization and development of renewable resource energy projects on their property.

Key industries in the region that provide jobs and income, and enable energy sustainability are to be promoted and assisted in achieving energy security.

The AVCP Calista Region will achieve fuel economy and savings by engaging in engaging in collective and cooperative purchasing, bulk fuel storage and transportation.

AVCP, Calista and all interested participants in this planning process promote the marketing and investment of industry into the region that supports its goals for renewable energy sustainability.

The AVCP Calista Region promotes the planning and development of regional and sub-regional community inter-ties; and supports the consideration of an inter-tie to the railbelt based upon the economic development potential for projects such as the Donlin Creek Gold Mine Development Project.

The AVCP Calista Region promotes the development of a regional energy coalition that includes all the utilities, major electrical consumers and fuel operators in the region, that can consider regional electrical utility and fuel agreements, in order to achieve energy cost savings and efficiencies.

The AVCP Calista Region promotes the education of its members in energy conservation, energy efficiency, renewable energy development and deployment. This education programming must be made available for both schools and the general public through curriculum development, educational materials, annual energy conferences, workshops and summits.

The AVCP Calista Region promotes the continuation of the State of Alaska Power Cost Equalization Program with improvement of its qualifying requirements for utilities, and to include schools and other government facilities affected by the current energy crisis and special provisions for renewable energy deployment.

The AVCP Calista Region promotes the establishment of a dedicated State of Alaska Department of Energy cabinet office and representation in the region for direct support, training and technical assistance.

The AVCP Calista Region supports the establishment of a dedicated renewable energy deployment and energy efficiency equipment loan and grant fund made available in the region that is coordinated jointly with local banking and financing institutions.

The AVCP Calista Region supports the planning, development and utilization of North Slope gas for the region and other rural Alaska communities, whereby gas from the proposed gas pipeline can be delivered to communities in the region.

The AVCP Calista Region promotes legislation that will create an Alaska Fuel Subsidy that will take Alaska Royalty Oil and have it refined in western Alaska in order to help reduce fuel shipment distances to villages, and have heating fuel, gasoline, diesel, aviation fuel, and propane delivered to all of communities in Alaska.

The AVCP Calista Region supports the existing USPS bypass mail system as amended in the Rural Services Improvement Act passed in 2006. The region does not support the current U.S. Postal Service proposal to add 14 villages as hub communities for mainline bypass which would be subsidized at lower rates.

II. Energy Crisis

People throughout the AVCP Calista region are facing an energy crisis of monumental proportions. Fuel prices are high and electric rates keep increasing due to high diesel costs. It has been noted that fuel in some villages is over $10.00 a gallon in many villages of the region during summer of 2008. Some local utilities are faced with a decision to shut down later this winter due to these high prices in order to conserve fuel. Families are forced to make decisions about choosing to stay warm, hunting for food or paying their bills. Delinquency rates in some of the region's AVCPRHA HUD housing projects are at an all time high. Fuel and store credit accounts in many of village stores are also up due to the energy crisis. Recently, the AVCP Executive Board adopted a resolution declaring an energy crisis and demanding the state take steps to reduce fuel prices for utilities and consumers. This resolution followed a similar resolution submitted by the Alaska Village Electric Cooperative which proposed the state take measures to help keep the delivered cost of fuel for utilities at $10.00 per MM/BTU and a cap for other fuels at $12.50 per MM/BTU. Additional efforts are being pursued by the Alaska Federation of Natives to seek family and individual fuel subsidies as well as adopt other energy cost reduction efforts.

III. Goals and Deployment Objectives

Bulk Fuel

Western Alaska Fuel Task Force

Vision
Affordable, sustainable energy for Western Alaska.

Mission
Reduce fuel prices to the consumer by cooperative and collaborative bulk fuel purchases.

Goals

Goal 1: Reduce fuel consumption in 2009 by 10%
Objective 1: Determine fuel users, consumption, and storage capacity of each community (utility, schools, village corporations, local organizations, tribal council)

Tasks:
- Conduct inventory of bulk fuel storage
- Determine financing commitments and fuel purchase procurement procedures

Objective 2: Link villages/users together under cooperative purchase agreements

Tasks:
- Organize fuel distributors/purchasers via letter of intent
- Collaborate with all school districts in the region – determine incentives for cooperation / collaboration
- Promote utilizing 7(i) agreements for credit
- Seek wellhead prices/purchases
- Identify potential wellhead partnerships
- Determine transportation/lease or own options
- Purchase locally policy
- Consider potential unintended consequences of collaborative/cooperative fuel purchases on non-participating fuel purchasers

Objective 3: Seek changes to State and Federal Fuel Programs

Tasks:

- Streamline funding sources and state fuel loan program changes to include streamlining and pre-authorization in application process
- Identify potential waivers of federal/sate taxes - universal exemption/waiver Identify credit worthiness issues and strategies for improving credit

Goal 2: Conduct Education Outreach

Objective 1: Develop collaborative education program with local schools to establish energy curriculum; local energy inventory model (identify energy sources: diesel, gasoline, jet fuel, propane, wood, peat, other local utilized energy resources); identify energy inefficiencies and no-cost and low cost substitute to reduce energy consumption (energy audits); local community energy database (local community energy consumption.

Objective 2: Establish statewide "Energy tip of the day" public service announcements with media (i.e. statewide tv weather programs) providing energy conservation suggestions and ideas.

Western Alaska Refinery

Pursue the development and establishment of a Western Alaska Fuel Refinery to reduce the cost of fuel delivery throughout western Alaska; include the development of bulk fuel storage and delivery for western Alaska and other bulk fuel customers in the Pacific Rim, including the Department of Defense.

Renewable Energy

Expand Wind Energy Projects along the eastern Bering Sea Coast and the Bethel area.

Develop and install Biomass projects in communities along the Yukon and Kuskokwim rivers; including wood fired boilers, heaters and wood chippers for community facilities and buildings.

Install Run of River Small Hydro Projects in communities where the use of this technology is feasible and appropriate.

Pursue continued funding and support for the Denali Commission alternative energy projects.

Regional Utilities

Pursue the development of a wholesale non-profit utility for Bethel and surrounding villages to consider both a consolidated power delivery system and renewable energy deployment.

Pursue the development of sub-regional interties and distribution systems beginning with the development of an intertie to connect St. Mary's, Mountain Village and Pilot Station.

Energy Assistance and Weatherization

Expand energy assistance programs and improvement of weatherization programs by non-profits, tribes and local organizations

Renewable Energy Development Fund

Pursue the development and establishment of a regional renewable energy development fund via public and private financing and the development of a regional cooperative utility.

Natural Gas Exploration and LPG

Pursue the exploration of natural gas in the Lower Yukon Delta and development of an LPG project in the lower Yukon delta region for the development of natural gas and LPG.

Power Cost Equalization

Pursue full funding of PCE, expansion of the program to improve qualification and participation by non-profit organizations and community facilities.

Regional Energy Training and Community Development

Pursue the development of a regional renewable energy training and education center and program for communities and organizations.

Statewide Railbelt Intertie

Pursue Railbelt to YK Region Intertie (establish coalition with Railbelt energy providers)

IV. Legislative Issues

Re-introduce Senate Finance Committee energy resource rebate legislation SB 4002

- $1200 resource rebate
- suspend the motor fuel tax (8 cents/gallon) for additional year
- lift the ceiling for PCE energy assistance from the current 52.5 cents/kwh to $1.15/kwh for the first 500 kwh per month per customer
- $200 million for the States renewable energy grant program – provide for alternative energy project recommendations by the Alaska Energy Authority
- $5.3 million bulk fuel bridge loan fund – increase maximum loan amount to $750,000
- $160 million for the AHFC Energy Efficient Home Grant Fund
- Lowering the PCE floor to allow all utilities in the state to be eligible for the program.
- Electric customers could receive a 5 cent/kwh rebate for up to 2,300kwh a month beyond the first 500 kwh.
- The state would provide a subsidy for all oil heating fuel costs above $3 per gallon up to 850 gallons per winter (September 1 through March 31).
- Increase funding for the Low Income Heating and Electric Assistance Program

Introduce appropriation legislation for specified annual amounts for Community bulk fuel tank farm storage upgrades to include Denali Commission village bulk fuel tank projects.

Western Alaska Refinery

Introduce state and federal legislation authorizing the establishment of a Western Alaska Fuel Refinery at Adak, Alaska for western Alaska and other bulk fuel customers in the Pacific Rim, including the Department of Defense. This refinery will take Alaska Royalty Oil and have it refined in western Alaska in order to help reduce fuel shipment distances to villages.

Renewable Energy

Wind Energy Projects – coastal villages and Bethel

Wind Project Development

Feasibility Studies $5 million per year
- Geotechnical Data Gathering
- Wind Data / Wind Load / Space Heating
- Environmental / Bird Issues

Turbine Equipment Procurement

Purchase of 2-3 types of wind turbines

Regional Wind Turbine Deployment $50 million per year

Community Wind Diesel Projects (beginning with AVEC and Chaninik Wind Group Projects)
- Mekoryuk
- Quinhagak
- Eek
- Kongiganuk
- Kipnuk
- Kwigillingok

Sub-regional Interties (beginning with AVEC projects)
- Mountain Village / St. Mary's / Pilot Station
- Alakanuk / Emmonak

Biomass wood fired boilers, heaters and wood chippers for community facilities and buildings

Wood Heating – Wood Chipper Projects $5 Million per year

Run of River Small Hydro Projects

Small Hydrokinetic Electric Run-of-River Projects $15 Million per year

Sub-Regional Hydro Projects

Kiseralik, NYAC Subregional Hydro Feasibility Study $100,000
(Potential $250 million total project cost)

Regional Utilities

Sub-regional interties and distribution system: beginning with St. Mary's, Mountain Village and Pilot Station.

Pursue the development of a wholesale non-profit utility for Bethel and surrounding villages to consider both a consolidated power delivery system and renewable energy deployment.

Pursue renewable energy feasibility studies and planning for Bethel and nearby villages (Tuluksak, Akiak, Akiachak, Kwethluk, Oscarville, Napaskiak, Napakiak, Eek, Atmautluak, Kasigluk, Nunapitchuk, Quinhagak)

Hydropower and Subregional Interties – Kiseralik, NYAC
Hydrokinetic – Run of River Power Plants
Wind Energy –Subregional Wind Turbines and interties
Biomass Energy Heating Systems
Power System Upgrades

Energy Assistance and Weatherization

Introduce legislation to expand and consolidate energy assistance programs and improvement of weatherization programs by non-profits, tribes and local organizations, and to also include weatherization assistance and energy savings technologies for community buildings.

Renewable Energy Development Fund

Introduce appropriation legislation for annual statewide renewable energy program and including Denali Commission alternative energy projects.

Pursue the development and establishment of a regional renewable energy development fund via public and private financing and the development of a regional cooperative utility. Public financing from a portion of permanent fund earnings set at $200 million per year statewide for rural Alaska.

Natural Gas Exploration and LPG

Pursue the exploration of natural gas in the Lower Yukon Delta and development of an LPG project in the lower Yukon delta region for the development of natural gas and LPG.

> Establish a western Alaska natural gas exploration program in the state division of oil and gas to promote and pursue exploration in western Alaska.

Power Cost Equalization

Pursue full funding of PCE, expansion of the program to improve qualification and participation by non-profit organizations and community facilities.

Regional Energy Training and Community Development

Introduce legislation for the development of a regional renewable energy training and education center and program for communities and organizations with the University of Alaska and State Department of Education.

2-08-09 Alaska Energy Authority Statewide Energy Report, Nome Testimony

<target><bill></bill><subject>2-08-09 Alaska Energy Authority Statewide Energy Report, Nome Testimony</subject><comm>HENE26</comm></target>

2009 LEGISLATIVE PRIORITIES PRESENTED TO THE STATE OF ALASKA

September 1955
Photo Courtesy of the Carrie M. McLain Memorial Museum

~ Carrie M. McLain, Nome City Clerk-Treasurer, 1943-1957 ~

Carrie was the first woman to be elected City Clerk and kept Nome's records safe during her tenure. After retirement she made collecting and preserving Nome's history her top priority. Nome's Museum is named in her honor.

"There's no place like Nome"

City of Nome, Alaska
2009 State Legislative Priorities

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City of Nome, Alaska

Denise Michels, Mayor

Nome Common Council

Stan Andersen
Jerald Brown
Neal Foster

Mary Knodel
Jon Larson
Randy Pomeranz

Nome School Board

Gloria Karmun, President

Betsy Brennan
Albert McComas
Barb Nickels
Kirsten Timbers

Nome Joint Utility Board

Jim West, Jr., Chairman

Carl Emmons
Fred Moody
David Barron
Berda Willson

Nome Planning Commission

Irene Anderson, Chairman

Jerald Brown
Gregory Smith
James Adams
Tom Sparks
Charlie Weiss
Jeff Darling

Nome Port Commission

Jim West, Jr., Chairman

Charlie Lean
Jim Rowe

Personnel

Josephine Bahnke, City Manager
John Handeland, Utility Manager
Sandy Babcock, City Clerk
Dallas Massie, Interim Police Chief
Brooks Chandler, City Attorney
Caroline Kauer, City Controller
Rick Luthi, Superintendent of Schools
Wendy Chamberlain, Lobbyist
Larry Markley, Lobbyist

CITY OF NOME

Celebrating 100 Years of Gold Rush History

Incorporated April 9, 1901

January 20, 2009

The Honorable Sarah Palin, Governor
The Honorable Gary Stevens, Senate President
The Honorable Mike Chenault, Speaker of the House

Subject: 2009 State Legislative Priorities for the City of Nome, Alaska

Dear Fellow Alaskans:

The City of Nome is pleased to provide you with its 2009 State Legislative Priorities. The Nome Common Council conducted meetings with Citizens, Boards and Commissions and adopted resolutions endorsing the capital projects and position statements for inclusion in this session's Legislative Priorities package.

We find ourselves with the strong will to continue investing in our community. Nome desires to improve our economic base and to pursue and develop long-range projects that will provide stable employment for our Citizens. Nome's aggressive approach to move forward is evidenced by seeking projects that will improve the quality of life for the Citizens of Nome, our welcomed visitors and for the surrounding villages, who view Nome as the center for many of their needs.

We work closely with our local partners to diversify and strengthen our economy. We do seek State assistance to help us meet the demands and needs of our citizens.

We seek the State of Alaska's assistance and support for Capital Projects and Legislative Positions contained within this document. The City has prioritized the following capital projects for consideration:

1. Water and Sewer Infrastructure Improvements; and
2. Carrie M. McLain Memorial Museum Construction.

The City has identified other issues of importance to the community meriting state consideration:

A. Nome City Community Infrastructure;
B. Nome School Capital Improvements;
C. NJUS Power Generation Issues;
E. Alaska Army National Guard Readiness Center;
F. State Office Building;

P.O. Box 281 • Nome, Alaska 99762 • Telephone 907-443-NOME • Fax 907-443-5349
www.nomealaska.org

G. Pioneer/Veterans Home in Northwest Alaska;
H. Norton Sound Health Corporation Detoxification Center;
I. State Fiscal Issues; and
J. Department of Transportation Planning.

We will actively promote State assistance for these items through our lobbyist, Ms. Wendy Chamberlain. She will be able to assist you on these projects and can describe our need and interest for the projects included within the Legislative Priorities. The City's staff and I are available and eager to provide additional information to you and your staff. If I can be of any assistance, please do not hesitate to call me at 443-6610 or Ms. Josie Bahnke, City Manager at 443-6600.

We thank you for your continuous support and consideration of our 2009 Legislative Priorities.

Sincerely,
CITY OF NOME, ALASKA

DENISE MICHELS
MAYOR

Presented by:
Mayor
Action Taken:
Yes 5 No ~~0~~
Abstain ~~0~~

CITY OF NOME, ALASKA

RESOLUTION NO. R-08-12-03
A RESOLUTION ENDORSING PROJECTS AND POSITION STATEMENTS FOR THE CITY OF NOME 2009 STATE LEGISLATIVE PRIORITIES

WHEREAS, a public hearing and joint work session of the Nome City Council, Nome Joint Utility Board, Nome School District Board, Nome Planning Commission, and Nome Port Commission was held in Nome, Alaska on Wednesday, November 19, 2008; and,

WHEREAS, it is with unanimity that the following prioritized projects are considered worthy of advocacy to State of Alaska legislative and administrative leaders:

Priority #1- Water and Sewer Infrastructure Improvements;

Priority #2 - Carrie M. McLain Memorial Museum Construction; and,

WHEREAS, it is with unanimity the following Community Infrastructure items are considered worthy of advocacy to State of Alaska legislative and administrative leaders:

Nome City Community Infrastructure:
- Remodel Recreation Center for Emergency Shelter Services
- Extension of Steadman Street to the By-pass Road for Future Community Development
- Covered Multi-Use Recreational Structure
- Construction of Consortium Library with the University of Alaska;

Nome School Capital Improvements:
- Fire Alarm Facility Upgrade – Part B
- Nome Elementary School Hot Water Boiler System Replacement
- Nome Elementary School Gym Floor Replacement

NJUS Power Generation Issues:
- Develop Alternative Energy Production Sources, including Geo-Thermal and Energy Storage Technology
- Protection/Relocation of Electrical Distribution Facilities in Flood Prone Areas
- Expand Eligibility and Maximum Loan Limits for Participation in State Revolving Bulk Fuel Loan Fund;

WHEREAS, it is with unanimity that the following legislative position statements are supported by the City of Nome and considered worthy of advocacy to State legislative and administrative leaders:

Alaska Army National Guard Readiness Center;

State Office Building;

Pioneer/Veterans Home in Northwest Alaska; and,

Detoxification Center

WHEREAS, it is with unanimity that the following legislative position statements are supported by the City of Nome and considered worthy of advocacy to State of Alaska legislative and administrative leaders:

State Fiscal Issues:

- -Support for the Municipal Revenue Sharing Program
- -Support for PERS/TRS Liability Funding and Establishment of a Program to Insure a Sustainable Retirement System
- -Support to Expand the PCE Program to include Municipal Facilities, Schools, Health Facilities and Commercial Enterprises not Eligible Under Existing Law
- -Long Range Community/ Infrastructure Development Nome Airport Master Plan
- -Support of Transportation Infrastructure Funding
- -Support of DOT/PF Northwest Alaska Access Study
- -Support of the Development of the State of Alaska's Renewable Energy Resources and the Continuance and Expansion of Programs that Increase End-Use Conservation and Energy Efficiency

NOW, THEREFORE, BE IT RESOLVED that the Nome City Council endorses the aforementioned items for inclusion in the City of Nome 2009 State of Alaska Legislative Priorities Package.

APPROVED and **SIGNED** this 22nd day of December, 2008.

DENISE MICHELS, Mayor

ATTEST:

Sandy Sturgis-Babcock

SANDY STURGIS-BABCOCK, City Clerk/Treasurer

Develop Alternative Energy Production Sources Including Geothermal and Energy Storage Technology

Diesel-powered generation is the primary source of electricity for distribution to the Nome area. The volume of diesel fuel required, combined with the maritime freight cost associated with its delivery to Nome, results in a high production cost, nearly 300% of the National average; a family's electric bill in Nome can easily cost double that of electric service in larger metropolitan areas of the state. Seeking alternative methods of power generation to reduce reliance on diesel and the associated extreme energy costs is a high community priority. Native corporations have installed wind generation and the City utility is seeking to increase wind capacity through construction of additional wind generation.

In collaboration with DOE's National Energy Technology laboratory (NETL) and the Alaska Energy Authority, a Nome Region Energy Assessment analyzed options available to Nome for electric power production and space heating, and reviewed options available to reduce the dependence on diesel generators. The study considered various alternatives, including coal, natural gas, geothermal and wind. The most promising option was wind generation to supplant some of the power produced by diesel fuel. The City's Nome Joint Utility System (NJUS) committed local funds and with cooperation by Alaska Energy Authority, wind-monitoring sites were established – and data used to develop the Native corporation farm. Additional data is being collected to confirm previous data collections for the planned City addition. In the construction of a new power generation facility for the community, switchgear and other requisite control technology was incorporated to allow the addition of wind generation in the future.

The wind study model was comprised of adding 3 megawatts. At a projected cost of $15 million, Alaska Energy Authority's evaluation assigned a benefit/cost ratio of 2.38. It is estimated that 400,000 gallons of diesel fuel can be displaced on an annual basis. AEA has recommended the City's Newton Wind Farm for funding under the State's Renewable Energy Grant Program.

The City believes additional energy storage technology must be included to achieve the maximum benefit and opportunity for additional savings. A battery energy storage component is being investigated.

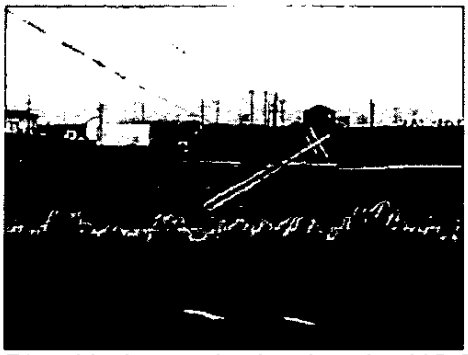
A geothermal site at Pilgrim Hot Springs may provide additional opportunity to convert electrical generation from diesel. Additional investigation and confirmation is required to determine potential production that could be available. If viable, use of this site by Nome would require the construction of a 50 mile transmission line.

Recommendation:

The City of Nome requests state and federal agencies' support and financial assistance to install wind generation and energy storage technology, and to continue evaluation of other alternatives, including geothermal potential.

Protection/Relocation of Electrical Distribution Facilities in Flood Prone Areas

Existing overhead power distribution lines are threatened with destruction by storms, ice, and coastal erosion. Failure or destruction of these primary electrical distribution lines has potential to plunge the entire community into the dark, jeopardizing the health and welfare of Nome's citizens and puts other community and utility infrastructure in peril. A high priority of the community is to relocate and reconstruct these primary electrical distribution feeders from overhead distribution lines that cross aerially to lines that are buried under the Snake River.



All main distribution feeders from the power plant route aerially over the Snake River. In fall storms (2004 and again in 2005) the river banks eroded and put these power distribution feeders in peril. Emergency repairs were done to stabilize the structures; however, a permanent fix or alternative is a high priority to insure continued uninterrupted power distribution to the entire community. This critical need is identified in the 2006 All-Hazards Mitigation Plan Update submitted to the US Department of Homeland Security/FEMA.

The interruption of power service in the community can result in immediate hazards to public health, which can be exacerbated during winter months. The community's water and wastewater systems are also heavily dependent on electricity, which if lost results in sewage disposal pumps not functioning, and if for any appreciable duration would allow manholes to fill and overflow untreated sewage onto streets. Water wells to supply the community are dependent on electricity to bring water to town, and because of freezing potential, it must be constantly circulated.

Routing the feeders under the Snake River will mitigate the potential for interruption of the power supply by removing existing infrastructure from locations within the flood plain that are subject to coastal erosion, seasonal sea storm surges, floating debris and ice flows during annual seasonal breakup of the Snake River.

Recommendation:

The City of Nome requests $3 million in state and federal assistance to allow relocation of the facilities in peril from flooding and erosion.

Expand Eligibility and Maximum Loan Limits for Participation in State Revolving Bulk Fuel Loan Fund

Rural communities must purchase fuel for electric generation for an entire year during open shipping seasons. Because of the short window, communities are often saddled with higher costs throughout the year, with no ability to make periodic multiple purchases to take advantage of any favorable price fluctuations.

The Legislature established the Bulk Fuel Revolving Loan Fund (AS 42.45.250) for the purpose of assisting communities in purchasing bulk fuel supplies. However, the program is limited to communities with a population under 2,000 and a maximum loan amount of $750,000 per fiscal year. Interest rates vary – generally no interest on the first loan, 5% on the second, and at a rate based on average weekly yield of municipal bonds in subsequent years.

With the recent financial market crisis, it has become more difficult for communities to arrange commercial financing for the required annual purchases. Higher fuel costs or other community bonding requirements can result higher interest rates on fuel borrowings when a community requirement exceeds $10MM and, therefore, does not receive "bank qualified" tax exempt interest rates.

Recommendation:

The City of Nome recommends the Legislature allow larger Alaska communities to participate in the Bulk Fuel Revolving Loan Fund:

- By amending AS 42.45.250 to:
  - Increase population threshold (to at least 7,500)
  - Increase maximum loan amounts (to fully fund a community's annual fuel purchase requirement: at least $10,000,000; loan aggregation: larger communities may require more than one fuel delivery based on barge capacity or scheduling)
  - Reduce or eliminate interest rates ("application fee" and "origination fee" could still apply)
  - Allow repayment on a flexible installment (equivalent to consumption – "pay as you take")
  - Allow longer repayment terms (over up to 16-18 months: depending on summer delivery schedules, a community's fuel purchase may need to be for more than 12 months to avoid running out if barges are delayed, etc. [For example: year one delivery occurs in June and perhaps year two delivery cannot occur until August or September.])
- By providing additional capitalization to the Fund to insure sufficient corpus exists to meet potential borrowing requirements of all eligible communities.

Support to Expand the PCE Program to include Municipal Facilities, Schools, Health Facilities and Commercial Enterprises not Eligible Under Existing Law

Energy costs throughout the community of Nome are creating significant financial burdens for many residents and businesses. The fuel distributors purchase fuel at a contract price that remains fixed even when prices fall. Our City, school district, hospital and businesses are facing increasing difficulty meeting energy expenses. The high cost of fuel for space heating and electricity generation threatens the stability of our community.

The State of Alaska administers the Power Cost Equalization (PCE) Program to provide residents relief from burdensome fuel costs, thereby providing for community stability and economic relief. In 2008, the Alaska Legislature amended the PCE program by raising the eligibility ceiling to $1.00 per kilowatt-hour for one year.

Although energy prices have plummeted nationwide, rural Alaska has no hope of seeing any benefit until current fuel supplies that had to be received prior to winter freeze-up are exhausted. Most rural Alaskans will continue to pay high fuel costs well in to summer or beyond.

Recommendation:

The City of Nome urges the Governor and the Alaska Legislature to expand the Power Cost Equalization Program to include all municipal facilities, school districts, hospitals and health facilities and commercial enterprises with an appropriate increase in the 70 KwH per capita credit used to calculate the subsidy, and provide comprehensive assistance to eligible communities.

The City of Nome believes that the expanded PCE program should provide short-term relief from burdensome energy costs and be phased out if energy costs fall.

Further, to provide the necessary relief right now – the expanded program needs to be effective as soon as possible (or even retroactive to October 2008).

Support of the Development of the State of Alaska's Renewable Energy Resources and the Continuance and Expansion of Programs that Increase End-Use Conservation and Energy Efficiency

The increased volatility in the price of oil, and the resulting uncertainty, is the cause for great alarm among Alaska's residents, businesses and public entities. Future sustainability of communities and the state as a whole depends upon the development of renewable energy resources, increasing the efficient use of energy, and increasing the widespread use of conservation measures.

Alaska is blessed with abundant renewable energy resources including wind, geothermal, hydroelectric, biomass, solar and in-water (tidal, wave, river) resources. Substantial energy savings for households, businesses and local governments will result from new and retrofitted energy-efficient buildings, appliances and heating systems.

The state's and the nation's energy security is enhanced to the extent that imported fossil fuel is replaced with renewable energy sources and energy conservation. It is both timely and urgent to reduce our dependence on fossil fuels. It is within the State's ability to implement and expand renewable energy and energy conservation programs, and see that the Alaska Gasline is constructed.

Recommendation:

The City of Nome urges the Governor and the Alaska Legislature to:

- Expand a fully-funded Home Energy Rebate Program to include business and industry;
- Continued funding for the Low Income Home Weatherization Program;
- Continue to provide Renewable Energy Grant funding assistance to expand the percentage of energy produced in the state from renewable and alternative sources, particularly in high-cost regions such as Nome and the Bering Straits;
- Create funding incentives for utilities, including municipalities, to develop alternative resources;
- Create a regulatory environment which will encourage development of alternative and renewable energy;
- Provide funding assistance to all new and retrofitted public buildings to meet certified energy efficiency standards; and
- Coordinate regional energy planning to promote efficiencies;
- Construct the Alaska Gasline to reduce dependency on imported fuel.

2-10-09 Presentations: National Conference of State Legislators and Renewable Energy Alaska Project

<target><bill></bill><subject>2-10-09 Presentations National Conference of State Legislators and Renewable Energy Alaska Project</subject><comm>HENE26</comm></target>

ALASKA STATE LEGISLATURE

SENATOR LESIL McGUIRE
Chair, Senate Special Committee on Energy

MEMORANDUM

Date: February 9, 2009

To: Senate Special Committee on Energy Members and Staff

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 9-13

Tuesday, February 10th @ 3:00 p.m. – In the Senate Finance Committee Room

+ Joint Senate and House Energy Committee Work Session:
Pathway to Energy Committee's Comprehensive Statewide Energy Plan

Presenters:

Kate Marks, Energy Program Director, National Conference of State Legislatures
Chris Rose, Executive Director, Renewable Energy Alaska Project

Thursday, February 12th @ 11:00 a.m. in the Butrovich Room 205

* + SB 31: Geothermal Electricity Production Tax Credit
* + SB 54: Price Gouging Involving Energy Resources
+ = *Bills Previously Heard/Scheduled*

ALASKA STATE LEGISLATURE

SENATOR LESIL McGUIRE
Chair, Senate Special Committee on Energy

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

Electric Market Overview: Renewables

Federal Energy Regulatory Commission • Market Oversight @ FERC.gov

Renewable Energy Portfolio Standards (RPS)

28 States and D.C. have an RPS

WA: 15% by 2020

OR: 25% by 2025; small utilities 5-10%

ID: Priority to DR, EE, and in-state RE

CA: 20% by 2010; goal: 33% by 2020

NV: 20% by 2015; solar 5% per year

UT: 20% by 2025

CO: 20% by 2020; co-ops & munis 10%; includes 4% solar

AZ: 15% by 2025; includes 30% DG

NM: 20% by 2020; co-ops 10%

TX: 5,880 MW by 2015; goal: 10,000 MW by 2025

MT: 15% by 2015

ND: 10% by 2015

SD: 10% by 2015

NE: studying RPS

KS: goal - 20% wind by 2020; introduced RPS bill

MN: 25% by 2025
Xcel 30% by 2020

IA: 105 MW in RPS
goal: 1,000 MW wind by '11

MO: 15% by 2021; at least 2% solar

OK: Studying an RPS

AR: Utility IRPs to include RE

WI: 10% by 2015

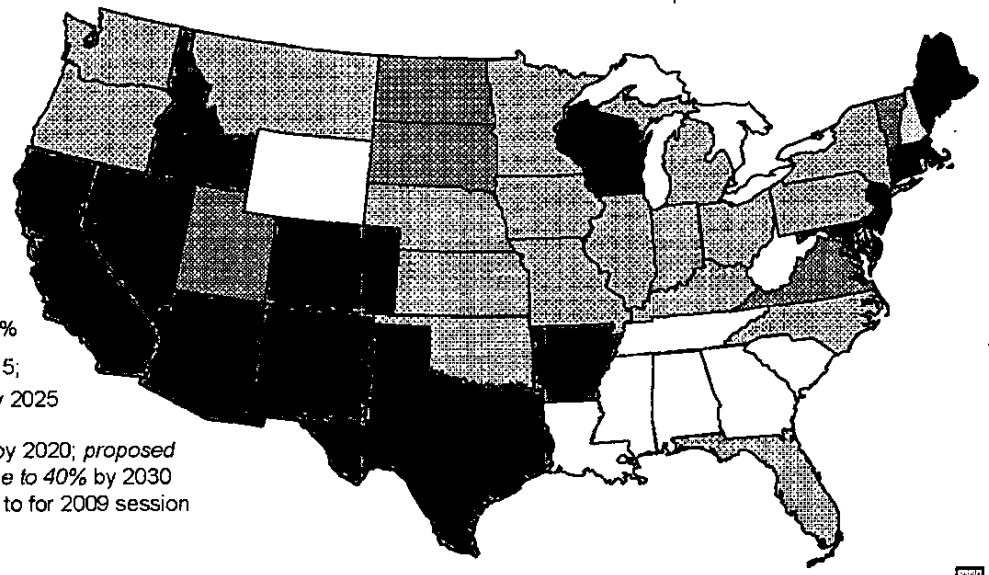
IL: 25% by 2025

MI: 10% by 2015, and new RE capacity: 1,100 MW by 2015

OH: 12.5% by 2025; 0.5% solar

IN: 2 bills introduced

KY: Report recommends RPS



HI: 20% by 2020; *proposed increase to 40%* by 2030 agreed to for 2009 session

AK: issued Energy Report

ME: 40% by 2017
goal: 3 GW wind by 2020

NH: 23.8% BY 2025

VT: 25% by 2025

MA: 15% by 2020; goal: 250 MW solar by 2017

RI: 16% by 2019

CT: 23% Class I/II by 2020
4% Class III by 2010

NY: 25% by 2013

PA: 8% Tier I, 10% Tier II by 2020; 0.5% solar set-aside

NJ: 22.5% by 2020; 2% solar

DE: 20% by 2019, with 2% solar

DC: 20% by 2020, with 0.4% solar

MD: 20% by 2022, with 2% solar

VA: 12% by 2022

TVA: 50% of generation from zero- or low-carbon sources by 2020*

NC: 12.5% by 2021
co-ops & munis: 10% by 2018

FL: draft RPS to legislature: 20% by 2020

- RPS
- Strengthened/ amended RPS
- Voluntary standards or goals
- Proposed RPS or studying RPS
- Other renewable energy goal

Updates at: http://www.ferc.gov/market-oversight/mkt-electric/overview/elec-ovr-rps.pdf

Notes: Alaska has no RPS; TVA's "Renewable Energy and Clean Energy Assessment" is not a state policy: the Public Power Authority called for 50% of generation from zero- or low-carbon sources by 2020.
Abbreviations: DG: distributed generation; DR: demand response; EE: energy efficiency; IRP: integrated resource plan, RE: renewable energy.
Sources: Derived from data in: EEI, EIA, LBNL, PUCs, State legislative tracking services, Database of State Incentives for Renewables and Efficiency, Pew Center, and the Union of Concerned Scientists.

Updated February 2, 2009

Renewable Energy Portfolio Standards

- **A Renewable Portfolio Standard (RPS)** requires a percent of energy sales or installed capacity to come from renewable resources.
- **29** states – including D.C. – have renewable energy standards.
- **Six** have renewable goals without financial penalties: KS, ND, SD, UT, VT and VA.
- **Six** states proposed RPS bills or released studies that propose including more RE in state resources: FL, IN, KS (bills) and AK, KY, NE (state energy reports).
  - **Florida's PSC** sent its draft RPS to the legislature in response to an April 2008 legislative requirement. The legislature will decide how to proceed.
  - **Indiana's** House introduced two bills for an RPS in January. A traditional one has a 20% by 2020 target; the other creates two compliance tiers. An RPS bill did not pass last year.
  - **Kansas** introduced an RPS bill, with a 20% by 2020 target based on a utility's average peak load (in MW) for 2016-18. (Jan 14)
  - **Alaska** issued "Sustainable Energy for Alaskans" as a guide for communities to review local energy sources including in-river hydro, wind, solar, wave, tidal, biomass, and geothermal, in addition to traditional resources. It does not recommend state action or set a RE goal. (Jan 7)
  - **Nebraska's** "*Interim 2009 Energy Plan*" supports enacting an RPS and stresses EE, RE, and Nebraska's commitment to nuclear power. A final report will identify regulatory and statutory activities following the comment period, which closed Jan 23.

OVERVIEW OF 2008 RPS DEVELOPMENTS:

- **Three states passed a new RPS:** Ohio, Michigan, and Missouri. Ohio's and Michigan's were by state legislation; Missouri's was the third RPS to pass by ballot (after Colorado and Washington state).
- **Five jurisdictions amended or strengthened** existing standards: Washington, D.C.; Maryland; Massachusetts; Minnesota; and New Hampshire.
- **Four states** with an existing goal or RPS strengthened them: ME, VT, CA, HI. Maine enacted an installed wind goal. Vermont increased its goal to 25% RE by 2025. California's goal, set by Executive Order, is to increase RE to 33% by 2020. Hawaii set a goal of 40% of energy from renewable sources by 2030.
- **Four states** adopted a voluntary RPS or renewable goal: SD, UT, KS, and FL. South Dakota (Feb) and Utah (April) enacted goals without non-compliance penalties. An MOU between the Governor and Kansas utilities created its goal. Florida's goal, via Executive Order, is for utilities to produce 20% from RE; the PSC sent a draft RPS to the legislature on Jan 30.
- Kentucky and Oklahoma are working to establishing a renewable standard by legislation in 2009. In 2008, OK passed a bill allowing recovery of wind-related transmission costs.
- **Sixteen** states include energy efficiency in their RPS or renewable goals. Several issued major energy plans or draft plans with goals encompassing renewable energy, energy efficiency, and greenhouse gas reduction, including Kentucky, New Jersey, New York, and Vermont.

Abbreviations: EE: Energy Efficiency; MOU: Memorandum of Understanding; PSC: Public Service Commission; RE: renewable energy; RPS: Renewable Portfolio Standard

Updated February 2, 2009

Energy for Alaskans

A SWOT Analysis for the Way Forward

Chris Rose
Executive Director
Renewable Energy Alaska Project (REAP)

Joint Senate-House Energy Committee Meeting
Juneau, Alaska
February 10, 2009

What is Renewable Energy Alaska Project (REAP)?

A coalition of 61 small and large Alaska electric utilities, businesses environmental groups, consumer groups, Alaska Native organizations and energy agencies with the *goal of "increasing the production of renewable energy in Alaska."*

SWOT Analysis

- Strengths
- Weaknesses
- Opportunities
- Threats

Strengths

Vast renewable energy (RE) resources

- Stably priced = no fuel costs
- Clean
- Local
- Inexhaustible

Vast reserves of natural gas

Strengths

Economic Resources:

Alaska Permanent Fund

Federal stimulus money

Strengths

- Excellent core staff at AEA and AHFC
- AEA "Alaska Energy" Report
- Recent CCHRC Efficiency Report
- Legislative commitments through
  - Renewable Energy Grant Fund
  - Weatherization and Efficiency Rebate Programs

Strengths

- Lots of motivated people and communities
  - Railbelt Energy Grid Authority
  - Tri-Borough Commission
  - Balanced Energy Plan for Alaska
  - Anchorage Chamber of Commerce
  - Alaska State Chamber of Commerce
  - Fairbanks Economic Development Council
  - SWAMC
  - NANA

Weaknesses

- Current heavy dependence on natural gas and diesel to generate heat and electricity
  - Price risk
  - Carbon risk
  - World commodity pricing

Overall economy is undiversified and heavily dependent on fossil fuel revenues

Weaknesses

- Energy agency efforts are decentralized and understaffed
- Very little Research & Development
- No coordinated job training for energy related jobs

Weaknesses

- Many renewable and fossil resources are stranded
- Populations (electrical and heating loads) are small
- Distances for transmission are great

Weaknesses

- Railbelt utilities not mandated to do integrated planning for generation and transmission
  - Limited financing capabilities
  - Lost economies of scale
  - Weakened planning efforts

Weaknesses

- Relatively inefficient housing and building stock
- No statewide building codes
- No baseline data
- No public education programs
- No statewide efficiency goals
- Efficiency not rewarded through regulation

Weaknesses

No consistent funding mechanisms for energy programs

No mechanism in place to reach 50% RE goal

Relatively weak Regulatory Commission (RCA)

PCE does not reward RE or efficiency

Opportunities

- Strengthen Alaska Energy Authority
  - Chorisse – Gave AEA more authority – M is forced to set parameters too often to do something.
- Good timing to do things differently with a Unified Power Producer in Railbelt
  - Take a hard look at regulatory reform
  - Energy efficiency first
  - Adjust PCE

Opportunities

- Create a funding pool for performance contracting
- Leverage the Permanent Fund for "Blended Value" investing

instead of requiring maximum value allow trustees to take a lower ~~to~~ rate of return ~~for~~ in return for other priorities

- Expand the Power Project Loan Fund

$10 M not enough.

Opportunities

- Diversify and strengthen economy by developing and perfecting small scale technology

- Strengthen the University energy curriculum and R & D efforts
  - Alaska has "first mover" advantage in several technologies that have application in the developing world

Opportunities

- Expand efficiency programs & improve job training for contractors
- Retrofit all public buildings over time
- Support public energy efficiency and conservation education programs

Opportunities

- Electric transportation
- Electric heating
- Remain an "energy exporter"
- Increase our competitiveness and improve our investment climate
- Remain an energy state
- Preserve communities and cultures

Threats

- Delaying action
- Competing solutions (projects) not recognizing how they fit together.
- Uncoordinated efforts
- Entrenchment
- Inordinate focus on fossil fuels
- Declining oil revenues
- Competitors around the world
- Ignoring heating and transportation
- Climate change - BS!!
- Alaska's food supply

760

Why Policy Now?

All economies need affordable energy to prosper

The price of fossil fuel will likely continue to trend upward

Alaskans already feeling the hit of high prices

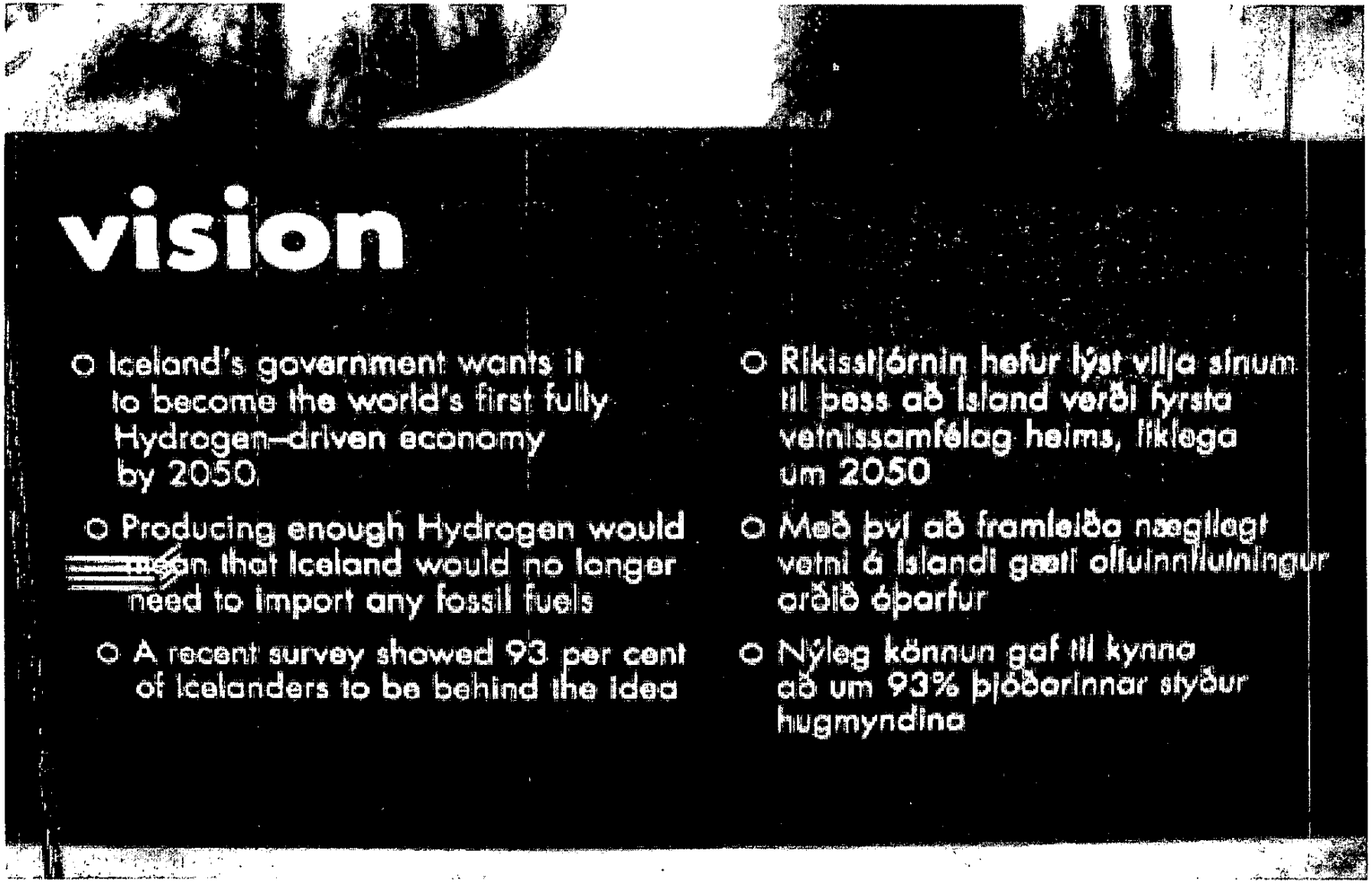
Coal, natural gas and diesel will all likely face carbon regulation/tax

Power plants are 20-100 year decisions

Major decisions for Alaska's long term future need to be made in the next 5 years

The time is ripe for policy creation & regulatory and structural reform

Iceland's Vision



Thank You

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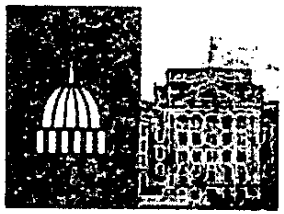


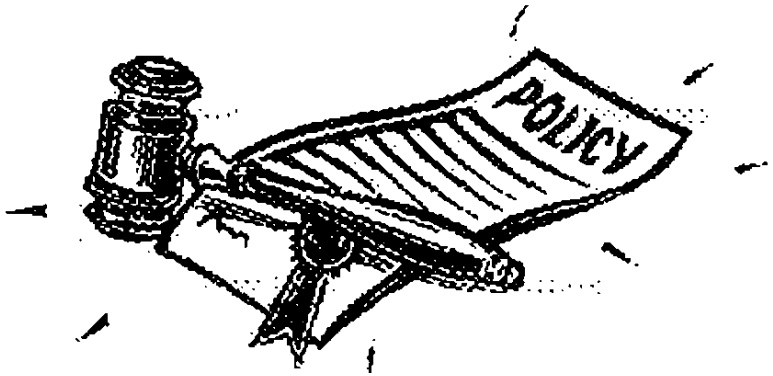
State Energy Policy

Developing an Energy Strategy

Kate Marks
Energy Program Director
National Conference of State Legislatures

State Case Studies

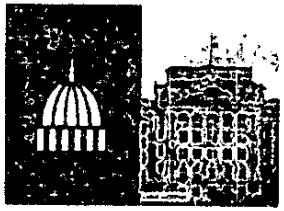
- Process followed
- Structure of task force
- Objectives of the policy
- Topics covered
- Metrics and Results



What topics do states address?

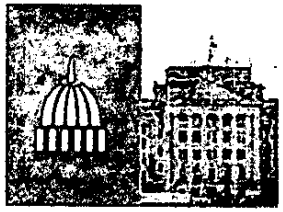
- Petroleum
- Natural gas
- Coal
- Fuel diversity
- Transportation
- Economic development
- Coalbed methane
- Electricity reliability
- Security
- Transmission

- Net energy balance
- Imports vs. exports
- Energy efficiency and conservation
- Wind
- Biomass
- Ethanol
- Solar
- Oil
- Electric utilities



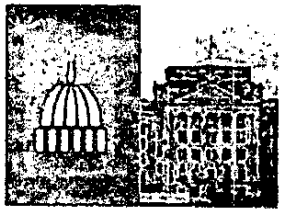
Goals and Objectives

- Improve the public health and environmental quality
- Promote wise land use
- Ensure energy reliability and security
- Implement strategies supportive of a sound economy
- Develop an achievable sustainable energy strategy
- Implement a strategy by which the state can lead by example
- Improved mobility of people and goods
- Low-cost, reliable, and sustainable energy, produced in-state to the fullest extent possible



Goals and Objectives

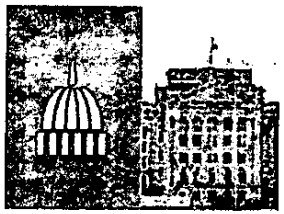
- Dependable, efficient, and economical statewide energy systems capable of supporting the needs of the people
- Increased energy self-sufficiency where the ratio of indigenous to imported energy use is increased
- Reduce the ratio of energy consumption to economic activity
- Increase the use of cost effective renewable resources
- Expand forested areas to ensure a future supply of wood fuel and reduce atmospheric carbon dioxide
- Maintain low-cost energy



KANSAS

Process and Structure

- Est. by Gov. Sebelius in 2004, in Executive Order 04-05
- Kansas Energy Council
  - Large and diverse group
  - Governor expanded the council to include additional sectors
- Council divided into standing committees
- Council participants paid their own way and used their own time



Kansas Energy Report 2006

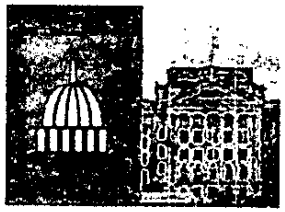
Kansas Energy Council

KANSAS

Report and Recommendations

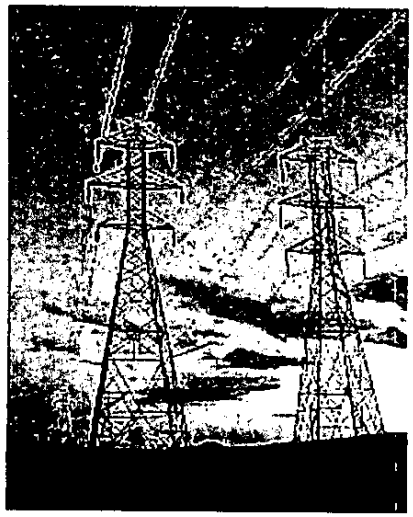
- Legislative (5), Executive (3), and agency (4) recommendations
- Included short- and long-term goals
- Comprehensive policy
  - Considered entire energy profile
- Updated on a staggered basis
- Budget allocated for staff time = $100K

770



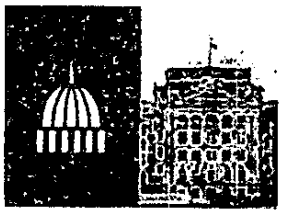
2008 Gov. of Kansas disbanded Kansas Energy Council

KANSAS



Results and Lessons Learned

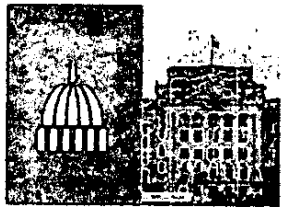
- Passed ethanol, efficiency, electricity transmission bills
- Increased federal funding
- Developed a transmission authority



Keep in mind...

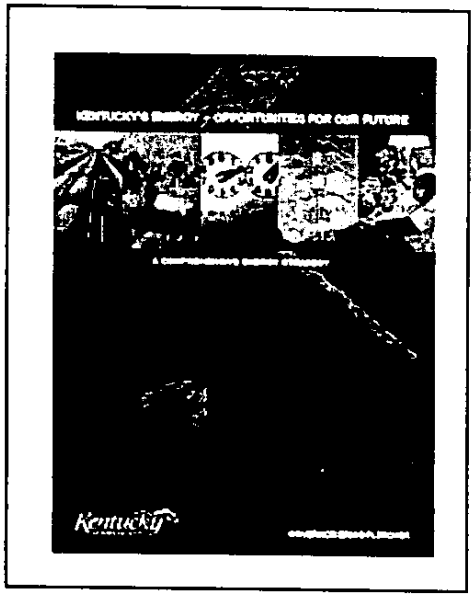
"We're doing this for the next generation, not the next election."

Rep. Tanya Pullin (KY)
House Chair, Energy Committee



KENTUCKY

Report and Recommendations



- Report is a 'guiding' policy
  - Less than 40 pages
- 54 recommendations
- Governor has passed 8 executive orders based on recommendations
- 2-3 recommendations per session are introduced to legislature

KENTUCKY

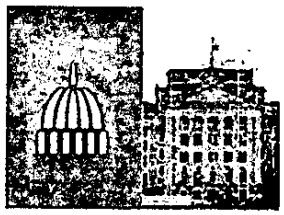
Process and Structure

- "Took no time and no money"
- Bipartisan - Enthusiasm from both sides
- Energy Policy Task force
  - 7 members
- Public input
- *General* policy

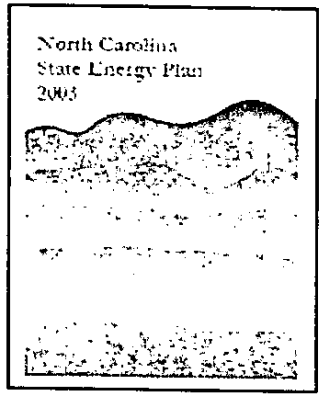
NORTH CAROLINA

Energy Policy Working Group

- Held nine days of expert sessions
- Input from over 25 stakeholders affected by energy consumption and supply
- Public input
- Created draft set of recommended policies and programs to the Energy Policy Council

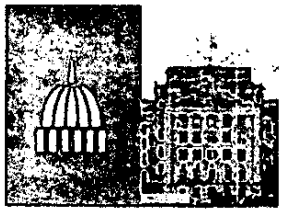


NORTH CAROLINA



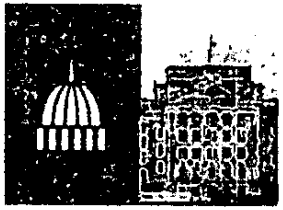
Report and Recommendations

- The Council approved 93 measures to develop an energy plan.
  - Recommended 15 key legislative, regulatory, and administrative policies for action that year
- Energy plan:
  - Directs State Energy Office activities
  - Makes recommendations to utilities
  - Makes requests to general assembly
    - Develop an RPS
    - Investigate public benefits fund



NORTH CAROLINA

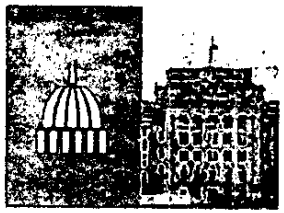
- State Energy Office and Appalachian State University Energy Center staff compiled the plan
- Plan involves a significant follow-up effort
  - SEO reports quarterly to the council
  - Revise the plan annually
- Funding proposals to the State Energy Office must be consistent with energy plan

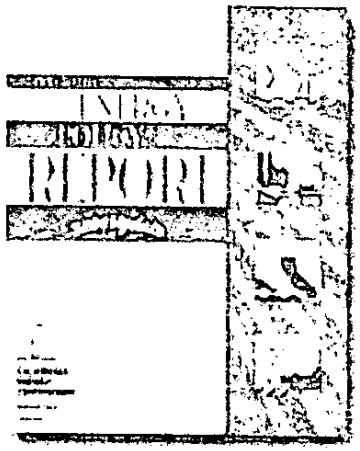


CALIFORNIA

Process and Structure

- IEPR Committee
  - 2 of the 5 commissioners comprise the committee
- 2-year process
- Public input – 60 hearings around the state
- Legislative and expert input – 140 organizations
- Governor's office reviews report and sends to the legislature



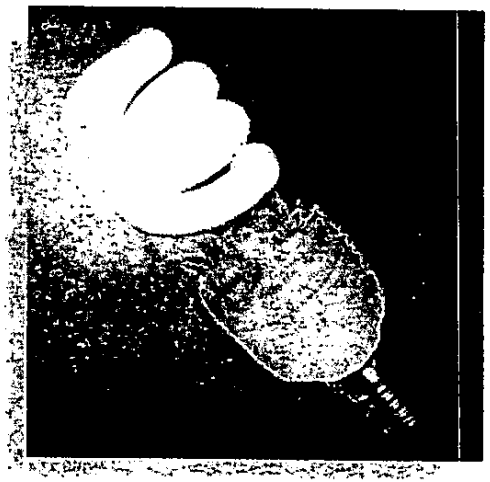


CALIFORNIA

Report and Recommendations

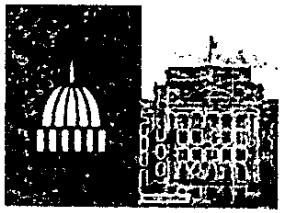
- Integrated Energy Policy Report (IEPR) required by statute every 2 years
- Full-time staff at CEC develop report
- Forecast and recommendation report
- Consultant cost: $2 million

IDAHO



- Established an interim committee in 2006 through a concurrent resolution
- Objectives: Ensure reliable, low-cost energy supply, protect the environment, and promote economic growth

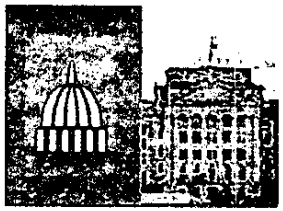
- Incentives for energy efficient school buildings



Lessons Learned and Next Steps

General Principles

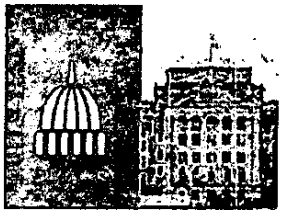
- Create a 'guiding', or *flexible*, policy
  - Use legislation or executive orders to address specifics
- Timeframe:
  - Policy development typically takes 3-24 months
- Adopt specific goals that the recommendations in the policy will help to achieve
- Create a capacity for analysis
- Determine frequency of policy updates (~ 2 yrs)
- Give the policy "teeth"



Lessons Learned and Next Steps

General Process

- Review state energy statistics and trends
- Involve state government leadership
- Consult national, state, and local organizations and experts
- Use state agency expertise and give the agency the tools it needs to operate effectively
- Involve the public
- Track progress



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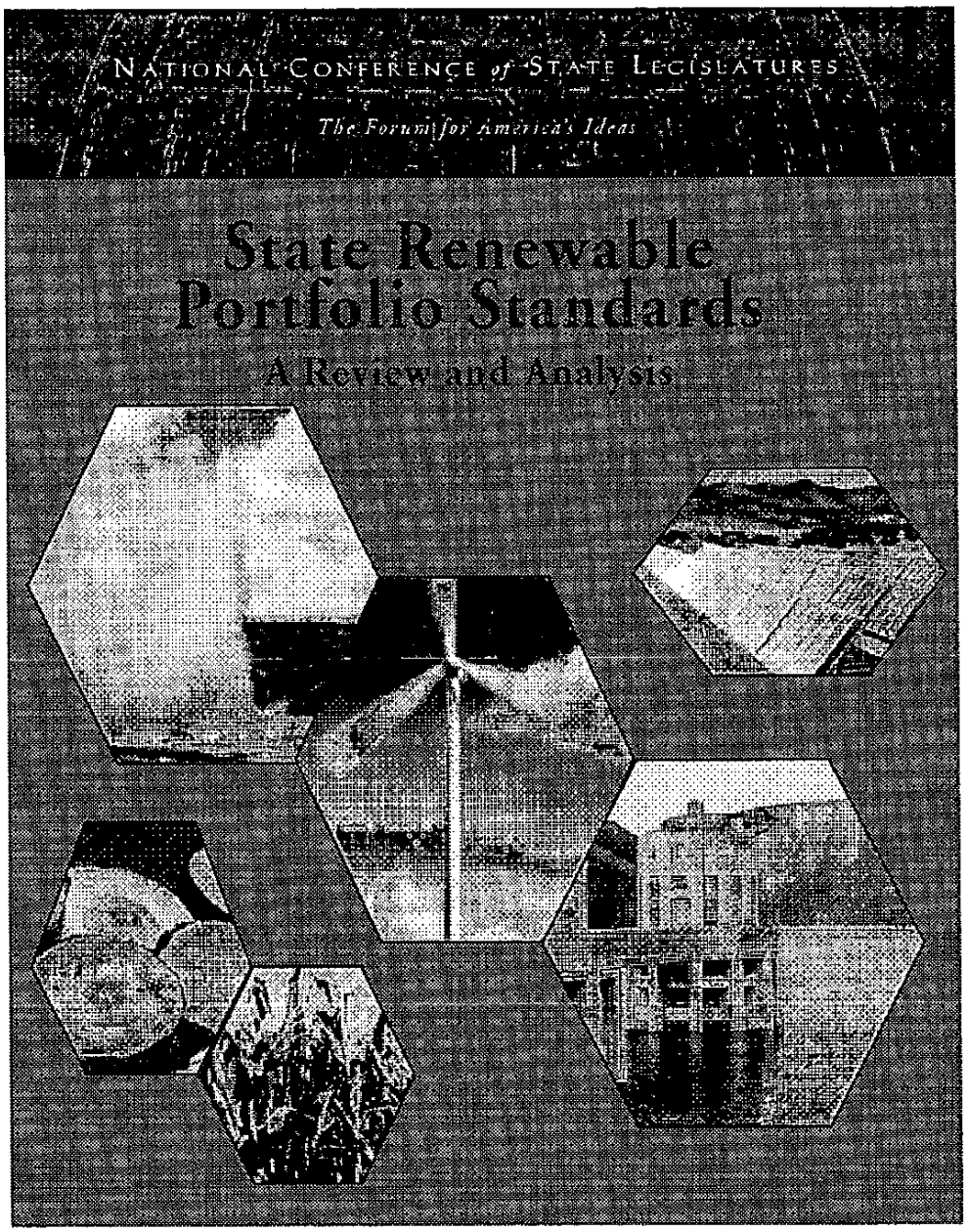
National Conference of State Legislatures
The Forum for America's Ideas
State Renewable Portfolio Standards
A Review and Analysis

State Renewable Portfolio Standards
A Review and Analysis

by
Matthew H. Brown
Jennifer A. DeCesaro

NATIONAL CONFERENCE
of STATE LEGISLATURES
The Forum for America's Ideas

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June 2005

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- To promote policy innovation and communication among state legislatures.
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Executive Summary

Beginning in the late 1990s, many state policymakers began to express their concern that their state's energy mix had become too dependent on out-of-state fossil energy sources. These policymakers saw the economic benefits they could derive from building new in-state energy resources. Many also thought their states would benefit from the environmental attributes of renewable energy resources. As a result, the states began to adopt a renewable portfolio standard—commonly called an RPS. As of mid-2005, 19 states plus the District of Columbia have adopted a renewable portfolio standard.

In its early years this standard dictated that any electricity retailer in the state generate some part of its power from renewable energy. As it developed, portfolio standards began to rely on a new system of tradable renewable energy credits to guarantee and verify compliance. Through this credit system, each retailer needs to accumulate enough credits to demonstrate that it had met the portfolio standard's goals. One credit is equal to one megawatthour of renewable electricity. Thus, if a retailer's obligation was to comply by using 1,000 megawatt hours of electricity from renewable energy, the retailer could either generate renewable power on its own or it could buy it from another company.

As renewable portfolio standards developed, a number of similar questions began to appear in state after state. These were as follows.

• *What resources qualify toward meeting the RPS?*

> Typically, solar, wind, geothermal and small hydroelectric qualify. States do not always allow large hydro, certain kinds of biomass or other technologies like fuel cells from hydrogen to qualify, however. One state—Pennsylvania—allows waste coal to qualify for its advanced energy portfolio standard.

• *How large should the RPS be, and how quickly should it be phased in?*

The size of the RPS varies a great deal, from only 2 percentage points of the total state's generation to as high as 25 percent in the case of New York. The RPS is always phased in over a period of several years.

• *How will regulated utilities recover their costs?*

In some cases, but not all, the RPS will impose additional costs on utilities or their customers. Most state laws and regulations allow utilities to recover any additional costs related to complying with the portfolio standard, but some also place restrictions on cost recovery. A few use other funds, called public benefit funds, to reimburse utilities for any additional costs of the RPS.

• *Will out-of-state resources qualify for the state's RPS?*

Most states allow renewable energy generated from out of state to qualify for the RPS. Some place restrictions on qualification, saying that the energy must be delivered to the state or that the energy must be delivered to the regional system operator that, in turn, feeds electricity into the state.

• *Can companies use their green pricing programs to qualify toward their RPS obligations?*

Only Arizona currently allows utilities to use their green pricing programs (programs through which customers voluntarily pay a little extra each month to subsidize utility renewable energy investments) to help meet the renewable energy goals of the RPS. In general, states have concluded that green pricing programs are voluntary and are designed to allow customers to help utilities pay for investments they are not otherwise required to make.

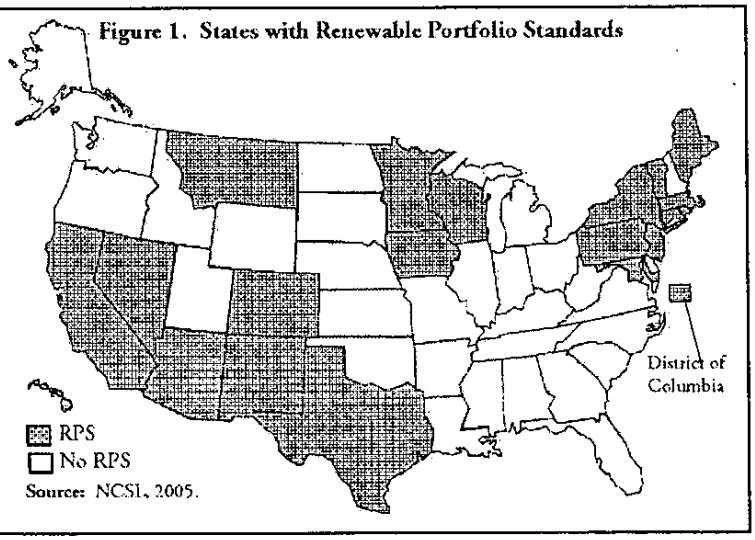
The experience with renewable portfolio standards is somewhat limited to date; many are in the early years of a multi-year phase-in. States can begin to derive some early lessons from the experience thus far, however. The document concludes with a discussion of these lessons.

INTRODUCTION

The United States generates its electricity with gas, coal, nuclear power, some oil, and some renewable energy such as wind, hydroelectric power, solar power, biomass or geothermal energy. Coal, gas, hydropower and nuclear energy dominate that mix, and probably will continue to do so for the foreseeable future. Renewable energy's currently small proportion of the total is increasing rapidly, but from a very small base. As state policymakers seek to speed up the growth in renewable energy, one of the most common policies under consideration is a renewable portfolio standard (RPS).

The renewable portfolio standard is a flexible mandate that requires power retailers to put renewable energy into the mix of fuels they use to generate electricity. In its most basic form, the portfolio standard places a requirement on utilities, saying they must build or buy a certain amount of renewable energy capacity each year. In practice, most portfolio standards have developed into more complex and nuanced policies. Twenty states and the District of Columbia now have such a standard as shown in figure 1.

Figure 1. States with Renewable Portfolio Standards



This document describes how portfolio standards work and answers the major questions that state policymakers ask about their design. With 19 laws[1] in place around the country, a body of experience now is available that can instruct policymakers on the design of these standards.

This document is divided into several sections:

1. A discussion of what the RPS accomplishes and fails to de well;
2. Cost of the RPS and cost recovery for the RPS;
3. A description of what resources qualify for these standards;
4. The structure, size and phase-in of these standards;
5. A discussion of who administers the RPS;
6. Applicability of and exemptions from the RPS;
7. How out-of-state resources qualify;
8. A discussion of tradable renewable energy credits;
9. The overlap between green pricing programs and the RPS; and
10. Lessons from the RPS.

This document is not designed to analyze the advantages or disadvantages of a renewable portfolio standard, but to provide background to help states determine whether an RPS suits its resources, needs and priorities. Table 1 summarizes the major arguments for and against the portfolio standard.

Table 1. Portfolio Standards Pros and Cons	
Proponents Say	**Opponents Say**
The RPS can save customers money or, at the very least can add an element of stability to electricity rates, since most renewable "fuel" is free. The capital cost of wind energy is competitive with that of coal plants.	The cost of renewable energy lies in its high capital cost, which can be as much as twice the cost of the lowest cost natural gas-fired power plants. It is possible to lock in fuel prices for natural gas.
Renewable energy can contribute to energy security by helping the country become more energy independent and, at the same time, by protecting the environment.	Renewable energy helps energy security but must be considered in the context of domestic resources such as coal or natural gas.
Wind energy is predictable, to a point. Techniques for day ahead and hour ahead projections of wind output at a particular location have improved substantially. So long as wind is well integrated with the rest of the electric system acting as a backup, wind can work well. When wind makes up around 15 percent of electricity generation, typical integration costs are around one-half cent per kilowatt hour (kWh). Solar installed in southwestern regions of the country has a production profile that closely matches the peak energy needs in those regions. Biomass, geothermal and hydroelectric power are not intermittent and can be baseload.	Wind energy is intermittent and that intermittency adds cost to wind power plants. Power companies need to be able to lock in a predictable supply of power.
The RPS presents a market-based approach to integrating valuable new renewable resources into the electric system. Perfect markets do not exist in the delivery of electric energy services. Utilities traditionally have little or no experience with such technologies. Thus, RPS policies help overcome market barriers.	An RPS is a mandate that adds complexity and new regulatory burdens to an already heavily regulated industry.
The RPS requires the power sector to adopt new technologies and to learn about and integrate those new technologies. They are ready for the marketplace, but many utility systems are not accustomed to them.	The RPS may force power systems to adopt new technologies before they are really ready. Renewable energy does not always fit into the existing system and, in some cases may need new transmission infrastructure.
The RPS diversifies the fuel mix the country uses to generate electricity. Fuel diversity can stabilize prices and alleviate the effects of supply disruptions.	Government mandates have failed in the past and can actually increase costs and risks.

Source: NCSL, 2005.

What Does the RPS Accomplish?

Depending on the area of the country, the RPS tends to produce a great deal of utility-scale wind development, landfill gas development, and some geothermal energy development. States can tailor the RPS so that, outside its simplest form, it can encourage other types of technologies such as solar, small-scale wind or fuel cells. In New England, the RPS is encouraging development of fluidized bed biomass systems.

Renewable energy project developers like the RPS because it guarantees a market for their product. The RPS creates certainty, and that certainty gives developers the confidence to make investments in resource assessment, to negotiate lease agreements with landowners, and to apply for permits. It gives them the certainty they need to make an investment and, in turn, helps developers secure financing.

As a policy tool, the RPS does a good job of using market forces to drive down prices for new renewable energy sources. Rather than set a floor price or offer a subsidy for green power, it creates a market and then drives developers to compete on price to supply that market.

What Does the RPS Fail to Do Well?

The RPS is not always the best policy tool to encourage small-scale or distributed energy technologies. In most cases, it has been designed to encourage large, utility-scale projects. Some states, such as Colorado, tailored their RPS to encourage small-scale renewable energy projects, but the results from that effort are not yet available.[2]

Unless it is designed to do so, the RPS is not the best policy to encourage higher-cost technologies. In general, it promotes competition among renewable energy technologies and results in large supplies of least-cost technologies. Several states, including New Jersey, have developed different percentage goals for different technologies. This approach creates a market for

both types of technologies and does not allow one technology to dominate. (The tiered technology approach is discussed further in the following section.)

How Much Does an RPS Cost?

Renewable portfolio standards may cost ratepayers additional money, or they may save money. This depends on several factors, including the region of the country and the design of the portfolio standard. There are several factors to consider.

- Higher requirements may equal higher costs if technology and investments are not able to keep up with the requirements of the portfolio standard.

- Regions with higher quality renewable resources may see cost reductions as the result of an RPS. Those with poorer resources may see cost increases. New Jersey, for example, does not have the near-term potential to develop the same amount of renewable resources that Colorado does, and, although Colorado has estimated that its RPS will result in cost decreases for electricity customers, New Jersey predicts that it will see cost increases of more than $11 per customer per year as the RPS reaches its targets.

- Regions that currently rely heavily on more expensive nonrenewable resources such as natural gas may see cost reductions.

- The design of the standard influences cost. A standard that asks for the lowest cost renewable energy technologies will be less expensive than one that requires carve-outs for specific, higher cost resources such as solar power. A higher goal for the less mature-and possibly more expensive-technology will make the standard more expensive.

- Cost is difficult to measure. Most renewables have no fuel cost and, as a result, can ensure price stability into the future, even if they may cost a bit more at first. There is some value to this price stability, although it is difficult to quantify. Fossil fuel-based generation faces risks from fuel price increases and future environmental regulation.

Table 2 demonstrates the results of several cost studies of renewable portfolio standards in various parts of the country. In general, the studies showed neither dramatic cost increases nor dramatic savings. Savings or cost increases all were within 0.5 percent of the existing rates, approximately $3.50 per year for the typical household. New Jersey was the exception to this rule, with a substantially higher cost estimate.

Table 2. Cost Impacts of Renewable Portfolio Standards

State	Author(s) of Study	Incremental Target Year	Overall Rate Impacts	Average Effect on Residential Bill
California	UCS/SEA/ LaCapra	41,000 GWh* (2010)	Savings: 0.5% in 2010	Savings:$3.50 per year in 2010
Colorado	Binz	4,500 GWh (2020)	Savings: 0.5% expected value	Savings: $2.40 per year expected value
Washington	Tellus et al.	14,300 GWh (2023)	No impact	No effect
Minnesota	Wind	6,300 GWh (2010)	Savings: 0.7% on average	Savings: $4.60 per year on average
Iowa	Wind	4,400 GWh (2015)	Savings: 0.3% on average	Savings: $3.40 per year on average
Wisconsin	UCS/SEA/ LaCapra	7,500 GWh (2013)	Cost: 0.6% on average after 2010	Cost: $3.30 per year on average after 2010
Pennsylvania	Black and Veatch	17,000 GWh (2015)	Cost: 0.46% on average	Cost: $3.50 per year on average
New Jersey	CEEEP/ Rutgers	15,500 GWh (2020)	Cost: 3.7% in 2020	Cost: $33 per year in 2020
New York	DPS/SEA/ LaCapra	12,000 GWh (2013)	Cost: 0.32% in 2009	Cost: $3 per year in 2009

* GWh = 1,000 MW

Source: Lawrence Berkeley National Laboratory, 2004.

Cost Recovery

The deployment of new renewable energy resources and supporting transmission infrastructure can be costly, and the method used by utilities to recover those costs can be an important issue for any state that still regulates some or all of its utilities' electricity rates. Even in states that restructured their utility industry, cost recovery methods can be controversial if the utilities continue to operate under a rate cap—meaning they cannot raise their electricity rates. States can address cost recovery in several ways. In some states, legislation specifically guarantees that they can recover their costs-eventually, if not immediately; in others, certain categories of costs are specified that utilities can or cannot recover. A third approach describes the mechanism through which utilities can recover their costs (such as a surcharge on utility rates for all customers).

- Arizona lets utilities use its system benefit fund (a fund established and financed through a small charge that every utility customer pays) to pay for additional costs that the RPS imposes on them.

- California's utility commission will set a benchmark price for renewable energy purchases. The system benefit fund will cover costs over this benchmark price. As of early 2005, the utility commission had not yet set the benchmark price, although it is likely to be based on an estimate of long-term market prices for renewable energy.

- Connecticut's distribution utilities (those that serve Connecticut customers with power they buy from other companies that own power plants) have a guarantee that they will recover the costs of the first 100 megawatt (MW) of renewable energy they purchase.

- Maryland and the District of Columbia guarantee that their utilities will be able to recover their prudently incurred costs, including compliance fees (those fees that companies pay as an alternative to buying renewable energy). The mechanism would be an additional fee placed on all customers' bills. Maryland specifies that compliance fees are recoverable only if the commission determines that compliance fees represent the least cost way to meet the standard, if the utilities' renewable energy supplier fails to meet its obligations, or if Tier I resources are unavailable.

- Legislation in Nevada, New Jersey, New Mexico, Rhode Island and Wisconsin specifies that utilities can recover costs related to the RPS if the commission determines that they are prudent and reasonable. In Nevada, contracts entered into between renewable energy providers and a Nevada utility and approved by the Nevada Public Utilities Commission are deemed prudent by statute for purpose of cost recovery. Conversely, New Mexico's statute stipulates that utilities can recover reasonable costs related to interconnecting the renewable energy generators with the power grid. This legislation adds that the utilities can defer recovery of their costs by tracking the costs in an account, and that those deferred costs can accrue interest until they are actually placed into the rate base. Rhode Island adds that the distribution utilities may recover their costs for supporting the New England credit trading program. (A later section of this paper addresses credit trading.)

Cost Caps on the RPS

Many states try to limit the effects of the costs of the RPS on individual consumers. They do this in several ways, including explicit caps on potential increases in consumers' bills or through indirect ways such as alternative compliance mechanisms and penalties, all of which are described below.

Colorado is one state that sets an explicit cost cap with a requirement that the portfolio standard not result in an additional charge of more than $.50 per residential customer per month. The cost cap in Colorado may create some difficulties as the state attempts to meet its 0.4 percent solar energy goal. Installation of solar energy tends to cost in the range of $8,000 to $9,000 per Kilowatt (kW), compared to a typical cost of approximately $1,000 to $1,200 for wind energy. The interaction of the cost cap and the solar requirement may create challenges for the state.

Massachusetts,[3] New Jersey, and Rhode Island give an option to comply with the RPS by paying a fee of $.05 per kWh; Connecticut's fee is $05.5, instead of purchasing either tradable renewable energy credits (RECs) or entering into a contract to buy renewable energy. In Maryland, compliance fees are $.02 per kWh for Tier 1 resources and $.015 for Tier 2 resources. The funds from these alternative compliance mechanisms in Connecticut, Maryland, Massachusetts and New Jersey go into a fund to support other clean energy projects.

Montana requires all non-restructured utilities to comply with the standard as long as the per kilowatt hour cost of the renewable generation does not exceed the cost of power from other generating sources by more than 15 percent. A public utility that does not comply with the standard may be assessed an administrative penalty of $10 for each megawatt hour of renewable energy credits they fail to procure.

What Qualifies as Renewable?

States make many distinctions about which resources count toward the renewable portfolio standard. They distinguish not only among the technologies that qualify as renewable, but also the size of the qualifying system and other characteristics of the system.

In the majority of states that have an RPS, all renewable generation meets the renewable standard, whether or not it existed prior to adoption of the standard. Thus, if a state had a 20 percent standard such as California's, then any existing renewable resources qualify, but companies would need to acquire new resources to come up to the 20 percent standard. Just six states address this point.

- Hawaii allows the use of all preexisting renewables to meet the RPS.
- Maryland places a limit on the use of preexisting renewables.
- Massachusetts does not allow preexisting renewables to count toward the RPS; all resources must be new. However, the Department of Energy Resources may provide a preexisting plant with a waiver that qualifies any increased output over a defined annual baseline as "new.
- Montana does not allow most preexisting renewables to count towards the RPS—all qualifying resources must have commenced operations after January 1, 2005.
- Two of the remaining three states—Rhode Island and Wisconsin—allow preexisting facilities to account for only a certain percentage of each year's requirements. In Rhode Island, for example, no more than 2 percent of each year's requirements can be met with pre-1998 resources. Texas allows retail electric providers to use pre-1999 resources to offset some of their RPS obligation if they have preexisting supply agreements.

The size of the qualifying renewable energy system is a question only for hydroelectric power. States that include hydroelectric power in their standard usually limit the size of the system that qualifies. Finally, five states—Connecticut, Maryland, New Jersey, New York and Pennsylvania—and the District of Columbia, separate the qualifying technologies into two tiers. The rationale for having two tiers is not outlined in any state's RPS language. However, those included in the first tier tend to be less environmentally intrusive than those in the second tier, which usually include large-scale hydroelectric power and waste-to-energy facilities. States usually have different percentage goals for each tier. This is described in greater detail below.

Qualifying Technologies

Every renewable technology has its own definition and a unique set of policy issues. This section describes each technology and its relationship to the RPS.

Biomass

In the most general sense, biomass is plant matter such as trees, grasses, agricultural crops and residues or other biological materials, such as municipal solid waste and sewage sludge. Biomass power plants burn this material as fuel or convert it into liquid or gaseous forms to produce electricity, among other things. Some state definitions of biomass are more broad and may include landfill gas, municipal waste and digester gases from municipal wastewater treatment facilities.

Because biomass is one of the more complex renewable technologies, it consistently raises a number of policy issues. These include:

- Whether all the qualifying biomass resources included in the definition of biomass are truly renewable.

- What is the emissions profile of biomass? Biomass is unusual among the renewables in that it releases some emissions into the air. As a general rule, these emissions (especially of sulfur) are very low and are subject to the same regulations as all other power plants. Biomass power plants generate the same amount of carbon dioxide as fossil fuel plants, but as new trees or crops grow, they remove carbon dioxide from the atmosphere. As long as plants are continuously replenished to make

a feedstock for biomass energy, the biomass power plants are carbon neutral, meaning that they release zero net carbon dioxide emissions.

- Because of the abundance of biomass energy resources, the advanced stage of many biopower technologies, and the prevalence of landfill gas facilities, biomass has the potential in some states to dominate the resources that supply a state's RPS.

These policy discussions often result in laws that distinguish between desirable and less desirable kinds of biomass. Some states exclude certain categories of biomass (such as wood waste that has been treated with chemical preservatives) from the RPS altogether. Others place the biomass they feel is less desirable into Tier II.

Every state with a renewable portfolio standard includes biomass in its definition of a renewable energy resource. It is what is included in the definition of biomass that varies from state to state, however. Six states—Arizona, California, Iowa, Maine, Texas and Wisconsin—do not further define the biomass resource or generating system. The remaining states and the District of Columbia further define biomass.

Some of those states that further define biomass have an all-inclusive definition and some differentiate among resources. The definition of biomass in Colorado, Minnesota, Nevada, New Mexico and Rhode Island is comprehensive and includes agricultural wastes, wood wastes, energy crops, landfill methane, biogas, municipal wastes, industrial digester gases and neat biodiesel.[4]

In contrast, Hawaii differentiates among biomass resources and includes only the biomass portion of municipal solid waste, biofuels or fuels derived entirely from organic sources in its definition of biomass. Hawaii allows landfill gas and waste-to-energy to qualify for the RPS, but does not define them as biomass.

Vermont focuses its biomass definition on methane and other flammable gases produced by the decay of sewage treatment plant and landfill wastes and the anaerobic digestion of agricultural products, byproducts or wastes. Excluded from this definition are all forms of solid waste, with the exception of agricultural and silvicultural wastes.

Montana is another state that differentiates among biomass resources and includes landfill or farm-based methane gas, gas produced from wastewater treatment, and "low-emission, nontoxic biomass" based on dedicated energy crops, animal wastes, or solid organic fuels from wood, forest, or field residues. Not included in this definition are wood pieces that have been treated with chemical preservatives such as creosote, pentachlorophenol, or copper-chroma-arsenic.

In Connecticut, a biomass facility may include biomass gasification plants that use as fuel biomass that regenerates or that, when used, will not deplete the resource. The state places these biomass facilities in Class I or Class II, based on the date that operations began. If the facility began operation after July 1, 1998, and has a nitrogen oxides emission rate of less than .075 pounds per million Btu of heat input, it is in Class I; facilities in operation prior to July 1, 1998, with a nitrogen oxides emission rate of .2 pounds per million Btu of heat input or less, are in Class II. Connecticut does not include methane gas from landfills in the biomass definition, but includes it as a Class I resource. Connecticut's NOx emission limit of 0.075 pounds per million Btu is an important criterion. Class I biomass resources must not emit more than .0075 pounds per million Btu of NOx.

Maryland identifies qualifying biomass as nonhazardous organic material available on a renewable or recurring basis. The state specifically excludes from this category unsegregated[5] solid waste, post-consumer waste paper, and invasive exotic plant species. Tier I includes all qualifying biomass, as well as methane from anaerobic digesters or wastewater treatment plants; Tier II includes the incineration of poultry litter and waste-to-energy technologies.

Biomass is included only in New Jersey's Class I renewables. Included in the definition are methane gas, bioenergy crops and wood wastes.

New York is another state that includes biomass only in one tier. Eligible biomass resources included in the Main Tier of New York's RPS are waste-to-energy facilities. The Main Tier[6] also includes biogas and liquid biofuels. The Customer-Sited Tier includes no biomass technologies.

Pennsylvania includes biomass in both Tier I and Tier II. The Tier I definition of biomass includes agricultural wastes, wood wastes, sustainable crops and biomass portions of municipal solid waste. Also included in Tier I, but not in the definition of biomass, are landfill methane, biogas and liquid biofuels. Tier II resources include wood pulp and wood manufacturing byproducts.

The District of Columbia defines qualifying biomass as agricultural wastes, wood wastes and cofired biomass.[7] Tier I includes all qualifying biomass, while Tier II includes waste-to-energy technologies.

Fuel Cells

Hydrogen is the simplest and most plentiful element, yet it does not occur naturally as a gas. Some type of conversion process must separate the hydrogen from another element, such as from oxygen in water. This process requires an energy source, such as a wind turbine, solar cell or fossil fuel. Once the hydrogen is separated, a fuel cell passes hydrogen through a membrane to produce electricity, heat and water. Often compared to a battery—both convert the energy produced by a chemical reaction into usable electric power—a fuel cell will produce electricity as long as fuel (hydrogen) is provided and will never lose its charge. Hydrogen fuel cell technology shows a great deal of promise, but is still new and relatively untested.

Some states permit fuel cells to qualify as a renewable technology that can help meet the portfolio standard requirements. States that classify resources by tiers always class fuel cells as a Tier I resource. Two issues arise consistently when states discuss fuel cells, however:

- Fuel cell technologies still are in the early stages of development and their potential to penetrate the renewables market is small; and
- A state can specify that the fuel cells need to be powered by renewable resources; without this specification, a fuel cell powered by fossil fuels may receive credit in a state's RPS.

Thirteen states include some form of fuel cell technology in their RPS. Seven of the states—California, Hawaii, Massachusetts, Montana, New Jersey, Rhode Island and Wisconsin—and the District of Columbia qualify the fuel cell definition by requiring that the fuel cells use renewable resources. New Mexico states that the fuel cell may not be fossil fueled. Maryland specifically requires that the fuel cell use methane or qualifying biomass resources.

Hawaii is unique in that it addresses the potential for a fuel cell to be powered simultaneously by both renewable and nonrenewable energy sources, but only the renewable portion receives credit for the RPS. Pennsylvania states that the energy source for the fuel cell must be obtained without combustion.

Three states—Connecticut, Maine and New York—do not further qualify the requirements of the fuel cell.

Geothermal

Geothermal energy—the earth's heat—is the thermal energy contained in the rocks and fluids in the earth's crust. In most areas, this heat reaches the surface in a very diffuse state. Due to a variety of geological processes, some areas—including substantial portions of many western states—are underlain by high-temperature geothermal resources, which have tremendous potential for producing electricity. Geothermal power plants use well-established technology but have a high initial cost (mostly because developers usually have to drill a significant number of exploratory wells before they locate an effective underground resource. There is no fuel cost once developers find the resource, however. Geothermal resources are based in nature and geothermal plants have capacity factors as high as 97 percent, higher than any other generation resource.

Certain issues consistently arise when states discuss geothermal resources.

- Although most geothermal power plants are considered to be a completely clean source of energy, certain air emissions may be associated with the operation of certain types of geothermal plants. Flash steam geothermal plants convert ("flash") hot water in an open process into steam to drive turbines. This process exposes the minerals and gases in the geothermal fluid to the above-ground atmosphere. The nitrogen oxide and sulfur dioxide emissions associated with flash steam geothermal plants result from capturing and incinerating the hydrogen sulfide that occurs naturally in some geothermal resources. The chemical composition of each geothermal reservoir is unique, but certain compounds such as arsenic and boron may be commonly found in these resources due to their volcanic nature. In a flash steam plant, these minerals may pose a hazard that must be addressed.

- Many newer geothermal plants use a modern binary geothermal process, where the geothermal fluids pass through a heat exchanger and never expand in the open above-ground atmosphere. In these binary plants, neither nitrogen oxide and sulfur dioxide emissions nor hazardous mineral deposits pose a problem, since binary plants are completely closed loop systems; the geothermal fluids are re-injected into the reservoir to be reheated and reused.

- Various siting issues may be associated with geothermal facilities. The initial resource exploration can be intrusive if numerous test wells are drilled into the ground. Once developers locate an adequate resource and they situate the geothermal power facility directly over that fuel source, it requires no additional land. In scenic areas, developers build the geothermal facility with a low height profile and use various mitigation measures to reduce intrusion on the visual landscape.

- Potential water quality issues arise in development of a geothermal well. Geothermal water contains higher concentrations of dissolved minerals than do cold groundwater aquifers. To prevent mixing geothermal water and groundwater, developers cement pipe or casing into the ground.

- The availability of the geothermal resource varies geographically. Geothermal resources that are capable of generating electricity exist in most western states including, Texas. No eastern states have resources that are capable of generating geothermal electricity.

- Some western states with a significant geothermal resource may find that geothermal energy takes a considerable share of the total renewable resource standard, potentially overwhelming some other resources.

Thirteen states—California, Colorado, Hawaii, Maine, Maryland, Montana, Nevada, New Jersey, New Mexico, Pennsylvania, Rhode Island, Texas and Wisconsin—and the District of Columbia, include geothermal resources in their definitions of what qualifies as renewable resource within the portfolio standard. Rhode Island does not directly refer to geothermal but, rather, to "the heat of the earth." Although some eastern states include geothermal in their definitions of renewable energy, they will not see development of geothermal electric power plants because they lack geothermal resources. Such states could, however, see geothermal heat pumps, which use the constant temperature a few feet below ground level to help pump warm air in winter or cool air in summer into a building or a home; heat pumps do not generate electricity.

Hydroelectric

Hydroelectric power is generated by the power of moving—but not necessarily falling—water. A pumped storage hydroelectric plant produces energy during peak demand periods using water pumped into an elevated reservoir during off-peak periods. When a facility uses both pumped reservoir

water and natural current flow, it is referred to as a combined pumped-storage hydroelectric plant. Low-impact hydropower facilities minimize the environmental impacts—river flows, water quality, and threatened and endangered species—of their facilities, which does not necessarily mean that they are small in scale.

Hydroelectric is a well-established technology: therefore, its issues also are well established. They include the following.

- Hydropower facilities can affect a large geographic area. The storage reservoirs can inundate large areas of forest, farmland, wildlife habitats, scenic areas and even towns, especially as part of larger projects with greater power generation. In addition, dams can cause significant changes in river ecosystems, both upstream and downstream.

- Operating hydropower facilities have had detrimental effects on fish populations, some of which are endangered or threatened species. Dam operators use mitigation efforts such as fish ladders and screens around turbine blades to lessen the severity of these effects, but the controversy over fish dominates discussion of hydropower policy, particularly in the Pacific Northwest.

- Because so many hydropower facilities—both large and small—are in operation and have paid off much of their capital costs, the technology potentially could take over the RPS unless states restrict the requirement by specifying that only new facilities qualify or by specifying that only facilities below a certain size qualify.

- Particularly with drought in the Pacific Northwest the output from hydropower plants is unpredictable.

Only four states do not include hydroelectric power as a qualifying renewable energy source in their portfolio standards. The 16 that include hydroelectric power do so at varying levels. Table 3 outlines the qualifications in each participating state.

Five of the states that include hydroelectric power in the RPS—Hawaii, Maine, Nevada, New Mexico and Texas—do not place restrictions on the types of facilities that qualify as renewable.

Table 3. State RPS Qualifying Hydroelectric Resources	
State/Jurisdiction	Qualifying Hydroelectric Resource
California	Small hydroelectric generation of 30 MW or less owned by an electrical corporation as of the enactment.
Colorado	Hydroelectricity with a nameplate rating of 30 MW or less.
Connecticut	Run-of-the-river hydroelectric power facilities with a generation capacity of 5 MW or less that does not cause an appreciable change in river flow that began operations after effective date.
Maryland	In Tier I, small hydroelectric power plants of less than 30 MW in capacity; in Tier II, hydroelectric power other than pump storage generation.
Minnesota	Hydroelectric power plants with a capacity of less than 60 MW.
Montana	Hydroelectric projects that do not require a new appropriation, diversion, or impoundment of water and that has a nameplate rating of 10 megawatts or less.
Nevada	Small hydroelectric generation of 30 MW or less.
New Jersey	Included only in Class II at hydroelectric generation facilities of 30 MW or less.
New York	Hydroelectric power plant upgrades and hydroelectric plants of under 30 MW without storage impoundments.
Pennsylvania	Low-impact hydroelectric in Tier I and large-scale hydroelectric (including pumped storage) in Tier II.
Rhode Island	Small hydroelectric generation of 30 MW or less.
Vermont	Hydroelectric facility with a generating capacity of 200 MW or less.
District of Columbia	In Tier II, hydroelectric power other than pumped storage generation.
Source: NCSL, 2005.	

Ocean Energy

New technologies to harness the movement and heat of the ocean are in the early stages of penetrating the renewable energy market. One such technology uses wave movement to drive an electrical generator; the power then is transported to shore via an underwater cable. Ocean thermal energy conversion technologies use the ocean's natural thermal gradient—the fact that the ocean's layers of water have different temperatures—to drive a power-

producing cycle. Technology also can harness tidal currents using offshore underwater devices that resemble wind turbines.

The world's oceans cover more than 70 percent of the earth's surface, giving them the potential to become one of the world's major power sources. In spite of this, there are issues associated with their inclusion in a state's RPS, including the following.

- Ocean conversion technologies are in the early stages of development, and their potential to penetrate the renewables market is so small at this time that they might be overlooked.

- Because of the off-shore nature of these technologies, their potential effect on the ocean's fisheries and surfers could prompt opposition.

Coastal states—California, Connecticut, Hawaii, Maine, Massachusetts, New Jersey, New York, Rhode Island and Texas—and the District of Columbia include ocean resources in their definitions of qualifying renewable energy technologies. Those that have tiered resource classifications include these technologies in the first tier. Identified resources include ocean waves, tidal current and ocean thermal energy conversion. Although Wisconsin, is not a coastal state, it borders Lake Michigan and includes tidal or wave action resources as qualifying technologies.

Solar

Solar technologies harness the sun's energy to provide heat, light, hot water and electricity. Photovoltaic (solar cell) systems convert sunlight directly into electricity. Concentrating solar systems use the sun's heat to run a generator to produce electricity.

Although solar technologies are widely accepted, there are issues associated with their inclusion in RPS policies, including the following.

- Solar technologies are commercially available, yet they rarely have been deployed on a large, utility-scale level. Without specific set-asides in a state's RPS policy, solar technologies are unlikely to benefit from the RPS.

- Large-scale solar installations require a considerable amount of open space, which could result in potential siting issues.

- If solar generators that are not connected to the power grid qualify for the RPS, how are they tracked?

- Because solar system output varies with season and daily solar intensity (even though a photovoltaic system will provide some energy on a completely overcast day), solar energy production may not be entirely constant or predictable. This is usually a significant problem only in extremely rainy climate zones.

- Solar facilities cost considerably more than most other renewable resources and can drive up the cost of an RPS.

Every RPS allows solar resources to qualify. States with tiered resource structures include it in the first tier. Five states—Arizona, Colorado, Nevada,[8] New Jersey and Pennsylvania—set aside a specific percentage of their RPS goal solely for solar resources. These setasides recognize the high initial cost of solar and thereby ensure a market is created for solar development.

Wind

Fossil and nuclear generators create steam that spins a turbine to generate electricity; wind turbine blades connect to a shaft that spins the turbine to generate electricity. For utility-scale wind, a large number of high-capacity turbines are connected to a single point of control to form a wind plant or wind farm. Homeowners, farmers and ranchers in windy areas typically use small wind systems for off-grid electricity generation, water pumping or other applications.

Although wind energy produces no air or water pollution and poses no threat to public safety, it does face obstacles, including the following.

- The best wind sites often are far from major load centers and require significant transmission investment to develop.

- A public perception that the land between turbines is occupied and cannot be used for other purposes. In fact, wind turbines themselves occupy only a small fraction of this land area, and the rest can be used for gazing, agriculture, or other purposes or left in its natural state.

- Its effect on wildlife–especially bird and bat populations–whether endangered species are affected, and whether wind energy may contribute to habitat degradation or loss maybe a problem.

- Concerns exist about the visual effect of wind turbines and their effect on property values and tourism.

- Because the wind does not blow all the time, its intermittency can affect the integration of utility-scale wind facilities onto the grid.

- Wind technology is widely accepted and cost-effective; because of this, utility-scale wind facilities have the potential to dominate a state's RPS to the exclusion of other renewable technologies.

As is the case with solar, wind technologies are included in every RPS. In those states that have tiered resource structures, wind is included in the first tier. New York is the exception; here, it is included in both the Main Tier and Customer-Sited Tier. No state distinguishes between the types of wind technologies that qualify, i.e., small and utility-scale.

Other Resources

Additional resources and technologies are identified in the definitions of qualifying renewables in five states (see table 4).

Table 4. Other Qualifying Resources in State RPS

State	Other Qualifying Resources
Connecticut	Low-emission advanced renewable energy conversion technologies included in the Tier I classification.
Hawaii	Includes an assortment of alternative energy sources such as solar and heat pump water heating; seawater air conditioning district cooling systems; solar air conditioning and ice storage; quantifiable energy conservation measures; and the use of waste heat from cogeneration and CHP (combined heat and power) facilities, excluding fossil-fueled qualifying facilities.
Massachusetts	Hydrogen from renewable energy resources and technologies.
Montana	The renewable energy fraction from the "eligible renewable resources" of electricity production from a multiple-fuel process with fossil fuels.
Nevada	Allows for "qualified energy recovery process." That is defined as a system with a nameplate capacity[3] of not more than 15 MW that converts the otherwise lost energy from: (a) The heat from exhaust stacks or pipes used for engines or manufacturing or industrial processes; or (b) The reduction of high pressure in water or gas pipelines before the distribution of the water or gas, to generate electricity if the system does not use additional fossil fuel or require a combustion process to generate such electricity. The term does not include any system that uses energy, lost or otherwise, from a process that has as its primary purpose the generation of electricity, including, without limitation, any process involving engine-driven generation or pumped hydrogeneration.
Pennsylvania	Incorporates a range of other resources and technologies, including waste coal, coal mine methane, demand-side management and distributed generation.
Texas	Specifically excludes all fossil fuels and waste products from fossil fuels. Indirectly, this excludes fuel cells that rely on hydrogen extracted from natural gas or any other fossil fuel.
Vermont	No form of nuclear is considered renewable. Qualifying SPEED resources are contracts for in-state resources in the SPEED program that meet the definition of new renewable energy, whether or not renewable energy credits are attached. Nonqualifying SPEED resources are contracts for in-state resources in the SPEED program that are fossil-fuel based, combined heat and power facilities. At least 20 percent of the facility's fuel's total recovered energy must be thermal and at least 13 percent must be electricity. The design system efficiency must be at least 65 percent, and the facility must meet air quality standards established by the Agency of Natural Resources.

Source: NCSL, 2005.

Structure, Size and Phase-In of RPS

The size of the RPS—usually measured in a percentage of electric generation or electric capacity or energy—typically is one of its most important parts. Whether energy or capacity is used as the measure of the size of the RPS is an important factor. California and Nevada, for example, use energy as the RPS measure. Iowa, Minnesota and Texas use capacity as the RPS measure. For example, Texas requires 2,000 MW of renewable generation capacity by 2009. If this RPS requirement is met from wind with a 30 percent capacity factor, it could be less than the energy equivalent renewable output of only 800 MW of geothermal in Nevada with a 97 percent capacity factor. Thus, absolute percentages are not necessarily an accurate measure of the relative magnitude of a state RPS requirement.

Most states phase in their requirements over several years. Table 5 illustrates the size of the RPS in the 19 states and the District of Columbia, with a standard in place. They range from a low of 1.1 percent in Arizona to a high of 25 percent is in New York, with varying degrees in between. Again, these percentages must be compared in the context of whether they are an energy requirement or a capacity requirement.

Table 5. State RPS Requirements			
State/ Jurisdiction	**Title of Standard**	**Renewable Energy Requirement**	**Deadline**
Arizona	Environmental Portfolio Standard	1.1%	2012
California	Renewables Portfolio Standard	20%	2010
Colorado	Renewable Energy Requirement	10%	2015
Connecticut	Renewables Portfolio Standard	10%	2010
Hawaii	Renewable Portfolio Standard	20%	2020
Iowa	Alternative Energy Law	105 MW ~ 2%	1999
Maine	Renewables Portfolio Standard	30%	2000
Maryland	Renewable Energy Portfolio Standard and Credit Trading	7.5%	2019
Massachusetts	Renewable Energy Portfolio Standard	4%	2009
Minnesota	Xcel Energy Wind and Biomass Generation Mandate	1,125 MW wind 125 MW biomass	2010 N/A
Montana	Montana Renewable Power Production and Rural Economic Development Act	15%	2015
Nevada	Renewable Energy Portfolio Standard	15%	2013
New Jersey	Renewables Portfolio Standards	6.5%	2008
New Mexico	Renewables Portfolio Standard	10%	2011
New York	Renewable Portfolio Standard	25%	2013
Pennsylvania	Alternative Energy Portfolio Standard	18%	2020
Rhode Island	Renewable Energy Standard	16%	2019
Texas	Goal for Renewable Energy	2,000 MW	2009
Vermont	Renewable Energy, Efficiency, Transmission and Vermont's Energy Future	10% of 2005 retail electricity sales	2012
Wisconsin	Renewable Portfolio Standard	2.2%	2011
District of Columbia	Renewables Portfolio Standard	11%	2022
Source: NCSL. 2005.			

States approach the timeline for meeting the RPS target in various ways. The majority has an annual or biannual incremental increase, often 1 percent, until a particular year. A handful of states have a five-year increase, and Colorado has uneven increases; of 3.6 percent and 10 percent. Most of the remaining states do not identify specific incremental increases; instead, they identify only the final target date.

Vermont's SPEED Program

Vermont approached the RPS in a unique way by creating the sustainably priced energy enterprise development (SPEED) program. By January 1, 2007, the Vermont Public Service Board is required to establish SPEED, which is intended to encourage the development of renewable energy projects and long-term contracts for renewable energy. Prior to January 1, 2012, the Public Service Board is required to determine the amount of qualifying SPEED resources that have come into service or that are projected to come into service between January 1, 2005, and January 1, 2013. If the SPEED resources exceed total statewide growth in demand between 2005 and 2012 or if they exceed 10 percent of the total statewide load for 2005, the RPS will not be in force. If the established goal had not been met, the RPS will go into effect one year following the board's determination.

Those states with tiered resource classifications tend to have a yearly increase for Tier I resources, while Tier II resources are either given one target or long-range incremental increases.

The deadline for meeting the standards in two states—Iowa and Maine—has passed; in fact, Maine met the standard with hydroelectric and biomass before the RPS passed, and Iowa exceeded its standard using wind. Texas will probably meet its 2009 goal by the end of 2005. The remaining of the states still faces deadlines, which range from 2007 to 2020. Massachusetts is the only state that has neither a fixed target date nor a percentage. The state has a 4 percent requirement by 2009 that will continue to increase by 1 percent per year until the state Division of Energy Resources ends the increases.

Oversight and Review of RPS

Four states—Hawaii, Maryland, Rhode Island and Vermont—call for additional review of the RPS.

Hawaii RPS Study

The Hawaii Legislature passed a renewable portfolio standard during its 2004 legislative session. Senate Bill 2474 (Hi. Rev. Stat. Ann. §§269-91 – 269-95) required the public utilities commission (PUC) to conduct a renewable portfolio standards study. By December 1, 2006, the PUC must develop a utility ratemaking structure to provide incentives that encourage Hawaii's electric utility companies to use the state's renewable energy resources to meet the RPS. The PUC is to look at allowances for deviation from the standards if the utilities cannot meet them effectively.

In addition to its own study, the PUC must contract with the University of Hawaii's Natural Energy Institute to conduct independent studies about projected standards for five and 10 years beyond the current standards. The institute also will look at the capability of the state's utility companies to achieve the RPS in a cost-effective manner, factoring in the effect on rates, reliability, cost of renewable energy resources and technologies, and environmental impacts.

The PUC will revise the RPS if the study indicates in conflict with the standards established in the 2004 legislation. The PUC will update the Legislature prior to the start of the 2009 session and every five years thereafter.

Maryland RPS Review

The Maryland General Assembly passed an RPS—Senate Bill 869, Md. Code Ann. §§7-700 – 7-710—during the 2004 legislative session. Included is a requirement that the Public Service Commission (PSC) provide a status report to both the governor and the General Assembly by December 1, 2009. The status report will include a review of the RPS implementation; the availability of, and the price effect on, Tier I renewable energy sources; the amount of compliance fees that electricity suppliers pay; and the subsequent use of those fees to create new Tier I renewable energy sources.

The PSC must conduct a review of the RPS before January 1, 2016, and report to the governor and General Assembly by January 1, 2017. This review will evaluate the environmental and economic effects of the standard, including the effect of Tier II renewable sources. The PSC will develop recommendations for the continuation of the RPS for both Tier I and Tier II sources and include the classification of resources in tiers, alterations to

the tier system, and whether the tiers should continue, and if so, at what percentages.

Rhode Island RPS Review

The Rhode Island Public Utilities Commission (PUC) must determine the adequacy of renewable energy supplies to meet the increase in percentage requirements to go into effect in 2011 and then again in 2015. If the PUC determines that inadequate supply exists, it may delay the implementation of the scheduled percentage increases for one year or may recommend to the General Assembly a revised schedule of percentage increases.

Vermont RPS Report

The Vermont Public Service Board must file a report with the Senate committees on Natural Resources and Energy and on Finance and the House committees on Natural Resources and Energy and on Commerce before December 30, 2007, and again before December 20, 2009. The report should include:

- The total cumulative load growth in Vermont from 2005 through the end of the year preceding the date the report is due;
- A report on the tradable renewable energy credit market, including prices;
- A report on the SPEED program;
- A summary of contracts held or projects developed by Vermont retail electricity providers;
- An estimate of potential effects on rates, economic development and jobs if the renewable energy target is met and if it is not met;
- An assessment of the supply portfolios of Vermont retail electricity providers;
- An assessment of the energy efficiency and renewable energy markets; and
- Any recommendations for statutory change, including recommendations for rewarding utilities that make substantial investments in SPEED resources.

ADMINISTRATION OF THE RPS

In almost all cases, a state's Corporation Commission, Public Utilities Commission, Public Service Commission or Public Utilities Board oversees administration of the RPS. A number of the commissions are left with the traditional powers of regulatory oversight and enforcement. However, a state may choose to grant the commission additional penalty authority to include levying fines for noncompliance with the RPS. A commission may verify compliance with the RPS through annual compliance filings by a load-serving entity. The Massachusetts energy agency the Division of Energy Resources (DOER), administers the RPS; this includes rulemaking and compliance verification. The ultimate penalty authority, however, is delegated to the D T E (PUC); this includes suspension or revocation of license to sell electricity at retail in Massachusetts.

Although legislation leaves the administration of the RPS in the hands of the commission, the rulemakings usually involve various entities that have expertise in different areas. In Pennsylvania, for example, the Energy and Technology Development Office determines resource eligibility, while the PUC outlines the trading and tracking system for the renewable energy credits as well as the interconnection and net metering standards. The Massachusetts RPS is administered by DOER, the energy agency, including rule making and compliance verification, but the ultimate penalty authority is delegated to the DTE (PUC) as suspension or revocation of license to sell electricity at retail in Massachusetts.

Applicability and Exemptions

Every RPS in place today outlines some specific applicability requirements. The Iowa RPS, for example, was applicable only to investor-owned utilities (IOU); New Jersey specifically calls for electric power suppliers to comply; Pennsylvania requires rural electric cooperatives to offer energy efficiency programs to customers; and the New Mexico PRC requires rural cooperatives to offer a voluntary green power tariff if their wholesale suppliers make these

renewable resources available, but does not require them to meet renewable energy requirements. Wisconsin is the one state that requires IOUs, municipal utilities and rural cooperatives to comply with the RPS. Minnesota's RPS is unique in that it applies to only one utility, Xcel Energy; all other utilities must demonstrate "good faith efforts."

Just as there are applicability requirements, there also are exemptions to compliance with an RPS. Almost every state with an RPS exempts municipal utilities and rural electric cooperatives from compliance. In a handful of states, however, this is not the case. In Colorado, for example, municipal utilities and rural cooperatives may self-certify their compliance if they have an equivalent RPS in place. Colorado also provides a compliance exemption for utilities that have less than 40,000 customers, and the state allows utilities to ask their customers for an exemption from the RPS on a one meter, one vote basis. Hawaii requires its cooperative on the island of Kauai to comply with the standard. Connecticut, a state with tiered qualifying resources, uses these tiers to exempt suppliers of solely Class II resources from compliance with the RPS. Montana exempts restructured utilities and cooperatives from the renewable energy standard. However, cooperatives with 5,000 or more customers must implement a renewable energy standard that recognizes the legislature's intent to encourage new renewable energy production and rural economic development. Vermont exempts retail electricity providers that demonstrate compliance with the standard would impair the provider's ability to meet the public's need for energy services after safety concerns are addressed at the lowest present value life cycle cost, including environmental and economic costs.

Unique exemptions in other states include:

- Those exempt from electric restructuring;
- Electricity customers under a rate cap;
- Public power agencies;
- Load serving entities under restructuring rate freezes or stranded cost recovery; and
- Municipal utilities, unless they open their markets to retail competition.

Qualification of Resources Built out of State

State policymakers tend to focus on the RPS for many reasons, but one of the most important is that it encourages people to build renewable energy projects in state. Policymakers want the economic development that comes

with the RPS. Many also want the other benefits that come with an RPS, including the environmental effects of renewable energy and the lower overall fuel price risk and higher energy security. For many people, however, the in-state economic development benefits are crucial. The RPS can be a tool to encourage developers to build in the state that has the RPS policy.

Some legal and practical issues exist, however, that may limit a state's ability to place a preference on in-state resources.

The Legal Background

Beginning in the 1920s, the U.S. Supreme Court began to interpret the Commerce Clause of the U.S. Constitution in ways that essentially precluded states from imposing barriers to commerce with other states. During the last 100 years, the courts have developed a long and extensive case history that makes it very difficult for a state to require that its residents purchase only products that are made in the state. Such a requirement would place an "undue" burden on interstate commerce that would make it difficult for companies based outside the state to sell their products to state residents.

The same arguments will likely follow for electricity, although no court case has specifically tested the application of the Commerce Clause to state renewable energy portfolio standards. In general, it seems clear that it would violate the courts' interpretation of the Commerce Clause to require that utilities buy power from in-state generators.

Since this requirement of RPS policies has not been challenged in the courts, states include language in their policies that restrict, or partially restrict, renewable energy production to in-state resources. Some states do not go so far as to require that the renewable power plant be in-state, but do require proof that the power plant is delivering electricity into the state.

- Arizona requires that electricity produced by landfill gas, wind and biomass be generated within the state. It also states that out-of-state solar power is eligible only if it is used by Arizona customers.

- California requires that the renewable generation be delivered into California for California customers' use.

- Nevada and Texas allow renewables to be located out of state if a dedicated transmission line brings them into the state. In Nevada,

that transmission line cannot be shared with more than one other nonrenewable energy generator.

- Massachusetts requires that off-grid generators and those located on the customer side of the meter be located in the state. All other generators either must be located in the ISO-New England control area or deliver their output into that control area.

- Rhode Island requires that small-scale, off-grid generators that are located on the customer side of the meter be located in the state.

- Massachusetts requires that off-grid generators and those located on the customer side of the meter be located in the state. All other generators either must be located in the ISO-New England control area or deliver their output into that control area.

Instead of disqualifying out-of-state resources outright, at least one state attempts to finesse the issue simply by offering extra credit to certain types of resources. (The utilities earn 1 credit per unit of every other resource) Colorado's law gives 1.25 credits to in-state resources; out-of-state resources would qualify for only one credit toward meeting the standard. Because this policy also sets up a preference for a resource that is not available to an out-of-state company, it could possibly raise the same constitutional issues as an outright prohibition on using out-of-state resources to satisfy the RPS standard. The final question, then, is whether it is worthwhile for any company or state to take these issues to the courts.

Legal or Not, Is it Helpful to Disqualify Out-of-State Resources?

Two policy goals conflict with one another in the determination whether to require in-state renewable resources. The first addresses economic development that results from new renewable energy projects inside the state. A new wind project, for example, generates tax revenue for local governments, new jobs, and annual revenues of about $2,500 per megawatt for landowners who host the wind turbines. There is little question that most state policymakers prefer that a renewable energy standard attract jobs and revenues into state.

On the other hand, restricting the portfolio standard to in-state resources can increase the cost of the standard if better renewable resources exist outside the state. Arizona's wind resources might be good, but Colorado's resources are

better. It might be less expensive to let the market decide whether it makes sense to import renewable energy from far away or to build it in-state.

Renewable Energy Credits and Location of Resources

Many states do not require that an electricity retailer actually have a contract for a physical supply of renewable energy; instead they allow the retailer to buy tradable renewable energy credits. These credits could be generated inside or outside the state, or state laws could require that eligible credits be generated within a certain geographic region. Maryland, for example, requires that such credits be generated in the geographic region surrounding Maryland.[16] Texas, on the other hand, requires that such credits be generated inside the state or by a generator that is directly connected to Texas.

What Are Tradable Renewable Energy Credits?

When a wind, solar, biomass, geothermal or other renewable energy power plant generates electricity, a meter tracks how many megawatt hours or kilowatt hours of power it generates. The generator earns money by selling these megawatt hours. Renewable energy generators now can earn more money by selling another product, tradable renewable energy credits (RECs). An REC is a certificate that documents the generation of renewable energy; each REC demonstrates that someone produced 1 megawatt-hour or a kilowatt-hour of electricity from renewable energy. That certificate can be retired or can be sold to companies that need to comply with voluntary renewable energy goals or government mandates but that choose not to build or buy the renewable resources directly.

How Do RECs Work?

Using a wind farm as an example, details of REC operation are shown below.

1. A wind farm generates electricity, and a meter measures how much it generates. The meter can take the measurement in many places, but might do so at the substation where the power from the wind farm enters the electric grid, so that measurement would incorporate any losses that occur between the wind farm and the point where it enters the grid.

2. The meter sends the information to a central administrator that automatically records the megawatt hours generated, and assigns each megawatt hour a unique identification code. That code identifies where and when the megawatt hour of renewable energy was generated.

3. The central administrator puts the information on a Web site or electronic bulletin board in an account for the generator. The REC now can be tracked electronically if it is traded, used or retired. Again, one REC is equal to one megawatt hour of renewably generated electricity.

4. Different parties can see online the credits that are available. Under some models, the central administrator brokers deals between buyers and sellers of these credits, or the central administrator could simply record such deals as the buyers and sellers report them. Under the second model, the central administrator does not act as a broker, but only as a facilitator or an information hub that tracks the use, trading or retirement of RECs.

5. This system creates tradable renewable energy credits that allow the participants to prove they have acquired enough credits to meet their obligations under a portfolio standard or to meet voluntary goals. The system also ensures that a credit for a MWh is used appropriately and is not counted more than once.

6. Renewable energy producers that sell the tradable renewable credits are left with energy that lacks any renewable attributes. Any claim that the remaining energy has renewable attributes is deceptive and may attract the interest of state consumer protection enforcers.

What Policies Do RECs Support?

RECs support mandatory portfolio standards by providing a method by which companies that do not meet the requirements can comply by purchasing credits.

RECs also support voluntary green pricing programs by giving companies a way to meet their own goals. A voluntary green pricing program is one in which companies make a voluntary commitment to buy a certain percentage of their electricity from green energy. In Colorado, for example, Xcel Energy offers its customers an opportunity to pay $2.50 extra for 100 kWh blocks of wind-powered electricity. Xcel has chosen to sign power purchase agreements to buy power from wind farms. An alternative way for Xcel to meet its obligations would be to purchase RECs on the market.

State governments can use RECs to satisfy their internal goals for purchasing green power. For example, Rhode Island is purchasing 1,650 RECs per year for five years in order to partly offset the electric load from the State House. States can use estimated emission reductions from renewable energy measures and include them in state implementation plans (SIP). A SIP details how a state will meet an air quality standard in a nonattainment area. Electric sector projects that result in quantifiable emission reductions at fossil fuel-fired electric generating facilities and improve air quality in nonattainment

areas can qualify for SIP credit. The U.S. Environmental Protection Agency (EPA) has issued guidance that encourages states to increase the generation of electricity from renewable resources.

Where Are Credit Trading and Tracking Programs Being Used?

People in most of the country can buy tradable credits, but formal tracking systems are relatively new. Such systems exist in places where voluntary green pricing programs are becoming more popular and in places that have mandatory renewable energy portfolio requirements. Tracking systems exist—or will shortly be established—to cover New England, New York, the PJM area (Pennsylvania, New Jersey, Maryland, Delaware, Washington, D.C.), the upper great plains, Texas, and the full western region of the country.

Overlap Between Green Pricing Programs and Renewable Portfolio Standards

Green pricing refers to programs that almost all utilities offer through which their customers can pay a small amount of extra money to buy "green" power, or power generated from renewable energy resources. Colorado's Xcel Energy offers a green pricing program that it calls Windpower. Through this program, customers can pay an extra $2.50 each month for 100 kWh of wind power. If a customer wants to cover all her energy usage with wind power and that customer uses 700 kWh per month, the customer would pay and extra $17.50 per month. In general, it has been established that these green power purchases are in addition to what the utility would otherwise be doing to meet its regulatory mandates—but for the customer's voluntary green power purchase, the utility would not be buying, generating or supporting the wind or other renewable energy project. As a result, in every state except for Arizona, green power programs do not count towards utility's renewable energy obligations.

LESSONS FROM THE RENEWABLE PORTFOLIO STANDARD

✓ *Have realistic expectations of what the RPS can accomplish.*

In its simplest form, the RPS is a good policy to support the least expensive and large-scale renewable resources such as landfill gas, geothermal and wind. It is possible, although more complex and costly, to add additional measures within the RPS to stimulate other technologies such as solar power and fuel cells.

✓ *Recognize that long-term contracts are important to renewable energy producers, since renewables benefit by having a long time to recover their high initial capital costs.*

✓ *Be certain that goals are achievable.*

Renewable energy capacity is large, but not limitless. This is especially true in eastern states that attempt to limit the geographic scope of qualifying renewable resources and thus make it potentially difficult to meet the higher renewable resource goals in the later years of the standard. States may wish to consider not only their own requirements, but those of neighboring states, paying particular attention to any in-state or other geographic requirements placed on the portfolio standard. Goals should incorporate a realistic assessment of how long it takes to plan for and construct renewable energy facilities.

✓ *Be realistic about the interaction of cost caps and the requirements of the RPS.*

Colorado has a 1 percent per customer per month cost cap, but may have difficulty remaining within the bounds of that cost cap because it also has a 0.4 percent solar set-aside within the portfolio standard. Utilities are required to subsidize solar systems with a payment of at least $2 per watt; the cost of a fully installed solar system costs between $8 and $9 per

watt. It might be difficult to meet the solar set-aside requirement and still remain within the bounds of the 1 percent cost cap.

✓ ***Be clear about whether the portfolio standard will allow existing renewable resources to qualify or whether only new resources will qualify.***

Maine had more than achieved its 30 percent portfolio standard goal by the time it had enacted its legislation because its existing stock of renewable energy capacity qualified under the standard and exceeded 30 percent. Pennsylvania is addressing whether existing hydroelectric power plants should qualify or whether the standard should include only new plants.

✓ ***Be clear about the definition of qualifying resources.***

Both biomass and hydroelectric power have complex definitions. When crafting resource definitions, especially for biomass and hydroelectric power, it is important to be either extremely specific or intentionally general. An explicit definition lets the rulemaking body know that the resources outlined in the legislative definition are those that need to be included in the rules. A general definition, sometimes consisting of just one word, gives the rulemaking authority the discretion to identify eligible qualifying resources.

✓ ***Consider and define whether and how to let non-electric resources—such as geothermal heat pumps or energy efficiency—qualify.***

Hawaii gives credit in its portfolio standard for energy efficiency measures. No states explicitly allow geothermal heat pumps to qualify, although it would be possible to do so. These resources need to be measured carefully and verified if they are to count as qualifying resources. They also have the potential to overwhelm other resources if the standard does not limit them.

✓ ***Be careful about in-state qualification requirements.***

Some states attempt to require that the renewables be built in-state. Some states attempt to define a larger—but still restricted—geographic boundary in which the renewable energy project must operate. Some of these requirements may be contrary to Commerce Clause restrictions and may limit available, low-cost renewable resources.

✓ ***Provide the regulators some flexibility in how the RPS is implemented.***

Legislators rely on the RPS to be a market-based solution to the expansion of renewable energy development in their states. This makes it important that regulators have the capacity to respond quickly to the market and its changes. Regulators can use this flexibility when setting alternative compliance payment increments.

✓ ***Address how solar photovoltaics and other renewable resources located off the grid will count toward meeting the portfolio standard.***

New Jersey requires that the systems have an automated meter attached to them that measures the amount of electrical energy produced from the solar array. Inspectors verify that energy reported as generated is actually generated in order to qualify for renewable Energy Credits.

✓ ***Clarify who owns the renewable energy attributes for purposes of owning and selling renewable energy credits.***

Since tradable renewable energy credits (REC) may become an important part of the renewable energy financing picture and because these RECs are valuable, it may be important to clarify who owns them. If a utility subsidizes them or if taxpayers or ratepayers subsidize the utility to build renewable energy facilities, who owns the RECs? Is there a way to split ownership of the RECs? Is it too administratively burdensome to split ownership of such RECs? Should states specify in law who owns the credits?

✓ ***Clarify the relationship between renewables secured through green pricing programs and renewables secured because of renewable portfolio standards.***

Arizona is the only state that currently allows the utilities to count their purchases of renewable energy that are supported by voluntary payments to help them meet their obligations under the renewable portfolio standard. Other states have chosen to draw a division between these two programs because green pricing programs are generally understood to be voluntary programs that support purchases the utility or energy retailer would not make, but for the customer's voluntary payment.

✓ ***Be careful when crafting legislation that outlines the mechanisms for the renewable energy credit trading program.***

Trading programs generally have moved beyond individual state borders and now increasingly function at a regional level. If legislators place too many restrictions on the trading program they will not function as effectively as they might with more flexibility.

✓ ***Allow regulators the authority to set the alternative compliance payment (ACP) price.***

In New Jersey and other states, companies can pay an alternative compliance payment instead of actually buying RECs or installing renewable energy. If an ACP is set in legislation, the mechanism does not allow response to market forces in market time; the legislature may be required either to change the price or give regulators the authority to do so. For example, the New Jersey Public Utilities Board (PUB) sets the ACP annually, looking forward to the REC market for the upcoming year. The authority of the PUB protects against a few people controlling too much of the market or limited availability of RECs. As with REC trading programs, the setting of the ACP price benefits from a regional approach rather than an individual state approach.

✓ ***Understand that the more complex the RPS structure, the more difficult the standard may be to meet. Standards that include provisions such as set-asides for certain technologies, tiers, complicated and convoluted cost recovery and tracking mechanisms add complexity which can add cost and create difficulty in compliance.***

Vermont's RPS is unlike any of the 20 others. It addresses additional issues, including:

- Small-scale distributed generation and energy efficiency;
- Standards for interconnection of distributed generation to the energy grid;
- Advocacy for a regional electricity reliability policy;
- Electric grid planning at least cost;
- Investigation of the regional potential for energy conservation and efficiency programs; and
- Commercial building energy standards.

National Conference of State Legislatures

NOTES

1. States have adopted portfolio standards through a variety of means; Colorado through ballot measure, New York and Arizona through committee order and the remainder through legislation.

2. Many small projects may qualify in Massachusetts. Perhaps the logic is backward——smaller projects may enjoy the RPS if barriers to small project deployment, such as interconnection, are removed.

3. For the Massachusetts RPS, the $.05 fee changes annually, according to changes in the Consumer Price Index. Accordingly, the payment for 2005 is $05.3.

4. Neat biodiesel refers to a 100 percent biodiesel fuel that is not blended with traditional diesel.

5. Unsegregated waste includes all wastes, whether chemically treated or not. Unsegregated waste has a far different emissions profile than untreated waste.

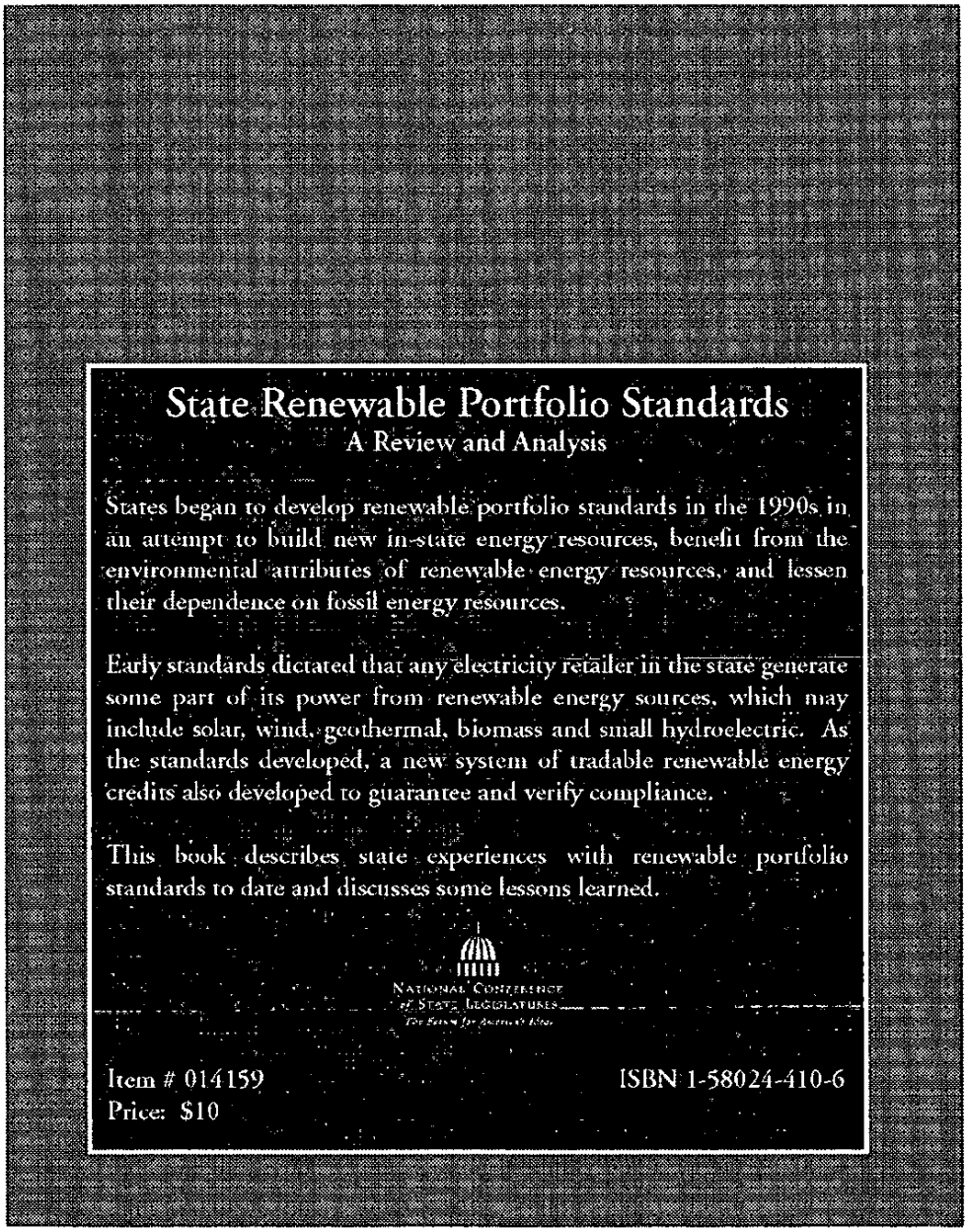
6. New York defines its tiers differently from some states. The Main Tier consists primarily of medium to large-scale electric generation facilities that are expected to compete against each other. The Customer-Sited Tier includes "behind the meter" facilities sited on customers' premises that generally are not economically competitive with Main Tier facilities.

7. Cofired biomass refers to biomass mixed and burned with coal to generate electricity.

8. Nevada specifically provides additional credit—a 2.4 multiplier—for installation of distributed solar photovoltaic systems. This multiplier is intended to reflect the added benefits from the installation of distributed renewable generation that does not incur line losses and provides local distribution system support.

9. Nameplate capacity refers to a power plant's maximum ability to generate electricity under ideal conditions.

10. Maryland specifies that credits must come from 1) the regional transmission organization, PJM; 2) a state adjacent to PJM; or 3) a control area adjacent to PJM if the energy is delivered into PJM.


State Renewable Portfolio Standards
A Review and Analysis
States began to develop renewable portfolio standards in the 1990s in an attempt to build new in-state energy resources, benefit from the environmental attributes of renewable energy resources, and lessen their dependence on fossil energy resources.
Early standards dictated that any electricity retailer in the state generate some part of its power from renewable energy sources, which may include solar, wind, geothermal, biomass and small hydroelectric. As the standards developed, a new system of tradable renewable energy credits also developed to guarantee and verify compliance.
This book describes state experiences with renewable portfolio standards to date and discusses some lessons learned.
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2-12-09 Review Of House Judiciary Report on Retail Gas Prices and Attorney General's Report on Gas Pricing

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   2. Legislative Legal Opinion, dated September 12, 2009

EXECUTIVE SUMMARY

The House Judiciary Committee was tasked by the Speaker of the House, Representative John Harris, with investigating the retail price of gasoline in Alaska, and specifically why reductions in gas prices significantly trail reductions in gas prices nationwide. Speaker Harris asked the House Judiciary Committee to prepare a report with solid recommendations for legislative action in the 26th Legislative Session.

The legislature initiated this investigation in response to public complaints about the high price of gasoline in Alaska, compared to other states. Since April 2008, Alaskans have seen the price of gasoline rise at an unprecedented rate. Alaskans are now paying the highest prices at the pump in the entire country for gasoline.

Even though the price of crude oil has fallen dramatically since its all-time high, retail fuel prices in Alaska have not fallen in correlation with the crude market. Since 2002, the annual average price for Alaska North Slope (ANS) crude has risen from $21.79 (FY2002) to record highs in July, 2008 of $144.00 per barrel, an increase of 665%. ANS crude has now fallen back to under $40.00 per barrel.[1]

To date, the House Judiciary Committee has held three hearings on fuel prices and the Committee plans to continue holding hearings until there is a decoupling of Alaska fuel prices with those nationwide. Unfortunately,

[1] Alaska Department of Revenue, Tax Division, http:///tax.alaska.gov

the Committee has yet to find a definitive answer to why gasoline prices in Alaska have not equalized with the rest of the U.S. market.

Report Focus

The primary focus of this report is to inform consumers and policy-makers about Alaska's gasoline market and factors that influence Alaska's gasoline prices, and to suggest possible actions the Alaska State Legislature might take in the 26th Legislative Session to ensure Alaskans are not being gouged at the pump.

The meetings held by the House Judiciary Committee represent the fact-finding phase of this investigation. The House Judiciary Committee gathered information from pricing data, stakeholders, the Attorney General's Office, and Econ One's Chief Economist Barry Pulliam.

So far, the Committee has found no concrete reasons to explain why price parity has not returned to the motor-fuels market. However, the Committee has gained a great deal of insight into the gasoline market as a whole, and more specifically, the uniqueness of the Alaska gasoline market.

Conditions Leading to this Investigation

Retail fuel prices have continued to climb in Alaska. While increased energy prices have benefited the State of Alaska through increased revenues, individuals and businesses have been under extreme duress. Since 2002, the annual average price for ANS crude has risen from $21.79 (FY2002) to an all time high in July, 2008 of approximately $144.00 per barrel; ANS crude

has now fallen back to under $40.00 per barrel, a decrease of more than 72%. This upward trend in crude prices caused the cost of all fuels across Alaska to rise at an unprecedented rate. However, now as the price of crude has fallen to a low of under $40.00 per barrel, the price of gasoline has fallen in the rest of the country. In contrast, Alaskans have not seen correspondingly low prices return to the pump. This has resulted in a broadly-held frustration shared by Alaskan consumers who are keenly aware of the price they pay for gasoline at the pump.

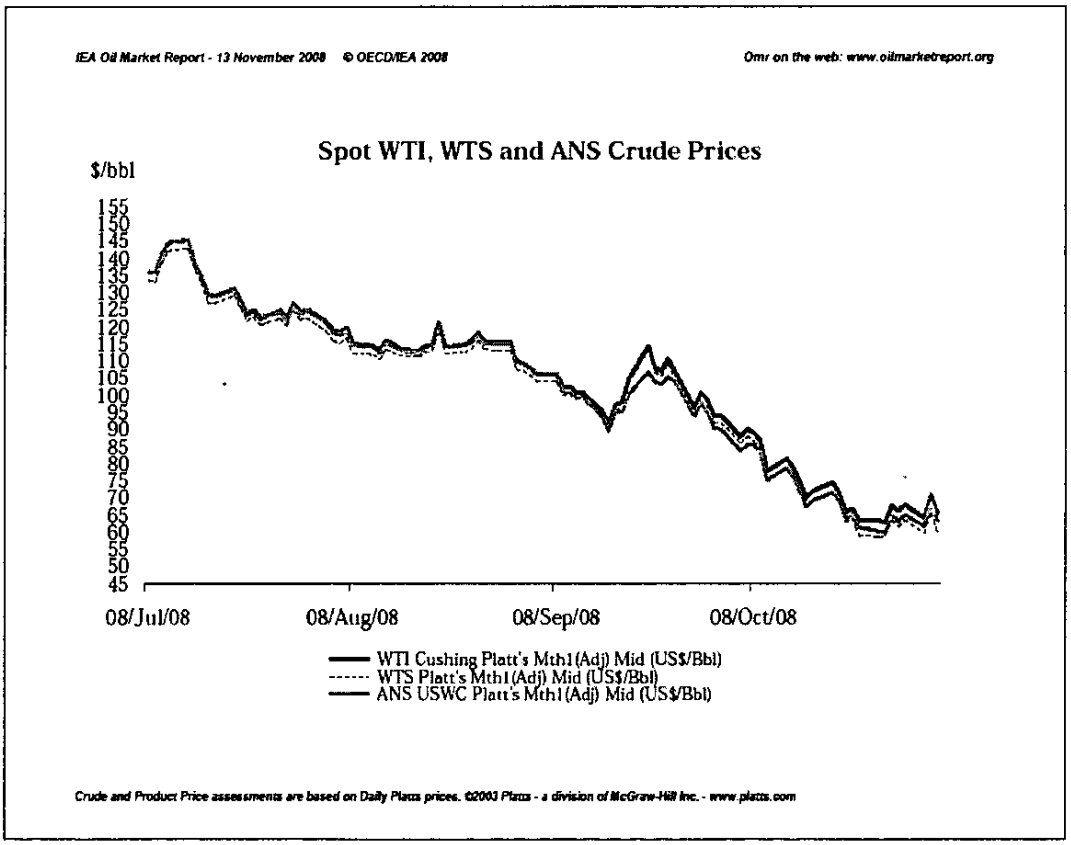

Chart 1, EIA Oil Market report – 13 November 2008, Spot WTI, WTS and ANS Crude Prices. This chart depicts the high and low spot price for ANS Crude 08/07/08 – November 13, 2008

Historically, the price of gasoline in Alaska has been in relative parity with gasoline prices on the West Coast of the United States, and more

specifically, the prices in Seattle, Washington. Gasoline prices in Alaska have historically trended 11 cents per gallon (cpg) higher than the average U.S. market. From 2002 – 2007, the annual average spread between Anchorage and Seattle retail gasoline prices, before taxes, was 17 cpg. Commencing in April of 2008, a pricing disparity began between Anchorage's retail gasoline prices (traditionally the lowest-priced region in Alaska) and the prices in Seattle. As of October 2008, prices raised a full 71 cpg above Seattle's prices.

In testimony on November 21, 2008, before the House Judiciary Committee, Barry Pulliam, Senior Economist with Econ One testified that, "the last four months have seen the wildest disparity in prices ever."

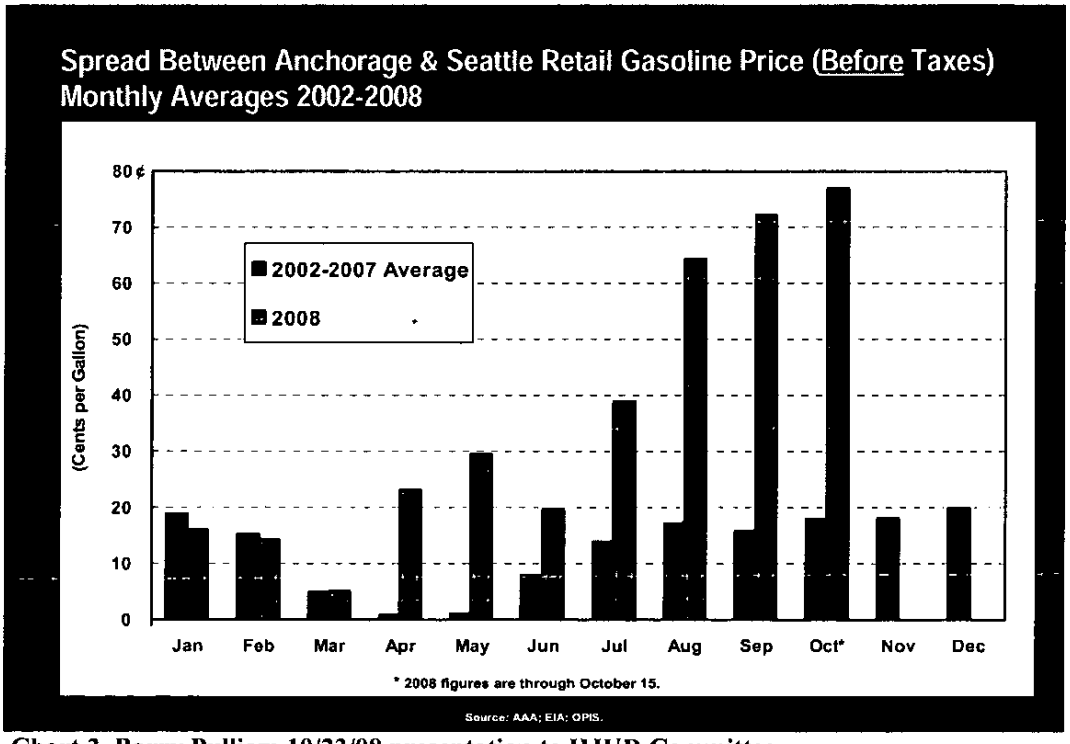

Chart 2, Barry Pulliam 10/23/08 presentation to HJUD Committee
Spread Between Anchorage & Seattle Retail Gasoline Price (Before Taxes) Monthly Averages2002-2008)

As the chart above reveals, Alaska's gasoline prices began experiencing a disparity with the Seattle market in April and have continued an ongoing pricing disconnect. The average per-gallon retail price in Alaska is down from an all time high of $4.70 on July 24, 2008, to a December 16, 2008 average per-gallon price of about $2.45 per gallon.

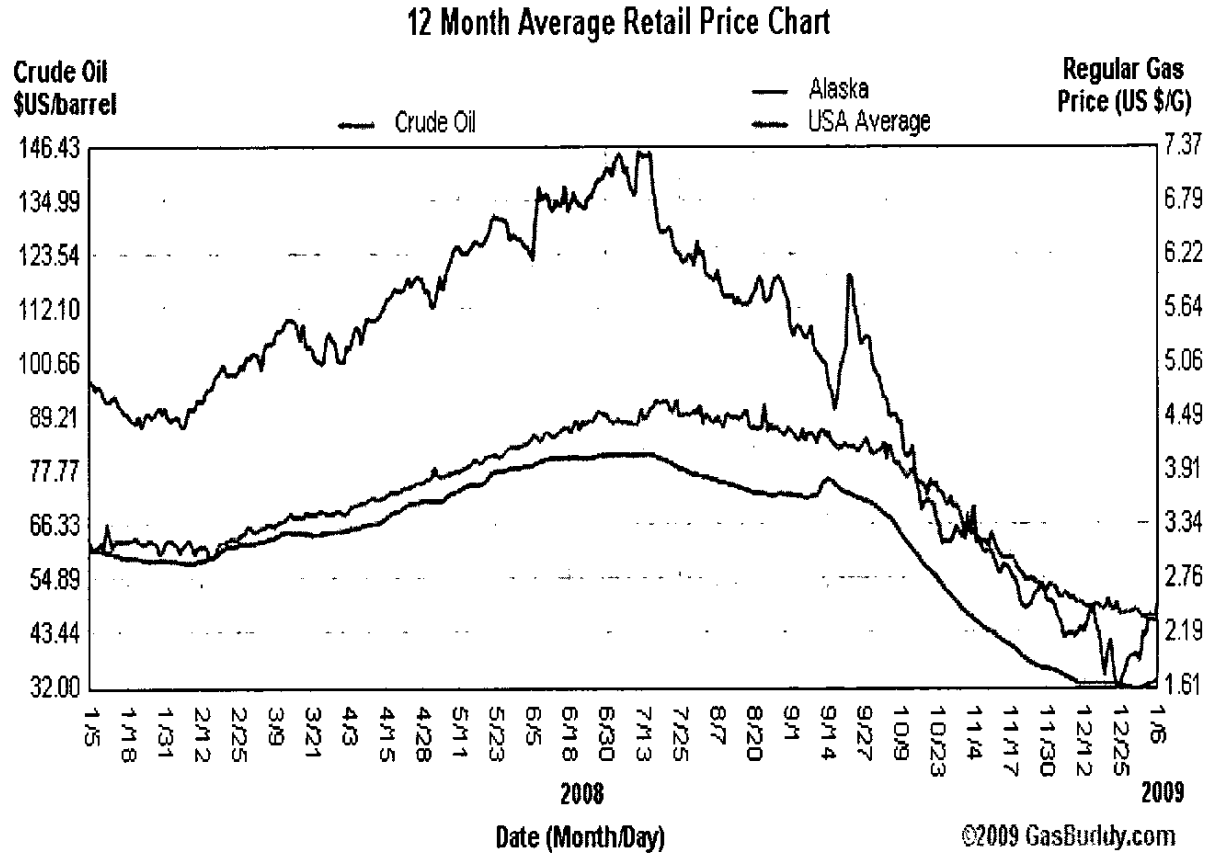

Chart 3, GasBuddy.com 12 Month Average Retail Price Chart, Comparing Alaska, US Average, and Crude Oil prices.

Economic Impact of Gas Prices in Alaska

The economic impact of the high price of motor fuel has been devastating, not just to Alaska's citizens, but across the business sector. There is not a person or a business in Alaska that has not experienced higher

prices due to increased fuel costs. The impact has been especially hard this summer on Alaska's fishing industry, trucking industry, mining industry, tourism industry, aviation industry and of course on consumers. In addition to paying more for gasoline and heating fuel, consumers all across the State have paid more for consumer goods, as transportation costs have increased.

Alaskans are justifiably upset. They have seen the quality of their lives deteriorate. Also, due to high fuel prices, a number of Alaskans have chosen to relocate, either to urban regions of the state or to the Lower 48. Recent data on moving trends within the State suggest that more people are moving into the State than out, but people are also moving from rural areas into urban centers seeking a cheaper and better standard of living. Because gasoline and energy prices are too high in rural Alaska, as are prices for food and other necessities, rural Alaskans' quality of life is suffering.

FINDINGS

Through public hearings the House Judiciary Committee gathered facts and obtained information from industry representatives, from the Attorney General's Office, from expert Barry Pulliam, Chief Economist at Econ One, from the Port of Anchorage, and from public testimony. This process helped the Committee understand factors that affect gas prices in Alaska, and allowed the Committee to explore some options for the 26th Legislative Session. Below are some explanations of key components of industry standards that affect the retail price of gasoline:

- **Crude Oil Prices:** Increasing crude oil prices help explain a significant amount of the upward movement of gas prices. The cost

of crude helps account for the bulk of the total price of a gallon of gasoline. Crude oil prices are determined by worldwide supply and demand. World crude oil prices reached an all-time high in July of 2008, due mainly to high worldwide demand relative to supply. Other contributory factors include political events and conflicts in major oil producing regions, as well as the declining value of the U.S. dollar.

- **Refinery Margins:** The refining cash margin per barrel of crude oil represents all product revenues minus the costs of feedstocks (crude oil plus other additives), and other operating costs per barrel of crude oil. Margins at U.S. refineries are affected over time. The cash margin (dollars per barrel of crude oil processed) is affected by crude oil and product markets. Margins also vary according to facility configuration (complexity), scale and efficiency, the nature of the crude processed, and the region where the facility is located. In addition, margins can be affected by environmental regulations such as the Clean Air Act Amendments of 1990 (CAAA) that required changes in product specifications to produce cleaner fuels.

- **Retail & Net:** Retail gasoline prices reflect the price paid by consumers. The Oil Price Information Service (OPIS) model uses five elements to calculate and track the retail gasoline market: (1) taxes, (2) distribution, (3) net, (4) retail margin, and (5) wholesale (rack) costs. Net is retail prices, minus $0.184 per gallon Federal taxes and $0.018 per gallon distribution costs. Net contains two categories, retail margin and rack rates.

- **Retail Margin:** Retail margin is the difference between net profits and the rack (wholesale) price paid for the merchandise. The retail margin represents the net proceeds to the retailer/distributor after costs are paid.

- **Rack:** Actual wholesale prices are negotiated by refiners and retailers and are often reduced for particular customers by volume discounts, rebates, and other negotiated price decreases. The rate posted by OPIS does not reflect these reductions. The posted rack rate may, and probably does, overstate the price distributors are paying and correspondingly understates profit margins.

- **Wholesale/Retail Margins:** The wholesale/retail margin is the difference between the wholesale price of gasoline (rack rate) and the retail price, less the cost of transport.

- **Taxes:** Taxes include Federal taxes at the rate of 18.4 cents per gallon, state taxes, and local taxes.

- **Consumption Rates:** The amount of gas consumed in a market.

- **Prices and Geography:** The geography of a region and its infrastructure can and does affect pricing.

- **Pricing Strategy:** Gasoline is not sold at a "cost-plus price"; thus, the price is not determined based on the cost to purchase, refine,

transport, and market the product plus a percentage for profit. Instead, the price of gasoline is determined by what the market will bear.

- **Storage:** The amount of gas held in reserves.

- **The price of gasoline.** Ultimately, the price of gasoline is determined by the following formula:

Gas price = cost of crude + cost to refine + cost to distribute + cost of marketing + taxes and competition.

The cost of crude oil is the lion's share of the cost of gasoline and is both variable and volatile. Refining/distribution costs have global and regional factors, which include but are not limited to electricity costs, gas/fuel costs, environmental regulations, equipment costs, maintenance costs, and labor costs, and the cost of additional capital investments that may be required by regulation changes. Ultimately, however, the market sets the price with influences from competition and local market characteristics.

These are general market concepts true to all markets. However, we also found that there were market forces that were unique to Alaska.

Findings Unique To Alaska's Gas Market

- **Decoupling of Pricing Parity with the Rest of the Nation:** Since July of this year, ANS crude has dropped down to $45.53 from an all time high of $144.00 per barrel, however gas prices in Alaska have

not dropped at the same rate. Even though the U.S. averages have dropped below $2.00 per gallon, Alaskans' are still paying an average of approximately 98 cpg more at the pump.

National Average	**$1.835**
Alaska Average	**$2.817**

Chart 4, AAA's Media Site for Retail Gasoline, Dated 11/28/08, www.fuelgaugereport.com/sbsavg.asp

- **Consumer Shock:** The House Judiciary Committee heard testimony that the rapid rise in the price of crude was so extreme that the industry could not raise its price of gasoline quickly enough to keep ahead of the margins. This helps explain why Alaskans have seen a delay in price parity at the pump.

- **Alaska's Supply Area:** Alaska is part of the Petroleum Administration for Defense District V (PADD V), the West Coast supply area. Therefore, the most relevant comparison of gas prices should be made with the Pacific West Coast; although these markets do not always follow in lockstep, there has historically been a causal relationship between the two.

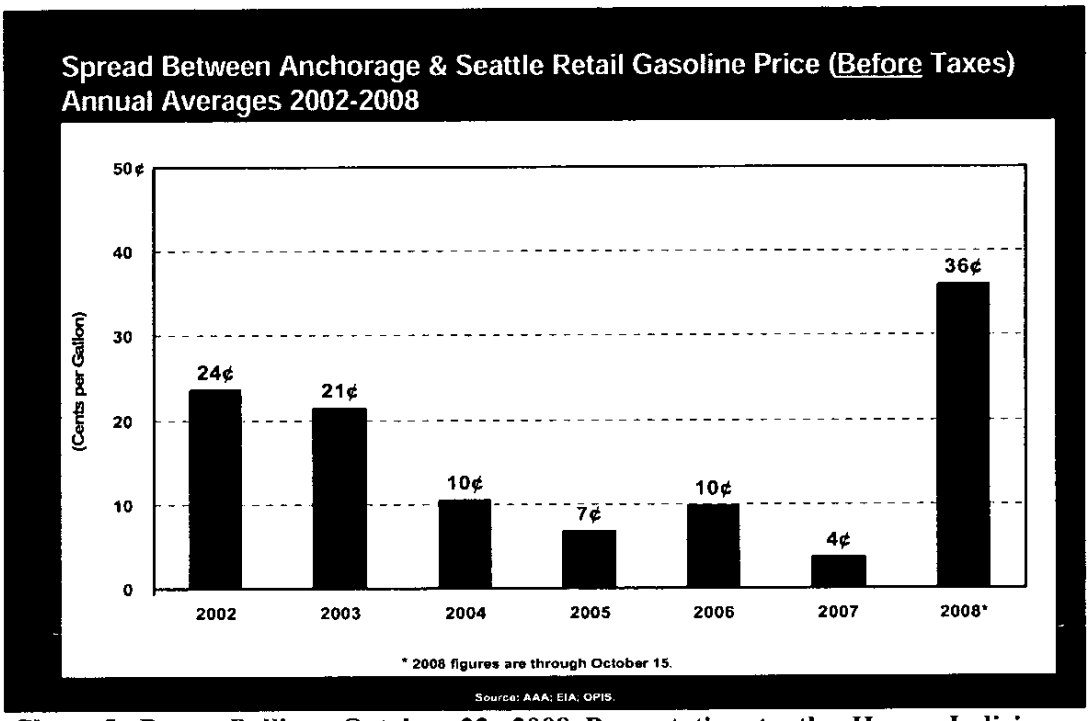

Chart 5, Barry Pulliam October 23, 2008 Presentation to the House Judiciary Committee

- **Being Smallest is Not the Best:** Alaska has the smallest demand for gasoline of any state, ranking 50th in motor gasoline sales, with a volume that is 0.2% of the national average.

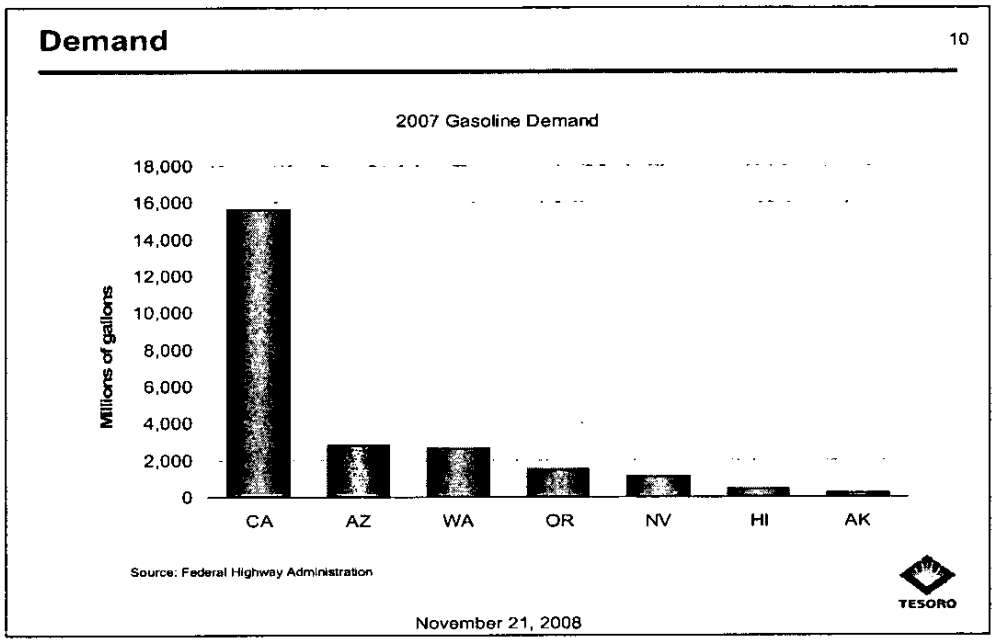

Chart 6, Tesoro Alaska presentation to House Judiciary Committee, November 21, 2008

Due to the fact that demand is small and remains relatively unchanged, Alaska does not have much market power. For the Alaska gasoline market, refiners make only what the market will consume and have no outside competition that would cause them to lower prices. The market is too efficient; supply and demand are too evenly matched.

- **Natural Inefficiency of the Marketplace:** Due to Alaska's small demand for gasoline, there are only two simple refineries making gasoline in the state, Tesoro Alaska located on the Kenai Peninsula and Flint Hills Resources located in North Pole. Alaska's refineries are the least complex in the nation and they do not manufacture a great deal of gasoline. Being smaller and less efficient, they must

spread their fixed costs over a smaller amount of barrels of refined products.

- **Unbalanced Portfolio of Production:** In the Alaska refining market jet fuel is king. Alaska refineries were built for the refining of jet fuel, with sales of jet fuel totaling over 60% of product sales, while motor gasoline accounts for only 10-15% of product sales. However, markets on the West Coast differ, with gasoline refining being nearly 50% of what the 18 large refineries located in the PADD V region produce.

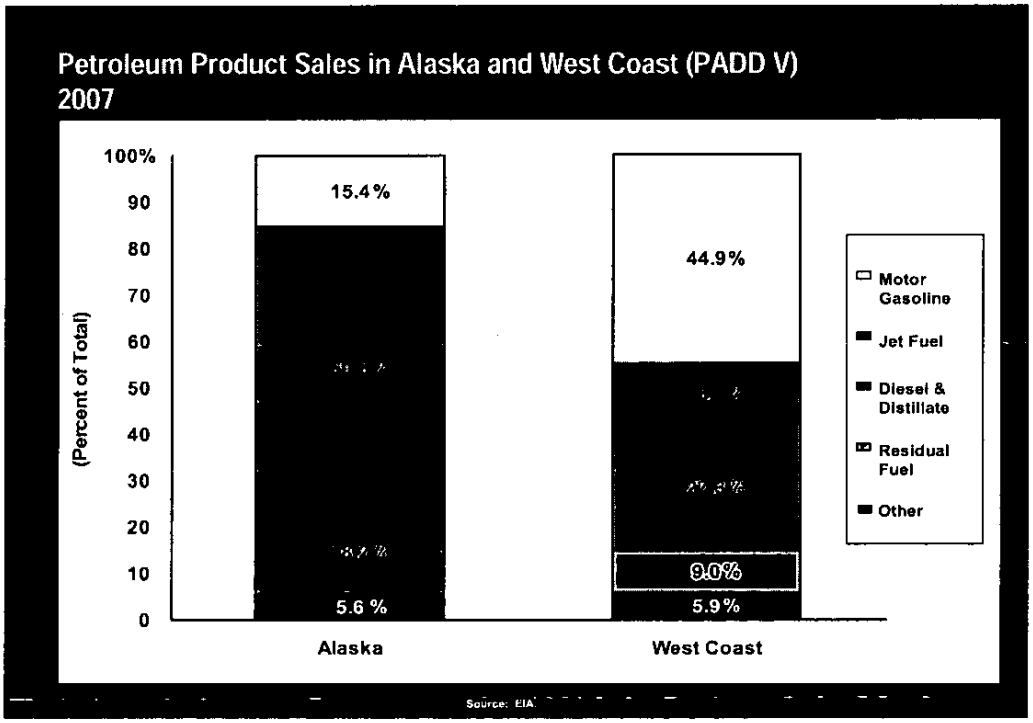

Chart 7, Petroleum Product Sales in Alaska and West Coast 2007
Barry Pulliam Presentation to House Judiciary Committee, October 23, 2008.

- **Lack of Price Sensitivity:** The demand for gasoline in Alaska is not as "price sensitive" as it is in the rest of the country. Regardless of the price, the demand does not significantly change. Accordingly, there is less incentive for Alaska suppliers to lower their prices compared with other areas of the country where demand drops significantly when the prices rise.

- **Isolated Market:** Alaska is also an isolated market with only three suppliers, the Tesoro Alaska Refinery, the Flint Hills Refinery, and Chevron which imports gas to the Southeast. Due to Alaska's isolated market, retailers and consumers cannot shop across borders for a lower price, which lowers competition that might otherwise exist. Rural Alaska is an even more isolated market, having no population density and no highway or transportation system except for barges on which to move gasoline.

- **Seasonality:** Although demand is fairly predictable, gasoline consumption in Alaska is seasonal, with a summer time demand being 25% above the annual average.

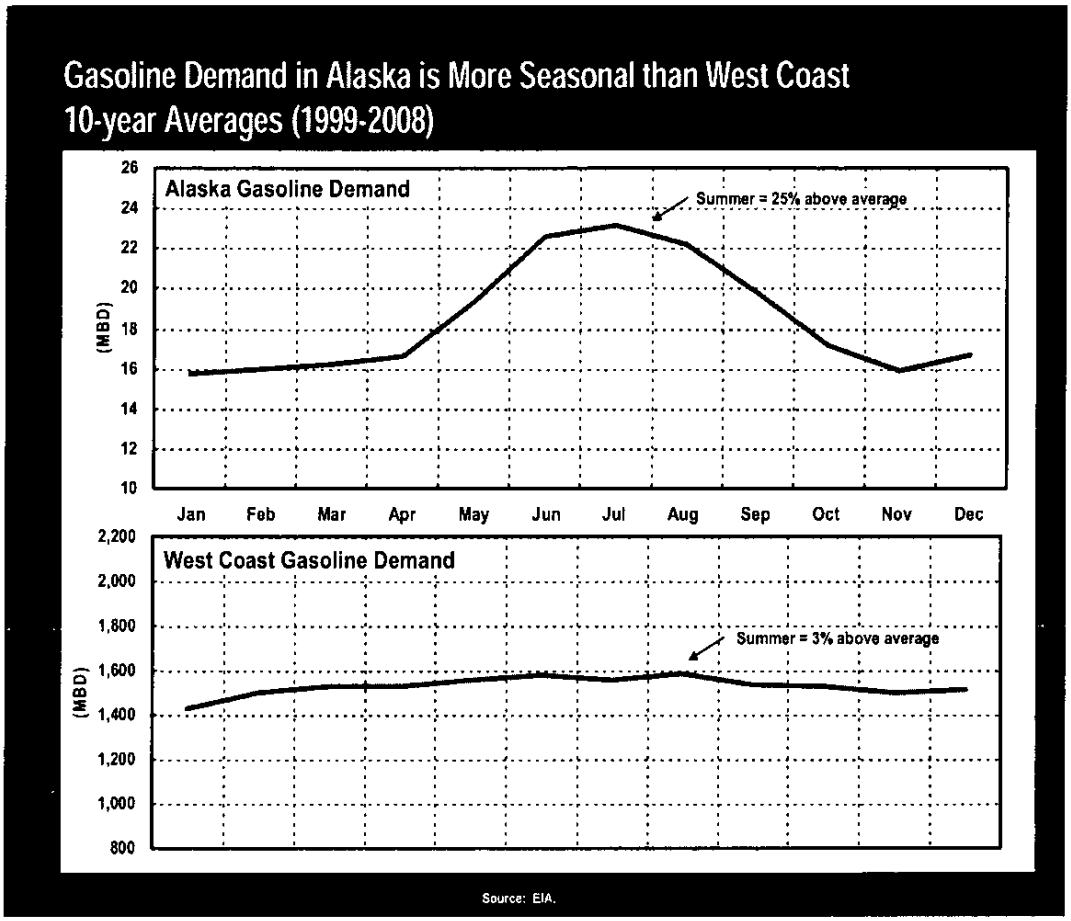

Chart 8, Barry Pulliam, Presentation to the House Judiciary Committee, October 23, 2008.

- **Lack of Storage in Alaska:** Alaska has limited infrastructure for the moving and storage of gasoline, which adds to the cost of gasoline.

- **Alaska's Tax Structure:** Alaska pays the lowest combined state and federal taxes in the U.S. on a gallon of gasoline. Because the State Legislature eliminated the 8% state sales tax this past summer, Alaskans now pay only federal taxes of 18.4% per gallon, plus any local municipal tax. In contrast, the U.S. average for taxes on a gallon of gas is 48.4%.

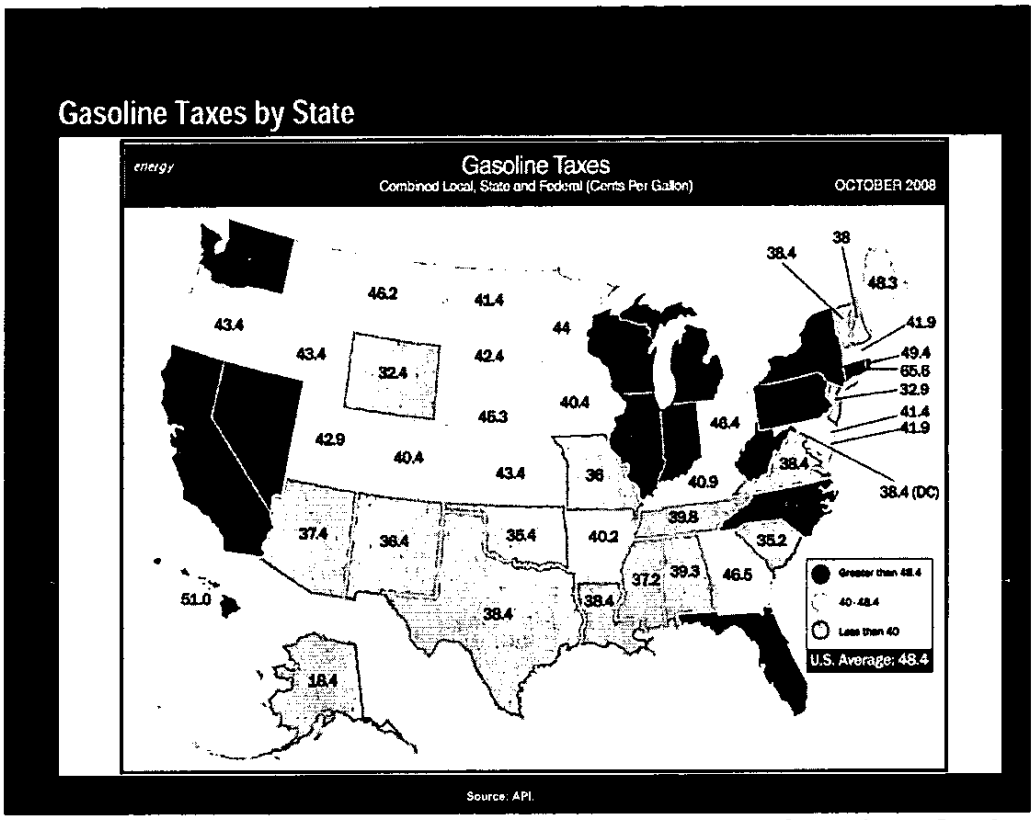

Chart 9, Barry Pulliam, Presentation to the House Judiciary Committee, October 3, 2008.

- **Just In Time Inventory:** Alaska gasoline refiners manufacture and import only the gasoline Alaskans need. This was evidenced this summer when a supply interruption occurred at the Flint Hills Resources rack because the refinery had to close for unexpected repairs making new supplies of gasoline unavailable.

- **Irregularity of Delivery in Southeast Alaska:** Gasoline sold in Southeast Alaska is barged up from the Pacific Northwest and down from the 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 up to two or three months to exhaust current

supply before less (or more) expensive gasoline is available to be sold to retailers.

- **Annual Pricing in Rural Alaska:** Gasoline and heating oil in the remote parts of Alaska is barged in only once a year. Due to three seasons of severe ice conditions, fuel has been barged into rural communities during the summer months when the fuel prices are highest, thereby setting the price for the entire year.

- **No Benefit of a Supra-Competitive Market:** Alaska has a limited supply mechanism and a lack of supply sophistication, such as gas supply pipelines that are present in the Lower 48. Due to this fact Alaska has not been subject to any of the supra-competitive pricing seen in the Lower 48, which was caused by the U.S. being awash in gasoline once consumer demand lowered due to high prices. Alaskan refineries produce only what the market demands, meaning that consumers will not experience a competitive discount spurred by oversupply.

- **Barriers to Entry:** Alaska's market has three suppliers of gasoline and is defined as being highly concentrated. Economists call such a market an "oligopoly," because, while not quite a monopoly only a few companies control the market. Oligopolies do not always lead to higher prices. However, even with new suppliers entering the market, existing sellers may be able to keep prices high without much concern about the new competition.

- **Import Parity:** In a purely competitive market the price disparity between Seattle and Alaska's gasoline prices should make it profitable to barge cheaper West Coast gas into Alaska's market. This is known as "import parity." Import parity however, does not seem to affect the price of gas in Alaska. This is due to two conditions, one being Alaska's limited market in which to sell the gasoline and the other being a lack of terminal space.

These are market conditions that are unique to Alaska, yet these market characteristics alone do not explain why the prices at the pump have not fallen in line with the declining price of crude, or found some parity with markets in the Lower 48. Whatever the cause, Alaskans are feeling the adverse economic impact of high motor fuel prices across the State.

RETAIL GASOLINE

The House Judiciary Committee held its first hearing in Fairbanks on September 10, 2008. This meeting emphasized the different elements of the gasoline market. At this meeting the Committee heard testimony from different segments of the market: refiners, distributors, and retailers. As well, we heard testimony from Senior Assistant Attorney General Ed Sniffen who explained current Alaska laws and reported on the status of the Attorney General's investigation.

The Committee learned that retail profit margins were well within acceptable limits, with small independent retailers struggling to make

profits, while large retailers associated with national retail or wholesale stores were not losing money on gasoline. Those retailers had pricing power to offer special discounts to store consumers and could offset any losses through sales of in-store merchandise.

Credit card purchases also cut into the retailer's profit margin. Purchasing fuel by credit has cut into retailer's profits because retailers pay up to three-cents per dollar (3%) in credit card transaction fees.

Additionally, through testimony, the Committee learned that in the competitive gasoline retail market it is not uncommon for retailers to set their prices off the prices seen on their competitors' marquees. This is not a violation of Alaska's antitrust laws since there was no collusion; it is just a marketing strategy.

From the retail gasoline industry the Committee heard from Lois Hein, Co-owner of Riverview Quick Stop in North Pole, Alaska. The Riverview Quick Stop is a small retail gasoline and convenience store. Ms. Hein gave compelling testimony as to how difficult making a profit has become with high prices. Ms. Hein brought before the committee a petition against high fuel prices, signed by over 140 of her customers. The petition has been forwarded to the Governor's office.

Ms. Hein testified that Riverview Quick Stop has had to raise its prices $1.00 in the past week, and that as of September 10, 2008 the price was $4.38 at the Riverview Quick Stop. At the time of this report, gasoline prices at the Riverview Quick Stop have fallen to $2.60 per gallon. Ms.

Hein was quite frank in her testimony, informing the committee that Riverview priced its gasoline 20 cents above Flint Hills' rack rate for cash sales and 25 cents above the Flint Hills' rack rate for credit card sales. Ms. Hein further testified that the Riverview Quick Stop's prices were about 20 cents higher than prices in downtown Fairbanks. Ms. Hein further testified that Riverview Quick Stop used to sell about 700 gallons of gasoline per day; now however, Riverview is now averaging about 300 gallons a day.

Ms. Hein testified that at one point in late August or early September she was unable to get gasoline from Flint Hills Refinery and thus the Riverview Quick Stop had to shut down its pumps. This disruption was caused by a short outage of gasoline production at the Flint Hills Refinery in North Pole. It was a temporary glitch, but it could have been a lot more serious had Flint Hills not been able to get back into production. This event illustrates the extreme fragility of the state's fuel-supply-and-distribution system.

The Committee also heard testimony from Safeway, Inc., a large retailer that sells gasoline primarily as an added convenience for its grocery customers. Glenda Wood, Safeway's Director of Fuel Pricing, testified that although its stations are not expected to lose money, Safeway is in business to sell groceries and gasoline is offered as a convenience. Safeway is mainly a West Coast operator with gasoline stations in Washington, Oregon, California, Colorado, Arizona, Texas, and Chicago, and a few stations on the East Coast.

Ms. Wood further testified that in Alaska Safeway gets most of its gas from either the Tesoro or Flint Hills Refineries and that Safeway buys its gas at the best possible price that it can; however, wholesale gasoline prices are higher in Alaska than other states.

Ms. Wood opined that wholesale prices are higher in Alaska due to limited refining capacity, and also because Alaska refiners are independents with no stake in the more profitable up-stream market: they buy their crude and then add on their costs and a profit mark-up. Alaska also has higher transportation costs for getting the gas from the refinery to the retail market. It is Safeway's belief that the limited refining capacity in Alaska is the cause of the high price of gasoline.

The Committee also heard from Lisa Sundborg of Alaska Petroleum, a fuel distributor and retailer. Ms. Sundborg testified that her company delivers both wholesale and retail fuel. Alaska Petroleum has 17 trucks and they purchase gasoline from the Flint Hills Refinery and some heating fuel from the Petro Star Refinery. Ms. Sundborg further testified that distribution requires a lot of money for the purchase of fuel at the rack and that her company's profit is set at 14%.

Through the above testimony and the testimony from Mr. Sniffen of the Department of Law, the Committee was presented with evidence that the high fuel prices in Alaska were originating at the refinery level. Mr. Sniffen testified that the chart below "shows what the retail margins are from rack to pump price. The green line is Seattle and retail margins spike up and down

with much more volatility than Anchorage or Fairbanks. This shows that the problem is not from rack to retail, but at the refineries rack rate."

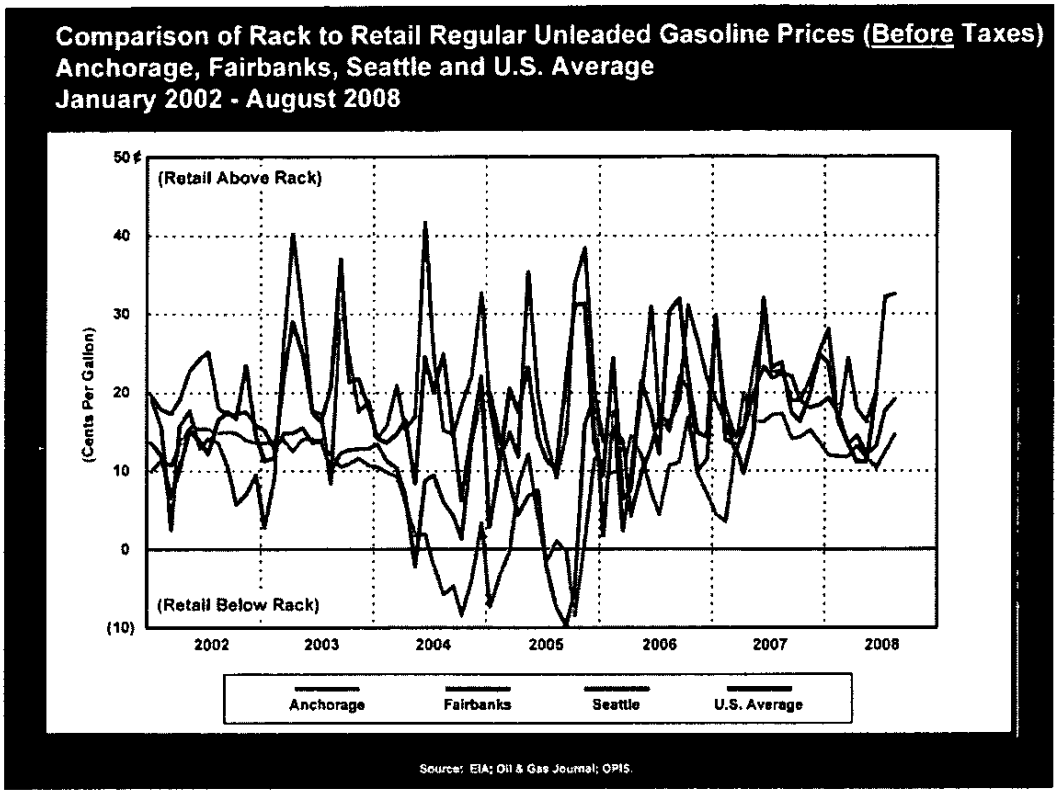

Chart 10, presented by Senior Assistant Attorney General, Ed Sniffen at the House Judiciary Meeting on September 11, 2008.

THE REFINING INDUSTRY

Refineries break down crude oil's long-chain hydrocarbon molecules into useful shorter-molecular-chain petroleum products. The profit margin that a refiner can expect to make by "cracking" crude oil is termed the crack spread. Crack spread is an oil industry and futures trading term that refers to refiners' profits. Refineries profits are directly tied to the differential between the price of crude oil and petroleum products they produce. The

refining industry is currently experiencing an unsustainable negative gasoline crack spread, which is being driven by the global credit crisis, conservation, and reduction in demand. This is known as demand destruction.

All commercial Alaska refiners are independent refiners, being only partially integrated into the oil industry. However, balance in the industry is best achieved when a company has a stake in both the upstream and the downstream portions of the market. Refining companies that are involved only in the downstream aspect of the market must purchase crude and then deal only in refining and distribution. This makes the refiners particularly vulnerable in volatile oil markets, since they share none of the high upstream profits.

The current negative crack spreads seen in the refining industry are unsustainable and have even had some experts calling this the "dark ages of refining." One has only to look at the stock prices of Tesoro and Valero, two of the largest partially-integrated refiners in the U.S., to see that the refining industry is currently experiencing a negative crack spread.

Tesoro's stock prices have experienced a 52 week high of $56.53 per share on November 23, 2007, and fell to a 52 week low of $6.71 per share on November 20, 2008. As of November 28, 2008, Tesoro was trading at $9.19 a share. With current low crude prices the crack spread is beginning to recover, but conservation and demand destruction have remained in place.

At the time that this report was published, Tesoro's stock price has recovered to $16.95 per share, still well off its 52 week high.

Valero Energy Corporation, another large, partially-integrated refiner, also shows the effects of a negative crack spread in this volatile market. Valero experienced a 52 week range of $71.25 to $13.94 per share. And, as of November 28, 2008, Valero's stock was trading at $18.35 per share. Today, with crude under $40.00 per barrel, Valero is trading at $25.25 per share.

ALASKA'S REFINING INDUSTRY

Alaska has a total of six refineries in state. Two are located on the North Slope and provide refined products for operations on the Slope. The State's largest refinery is the Tesoro Alaska Refinery located in Nikiski on the Kenai Peninsula. The Flint Hills Refinery is located in North Pole, and can run more crude through the crude units, but cannot produce as much product as the Tesoro Alaska Refinery. There are also two smaller Petro Star refineries, located in North Pole and Valdez. Petro Star produces kerosene, diesel, and home heating oil.

All of Alaska's refineries, with the exception of the Tesoro Alaska Refinery, are classified as small topping plants. Topping plants cannot refine all the crude oil they take in and it is either put back into the TAPS line or exported and sold at a loss. Many topping plants in the United States have closed due to unprofitability. The refineries in Alaska are also all smaller than other refineries. They are older and less efficient than most

other U.S. refineries which have enjoyed modernization or have been scrapped. Additionally, Alaskan refineries have their own feedstock and operational issues.

For the purpose of this gasoline study, we will look at the two refineries producing gasoline, Tesoro Alaska Company and Flint Hills Resources.

Flint Hills Resources

Jeff Cook, Director of External Affairs, testified at all three hearings for Flint Hills Resources. The Flint Hills Resources Refinery is located in North Pole, Alaska. Mr. Cook relayed that Flint Hills Resources had sixty years of experience in the refining business. Flint Hills Resources owns refineries in other states as well as Alaska and purchased the North Pole Refinery in 2004. The refinery first began production in 1977, and Flint Hills Resources is the fourth owner of the facility.

The plant was built by Earth Resources. When it was originally built, it was built to process 25,000 barrels of oil per day. Earth Resources expanded the plant's capacity to 45,000 barrels per day in 1980. Earth Resources then sold the majority of its stock to MAPCO. MAPCO expanded the plant in 1985 to increase the amount of heating oil and jet fuel produced; MAPCO also added asphalt and gasoline production. Capacity increased to 90,000 barrels a day in 1985 and eventually expanded to 220,000 barrels per day. In March of 1998, the plant was bought by

Williams Companies. Flint Hills Resources Alaska acquired the North Pole Refinery and its associated terminals in July of 2004.

Today, the refinery produces about 50,000 barrels a day of saleable product, approximately 77% of which is jet fuel.

Gasoline & Naphtha	**10%**
Jet Fuel/#1 Fuel Oil	**77%**
#2 Diesel	**8%**
Gas Oil	**4%**
Asphalt	**1%**
Total	**100%**

Chart 11, Flint Hills North Pole refinery production by volume (www.FHR.com.)

The North Pole Flint Hills Refinery produces less than 15% of the gasoline used in Alaska and the refinery mainly supplies gasoline to the Interior. Flint Hills had to cut back on gasoline production due to new sulfur requirements that went into effect for gasoline on January 1, 2007. Jeff Cook also testified that because of federal fuel issues with the State of Alaska, Flint Hills is at the maximum capacity for the production of gasoline.

The company also owns and operates product terminals in Fairbanks and Anchorage that store and distribute asphalt, fuel oils, diesel, jet fuel, and gasoline. The Anchorage Terminal receives product from the North Pole Refinery via Alaska Railroad tank cars, annually off-loading 28,000 rail cars. That product is then distributed locally and to locations along Alaska's coastline.

The Flint Hills North Pole Refinery accounts for about 40% of the Alaska Railroad's business. The Alaska Railroad would itself face economic hardship were the refinery to close.

The North Pole Refinery gets its crude from the State of Alaska, by purchasing royalty oil. Flint Hills North Pole refinery takes in between 180,000 to 200,000 barrels of crude per day. After the crude is distilled and turned into a few basic products, the rest is returned into the TAPS line and the refinery pays into the quality bank[2]. A portion of the oil taken from the TAPS line is also refined into product to run the plant, thereby increasing Flint Hill's operating costs over refineries that are powered by cheaper natural gas. With gas to oil at a 6 to 1 equivalent, Flint Hills Refinery is at an economic disadvantage. Additionally, as the flow of crude oil in the pipeline has declined, the oil in the line is cooler and more-sticky than the warm oil the plant was originally designed to take in, therefore, the plant must use more energy to heat this cooler, stickier crude.

State royalty oil has been a mixed blessing for the North Pole Flint Hills Resources Refinery. Royalty oil played a key part in the construction of all refineries in Alaska. Prior to the building of the North Pole Refinery there was debate as to whether the refinery would be viable, but community leaders and State officials strongly supported the building of the plant. Earth Resources was given a 25 year contract that assured the company a guaranteed supply of oil at the prevailing average royalty price paid by

[2] The TAPS Quality Bank was created in the early 1980s to compensate shippers of higher quality crude that is commingled with lower quality crude from another shipper.

North Slope Producers, and allowed the refinery to deposit the unused portion of crude back into the pipeline.

Flint Hill's 2004 purchase of the refinery coincided with the end of the original 25 year royalty oil contract that the State had issued to Earth Resources. Allowing the purchase of the plant, the State negotiated a new contract with Flint Hills that provided for a guaranteed amount of oil. However, this time the State added a premium to be paid on top of the average royalty in-value price. According to the agreement of sale, the price paid by Flint Hills Refinery for royalty oil from each Unit from which sale oil is nominated is:

Price = ANS Spot Price - $1.55 –Tariff Allowance + Quality Bank Allowance – Line Loss

However, the premium proved to be problematic for Flint Hills. As the price of crude escalated, it became increasingly hard for the company to recoup its expenses. Flint Hills is currently trying to renegotiate with the State parts of the royalty contract, including premiums. Flint Hills took another financial hit when the tariff on the Trans-Alaska Pipeline was readjusted downward for shipments of crude oil in-state. This was a retroactive adjustment that had the effect of raising the cost of royalty oil purchased by Flint Hills. These recent tariff decisions by the Regulatory Commission of Alaska (RCA) and Federal Energy Regulatory Commission (FERC) left Flint Hills Resources having to pay a huge back-payment of several hundred million dollars to the State.

Increased environmental emission regulations and increasingly stringent federal requirements on the type of fuels produced have forced many topping plants to close. The Flint Hills North Pole Refinery has been able to keep pace with new environmental regulations, but to comply it has had to change the type of fuel it produces, and this has impacted the amount of gasoline and road diesel that it produces. Jeff Cook testified that while the refinery still produces some gasoline and off-road diesel, the company is now forced to buy gasoline and diesel fuel from other sources in order to meet the full needs of its customers. A new issue facing refineries is pending federal rules for lower benzene in gasoline. The installation of technology to meet this new mandate will involve substantial capital investment for Alaska refineries. Flint Hills Resources will have to consider it if will make this capital investment in its North Pole Refinery.

Flint Hills Resources recently closed a chemical plant in Odessa, Texas, stating that the significant amount of investment needed to reposition the plant for success prompted the decision. Flint Hills' president Brad Razook sent the North Pole Refinery an e-mail in May stating that the plant would be assessed to make sure that it was adding value to the company. Mr. Razook laid out three options for the plant that included, (1) selling the plant, (2) making reconfigurations, or (3) investing in upgrades to increase volume and lower operating costs. Unfortunately, the high price of crude throughout the summer and into the fall does not bode well for keeping the plant profitable and adding value.

When oil prices are high, the Flint Hills North Pole Refinery is not able to make a profit due to the fact that most of their product is jet fuel

which is a commodity whose price is controlled by the world market; since jets can refuel anywhere, prices must remain competitive. With the recent and perhaps still ongoing slide in crude oil pricing, Flint Hills has become profitable again, but the challenges facing the company remain.

Governor Palin recently announced a joint effort between the state and Flint Hills to conduct an evaluation of the refinery's future, "aimed at positioning the North Pole Refinery for long-term success." Although few details were given, the press release reads as follows:

> The State and Flint Hills will evaluate options aimed at improving the plant's ability to respond to volatile energy costs, varying product demands and volatile refinery margins as well as facilitating plant upgrades needed to position the plant to succeed long-term. Flint Hills is providing data to the Department of Natural Resources, which has assured confidentiality. This data allows DNR the opportunity to analyze refinery economics; this analysis is expected to take from 3 to 6 months.[3]

Additionally, on December 19, 2008, Kevin Banks, Director of the Division of Oil and Gas for the State of Alaska, announced that the State may ease the terms of its royalty oil supply contract with Flint Hills Resources. "Flint Hills is now providing us with financial information on the plant, which will guide us in making a decision," said Mr. Banks.

Jeff Cook said that, "the company's conclusion of the analysis is that no significant investment is possible for the company. The required spending is in the hundreds of millions of dollars." The House Judiciary

[3] The Governor's press release at *http://www.gov.state.ak.us/news.php?id=1579*

Committee and State representatives met in an executive session on January 14, 2009, to discuss viable options.

There has been no indication that the State is considering either purchasing or establishing an ongoing business partnership with Flint Hills Resources. Additionally, Flint Hills Resources has also testified before the Committee that they are not looking for a hand-out from the State.

Tesoro Alaska Company

Kip Knudson, External Affairs for Tesoro Alaska Company, testified twice before the House Judiciary Committee. Tesoro Alaska Company, like Flint Hills Resources, is an independent refiner and is therefore more at the whim of market forces. Tesoro is headquartered in San Antonio, Texas, and has seven refineries with a 660,000 barrel per day (bpd) crude capacity. Tesoro also owns a retail network of over 900 sites, employs 5,500 people, and is a publicly traded company.

Tesoro Alaska Company's refinery is a medium complex refinery located in Nikiski, Alaska, on the Kenai Peninsula. The Kenai refinery has a 72,000 bpd capacity, and ranks 81st in capacity among U.S. refiners. Tesoro is the main supplier of gas in Alaska. Due to some conversion at the plant the refinery can take 100% volume and produce 125% volume. Heavy vacuum gas oil, fuel oil, bunker and road asphalt have no market in Alaska and are exported. Mr. Knudson testified that once Tesoro Alaska Company buys the crude they own it, unlike the other Alaska refineries that can return any unused crude into the TAPS line. Approximately 1/3 of Tesoro

Alaska's output is sent outside for processing. This is usually the bottom third and is generally sold at cost or below.

Tesoro Alaska Company also owns a pipeline system for distribution at the Nikiski Terminal, the Anchorage Terminal, and the Anchorage Airport. Tesoro Alaska Company sells their products to anyone who will purchase from them. Kip Knudson testified that the Tesoro Alaska Company Kenai Refinery produces to meet market demand, and that they do not overproduce or flood the gasoline market in Alaska, therefore production capacity changes daily.

Tesoro Alaska Company purchases approximately 50% of its crude from Anadarko on the North Slope, approximately 25% from the Cook Inlet, and the refinery imports approximately 25% light foreign crude by chartered vessel. Importing crude oil is expensive and we can expect to see imports grow as the Cook Inlet production declines.

The Kenai refinery employs over 200 people and makes a value-added product mix of propane, gasoline, jet fuel, diesel fuel, heavy vacuum gas oil, fuel oil/bunker, and road asphalt. The company also owns 31 convenience stores in Alaska, 29 of which sell fuel, and has over 58 branded dealers. Tesoro Alaska Company is the only refinery that can produce ultra-low sulfur diesel (road diesel), which means that Tesoro Alaska Company is the only Alaskan refiner in the market.

Tesoro Alaska Company used to be a big royalty oil consumer. Now, however, that has diminished and Kip Knudson of Tesoro Alaska Company

expressed that this might be because the buyers were not pleased with the royalty oil pricing. Mr. Knudson said, "After you bought the barrel, years later you might get an adjustment."[4]

Since Tesoro Alaska Company did not provide the Committee with any of its financial information and Tesoro is a publicly-traded company, Tesoro's 2008 Third Quarter Report to the SEC is helpful to assist the Committee in understanding the company's profits and costs in the Pacific North West Market, which includes Alaska and Washington. Unfortunately, Alaska is not reported separately. However, we do know that Alaska represents 10 percent of the company's refining capacity.

During the first half of 2008, industry refined profit margins remained weak, reflecting record high crude oil prices which increased more rapidly than product prices. After peaking in early July 2008, crude oil prices declined rapidly. Product prices declined less dramatically than crude oil prices. However, of note, diesel margins increased above 2007 levels beginning in the 2008 second quarter due to continued strong global demand and low inventories. Tesoro reported that its 2008 third-quarter earnings rose five-fold due to higher profit margins.

As can be seen from the chart below, Tesoro reported a gross refining margin per barrel of $13.76 in the Pacific Northwest in the third quarter, compared to a company average of $16.69.[5]

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[4] House Judiciary committee record 9/10/08 at 10.47.

[5] Gross refining margin per barrel is calculated by dividing gross refining margin by total refining margin by total refining throughput. Gross refining margin is calculated as

	Three Months Ended September 30		Nine Months Ended September 30	
	(Dollars per million except barrel amounts)			
Pacific Northwest (Alaska and Washington)	**2008**	**2007**	**2008**	**2007**
Refining throughput (thousand barrels per day)(h)	**$162**	**$185**	**$166**	**$184**
Gross refining margin (c)	**$205**	**$86**	**$372**	**$623**
Gross refining margin ($/throughput barrel) (c)	**$13.76**	**$5.01**	**$8.19**	**$12.43**
Manufacturing cost (c) (d) ($/throughput bbl)	**$3.79**	**$2.84**	**$3.94**	**$2.80**

Chart 11, Tesoro Corporation 2008, 3rd Quarter SEC Report (page 33)

One question that remains unanswered is: Are refiners in Alaska making exceptionally high profits to carry and make up for losses in the rest of the region, or are high gasoline prices due to unsustainable losses in markets related to other refined products?

A parallel corporate example might be Alaska Airlines' pricing for in-state travel versus pricing for travel in competitive markets on the West Coast. Why is airfare from Fairbanks to Anchorage more expensive than travel from Seattle to Portland or even to the East Coast?

The Committee was not able to fully determine the costs and profits for Alaska's refinery operations. However, it was clear that the proportion of gasoline prices attributable to the refinery margin has increased dramatically in recent months. Since March of 2008, the margin in Alaska

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revenue less costs of feedstocks, purchased refined products, transportation and distribution. Manufacturing costs per barrel is used to evaluate the efficiency of refinery operations. Manufacturing costs per barrel is calculated by dividing manufacturing costs by total refining throughput.

has increased over 230 percent, with half of the increase coming since crude oil prices began their dramatic price decline, from all-time highs in July. By comparison, the refining margin in Washington increased about 63 percent and the average component for U.S. refineries was an increase of 120 percent.[6]

Current Alaska Law

Ed Sniffen, Senior assistant Attorney General, relayed to the Committee that this is the second investigation into price gouging by the Attorney General's Office. The first was started in 1999, under the Knowles Administration, and concluded three years later, with a final report being issued in 2002. The initial investigation was prompted because the State was experiencing similar high fuel prices. Like the present investigation, the Attorney General's Office issued Civil Investigative Demands (CIDs), which are like subpoenas, to determine if any antitrust laws are being broken. The Attorney General's Office concluded in its November 21, 2002 report that there was insufficient evidence to indicate a violation of Alaska's antitrust laws. (See, attachment 1, Attorney General's December 21, 2001, Update and Status, and November 21, 2002, Closing Report)

Under current Alaska law, in order to establish a violation of Alaska's antitrust statute, AS 45.50.562 and AS 45.50.564, or comparable federal law on which Alaska's laws are patterned, there must be evidence that two or more companies entered into an agreement to fix petroleum prices. The fact

[6] Legislative Research Report 09.053, *Petroleum Refineries and Gasoline Prices in Alaska*, December 18, 2008.

that companies charged prices in excess of the competitive level or raised or lowered prices in a parallel fashion is not enough evidence to establish an agreement. Evidence of uniform pricing must be established by showing that the parties got together to engage in a cooperative pricing agreement. Cooperative pricing behavior involves a "meeting of the minds" either by tactic or active collusion, by engaging in behaviors: such as, (1) actions contrary to an entity's own economic interests, (2) a departure from normal business practices, (3) motive to conspire, (4) opportunity to conspire, (5) a high level of intercompany communications, and (6) past antitrust violations.[7]

No state in the U.S. currently regulates gasoline prices. Economic forces inclusive of production costs, supply, demand, and competition in the market place determine the final gasoline price. Refiners, distributors, and retailers can sell gasoline at any price they want, provided consumers are willing to pay the price. If the prices were to reach an "unconscionable level," that could also violate Alaska's consumer protection laws.

Demand Destruction Benefits Consumers

While Alaska's demand for gasoline remained relatively unchanged during high gasoline prices, demand for gasoline in the rest of the country dropped significantly. The large refineries in the Lower 48 are not set up for lower production, and the market quickly becomes flooded with product, creating a supra-competitive market. Suddenly, there is a glut of gas on the market, which in turn causes the price of gasoline to drop like a rocket. In

[7] See, *In re Baby Food Litigation,* 166 F.2d 112, 122 (3rd Cir. 1999)

contrast, Alaska has not enjoyed this same supra-competitive market and the State has not seen prices drop in-step with markets in the contiguous United States. This variable is one of the factors accounting for the decoupling of price parity with the Lower 48.

Import Parity and Terminal Capacity

Import parity is a concept that was brought before the Committee. Import parity begs an answer to the question as to why, when Alaska's gasoline prices get so high is it not profitable for a third party to barge gasoline in and sell it on the Alaska market. In a purely competitive market the threat of importing cheaper gas should regulate prices. However, there must be a place to store the gasoline and a market in which to sell it.

Steve Ribuffo, Executive Director of the Port of Anchorage, explained gasoline storage at the Port of Anchorage. The Port of Anchorage is a tenant port, meaning that all improvements are made by the tenants. The Port of Anchorage only leases the property and the tenants make the improvements on the leased property. The Port has static storage for 2.8 million barrels of petroleum product, and that storage is full, being spread among lessees Flint Hills, Tesoro, Signature Fuels, and Chevron. Mr. Ribuffo also explained that 100% of the jet fuel used at Elmendorf Air Force Base comes through the Port first. Mr. Ribuffo explained that currently the Port of Anchorage is space limited out--meaning that even if another company wanted to import fuel into Alaska, there is a lack of terminal space. However, currently there are plans to expand the Port of Anchorage, as well as separate plans to

expand the Mat-Su Port. This proposed solution is subject to capital investment and is years away from completion.

Tight Retail Market

Also explaining the lack of import-parity with the Lower 48 is Alaska's tight retail market for gasoline. A new company entering Alaska's gasoline market would not be able to sell gasoline to branded gas stations, such as Tesoro or Chevron; because they are branded companies, they already have their suppliers. Alaska does not have the same kind of non-affiliated stations that are found in larger markets in the Lower 48. The large chain stores such as Costco, Sam's Club, Fred Meyer and Safeway and the small independent retailers, such as the Riverview Quick Stop might be able to buy from a gasoline supplier new to Alaska, but most of the retailers are already contracted with suppliers. Stores that could negotiate new contracts with a third party supplier represent only a small portion of the gasoline retailers in Alaska. Even if a new supplier were able to negotiate contracts with these independent retailers, those contracts may be inadequate to economically support a supplier new to Alaska. The other question that begs an answer is if someone were to barge in gasoline, would Alaska refiners immediately lower their prices, thereby making importing gasoline uneconomical and squeezing out the new competition? The lack of terminal space and the tight retail market create considerable barriers for entry into the gasoline market.

Price Gouging

Currently, Alaska does not have a price gouging law. Sellers of all goods and services can set their prices at what the market will bear, and they are not required to set prices on a cost-plus basis. The amount of profits a business can make on a product is not capped. Alaska's gasoline market is unique; even when prices rise, the demand for gas by volume does not change much. Alaskans must drive. There is presently very little evidence of demand destruction in the State; thus there is less incentive for suppliers to lower their prices, compared to areas of the country where demand drops significantly when prices rise.

In states that have price gouging laws, these laws are usually triggered by a declared "state-of-emergency." These laws are fashioned to protect consumers when a disaster such as a hurricane occurs. They are established to make sure that retailers do not take advantage of citizens who needed necessities, particularly in a time of emergency. For example, a $400 generator can not be marked up to $1,400 because of the demand created by a natural disaster. North Carolina, in House Bill 653, recently amended its legislation to broaden the definition of "state of emergency" to include "an economic emergency." The price of gasoline at the pump is more a reflection of what the market will bear, than of "monopolistic predatory pricing."

POSSIBLE ACTION FOR THE 26th LEGISLATURE

The 26th Alaska State Legislature may want to discuss various options to combat the high price of gasoline. However, it should be noted that meddling in the free market is likely to produce negative consequences with lasting effects on Alaska's economy and employment. We want to avoid unintended consequences at all costs, and regulating prices or tying them to Washington refinery pricing may have a chilling effect on the Alaska market.

State or Public Ownership of Flint Hills Resources

State or public ownership of the Flint Hills Resources Refinery in North Pole has been brought to the Committee's attention by public input. This would involve the State of Alaska or in other words, the people of Alaska, purchasing the Flint Hills North Pole Refinery for the benefit of Alaskans who purchase Flint Hills Resources' products.

However, as previously discussed, the Flint Hills Refinery in North Pole produces only about 15 percent of the gasoline Alaska uses, and it is gasoline used mostly in the Interior region. Thus, this small percent of Alaska's gasoline produced by Flint Hills Resources does not lead the Committee to believe that government or community ownership of the refinery would ultimately lead to lower consumer prices for gasoline across the State.

Additionally, the Flint Hills Refinery product mix is 77 percent jet fuel and 10 percent gasoline. As previously discussed, jet fuel will always be priced in conjunction with the world market. Therefore, the refinery would still have to use gasoline pricing to offset losses when crude reaches exceptionally high prices. We cannot be more emphatic in making this point: Jet Aviation Fuel is the mother's milk of Alaska. We have almost no other value added industry in the State.

Deceptive Trade Practice Legislation (Price Gouging)

This year the House and Senate have introduced identical price gouging legislation, they are House Bill 68 and Senate Bill 54, respectively. These two bills, if enacted, would make it prima facie evidence that refiners are practicing deceptive trade practices under AS 45.50.471, if the refiners are selling motor fuel, jet fuel, fuel for space heating, or diesel fuel at ten percent above of the average wholesale price of the comparable energy resource, as charged by refiners in the state of Washington.

This new law would create an incentive for refiners to hold their prices within 10 percent of Washington's rack prices and would appear to protect the public from "unscrupulous refiners."

However, as noted earlier, the Washington refining industry and ultimately the Washington market bears some, but relatively little commonality with the Alaskan market. Alaska is a much smaller market than Washington. The refining industry is also different in make-up. Washington operates five refineries, four of which are highly complex, high-

conversion operations, which ship gasoline, jet fuel and diesel through a pipeline system that serves Washington and Oregon.

Gasoline, diesel oil, and jet fuel are the largest finished products made by Washington refineries, representing 46 percent gasoline, 23 percent diesel, and 13 percent jet fuel of total production. This is quite a different production ratio than Alaskan refineries that produce 59 percent jet fuel, 15 percent gasoline, and 11 percent diesel. Washington refineries also have much cheaper electricity and fuel their plants with natural gas. The Fairbanks North Star Borough economic quarterly shows the U.S. utility average at 100, with Settle at 81.1, Anchorage at 91.0, and Fairbanks at 214.6.

In Alaska, the market for gasoline is small, because the population is small. Therefore, the refining industry of Alaska was built around the market it serves, jet fuel. A term that the Committee heard throughout testimony was, "in Alaska jet fuel is king." However, the dominant production of jet fuel leaves very little pricing flexibility for a refiner, since the price of jet fuel is set by the world market.

For the reasons stated above, the economic conditions governing Alaska's refining industry are quite different than those governing the refining industry of the State of Washington. Therefore, directly tying Alaska's refiners pricing structure to Washington's refining prices may prove to be like comparing apples to oranges. Refiners in Alaska, by the very nature of the Alaskan market, are already constrained by product

pricing of jet fuel. Under this new law, refiners would lack the flexibility to price commodities to offset losses due to unprofitable jet fuel manufacturing.

The worst unintended consequence of this legislation would be for independent refiners to pack up and leave the State. This would not just shut down the refineries, but affect the entities that rely on the refineries, such as the Alaska Rail Road, the Ted Stevens International Airport, the Fairbanks International Airport, and our air force bases located in both Anchorage and Fairbanks.

There are no legal impediments to prevent the State from regulating the price of fuel. However, when the State of Hawaii enacted its gas cap law in September of 2005, the State saw prices rise shortly after the legislation's enactment and eight months later Hawaii repealed the law. Should Alaska try to regulate its fuel price, the result may be similar to that experienced in Hawaii, with all fuel prices at the refinery level quickly rising and staying at the maximum amount allowed under the law, costing all fuel consumers more.

While it is tempting to quickly pass legislation that would ease the suffering of consumers paying fuel prices that are surprisingly higher than in the Lower 48, the consequences of any bills affecting the free market structure of the refining industry in Alaska must be studied carefully and vetted fully by the legislature should it choose to entertain this type of legislation.

Induce Third Refiner into the Alaska Market

Another possible solution may be for the legislature to incentivize a third refiner to enter the Alaska Market. However, Alaska is currently refining all the gasoline the State can use. Therefore, there is no incentive for a third party refiner to enter the market, since Alaska refiners already have captured the market share. Furthermore, incentivizing a third gasoline refiner into the Alaska market could cause the market to become over-saturated with the consequence that the weakest refiner would be forced to shutdown causing a duopoly of refineries once again.

Incentivize more gasoline storage in Alaska

Alaska may also want to consider adding more gasoline storage strategically around the state. Gas prices may see a decline in rural areas of the state, where gasoline is barged, if more storage terminals for gasoline were to be built in strategic areas of the state. If there were additional gasoline storage the commodity could be purchased when the price is low and stored until it is able to be moved to market.

Sell State Royalty Oil at Below Market Price for Alaskan Consumption

It is a difficult question to determine if it is constitutional for the State to sell its royalty oil at a below market price to an oil refinery in Alaska that intends to sell the product it produces in-state for the benefit of the citizens of Alaska.

In a legal opinion from Donald M. Bullock, Jr., of the Legislature's legal department, Mr. Bullock opines that such a sale would have to be "consistent with the public interest," made for the "maximum benefit of [Alaska's] people,"[8] and approved by the legislature[9] for the state to sell it's royalty oil to an in-state refinery at a below market value.

Mr. Bullock further opines that there may be issues with the Commerce Clause, article 1, section 8, clause 3, Constitution of the United States because the United States Supreme Court has long recognized that the

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[8] The Alaska Constitution, Article VIII, Sections 1 and 2, provide that:

SECTION 1. Statement of Policy. It is the policy of the State to encourage the settlement of its land and the development of its resources by making them available for maximum use consistent with the public interest.

SECTION 2. General Authority. 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 the people.

[9] AS 38.06.055 provides:

(a) In addition to the recommendation by the board required under AS 38.06.050, the commissioner of natural resources may not enter into a sale, exchange, or other disposition of oil or gas or of the rights or waiver of the rights to receive future production of royalty oil or gas under AS 38.05.183 without the prior approval of the legislature. The legislature may approve a sale, exchange, or other disposition of oil or gas or of the rights or of a waiver of the rights to receive future production of royalty oil or gas only by enacting legislation.

(b) The provisions of (a) of this section do not apply to

(1) the sale, exchange, or other disposition of oil or gas for one year or less if the sale, exchange, or other disposition is entered into to relieve storage or market conditions;

(2) contracts for the sale of state-owned royalty gas or oil that specify the sale and delivery of not more than

(A) 400 barrels of crude oil per day;

(B) 460 barrels of natural gas liquids per day; and

(C) 2,400 Mcf of natural gas per day.

(c) A sale, exchange, or other disposition of oil or gas under (b)(1) of this section may not be continued after the end of one year or renewed with the same party without the prior approval of the legislature under (a) of this section. This subsection does not apply to a sequential competitively bid sale of oil or gas made with the same party under (b)(1) of this section.

commerce clause also limits the power of states to erect barriers against interstate trade. If Alaska enacts such a law, the State would have to be able to "show that it advances a legitimate local purpose that cannot be adequately served by reasonably nondiscriminatory alternatives."[10] However, the United States Supreme Court left the door open, under some circumstances, to state efforts to provide a limited preference for a state's own citizens in the use of publicly-owned resources. (See, attachment 2, Legislative Legal Opinion, dated September 12, 2009).

However, while it might be theoretically possible for the legislature to determine that selling royalty oil for less than market value is in the "best interest of Alaska," passing such a law might prove difficult, since the "best interest of Alaska" means all residents of Alaska. Selling royalty oil to the Flint Hills Refinery and the Tesoro Alaska Refinery would most likely only benefit residents served by those refineries. No one else in Alaska would receive the potential benefit. Conversely, when we sell oil at the market value, the money goes into the general fund and benefits everyone. Although there are arguments both for and against a law that would allow the State to sell it's royalty oil to an in-state refinery at below market value, the Alaska Supreme Court would probably make the decision about whether such a law violates the Alaska Constitution, and a challenge to the new law could also rise to the U.S. Supreme Court.

[10] *Taylor*, 477 U.S. at 138, quoting *Hughes v. Oklahoma*, 441 U.S. at 336 (1979).

CONCLUSION

Economic Drama Meets High School Economics Our Conclusion: Opportunity Cost

"Opportunity cost" is defined by Google as: "The value of the next best choice that one gives up when making a decision."

If Alaskan consumers want near parity in pricing with Seattle refineries and attempt to achieve this parity by meddling with pricing ratios and creating formulas for Alaskan refined gasoline, in relation to Seattle refined gasoline, and if the legislature attempts to accomplish this in statute, the Committee believes we risk closure of the Alaskan refineries, or the voluntary exit from the Alaskan market by the refineries parent companies. Controlling duopolistic, efficient markets by inserting the heavy hand of government will likely have severe consequences that will not benefit consumers.

In the Lower 48 there are two commodities at play. One is the base cost of the resource, which is the price of crude oil; while the second commodity in play is refined gasoline. Refineries do not have spigots and the Committee learned they cannot generally regulate themselves and their production in the way the very simple (simple versus complex refineries) Tesoro Alaska Refinery does, by adjusting output. Therefore, much of the time, in a soft marketplace with the characteristics of (1) demand destruction, (2) conservation practices, (3) recessionary economic conditions, and (4) a surplus supply of refined gasoline in the Lower 48, we see market conditions where refineries are forced to sell their refined gas at a loss, and make their profit margins on other products in their portfolio. So

often, for large, complex refineries, refined gasoline production is a byproduct. The definition of "byproduct" should not suggest that it has lesser value or lesser meaning to the profit matrix of the refinery. Instead, gasoline is often the "valuable leftover" when refineries produce other petroleum products. But often the volume of gas produced by the Lower 48 refineries, which is dictated by the other products they manufacture, swamps the available market place with surplus gasoline.

In Alaska, refined gasoline, although a small part of Flint Hills' and Tesoro's portfolios, it is nevertheless a staple of the Alaskan marketplace and is often a critical profit center for the refineries. Although their "raison d'être" (reason to be) is the manufacture of Jet Aviation Fuel, as previously discussed, their profitability relies very heavily on participating in the very efficient supply and demand relationship for gasoline that exists in our isolated market.

Alaska refineries are forced to be globally competitive on the price of Jet-A. With competitive pricing in this niche of the industry set by world markets and global demand and with the variable cost of crude oil and the wild price fluctuations in the Jet-A market itself, the in-state refiners must look to refined gasoline sales and home heating oil (diesel) sales to cover operating costs and generate profit margins. As discussed, if refined gasoline only represents 10 -15% of an Alaska refinery's product mix, but is responsible for carrying the burden of much of the refinery plant's operating costs, then the Committee suggests, in conclusion, that an enormously disproportionate amount of these costs are being borne by Alaskan consumers. Embedded in Alaskans' retail gasoline costs are the occasional

operating losses Alaskan refineries incur in the jet aviation fuel market. Each dollar lost in jet aviation fuel sales are prices compensated for by spreading the cost over a gallon of gasoline produced for consumption by Alaskan consumers.

Periodically over the last decade, Alaska refined gasoline has been at or below Seattle refined gasoline prices. But often, and particularly dramatically since March of 2008, Alaskans have paid a great deal more for refined gasoline. It is not fair. If the committee used layman's language to describe how Alaskans feel, the profanity would be much too graphic and would compromise the professionalism of this report. Suffice it to say, Alaskans feel taken advantage of.

Herein lies the opportunity cost dilemma. Are Alaskans better off regulating our refineries so tightly that they may be forced to close, with the benefit being that we can import Washington refined gasoline and enjoy a more predictable pricing associated with Pacific Northwest rack rate, plus transportation costs? But in so doing, Alaska will also forfeit the value added market of Jet-A. Furthermore, Jet-A would be imported and likely would cost approximately .15 cents more per gallon than the State's aviation industry is presently paying. The state will lose its competitive position. Consumers will pay a little more for air fare, but the volume of freight and aircraft passing through Alaskan airports will quickly fall off the figurative cliff.

The Institute of Social and Economic Research (ISER) at the University of Alaska in its 2007 report on the economic significance of the Ted Stevens Anchorage International Airport notes that, "the contribution

that the airport provides to the state goes beyond the generation of jobs and payroll. The airport is part of the transportation infrastructure that links Alaskans and Alaska businesses to each other and the rest of the world. Without these links, both the cost of doing business and the cost of living would be much higher than they are today, precluding many economic activities and making Alaska a less attractive place to live and work." Although ISER was not able to pull an actual dollar figure on the value of the service, they reported that it was "quite substantial."

In 2006, the Ted Stevens International Airport ranked number 3 among the world's busiest cargo airports. 400,000,000 gallons of jet fuel are moved across the State annually to supply the airport. As can be seen from the chart below, the number of total revenue landings at the Ted Stevens International Airport continues to grow. The chart below shows the historical trend. Cargo landings are increasing and will soon overtake passenger landings.

Table 1. ANCHORAGE INTERNATIONAL AIRPORT: ANNUAL TOTAL REVENUE LANDINGS			
Fiscal Year	**Passenger**	**Cargo**	**Total**
1990	**59,352**	**19,079**	**78,431**
1991	**65,468**	**18,849**	**84,317**
1992	**71,459**	**20,100**	**91,559**
1993	**65,086**	**19,106**	**84,192**
1994	**60,617**	**21,732**	**82,349**
1995	**61,142**	**23,363**	**84,505**
1996	**55,474**	**26,552**	**82,026**
1997	**58,720**	**31,379**	**90,099**
1998	**60,539**	**34,003**	**94,542**
1999	**53,814**	**33,932**	**87,746**
2000	**54,427**	**38,144**	**92,571**
2001	**53,504**	**39,881**	**93,385**
2002	**52,773**	**39,356**	**92,219**
2003	**51,223**	**41,380**	**92,613**
2004	**49,312**	**42,351**	**91,665**
2005	**49,993**	**45,950**	**95,973**
2006	**53,405**	**47,091**	**100,496**
Source: Ted Stevens Anchorage International Airport			

Chart 12, ISER study 2007, Ted Stevens Anchorage International Airport: Economic Significance.

It should also be noted that the Fairbanks International Airport acts as the required diversionary airport for Anchorage Airport's cargo. In 2007, the Fairbanks International Airport used 13,000,000 gallons of Jet-A per year, and accommodated 25,149 aircraft landings.

Besides the Anchorage and Fairbanks Airports there are five other state assets that would be directly impacted should refiners decide to move out of the State of Alaska the associated businesses, are:

- Flint Hills Resources Refinery
- Tesoro Alaska Refinery
- Eielson Air Force Base
- Elmendorf Air Force Base

- Alaska Rail Road

To illustrate the effect refinery closures would have on Alaska, the Committee created the following chart that attempts to scope the value and other measurable comparisons for these industries:

Employer	Number of Employees	Salaries, Wages & Property Taxes	Economic Impact
Flint Hills Resources North Pole	175	21,000,000.00	Flint Hills is the third largest taxpayer in the Fairbanks North Star Borough, paying $3,300,000 in property taxes in 2008.
Tesoro Alaska Refinery	575	32,000,000.00	
Ted Stevens International Airport	10,222	562,000,000.00	Adding the offsite jobs generated by airport businesses making purchases and workers spending their earnings within the community, the total economic significance of the airport grows to 18,434 jobs and a payroll of $850 million.
Fairbanks International Airport	100		
Alaska Railroad	799	44,400,000.00	108,000,000.00
Fort Wainwright/Eielson Air Force Base	17,000	354,000,000.00	390,900,000.00
Elmendorf Air Force Base	5848	394,000,000.00	948,700,000.00
Total jobs	34,640		

Chart 12, Economic impact of refinery related industries

If the Alaska Legislature pursues regulation of the refined gasoline market, and should that regulation result in the unintended consequence of closure of the refineries, then Alaska will have lost its ability to produce jet

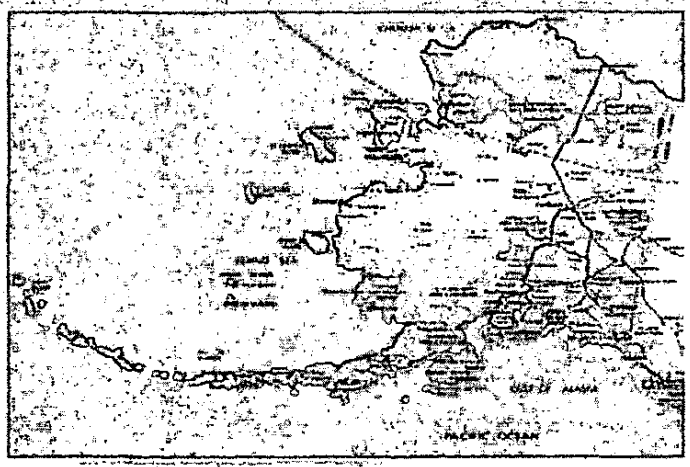
for a little more price volatility at the pump in exchange for the most promising value-added industry Alaska has been able to create since the onset of the TAPS era.

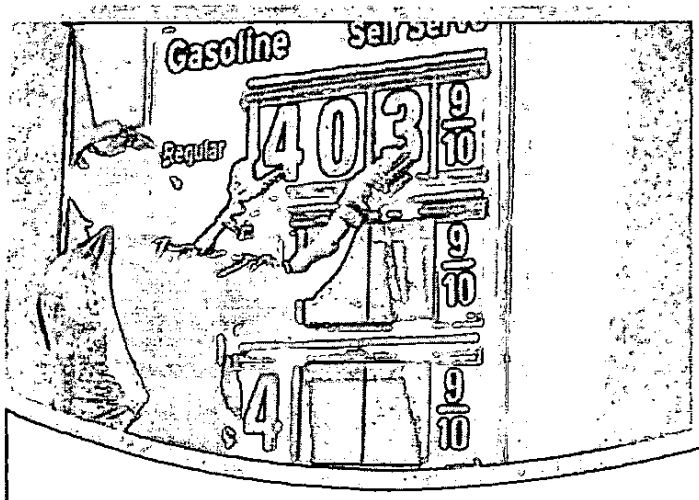
This conclusion not withstanding, the Committee, after meeting in September, October, November, and January, shares the cynicism of the Alaskan public. There must be a better answer – somebody must be playing "hide the ball." But we could not find it. This report attempts to find it. This report attempts to lay out the most likely, plausible theory as to why gasoline price-parity with the Seattle market has been lost since March of 2008, and why we have seen periods of intermittent lost price-parity as well as inverse price-parity with Seattle, which has resulted in Alaska having better pricing than the Seattle rack rate.

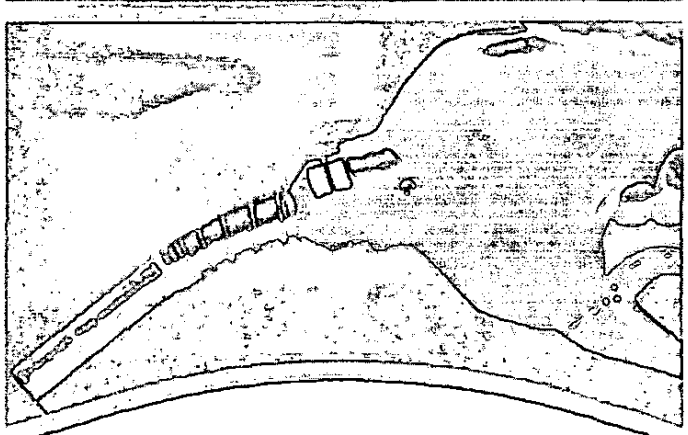
Finally, the Committee also uncovered disturbing price patterns in Southeast Alaska that have not been fully incorporated into this report. The committee recommends that the Speaker of the House of the 26th Legislature direct a joint effort by the House Judiciary Committee and the House Resources Committee to explore inconsistencies in pricing patterns that affect this vital and vulnerable region of the state.

2008 ALASKA GASOLINE PRICING INVESTIGATION

Attorney General's Report







January 2009

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2008 ALASKA GASOLINE PRICING INVESTIGATION

I. Introduction

The high cost of fuel in Alaska has been a topic of debate for decades. Most Alaskans are accustomed to the fact that the cost of living here is higher than the rest of the country. Alaska's geographic isolation results in higher transportation costs for many goods, and our smaller population does not always lend itself to economies of scale or the same degree of competition enjoyed in other areas of the country. In 1976, the cost to live in Anchorage was 42% higher than the national average.[1] Today, that difference is only about 10%. As the population of Alaska grows and the availability of good and services (and competition for them) increases, prices tend to lower, at least in the more populated areas of the state. But when it comes to fuel and gasoline in particular, consumers in Alaska question why our prices are higher here than just about anywhere else in the country, especially since we have refineries and a supply of oil right here.

Gasoline prices reached record highs in every state across the country, including Alaska in the summer of 2008. These higher fuel prices were driven by the unprecedented rise in the price of crude oil. Oil prices increased from $85 per barrel in early February to a record high near $145 a barrel in July. This increase of $60 per barrel over a 5-month period has never occurred before. Regular-grade gasoline sold at its peak for $4.45 a gallon in Anchorage ($4.18 exclusive of taxes) and hit nearly $8.00 a gallon in some rural areas of Western Alaska.

After rising to record levels in mid-summer, crude oil prices plummeted by more than $110 per barrel over a 6-month period, dropping to less than $30 per barrel at one point in December before recovering somewhat to the low $40 per barrel range. This drop also was unprecedented in the history of crude oil markets.

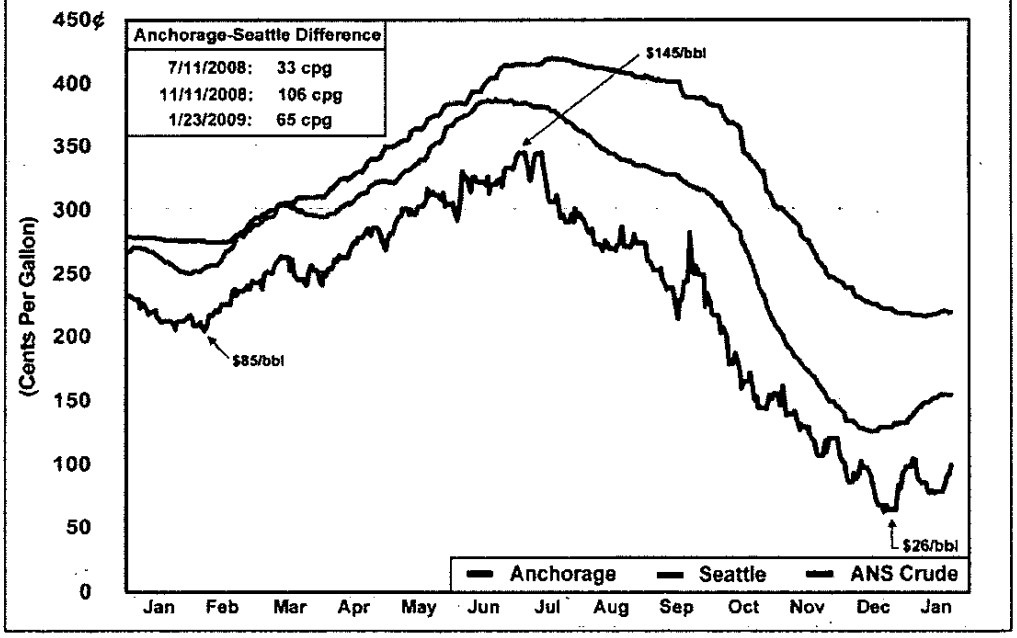
Anchorage gasoline prices rose in the first half of 2008 along with prices in the rest of the nation as crude prices marched upward. This rise did not occur, however, as quickly in Anchorage as it did in the lower-48. During parts of February and March Anchorage gasoline prices were lower than Seattle prices. When crude oil prices peaked in July, Anchorage consumers were paying $0.33 more per gallon of gasoline (tax adjusted) than consumers in the Pacific Northwest ("PNW"). When crude oil prices began to plummet during the fall of 2008, this average price difference, or "spread," between Anchorage and Seattle reached $1.06 per

[1] U.S. Department of Labor, Bureau of Labor Statistics, "Urban Intermediate Budget for a 4-Persons Family." (Revised 2/28/96)

gallon as gasoline prices in the rest of the country fell more quickly than they did in Alaska. Prices in Seattle, however are more diverse that Anchorage. The spread between the high and low sellers in Seattle can be close to $0.40 a gallon. On February 9, 2009, some stations in Seattle were selling gasoline at $2.39 a gallon – higher than most stations in Anchorage. By contrast, the difference between the high and low sellers in Anchorage is only $0.10 a gallon.

The Anchorage-Seattle spread has narrowed over the past two months as oil prices have stopped falling. In late January, the spread between Anchorage and Seattle was $0.65 per gallon, a decline of more than $0.40 per gallon. On February 9, 2009, the spread was less than $0.60 a gallon. Figure 1 below shows the spread between Anchorage and Seattle retail gasoline prices, along with the price of ANS crude oil from January 2008 through January 2009.

Figure 1: Comparison of Regular Unleaded Retail Gasoline Prices (Before Taxes) Anchorage, Seattle and ANS Crude Oil January 1, 2008 – January 23, 2009

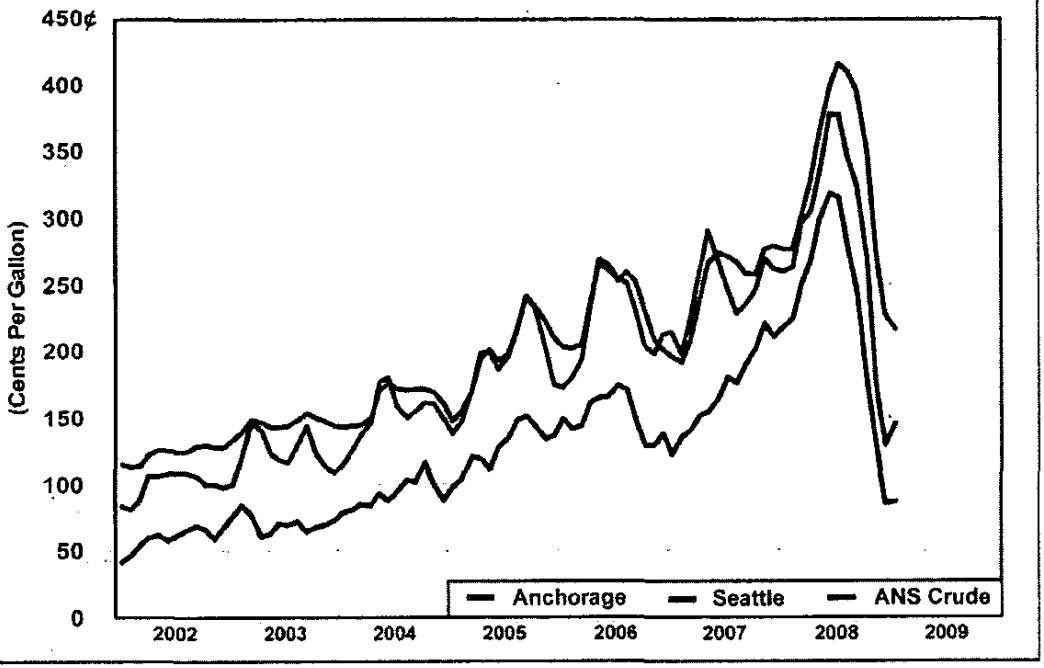


Source: AAA; Energy Information Administration; OPIS; State of Alaska Revenue Department.

Figure 2 shows that Alaska gasoline prices historically have lagged behind price changes in the rest of the U.S. This is consistent with the pricing relationship between Alaska and Seattle that occurred during 2008 and early 2009. The difference between the most recent experience and earlier years is that the spread between Alaska and Lower-48 prices has never been as large

as it was in the fall of 2008. At the same time, volatility in crude oil prices, which factor heavily into gasoline prices, has never been close to the volatility experienced over the past year.

Figure 2: Comparison of Regular Unleaded Retail Gasoline Prices (Before Taxes) Anchorage, Seattle and ANS Crude Oil January 1, 2002 – January 23, 2009



Source: AAA; Energy Information Administration; OPIS; Platts; State of Alaska Revenue Department.
Source: AAA; Energy Information Administration; OPIS; State of Alaska Revenue Department.

The spread between Alaska and PNW gasoline prices during the second half of 2008 presents a frustrating dilemma, and one that concerns state officials. In August 2008, Governor Palin directed the Attorney General to investigate the price of gasoline in Alaska to determine whether the prices set by refiners, distributors, and retailers are the result of any illegal activity. This report summarizes the findings of the Attorney General. The last investigation of gasoline pricing in Alaska was completed in 2002. It was conducted over a several-year period and included the review of hundreds of thousands of documents. The results of that investigation found no illegal activity.[2]

[2] In the last 30 years, several states and the federal government have conducted gasoline pricing investigations. In 2008, Washington State completed a comprehensive gasoline price investigation. See http://www.atg.wa.gov/gasstudyfaq.aspx for a copy of the Washington study.

II. Executive Summary

Gasoline, like all other commodities, is not regulated by the state. Instead, prices are determined by the forces of supply and demand. Competition in the marketplace is ultimately responsible for determining the price of all consumer goods and services, with few exceptions.[3] We do not live in a "cost plus" society. Sellers are not required to price their goods and services based on what it costs to acquire them "plus" a reasonable profit. Instead, sellers can and do price their goods according to the market conditions. If demand is strong and/or supply is limited, prices may exceed cost by 200% or more. Because gasoline is not regulated, the state does not have the authority to tell sellers how to set their prices. Thus, simply having a "high price" is not illegal by itself. Alaska does not impose price controls or "caps" on any product, and there is no "price gouging" law in Alaska. The price of many consumer goods in Alaska is higher than the price you would pay in Seattle or another large metropolitan area. Gasoline is no different.

Prices can be illegal, however, if they are the result of price fixing or other collusive behavior. The laws directed at ensuring that competition remains fair and unrestricted are state and federal antitrust law. Antitrust laws make it illegal to engage in any concerted action that unreasonably restrains trade.[4] It is also illegal to monopolize, attempt to monopolize, or conspire with another to monopolize any part of trade or commerce.[5] The purpose of the antitrust laws is to ensure that competition remains fair and unrestricted, which in turn results in lower prices and better service. Thus, if the sellers of gasoline were colluding with each other to "fix" the price of gasoline, they would be violating the law.

Our investigation did not reveal any evidence that this kind of illegal collusion or price fixing has occurred among the refiners, distributors, or retailers of gasoline in Alaska. Instead, there are economic realities of the Alaska gasoline market that likely explain the price of gasoline in Alaska and the relationship between Alaska gasoline prices and prices in the Lower-48.

First, the market for gasoline in Alaska is structurally different than most other gasoline markets in the U.S. Gasoline demand in Alaska is small, and we do not enjoy the same degree of

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3 Those exceptions include regulated utilities, like electricity, sewer and water service, and natural gas.

4 AS 45.50.562; 15 U.S.C.A. § 1.

5 AS 45.50.564; 15 U.S.C.A. § 2.

competition as most markets in the Lower-48. There are few participants in Alaska's gasoline markets at the refining and wholesale distribution level. When few competitors account for the majority of sales, the market is known as an oligopoly. In addition, Alaska is geographically isolated from alternative supply sources outside the state. As a result, potential competition from the Pacific Northwest -- which might otherwise be expected to keep prices in parity with Lower-48 prices -- is limited, particularly during short-term price disruptions such as occurred in 2008. Based on this market structure alone, it is unrealistic to expect that gasoline prices in Alaska should be the same as prices in other parts of the country. The level of competition and available sources of supply in the Lower-48 create supply and demand conditions that are not present here.

Second, the changes in crude oil prices during 2008 were dramatic and unpredictable, making it the most volatile year in crude oil pricing history. After rising $60 per barrel during the first part of the year, crude oil prices dropped by more than $100 per barrel in less than six months. These events created market conditions that have never occurred before. The rapid rise and following decline in oil prices, coupled with Alaska's unique oligopolistic market structure appears to account for the unusually high spread between gasoline prices in Alaska and the Lower-48 experienced during the second half of 2008.

This unusually large spread is not, however, inconsistent with historical pricing patterns in Alaska. Alaska's gasoline markets have historically responded more slowly to changes in crude oil prices than larger, more competitively structured markets in the Lower-48. In oligopoly markets there can be a wide range of pricing outcomes depending on the behavior of the individual market participants. Prices can range from a very competitive level to monopolistic. The specific outcome can vary across time and depends on the behavior and goals of the market participants, as well as the potential for competition from non-incumbent sellers to access the market when prices rise above competitive levels. Prices in these types of markets can and do deviate from long-term historical patterns, particularly when input costs change quickly.

Gasoline prices have fallen dramatically in Alaska since the start of this investigation. At the time of writing this report in late January 2009, Anchorage gasoline was selling at about $2.35 per gallon on average, a drop of more than $2.00 per gallon since July 2008. In Seattle, gasoline prices have risen over the last month and now average about $2.10 per gallon. On a tax-adjusted basis this difference is approximately $0.65 per gallon. While still larger than historical

norms, the spread between Anchorage and Seattle has started to narrow over the past several months, consistent with historical patterns.

In Southeast and Western Alaska, where fuel is supplied by barge, some of the same economic principles apply. There are few competitors, and alternative sources of supply are scarce. In addition, barge markets are characterized by relatively few large deliveries of fuel throughout the year. Unlike markets where supply is replenished every few days, fuel may not be delivered by barge for several weeks or months. Until new deliveries of fuel are made, the price of fuel is not likely to change. If a supply of higher-priced fuel is delivered in summer, lower priced fuel may be months away. When you add the dynamics of the barge market to other factors that affect supply and demand in Southeast and Western Alaska (for example, low volumes and higher transportation costs), prices tend to be higher.

The Attorney General's investigation spanned five months. Thousands of pages of confidential documents were reviewed, and key personnel were interviewed. The Attorney General also retained the services of Barry Pulliam, Senior Economist with the Los Angeles-based economic consulting firm Econ One Research, Inc., to assist in this investigation. Mr. Pulliam assisted the Attorney General's office in its prior investigation of gasoline prices, concluded in 2002. Mr. Pulliam has extensive experience in the analysis of competitive issues involving gasoline markets, and assisted the Attorneys General in California and Hawaii in several investigations involving gasoline prices. Econ One assisted in the preparation of this report.

The key findings of our investigation are set forth below.

Key Findings

- We did not discover evidence of illegal activity.
- The unprecedented increase in crude oil prices, followed by another unprecedented decline (i.e., volatility), resulted in unstable market conditions that added to uncertainty and influenced pricing decisions.
- The structural characteristics of Alaska's petroleum product market, coupled with unusual crude oil price volatility, contributed to the unusual high gasoline prices and higher differential relative to other parts of the country in 2008.
- Higher prices in Alaska relative to other areas flow from higher wholesale (or rack-level) prices. Retailer margins do not account for Alaska's higher prices in 2008.
- The persistent and long-lasting high gasoline prices in southeast and western Alaska are a result of barge delivery economics and related issues, coupled with the items listed above.

III. Discussion

This part of the report is divided into five sections that address different topics related to gasoline markets and pricing in Alaska. The first section provides an overview of the Alaska and federal laws that apply to the pricing of gasoline. The second section provides an overview of gasoline production and distribution. The third section discusses Alaska gasoline markets and how their unique characteristics influence gasoline prices. The fourth examines gasoline prices in Alaska and how those prices compare to the PNW (the closest source of potential competition for gasoline supply to Alaska) and Hawaii (a state with similar market characteristics as Alaska). The fifth section discusses the economics of gasoline markets and competition in Alaska.

A. Applicable Laws.

1. Antitrust Laws.

There are very few laws anywhere that restrict a seller of goods and services from selling a product at any price. These kinds of price control laws are contrary to the established economic model enjoyed by businesses in the United States – the free market economy. In a free market economy, the laws of supply and demand ultimately control the price that a seller sets for a product. If the price is too high, buyers will look for a cheaper price and the seller will lose market share. A price that is too low may not return the profit to stay in business in the long run. Federal and state antitrust laws were developed to make sure this economic model works by prohibiting unreasonable interference with competition.

The antitrust laws make it illegal for competitors to engage in any conduct that unreasonably restrains competition, like colluding with each other to fix prices, or agreeing to allocate the market among a group of sellers. Attempts to monopolize any part of trade or commerce, and conspiracies to monopolize are also illegal. Predatory pricing, which is the practice of selling a product below cost long enough to drive competitors out of business, is a form of illegal monopolization.

The primary federal statute that makes anticompetitive conduct illegal is the Sherman Act, 15 U.S.C.A. §§ 1 and 2. These laws have been codified in Alaska at AS 45.50.462 and .464, and are essentially identical to the federal law. These laws establish two basic requirements: (1) companies cannot agree to limit competition in ways that hurt consumers, and (2) a single company cannot monopolize an industry through unfair practices. In order to find a violation of these laws, the state must prove that either: (1) two or more competitors entered an agreement that had the effect of unreasonably restraining competition, or (2) that a single

business has engaged in conduct (like predatory pricing) that was intended to monopolize any part of trade or commerce or unreasonably restrain competition.

Antitrust laws are far more complex than the brief summary above. Depending on the conduct, if there are overriding business reasons for any practice, it may not be illegal is if the conduct has anti-competitive effects. For example, some agreements among competitors have beneficial effects that outweigh any restrictions on competition. In some cases, a failing business may sell is assets to a monopolistic rival and not be in violation of merger restrictions. But the basic principle remains the same – conduct that unreasonably restrains competition is illegal.

Other than antitrust laws, there are very few laws that restrict the price of goods or services. Some services, like regulated utility services, are natural monopolies that are subject to regulation by most state's public utility commissions. Because providers of these services are not subject to competition, their prices are established by a commission that reviews the cost of providing the service and then allows the utility to make a reasonable rate of return on invested capital. In Alaska, the Regulatory Commission of Alaska (the "RCA") regulates all public utilities, including electricity, natural gas, telephone, water, and garbage service. Gasoline is not considered a public utility in most markets. And while the State regulates certain aspects of the industry, the price of gasoline is not regulated by the RCA or any other body in Alaska.

The Attorney General's investigation did not uncover any evidence that refiners, distributors, retailers, or other sellers of gasoline have violated the antitrust laws by colluding with each other, or attempting to maintain an illegal monopoly over gasoline sales.

2. Price Gouging Laws.

"Price gouging" is often defined as a sharp rise in the price of basic necessities over a short period during a time of natural disaster. About 30 states have price gouging laws in one form or another. Alaska does not have a price gouging law of any kind. Lawmakers and economists continue to debate the wisdom of price gouging laws. Most price gouging laws are "triggered" by a declared state of local or national emergency, such as a natural disaster. Following the devastation of hurricane Katrina, for example, Louisiana's price gouging law went into effect. This law prohibits sellers from increasing the prices of products above the price ordinarily charged for comparable goods and services in the same market area, unless the

increase is due to increased costs for reasonable expenses and attendant business risks.[6] This prevents unscrupulous sellers from preying on consumers in their most difficult times of need.

A few states have price gouging laws that are triggered by an "abnormal market disruption" or "market emergencies" that result from a variety of extraordinary circumstances. During these abnormal conditions or market emergencies, sellers are prohibited from setting "unconscionably excessive prices" which is defined differently by different states. In Connecticut, this means a "gross disparity" between the price before and after the disruption, unless the price increase is due to additional costs of the seller.[7] Massachusetts defines "unconscionably high prices" to mean the gross disparity between the current price and the price prior to the emergency, or between the price of a vendor and the price of other competitors in the area where higher prices are not attributable to increased supplier costs.[8]

Simply having a high price for gasoline is not price gouging in Alaska, even if those prices are in excess of prices in other parts of the country.

3. Unfair Trade Practice Laws.

Another law that has potential applicability to the pricing of consumer goods is Alaska's Unfair Trade Practice and Consumer Protection Act (the "Act").[9] The Act provides that all unfair or deceptive acts or practices in the conduct of trade or commerce are unlawful. "Unfair" is not specifically defined, but the Act contains a list of 55 acts that are considered unfair. In addition to those listed, *any* unfair act can be illegal. The Alaska Supreme Court has stated that "unfairness" is determined by a variety of factors, including (1) whether the practice, without necessarily having been previously declared unlawful, offends public policy as it has been established by statutes, the common law, or whether, in other words, it is within at least the penumbra of some common-law, statutory, or other concept of unfairness; (2) whether it is immoral, unethical, oppressive, or unscrupulous; and (3) whether it causes substantial injury to consumers (or competitors or other businessmen).[10]

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6 LA R.S. 29:732

7 Conn. Gen. Stat. §§ 42-234 and 234a.

8 Mass. Code §§ 940.3.01 and 940.3.18.

9 AS 45.50.471.

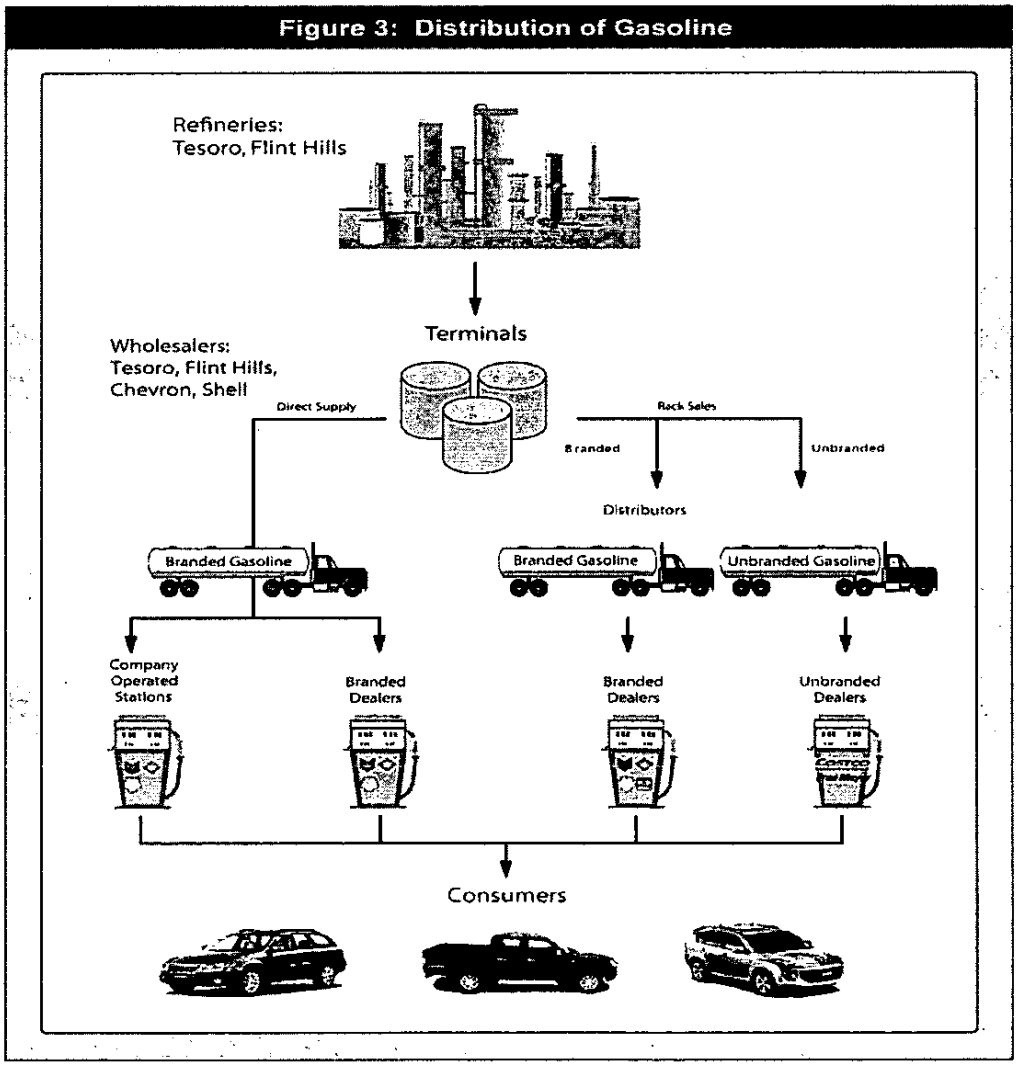
10 *State v. O'Neill Investigations, Inc.*, 609 P.2d 520, 535 (Alaska 1980) (citing *FTC v. Sperry & Hutchinson Co.*, 405 U.S. 233, 244-45 n. 5 (1972).

No case has applied this test to the price of gasoline except in connection with a price gouging statute that prohibits excessive prices during an emergency. While it may seem that gasoline prices are "unfair" and perhaps "excessive" or "unconscionable," the Attorney General's investigation did not uncover evidence that Alaska gasoline prices were unconscionable or oppressive in light of the market structure, the unprecedented volatility in crude oil markets and the duration of the price differences between Alaska and elsewhere.

B. Gasoline Production and Distribution in the U.S and Alaska.

Gasoline, along with other petroleum products, is produced at refineries from crude oil. It is then shipped to bulk storage terminals by pipeline or barge where it is stored temporarily until loaded into trucks at a nearby truck "rack" for distribution to retail gasoline stations. The distribution and marketing of gasoline is depicted graphically in Figure 3.

Figure 3: Distribution of Gasoline



Wholesale marketers acquire gasoline from refiners at bulk storage terminals. From there, wholesalers load gasoline into trucks at the rack for delivery to the retail stations they supply directly. Wholesalers may also sell gasoline to distributors, known as "jobbers" that operate their own trucks and resell to retail gasoline stations. Wholesale marketers typically purchase gasoline from refiners at a "spot" or "bulk" price. Wholesalers also acquire gasoline from local refiners pursuant to "exchange" agreements under which they receive gasoline at terminals in Alaska in exchange for delivery of an equal volume of gasoline at an agreed upon West Coast terminal in addition to direct purchase agreements.

Wholesale marketers that directly supply retail gasoline stations with their own trucks sell to those stations at their "Dealer Tank Wagon" or "DTW" price. Wholesale marketers that sell to distributors at the truck rack do so at a "rack" price. The rack price is lower than the DTW price the retail dealer pays since, among other factors, the distributor takes delivery into its own trucks and bears the costs associated with further distribution to retail stations. Wholesalers may also offer discounts or rebates off their published rack or DTW prices.

Gasoline is ultimately sold to consumers through retail stations. These stations sell either "branded" or "unbranded" gasoline. The major brands in Alaska are Tesoro, Holiday, Shell and Chevron. The physical composition of gasoline that is sold at branded and unbranded stations is virtually identical, with the exception of the types of additives blended into the gasoline. All gasoline sold to consumers contains additives such as anti-gumming agents designed to help keep engines clean. Branded gasoline contains the proprietary additives marketed by the respective brand (e.g., Chevron includes "Techron" in its gasoline) while unbranded gasoline usually contains a "generic" additive package. Branded gasoline typically sells at a premium to unbranded gasoline at both the wholesale and retail levels.

Retail gasoline stations are usually owned directly by a wholesale marketer or by an independent operator. Stations that are owned by a marketer are operated directly by the company itself (known as "company operated" stations) or they are leased to an independent dealer (known as a "lessee-dealer"). In both cases these stations acquire the branded gasoline they sell directly from the marketer. Stations that are not directly owned by a wholesaler are called "open stations" or "open dealers." Open dealers purchase gasoline directly from wholesale marketers or from jobber-distributors. These dealers often enter into branding agreements to sell the brand of a particular marketer or they sell unbranded gasoline. At the end of its branding agreement an open dealer is free to "re-brand" with another marketer.

C. Gasoline Markets in Alaska.

1. Market Characteristics.

The production and distribution of gasoline in Alaska is similar in many respects to production and distribution in the rest of the country. However, there are factors unique to Alaska that impact our gasoline prices. These are summarized in the following Chart.

Alaska Gasoline Market Characteristics

- Relatively Small Markets
- Only Two Refiners of Gasoline
- Refineries Are Less Efficient Than In Lower-48
- Relatively Few Wholesalers of Gasoline
- Smaller Station Formats Typically
- Distant From Alternative Supply Sources
- Limited Terminal Capacity
- Limited Delivery Windows In Some Parts of State

2. Alaska Market Size.

The State of Alaska is the smallest gasoline consuming state in the U.S. Table 1 shows gasoline sales in Alaska and other western states. Demand for gasoline in Alaska is less than 300 million gallons per year, or just 0.2% of total U.S. gasoline consumption.

Table 1: Motor Gasoline Sales for Selected States January - December 2007

U.S. Rank	State	Volumes (Million Gals.)	As percent of Total U.S. (Percent)
1	California	15,591	11.3%
16	Washington	2,780	2.0%
30	Oregon	1,533	1.1%
43	Hawaii	474	0.3%
50	Alaska	268	0.2%

Source: EIA, Prime Supplier Sales of Motor Gasoline by State.

In comparison, the state of Washington, which is an alternative supply source for gasoline to Alaska, consumes about 10 times that amount. California is the largest consuming state, accounting for 15.6 billion gallons, or more than 11% of total U.S. demand. Hawaii shares many of the market characteristics and pricing behavior as Alaska, including relatively small market size. It consumes close to 500 million gallons per year, or just 0.3% of U.S. demand.

The greater Anchorage area is Alaska's largest gasoline market. Fairbanks is the state's second largest market. Table 2 summarizes publicly available data for gasoline sales in Anchorage, Fairbanks, Seattle and Honolulu. Anchorage accounts for approximately 150 million gallons per year and nearly 60% of state demand, yet those volumes are just 10% of Seattle's 1.6 billion gallons in sales. Fairbanks is the state's second largest market, accounting for approximately 35 million gallons, or a little more than 10% of state demand.

Table 2: Gasoline Sales for Selected Cities

Location	Volumes (Million Gals / Yr)
Anchorage	150
Fairbanks	35
Honolulu	240
Seattle	1,640

Source: MPSI.

3. Alaska's Refineries.

There are two refineries in Alaska that produce gasoline -- Tesoro's refinery in Nikiski and Flint Hills' refinery in North Pole. Petro Star also operates refineries in Alaska, but does not produce gasoline. Tesoro accounts for approximately 80% of Alaska's in-state production; Flint Hills accounts for the balance. Table 3 provides summary information about Alaska's gasoline-producing refineries and refineries in other western states. Alaska's two gasoline producing refineries are smaller than most refineries in the U.S. The average capacity of Alaska's refineries is 60 MBD, which is less than half the size of the average refinery size in Washington. The State of Washington is home to 5 refineries; California has 13 gasoline-producing refineries, giving the West Coast a total of 18 gasoline-producing refineries. Hawaii, like Alaska, is home to just two refineries.

Table 3: Number of Gasoline Producing Refineries by State: Alaska, California, Hawaii and Washington 2008		
State	Number of Refineries	Average Capacity (MBD)
Alaska	2	60
California	13	149
Hawaii	2	75
Washington	5	127

Source: Oil and Gas Journal.

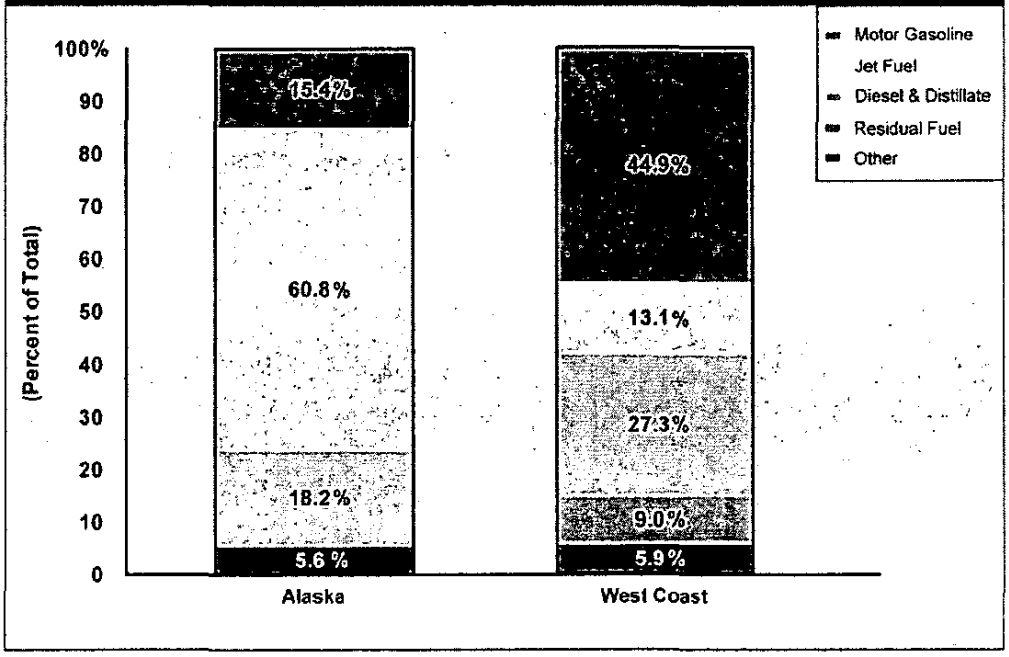
The Flint Hills refinery uses exclusively Alaska North Slope ("ANS") crude from the Trans Alaska Pipeline System ("TAPS") to run its refinery. It produces refined products such as jet fuel and gasoline, then re-injects the remainder of the crude oil back into the pipeline. Flint Hills pays a price to do this. Because re-injecting the "heavy" product back into TAPS lowers the overall quality of the ANS oil stream, Flint Hills pays the TAPS owners a "quality bank differential." This amount varies by year.

Tesoro uses ANS crude for about 50% of its operations which it must ship from Valdez. The other 50% of its crude oil is purchased. Some of this comes from the Cook Inlet, and the remainder is purchased on the world market from Russia, Asia, and other countries. Tesoro is restricted on what kind of crude oil it can buy. Tesoro's Alaska refinery was initially designed to refine Cook Inlet crude oil, which was the primary feedstock for the refinery when it opened in 1975. The refinery can also process ANS, and other oil that has similar characteristics to ANS crude. This requires purchasing oil from countries with crude oils of similar quality to Alaskan crude oils. Like Flint Hills, Tesoro refines gasoline, jet fuel, diesel, and heavy oils. Tesoro is the only refinery in Alaska that can produce low-sulfur diesel that meets current EPA standards.

Unlike Flint Hills, Tesoro cannot inject the heavy end products that result from its refining process into TAPS. Instead, these products must be sold. There is a small market in Alaska for some of these heavy products, but for the most part Tesoro must ship the heavy product to markets outside Alaska.

Alaska's refineries are low-conversion facilities. They have a complexity factor of 3.3, versus an average complexity factor of 10.8 for West Coast facilities. This means that Alaska's refineries do not produce as much high-value product (like gasoline) as typical West Coast or Lower-48 refineries. Gasoline comprises only about 15% of total product demand in Alaska, compared with nearly 45% on the West Coast. Alaska's refineries are geared to produce large volumes of jet fuel. Approximately 60% of the volume of petroleum sales in Alaska is jet fuel. Diesel fuel accounts for almost 20% of Alaska sales. Tesoro also produces relatively large volumes of residual fuel oil. This low-valued product is exported out of state to the West Coast refineries that further process it into light products such as gasoline. Figure 4 provides a comparison of the composition of petroleum product sales in Alaska and the West Coast.

Figure 4: Petroleum Product Sales In Alaska And West Coast (PADD V) 2007



Source: EIA.

4. Gasoline Wholesalers.

a. Railbelt Areas.

Tesoro, Flint Hills, Chevron and Shell are the primary gasoline wholesalers operating in Alaska's railbelt. These four companies sell gasoline to retailers and/or through their own retail stations. Tesoro is the largest wholesaler. It markets gasoline through both channels. Flint Hills, the state's second largest wholesaler, sells gasoline to other wholesalers and to retailers. It

does not own or operate its own stations. Each of these four wholesalers sets a rack price for gasoline.

Alaska's gasoline markets are more "concentrated" at the wholesale distribution level than markets in most of the U.S. The four largest wholesalers in Alaska account for nearly all of sales in Anchorage and Fairbanks. By way of comparison, the four largest wholesalers in Seattle accounted for approximately 70% of sales in 2008.

b. Barge-Serviced Areas.

Gasoline is supplied by barge in southeast and western Alaska. Not only is this expensive, the markets in southeast and western Alaska are small, with a single supplier in some locations. We estimate that these regions each account for roughly 10% of gasoline demand in Alaska. There are few wholesalers operating in these regions. The primary suppliers include Crowley, Delta Western, Petro Marine and Tesoro.

Wholesalers that deliver by barge purchase gasoline based on wholesale prices (either spot or rack) in Nikiski and the Pacific Northwest (PNW), and transport it to terminals in southeast or western Alaska. Barge delivery schedules, the price paid for the gasoline, and the amount of storage capacity in the area all affect the price of gasoline in these markets. Seasonal weather changes can also effect the scheduling of barge delivered fuel. In some areas of Alaska, gasoline is only brought in once or twice a year. The price is these areas may not change more than one or twice to coincide with barge delivery dates. In other areas, like Juneau, fuel is delivered more often, but not weekly or even monthly.

The markets in southeast and western Alaska are very small compared with Alaska's larger cities. In some locations there are only one or two wholesale suppliers. With few competitors, low volumes and higher costs, prices are naturally higher than they are in larger urban areas of Alaska and other U.S. locations. Fuel delivery schedules can also have a significant impact on gasoline pricing in these markets. The landed cost of the fuel at the terminal includes (1) the wholesale cost of the fuel; (2) the transportation cost; (3) the terminal cost; (4) breathing loss;[11] (5) overhead expenses; and (6) a return on investment. Once the fuel is delivered, this cost often does not change until the fuel is depleted and another barge arrives to replenish the supply or change the cost by averaging additional fuel that is added to existing supply.

[11] Breathing loss is evaporation.

Total storage capacity among all the suppliers in Juneau is estimated to be about 8 million gallons. Until this supply is replenished, the landed cost does not change. This may not happen for weeks or even months. In parts of western Alaska, new fuel supplies may not be available for several months. Until a supply of fuel at a lower cost arrives, retailers may not be able to lower their prices.

In some areas of Alaska, buying groups or cooperatives pool their purchases of fuel and ask for companies to bid for delivery. These contracts are typically multi-year, and the pricing terms are specified in the bidding proposals and negotiated by the buyers. Several electric cooperatives in western Alaska purchase fuel in this manner.

We are aware of no place in the Lower-48 that has a barge-delivered fuel market like southeast or western Alaska. The closest supply situation in the U.S. is the distribution system to the Hawaiian Islands of Maui, Kauai, Hawaii and Lanai. Gasoline is delivered by barge to these islands from the two refineries on Oahu. However, these deliveries are typically for larger quantities, cover shorter distances and barges operate in much friendlier environments.

5. Retailer Distributors.

Gasoline is sold to consumers through retail outlets. In some cases those retail outlets are owned directly by wholesalers or refiners. Other retail outlets are owned by independent individuals or businesses. Tesoro owns a significant number of stations in the Anchorage-area. Tesoro provides gasoline to these stores as required, and accounts for the sales price as part of the cost to operate each store. Tesoro owns or leases several tanker trucks to make these deliveries.

Holiday is also a large owner of retail stations. It purchases gasoline from either Tesoro or Flint Hills, and delivers the gas to Holiday stations for an additional per-gallon charge consistent with the delivery service provided. The other major marketers of gasoline do not own their own retail stations.

Branded distributors contract with a wholesaler to purchase fuel and sell it under a brand name such as Tesoro to stores that are independently owned. They may also sell gasoline through their own stores. The majority of Tesoro stations, in addition to the Chevron and Shell stations in Alaska are operated by independent dealers or branded distributors.

Unbranded distributors contract with a wholesaler to purchase fuel at the truck rack. They then sell that fuel to independent unbranded stations, or they sell it through their own stations. Safeway, Costco, and Fred Meyers are examples of large independent distributors.

They purchase fuel from wholesalers on a delivered basis, paying the wholesaler a per-gallon delivery charge consistent with the cost of the service provided.

Once gasoline is delivered to the retail distributor, the retail price is determined by the distributor in light of current market conditions, including the price competitors set for their gasoline. Retail stations in Alaska are also typically smaller than stations in the Lower-48 states, resulting in higher average per-gallon costs. In areas where the supply of fuel can be replenished weekly, or even daily, the price may change frequently as market conditions change.

Many consumers assume there is collusion among gasoline stations when prices increase and decrease at nearly the identical time. While this seems to suggest competitors are colluding with each other, this kind of "parallel pricing" is common in markets where pricing is transparent. For retail gasoline, prices are the most transparent of just about any consumer product. Prices are displayed for everyone to see, and competitors know almost immediately what price changes are occurring in the market. Public internet sites that track prices have also become more common, and allow competitors to track the pricing behavior of each other easily. In markets with fewer competitors, this becomes even easier, and identical price adjustments that occur nearly instantly are not uncommon. This is not illegal so long as competitors are making independent pricing decisions without communicating with each other.

Hypermarketers - Safeway, Costco, and Fred Meyers - have grown tremendously over the past decade in Alaska. Our investigation indicates that there has been vigorous competition between the in-state refiners for hypermarketer accounts as these outlets have grown over the last several years.

6. Out of State Supply Alternatives for the Railbelt.

Alaska's refineries produce enough gasoline to supply the state's needs in the railbelt, so there is no physical need to bring supplies in from sources outside the state. Given the limited number of in-state refiners and wholesalers of gasoline, however, the potential for supply entering the Alaska market from outside the region can provide a check on prices. The nearest alternative supply source to Alaska is the Pacific Northwest, specifically the refineries and terminals in the Seattle area. Wholesalers regularly ship product to western and southeast Alaska and have shipped gasoline to Anchorage terminals from Seattle as recently as the mid-1990s. No one has shipped gasoline into the Anchorage area during the past 10 years.

Short term or "spot" shipments into Anchorage, while theoretically possible, are generally not viewed as economic by existing or potential marketers, even in the face of short-

term prices that are relatively high. There are several reasons for this. First, shipping can be more expensive to obtain on a spot basis. Second, storage is difficult, if not impossible to arrange without long-term commitments. Third, most, if not all gasoline is sold in Alaska on a long-term basis, so there is no "ready market" to sell the gasoline into even if one were to arrange for a shipment. Finally, as discussed above, the overall market for gasoline is relatively small in Alaska. A typical tanker-size shipment of gasoline is 250,000 barrels (10.5 million gallons). This represents approximately 20 days supply for the entire railbelt area. Assuming a would-be marketer had 10% of the Anchorage-area market, a typical shipment of gasoline would account for more than 6 months worth of sales. This is a relatively long inventory turn over period and exposes the marketer to the risk that prices could change dramatically before the product is sold.

Gasoline supply into western and southeast Alaska is typically shipped up from Pacific Northwest refineries, though product can and does originate from Tesoro's Nikiski refinery as well. Shipments to these areas come up on smaller barges, with volumes in the range of 40,000 barrels. The small communities served in these areas means that marketers often will make several stops and that shipments are sporadic. Shipment to these areas is lined up many months in advance of delivery. Short-term or spot shipments to take advantage of periods of high prices are even less feasible for these areas.

D. Performance of Alaska's Gasoline Markets.

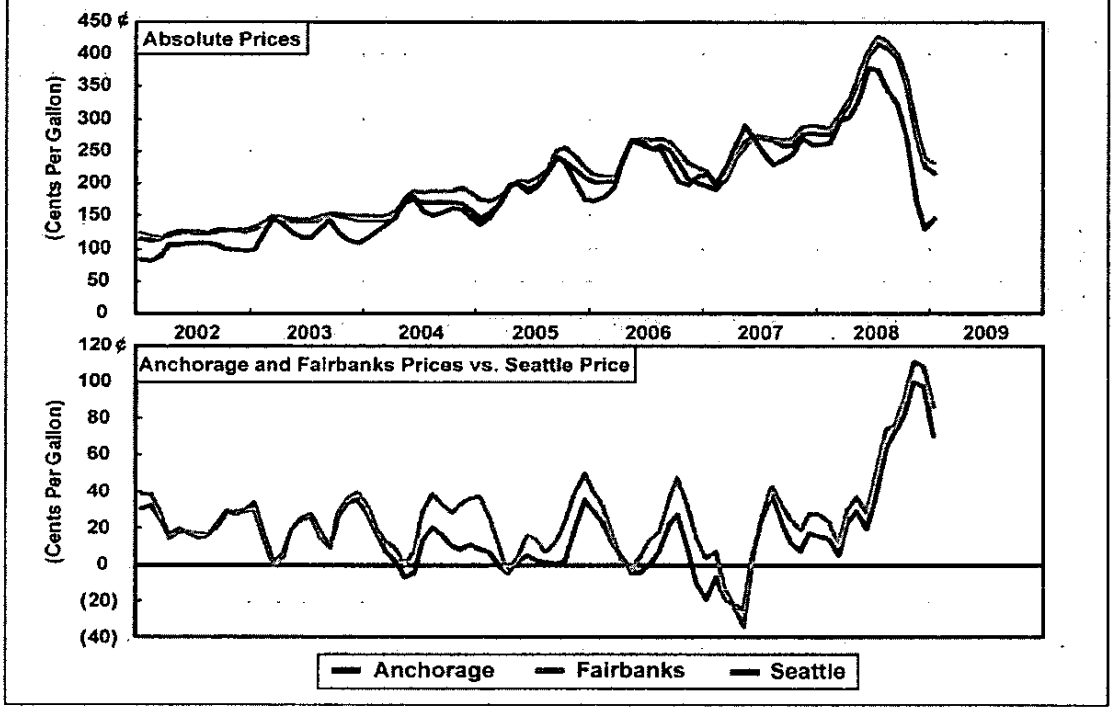
1. Alaska Retail Gasoline Relative to Lower-48.

Retail gasoline prices in Alaska have historically been higher than in the rest of the U.S. Adjusted for taxes, Anchorage prices averaged $0.21 per gallon more than the U.S. average between 2002 and 2007. Anchorage retail prices averaged $0.13 per gallon over Seattle during the same period. Fairbanks prices typically run higher than Anchorage prices. Between 2002 and 2007 Fairbanks retail prices were $0.07 per gallon above Anchorage on average.

During 2008 the difference between Anchorage and Seattle prices was $0.49 per gallon for the year. The spread during the first half of the year was $0.18 per gallon, which is not much different than the long-run average. The spread during the second half of the year was $0.76 per gallon, considerably higher than historical norms. The maximum spread between Anchorage and Seattle reached $1.06 per gallon in November of 2008, at which point it began to narrow. By late January, the spread was $0.65 a gallon. As of February 9, 2009, the spread had closed to

less than $0.60 per gallon. While this is still above historical levels, it represents a substantial drop in the spread ($0.41 per gallon) during a relatively short (two-month) period. The spread between Anchorage and Fairbanks remained relatively unchanged during 2008. Figure 5 shows Anchorage, Fairbanks and Seattle retail prices (before taxes) from January 2002 through January 2009. Based on current trends, we expect the spread to continue to narrow.

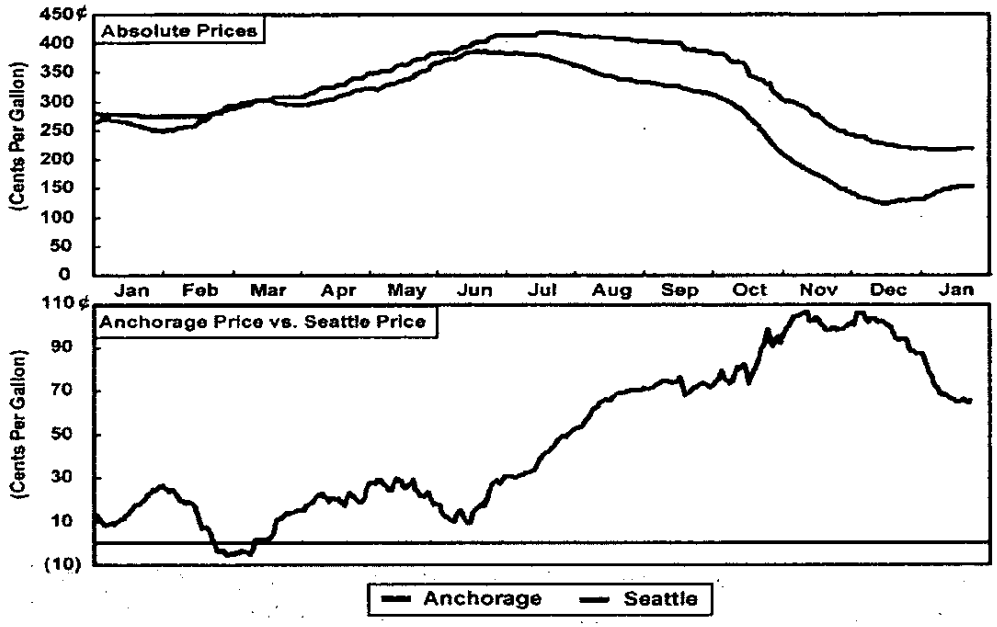
Figure 5: Comparison of Regular Unleaded Retail Gasoline Prices (Before Taxes) Anchorage, Fairbanks and Seattle January 1, 2002 – January 23, 2009



Source: AAA; Energy Information Administration; OPIS.

Figure 6 compares Anchorage and Seattle retail prices from January 2008 through January 2009 on a daily basis. As seen in these figures, gasoline prices in Anchorage were within historical norms through June. The dramatic growth in the spread between Alaska gasoline prices and prices in most of the rest of the U.S. began during July and peaked in November before starting to fall toward historical levels.

Figure 6: Comparison of Regular Unleaded Retail Gasoline Prices (Before Taxes) Anchorage and Seattle
January 1, 2008 – January 23, 2009



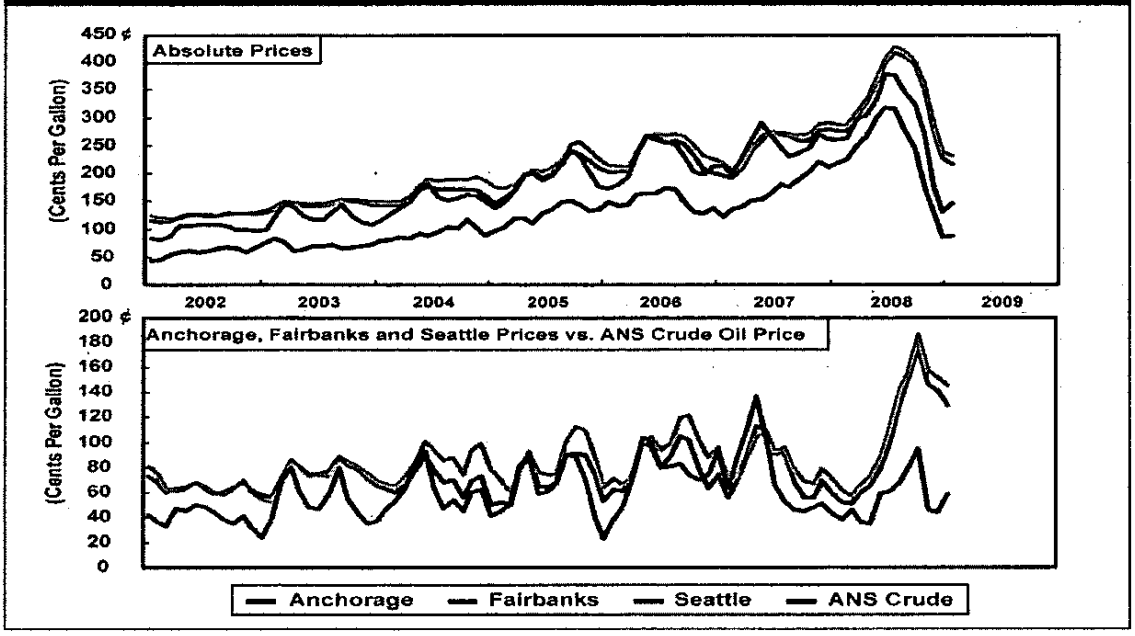
Source: AAA; Energy Information Administration; OPIS.

2. Gasoline Prices Relative to Crude Oil.

The growth in the spread between Alaska gasoline prices and prices in the Lower-48 coincided with the unprecedented decline in crude oil prices that began in July. Crude oil prices rose by $60 per barrel during the first half of the year, before peaking in July, at which point they proceed to drop by more than $100 per barrel over the course of the year. The volatility seen in crude oil markets during the year is unprecedented.

The margin between Anchorage retail gasoline prices and ANS crude oil typically ranged from $0.60 to $0.80 per gallon prior to 2008, though at times the margin reached more than $1.00 per gallon. Figure 7 shows Anchorage, Fairbanks, and Seattle retail prices (before taxes) compared to ANS crude oil starting in January 2002.

Figure 7: Comparison of Regular Unleaded Retail Gasoline Prices (Before Taxes) Anchorage, Fairbanks and Seattle and ANS Crude Oil January 1, 2002 – January 23, 2009

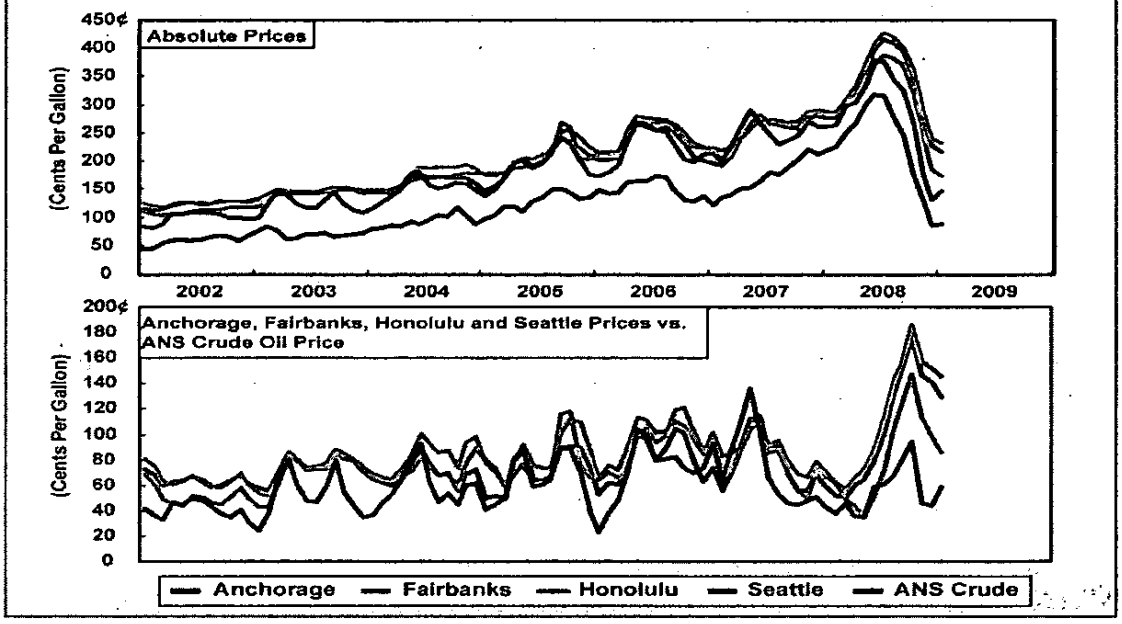


Source: AAA; Energy Information Administration; OPIS; Platts; State of Alaska Revenue Department.

As seen here, the gasoline-crude oil price margin remained in a relatively narrow range until mid-2008. At that point the margin in Alaska increased sharply as crude oil prices fell. The margin between Seattle prices and crude oil also rose during the second half of 2008, though not nearly as much as it did in Alaska. Figure 7 also highlights the fact that while gasoline prices move over time with crude oil prices, they do not move in lock-step and they move with a time lag.

Figure 8 shows the same information contained in Figure 7, but with the addition of Honolulu retail prices. Alaska and Hawaii gasoline markets share many of the same characteristics. Figure 8 shows that the relationship between gasoline and crude oil followed similar patters in Anchorage and Honolulu during 2008, with gasoline-crude oil price margins rising sharply in the second half of the year to record levels in both markets. Neither behaved like Seattle.

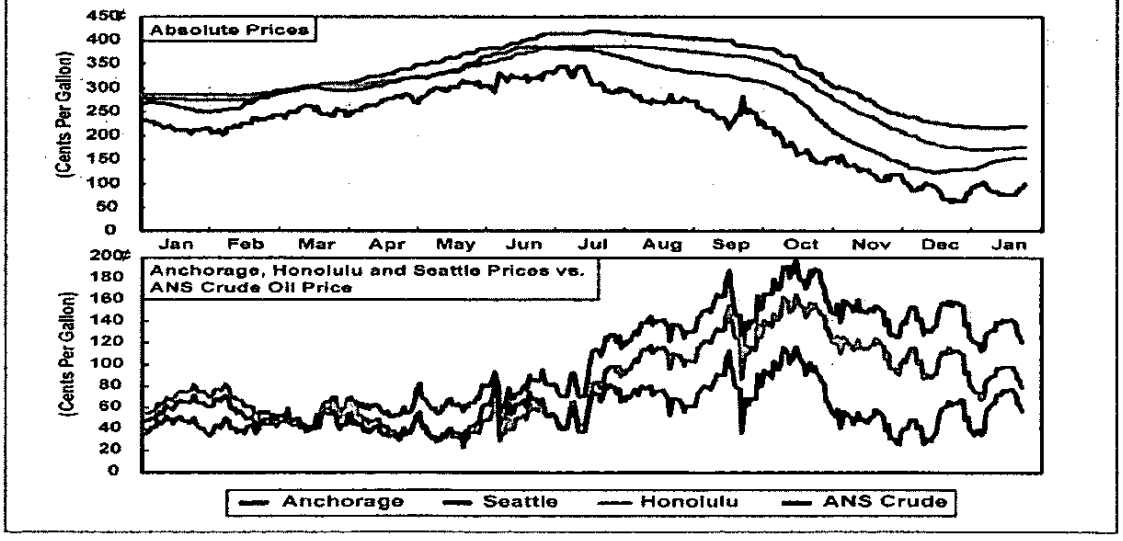
Figure 8: Comparison of Regular Unleaded Retail Gasoline Prices (Before Taxes) Anchorage, Fairbanks, Honolulu, Seattle and ANS Crude Oil January 1, 2002 – January 23, 2009



Source: AAA; Energy Information Administration; OPIS; Platts; State of Alaska Revenue Department.

Figure 9 shows daily retail gasoline prices in Anchorage, Honolulu and Seattle relative to crude oil from January 2008 forward. This figure shows the rise in the gasoline-crude oil margin in Anchorage and Honolulu during the second half of the year. As seen in the prior figure as

Figure 9: Comparison of Regular Unleaded Retail Gasoline Prices (Before Taxes) Anchorage, Honolulu, Seattle and ANS Crude Oil January 1, 2008 – January 23, 2009



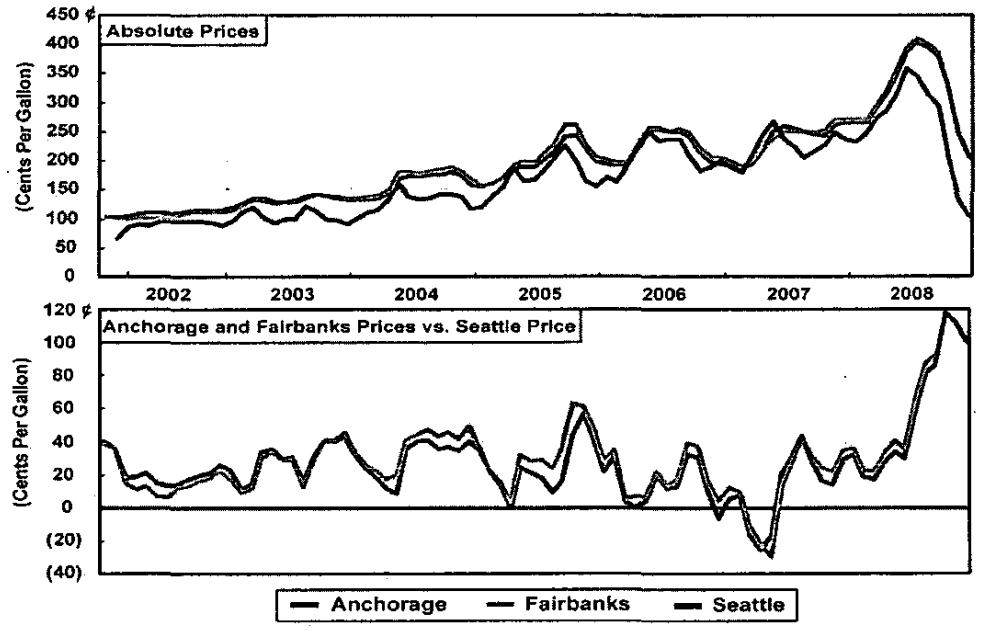
Source: AAA; Energy Information Administration; OPIS; State of Alaska Revenue Department.

well, gasoline-crude oil margins in Anchorage and Honolulu rose sharply during the second half of 2008, before declining toward the end of the year. Anchorage and Honolulu followed similar patterns, which were different from the pattern in Seattle.

3. Alaska Rack (Wholesale) Prices.

The rise in Alaska retail gasoline prices relative to the Lower-48 follows the rise in wholesale rack prices set by Alaska's marketers. Figure 10 shows rack prices in Anchorage, Fairbanks and Seattle relative to crude oil prices since January 2002.

Figure 10: Comparison of Regular Branded Rack Gasoline Prices (Before Taxes) Anchorage, Fairbanks and Seattle 2002 – 2008



Note: Fairbanks prices go through September 2008.
Source: OPIS.

Rack prices in Alaska historically have been higher than rack prices in Seattle. Between January 2002 and December 2007 the average gross Anchorage rack price was $0.16 per gallon over the average Seattle rack price. Fairbanks was $0.08 per gallon over Anchorage during this same period. These differences approximate the differences seen in retail gasoline prices between these locations.

During the first half of 2008 Anchorage rack prices averaged $0.23 per gallon over Seattle. The spread grew to $0.90 per gallon during the second half of the year. Again, the

relationship between rack prices in Alaska and Seattle is consistent with the relationship seen in retail prices.

4. Retail Margins.

Our review concluded that the margin between retail and gross rack prices was typically lower in Anchorage than in Seattle. Retail margins do not account for the increase in Alaska gasoline prices relative to Lower-48 prices during the second half of 2008.

E. Economics of Pricing in Alaska.

As discussed above, gasoline prices are not regulated in Alaska (or elsewhere in the United States). Prices are determined in the market and dictated by the fundamental economic laws of supply and demand. In markets with many buyers and sellers, these economic laws work to ensure that the prices charged by sellers are competitive. That is, they will be at a level that covers sellers' costs over time, including a competitive return on investment for efficient sellers. In markets where there are relatively few suppliers and limited supply sources outside the area, prices can rise above sellers' costs, providing them with "supra-competitive" returns or profits.

Sellers in all markets offer their products to consumers in an attempt to earn a profit. The amount of profit that a seller can earn depends on existing competition from other sellers, potential entry into the market from others seeking profitable opportunities and the extent to which consumers have the ability to substitute products for the one in question.

1. Competitive Markets and Prices.

Competitive markets are characterized by a large number of sellers offering the same or similar products to consumers that have the ability to choose freely among the products or services offered. The larger the number of sellers, the more likely a market will perform competitively. This is because no single seller has the power to influence prices in the market on its own (i.e., no single seller has market power). Nor does any individual seller take into account its rivals or their decisions. Due to their relatively large numbers it is unwieldy for sellers to coordinate their behavior or agree to volume or price restrictions without being detected, or without some number of sellers "cheating" on the agreed restrictions.

In a competitively structured market, the motivation of sellers to earn profits through expanded sales coupled with the desire of buyers to seek out low-priced sellers in order to minimize their costs leads to prices that are "competitive." In a competitive market, prices will tend over time to equal sellers' costs, including the cost of attracting invested capital to the

venture. If prices begin to rise above costs, sellers will see additional opportunities to earn profits and will offer additional product into the market. This in turn serves to drive prices down to the point where they cover sellers' costs. If prices fall to a level that does not cover sellers' costs, some will exit the market or offer less product until the decline in volume serves to increase prices to a level that does cover costs.

2. Oligopoly Markets and Prices.

Oligopoly (or concentrated) markets, like Alaska's, are characterized by the presence of relatively few sellers. Oligopoly markets can function competitively even with few sellers (or even just one seller) as long as it is not expensive for potential new sellers to enter the market when prices rise above competitive levels. In this situation, the presence of potential competition serves to cap the price available to existing sellers. If there are high costs associated with entering a market (entry barriers), either because of large up-front investments or regulatory issues, existing sellers may be able to increase prices above competitive levels, at least in the short term, without much concern about attracting new competition.

Where there is little threat of attracting new competitors, an individual seller may be able to exercise market power and impact prices through its own conduct. By offering a smaller volume to the market, a seller may be able to raise prices above costs and competitive levels. In competitive markets, this increase would attract supply from rival firms. In oligopoly markets, however, the few rival firms may not be as aggressive in increasing supply to the market in this situation because each recognizes it can affect the market price and its competitors' sales (and profits) through its own actions. A seller contemplating a price reduction in an attempt to expand its sales recognizes that it will take sales away from its competitors, which may prompt them to cut prices as well in order to keep from losing sales.

The ability of sellers to maintain prices above competitive levels in oligopoly markets is dependent upon their exercise of restraint in light of profitable opportunities for each to expand sales. The more certain a seller is that its competitors will exercise restraint, the more likely it will do so itself. Without the expectation of restraint by its rivals, a seller has little reason to show restraint itself, since it may simply result in increased business for its competitors at its own expense.

The fewer the number of sellers in a market, the easier it is for each to observe the other and develop expectations as to the way in which each will likely react to the other's decisions

regarding output and prices. In these markets, each seller will naturally take into account the potential impact of its own actions on market prices, including the potential responses that its actions might elicit from other sellers. This type of "competitive" behavior is often referred to as oligopolistic pricing or "oligopolistic interdependence" because the decisions that each make are "dependent" in part on the expected actions (or reactions) of other sellers. In this environment, it is easier for sellers to develop a "live and let live" attitude toward their rivals that would not be possible to maintain in competitively structured markets with more sellers. As a result, oligopolistic or interdependent behavior can result in prices that are above competitive levels over extended periods of time.

Interdependent behavior on the part of sellers is not generally regarded as a violation of antitrust law as long as firms develop and implement their pricing and output decisions independently. That is, in determining what volumes to produce or what prices to offer firms can incorporate their expectations about a rival firm's likely competitive actions or reactions as long as those expectations are developed independently and without the aid of rivals.

3. Alaska's Gasoline Prices Reflect Oligopoly Pricing.

Alaska's gasoline markets can fairly be characterized as oligopolies at the wholesale level. Oligopoly markets can produce a wide range of prices, high or low, without there ever being any illegal behavior or collusion by sellers. Absent collusive behavior, the ability of sellers to maintain high prices and supra-competitive profit levels is dependant on their individual restraint or discipline in the face of profit opportunities. In addition, it is dependant on the existence of some sort of entry barrier that prevents non-incumbent suppliers from entering the market and taking advantage of the higher profit opportunities. As discussed above, these entry barriers exist in parts of Alaska, limiting competition from outside suppliers, particularly during short-term periods or periods such as the second half of 2008 characterized by extreme market volatility and uncertainty.

Gasoline prices in Alaska have been slower to adjust to falling crude oil prices since oil prices began falling in July 2008. The slower reaction in Alaska does not come as a surprise in light of history. This behavior is not limited to Alaska's gasoline markets. Hawaii's gasoline markets, which are structured similarly to Alaska's, also tend to lag price changes in the rest of

the U.S. In addition, academic research indicates that wholesale gasoline prices in markets that are less competitively structured respond more slowly to changes in crude oil prices.[12]

Given the structure of the market in Alaska, prior experience during crude price declines, economic theory and available academic research into gasoline markets, it is not surprising that Alaska's gasoline prices respond more slowly than prices in other markets. This accounts for the large spread between gasoline prices in Alaska and the Lower-48 during the second half of 2008. History suggests that after price declines Alaska gasoline prices continue to fall as prices in other markets start to rise again with the next increase in crude oil prices. Indeed, this is just the type of pricing behavior we have seen over the last two months, with the spread between Anchorage and Seattle narrowing significantly.

The events of 2008 do not fit neatly into any historical pattern. There has never been a market for crude oil at any time to rival the extreme price swings seen in 2008. It is impractical to expect that pricing would follow any kind of historical pattern during the past six months.

Economic theory does not tell us the magnitude of the price difference we should expect in Alaska during a period of price dislocation such as 2008. It does tell us, however, that given the differences in the market conditions in Alaska relative to most Lower-48 markets, large price differences can arise and be sustained absent any illegal behavior. Oligopoly markets are capable of a wide range of outcomes, particularly during periods of extreme volatility and uncertainty.

IV. Conclusion.

The Attorney General's office found no evidence of collusion or other illegal antitrust behavior among Alaska's refiners, wholesale marketers or retailers to fix output or prices. Our investigation indicates that the spread between Alaska gasoline prices and prices in the Lower-48 markets that began to widen during July 2008 is likely the result of market-related conditions in Alaska, combined with the unprecedented price volatility and uncertainty that occurred in crude oil markets during the year.

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[12] Severin Borenstein and Andrea Shepard, "Sticky Prices, Inventories, and Market Power in Wholesale Gasoline Markets," August 2000.

ALASKA STATE LEGISLATURE

REPRESENTATIVE PETE PETERSEN

Re: Draft Judiciary Committee Report Conclusions on HB 68

The draft committee report makes several negative conclusions regarding House Bill 68 (HB 68), the proposed bill to protect Alaskan consumers and small businesses from excessive or exorbitant fuel prices. I believe some of these conclusions to be either not supported by the evidence, contrary to basic economic principles, or represent misunderstandings of certain provisions of HB 68 and their purpose.

First, the report is correct in noting that Alaska and Washington's refined petroleum markets are similar in some ways, and different in others. This is why the Washington market was chosen by the sponsors of the bill. Washington refineries have similar expenses as Alaskan refineries, but, unlike Alaska, Washington has a competitive market for refined petroleum so there prices more closely reflect fair market value.

It is also worth noting that under HB 68, it would still be legal for Alaskan refineries to charge prices in excess of 10% more than Washington refineries if they can show their prices to be reasonable in light of their expenses.

The draft report implies that HB 68 would "directly [tie] Alaska's refiners pricing structure to Washington's." This is not accurate. HB 68 would simply prohibit Alaskan refineries from charging excessive or exorbitant price, and create an objective standard- based on the Washington prices- over which the burden of proof would shift to the refineries to show their prices to be justified.

The report's analysis of how jet fuel prices relate to other refined petroleum products is not compatible with basic economic principles. The report implies that Alaska's refineries need to charge excessive prices for other products because they take losses selling jet fuel. Basic economics indicates that for-profit businesses will continue selling a product if it is more profitable to continue production than to shut it down. The business would make the same economic analysis for other products. This does not mean that a business will never sell a product at a loss, but the two decisions are independent. There are rational reasons why a refiner would sell jet fuel at a loss, and as the report notes the refineries are often able to make a profit on jet fuel even though they are forced to sell it at a fair market value.

The report indicates that HB 68 could drive refiners out of Alaska, but again the report fails to realize that HB 68 would not prohibit refiners from making reasonable profits. The report also compares HB 68 to Hawaii's failed price setting law. Here the report simply misrepresents HB 68. HB 68 in no way sets or caps price, it simply prohibits excessive or exorbitant pricing.

January-May: State Capitol • Juneau, AK 99801-1182 • (907) 465-4939 • Fax (907) 465-2418
Representative_Pete_Petersen@legis.state.ak.us

It is also troubling that the report implies that it is better to hurt Alaska's small businesses- the state's biggest job creators- who are suffering from high fuel prices, than to outlaw excessive pricing by the large Outside owned refiners.

Finally, the report implies that this legislation has been hastily prepared; to the contrary the sponsors have spent many hours deliberating and researching all aspects of the crisis, and determined this to be the best approach to protect Alaskan small businesses, consumers, and municipalities from excessive fuel prices. The report's conclusions are particularly baffling as the testimony the Committee heard before preparing this report was very influential in persuading the sponsors, and other unbiased observers, that legislation like HB 68 was needed.

The bottom line is: Alaskan small businesses, communities, and individuals need protection from excessive or exorbitant fuel pricing and HB 68 would provide that protection.

2-26-09 Work Session: Comprehen-sive Energy Plan

<target><bill></bill><subject>2-26-09 Work Session
Comprehensive Energy Plan</subject><comm>HENE26</comm></target>

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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- Help clients **anticipate** the energy future and make informed strategic, investment, and market decisions
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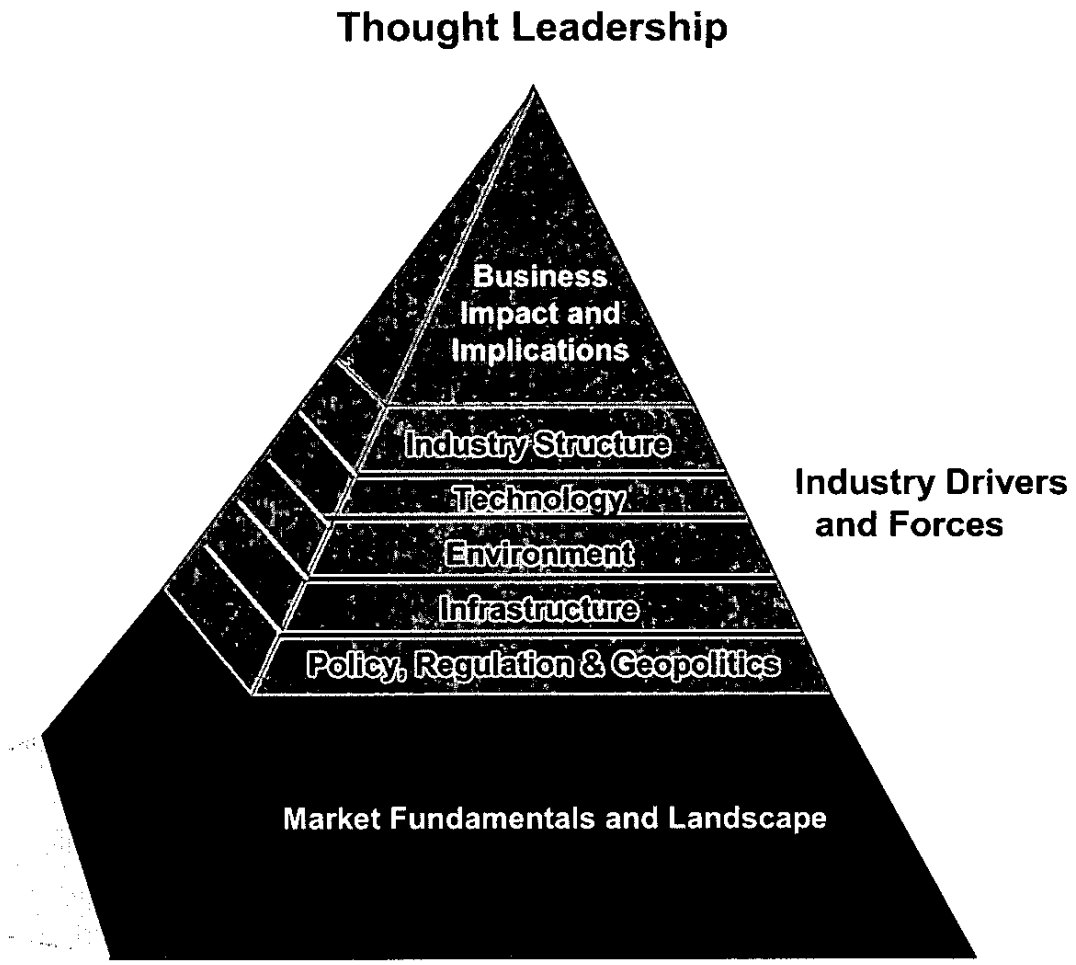

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Source: Cambridge Energy Research Associates.

Policy Methodology and Selected Previous Engagements

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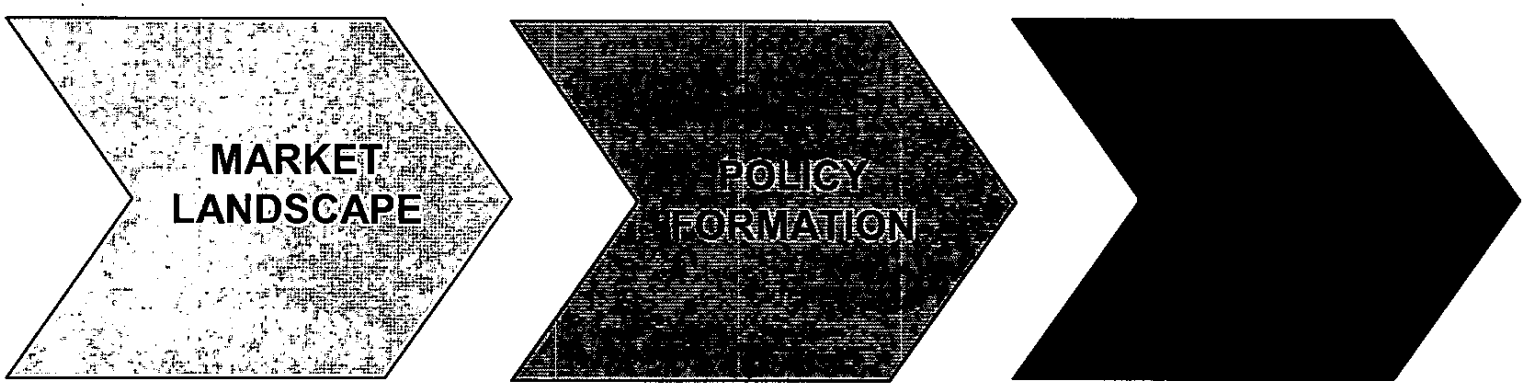
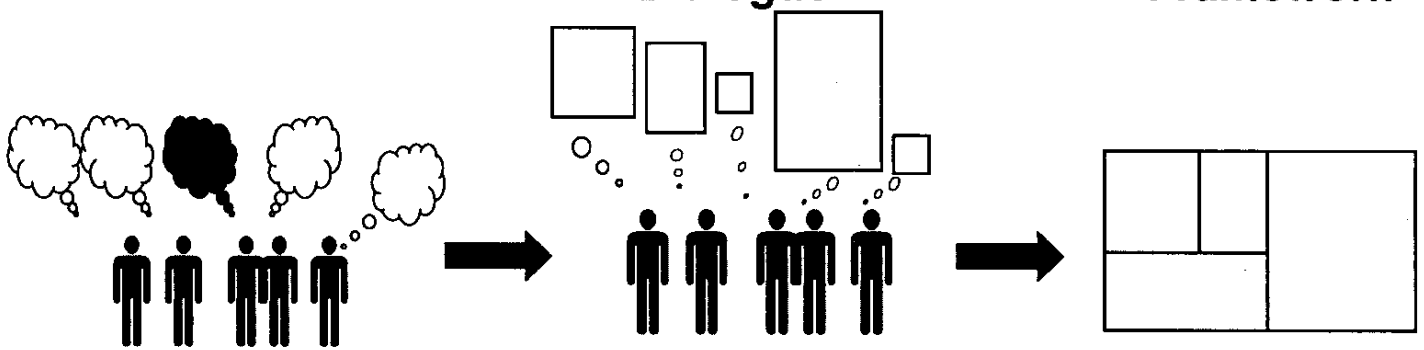
Energy Policy Roadmap Components



Diverse Views

Structured Dialogue

Common Framework



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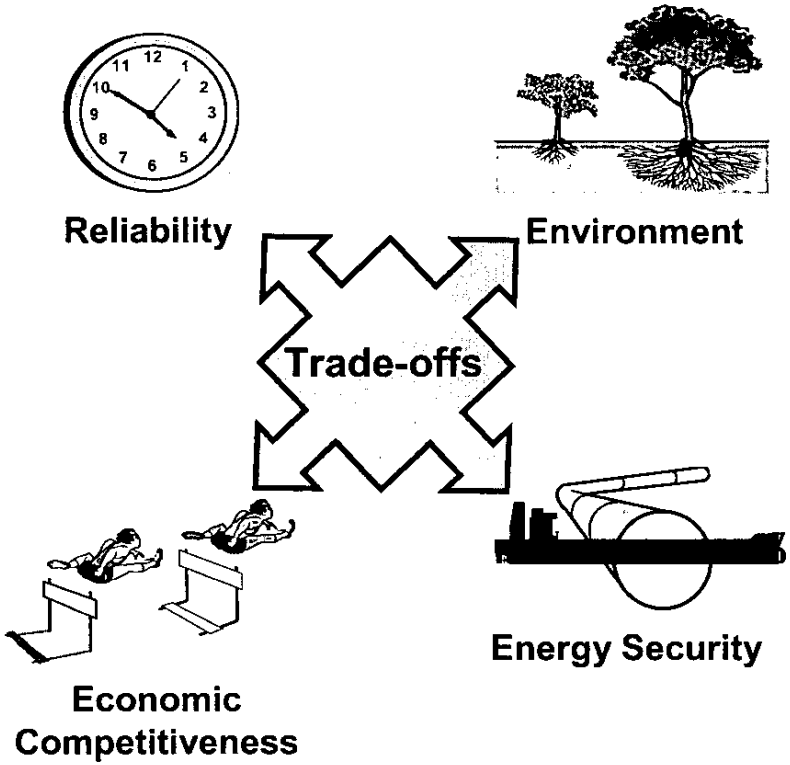
Role of the Market Landscape in Developing an Energy Roadmap

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



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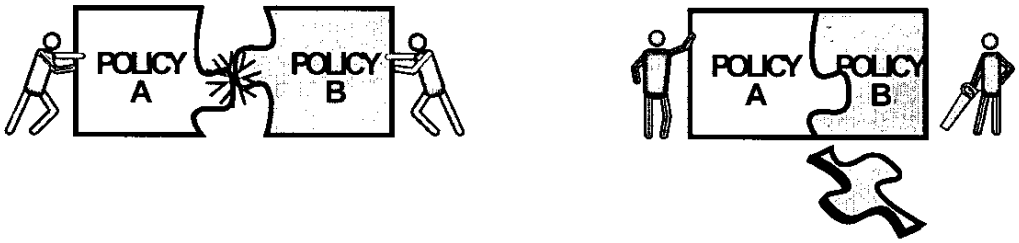
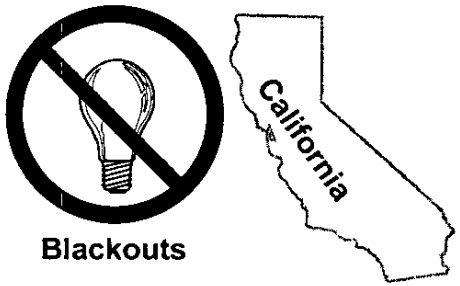
Source: Cambridge Energy Research Associates.

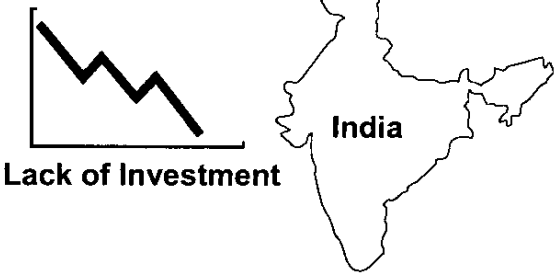
Policy trade-offs Must be Recognized and Resolved Early on



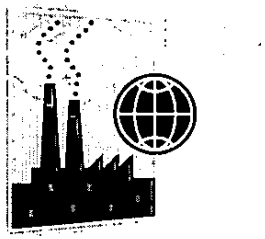
Or Face the Consequences…



Blackouts



Lack of Investment



Environmental Consequences

China

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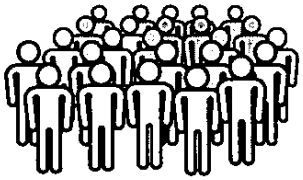
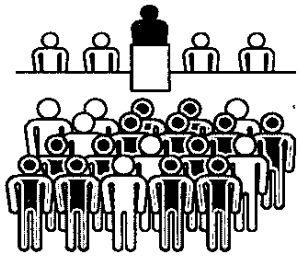
Four Key Policy Formulation Questions

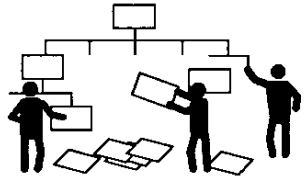


Who Decides?

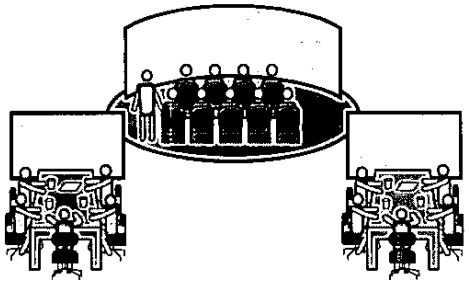


Who is consulted?

POLICY FORMATION



Which Topics?



What Institutions?

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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)

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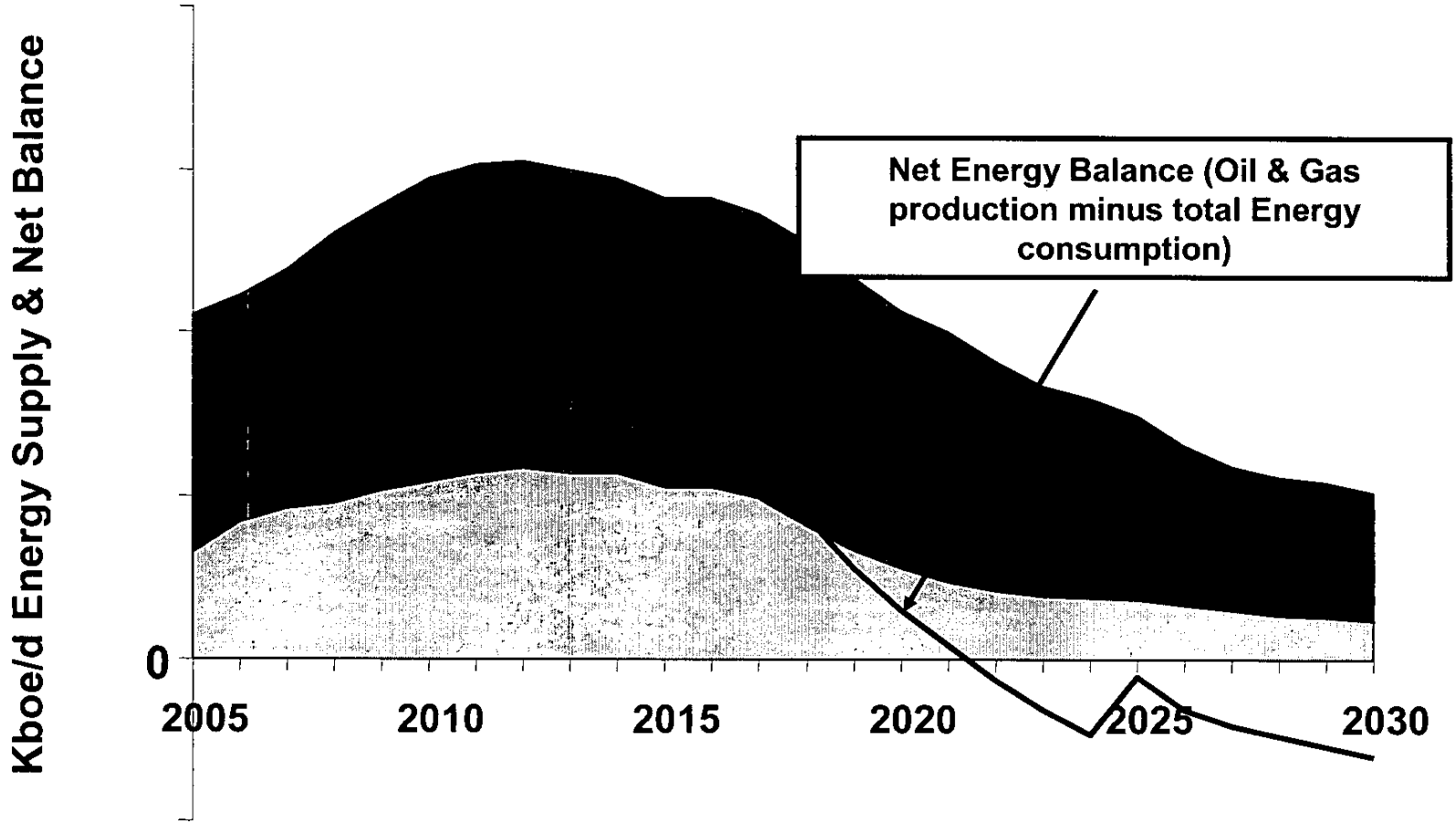
Emerging Energy Balance Shift Drove the Need for Policy Review



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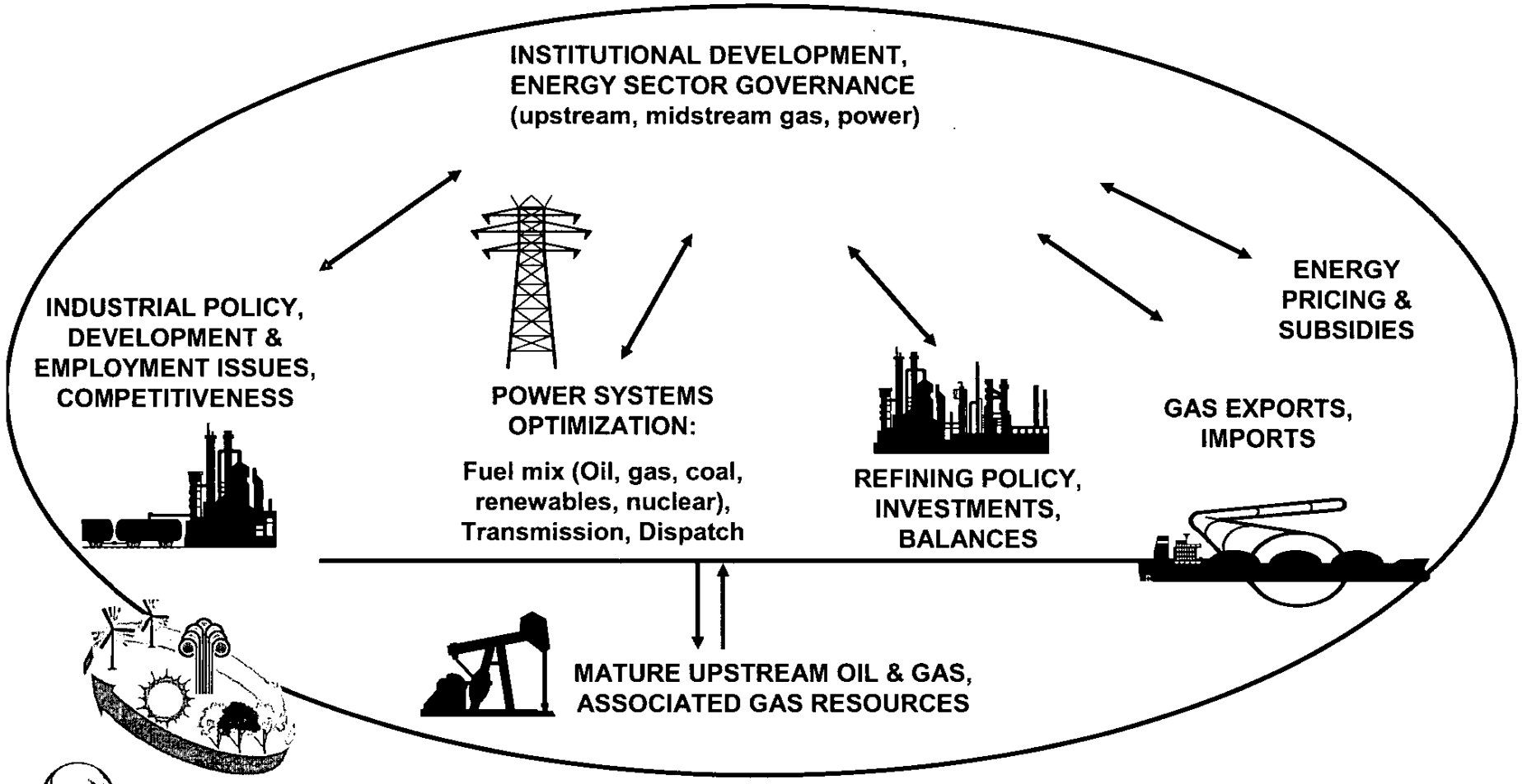
Source: CERA analysis, study data

Study Embraced the Entire Energy Spectrum



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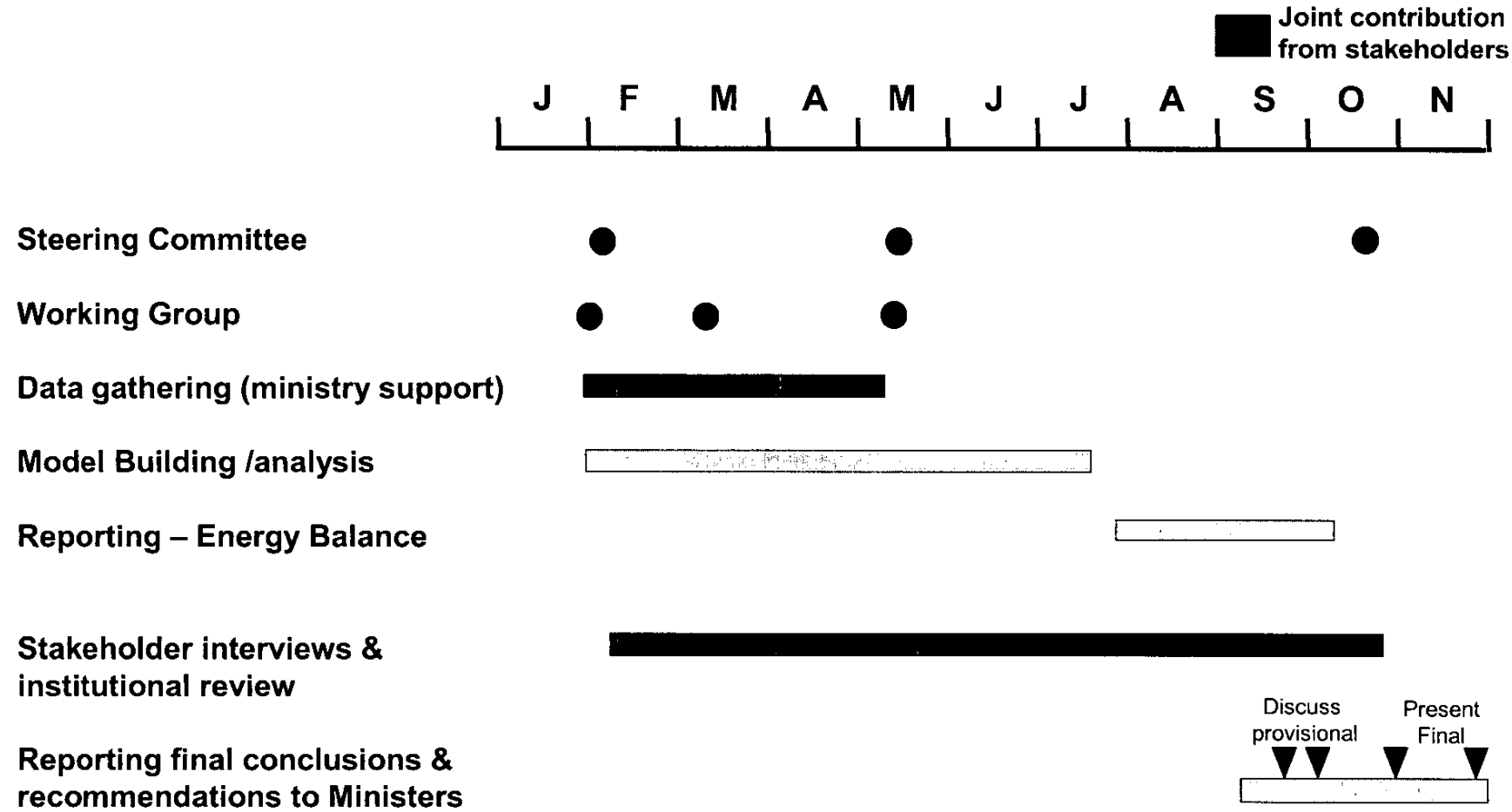
Stakeholders were Engaged Throughout



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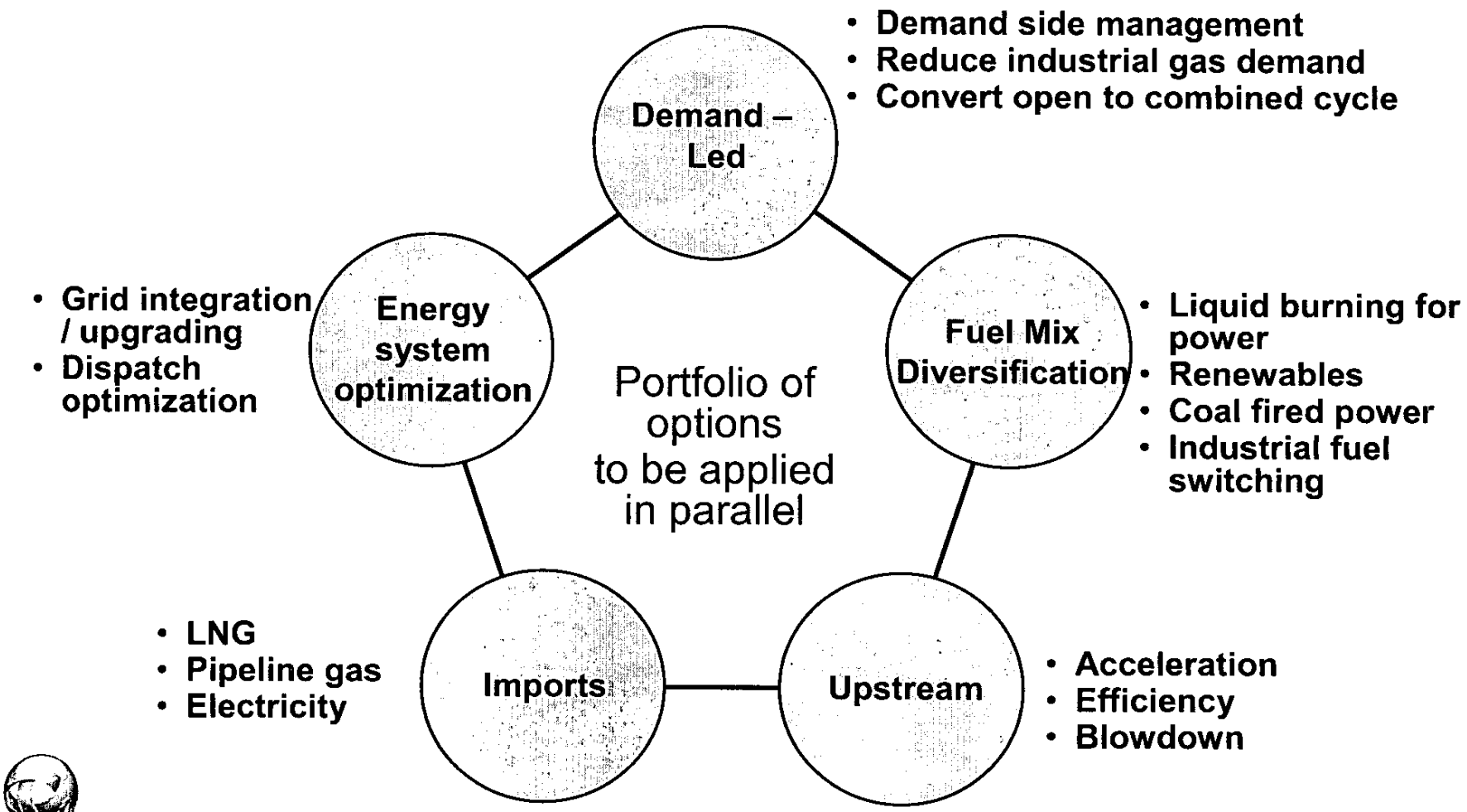
The Study Analysed a Portfolio of Options to Optimize Future Energy Balance



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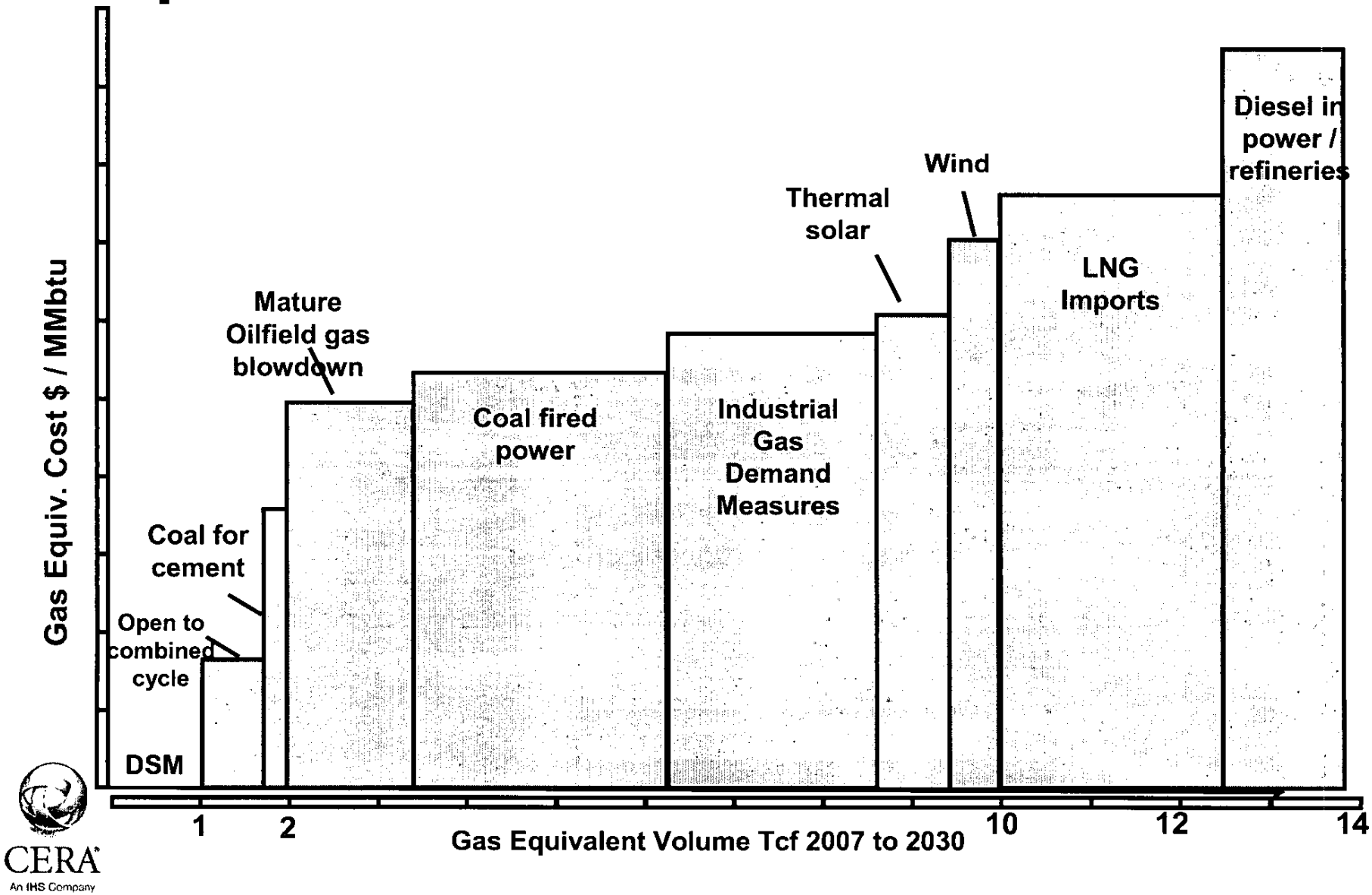
Costs of Energy Balance Options were Compared



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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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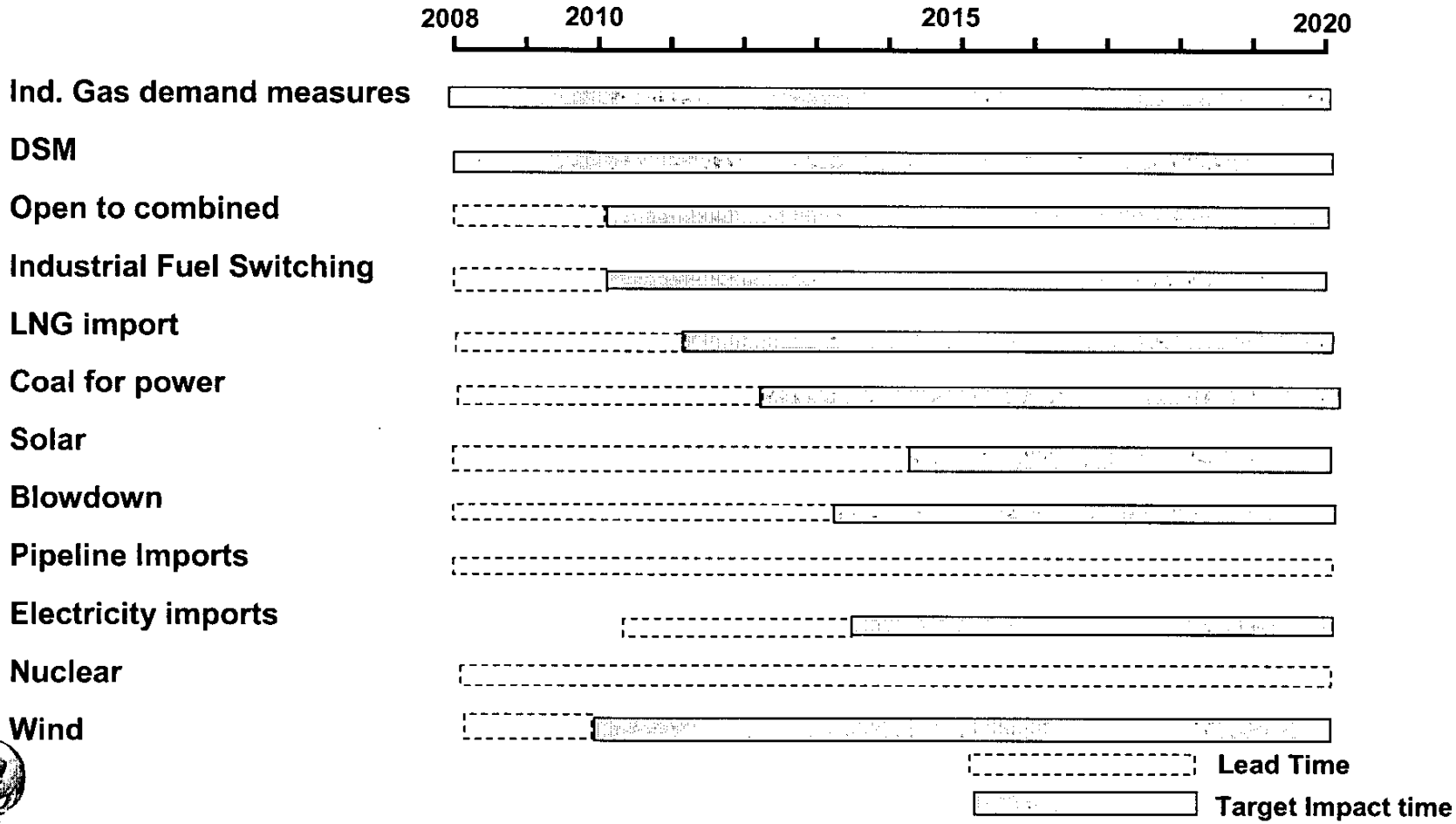
Case Example

Early Planning for Implementation was Recommended

Conservative / prudent planning assuming firm supply and no pipeline imports



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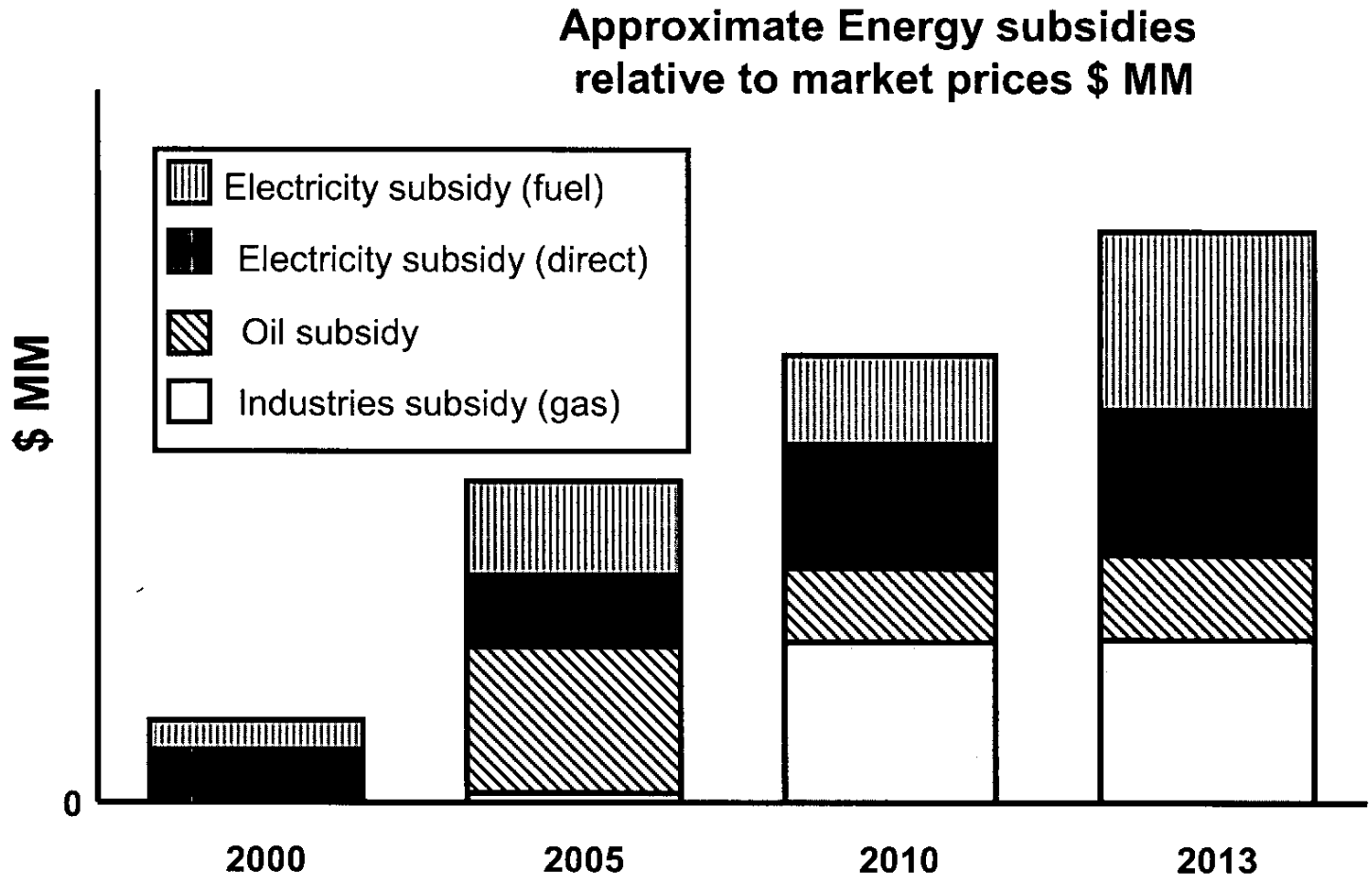
Identifying the Cost of Energy Subsidies Assisted Pricing Policy Thinking



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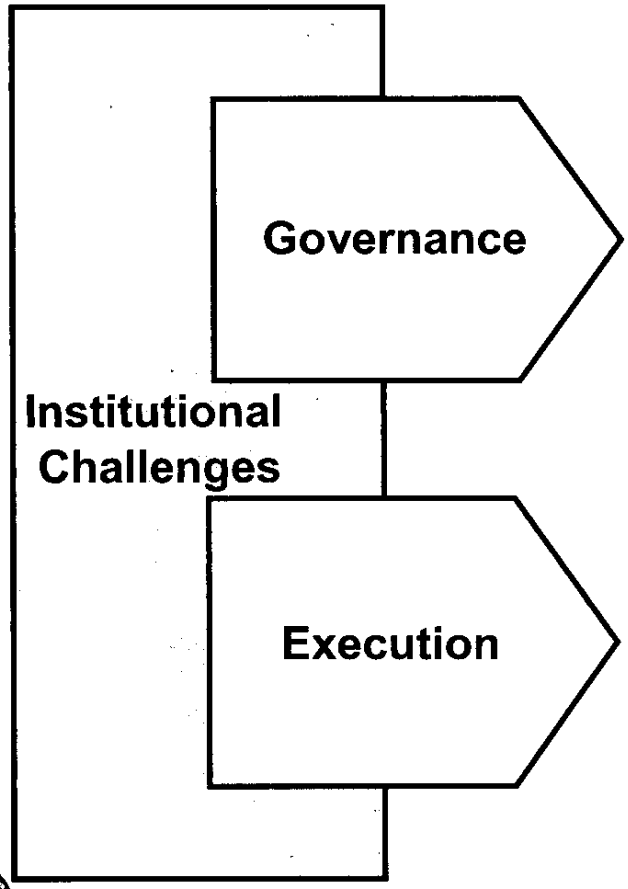
Identification of Institutional Challenges and Solutions were Important When Recommending a Policy Roadmap



- 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

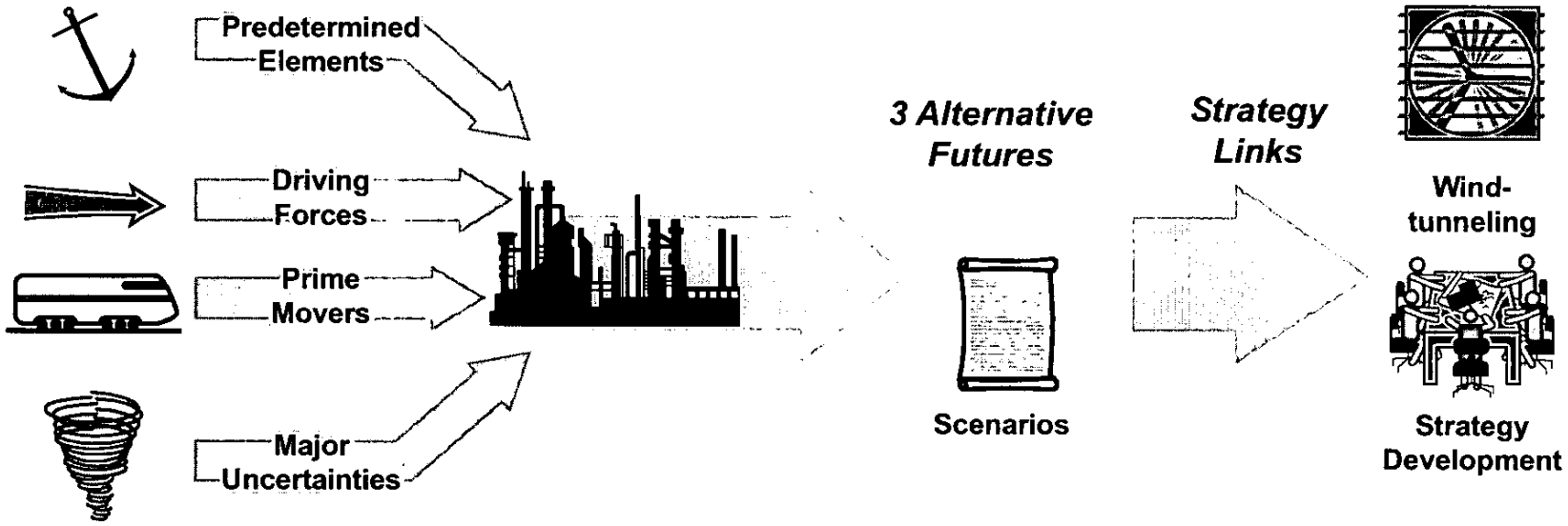
Factors that will shape the future

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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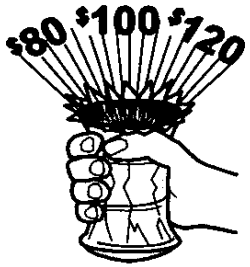
CERA's Global Energy Scenarios are the Backbone of Our Vision of the Future

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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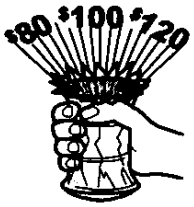
Source: Cambridge Energy Research Associates.

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

	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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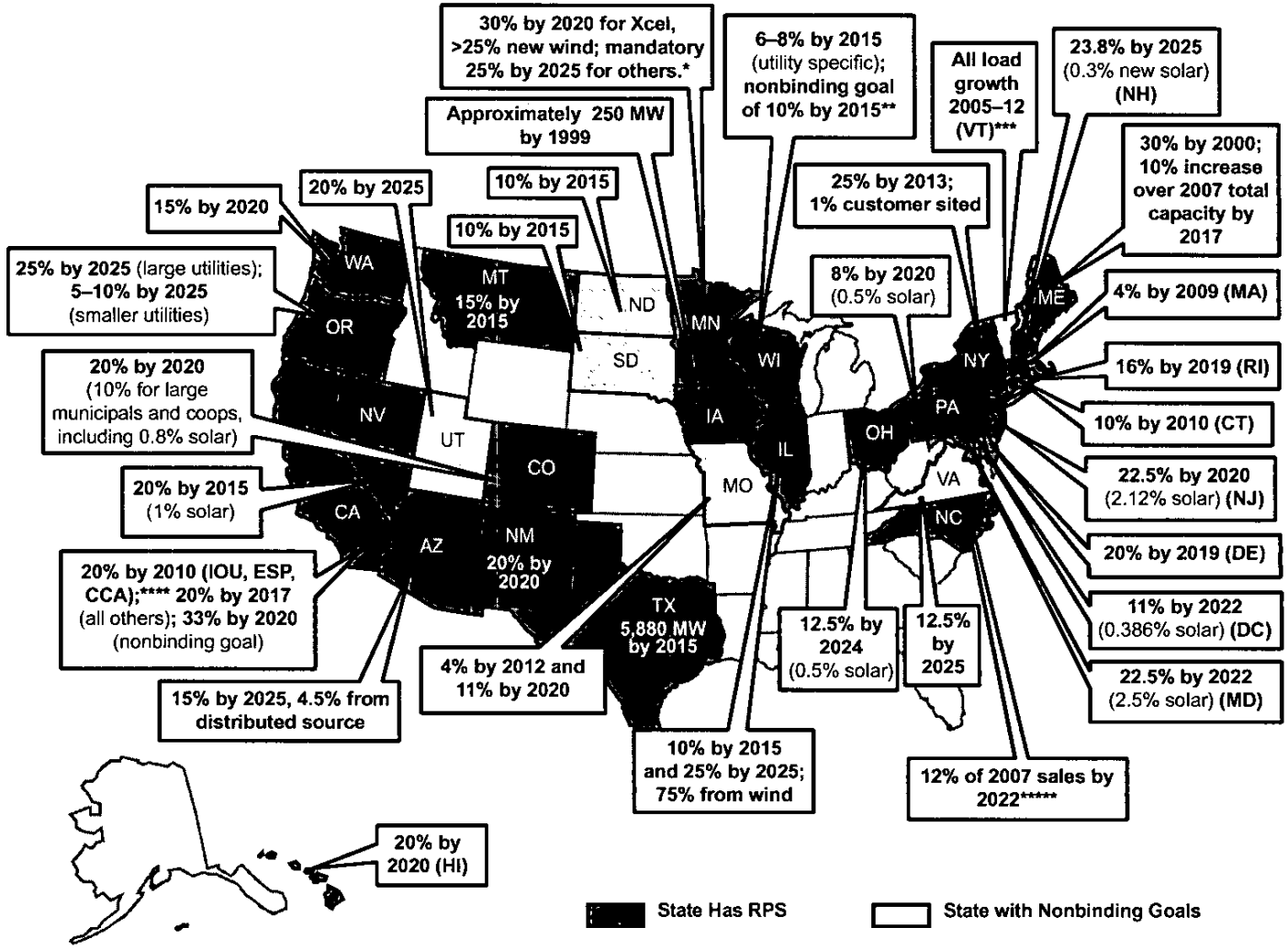
State Renewable Portfolio Standards Driving Renewable Investments



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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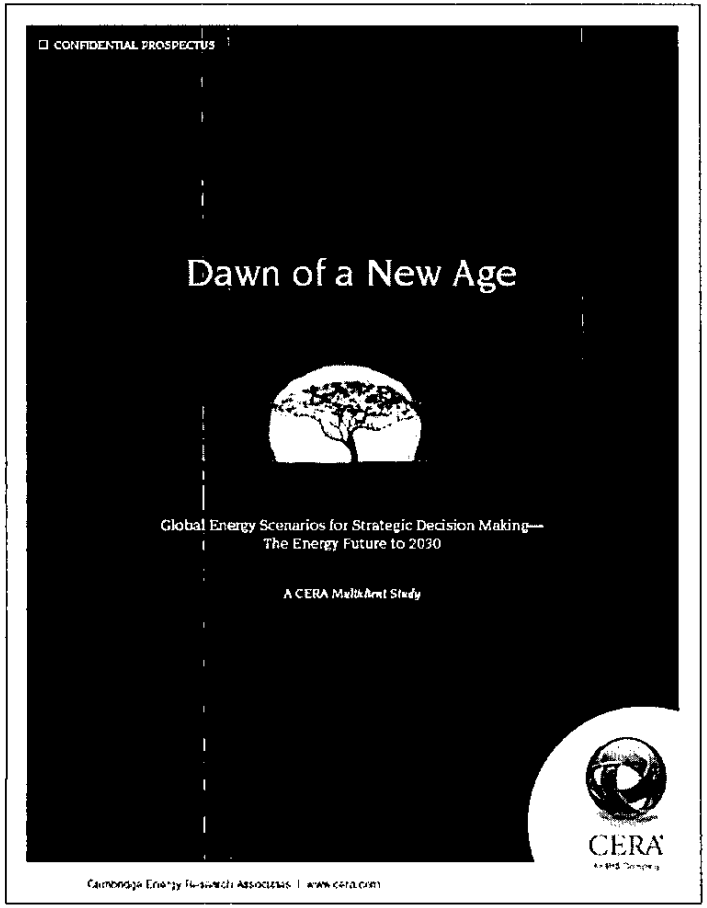
Selected CERA Studies

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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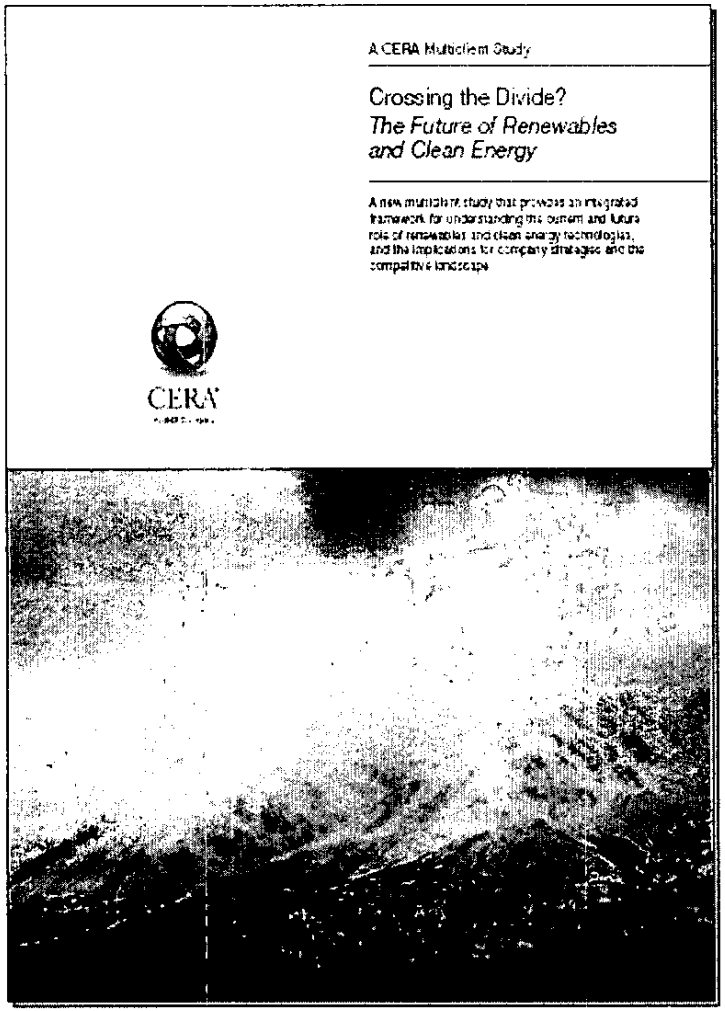
Clean Energy Technologies

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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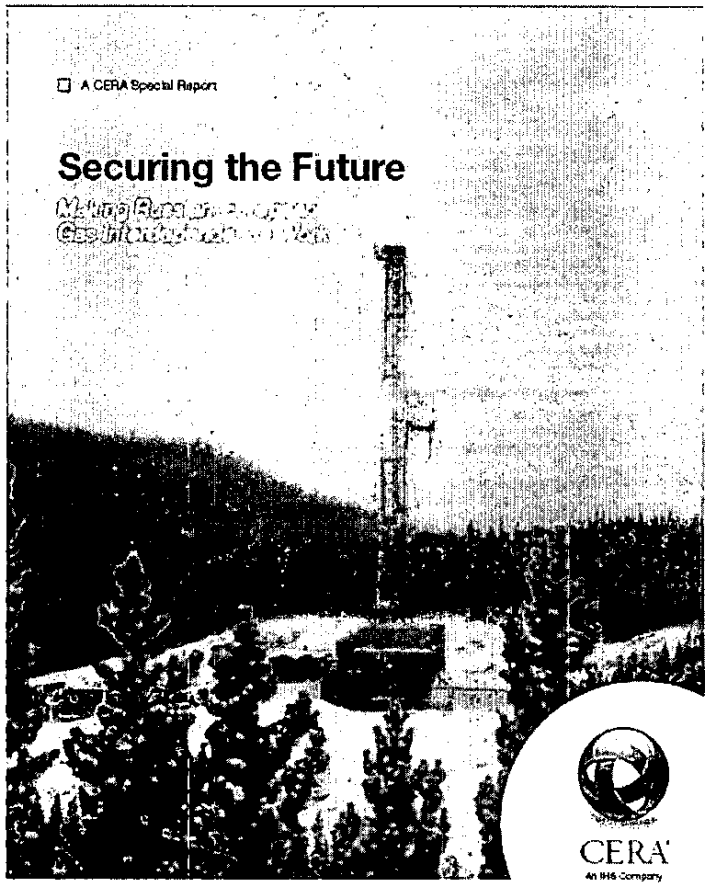
Multi Stakeholder Dialogue

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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The leading provider of insight and critical information in four key domains

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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.

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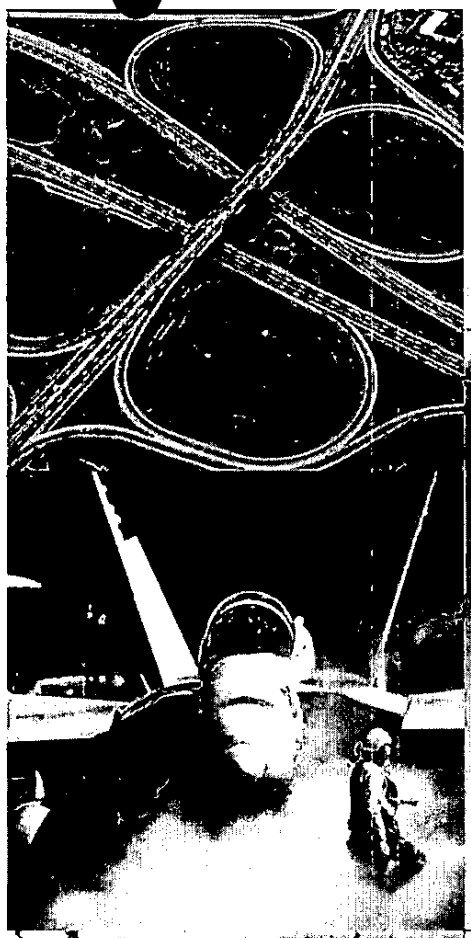

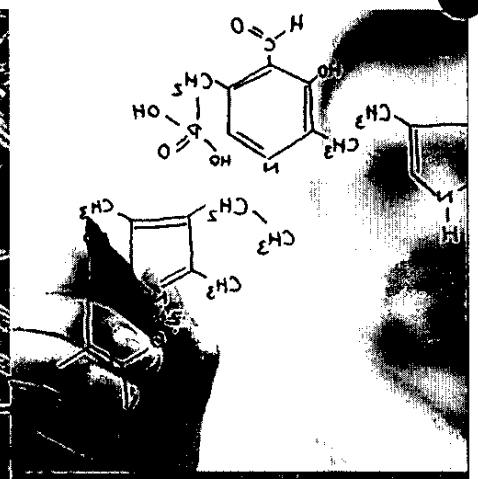

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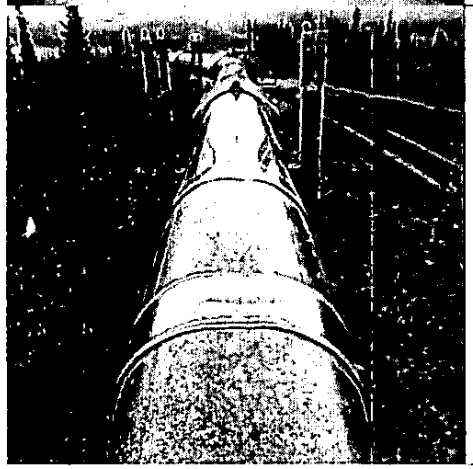
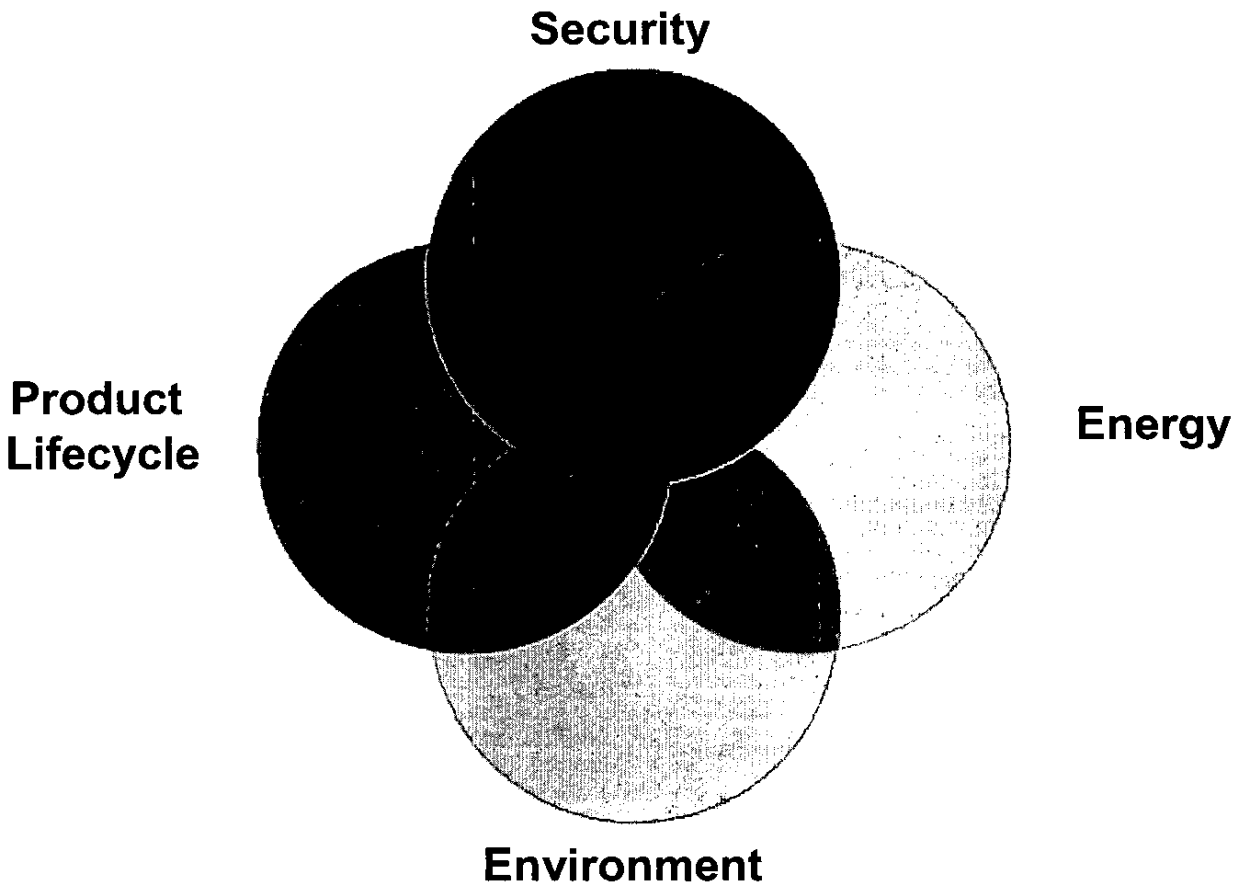


Four Domains of Insight and Critical Information



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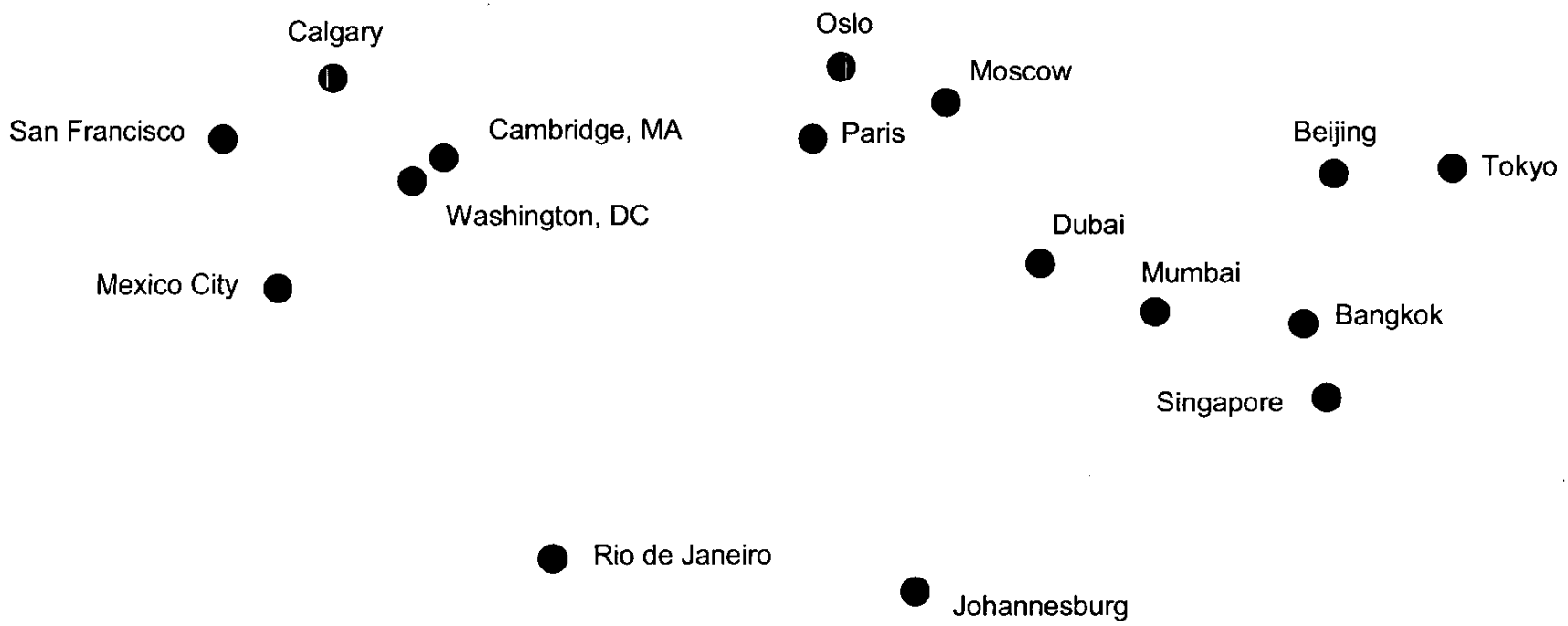

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Daniel Yergin

Chairman

Daniel Yergin is a highly respected authority on international politics and economics and on energy. Dr. Yergin is a Pulitzer Prize winner and recipient of the United States Energy Award for "lifelong achievements in energy and the promotion of international understanding." He is both a world-recognized author and a business leader, as Chairman of Cambridge Energy Research Associates (CERA), one of the world's leading consulting and research firms in its field.

Dr. Yergin received the Pulitzer Prize for his work The Prize: The Epic Quest for Oil, Money and Power, which became a number one best seller and was made into an eight-hour PBS/BBC series seen by 20 million people in the United States. The book has been translated into 12 languages.

Dr. Yergin plays a leadership role in the global energy industry. He chaired the US Department of Energy's Task Force on Strategic Energy Research and Development. He is a member of the Board of the United States Energy Association, and a member of the National Petroleum Council, and this year became the only foreign member of the Russian Academy of Oil and Gas.

He also serves as CNBC's Global Energy Expert.

Of his most recent book, Commanding Heights: The Battle for the World Economy, the Wall Street Journal said, "No one could ask for a better account of the world's political and economic destiny since World War II." It has been translated into 13 languages. (Dr. Yergin led the team that turned it into a six-hour PBS/BBC documentary—the major PBS television series on globalization. The series received three Emmy nominations, a CINE Golden Eagle award, and the New York Festival's Gold WorldMedal for best documentary.)

Dr. Yergin has been named one of the 500 most influential people in the United States in the field of foreign policy by the World Affairs Councils of America. He is a Trustee of the Brookings Institution, a Director of the US-Russia Business Council, and on the Advisory Board of the International Institute for Economics.

Dr. Yergin received his BA from Yale University and his PhD from Cambridge University, where he was a Marshall Scholar.

In November 2005 he was awarded the Medal of the President of the Republic of Italy for combining "an understanding of the dynamics of the market with a broad view of the forces of geopolitics as he seeks to point the way to the positive outcomes for the world community."

David Hobbs

Head of Research

David Hobbs, CERA Head of Research, is an expert in energy industry structure and strategies. He previously led CERA's research activities in oil markets and strategies, liquefied natural gas, technology, and environmental strategies. Mr. Hobbs is an author of the major CERA studies *In Search of Reasonable Certainty: Oil and Gas Reserves Disclosures,* a comprehensive analysis of the problem of assessing reserves, and *Modernizing Oil and Gas Disclosures.* He is also a principal author of a major CERA assessment of the world economic crisis, *"Recession Shock": The Impact of the Economic and Financial Crisis on the Oil Market,* and of the CERA Multiclient Study *Harnessing the Storm—Investment Challenges and the Future of the Oil Value Chain,* the author of the CERA Private Report *Daring to Be Disciplined: Continuous Portfolio Improvement,* and a project advisor to the CERA Multiclient Study *Crossing the Divide: The Future of Clean Energy.* Prior to joining CERA Mr. Hobbs had two decades of experience in the international exploration and production business. He has directed projects in Asia, South America, North America, and the North Sea. He has led major international investment and asset commercialization operations Based in Cambridge, Massachusetts, Mr. Hobbs holds a degree from Imperial College.

Michael Stoppard

Managing Director

Michael Stoppard, CERA Managing Director, Global Gas, is a member of CERA's Senior Leadership Team. He is a specialist in the international gas business and is responsible for the development and coordination of CERA's global and interregional analysis of LNG and its communication to clients. Mr. Stoppard led CERA's entry into LNG as Project Manager for the pioneering study *The New Wave: Global LNG in the 21st Century.* Earlier he was a core team member of CERA's European Gas group, developing CERA's European natural gas and power scenarios. Mr. Stoppard has also worked on numerous tailored consulting assignments for clients, including major gas producers, European utilities, power developers, and financial investors. He has extensive experience in providing strategic analysis and recommendations at the board and senior executive level. Before joining CERA Mr. Stoppard was a research fellow at the Oxford Institute for Energy Studies, where he published a variety of studies of the gas industry including his book *A New Order for Gas in Europe?* He also worked on a study for the World Bank on the environmental benefits of natural gas for developing countries. In addition, Mr. Stoppard served as a Parliamentary Special Advisor on energy regulation for the House of Commons Trade and Industry Committee in the United Kingdom. He is the author of numerous CERA reports, including analyses of business models, gas and power

convergence in Europe, LNG shipping and trading, and gas distribution. He was coauthor with Daniel Yergin of "The Next Prize" published in *Foreign Affairs.* Mr. Stoppard holds an honors degree from the University of York.

James Burkhard

Managing Director

James Burkhard, Managing Director of CERA's Global Oil Group, leads the team of CERA experts that analyze and assess upstream and downstream business conditions and strategies. His team also develops and maintains detailed short- and long-term outlooks for global crude oil and refined products markets. Mr. Burkhard's expertise covers geopolitics, world economic conditions, and global oil demand and supply trends. He works closely with CERA clients in assessing how market, economic, and political risks could change the competitive environment. He also works with companies to assess business opportunities in both the upstream and downstream sectors.
Mr. Burkhard was the project director of *Dawn of a New Age: Global Energy Scenarios for Strategic Decision Making—The Energy Future to 2030,* the most comprehensive study that CERA has ever undertaken, encompassing the oil, gas, and electricity sectors. He was also the director of the CERA Multiclient Study *Potential versus Reality: West African Oil & Gas to 2020.* He is also the coauthor of CERA's respected *World Oil Watch,* which analyzes short- to medium-term developments in the oil market. In addition to leading CERA's oil research, Mr. Burkhard served on the US National Petroleum Council (NPC) committee that provided recommendations on US oil and gas policy to the US Secretary of Energy. He led the team that developed demand-oriented recommendations that were published in the 2007 NPC report *Facing the Hard Truths About Energy.* Before joining CERA, Mr. Burkhard directed infrastructure projects in West Africa, supported research on the interaction between government policy and capital investment, and was a field operator for Rod Electric. Mr. Burkhard holds a BA from Hamline University and an MS from the School of Foreign Service at Georgetown University.

Lawrence J. Makovich

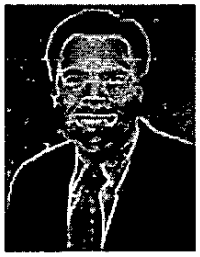
Vice President and Senior Advisor

Lawrence J. Makovich, CERA Vice President and Senior Advisor for Global Power, is a highly respected expert on the electric power industry. He directs CERA research efforts in the power sector as part of CERA's Office of the Chairman. He is an authority on electricity markets, regulation, economics, and strategy. His current research focuses

on electric power market structures, demand and supply fundamentals, wholesale and retail power markets, emerging technologies, and asset valuations and strategies.

Dr. Makovich is currently advising or has recently advised several large utilities in major strategic engagements. He has testified numerous times before the US Congress on electric power policy. He has advised the government of China on electric power deregulation and transmission in competitive markets, and the Brazilian Congress invited him to testify on power liberalization. He examined the impact of deregulation on residential power prices and the development of resource adequacy mechanisms in the CERA Multiclient Study *Beyond the Crossroads: The Future Direction of Power Industry Restructuring.* He was also a project director for the CERA Multiclient Study *Crossing the Divide: The Future of Clean Energy.* Among Dr. Makovich's other significant CERA studies are examinations of the California power crisis in *Crisis by Design: California's Electric Power Crunch* and *Beyond California's Power Crisis: Impact, Solutions, and Lessons.*

Dr. Makovich has been a lecturer on managerial economics at Northeastern University's Graduate School of Business. He holds a BA from Boston College, an MA from the University of Chicago, and a PhD from the University of Massachusetts.

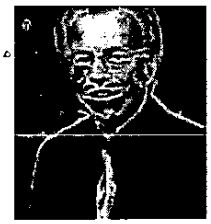


Robert LaCount

Senior Director

Robert LaCount, CERA Senior Director and Head of CERA's Climate Change and Clean Energy Group, is an authority on environmental policy and strategy, climate change legislation and regulations, and emissions trading. Mr. LaCount recently managed the environmental analysis for the CERA Multiclient Studies *Crossing the Divide: The Future of Clean Energy* and *Dawn of a New Age: Global Energy Scenarios for Strategic Decision Making—The Energy Future to 2030.* He was also the project director for the CERA Special Report *Design Issues for Market-based Greenhouse Gas Reduction Strategies* and the CERA Special Study *Clearing the Air: Scenarios for the Future of US Emissions Markets.* Mr. LaCount joined CERA from PG&E National Energy Group where he was Director of Environmental Policy and Strategy. He has managed the design and implementation of numerous environmental regulations and emissions trading programs in previous positions with the US Environmental Protection Agency and the Maryland Department of the Environment.

Mr. LaCount holds a BA from Wittenberg University, an MS from the University of Pennsylvania and the French Petroleum Institute, and an MBA from the University of Maryland.



Paul Markwell

Senior Director

Paul Markwell, CERA Senior Director, is an expert in upstream oil and gas and strategy development, and leads the application of CERA's Global Oil team research to client-specific studies. He works closely with a range of clients and CERA's research leaders to identify clients' strategic needs and directs the delivery of client engagements. He focuses in particular on upstream oil and gas–related strategy advice for international oil companies and service companies, and integrated energy policy development work for governments. He has worked with senior energy policymakers in the Middle East and North Africa, and managed CERA's contribution to a National Economic Strategy project for the Libyan government in 2005.

Prior to joining CERA Mr. Markwell worked for over two decades in the upstream oil and gas industry and subsequent consulting related roles. He held posts at McKinsey and Company as an upstream expert consultant and latterly as European Petroleum Practice Manager, supporting the delivery of firm-wide knowledge and providing expert advice to oil and gas consulting teams. Previously Mr. Markwell spent 18 years in international exploration and production companies, most recently as General Manager for British-Borneo's business in Pakistan, responsible for overseeing the commercialization and development of the company's gas assets. He also worked in Business Development roles in Hardy Oil and Gas, and Shell UK, and led numerous oil and gas acquisition and divestment projects. Mr. Markwell first joined the industry as a Petroleum Engineer with Shell International and worked in a number of operational and team leader positions in the Netherlands, Thailand, and the United Kingdom.

Mr. Markwell holds a BSc with honors from Imperial College, London, and an MBA from Henley Management College. He is based in London.

Gerard McCloskey

Vice President and Global Advisor, Coal

Gerard McCloskey. CERA Vice President and Global Advisor, Coal, is the Chairman and Founder of The McCloskey Group, which specializes in news, data and analysis on the international coal markets. The McCloskey Group is now part of CERA, an IHS company. Mr. McCloskey is considered a world authority on coal and has advised numerous banks, power, steel, and coal companies globally as well as addressing European and British parliamentary assemblies and specialist committees. The group has

extensive publication and consultancy divisions and organizes 14 conferences throughout the world. The McCloskey Group publishes five regular coal newsletters, including the industry leader *McCloskey Coal Report.* McCloskey Coal Information Services Ltd., established in 1987, produced the flagship *International Coal Report* , working with the Financial Times until December 2000. Previously Mr. McCloskey was selected by the Financial Times to run its series of newsletters. Mr. McCloskey was also press advisor in the UK Department of Energy to a series of ministers in the Callaghan and Thatcher governments. He also worked as a journalist. Mr. McCloskey studied economics at the London School of Economics.

Michael N. Marinovic

CERA Vice President

Michael N. Marinovic, CERA Vice President, specializes in strategy development and portfolio optimization in the oil and gas industry. He has advised companies at all stages of growth and in a wide variety of economic and asset environments. His expertise includes regional and asset strategy development, including growth investments and asset divestments . He has led strategy efforts for business units and assets around the North Sea, the deepwater Gulf of Mexico, the Rocky Mountains, South America 's Southern Cone, West Africa and Southeast Asia. He has worked extensively with portfolios of mature oil and gas assets, and has lead portfolio strategy efforts in the transportation and banking industries. Mr. Marinovic joined CERA, an IHS company, when IHS acquired Strategic Decisions Group's (SDG's) Oil and Gas Practice. Before joining SDG, he held both technical and operating positions with Exxon Chemical Company. Mr. Marinovic holds a BS and an ME from Cornell University and an MBA from the Stanford University Graduate School of Business.

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.

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.

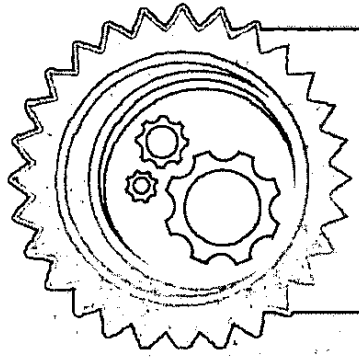
Support legislation that encourages the expanded use of electric cars.
Electric cars have the potential to reduce energy costs in Alaska communities with excess electricity from renewable sources. These include small, Southeast Alaska communities off the highway system and remote communities developing 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.

Developing Energy Policy: A Balanced Approach



ACEP

Alaska Center for Energy and Power

Gwen Holdmann, Director
Alaska Center for Energy and Power

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

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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

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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)

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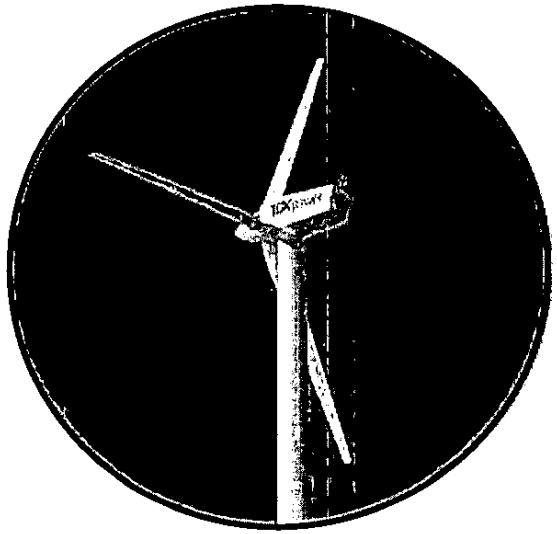
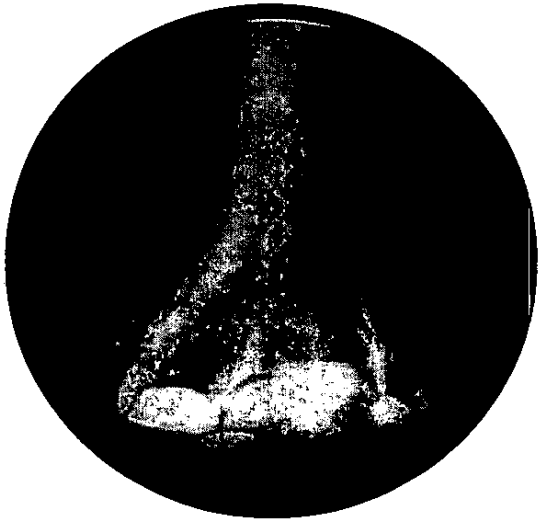
ACEP Focus Areas



Community Energy Solutions

Powering the Economy



The EnergyField of the Future

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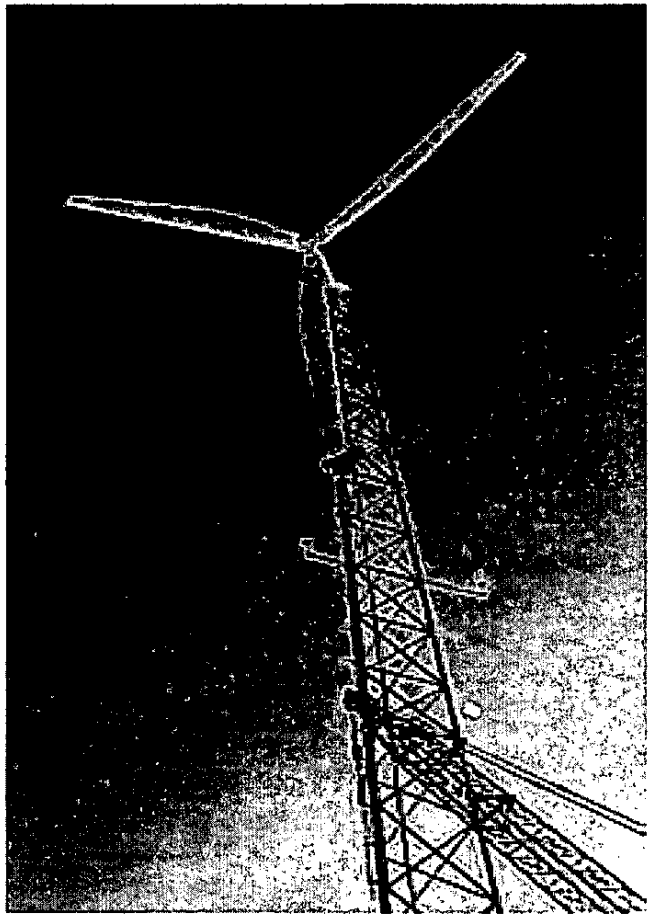
Community Energy Solutions



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

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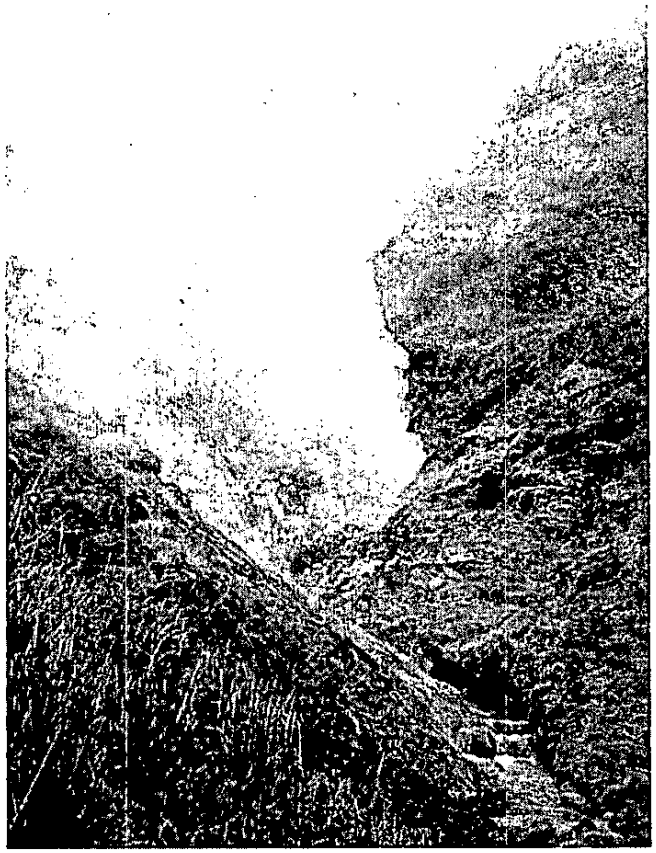
Powering the Economy



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

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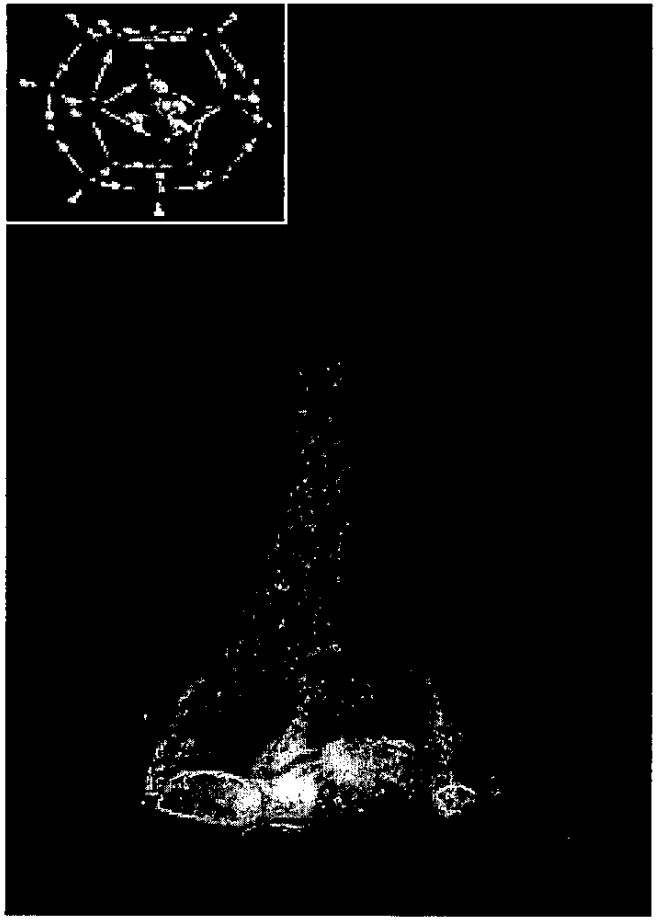
The 'Energyfield' of the Future



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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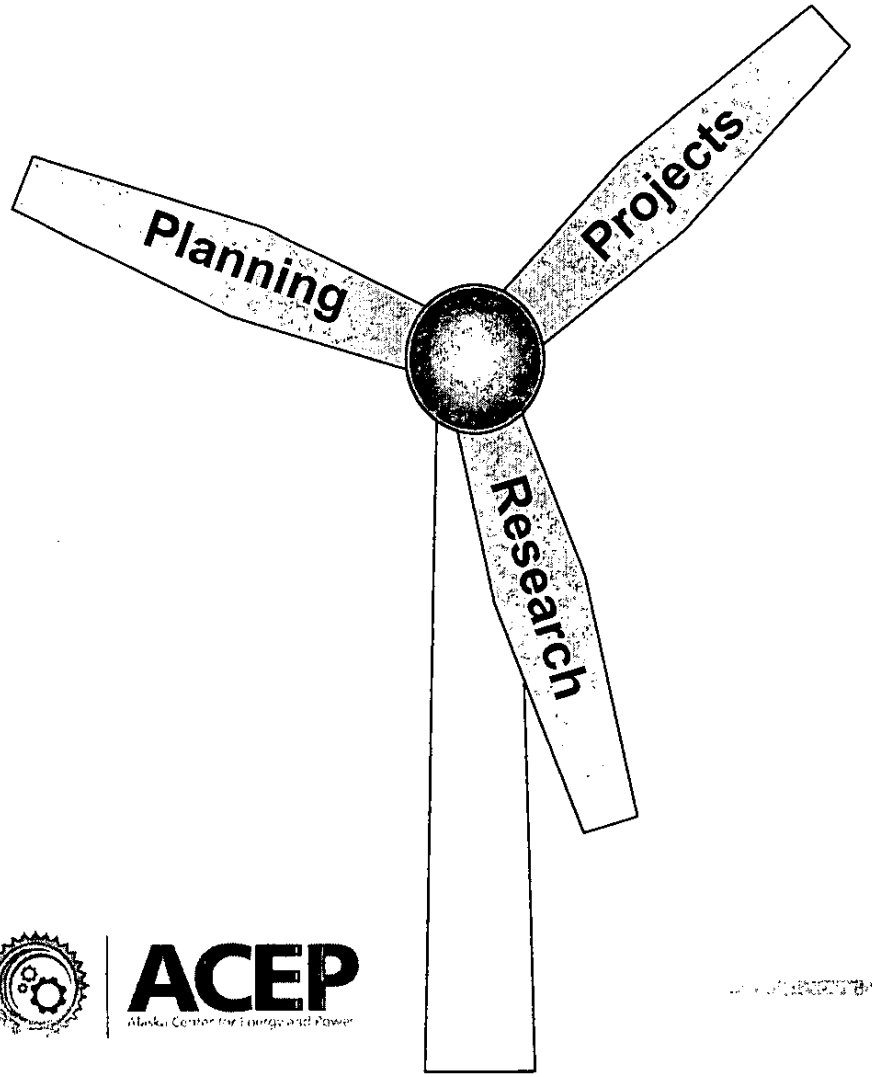
How do we get there?

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

How do we get there?



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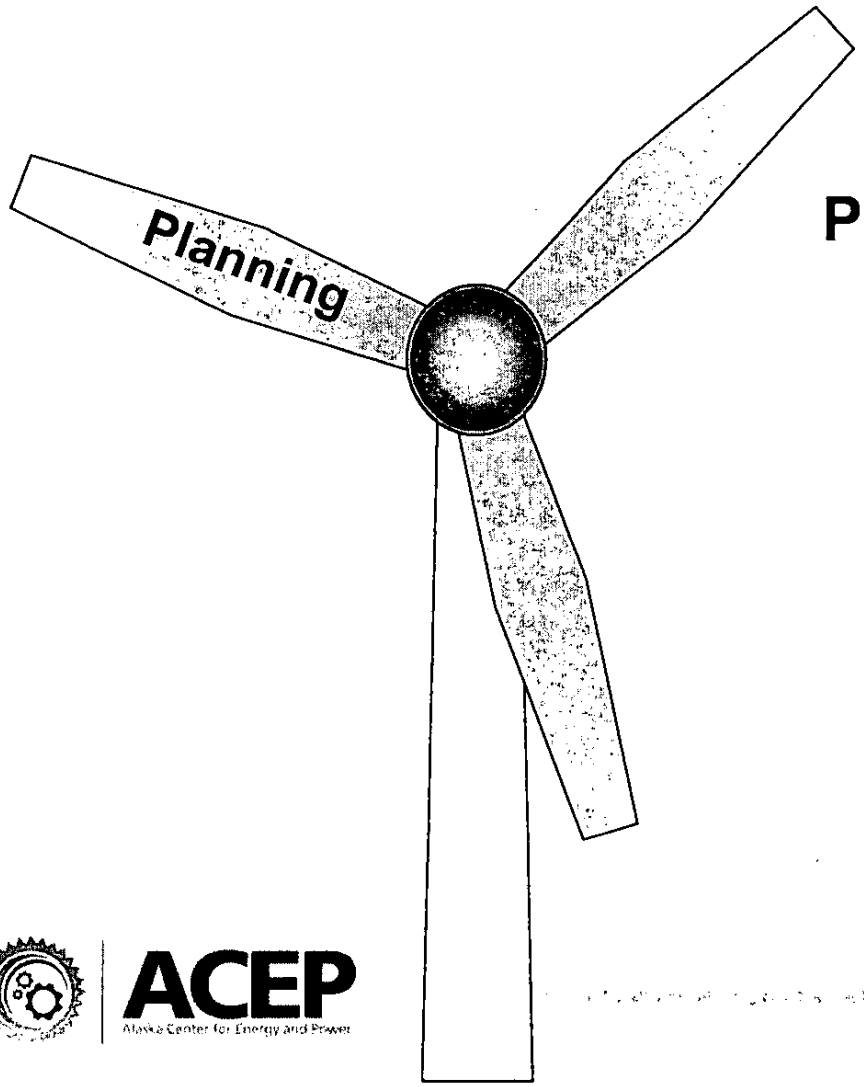
How do we get there?



Planning:

- Community level
- Regional
- Statewide

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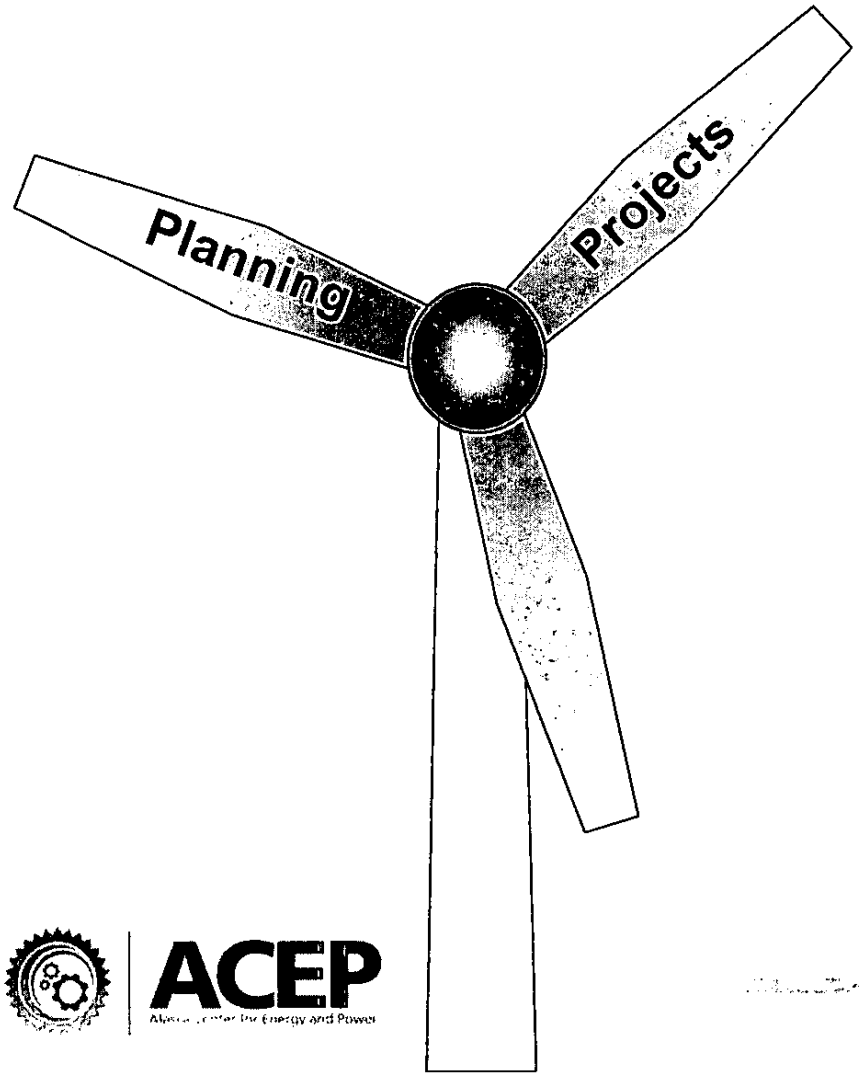
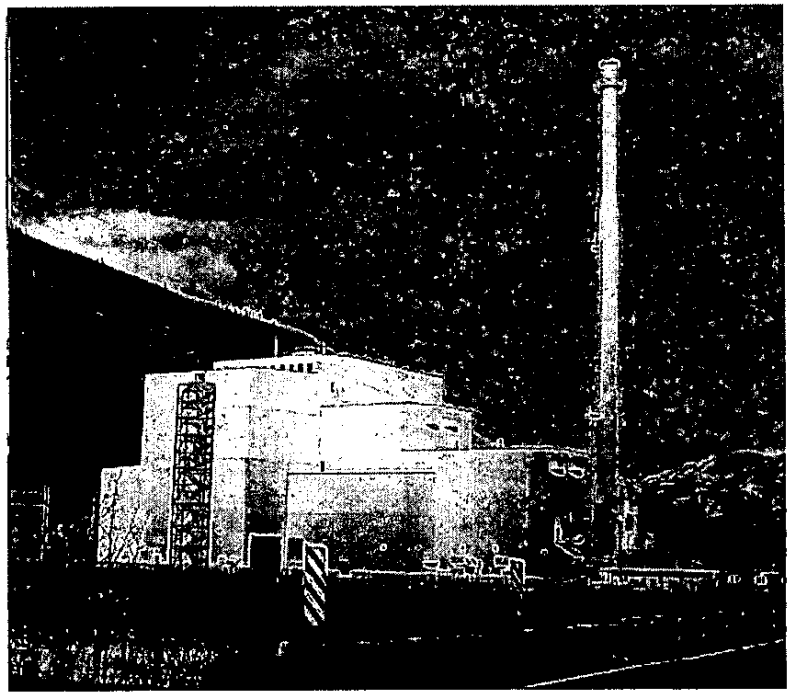
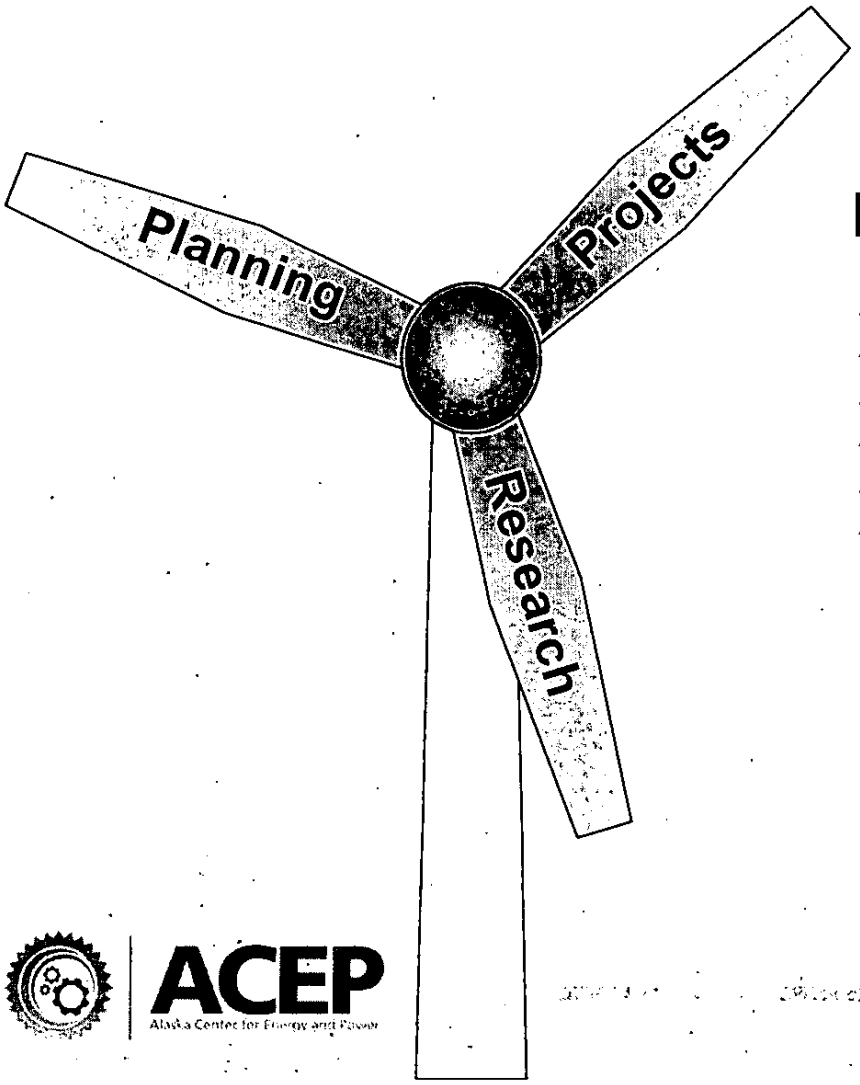
How do we get there: Projects





ACEP

How do we get there: Research



Research:

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

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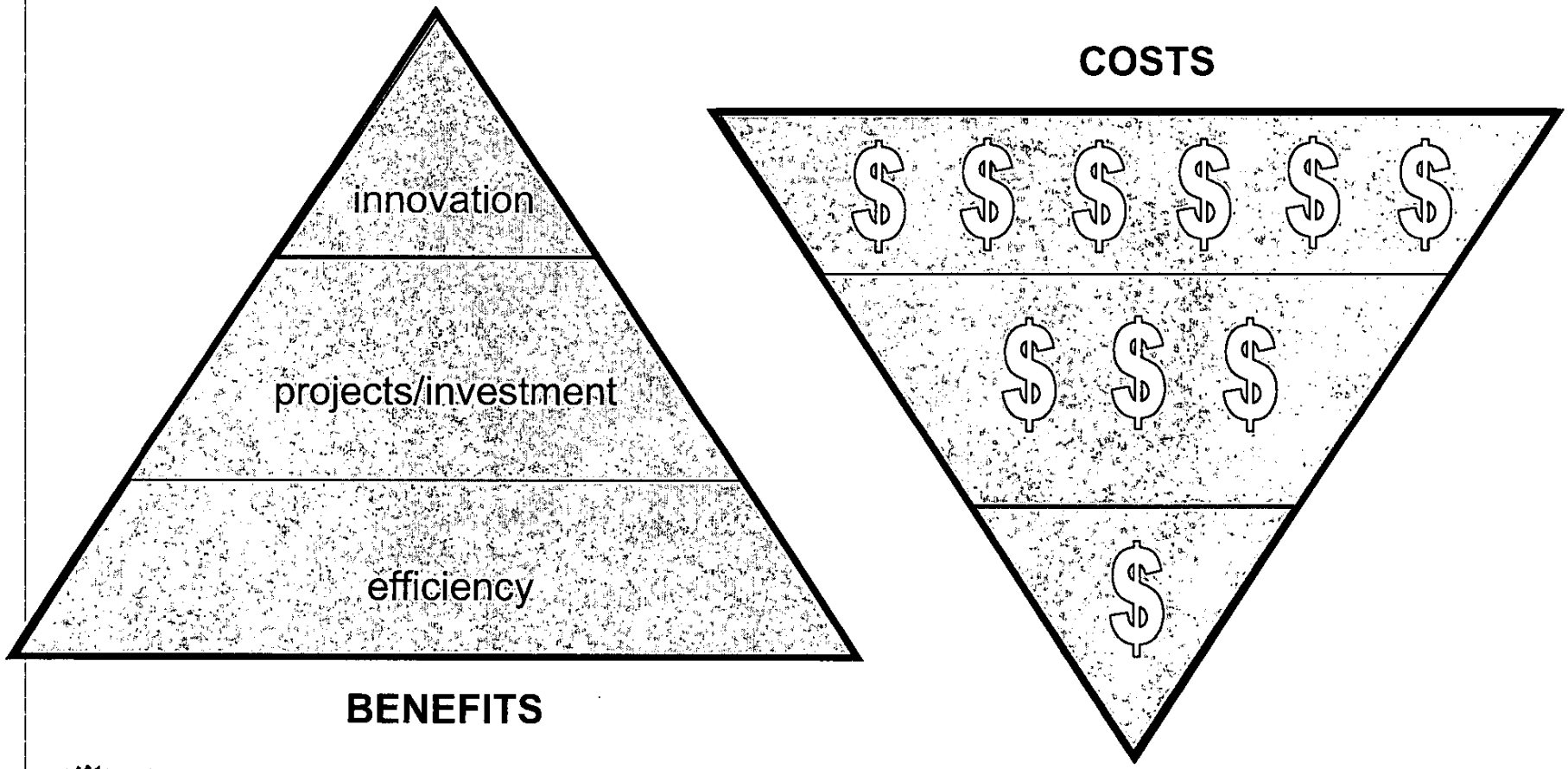
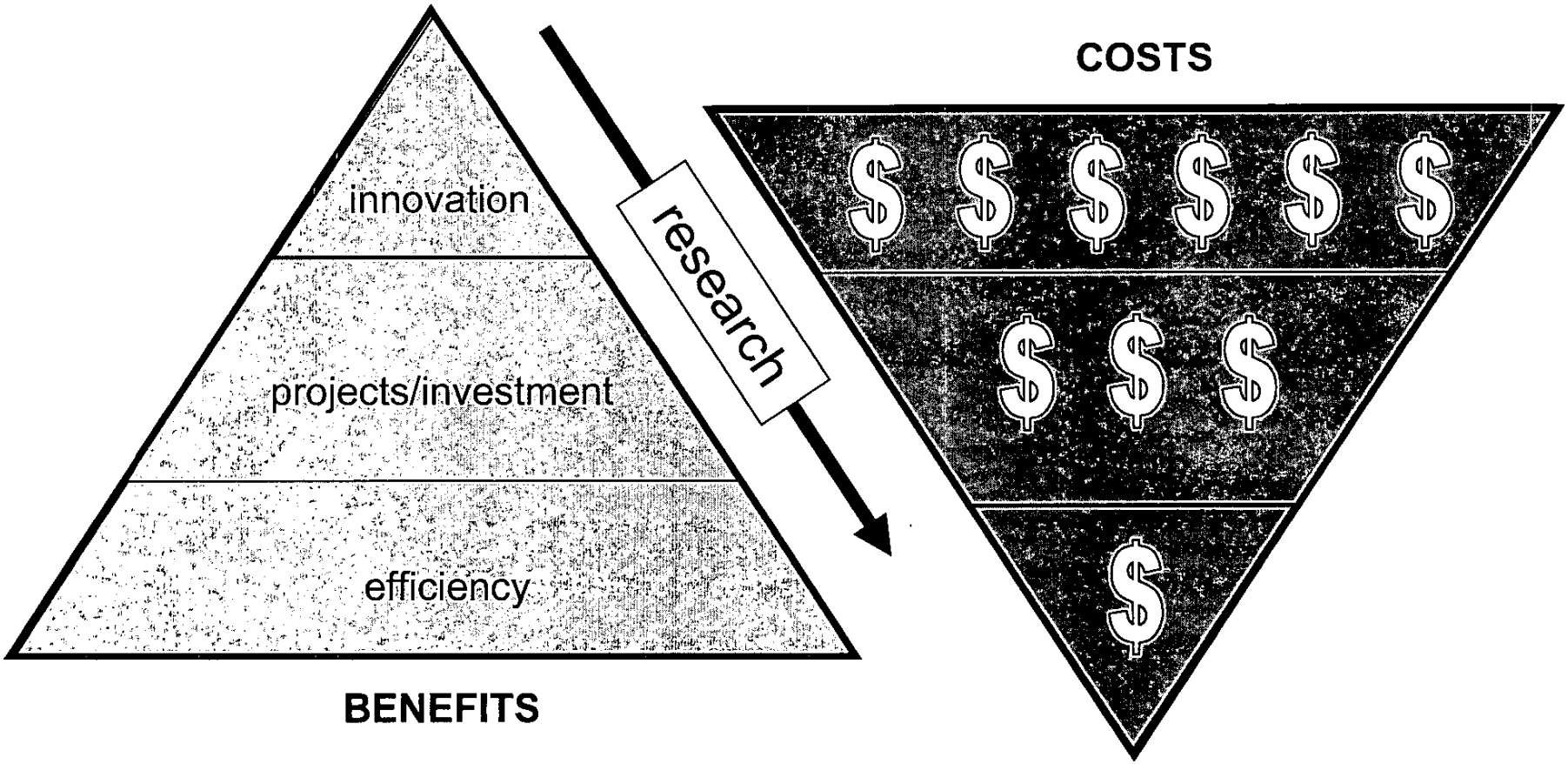
LiveLeak
YouTube
LiveLeak
YouTube
LiveLeak
YouTube
LiveLeak
YouTube

How do we get there?



ACEP
Alaska Center for Energy and Power

How do we get there?



ACEP
Alaska Center for Energy and Power

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
Alaska Center for Energy and Power

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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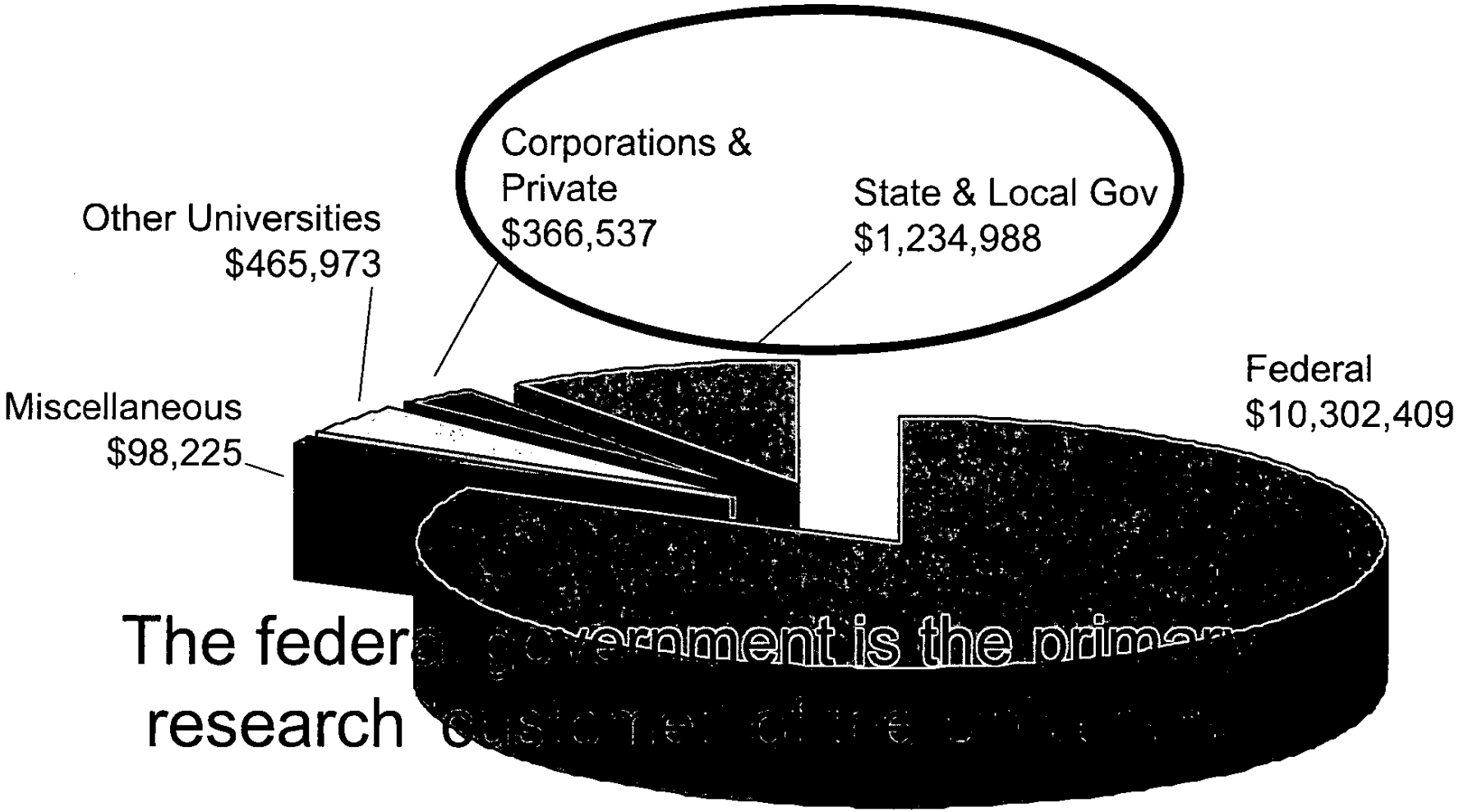
Funding Energy Research



The federal government is the primary research customer of the

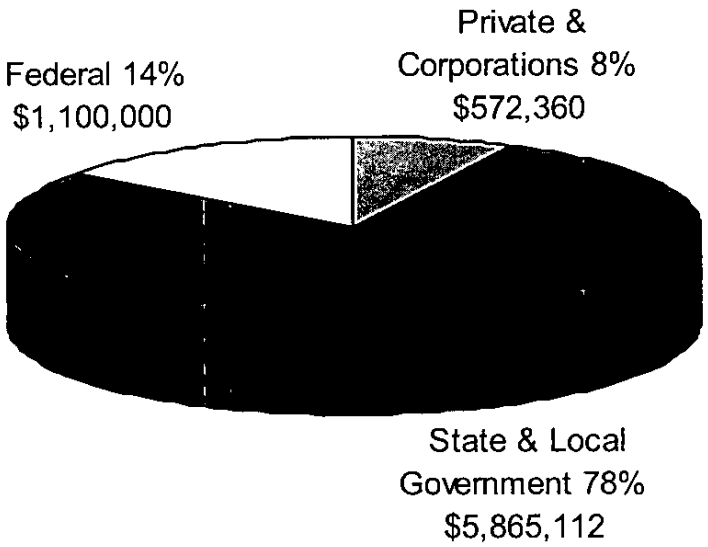
INE 2006 Annual Report

ALASKA CENTER FOR ENERGY & POWER

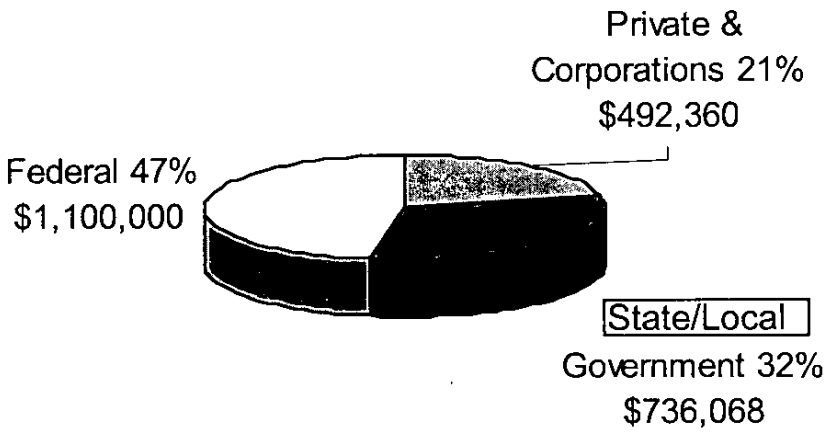
ACEP Funding to Date

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

ACEP

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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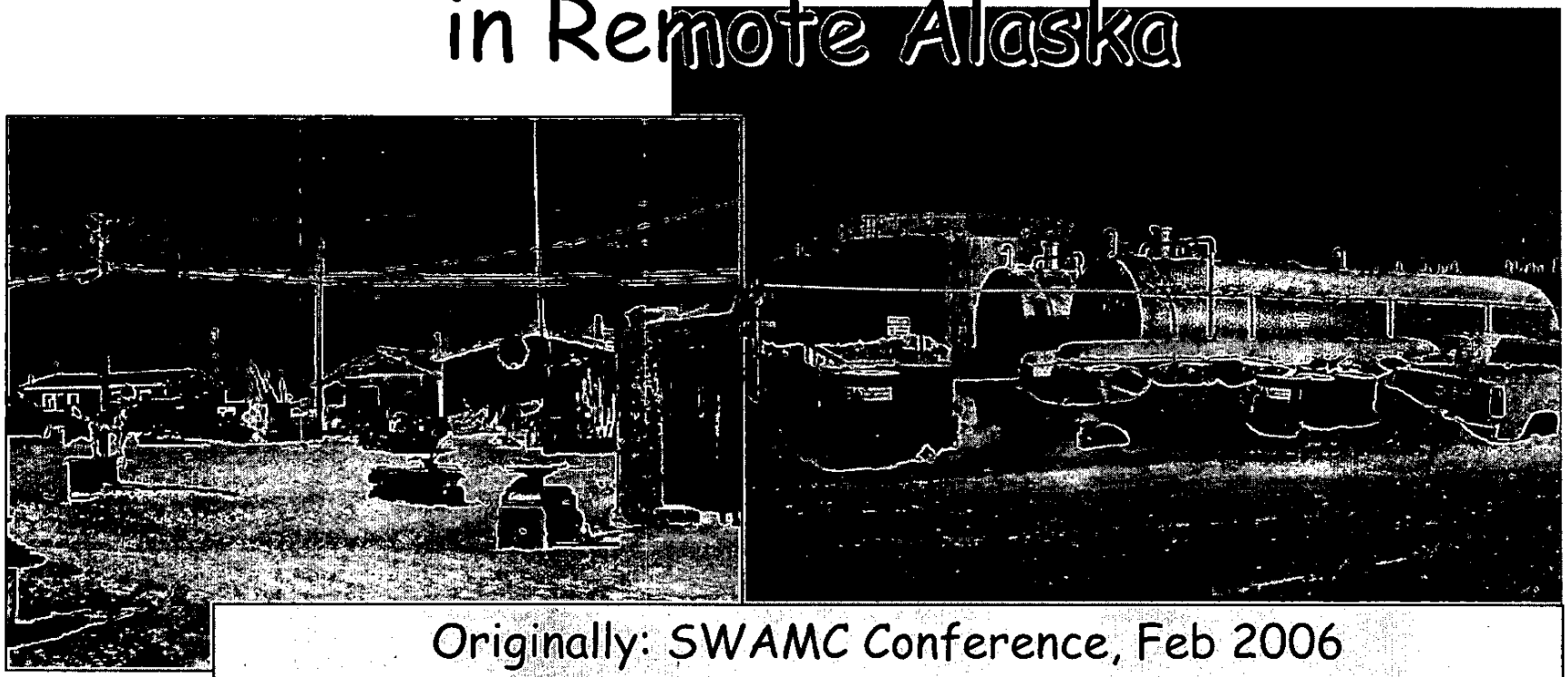
For more information visit:

www.uaf.edu/acep

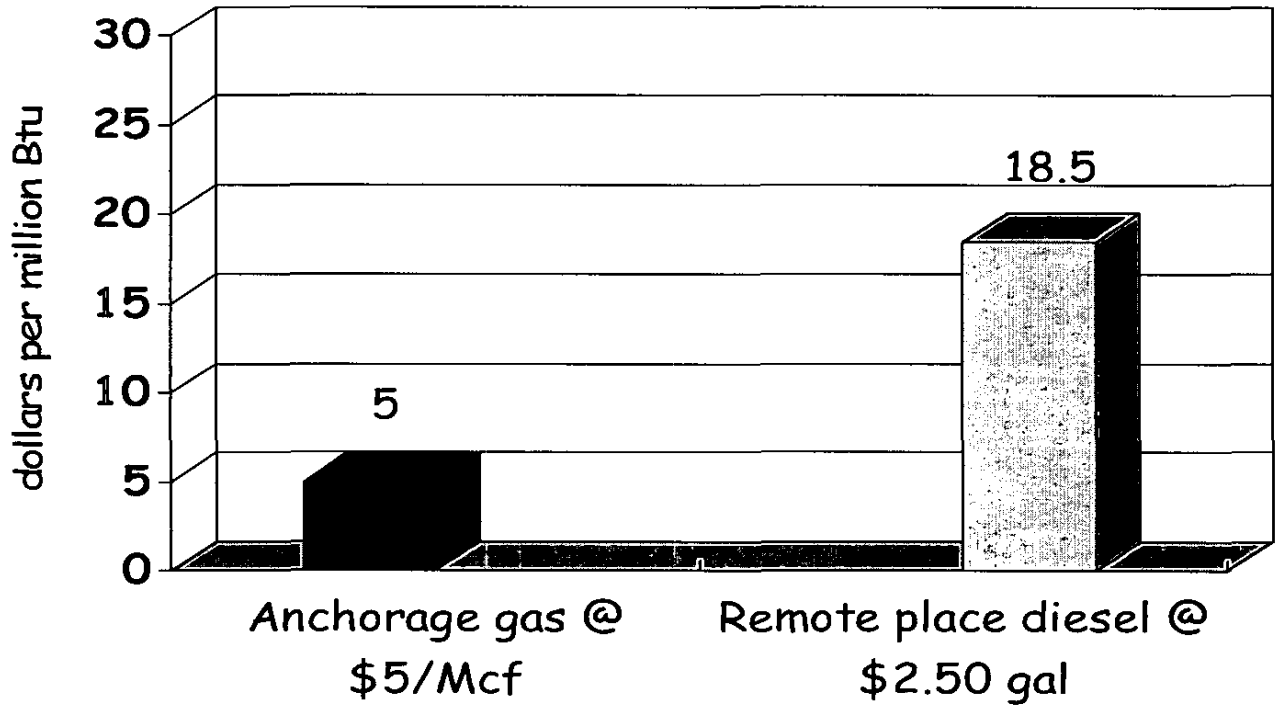
ACEP

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

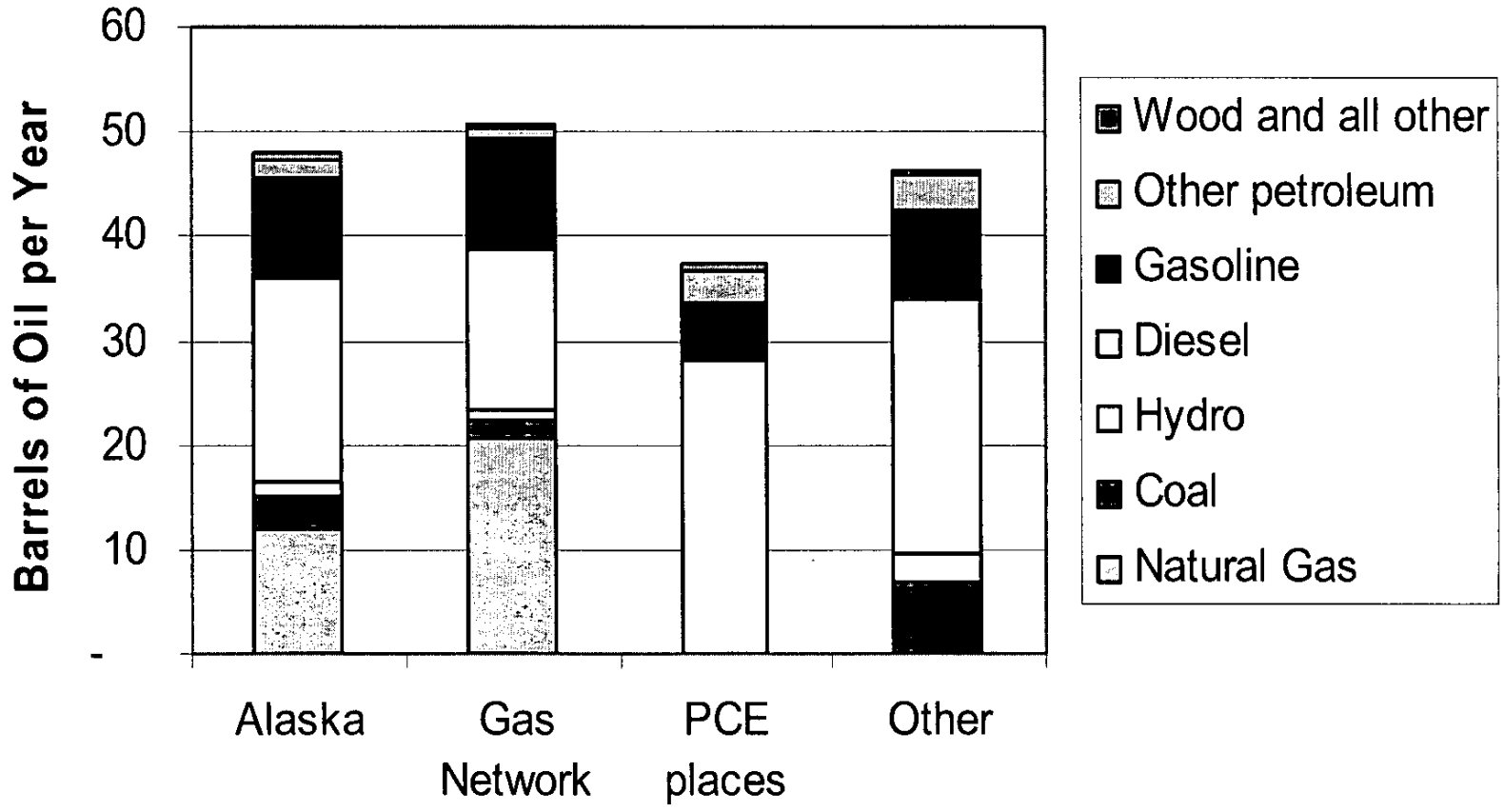
- Electricity is an energy "currency," not a primary energy source
- Hydrogen is an energy currency too!
- Example: Your Toaster

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

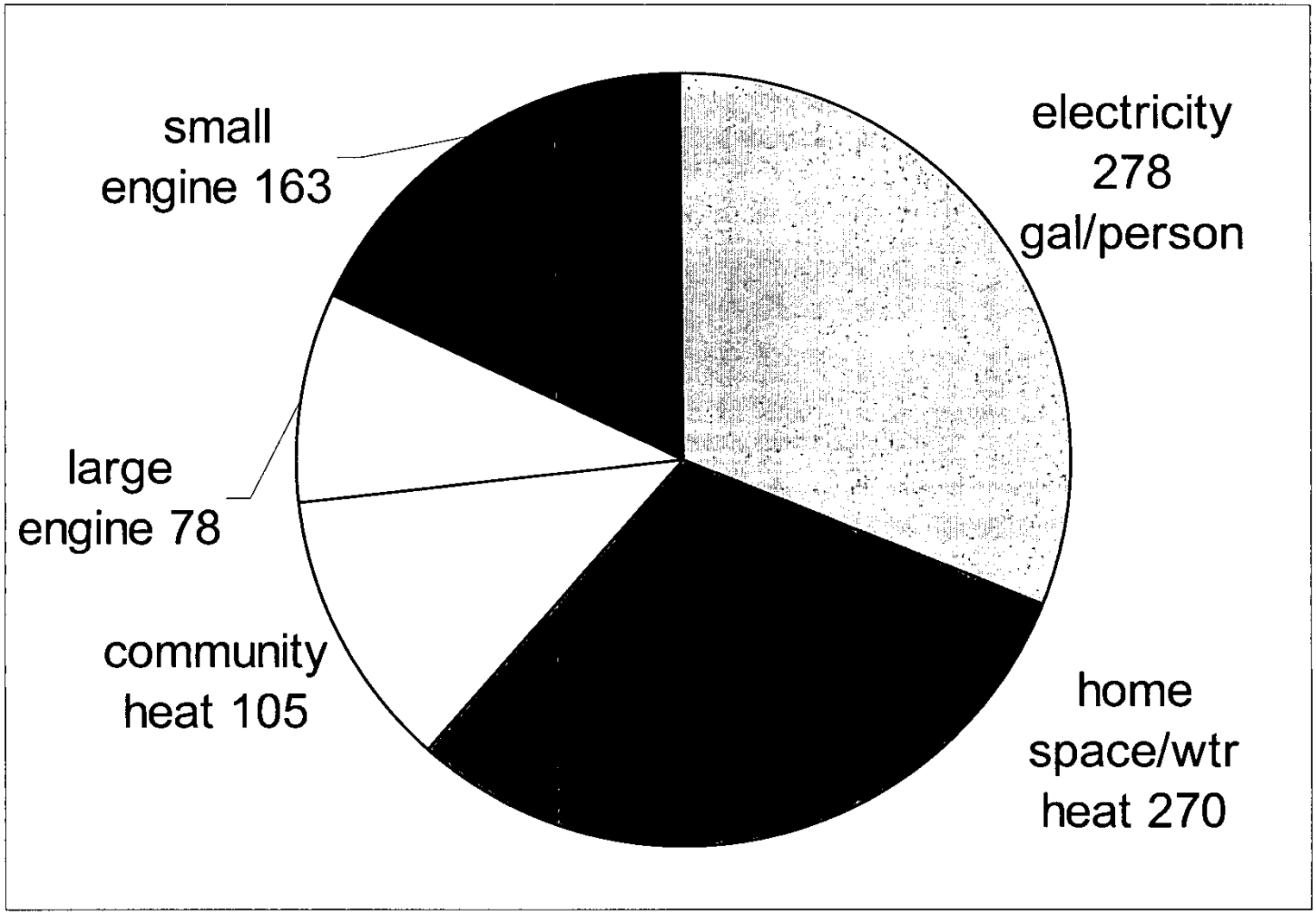
  (toast + low-grade heat)

Primary energy consumption per Alaskan

barrels oil per person per year



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

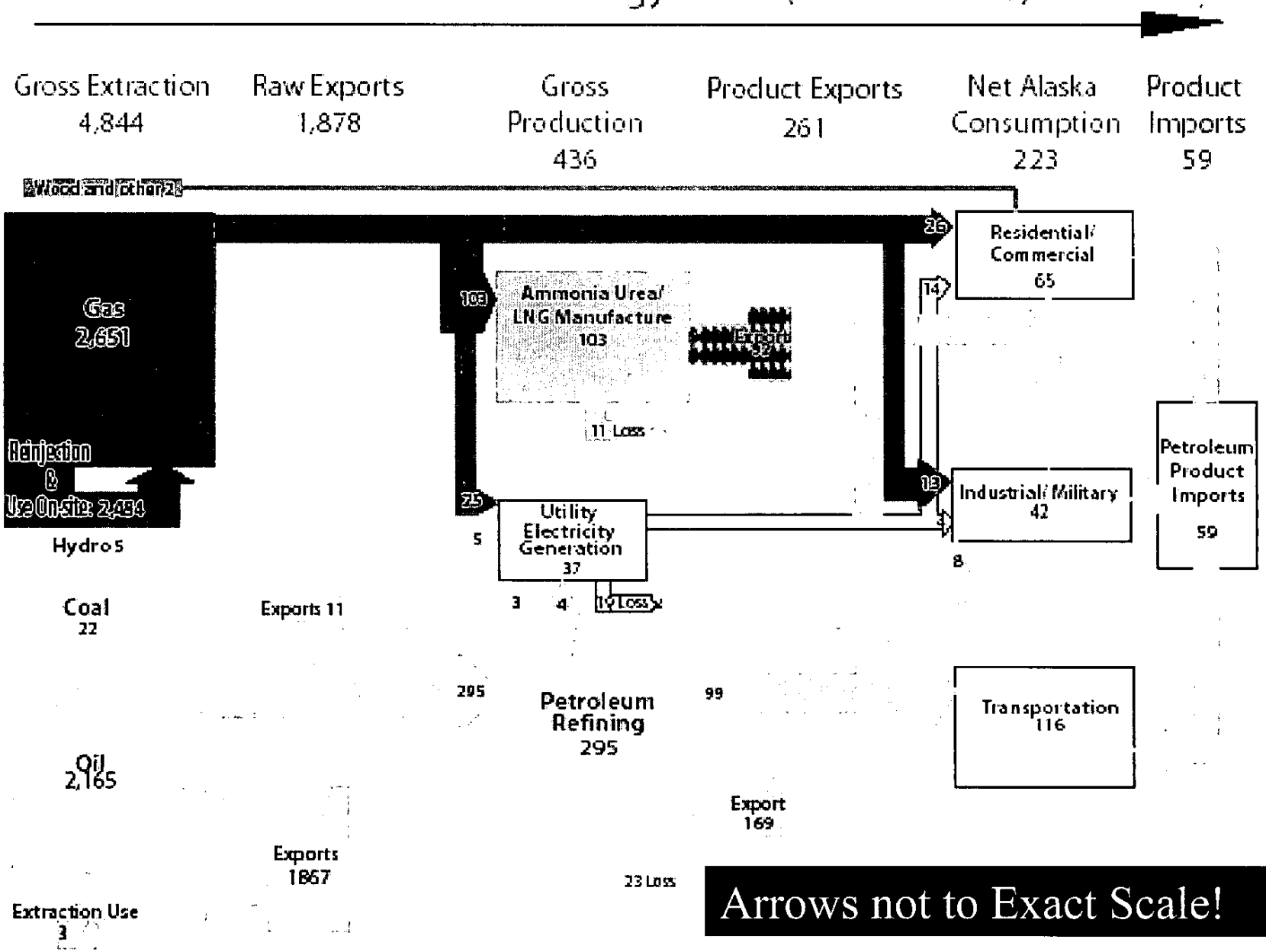


almost practical Policy #1: Share the wealth from high oil prices

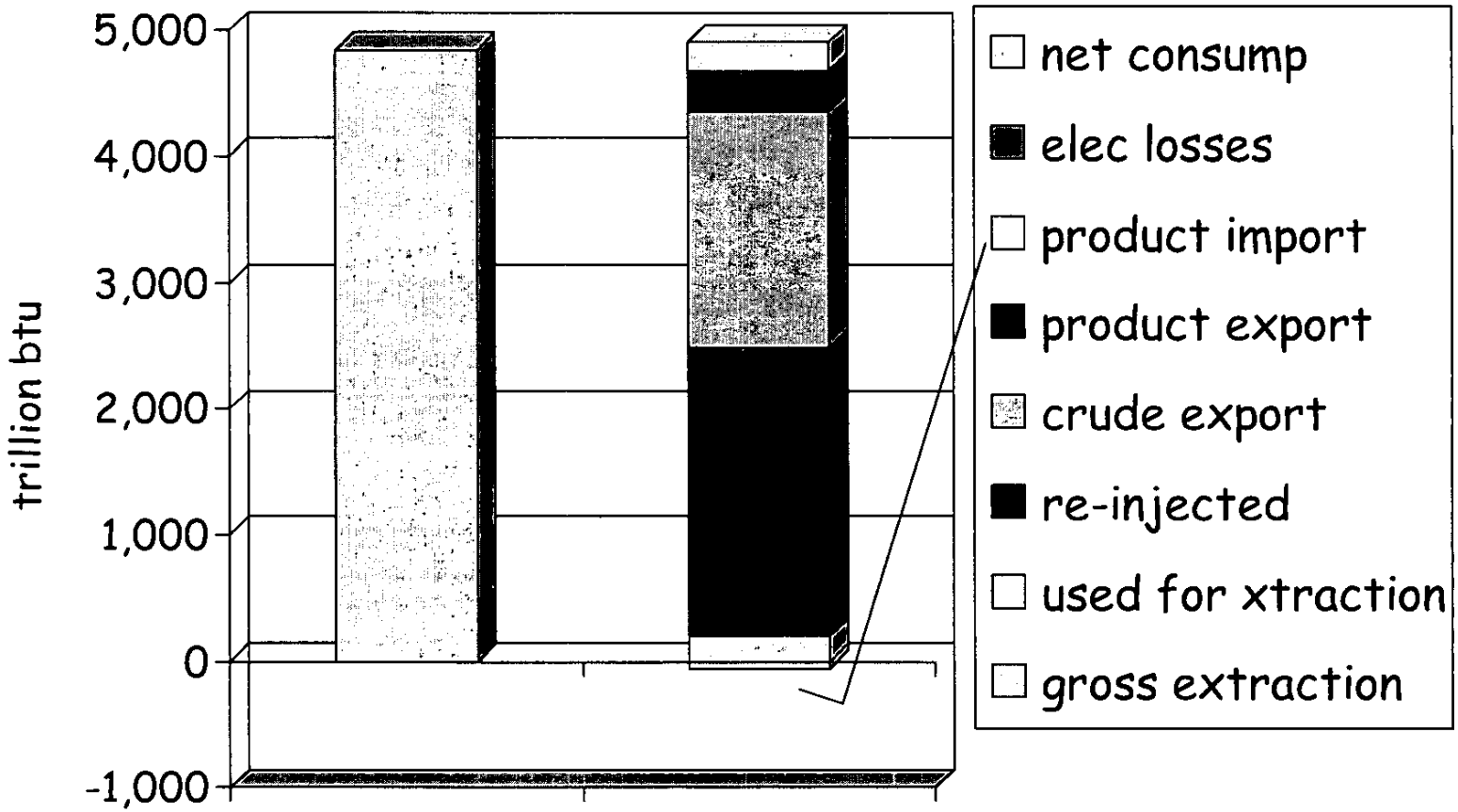
Practical because:

- 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

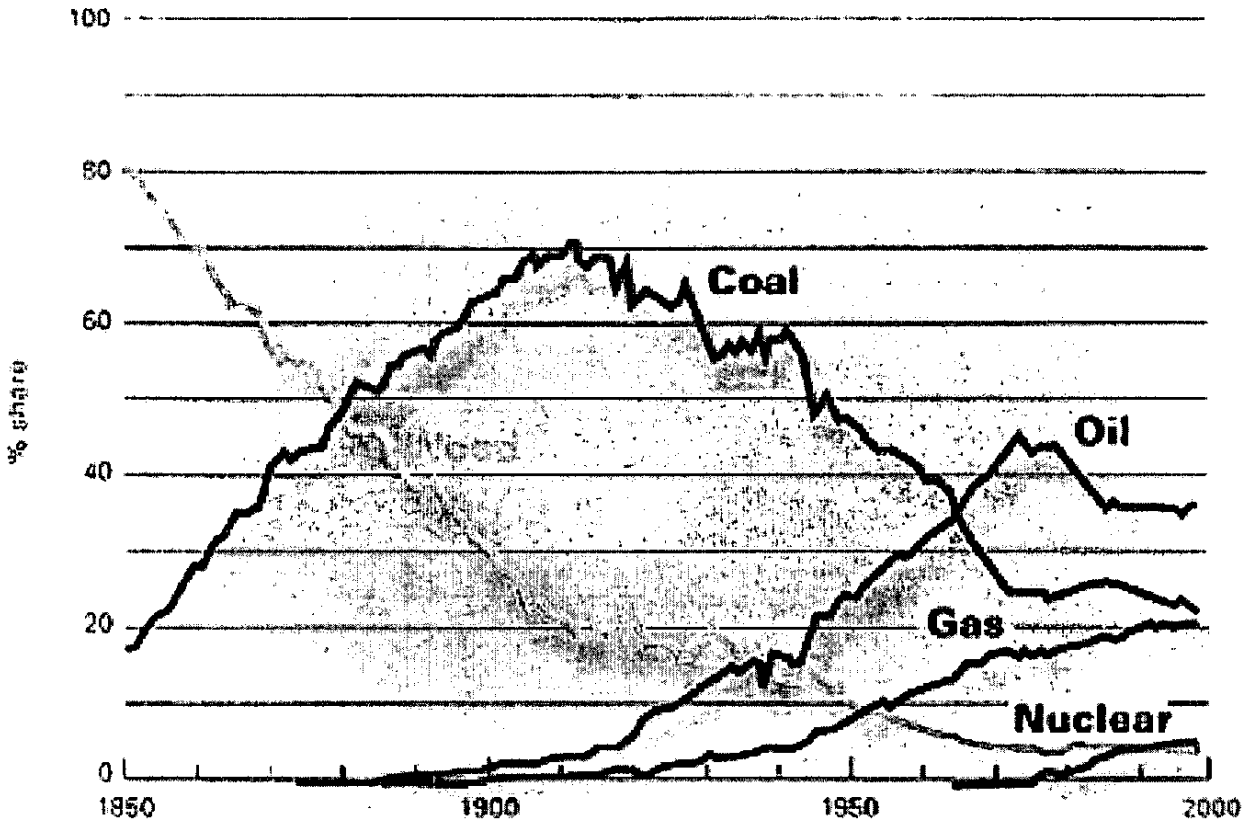
Practical because:

- 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: Dr. Nebojsa Nakicenovic, International Institute for Applied Systems Analysis, Laxenburg, Austria
Private communication, Aug. 28, 2003

www.iser.uaa.alaska.edu

- Other references:
- Alaska Electric Power Statistics (with Alaska Energy Balance) 1960-2001 by Scott Goldsmith, November 2003. http://www.iser.uaa.alaska.edu/Publications/akelectricpowerfinal.pdf

Algae
low cost energy solution
Unlimited
Photosynthesis

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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

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

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

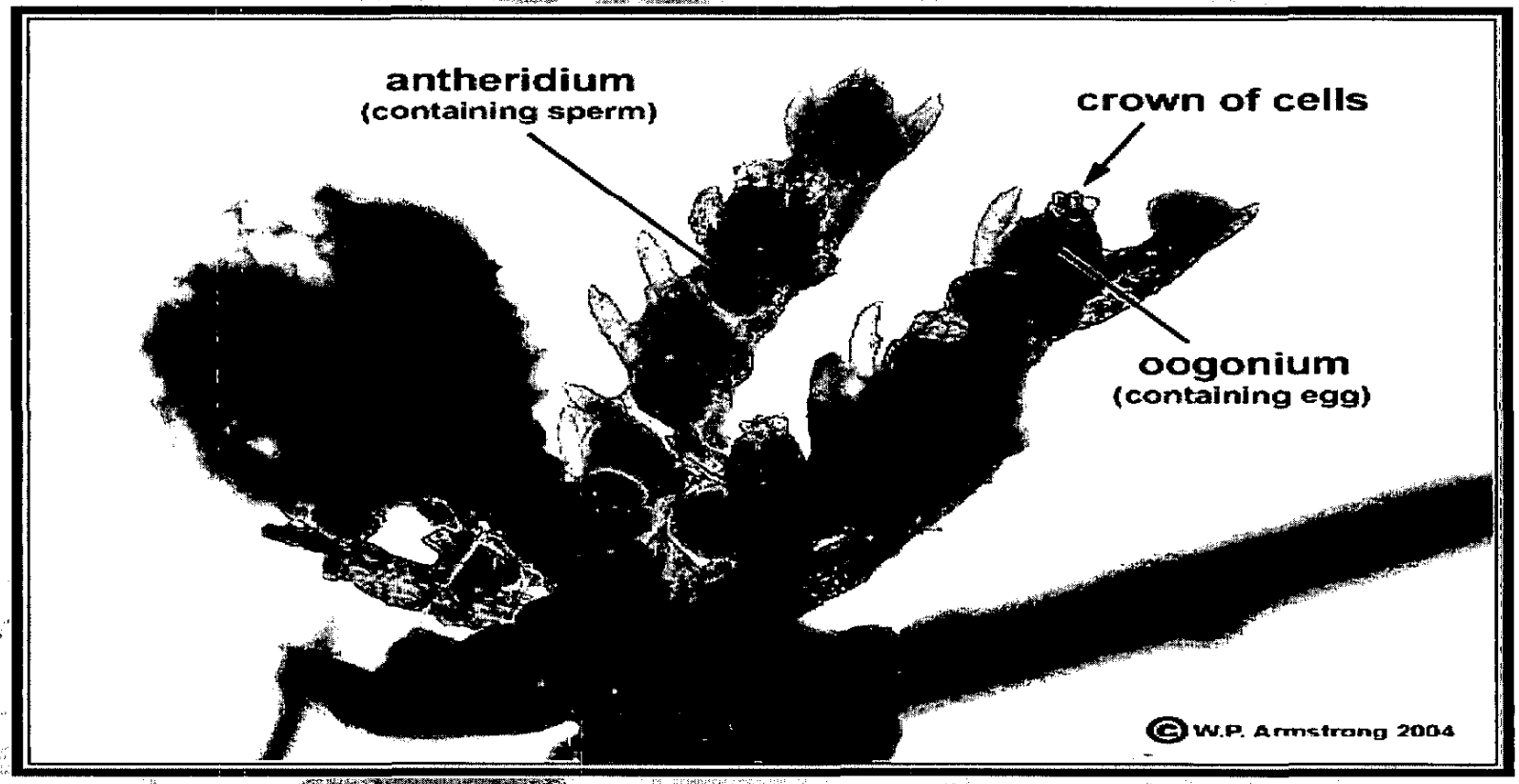
coal $.06 to $.08 per kwh

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

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

Alaska needs Algae



Endless Supply of ENERGAE

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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

Endless Supply of ENERGAE

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ALGAE history

Endless Supply of ENERGAE

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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

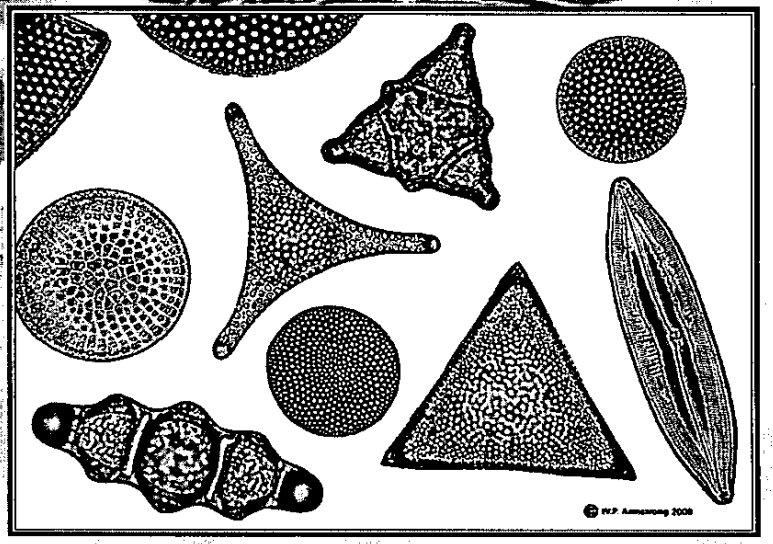
- **qualified Algae strains relative to oil *quantity***
- **qualified Algae strains relative to oil *quality***
- **published Algae white paper in 1998 detailing findings**

– **$12 oil - Clinton administration cut funding**

– **Algae research – shifted overseas due to Algae growth problems**

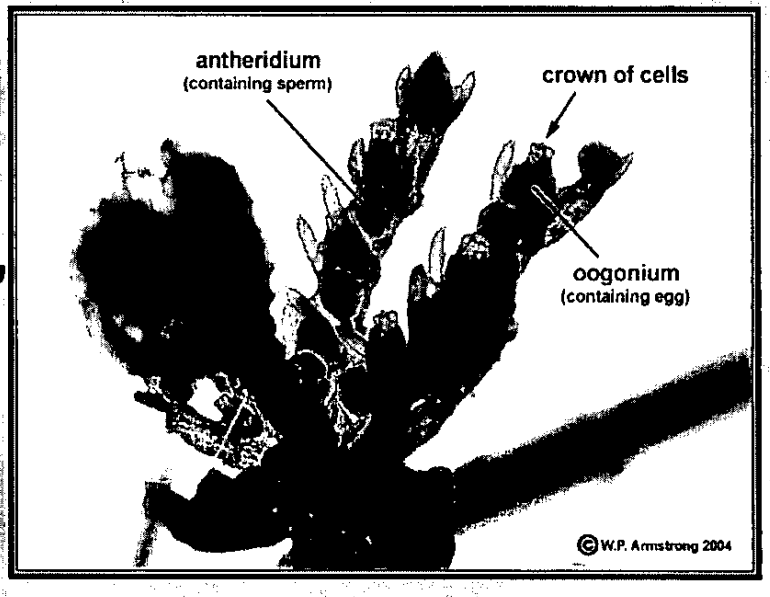
bad ALGAE - massive growth, limited energy value

dunaliella tertiolecta
dunilelia salina
butryoccocus braunii
cymbella
nitzschia
amphora
bacillariophytes



good ALGAE - massive growth, much energy value

green algae
dunilelia salina



Endless Supply of ENERGAE

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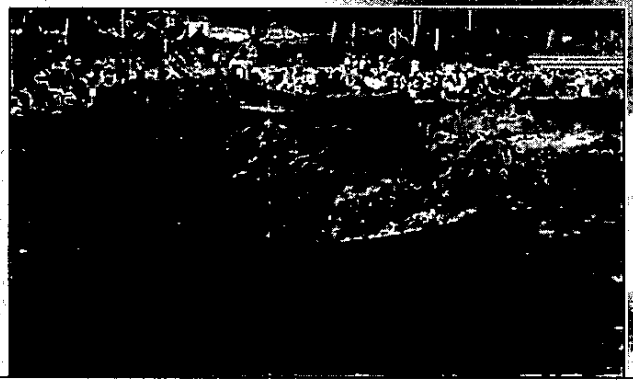
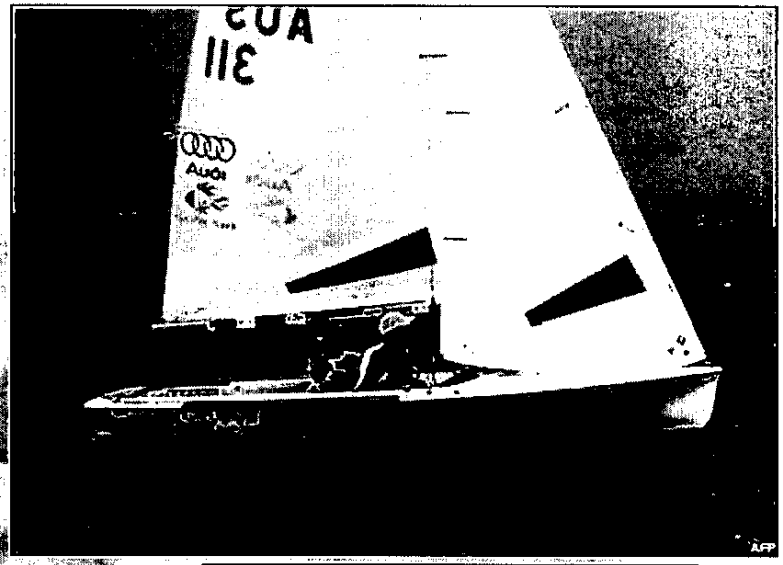
ALGAE growth worldwide – exploding





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

Endless Supply of ENERGAE

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

Tompkins - chemical engineer, bio-engineer

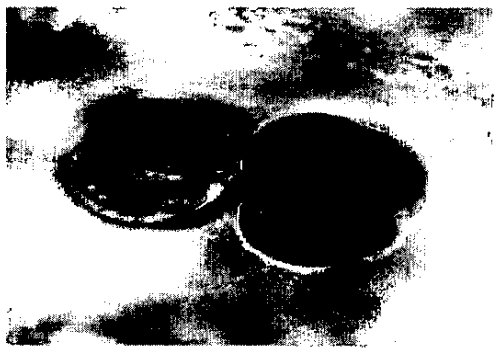
together Armstrong & Tompkins built $7 billion in pulp, paper, & energy in the southern states - BF Goodrich, Duke Power, Bowater, Rhone Poulec, GE & others

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..."

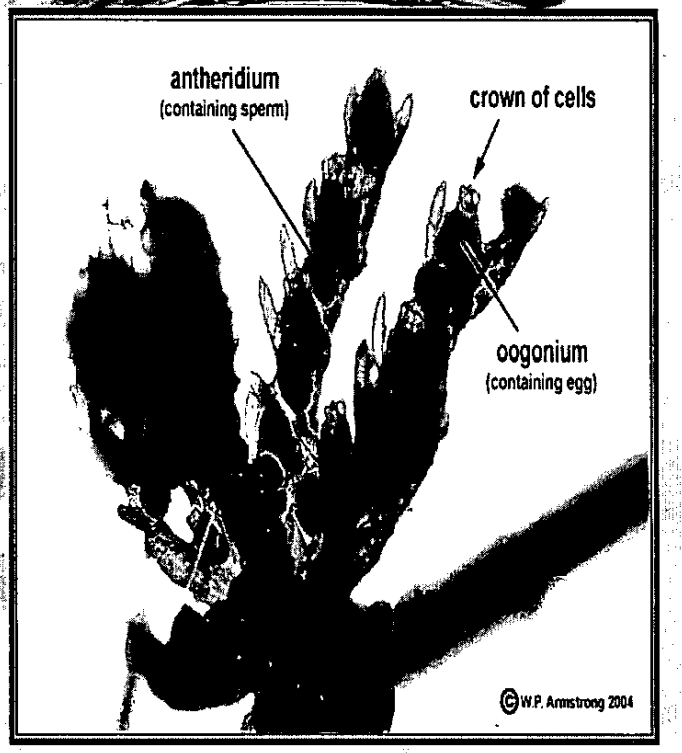
Armstrong & Tompkins visited ALGAE research centers worldwide

what they found... ALGAE <u>was loaded with oil</u>; firms were growing it



but, <u>two major problems</u> associated with ALGAE oil eluded solutions

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

Endless Supply of ENERGAE

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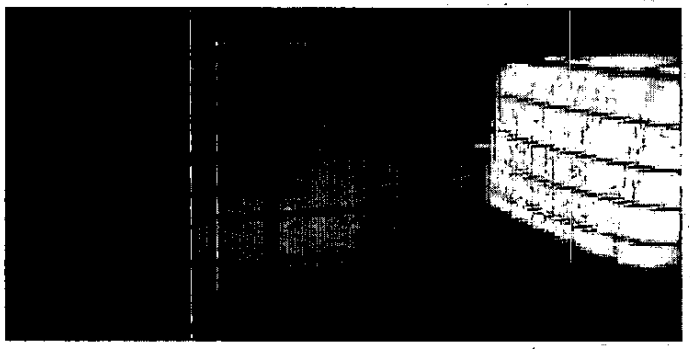
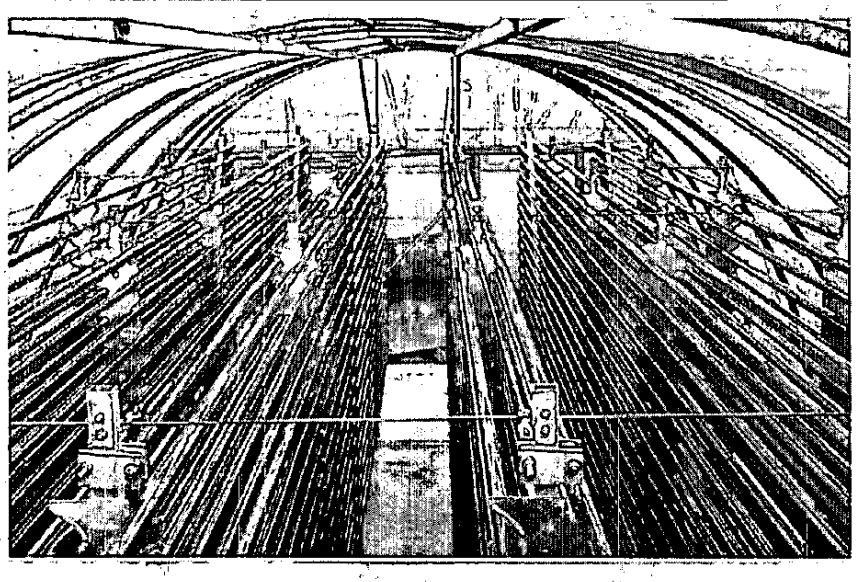
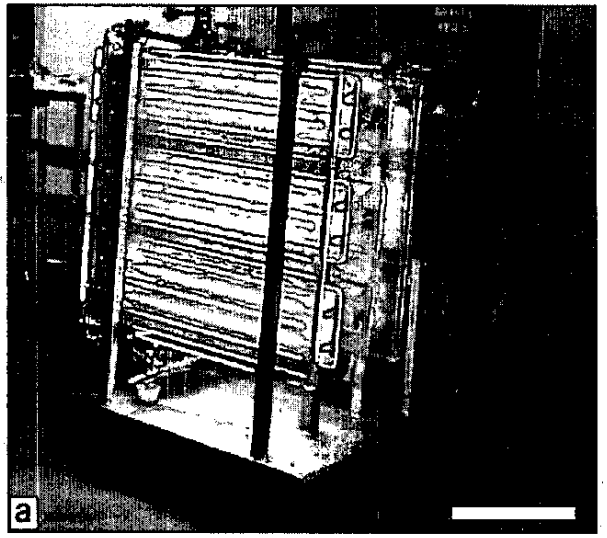
In developing their solutions, Armstrong & Tompkins' visited all known ALGAE bioreactors…

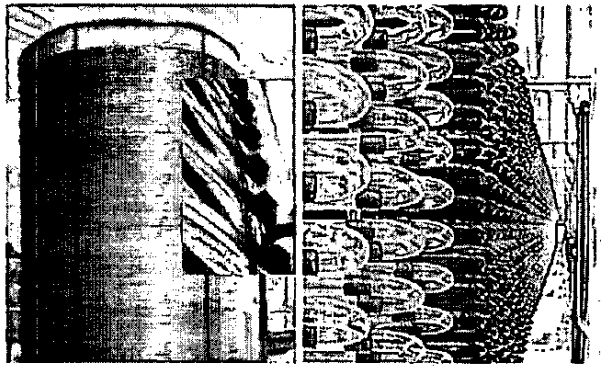
ALGAE bioreactor – a man-made incubation unit in which ALGAE is grown in order to produce oil & other ALGAE bi-products

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...

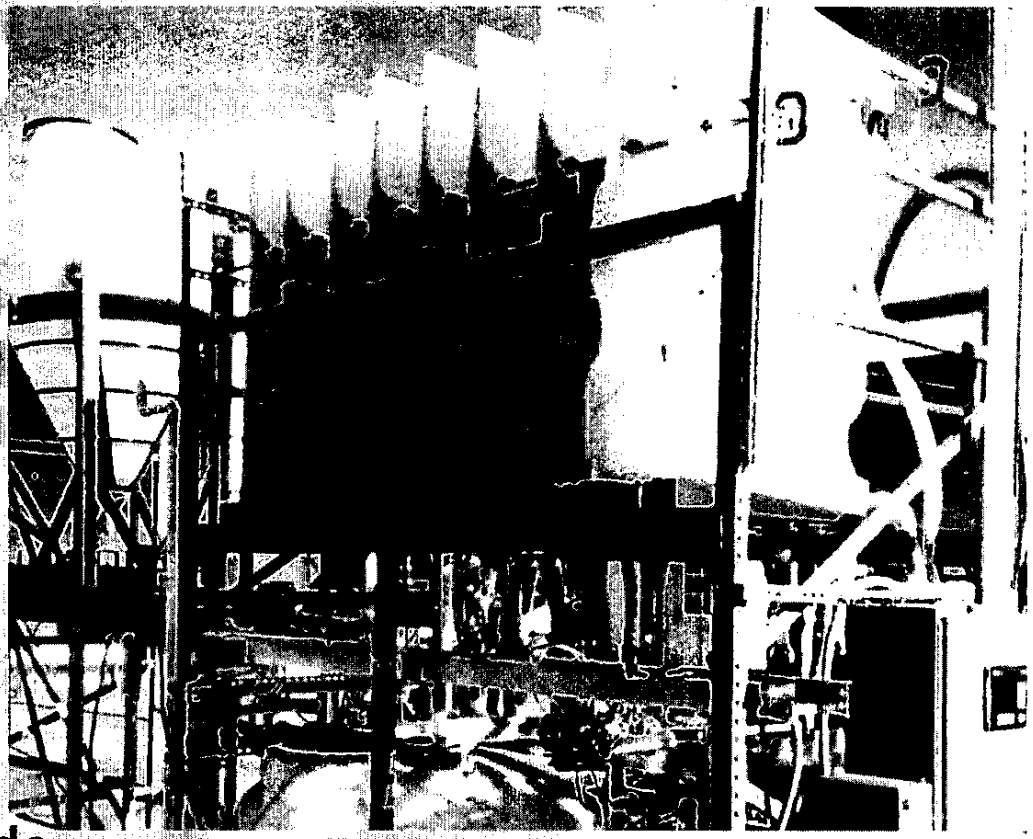
It would have

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 ENERGAE

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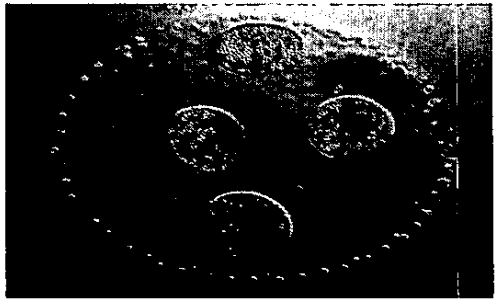
ALGAE optimization & automation produce the following:



low cloud point

cleaner oil

low sulfur

fuel for vehicles – direct use

high quality oil & BTU value

sucks up nasty gases while growing

ALGAE traits

35% to 80% of body weight in oil

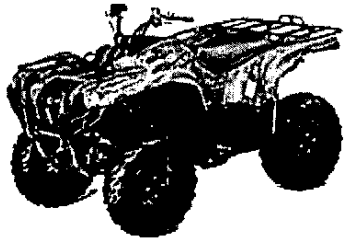
fastest growing organism known to man

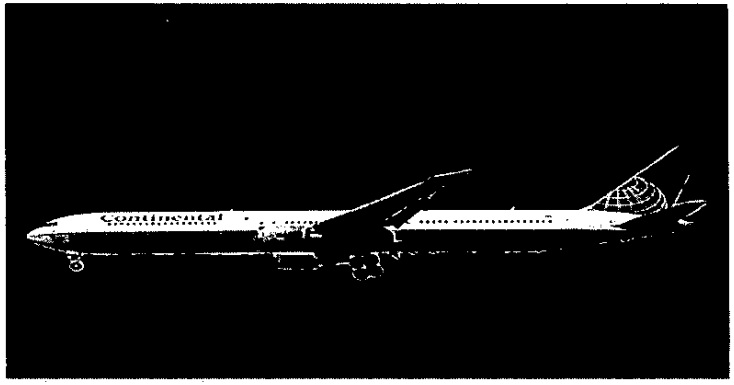
ALGAE oil combined with diesel fuel produces superior burn ratios & cleaner fuel

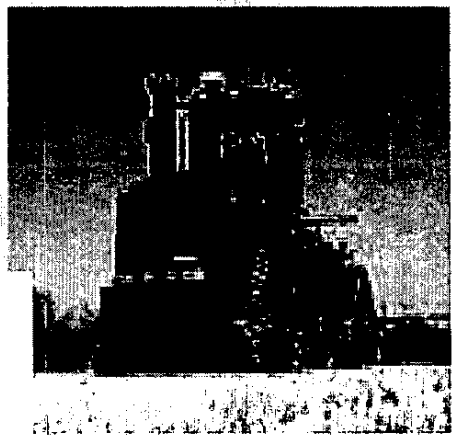
ALGAE can eat noxious gases produced by burning fuel – turns them into harmless organic carbons

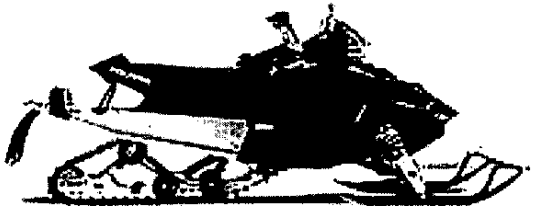
products derived from ALGAE oil

- jet fuel
- gasoline
- plastics
- hydrogen
- Ethanol









Endless Supply of ENERGAE

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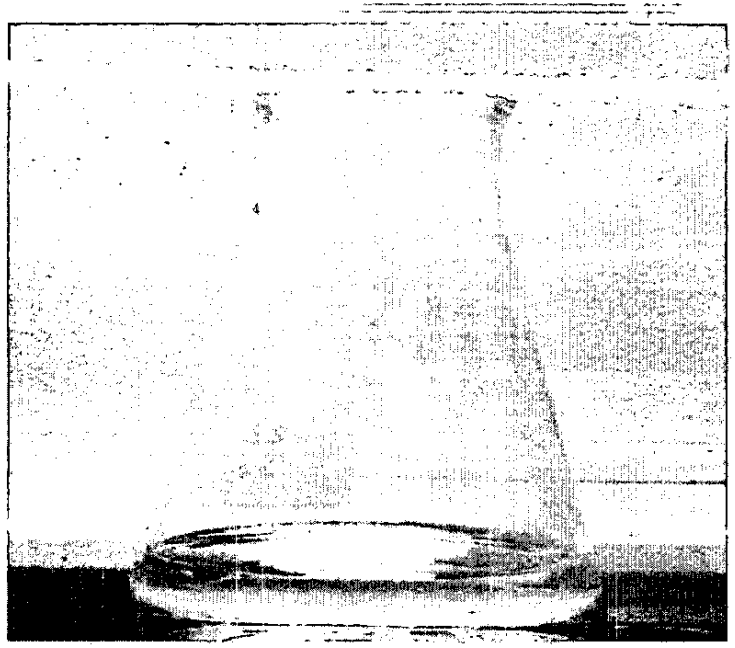
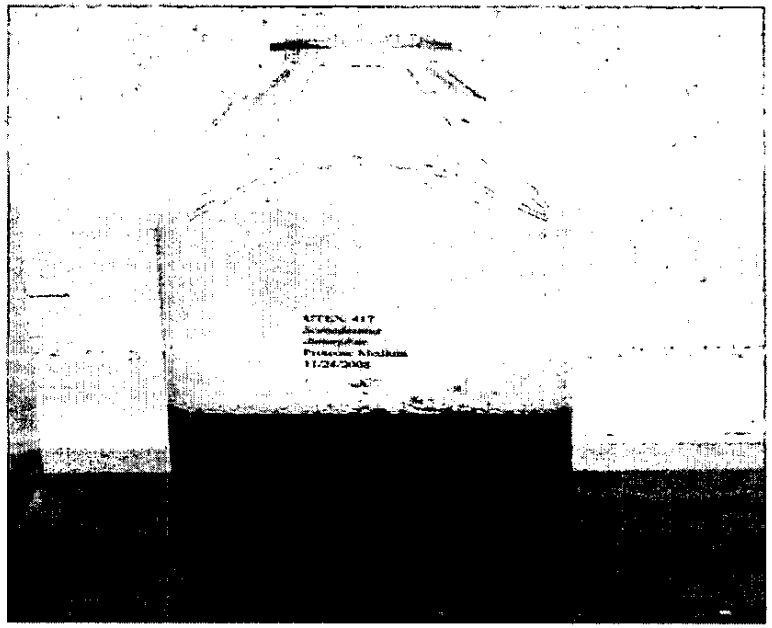
sample Algae growth rate





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

- closed System
- full Automation
- super strains
- 98% of oil extracted using proprietary harvesting methods
- cleaner oil extraction
- low cost to produce
- low cost to build
- optimal CO2 intake

Others

- open pond system
- partial automation
- local wild strains
- 45% of oil extracted using "pressing"
- less quality oil
- high cost to produce
- high cost to build
- poor CO2 management

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some of RWE curent agreements

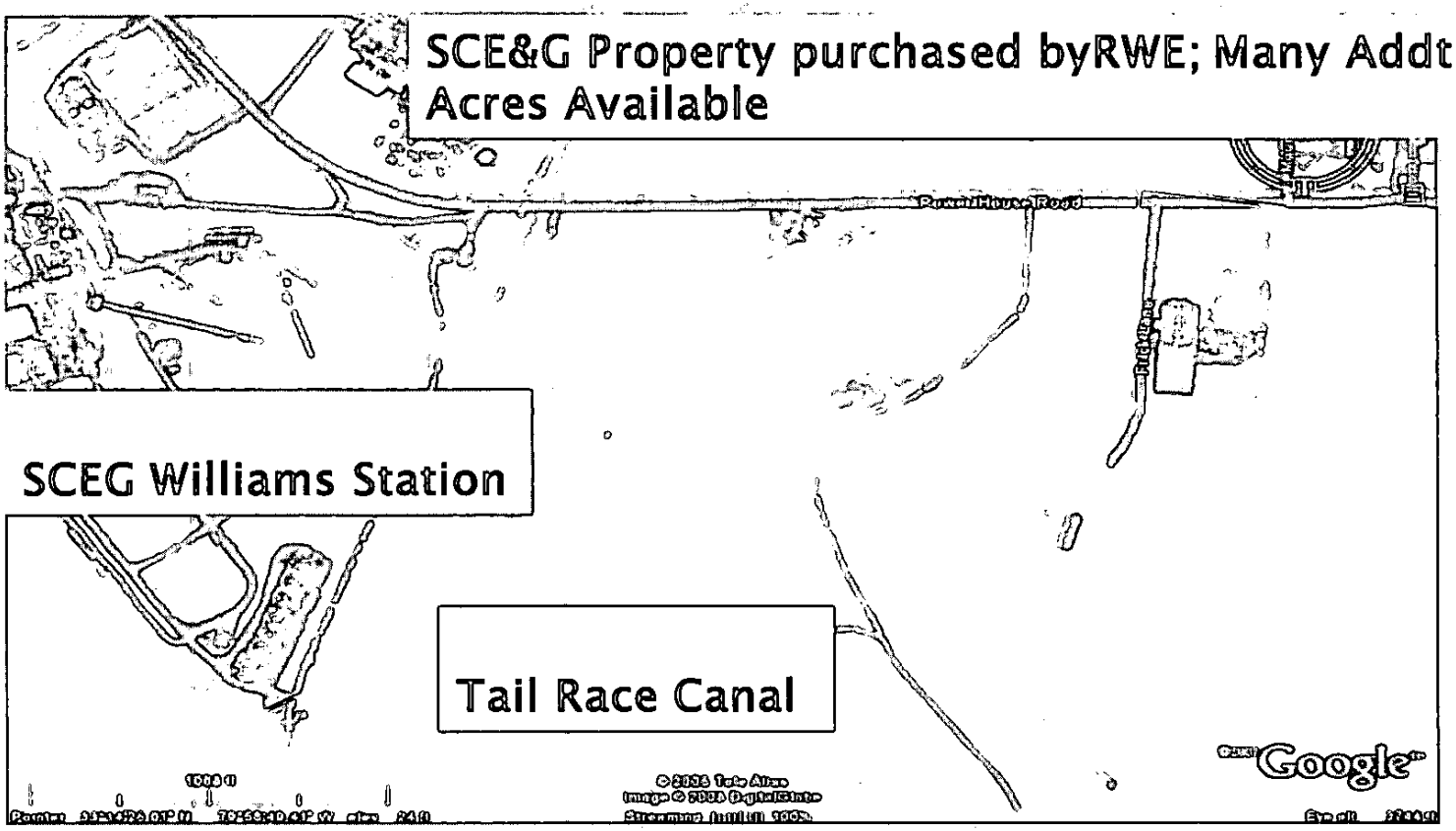
1. Universities - super Algae strains

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



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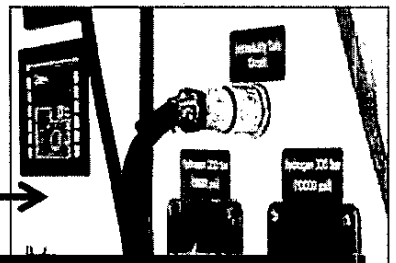
typical processing network serving ALGAE growing systems

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

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BTU & system production

Endless Supply of ENERGAE

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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 produce $.85 per gallon	=	$32,725
		======
Net profit (~acre)	=	$74,625

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

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**

industries that need CO2/NOx gas management discharge solutions

Coal	Mining	Steel	Cement
CO2	CO2	CO2	CO2
NOx	NOx	NOx	NOx
SOx	SOx		

average 3 million ton Coal plant will spend

gas management	=	$60 million per year
installation of scrubbing equipment	=	$200 million

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

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

Proposal: State of Alaska sponsored

ALGAE pilot project in Alaska, expected costs & installation

2.25 megawatt power system

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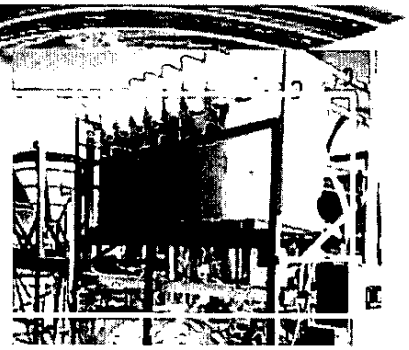
first step: perform low cost feasibility study to determine costs associated with creating 2.25 megawatts of power

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



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

monitoring/maintenance, pilot project year 1

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

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

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

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

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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

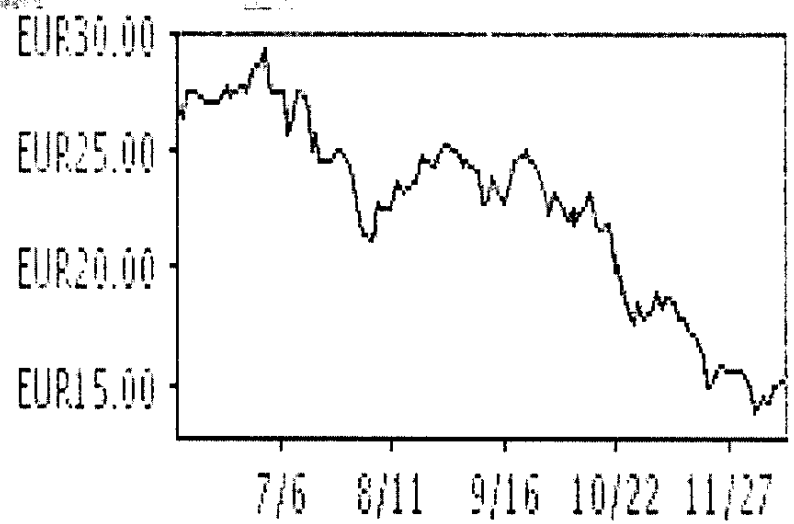
U.S. Model:
...voluntary...but...

ALL CO2 emissions are NOW recorded by the EPA

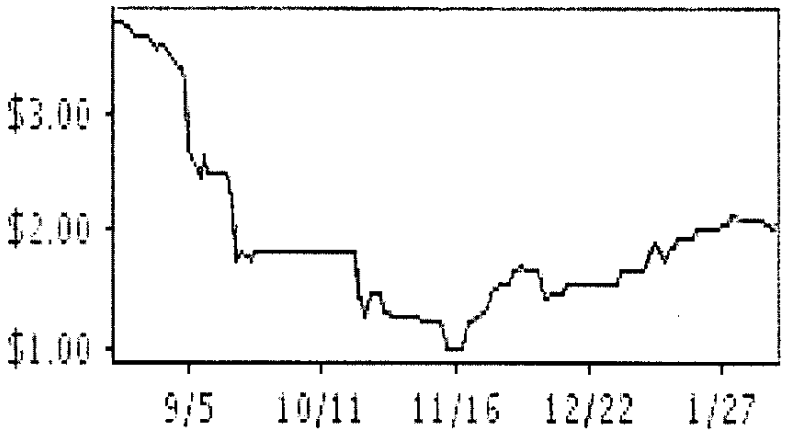
California is mandating a CO2 trading market

Mandatory Carbon Trading Market in Europe

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



Voluntary Carbon Trading Market in the U.S.



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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 mandates on coal, mining, steel & cement now being set-up for mandates

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!

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?

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*D.O.E . Figures	No. 2 Diesel Fuel	Algae Oil
Cost per gallon		
*At $40 per barrel oil**	($.86)	N/A
At $10 Barrel oil = ($.22)		
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**

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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 – 1.487 million barrels per day
Mexico – 1.296 million barrels per day
Venezuela – 1.071 million barrels per day
Nigeria – 0.775 million barrels per day
Iraq – 0.467 million barrels per day

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

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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. B ill 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 <u>current unit price $1000</u>

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 35 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.**

BLACK LION PARTICIPATION

- ✓ Discount to Offering Price Up to First $5 Million Raised
- ✓ Partnership With Iowa Biodiesel Producers
- ✓ Dividend Rolling

ENERGAE
Save Energy

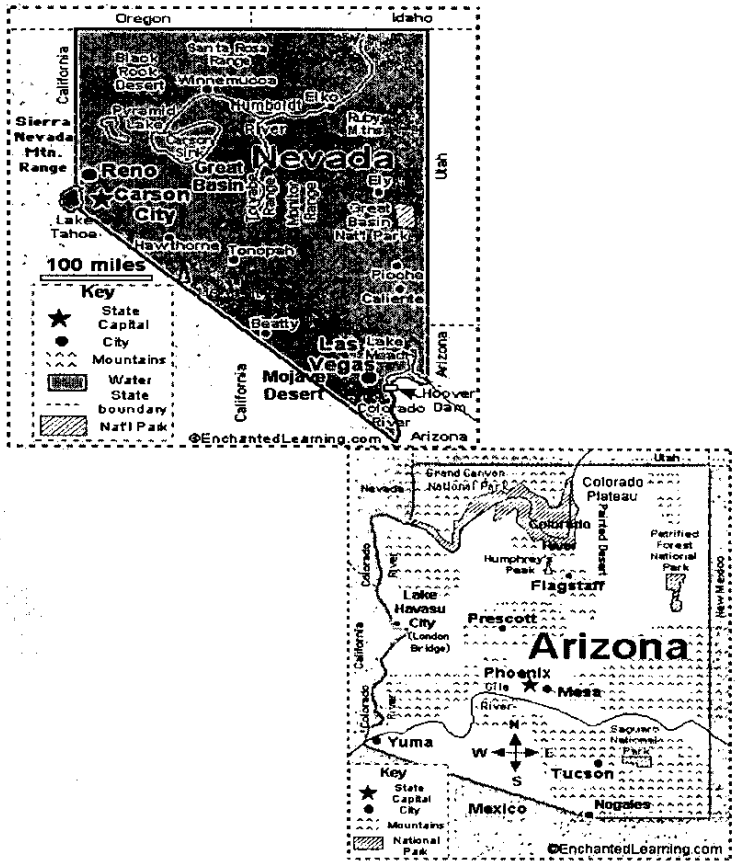
HOW MANY U.S. ACRES?

How many acres of algae planted would it take to replace U.S. imported oil?

15 million acres = 2% of US. Farmland

How many acres of desert are available in Nevada and Arizona?

48 million acres



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3-01-09 Alaska Energy Authority Statewide Report, Dillingham Testimony

<target><bill></bill><subject>3-01-09 Alaska Energy Authority Statewide Report, Dillingham Testimony</subject><comm>HENE26</comm></target>

The *Value* of Alaska's Community Health Centers

Community Health Centers:
Deliver High Quality, Cost-Effective Access for Alaska

Community board governed
- 51% of board are patients
- Not-for-profit organizations
- Local governments or
- Tribal organizations

CHCs are open to all regardless of insurance status or ability to pay
- Offer sliding fee scale to those without coverage or with inadequate coverage
- Accept Medicare
- Accept Medicaid
- Accept private insurance

The CHC network in Alaska is statewide
- 26 CHCs
- 141 clinic delivery sites
- 80,000+ patients
- 331,000 patient visits
- 900+ clinic employees

CHCs have received the highest rating possible for cost effectiveness, quality, and efficiency at expectmore.gov by the U.S. Office of Management and Budget.

Health Value
- Open to all regardless of insurance status or ability to pay
- High quality care by highly qualified providers
- Positive health outcomes for individuals, communities and Alaska

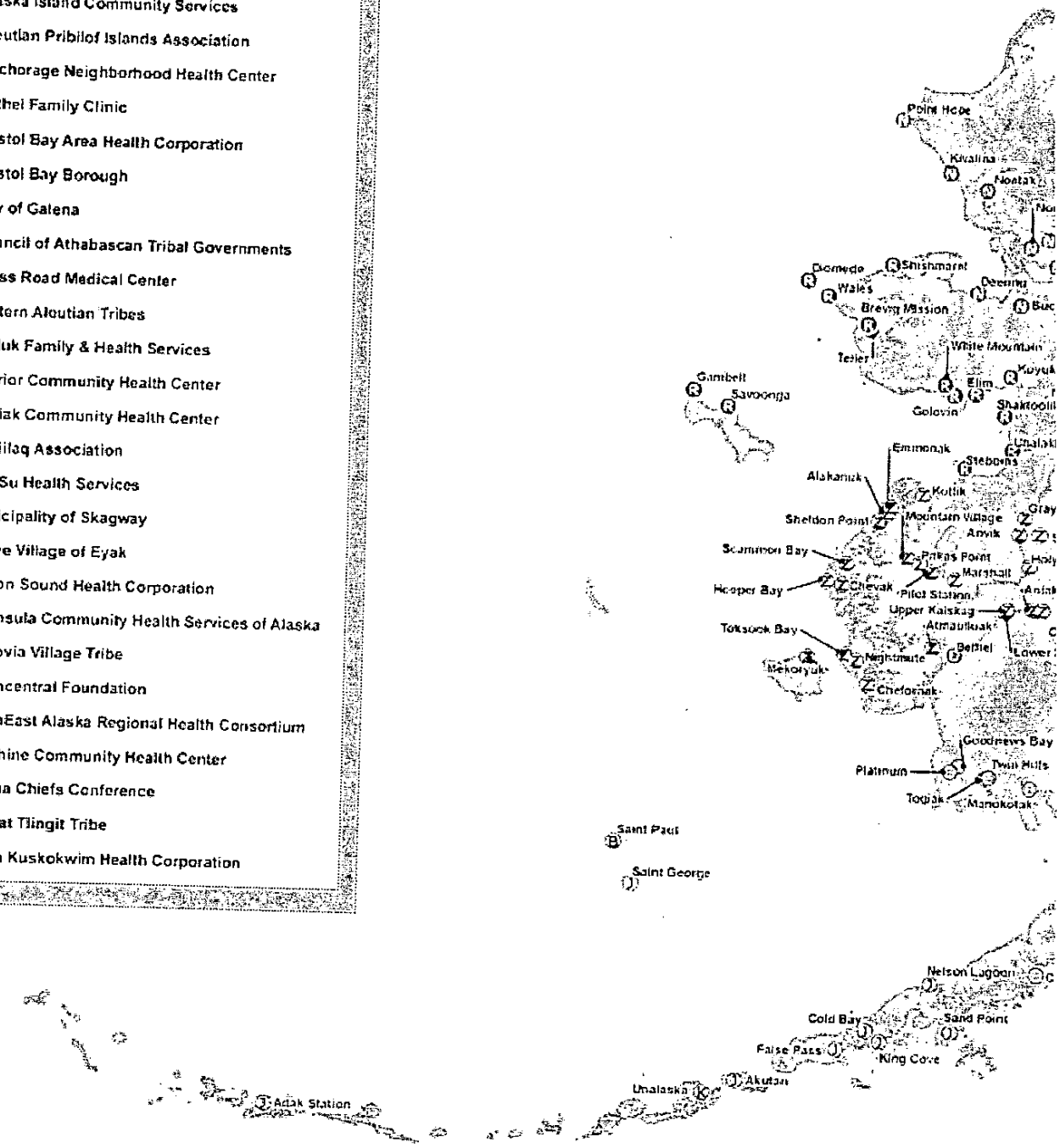
Societal Value
- Health care homes for those who otherwise would not have one
- Individual responsibility fostered via case management and sliding fee scale
- Promote healthy and productive communities

Economic Value
- 41% lower medical costs for CHC patients compared to patients seen elsewhere, according to national studies
- 10-33% lower Medicaid expenditures estimated for patients who use CHCs as medical homes, according to studies in other states
- Reduced ER use for non-urgent care
- Alaska's CHCs generate $145 million annually in economic benefits

CHCs in Alaska served 80,000+ patients in 2008

CHC Delivery Sites in Alaska

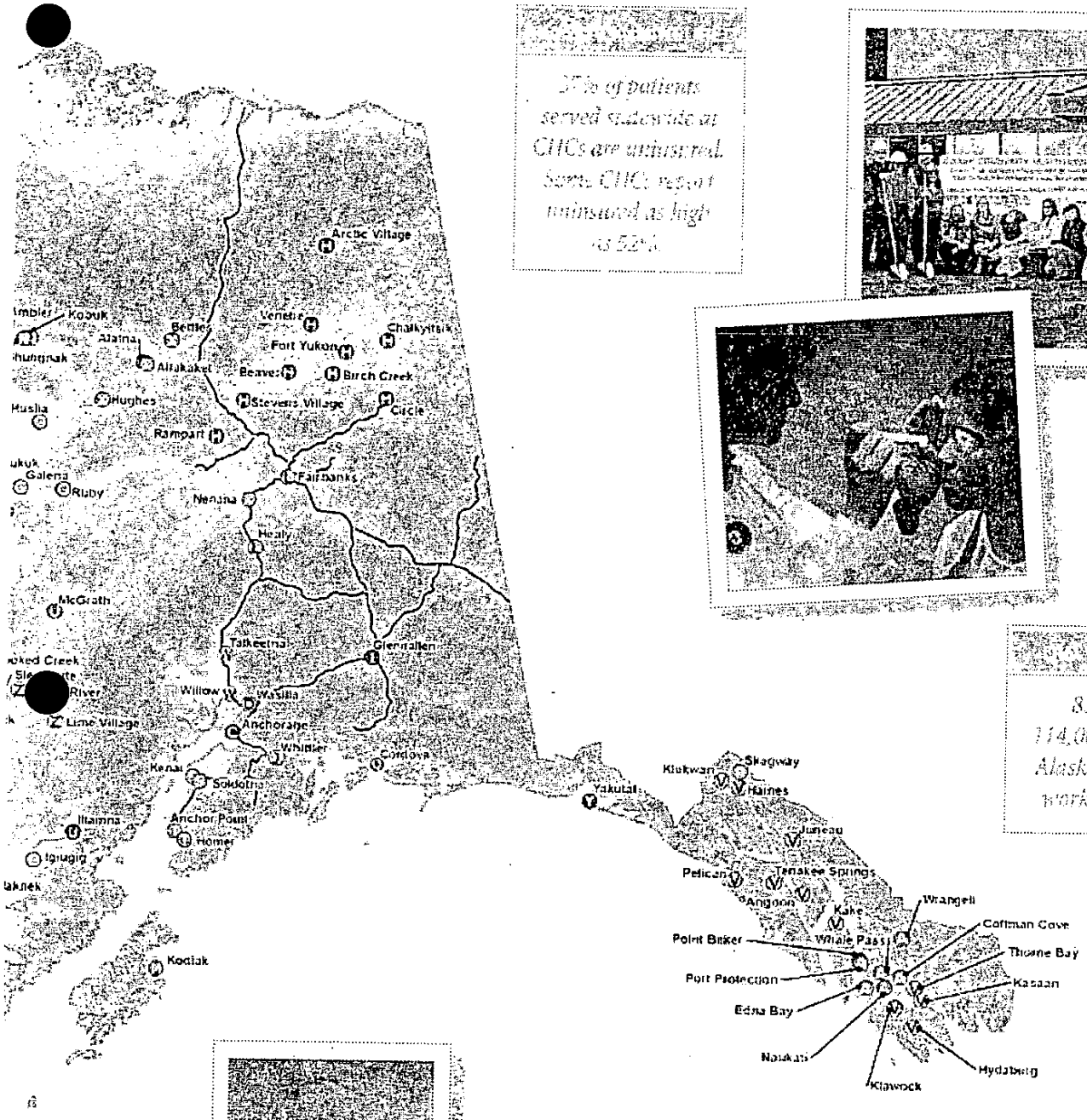
- Alaska Island Community Services
- Aleutian Pribilof Islands Association
- Anchorage Neighborhood Health Center
- Bethel Family Clinic
- Bristol Bay Area Health Corporation
- Bristol Bay Borough
- City of Galena
- Council of Athabascan Tribal Governments
- Cross Road Medical Center
- Eastern Aleutian Tribes
- Iliuliuk Family & Health Services
- Interior Community Health Center
- Kodiak Community Health Center
- Maniilaq Association
- Mat-Su Health Services
- Municipality of Skagway
- Native Village of Eyak
- Norton Sound Health Corporation
- Peninsula Community Health Services of Alaska
- Seldovia Village Tribe
- Southcentral Foundation
- SouthEast Alaska Regional Health Consortium
- Sunshine Community Health Center
- Tanana Chiefs Conference
- Yakutat Tlingit Tribe
- Yukon Kuskokwim Health Corporation

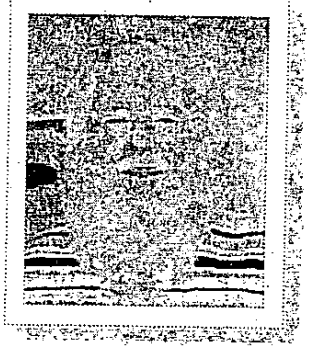


Providing Primary Care Statewide

37% of patients served statewide at CHCs are uninsured. Some CHC report uninsured as high as 52%.

83% of the 114,000 uninsured Alaskans are from working families





"Once I can urge you enough to see these Health Centers in Alaska...they can be an answer to your prayers"

Bill, Alaskan Chf patient

CHCs are Alaska's Health Care Homes

Primary care is the affordable gateway to maintaining good health and achieving better health. CHCs are cost-effective, high quality primary care homes or "health care homes" offering comprehensive, patient-centered services.

The infrastructure of CHCs throughout Alaska (26 CHCs with 141 clinic sites) is positioned to improve the health outcomes of our residents to an even greater degree than has already occurred.

"Alaska should recognize the valuable resource the CHCs are to communities and commit to supporting and strengthening this excellent source of primary care."

How are CHCs Ideal "Health Care Homes"?

- ***Comprehensive Services:*** CHCs offer case management, prevention services, education, community outreach, and pharmacy services in addition to regular primary care services which include basic medical, dental, and behavioral health care.
- ***Patient-Centered:*** The patient is encouraged to play a central and responsible role working toward better health.
- ***Caring Providers:*** CHCs providers are mission-oriented, working to improve the lives and communities they serve. They care about their patients and treat each as a unique and whole person. The CHC providers typically earn less than their counterparts in the private sector.

Basic Medical Care	***Cost-effective & Quality* Basic Medical Care**
Basic Dental Care	***Cost-effective & Quality* Basic Dental Care**
+ Basic Behavioral Health Care	**+ *Cost-effective & Quality* Basic Behavioral Health Care**
Primary Care	**CHCs are Ideal Health Care Homes**

"Health Care Homes" Do It Right

1. Access

- CHCs surmount financial, geographic, language, and cultural barriers to increase access for medically underserved populations and areas.
- CHCs provide access to health care for low-income working families, seniors, the disabled, the non-English speaking, veterans, uninsured and others who would otherwise not have access to care.

2. Cost

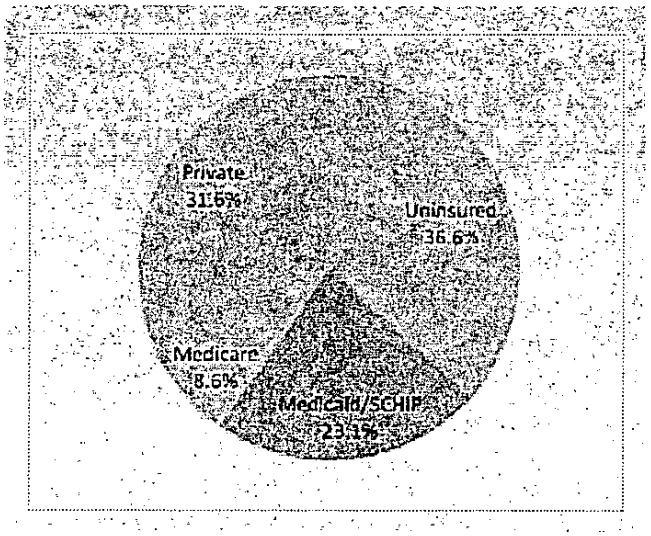
- Medicaid patients seen at CHCs save Medicaid, according to national data
  - Lowest total health care costs
  - Lowest cost per ambulatory visit
  - Lowest rate of hospital inpatient days
  - Lowest inpatient costs compared to Medicaid patients seen elsewhere
  - 22% less likelihood of hospitalization for avoidable conditions
- 41% lower medical costs than patients seen elsewhere, according to national data
- Reduction in unnecessary ER use saves high uncompensated care costs

3. Quality

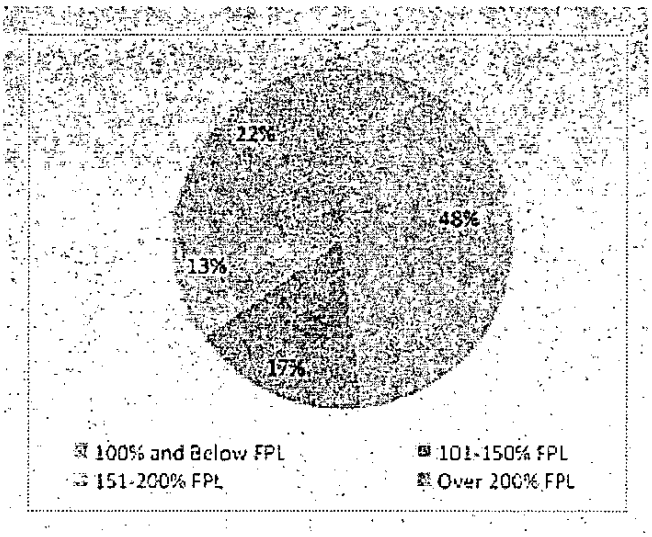
- Lower incidence of chronic disease and disability in communities with a CHC
- High patient satisfaction
- Improved screening rate and outcomes and reduced health disparities due to quality improvement initiatives

Serving People and Places the Market Doesn't Reach

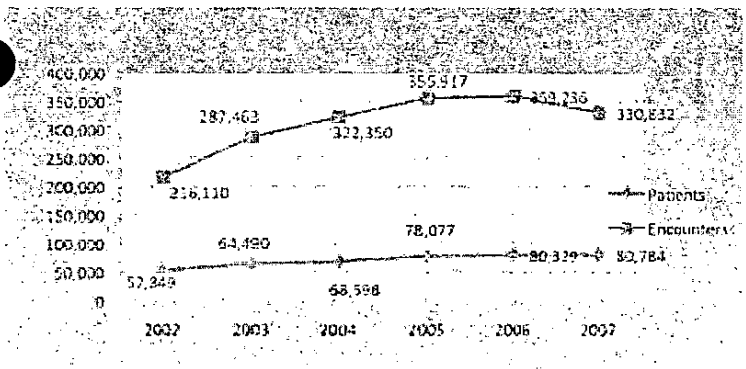
Most Alaska CHC Patients are Uninsured or Publicly Insured



Most Alaska CHC Patients are Low Income



CHC Patients & Encounters

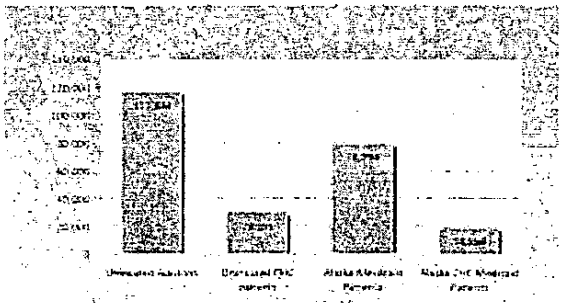


The number of CHC patients has steadily grown; 37% are uninsured and the majority have incomes less than 200% FPL.*

*Some CHCs report uninsured as high as 52%.

CHCs are reaching some of Alaska's uninsured and Medicaid populations but could provide access cost-effectively to more in these two groups with state support.

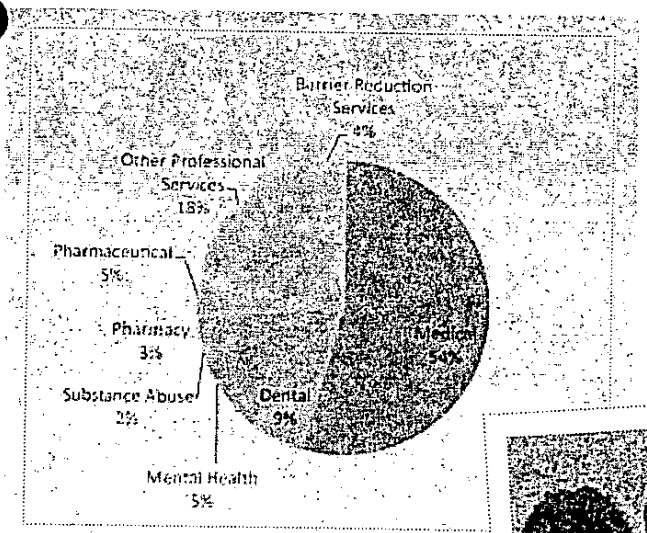
Potential to Help Alaska More



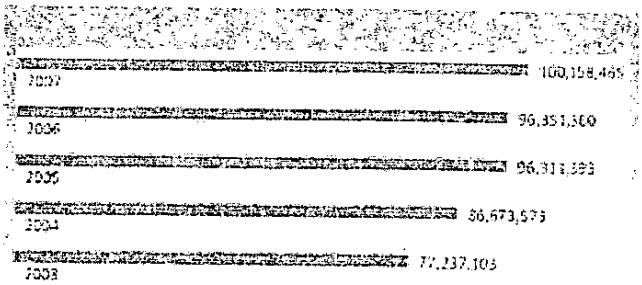
CHCs are reaching some of Alaska's uninsured and Medicaid populations but could do more to provide access cost-effectively to these two groups

Changing Costs and Revenues

2007 Cost Per Encounter



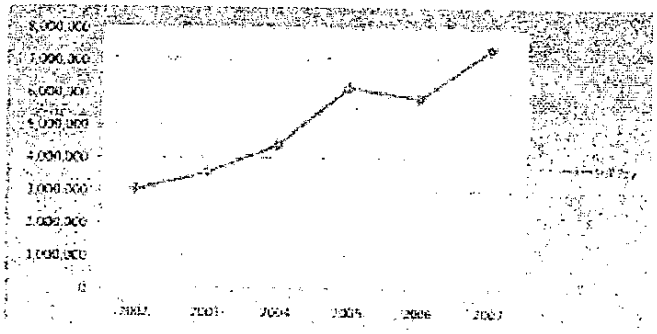
Total Cost of Services



CHCs operate as efficient businesses to make every penny count.

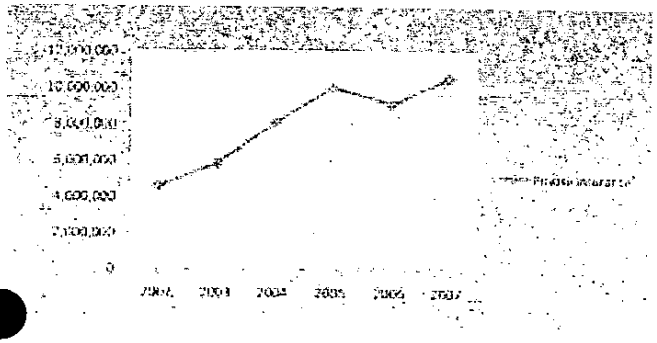
CHCs are adept at stretching the dollar.

Self Pay



Public Insurance

Private Insurance



Federal HRSA Grant

Why is help necessary?

The nationwide shortage of qualified candidates, the harsh conditions of Alaska, and the "on-the-edge" financial condition of many small Alaskan clinics makes it difficult for Alaska to compete in the hiring market.

When practicing in medically underserved areas in Alaska, a unique skill set is necessary, as well as the right type of personality, to flourish and find satisfaction in the work environment and local community.

Incentives are key

Relocation, site visit, housing assistance and signing bonuses will offer needed hiring and retaining incentives. Partial reimbursement of recruitment costs (for locum tenens, advertising, new provider training, etc.) will redirect those funds currently being used back to direct patient care where they belong.

Difficulties in attracting qualified candidates:

- Geographic, personal and professional isolation
- Housing cost and availability
- Limited school options for children
- Spousal and family opinion
- Lack of amenities

Alaska can reverse the trend

The health care workforce problem for CHCs and other safety net providers is significant, ongoing, and growing, undercutting the providers' full potential to provide primary care access.

State support to strengthen recruitment and retention efforts will reverse this trend and positively impact the overall health care system in Alaska. Only an innovative and comprehensive program that focuses on developing a retention culture will be successful. The proposed solutions outlined in the charts on the following page meet these guidelines as well as takes into account the various barriers specific to recruitment and retention in Alaska.

In developing the concept for state support, Alaska's Community Health Centers were consulted and asked, "What would best help you in the recruiting effort?"

Local Workforce Recruitment and Retention Assistance Operating Request Summary

Note: Each of the 26 CHCs may receive up to $57,692 (minus administrative fees) for their choice of scholarships from the following areas:

Signing Bonus Reimbursement (capped at $10,000 each)

Relocation Assistance Program (capped at $10,000 each)

Recruitment Cost Reimbursement Program (capped at $10,000 each)

Housing Assistance Program (capped at $12,000 each)

Site Visit Assistance for Providers and Spouses (capped at $3000 each)

Local Workforce Recruitment and Retention Assistance 26 Community Health Centers (141 sites)	**$1,500,000**

How will Alaska benefit from this local workforce investment?

- More primary care providers more evenly distributed across state
- Expected minimum recruitment outcome: 1 provider per CHC for a total of 26 hired providers
- Increased access
  - Increased access may translate as more patients receiving care
  - Increased access may also translate (particularly in small communities with limited populations) as more services, adequate number of patient visits, and improved and appropriate quality of care for existing patients.
- Improved health outcomes statewide
- Economic boost to communities (a primary care rural physician generates 23 jobs, $889,000 in wages, salaries, and benefits, and a total revenue of $1.5 million)

HR Infrastructure Project for CHCs Capital Request Summary

Note: The one-time appropriation to the Alaska Primary Care Association would be used to develop Alaska-specific recruitment/retention tools for long-term use and technical assistance for 26 non-profit CHCs. Tools to be developed will include a recruitment/retention training curriculum for HR staff at CHCs, a recruitment toolkit, and a candidate profile assessment.

HR Infrastructure Project for CHCs 26 Community Health Centers (141 sites)	**$120,000**

ALASKA PRIMARY CARE ASSOCIATION

"Providing technical assistance and services to help safety net providers offer quality care to more patients for less"

Alaska Primary Care Association Contacts

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2009 Alaska Primary Care Association Board of Directors

Sonia Handforth-Kome,
Board President
Executive Director
Iliuliuk Family and Health Services
Unalaska, Alaska

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Mary Loeb, MD
Sunshine Community Health Center
Talkeetna, Alaska

Beckie Noble, MS, ANP
Health Center Director
Seldovia Village Tribe Health Center
Homer, Alaska

Matthew Rogers, PA-C
Clinical Director
Tanana Chiefs Conference Community Health Center
Fairbanks, Alaska

The Alaska Primary Care Association (APCA) is a not-for-profit membership organization founded in 1995 working to promote, expand and optimize primary care access so that all Alaskans will have that access, including the underserved. The 50 APCA members include safety net primary care providers, such as Community Health Centers (CHCs), rural health clinics, Native health corporations, community clinics, and others with a similar mission.

The APCA, with staff and contractors and an annual budget of $1.4 million, provides vital services and technical assistance to support members in offering quality, cost-effective care—so they can serve more patients for less. The APCA also assists communities in accessing grant funds for CHCs, providing support and technical assistance as they establish and grow.

Statistical and other data used in this brochure are from the National Association of Community Health Centers, www.nachc.com/research, the Alaska Primary Care Association and other state and national studies. For specific references, resources or other information, contact Shelley Hughes, Government Affairs Director, 907-929-2728, Shelley@alaskapca.org, or Regan Mattingly, State Affairs Coordinator, 907-929-8115, Regan@alaskapca.org.

Detailed budget documents are available upon request at 907.929.2722 or info@alaskapca.org.

Alaska Primary Care Association, 903 West Northern Lights Blvd., Suite 200, Anchorage, Alaska 99503
Phone: 907.929.2722, Fax: 907.929.2734, info@alaskapca.org, www.alaskapca.org

Robert Clark

From: Jason Metrokin [jmetrokin@BBNC.NET]
Sent: Thursday, February 26, 2009 1:27 PM
To: Robert Clark; Ralph Andersen; sockeye1@nushtel.net; DMcClure@bbha.org
Cc: Joe Chythlook
Subject: FW: Alaska Delegation Urges Transportation Security Administration to Postpone Large Aircraft Screening Program
Attachments: 022509_-_Delegation_LASP_Letter.pdf

Jason Metrokin
President & CEO
Bristol Bay Native Corporation
111 W 16th Ave., Suite 400
Anchorage, AK 99501
(907) 278-3602
www.bbnc.net

From: Sumner, Robert (Murkowski) [mailto:Robert_Sumner@murkowski.senate.gov] **On Behalf Of** Press Office (Murkowski)
Sent: Wednesday, February 25, 2009 1:57 PM
Subject: Alaska Delegation Urges Transportation Security Administration to Postpone Large Aircraft Screening Program

Alaska Congressional Delegation
Senator Lisa Murkowski
Senator Mark Begich
Congressman Don Young

Michael Brumas
Senator Murkowski
(202) 224-9301

Julie Hasquet
Senator Begich
(907) 271-5915

Meredith M. Kenny
Congressman Young
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Alaska Delegation Urges Transportation Security Administration to Postpone Large Aircraft Screening Program

Washington, D.C. – Alaska's congressional delegation today asked the Transportation Security Administration (TSA) to postpone a proposed Large Aircraft Screening Program (LASP) that would burden many Alaskan communities with high costs and reduced or completely eliminated aviation services.

The delegation is concerned that the proposed requirements would dramatically impact many Alaskan communities that are only accessible by air. Specifically, under the proposed program, "large" aircraft would be defined as an aircraft with a maximum takeoff weight of 12,500 pounds. This would include a number of aircraft commonly used in Alaska, including some King Airs, Beachcraft 1900s and Casa 212s.

In a letter to Secretary of Homeland Security Janet Napolitano, the delegation also questioned whether the level of security threats in Alaska warranted such stringent new screening measures.

"We cannot destroy the aviation industry in Alaska with ridiculous regulations, especially without any showing of a serious threat. Further, we must remain vigilant as the TSA has made it clear they would like to impose further regulations on small aircraft," said Senator Lisa Murkowski, R-Alaska. "This program will create unnecessary and costly mandates on Alaska communities which many cannot afford."

"TSA clearly does not understand the huge economic burden this will place on rural Alaska communities and many Alaska air carriers," Sen. Mark Begich, D-Alaska, said. "I cannot support this rule until significant changes are made to address our concerns."

"While I understand the concerns of the TSA, this is not and cannot be a 'one size fits all' rule," said Rep. Don Young, R-Alaska. "Alaskans face many unique challenges including an insufficient road system that forces frequent air travel around the state. These challenges need to be considered when applying a blanket rule, and I sincerely encourage TSA to address the concerns of the State of Alaska and reconsider their stance on this issue."

The delegation also requested that the TSA convene a public hearing in Alaska before moving forward on the proposed screening measures.

"Alaska will be uniquely impacted by this plan," the delegation said. "Many of our rural communities rely on aircraft covered by the proposed rules for essential passenger, freight and emergency services. Unfortunately, the public meetings held on this rule were located in urban areas far from Alaska, preventing many of our constituents from having the opportunity to address the effects this rule would have on our way of life."

Additional provisions of the LASP plan include:

- Fingerprinting and background checks for flight crews;
- Watch-list matching of passengers before flights;
- Creation of a security program that includes checking for unauthorized persons and prohibited items;
- Creation of a security program for any airport that regularly serves large aircraft with scheduled or charter service.

"Many of these communities lack airport personnel, local law enforcement or even the ability to issue a photo ID cards," the letter said. "While the TSA suggests the public should think of the cost as $44 per flight, the upfront costs on small communities could be enormous. The State of Alaska estimates compliance could cost $400,000 per community."

###

Robert J. Sumner
Deputy Press Secretary
United States Senator Lisa Murkowski for Alaska
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(202) 224-8069 - Direct
(202) 821-3966 - Mobile
robert_sumner@murkowski.senate.gov

Robert Clark

From: Jason Metrokin [jmetrokin@BBNC.NET]
Sent: Thursday, February 26, 2009 8:46 AM
To: Robert Clark; Ralph Andersen; DMcClure@bbha.org; sockeye1@nushtel.net
Cc: Chythlook, Joseph L (DFG); April Ferguson
Subject: TSA Letter
Attachments: TSA Opposition Letter2.25.09.pdf

BBNC is submitting our letter of opposition to the proposed TSA regulation changes today. The deadline for submittal is tomorrow, 2/27/09.

Please feel free to use our letter as a template should you choose to follow suit. Jason

http://www.regulations.gov/fdmspublic/component/main?main=DocketDetail&d=TSA-2008-0021

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Bristol Bay
Native Corporation

Enriching Our Native Way of Life

111 West 16th Avenue, Suite 400 / Anchorage, Alaska 99501 / (907) 278-3602 / Fax (907) 276-3924

February 25, 2009

Docket Management Facility
U.S. Department of Transportation,
1200 New Jersey Avenue SE
West Building Ground Floor
Room W12-140
Washington, DC 20590-0001

Re: Comments to proposed regulation changes by Department of Homeland Security Transportation Security Administration (TSA) to 49 CFR on Large Aircraft Security Program, Other Aircraft Operator Security Program, and Airport Operator Security Program [Docket No. TSA-2008-0021

Dear Sir or Madam:

Bristol Bay Native Corporation very strongly objects to the Department of Homeland Security Transportation Security's proposed Large Aircraft Security Program. The aviation industry is vital to the economic stability of Alaska. Because of the impracticability of implementation and the devastating effect the proposed regulations would have in rural Alaska, in addition to the unlikely improvement in general aviation security, we write to voice our concern and opposition to the proposed regulations.

Formed under the Alaska Native Claims Settlement Act, Bristol Bay Native Corporation (BBNC) is a diversified holding company, with approximately 8,400 shareholders of Eskimo, Indian, and Aleut descent. Located approximately 285 miles southwest of Anchorage, Bristol Bay is inaccessible by road. BBNC holds title to roughly 3 million acres of land in the 34 million acre Bristol Bay region.

Thus, aviation is the lifeline of the region and of the state of Alaska. For most residents, the main mode of transportation in and out of the villages is by airplane. Fuel, supplies, groceries, and basic necessities are flown in from larger communities such as Anchorage. One-third of the world's sockeye salmon is exported from our region, much of which is exported by plane. When aviation costs increase, as they did in the past year with rising fuel costs, overall living costs increase dramatically. The fishing industry suffers because of lower demand and jobs are lost. In a strong and direct correlation with aviation costs, the costs of general transportation, groceries, heating fuel, merchandise, and utilities rise considerably.

We are concerned that TSA's proposed regulations would create a significant and unbearable operational and economic burden on aircraft operators and local, state, and tribal governments. The estimated implementation cost of $190 billion, broken down to roughly $190,000 per plane, will cripple all but the largest carriers and leave many communities in our region and across

Impact of High Energy Costs to Community Health Centers

Paying for high energy costs is diverting funds from direct patient care at the 26 Community Health Centers (CHCs) across the state and the 141 clinic sites they operate, thus reducing Alaskans' access to primary care (basic medical, dental and behavioral health services).

A survey of Alaska's CHC Executive Directors conducted in October of 2008 by the Alaska Primary Care Association indicated that they have developed contingency plans as they work to keep their doors open. Some clinics have reduced or are planning to reduce provider hours or have shortened or are planning to shorten clinic hours. Not filling vacancies until the situation is alleviated is another option. Some plan to close off parts of their building if needed; all are working to conserve energy.

The following chart is provided to show how a vacancy left unfilled due to budget constraints because of high energy costs reduces the number of patient encounters for physicians, nurse practitioners, and physician assistants

Community Type	AvgEncountersPerMD	AvgEncountersPerNP	AvgEncountersPerPA
F	1537	898	1444
L	2707	2366	2150
R	2655	1933	1783
U	3639	3554	2313

KEY:
F = frontier small <2000 population
L = larger than 2000 population, frontier
R = on road system
U = urban

U.S. Department of Health and Human Services, HRSA. Bureau of Primary Health Care Section 330 Grantees Uniform Data System (UDS) Calendar Year 2005 Data Alaska Rollup Report. Calendar Year 2005.

In frontier Alaska, one provider position not filled because of high energy costs translates into between 898 and 2707 fewer patient visits at a clinic in year. In communities on the road system, the range is between 1783 and 2655 fewer patient visits. In urban areas, the reduction in patient visits is between 2313 and 3639.

This same chart can be used to calculate the impact of reduced clinic hours. A clinic reducing hours by 25% will reduce the number of patient visits by 25% by all provider types in a particular clinic. As an example, a clinic with one physician, one nurse practitioner, and one physician assistant cutting back its hours by 25% in a frontier community of over 2000, would conduct 1807 fewer patient visits.

Reduced hours and/or unfilled positions due to high energy costs impact clinic revenues and community economies. See the information below as an example.

IMPACT OF RURAL PHYSICIAN
23 ← Jobs
$899,000 ← Wages, Salaries & Benefits
$1,533,000 ← Total Revenue
Source: Gerald Doeksen (Nat'l Center for Rural Health Works) "Making the Link to Economic Impact & Workforce Development" (at: Rural Health Workforce Trends Conference, Phoenix, AZ; Mar 4-6, 2008)

Robert Clark

From: Robert Clark
Sent: Saturday, February 28, 2009 3:01 PM
To: BBAHC Board DL
Cc: Robert Clark
Subject: Bristol Bay Area Health Corporation concerns

This is a supplement to my three pages of input on BBAHC energy concerns.

My board just finished up our scheduled 2/23-27 meeting by extending for another day to the 28th due to weather and items needing to be discussed.

At our meetings on behalf of our 34 member villages we give our members the opportunity to tell us how we may assist them with concerns in their villages.

A few items that came up at this meeting that you or members of the State Administration might be able to help were—

----Twin Hills.---- They have a very inadequate and old water/sewer system and due there small size they have not been able to get high on any list to adequately get their system fixed.
They were able to get a new power generator to replace the old inadequate one and have it rebuilt as a standby plant. However, the electrical system was put in by lay people
And there is a concern problems are likely as a certified professional has not set up their distribution system. Same for homes. It is village owned. Any grants or help?

----Levelock----The village has a bad erosion problem. Homes and other items have had to continually be moved back from the river bank. What help can you provide?

----South Naknek---The village needs help getting their water/sewer system functioning properly. Need to get help with easements. Need the sewer outfall pipe fixed as it goes into the Naknek River
where people fish. If not completed in time the grant funding might lapse without the problems being fixed.

----Newhalen----Village needs a fire truck. There is no equipment to assist with fires .Hauling water or shoveling snow is not adequate. Both Newhalen and Iliamna need a source of funds to renovate/upgrade their
Clinics as local facilities that tie into the Sub Regional Clinic.

----Ekwok---- Does not want to be left out or their being on the list to get a new Village Built Clinic that has for the most part come through Denali Commission funding.Hopefully adequate lease funds become
Available for fuel and electricity.. See Resolution re. costs.

----This is but a small sample of needs in some of our villages.

----Assistance maybe through the AEA or...? Is needed on the most efficient heating and electrical sources for all our villages, BBAHC works with 29 village clinics and the costs are quite high these past
couple years.

---Attached is a Resolution that the State's help is needed on opposing the TSA proposed requlations for Large Aircraft Security Program. Many Statewide are in opposition as well as our Congressional Delegation.
It is perhaps well intended, but not practicable for Bush Alaska.I also attach the Alaska Congressional Delegation and BBNC letter on this topic.

---Bristol Bay is the recipient of Four Community Health Centers . We work with the Alaska Primary Care Association and support their Energy cost concerns that have been shared with the Legislature and
Administration. See attachment on---Impact of High Energy Costs to Community Health Centers, and their What is a Community Health Center document.

1110

---BBAHC has submitted what we feel are SHOVEL READY projects for consideration to the congress and legislature/administration. Any help would be appreciated . We are available to answer any questions

in person, over the phone, via e-mail, or video conferencing in order to help explain our needs . We feel we can provide for the recurring operations if funded. Our project are quite basic and would assist our 34 member villages. They are---1. Prenatal Housing & Village Out Patient Boarders Quarters; 2. Out Patient Expansion to our Regional Kanakanak Hospital; 3. CT Scan Remodel/Addition; 4. New Dental Clinic; 5. New Water Treatment Plant w/Water Tower and Stabilization Pond; 6. Village EHR Implementation ; 7. Video Telehealth Upgrade.

If you have not toured our Hospital and our Campus/Compound, we are approximately 6 miles from downtown Dillingham and are like a village to ourselves with our own infrastructure to if need be , operate on our own with some upgrading and adjustments .We spend more on fuel and electricity than most of our villages--- approximately$3,157,000.per year, with our biggest jump happeng in the past couple years.

We are where Dillingham used to be before it moved to its present location. We have our own water and sewer system as the city largely only provides for the downtown area. If we had bulk fuel capability to get fuel cheaper than purchasing it locally, we probably could generate out own power (with an upgrade to our generators) much cheaper than purchasing it locally, particularily if we put up alternative energy options (wind---we are at a level 3 and possibly might get more capability if we moved the wind mills further south per AEA maps)which we are looking at. We could do a co- generation effort with our boiler plant and do waste heat recycling. This could save the hospital funding to stabilize and hopefully grow to serve our 34 villages. As it is now we have had to cut services to account largely for high energy costs at lest for now somewhat out of our control .We believe with an analysis on our ideas we can make it work and help our regions hospital and 29 village clinics be more viable.

Thank you for the opportunity to provide information. My staff and I are happy to discuss our needs in more dept anytime we can get together.

Sincerely,

Robert Clark
President/CEO
Bristol Bay Area Health Corporation
PO Box 130
Dillingham, Alaska 99576

Good afternoon. I'm Robert Clark, President and CEO of Bristol Bay Area Health Corporation. Thank you for coming to Dillingham and listening to our concerns about energy costs and how those energy costs are affecting our local economy.

Bristol Bay Area Health Corporation provides health care services to approximately 8,000 citizens living in thirty-four villages spread over 40,000 square miles. We provide these health care services through a network of twenty-eight village clinics and Kanakanak Hospital in Dillingham. Since none of our villages are on a road system all seriously ill and injured patients must fly to Dillingham for medical intervention. And if the required treatment is beyond the capabilities of Kanakanak Hospital, the patients are flown to Anchorage. Any increase in transportation costs will have an adverse effect on our patient care system. In FY 2008 BBAHC spent a little over $1,000,000 on patient travel. We estimate this year's patient travel budget will increase by $180,000.

Bristol Bay Area Health Corporation is the largest year-round employer in the region. I mention this to emphasize that if BBAHC is forced to reduce health care services we must also reduce our work force. The Health Corporation has employees in twenty-nine of the thirty-four Bristol Bay Region villages. In FY 2008 BBAHC paid over twenty-million dollars in wages to over four-hundred employees. BBAHC budgetary constraints will not only affect the level of health care delivered to each village but may also have a direct adverse effect on local village economies.

BBAHC has seen a drastic increase in energy costs this year. Our FY 2009 estimated electricity cost will be $935,000, and increase of $283,000. Our heating fuel cost is showing a more drastic change; an estimated $454,000 increase from last year.

BUDGET ITEM	FY 2008	FY 2009
Electricity	$ 652,740	$ 935,000
Heating Fuel	$ 514,201	$ 968,000
Patient Travel	$1,074,000	$1,254,000

Increased energy costs also drive up the costs of most of our supplies and medications. Not only have the costs of the merchandise increased but we also have to pay higher shipping costs.

This year BBAHC is facing a deficit budget for the first time. If expenses continue at the estimated levels the Corporation will have a loss of close to $1,000,000 for FY 2009. As noted above costs directly related to increases in energy costs represent at least $900,000 of the deficit.

We also need to discuss the costs of energy in our villages. Maintenance and utilities costs of village clinics are the responsibility of the village. Increased fuel costs and electricity costs are causing hardship in the villages. We need some program for village relief other than Venezuelan President Chavez's charity program. Not only are village clinics at risk because of high energy costs, but the basic need of adequate shelter and food are threatened when the costs of heating burns up most of a family's income.

There are many possible solutions and I'm sure our legislative representatives have considered most of them.

Power Cost Equalization Program (PCE)

- Please consider expanding PCE to schools and clinics. Most schools, like our medical facilities, are on a "fixed" income. Annual budgets are based on known appropriations from governmental sources, so unexpected expense increases often lead to curtailment of services or reduction in the workforce.
- Look into why some villages are not eligible for PCE and find a way to include all power producers in the program.
- This is admittedly only offers short-term relief. It does nothing to reduce use of fossil fuels.

Renewable Energy

- Continue to fund wind, tidal, solar and geothermal projects.
- Find a way to fund individual household projects.
- Enact legislation requiring local electrical utilities to purchase excess electricity produced by individuals. The current House

bills allow exemptions and discourage large customers from investing in alternative energy projects by allowing local utilities to limit the amount of net metering.

Nuclear-powered Electrical Generation Systems

- Small nuclear reactors seem to offer an attractive cost-efficient alternative to diesel-powered electricity production. Our local utility (we understand) spends approximately six million dollars each year on diesel fuel. A ten megawatt nuclear reactor-powered system would provide more than enough electricity for the utility for the initial costs of about twenty-six million dollars. Diesel fuel for the same period of time would cost at least one-hundred-eighty million dollars.
- If grants were available to install these small reactors then the positive effect of cheap electricity on local economies would be enormous.
    - Electricity could be provided for $0.12 - $0.15 per kilowatt hour; maybe for less
    - Family homes could be converted to electric heat
    - Local industry could expand
    - Reliance on fossil fuels would diminish

In the short-term rural Alaska needs some relief from exorbitant fuel costs. Nobody has given us a reasonable explanation of why we pay over $6.50 per gallon for gasoline in Dillingham when the urban areas pay fifty percent less. The recent state "investigation" only confused matters more.

To quote a local citizen, "We pay more because we have no choice."

Ekwok Village Council
P.O. Box 70
Ekwok, Alaska 99580
Phone: (907) 464-3336 Fax: (907) 464-3378

RESOLUTION 345-08

A RESOLUTION SUPPORTING INCREASED IHS FUNDING FOR THE VILLAGE BUILT CLINIC LEASING PROGRAM

WHEREAS: In 1969 the Indian Health Service (IHS) obtained authorization and funding to initiate a Village Built Clinic (VBC) leasing program to meet the need for health facilities in isolated Alaska villages, some of which are as far as 1,300 miles from the nearest regional health centers; and,

WHEREAS: The VBC leasing program is available only to village clinics in which a Community Health Aide / Itinerate Health Aide is responsible for providing primary health care, and lease funds are dedicated to supporting the operation and maintenance expenses of the facility, such as janitorial, electricity, water, sewage disposal, fuel, loan amortization, insurance and repairs; and,

WHEREAS: The annual operating costs to heat and maintain our Village Based Clinic continues to escalate due to the rapidly increasing costs of fuel and electricity; and,

WHEREAS: The cost of heating fuel for our clinic has risen to $6.25 a gallon, costing $3.451 a year and with the increase of fuel our electricity bill has risen from $800 to $1,200 a year. This inflation is a severe burden on our village to maintain the clinic given the limitations funding for the Village Clinic Lease program; and,

WHEREAS: The Village Clinic Lease Program funds have not kept pace with inflation, have never been adequate to provide for annual and preventative maintenance and are sufficient to cover only 50% of actual operating costs; and,

WHEREAS: The energy crisis threatens the viability of our local government to continue to provide essential local services, such as water and sewer, let alone maintain facilities that the federal government has a trust duty and obligation to provide; and,

WHEREAS: The substantial federal investment in village clinics, and the quality of primary health care in rural Alaska, is threatened by insufficient Village Clinic Lease funds to keep the village clinic open, heated and code compliant.

NOW THEREFORE BE IT RESOLVED by the Ekwok Village Council that we urge Congress and the Indian Health Service to increase the funding for village clinic leases sufficiently to pay for the actual costs of operating village clinics in 2008 dollars, in order to prevent the collapse of the village-based Alaska Native Primary Health Care system that has been the first line of defense in rural health care for the last 40 years.

Signed: _____
President

CERTIFICATION:

I, the undersigned Secretary of the Ekwok Village Council, hereby certify that the foregoing resolution was passed by majority vote at a duly called and noticed meeting this 9th day of December 2008, and that a quorum was present.

Signed: _____
Secretary

BRISTOL BAY AREA HEALTH CORPORATION
EXECUTIVE COMMITTEE
RESOLUTION NO. 2009 ___

A Resolution Opposing TSA Regulations for Proposed Large Aircraft Security Program

WHEREAS, Bristol Bay Area Health Corporation ("BBAHC") provides healthcare services to approximately 8,000 inhabitants of 35 rural villages located in the Bristol Bay Region of Southwest Alaska; and

WHEREAS, BBAHC operates Kanakanak Hospital and twenty-nine (29) village clinics staffed by approximately 360 employees; and

WHEREAS, the only access to most of these rural villages is by air; and

WHEREAS, provision of healthcare services is entirely dependent upon the cost and availability of healthcare services to these rural village clinics; and

WHEREAS, these rural village clinics depend upon medevac services between those villages and Kanakanak Hospital in Dillingham, Alaska and/or Anchorage, Alaska; and

WHEREAS, the TSA's proposed regulations for the Large Aircraft Security Program would create a significant and unbearable operational economic burden on aircraft operators and local, state, and tribal governments throughout Southwestern Alaska; and

WHEREAS, the estimated financial burden would be approximately $190,000 per airplane; and

WHEREAS, the implementation of the proposed TSA regulations in the Bristol Bay Region of Southwest Alaska is unlikely to increase general aviation security; and

WHEREAS, the new proposed regulations would impose a requirement that many aviation-dependent communities would be unable to comply with due to lack of airport personnel, lack of local law enforcement, and the inability to issue photo identification cards; and

WHEREAS, the up front cost for small communities with runways of 2,500 feet or longer would be enormous and are currently estimated at $400,000 per community, which is a significant burden for communities of only a few hundred residents;

WHEREAS, it is inappropriate to base security requirements in rural Alaska on runway length and not on passenger usage or other relevant statistic; and

WHEREAS, the current security measures in effect in rural Alaska provide for adequate and appropriate TSA security screening at appropriate locations in Alaska before passengers enter the mainstream flow of air traffic; and

Dated: February 28, 2009

By: Diane Shangin
Its: Secretary Village of Perryville

Dated: 2/28/09

/s/ Rodney Anderson by L.G.P.
By: Rodney Anderson
Its: Subregional Officer Chignik Lagoon

Dated: 2/28/09

By: Kim Williams Village of Dillingham
Its: Subregional Officer

Dated: 2/28/09

By: Ida Apokedak
Its: Subregional Officer Levelock

Dated: 2-28-09

By: Serafont Shugak, Jr.
Its: Subregional Officer Pedro Bay

Dated: 2/28/09

By: Fritz Sharp
Its: Subregional Officer Twin Hills

Robert Clark

From: Jason Metrokin [jmetrokin@BBNC.NET]
Sent: Thursday, February 26, 2009 1:27 PM
To: Robert Clark; Ralph Andersen; sockeye1@nushtel.net; DMcClure@bbha.org
Cc: Joe Chythlook
Subject: FW: Alaska Delegation Urges Transportation Security Administration to Postpone Large Aircraft Screening Program
Attachments: 022509_-_Delegation_LASP_Letter.pdf

Jason Metrokin
President & CEO
Bristol Bay Native Corporation
111 W 16th Ave., Suite 400
Anchorage, AK 99501
(907) 278-3602
www.bbnc.net

From: Sumner, Robert (Murkowski) [mailto:Robert_Sumner@murkowski.senate.gov] **On Behalf Of** Press Office (Murkowski)
Sent: Wednesday, February 25, 2009 1:57 PM
Subject: Alaska Delegation Urges Transportation Security Administration to Postpone Large Aircraft Screening Program

Alaska
Congressional Delegation
Senator Lisa Murkowski
Senator Mark Begich
Congressman Don Young

Michael Brumas
Senator Murkowski
(202) 224-9301

Julie Hasquet
Senator Begich
(907) 271-5915

Meredith M. Kenny
Congressman Young
(202) 225-5765

Alaska Delegation Urges Transportation Security Administration to Postpone Large Aircraft Screening Program

Washington, D.C. – Alaska's congressional delegation today asked the Transportation Security Administration (TSA) to postpone a proposed Large Aircraft Screening Program (LASP) that would burden many Alaskan communities with high costs and reduced or completely eliminated aviation services.

The delegation is concerned that the proposed requirements would dramatically impact many Alaskan communities that are only accessible by air. Specifically, under the proposed program, "large" aircraft would be defined as an aircraft with a maximum takeoff weight of 12,500 pounds. This would include a number of aircraft commonly used in Alaska, including some King Airs, Beachcraft 1900s and Casa 212s.

In a letter to Secretary of Homeland Security Janet Napolitano, the delegation also questioned whether the level of security threats in Alaska warranted such stringent new screening measures.

"We cannot destroy the aviation industry in Alaska with ridiculous regulations, especially without any showing of a serious threat. Further, we must remain vigilant as the TSA has made it clear they would like to impose further regulations on small aircraft," said Senator Lisa Murkowski, R-Alaska. "This program will create unnecessary and costly mandates on Alaska communities which many cannot afford."

"TSA clearly does not understand the huge economic burden this will place on rural Alaska communities and many Alaska air carriers," Sen. Mark Begich, D-Alaska, said. "I cannot support this rule until significant changes are made to address our concerns."

"While I understand the concerns of the TSA, this is not and cannot be a 'one size fits all' rule," said Rep. Don Young, R-Alaska. "Alaskans face many unique challenges including an insufficient road system that forces frequent air travel around the state. These challenges need to be considered when applying a blanket rule, and I sincerely encourage TSA to address the concerns of the State of Alaska and reconsider their stance on this issue."

The delegation also requested that the TSA convene a public hearing in Alaska before moving forward on the proposed screening measures.

"Alaska will be uniquely impacted by this plan," the delegation said. "Many of our rural communities rely on aircraft covered by the proposed rules for essential passenger, freight and emergency services. Unfortunately, the public meetings held on this rule were located in urban areas far from Alaska, preventing many of our constituents from having the opportunity to address the effects this rule would have on our way of life."

Additional provisions of the LASP plan include:

- Fingerprinting and background checks for flight crews;
- Watch-list matching of passengers before flights;
- Creation of a security program that includes checking for unauthorized persons and prohibited items;
- Creation of a security program for any airport that regularly serves large aircraft with scheduled or charter service.

"Many of these communities lack airport personnel, local law enforcement or even the ability to issue a photo ID cards," the letter said. "While the TSA suggests the public should think of the cost as $44 per flight, the upfront costs on small communities could be enormous. The State of Alaska estimates compliance could cost $400,000 per community."

###

Robert J. Sumner
Deputy Press Secretary
United States Senator Lisa Murkowski for Alaska
709 Hart Senate Office Building
Washington, D.C. 20510
(202) 224-8069 - Direct
(202) 821-3966 - Mobile
robert_sumner@murkowski.senate.gov

Robert Clark

From: Jason Metrokin [jmetrokin@BBNC.NET]
Sent: Thursday, February 26, 2009 8:46 AM
To: Robert Clark; Ralph Andersen; DMcClure@bbha.org; sockeye1@nushtel.net
Cc: Chythlook, Joseph L (DFG); April Ferguson
Subject: TSA Letter
Attachments: TSA Opposition Letter2.25.09.pdf

BBNC is submitting our letter of opposition to the proposed TSA regulation changes today. The deadline for submittal is tomorrow, 2/27/09.

Please feel free to use our letter as a template should you choose to follow suit. Jason

http://www.regulations.gov/fdmspublic/component/main?main=DocketDetail&d=TSA-2008-0021

Jason Metrokin
President & CEO
Bristol Bay Native Corporation
111 W 16th Ave., Suite 400
Anchorage, AK 99501
(907) 278-3602
www.bbnc.net

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Bristol Bay
Native Corporation

Enriching Our Native Way of Life

111 West 16th Avenue, Suite 400 / Anchorage, Alaska 99501 / (907) 278-3602 / Fax (907) 276-3924

February 25, 2009

Docket Management Facility
U.S. Department of Transportation,
1200 New Jersey Avenue SE
West Building Ground Floor
Room W12-140
Washington, DC 20590-0001

Re: Comments to proposed regulation changes by Department of Homeland Security Transportation Security Administration (TSA) to 49 CFR on Large Aircraft Security Program, Other Aircraft Operator Security Program, and Airport Operator Security Program [Docket No. TSA-2008-0021

Dear Sir or Madam:

Bristol Bay Native Corporation very strongly objects to the Department of Homeland Security Transportation Security's proposed Large Aircraft Security Program. The aviation industry is vital to the economic stability of Alaska. Because of the impracticability of implementation and the devastating effect the proposed regulations would have in rural Alaska, in addition to the unlikely improvement in general aviation security, we write to voice our concern and opposition to the proposed regulations.

Formed under the Alaska Native Claims Settlement Act, Bristol Bay Native Corporation (BBNC) is a diversified holding company, with approximately 8,400 shareholders of Eskimo, Indian, and Aleut descent. Located approximately 285 miles southwest of Anchorage, Bristol Bay is inaccessible by road. BBNC holds title to roughly 3 million acres of land in the 34 million acre Bristol Bay region.

Thus, aviation is the lifeline of the region and of the state of Alaska. For most residents, the main mode of transportation in and out of the villages is by airplane. Fuel, supplies, groceries, and basic necessities are flown in from larger communities such as Anchorage. One-third of the world's sockeye salmon is exported from our region, much of which is exported by plane. When aviation costs increase, as they did in the past year with rising fuel costs, overall living costs increase dramatically. The fishing industry suffers because of lower demand and jobs are lost. In a strong and direct correlation with aviation costs, the costs of general transportation, groceries, heating fuel, merchandise, and utilities rise considerably.

We are concerned that TSA's proposed regulations would create a significant and unbearable operational and economic burden on aircraft operators and local, state, and tribal governments. The estimated implementation cost of $190 billion, broken down to roughly $190,000 per plane, will cripple all but the largest carriers and leave many communities in our region and across

Alaska without safe and reliable service. Costs would have to be absorbed and passed on to consumers, many of whom are already facing severe financial crisis as energy costs have sky-rocketed. Without considerable changes, the TSA proposal will force the majority of carriers serving rural Alaska out of business, and drastically increase the cost of living. Simply put, neither the airlines that serve our region, nor the residents of this region can afford the burdensome regulations as proposed.

In addition, many specific aspects of the proposed regulations are unnecessary and simply impractical. For example, the requirement that all passengers have valid identification would have a disparate impact on residents of rural Alaska as many villages do not have a Department of Motor Vehicles to issue identification. Travel in and out of villages would be severely curtailed. The 'prohibited items list' would ban equipment necessary to survival in rural Alaska, making local business and community operations even less accessible, as well as increasing costs.

Perhaps most importantly, as applied to Alaska, the potential for the proposed regulations to increase general aviation security is unlikely. The largest community in the Bristol Bay region is Dillingham, which has fewer than 3,000 residents. Most villages in the region have fewer than 1,000 people and many villages, even those with large runways, have fewer than 100 residents. The village of Iliamna, for example, has a population of 98 and a 4,800 foot runway. TSA staff, equipment, and procedures in communities such as these, would be unnecessary and overly burdensome. It is doubtful that such measures would do anything to increase general aviation security. Aircraft serving our region are already currently enrolled in the Twelve-Five Security Program. Regarding passenger security, those passengers flying out of a village airport without TSA security measures do not enter the mainstream flow of passengers without undergoing TSA security screening. Anyone boarding a plane in Anchorage, for example, whether or not having just arrived by plane from an outlying village, must still pass through regular, TSA security screening measures.

In short, we strongly oppose this regulation change. As proposed, the regulations would have a profoundly devastating impact on the aviation industry in Alaska, on our communities, our people, and our way of life. We urge the TSA to reconsider the proposed regulations, especially as applied to Alaska. If you have questions please feel free to contact myself or Rachael Harshbarger at 907-278-3602.

Sincerely,

Jason Metrokin
President & Chief Executive Officer
Bristol Bay Native Corporation

Impact of High Energy Costs to Community Health Centers

Paying for high energy costs is diverting funds from direct patient care at the 26 Community Health Centers (CHCs) across the state and the 141 clinic sites they operate, thus reducing Alaskans' access to primary care (basic medical, dental and behavioral health services).

A survey of Alaska's CHC Executive Directors conducted in October of 2008 by the Alaska Primary Care Association indicated that they have developed contingency plans as they work to keep their doors open. Some clinics have reduced or are planning to reduce provider hours or have shortened or are planning to shorten clinic hours. Not filling vacancies until the situation is alleviated is another option. Some plan to close off parts of their building if needed; all are working to conserve energy.

The following chart is provided to show how a vacancy left unfilled due to budget constraints because of high energy costs reduces the number of patient encounters for physicians, nurse practitioners, and physician assistants

Community Type	AvgEncountersPerMD	AvgEncountersPerNP	AvgEncountersPerPA
F	1537	898	1444
L	2707	2366	2150
R	2655	1933	1783
U	3639	3554	2313

KEY:

F = frontier small <2000 population
L = larger than 2000 population, frontier
R = on road system
U = urban

U.S. Department of Health and Human Services, HRSA. Bureau of Primary Health Care Section 330 Grantees Uniform Data System (UDS) Calendar Year 2005 Data Alaska Rollup Report. Calendar Year 2005.

In frontier Alaska, one provider position not filled because of high energy costs translates into between 898 and 2707 fewer patient visits at a clinic in year. In communities on the road system, the range is between 1783 and 2655 fewer patient visits. In urban areas, the reduction in patient visits is between 2313 and 3639.

This same chart can be used to calculate the impact of reduced clinic hours. A clinic reducing hours by 25% will reduce the number of patient visits by 25% by all provider types in a particular clinic. As an example, a clinic with one physician, one nurse practitioner, and one physician assistant cutting back its hours by 25% in a frontier community of over 2000, would conduct 1807 fewer patient visits.

Reduced hours and/or unfilled positions due to high energy costs impact clinic revenues and community economies. See the information below as an example.

IMPACT OF RURAL PHYSICIAN
23 ← Jobs
$899,000 ← Wages, Salaries & Benefits
$1,533,000 ← Total Revenue

Source: Gerald Doeksen (Nat'l Center for Rural Health Works) "Making the Link to Economic Impact & Workforce Development" (at: Rural Health Workforce Trends Conference, Phoenix, AZ; Mar 4-6, 2008)

Ekwok Village Council
P.O. Box 70
Ekwok, Alaska 99580
Phone: (907) 464-3336 Fax: (907) 464-3378

RESOLUTION 345-08

A RESOLUTION SUPPORTING INCREASED IHS FUNDING FOR THE VILLAGE BUILT CLINIC LEASING PROGRAM

WHEREAS: In 1969 the Indian Health Service (IHS) obtained authorization and funding to initiate a Village Built Clinic (VBC) leasing program to meet the need for health facilities in isolated Alaska villages, some of which are as far as 1,300 miles from the nearest regional health centers; and,

WHEREAS: The VBC leasing program is available only to village clinics in which a Community Health Aide / Itinerate Health Aide is responsible for providing primary health care, and lease funds are dedicated to supporting the operation and maintenance expenses of the facility, such as janitorial, electricity, water, sewage disposal, fuel, loan amortization, insurance and repairs; and,

WHEREAS: The annual operating costs to heat and maintain our Village Based Clinic continues to escalate due to the rapidly increasing costs of fuel and electricity; and,

WHEREAS: The cost of heating fuel for our clinic has risen to $6.25 a gallon, costing $3.451 a year and with the increase of fuel our electricity bill has risen from $800 to $1,200 a year. This inflation is a severe burden on our village to maintain the clinic given the limitations funding for the Village Clinic Lease program; and,

WHEREAS: The Village Clinic Lease Program funds have not kept pace with inflation, have never been adequate to provide for annual and preventative maintenance and are sufficient to cover only 50% of actual operating costs; and,

WHEREAS: The energy crisis threatens the viability of our local government to continue to provide essential local services, such as water and sewer, let alone maintain facilities that the federal government has a trust duty and obligation to provide; and,

WHEREAS: The substantial federal investment in village clinics, and the quality of primary health care in rural Alaska, is threatened by insufficient Village Clinic Lease funds to keep the village clinic open, heated and code compliant.

NOW THEREFORE BE IT RESOLVED by the Ekwok Village Council that we urge Congress and the Indian Health Service to increase the funding for village clinic leases sufficiently to pay for the actual costs of operating village clinics in 2008 dollars, in order to prevent the collapse of the village-based Alaska Native Primary Health Care system that has been the first line of defense in rural health care for the last 40 years.

Signed: _____
President

CERTIFICATION:

I, the undersigned Secretary of the Ekwok Village Council, hereby certify that the foregoing resolution was passed by majority vote at a duly called and noticed meeting this 9th day of December 2008, and that a quorum was present.

Signed: _____
Secretary

BRISTOL BAY AREA HEALTH CORPORATION
EXECUTIVE COMMITTEE
RESOLUTION NO. 2009 ____

A Resolution Opposing TSA Regulations for Proposed Large Aircraft Security Program

WHEREAS, Bristol Bay Area Health Corporation ("BBAHC") provides healthcare services to approximately 8,000 inhabitants of 35 rural villages located in the Bristol Bay Region of Southwest Alaska; and

WHEREAS, BBAHC operates Kanakanak Hospital and twenty-nine (29) village clinics staffed by approximately 360 employees; and

WHEREAS, the only access to most of these rural villages is by air; and

WHEREAS, provision of healthcare services is entirely dependent upon the cost and availability of healthcare services to these rural village clinics; and

WHEREAS, these rural village clinics depend upon medevac services between those villages and Kanakanak Hospital in Dillingham, Alaska and/or Anchorage, Alaska; and

WHEREAS, the TSA's proposed regulations for the Large Aircraft Security Program would create a significant and unbearable operational economic burden on aircraft operators and local, state, and tribal governments throughout Southwestern Alaska; and

WHEREAS, the estimated financial burden would be approximately $190,000 per airplane; and

WHEREAS, the implementation of the proposed TSA regulations in the Bristol Bay Region of Southwest Alaska is unlikely to increase general aviation security; and

WHEREAS, the new proposed regulations would impose a requirement that many aviation-dependent communities would be unable to comply with due to lack of airport personnel, lack of local law enforcement, and the inability to issue photo identification cards; and

WHEREAS, the up front cost for small communities with runways of 2,500 feet or longer would be enormous and are currently estimated at $400,000 per community, which is a significant burden for communities of only a few hundred residents;

WHEREAS, it is inappropriate to base security requirements in rural Alaska on runway length and not on passenger usage or other relevant statistic; and

WHEREAS, the current security measures in effect in rural Alaska provide for adequate and appropriate TSA security screening at appropriate locations in Alaska before passengers enter the mainstream flow of air traffic; and

WHEREAS, the TSA has not fully considered the impact these regulations would have on aviation-dependent communities in rural Alaska;

NOW THEREFORE BE IT RESOLVED that the Executive Committee of the Bristol Bay Area Health Corporation Board of Directors hereby strongly objects to the implementation of the Department of Homeland Security Transportation Security Agency's proposed Large Aircraft Security Program in villages located in the Bristol Bay region of Alaska;

BE IT FURTHER RESOLVED that if the TSA's proposed regulations are implemented in rural Alaska notwithstanding the objections mentioned herein, then BBAHC management is hereby instructed to seek clarification from Alaska's congressional delegation regarding operational steps BBAHC must take to comply;

AND BE IT FURTHER RESOLVED that the Executive Committee unanimously adopts this resolution as indicated by the signatures below.

Dated: February 28, 2009.

H. Sally Smith
By: H. Sally Smith
Its: Chair
Village of Ekuk

Dated: 2/28/09

/E/ Agnes Rychnovsky by H.S.S.
By: Agnes Rychnovsky
Its: First Vice Chair
New Stuyahok

Dated: Feb. 28, 2009

By: Mark E. Angasan
Its: Second Vice Chair
VILLAGE OF KING SALMON

Dated: 2/28/09

Anecia Kritz
By: Anecia Kritz
Its: Third Vice Chair
Village of Togiak, Alaska

Dated: Feb. 28, 2009

Donald J. Nielsen
By: Donald Nielsen
Its: Treasurer
Village of South Naknek, Alaska

Dated: February 28, 2009

Diane Shangin
By: Diane Shangin
Its: Secretary Village of Perryville

Dated: 2/28/09

/s/ Rodney Anderson by K.O.A.
By: Rodney Anderson
Its: Subregional Officer Chignik Lagoon

Dated: 2/28/09

By: Kim Williams
Its: Subregional Officer Village of Dillingham

Dated: 2/28/09

Ida Apokedak
By: Ida Apokedak
Its: Subregional Officer Levelock

Dated: 2-28-09

Serafont Shugak Jr.
By: Serafont Shugak, Jr.
Its: Subregional Officer Pedro Bay

Dated: 2/28/09

By: Fritz Sharp
Its: Subregional Officer Twin Hills

Good afternoon. I'm Robert Clark, President and CEO of Bristol Bay Area Health Corporation. Thank you for coming to Dillingham and listening to our concerns about energy costs and how those energy costs are affecting our local economy.

Bristol Bay Area Health Corporation provides health care services to approximately 8,000 citizens living in thirty-four villages spread over 40,000 square miles. We provide these health care services through a network of twenty-eight village clinics and Kanakanak Hospital in Dillingham. Since none of our villages are on a road system all seriously ill and injured patients must fly to Dillingham for medical intervention. And if the required treatment is beyond the capabilities of Kanakanak Hospital, the patients are flown to Anchorage. Any increase in transportation costs will have an adverse effect on our patient care system. In FY 2008 BBAHC spent a little over $1,000,000 on patient travel. We estimate this year's patient travel budget will increase by $180,000.

Bristol Bay Area Health Corporation is the largest year-round employer in the region. I mention this to emphasize that if BBAHC is forced to reduce health care services we must also reduce our work force. The Health Corporation has employees in twenty-nine of the thirty-four Bristol Bay Region villages. In FY 2008 BBAHC paid over twenty-million dollars in wages to over four-hundred employees. BBAHC budgetary constraints will not only affect the level of health care delivered to each village but may also have a direct adverse effect on local village economies.

BBAHC has seen a drastic increase in energy costs this year. Our FY 2009 estimated electricity cost will be $935,000, and increase of $283,000. Our heating fuel cost is showing a more drastic change; an estimated $454,000 increase from last year.

BUDGET ITEM	FY 2008	FY 2009
Electricity	$ 652,740	$ 935,000
Heating Fuel	$ 514,201	$ 968,000
Patient Travel	$1,074,000	$1,254,000

1130

Increased energy costs also drive up the costs of most of our supplies and medications. Not only have the costs of the merchandise increased but we also have to pay higher shipping costs.

This year BBAHC is facing a deficit budget for the first time. If expenses continue at the estimated levels the Corporation will have a loss of close to $1,000,000 for FY 2009. As noted above costs directly related to increases in energy costs represent at least $900,000 of the deficit.

We also need to discuss the costs of energy in our villages. Maintenance and utilities costs of village clinics are the responsibility of the village. Increased fuel costs and electricity costs are causing hardship in the villages. We need some program for village relief other than Venezuelan President Chavez's charity program. Not only are village clinics at risk because of high energy costs, but the basic need of adequate shelter and food are threatened when the costs of heating burns up most of a family's income.

There are many possible solutions and I'm sure our legislative representatives have considered most of them.

Power Cost Equalization Program (PCE)

- Please consider expanding PCE to schools and clinics. Most schools, like our medical facilities, are on a "fixed" income. Annual budgets are based on known appropriations from governmental sources, so unexpected expense increases often lead to curtailment of services or reduction in the workforce.
- Look into why some villages are not eligible for PCE and find a way to include all power producers in the program.
- This is admittedly only offers short-term relief. It does nothing to reduce use of fossil fuels.

Renewable Energy

- Continue to fund wind, tidal, solar and geothermal projects.
- Find a way to fund individual household projects.
- Enact legislation requiring local electrical utilities to purchase excess electricity produced by individuals. The current House

bills allow exemptions and discourage large customers from investing in alternative energy projects by allowing local utilities to limit the amount of net metering.

Nuclear-powered Electrical Generation Systems

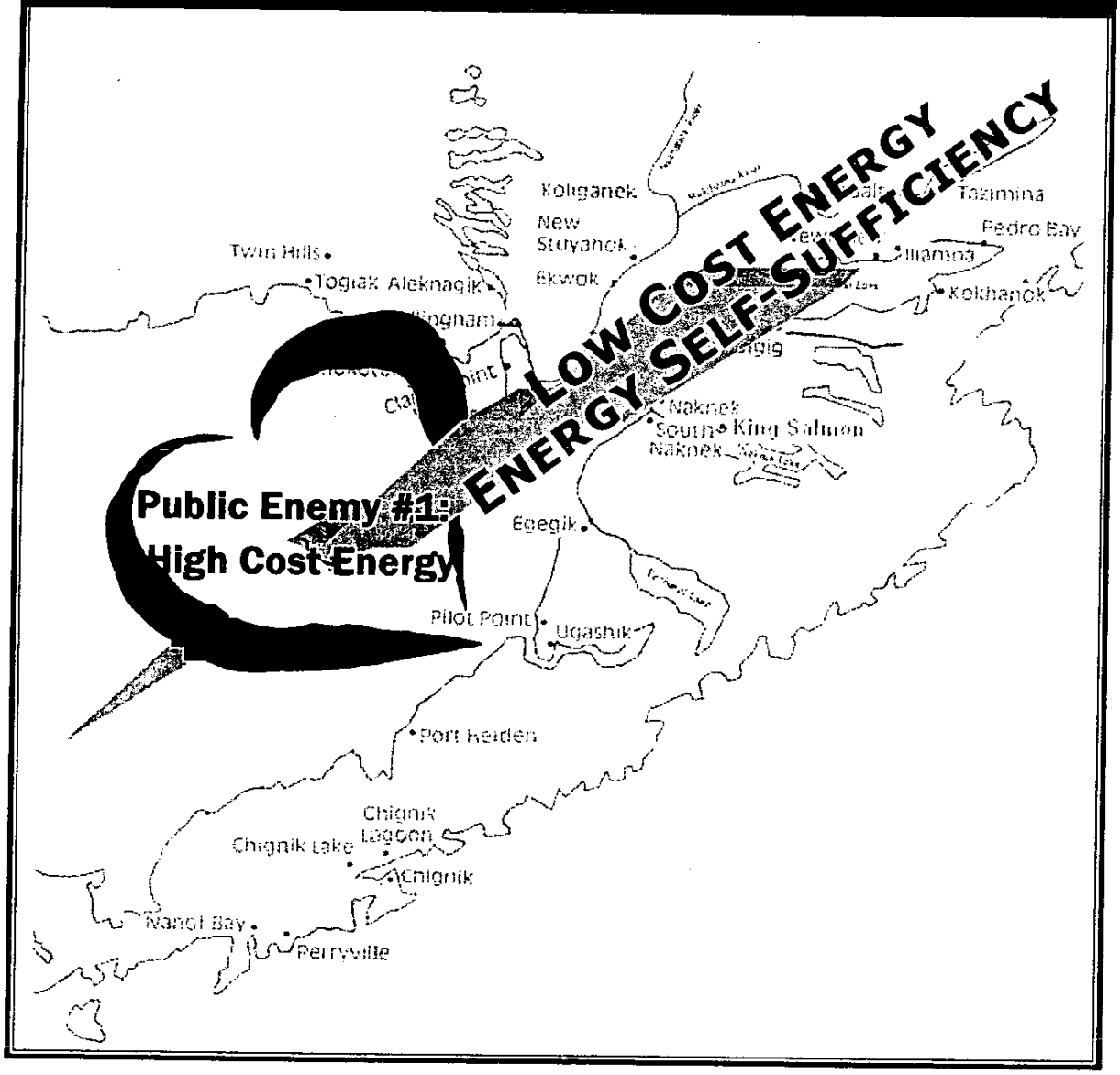
- Small nuclear reactors seem to offer an attractive cost-efficient alternative to diesel-powered electricity production. Our local utility, we understand, spends approximately six million dollars each year on diesel fuel. A ten megawatt nuclear reactor-powered system would provide more than enough electricity for the utility for the initial costs of about twenty-six million dollars. Diesel fuel for the same period of time would cost at least one-hundred-eighty million dollars.
- If grants were available to install these small reactors then the positive effect of cheap electricity on local economies would be enormous.
    - Electricity could be provided for $0.12 - $0.15 per kilowatt hour; maybe for less
    - Family homes could be converted to electric heat
    - Local industry could expand
    - Reliance on fossil fuels would diminish

In the short-term rural Alaska needs some relief from exorbitant fuel costs. Nobody has given us a reasonable explanation of why we pay over $6.50 per gallon for gasoline in Dillingham when the urban areas pay fifty percent less. The recent state "investigation" only confused matters more.

To quote a local citizen, "We pay more because we have no choice."

Bristol Bay Energy Policy and Energy Crisis Recovery Plan: Phase One

April 15, 2008



Bristol Bay Energy Policy and Energy Crisis Recovery Plan: Phase One

April 15, 2008

Prepared for the Bristol Bay Partners, an association of:

Bristol Bay Area Health Corporation

Bristol Bay Economic Development Corporation

Bristol Bay Housing Corporation

Bristol Bay Native Association

Bristol Bay Native Corporation

Prepared By:

Nels Anderson, Jr.
and Associate, Greta Goto
dba Co-Man Services
P.O. Box 234
Dillingham, Alaska 99576
(907) 842-2366
andora@nushtel.net

This document, "Bristol Bay Energy Policy and Energy Crisis Recovery Plan: Phase One," is dedicated to our good friend Andy Golia. In his many years of contributing to regional economic development, he saw the need for lowering the cost of electricity, gasoline, diesel, heating fuel, aviation fuel, and propane for Bristol Bay. For eleven years, Andy pushed for and organized Bristol Bay Alternative Energy meetings which form the foundation of this energy report. He carried the energy mission to the various boards and committees on which he served. He was an inspiration to us and continued to support and help us when we needed to get energy policy and planning further down the road. Through this Bristol Bay Energy Policy and Energy Crisis Recovery Plan, Andy's work continues.

Andrew Golia
(photo courtesy of the Bristol Bay Native Corporation)

Respectfully,

The Bristol Bay Partnership

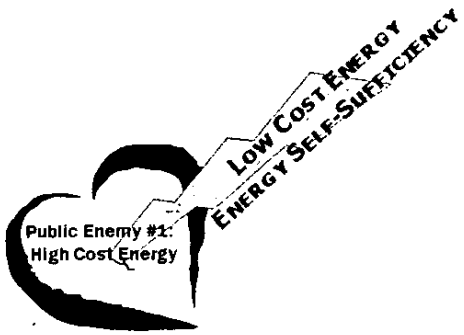
Energy Vision as described by Participants at the Bristol Bay Economic Action Summit of 2006

Background: *At the 2006 "Bristol Bay Economic Action Summit," four key topics affecting the region were discussed:*

- *Jobs and Training Opportunities*
- *Current High Fuel Costs*
- *Resource Development*
- *Transportation Infrastructure Needs*

Summit participants were encouraged to identify specific actions to be addressed for each of the four topics. The Energy Group reached consensus that high cost energy is Public Enemy Number 1. The Energy Group reported a goal for diesel independence by 2025 and electricity to be at 5 cents per KWH. The group also reached consensus that:

- *Everyone needs to be working together to defeat* ***Public Enemy #1 – the high cost of energy***
- *We need to support fully funding the PCE program AND fully funding the PCE Endowment*
- *We need to support augmenting the LIHEAP (Low Income Home Energy Assistance) program*
- *We need to establish Fuel Coops and finding Storage for Bulk Fuel Purchases*
- *To achieve non-reliance on diesel, we need to create a Regional Energy Plan that supports the diversification of energy supplies by developing our regional alternative energy sources*
- *We need to maintain current generation systems by making sure that power plant operators have the best training available because use of diesel will continue until we can convert to a next generation of low-cost, reliable, and long-term energy source.*



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* Appendices can be found in the electronic version of this report.

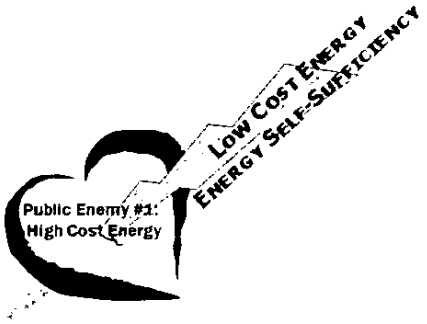
Executive Summary

The Bristol Bay Partners – made up of the Bristol Bay Area Health Corporation, Bristol Bay Economic Development Corporation, Bristol Bay Housing Authority, Bristol Bay Native Association, and the Bristol Bay Native Corporation – met on January 18, 2008, and decided on a process to address the high cost of energy in Bristol Bay.

Background:
At the January 18 meeting, Mr. Ralph Andersen, CEO of the Bristol Bay Native Association, and Chair of the Bristol Bay Partners, made a presentation that summarized the energy situation in Bristol Bay. Although much good work and many reports have made the case for lowering the cost of energy, it was noted that no statewide or regional energy policy exists. The Bristol Bay Partners have taken on this responsibility. The Partners have undertaken the task of developing a regional energy policy and will work collaboratively with Bristol Bay villages and their respective organizations, Tribes, utilities, regional organizations, municipalities, the private sector, state, and federal agencies. The Bristol Bay Partners decided to adopt Phase One of its own energy policy and plan, which will lead to detailed implementation strategies in Phase Two. Bristol Bay will address its energy crisis in phases to solve its short-term, median and long-term energy needs. Partners further noted that Bristol Bay communities are in critical need of action.

Findings – Bristol Bay Energy Costs and Trends:

- More and more people in the region can barely afford to keep their homes heated and lighted.
- Increasingly high-energy prices continue to guzzle what little discretionary income our people have. This affects the ability to buy goods and services further eroding Bristol Bay's tenuous economy. Strong evidence indicates that people are moving from the region to urban centers and becoming energy refugees because of the high cost of energy.



- High-energy prices negatively impact businesses and industry that operate in Bristol Bay.
- As of April 15, the spot price for a barrel of oil was trading over $113 per barrel. Experts in the oil trading business say crude oil will be $120 a barrel by June and possibly $145 per barrel by fall based on expert testimony before Congress. The prices of fuel are exceptionally high because of a lack of competition. For example, if fall barge prices are high when the fuel is delivered and prices drop after the fuel is delivered, most people in rural communities are stuck with that high price (regardless of market price fluctuations).
- World supply and demand for oil is about par. Any disruptions to the country's oil sources will cause huge problems for our national economy, hinder Bristol Bay's ability to develop its economy, and cause more of the region's people to exit the region.
- In addition to pressures of the world markets for oil, diesel prices are subject to environmental regulatory costs in the form of Ultra-Low-Sulfur diesel. It is estimated that this regulation will raise the cost of diesel by 25 to 50 cents a gallon. Efforts are underway to acquire short-term waivers, but eventually this regulation will need to be complied with.
- Threats to the Power Cost Equalization (PCE) fund still exist. While a cut to the PCE fund has been restored, PCE is a critical health and safety lifeline that rural Alaska depends upon and

it cannot be under funded. The Anchorage Chamber of Commerce and the State Chamber of Commerce support the PCE funding until a better long-term solution is found to supply power to Rural Alaska. (State Chamber, 2008; Anchorage Chamber, 2007)

- The state of Alaska is responsible for ensuring all Alaskans with energy security. The Bristol Bay region – and the balance of rural Alaska – is, at this point, very insecure and it needs help.

- The Alaska Municipal League supports the recommendations of the Rural Energy Action Council to advance immediate solutions to the energy crisis, which includes full funding for Power Cost Equalization (REAC Recommendations, April 2005; AML, 2008 Policy Statement).

- The State Chamber of Commerce and Anchorage Chamber of Commerce, Alaska Power Association and Southwest Alaska Municipal Conference support developing and implementing an energy plan to provide secure, reliable and affordable energy for Alaska. (http://www.alaskachamber.com/artman/publish/prior08/EnergyPolicy.pdf; Hope is Not a Strategy 2007; Alaska Power Association Resolution 08-03; SWAMC Resolution 08-10)

- Subsidies are needed and can be used as a tool to bridge today's energy needs to a long-term solution. Once low cost energy is being produced, then these subsidies will no longer be needed.

Immediate Action:
While the Bristol Bay Partners agreed that a Bristol Bay Energy Policy is critical for comprehensive, affordable, reliable and long-term solutions to the high cost energy in our region, the Partners also recognize that the Bristol Bay energy situation is at crisis levels. The Legislature and Governor and the Congressional delegation must understand the severity of the problem facing Bristol Bay and other rural communities.

Bristol Bay Partners need to continue to request that state and federal agencies take immediate action to help the villages of the Bristol Bay region stabilize the cost of energy. Further, if necessary, representatives of the Bristol Bay Partners should be ready to testify to state and federal agencies and to push for a sustainable energy plan for the Bristol Bay region.

Next Steps:
Once Phase One - Bristol Bay Energy Policy and Energy Crisis Recovery Plan – is adopted, then the Partners will be able to move to Phase Two to authorize the development of specific implementation strategies. In Phase Three: Implementation, the proposed implementation strategies should be filtered through the following process and provide the Bristol Bay Partners with answers to these questions:

Do-ability: Which alternatives are pie in the sky and which of the alternatives are doable?

Timeframe: When will multiple acceptable alternative energy sources deliver low cost fuel and electricity in the shortest possible time? When will the region see results?

Affordability: Which of the multiple alternatives is affordable? Costs for each alternative will be looked at to see what can be financed by identifying sources of funding to install, operate, maintain the alternative, and amortize the debt.

Reliability: Will the alternatives be as reliable as diesel has been?

Length of service: How long will the alternatives produce low-cost fuel and electricity?

Regional: Which alternatives will be regional in application?

Looking Ahead to Phase Three: Implementation

As the Partners move past Phase Two, thought needs to be given to what organization will implement the strategies adopted by the Bristol Bay Partners. The Partners need to select an organization that will be working full time to achieve the goals and objectives identified in the "Bristol Bay Energy Policy and Energy Crisis Recovery Plan: Phase One." Organizations for consideration follow:

Partners could decide which of their respective organizations will implement the Bristol Bay Energy Policy and Energy Crisis Recovery Plan strategies.

If one of the Partners is designated to implement the Policy and Plan, a Department of Energy Development will need to be created.

The Partners may decide that a quasi-governmental entity such as a Bristol Bay Energy Development Authority be created by the state to implement the strategies adopted by the Bristol Bay Partners. This will require drafting legislation, state legislative action, and approval by the governor. Start up would be subject to legislative action.

The Partners may decide that a Bristol Bay Regional Fuel Coop should be developed to deal exclusively with acquiring fuel at a lower cost than communities are capable of purchasing individually.

The Partners may decide that a Bristol Bay Regional Energy Development Coop be developed to deal exclusively with a regional approach to lower the cost of fuel AND electricity.

In the document that Andy Golia developed in 1980, "Energy and Bristol Bay", he suggested that a Regional Energy Authority carry out any polices and plans adopted by Bristol Bay. In addition to that suggestion, it was recommended that a Bristol Bay Development Authority be considered to address energy, transportation, and communications needs of the Bristol Bay region. Since that time in 1980, prices of fuel dropped such that the economics of new energy projects were not as feasible. However, now that the region is again experiencing increasingly high energy prices, there is a need to revisit these proposals.

In summary, the next step is for the Bristol Bay Partners to review the "Bristol Bay Energy Policy and Energy Crisis Recovery Plan: Phase One." Once that review is completed and the Partners have decided which of the policies and plans will move ahead, then Phase Two: Implementation Strategies can begin.

Introduction

Increasingly high energy prices around the state of Alaska are driving regional and statewide efforts to do something to lower the cost of energy. In Bristol Bay, communities have seen prices for fuel and electricity continuously rise year after year. It is at crisis proportions.

Sources of information on statewide and regional energy costs are scattered and inconsistent. The Alaska Energy Authority, Alaska State Division of Community Advocacy, University of Alaska's Cooperative Extension Service and the Alaska Housing Finance Corporation are the main sources of primary and published information on energy costs (electric, heating fuel, gas). The Institute of Social and Economic Research at the University of Alaska Anchorage, various research and consulting firms as well as community and regional organizations will sporadically collect energy costs data for ad hoc reports.

Table 1:

Fuel Prices in Bristol Bay Communities as of January 2008

Community	28-Jan-08
Aleknagik*	$ 4.56
Aleknagik*	$ 4.31
Aleknagik	$ 4.95
Chignik Lagoon	$ 2.96
Chignik Lake	$ 2.96
Clark's Point	$ 4.70
Egegik	$ 3.42
Ekwok	$ 4.20
Igiugig	$ 5.05
Kokhanok	$ 7.75
Koliganek	$ 4.75
Levelock	$ 4.70
Manokotak	$ 4.60
Newhalen	$ 6.38
New Stuyahok	$ 4.70
Nondalton	$ 6.10
Perryville	$ 4.97
Pilot Point	$ 5.68
Portage Creek	$ 4.50
Port Heiden	$ 4.51
South Naknek	$ 3.95
Togiak	$ 3.68
Twin Hills	$ 3.68
Ugashik	$ 5.68
Chignik Bay	$ 2.96
Dillingham*	$ 4.49
Dillingham*	$ 4.16
Ekuk*	$ 4.49
Ekuk*	$ 4.16
Iliamna	$ 6.38
Naknek*	$ 4.12
Naknek*	
Naknek*	$ 4.02
Naknek*	$ 4.23
Pedro Bay	$ 5.57

Source: Bristol Bay Native Association, January.2008
Note: The table lists more than one fuel price because there is more than one vendor.

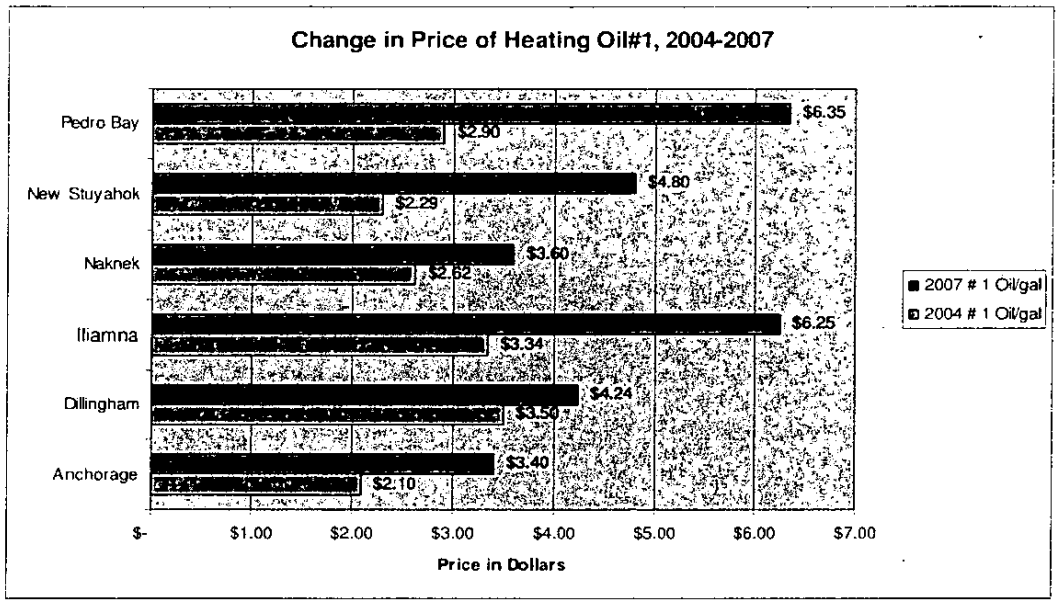
The fuel cost information presented in this report is derived from data gathered by the Bristol Bay Native Association, the Alaska Housing Finance Corporation, the University of Alaska Cooperative Extension Service, the Power Cost Equalization Program and the Alaska Industrial and Export Authority.

The table and graphs illustrate prices that communities in Bristol Bay are paying for heating fuel, motor gas and electricity. *Table 1: Fuel Prices in Bristol Bay Communities* show the prices for heating fuel in 28 of the villages in Bristol Bay. The highest price for heating fuel as of January 2008 is in Kokhanok where they are paying $7.75 dollars per gallon. The lowest is in Chignik Bay where residents were paying 2.96 per gallon.

The graphs on the following page illustrate the changes in prices for heating fuel, motor gas and electricity over time. Again, the reader should note that due to lack of publicly available data that are consistently gathered over time, the information presented is the best that is available.

On the next page in figure 1, *Change in Price of Heating Oil #1, 2004-2007*, we see a dramatic increase in prices in less than five years for the selected communities of Pedro Bay, New Stuyahok, Naknek, Iliamna and Dillingham. Anchorage is provided as a baseline comparison. If data for all the communities in the Bristol Bay region over this time period were available, one would likely see the same type of results – seriously increasing prices that residents pay for heating oil.

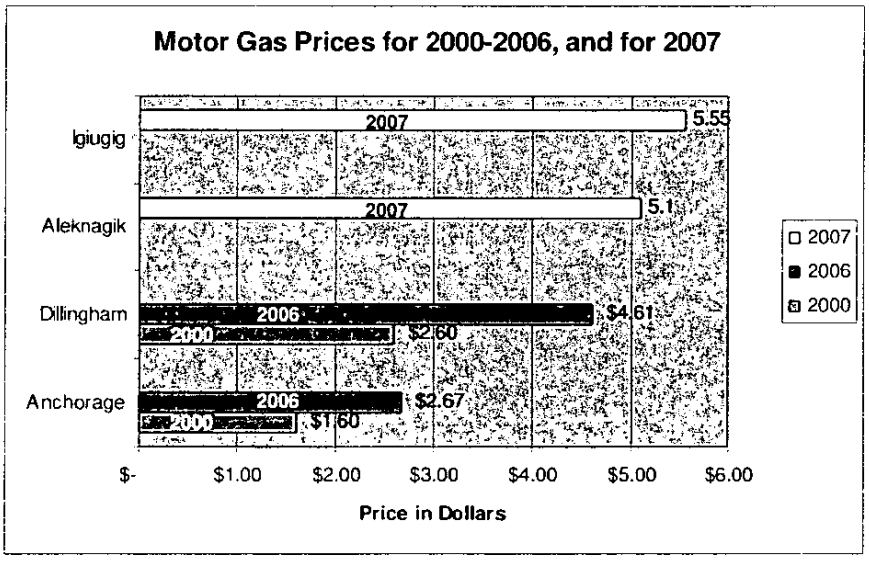
Figure 1



Source: Alaska Building Science Network for the Alaska Housing Finance Corporation and Department of Health and Social Services, 2000 and 2007.

Likewise, in figure 2, *Motor Gas Prices for 2000-2006, and for 2007*, within a 5-year period, the University Cooperative Extension Service documented increasing prices for motor gas in Dillingham through its food cost survey. The villages of Igiugig and Aleknagik responded to the Alaska Industrial and Export Authority's fuel survey, reporting prices of $5.55/gal and $5.10/gal of gas, respectively.

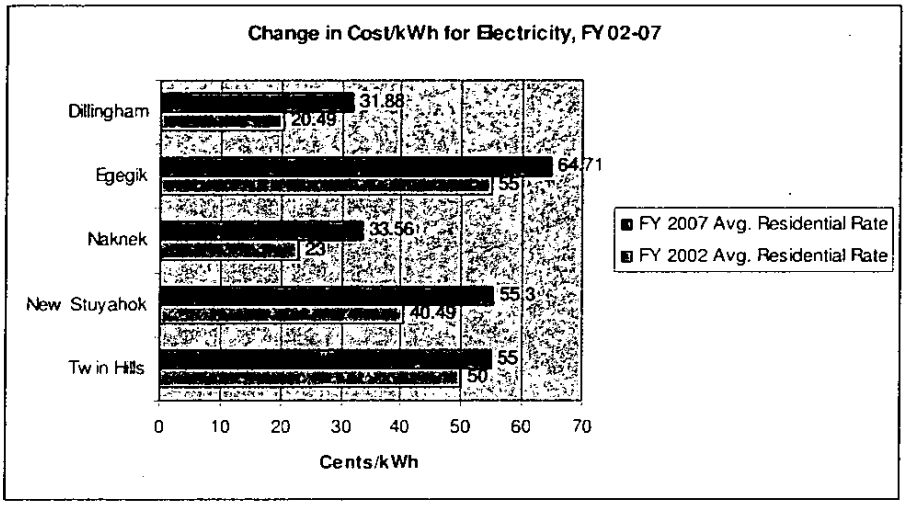
Figure 2



Source: University of Alaska, Cooperative Extension Service, "Food Cost Survey" September 2000 and 2006; AIDEA Fuel Survey, 2007 **Note**: 2007 University of Alaska, Cooperative Extension Service online, published data were not available for Dillingham.

Finally, in figure 3, *Change in Cost/kWh for Electricity, FY 02-07*, data is taken from the Alaska Energy Authority's Statistical Report of the Power Cost Equalization (PCE) Program for the villages shown below. The change in prices (cents per kWh) illustrates an increase in the cost to the consumer before the PCE subsidy is applied.

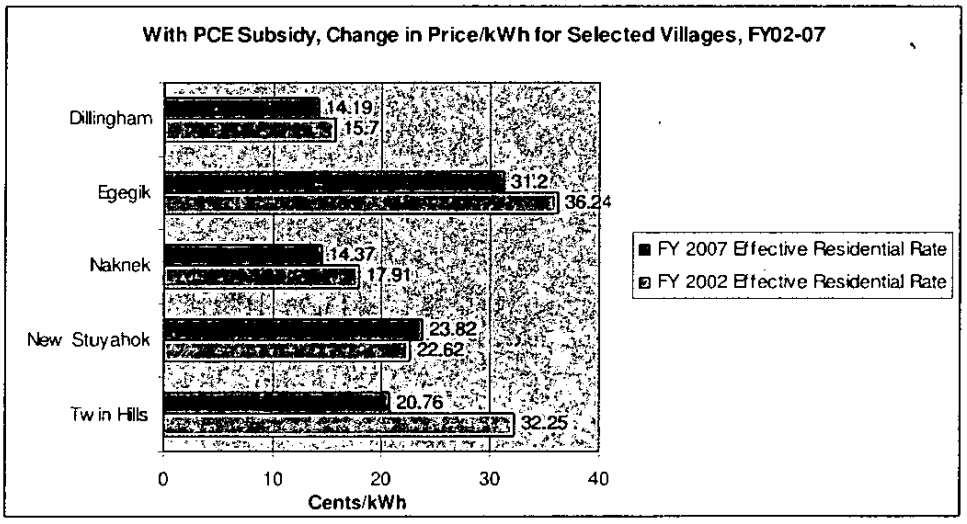
Figure 3



Source: Statistical Report of the Power Cost Equalization Program, FY 2007 and FY 2002
http://www.akenergyauthority.org/publications.html
Note: The cost per kWh shown is the total cost per kWh based on monthly usage of 500 kWh and before PCE is applied to the cost.

It should be noted that, when the PCE subsidy is applied, the consumer is paying a bit less for electricity per kWh. In figure 4 below, we can see that with the PCE subsidy applied, the effective residential rate that the consumer pays is less than what it would be without the PCE subsidy. The decrease over time is also due to the fact that the PCE endowment has been fully funded and the PCE program has received supplemental funding since 2005 to keep up with the rising cost of fuel.

Figure 4



Source: Statistical Report of the Power Cost Equalization Program, FY 2007 and FY 2002
http://www.akenergyauthority.org/publications.html

As one examines these and other energy data, one sees that:

- There are price equity issues within the region and compared to the rest of the state.
- Increasing costs of heating fuel, motor gas, propane, electricity are becoming unsustainable and action is needed to stabilize the costs.
- Power Cost Equalization is helping to decrease the cost of electricity; however, the cost for most villages in Bristol Bay is still two to five times higher than in Anchorage.

The challenge of finding a way to deliver reliable, low-cost, and long-term energy – heating fuel, motor and aviation gas, diesel, propane – to all of Bristol Bay presents interesting opportunities for innovative strategies that will put the region on the path of energy self-sufficiency by 2010. The best, and fastest, way to realize low-cost, reliable, energy self-sufficiency is through a process beginning with an energy policy and an energy plan.

Energy policy can be likened to a four-legged energy stool.

- ***Leg one**: increasing supply;*
- ***Leg two**: diligently searching for acceptable, affordable, reliable, and long-term energy alternatives;*
- ***Leg three**: vigorously promoting conservation practices to lower our cost of energy; and finally*
- ***Leg four**: the WILL to do all of the above.*

Figure 5.

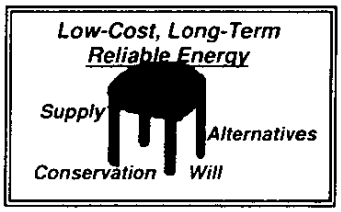
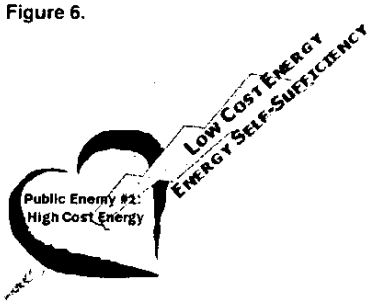


Figure 6.



In the 2006 Bristol Bay Economic Action Summit, participants from all around the region agreed that:

- "High cost energy is Public Enemy Number 1
- We need to have everyone working together to defeat the high cost of energy
- The goal is to:
  - Become non-reliant on diesel and be energy self-sufficient by 2025
  - Have electricity at 5 cents/kWh to all Bristol Bay villages."[2]

The recommended Bristol Bay Energy Policy is based upon the consensus reached at the 2006 Bristol Bay Economic Action Summit. The recommended policy provides guideposts that, if adopted, can help focus the efforts of Bristol Bay communities and organizations to realize the goals adopted at the Summit and lower the cost of energy. The Bristol Bay Energy Policy also guides the development of an Energy

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[2] In the meeting minutes submitted to the full summit, the Energy Group reported the following:
"**Diesel Independence by 2025/Electricity 5 cents a KWH**
Consensus was reached on the following:
High cost energy is **Public Enemy Number 1**. We have to have EVERYONE working together to defeat **Public Enemy Number 1**

- We need to support fully funding the PCE program AND fully funding the PCE Endowment
- We need to support augmenting the LIHEAP program
- We need to establish **Fuel Coops** and finding **Storage for Bulk Fuel** Purchases
- To achieve Non-Reliance on Diesel, we need to create a **Regional Energy Plan** that supports the diversification of energy supplies by developing our regional alternative energy sources

Although our goal is to become Non-Reliant on diesel by 2025 and have our electricity delivered at no less than 5 cents a KWH to all of our villages, we still need to maintain our current generation systems by making sure that all of our power plant operators have the best training available. Use of diesel will continue until we can convert to our next generation of low-cost, reliable, and long-term energy source. Respectfully submitted, Nels Anderson, Energy Group for the BB Economic Action Summit, March 22-23, 2006"

Crisis Recovery Plan. The plan provides suggestions for short, median and long-term plans to the energy crisis facing the Bristol Bay region.

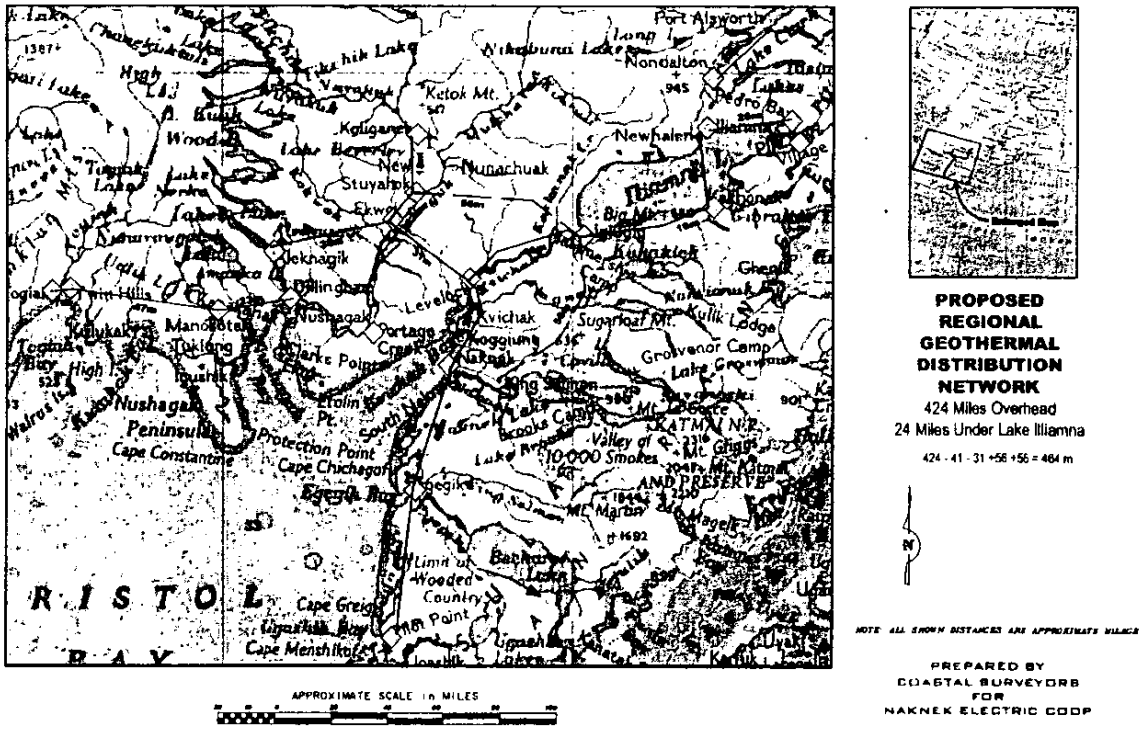
The recommended energy policy statements are also derived from the authority granted by the Alaska State Constitution. The language found in Alaska's Constitution is broad and clear regarding how its natural resources should provide "for the maximum benefit of its people." Specifically:

> *"Article 8, Section 2. General Authority -*
> *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."*

The Bristol Bay region and communities can use this authority to demand that the State provide the necessary resources and programs to allow the region to develop its energy resources to be energy self-sufficient and ensure the well-being of its people.

Since many Bristol Bay communities are located close to hydro, geothermal, wind, tidal, coal-bed-methane, and bio-mass resources, it may be possible to move the region's communities away from diesel toward renewable energy more quickly than anticipated[3]. Regardless, it is imperative to devise strategies that will bring the most benefits in the shortest time possible.

Figure 7: Naknek Electric Proposed Geothermal Project



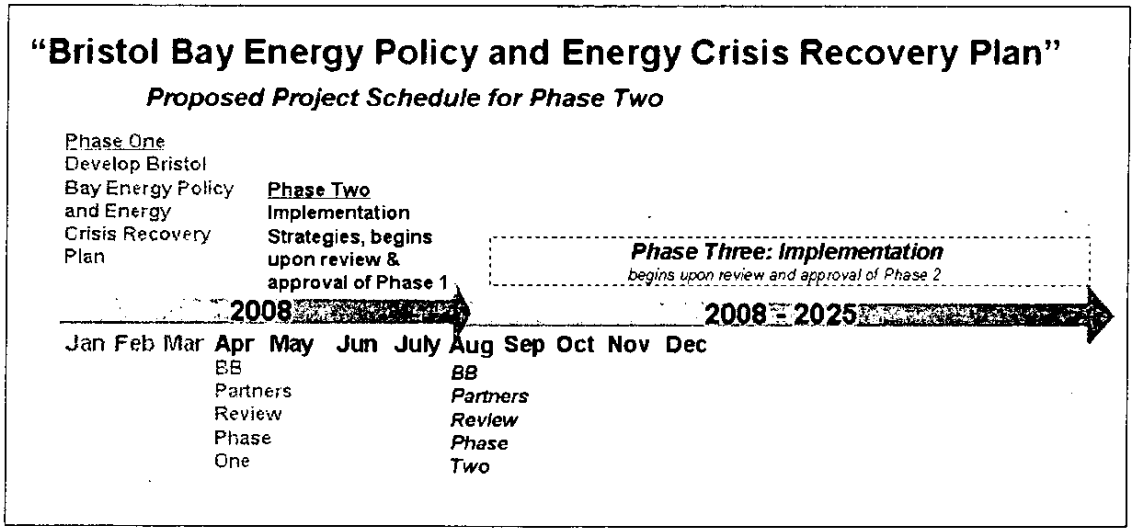
Source: Naknek Electric Association, Inc.
Note: This map and additional information on the Naknek Geothermal project can be obtained at http://www.nea.coop/about/geothermal.shtml, or http://www.alaskapower.org/docs/DonnaVukich.pdf or http://www.swamc.org/images/stories//brsitolbaygeothermal.pdf

[3] For more information on studies quantifying these resources, see Appendix 4.

That is what this document does. It recommends the policy and plans needed to get from the current high-cost energy situation to acquiring low-cost, reliable and long-term energy security for Bristol Bay through increased supplies, conservation, and acceptable alternatives. The Bristol Bay Energy Policy and Energy Crisis Recovery Plan can also be used to inform federal, state, Tribal and local governments, as well as private capital investors, how they can assist the Bristol Bay region achieve its low cost energy goals.

The Bristol Bay Partners have reviewed Phase One, and are moving toward authorization of Phase Two which would develop strategies to implement the Bristol Bay Energy Policy and Energy Crisis Recovery Plan.

Figure 8.



Bristol Bay Energy Policy

The intent of the Bristol Bay Energy Policy is to reach the goal of affordable, reliable, safe and long-term energy and to realize energy self-sufficiency and security that supports and sustains the well-being of Bristol Bay people and communities and that promotes economic development opportunities.

- **Bristol Bay will sustain its support for fully funding the Power Cost Equalization program and other energy assistance programs until they are no longer needed.**

- **Bristol Bay and its villages will:**
  - **Have adequate and affordable fuel sources to keep its communities heated and lighted year-round**
  - **Maintain current diesel generation systems by making sure that all of its power plant operators have the best training available and learn fuel purchasing strategies**
  - **Wean itself from use of diesel as its primary source of electrical energy**
  - **Enjoy energy equity and access to energy sources the same as all other citizens of Alaska.**

- **Bristol Bay will promote energy conservation to reduce waste and lower heating and lighting costs for homeowners and public buildings.**

- **Bristol Bay will support and encourage exploration of all on-shore, private, state, and federal lands in the Bristol Bay region to find new sources of energy.**

- **Bristol Bay will support and encourage:**
  - **Energy interties that connect Bristol Bay villages into a common Bristol Bay Energy Grid and to the Railbelt Energy Grid**
  - **A State-Wide Energy Grid to achieve the goal of low cost energy**
  - **Transportation corridor planning that will parallel energy grid development in Bristol Bay.**

- **Bristol Bay will search diligently for and promote acceptable energy alternatives that will reduce the carbon imprint in the Bristol Bay region.**

- **Bristol Bay will encourage Energy providers and producers to plan collectively for energy infrastructure development.**

Bristol Bay Energy Crisis Recovery Plan

The purpose of an energy policy is to ensure Bristol Bay's energy security by establishing an energy plan that will assist in developing energy strategies to lower the cost of fuel and electricity in Bristol Bay. The following presents the energy policy and the recommended energy plans needed to carry out the policy:

1. **Bristol Bay will sustain its support for fully funding the Power Cost Equalization (PCE) program and other energy assistance programs until they are no longer needed.**

   Rationale: Until the Bristol Bay region fully realizes its goal of low-cost, diesel free energy, communities and residents will need the Power Cost Equalization program and other subsidies that provide immediate relief to high cost motor fuel, heating fuel, propane and aviation gas. Even organizations such as the Alaska Municipal League (AML) and the Anchorage Chamber of Commerce recognize the importance and need for Power Cost Equalization (Hope is not a strategy, 2007; AML 2008 Policy Statement[4]).

   Plan recommendation: The Bristol Bay region and villages should continue advocacy for support of these programs through resolutions, face-to-face communications with legislators and the Governor and public relations campaigns that educate and communicate what these programs are and how they help bridge the gap between the current crisis and future solutions.

   Bristol Bay should also develop a strategy that the state can adopt that will transform the PCE Endowment Fund into an Energy Development Fund to finance Rural and Remote Energy initiatives to achieve low cost energy for our villages once our villages no longer need the PCE program.

2a. **Bristol Bay villages will have adequate and affordable fuel sources to keep its communities heated and lighted year-round.**

   Rationale: Strategies to ensure that Bristol Bay villages do not run out of fuel should be a very high priority for the region. There have been instances where some villages have been unable to acquire their fuel because of low-water conditions; high cost of fuel making it impossible to fill up the bulk fuel tanks; state and federal loan programs failing to work; lack of a regional fuel monitoring program for our villages; and, the lack of strategic plans for other unforeseen circumstances beyond the control of the villages.

   For instance, New Stuyahok, Manokotak, South Naknek have all had problems getting fuel delivered. This is not a circumstance happening only in the Bristol Bay region. As an example, the village of Nikolski was without fuel for most of 2007 because of weather conditions. The Bristol Bay region must have contingency plans for its villages to make sure that it can meet any energy challenge that may arise.

   Plan Recommendation: A regional fuel contingency strategic plan needs to be created and implemented to make sure that each Bristol Bay village has the fuel it needs to keep heated and lighted year-round.

   A regional fuel monitoring program is needed to determine which villages are unable to fill their fuel tanks for the entire winter.

   Strategies must be developed that will enable Bristol Bay villages to fill their fuel tanks to keep them going year-round.

[4] For more information on these policy statements, see Appendix 4, Review of Energy Policy and Energy Resource Studies for Bristol Bay and Alaska.

2.b. Bristol Bay and its villages will maintain current diesel generation systems by making sure that all of its power plant operators have the best training available and learn fuel purchasing strategies.

Rationale: It will take several years for the region to realize its goal of becoming diesel free. In the meantime, the region must ensure that its villages can operate diesel gensets at the highest rates of efficiency, and that village fuel purchases are conducted using the latest cost-saving techniques that result in the lowest cost to the communities.

Plan Recommendation: Plans should be devised to allow utility operators and others to get training in fuel buying and management techniques. Organizations such as Oil Price Information Service (OPIS) operate training programs like the "Fuel Management University" and "Winning Fuel Buying Strategies" to help fuel operators realize cost savings[5]. Strategies should also be developed to continue to ensure that the Bristol Bay region's power plant operators have the best training available to maintain current diesel generation systems.

2.c. Bristol Bay will wean itself from use of diesel as its primary source of electrical energy.

Rationale: With oil over $100 a barrel it is imperative that Bristol Bay villages do everything possible to move away from being totally dependent on diesel as soon as practicable. Diesel oil continues to increase in cost and there is nothing that indicates that high crude oil costs are going to go away. In addition, Ultra-Low Sulfur Diesel is being mandated to be used by all village utilities in the near future. Even if we are successful in getting a reprieve, it will only be temporary and the cost of diesel will be more expensive as a result. Other problems arise with ULSD such as fuel storage and transportation difficulties that have not yet been resolved.

Therefore, strategies that will move Bristol Bay villages away from diesel must be a high priority in order to prevent unscheduled downtime in village utilities. If diesel prices continue to rise, villages may not be able to pay for their electricity.

Plan Recommendation: Near-term strategies should be planned and adopted to move Bristol Bay villages away from diesel generation as soon as possible. Careful consideration must be given to connecting villages that are close to each other to subregional grids. This would allow more villages to share the cost of power generation if villages decide to build a sub-regional electrical intertie. Furthermore, a regional intertie electrical grid should be in the planning stages to be ready for large scale energy projects like the Naknek Electric Geothermal Project. The region also needs to push to connect itself to the Railbelt Energy Grid, and eventually be connected to a State-Wide Energy Grid.

In addition, strategies are needed for a regional fuel cooperative to be developed very quickly. Bulk fuel purchases for all of the region's villages would help bring down the cost of fuel as a stop gap measure. Acceptable alternatives to diesel need to be evaluated and adopted as each is measured by do-ability, timeframe, reliability and affordability.

2.d Villages of Bristol Bay will enjoy energy access and costs equal to all other citizens of Alaska.

Rationale: The State of Alaska's Constitution, under Article 8, Section 2. General Authority, states 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."

[5] OPIS, Oil Price Information Service, conducts a Fuel Management University every year. The next course is in April 2008. Topics such as futures, price caps, risk, trends hedging and cash flow are taught. For more information see http://www.opisnet.com/fmu/. Another training program is the Fuel Buying Strategies which provides an introduction to the fuel buying world. For more information see http://www.opisnet.com/wfbs/.

We know that communities in Bristol Bay are paying far higher prices than counterparts in the Railbelt. Bristol Bay fuel and electricity costs are up to 5 and 10 times more expensive than what people pay in Anchorage, Fairbanks, Mat-Su, and Kenai. The Alaska Constitution states clearly that we can demand that state Royalty Oil be used for in-state use at a discount to help get through the energy crisis we are experiencing.

It makes little economic sense to send tankers of Alaska's oil down south, have Alaska's crude oil refined in Seattle, and then barge the fuel back to Alaska. Alaska should be able to make a call on its Royalty Oil for its citizen's use.

Plan Recommendation: Bristol Bay villages and region need to make a call on Alaska's State Royalty Oil to have it refined at Flint Hills or Tesoro. The gasoline, diesel, heating fuel, aviation fuel, jet fuel, and propane should be sold at a discount to all Alaskans across the state of Alaska. A cap of $3.50 a gallon for all fuel should be set and the difference that Alaskans pay should be provided by the state.

The Bristol Bay region should make immediate plans to connect to the Railbelt Energy Grid as it works on tying all of the region's villages together with a common energy grid. The State of Alaska should be encouraged to begin planning a State-Wide Energy Grid to tie all of Alaska's communities together.

3. **Bristol Bay will promote energy conservation to reduce waste and lower heating and lighting costs for homeowners and public buildings.**

Rationale: The cheapest energy we can get is the energy we don't use. Although we cannot conserve our way out of this energy crisis in Bristol Bay, we can encourage conservation strategies that will lower the end user's cost of energy. There are many programs that have addressed conservation; the region should continue to support any and all conservation efforts to reduce the cost of energy.

Plan Recommendation: Strategies should be developed to provide incentives to conserve energy. Local energy providers, regional and community organizations, state and federal agencies should work together to devise and implement a menu of acceptable conservation strategies. The strategies could include tax credits, low interest loans, rebates, and grants to weatherize homes or to purchase more efficient heating systems, purchase solar panels, wind generators, and or other technologies that will result in lower cost energy for residents.

The same agencies should develop public service announcements, energy conservation brochures, conservation forums, and finally, bring the idea of energy conservation into our schools.

4. **Bristol Bay will support and encourage exploration of all on-shore, private, state, and federal lands in the Bristol Bay region to find new sources of energy.**

Rationale: If Bristol Bay is going to lower its cost of energy, the region needs to increase its supply. The world demand for oil is pushing oil prices over $100 a barrel. More supply will help meet the demand for oil and help to stabilize the region's cost of heating fuel, diesel, aviation fuel, gasoline, and propane for use in the region. If natural gas is found, it could be used for electrical generation.

Plan Recommendation: The region should support and encourage exploration and development of all private, state, and federal uplands on-shore in the Bristol Bay region and all other regions across the state of Alaska.

5. **Bristol Bay will support and encourage the development of energy interties that connect Bristol Bay villages into a common Bristol Bay Energy Grid and to the Railbelt Energy Grid, and connect to a statewide energy grid and will encourage transportation corridors that will parallel energy grid development in Bristol Bay.**

Rationale: Bristol Bay energy studies have recommended connecting villages in sub-regional and regional grids in order to realize energy cost savings and to make development of alternative energy sources more feasible[6]. The State of Alaska has recommended interties for rural Alaska in its Rural Energy plan[7]. A regional transmission energy grid will need to be maintained and it would be practical to promote policies that call for jointly planning electrical transmission and transportation corridors. Environmental and other regulatory considerations are important to consider at the same time regional transmission lines and transportation corridors are being created. Many of the transmission lines and transportation corridors will parallel or cross many of our fish-producing streams and rivers in the Bristol Bay region; care must be taken to protect our fish and other natural resources.

Plan recommendation: An RFP calling for proposals to energize the Bristol Bay Region may be advisable. The RFP would ask for plans and the feasibility of connecting all villages to a common energy grid as well as to identify acceptable alternative energy power sources to meet the region's needs. Because there is no guarantee that the Naknek Geothermal Energy Project will be successful, there is a need to plan for other alternative energy sources. It makes sense to be ready for any major energy project that could provide for the region's energy needs with a grid that ties all the villages into whatever the source of alternative energy may be.

Bristol Bay should begin to plan for:

- Tying the villages into sub-regional energy grids
- Developing a transportation corridor to coincide with a regional energy grid
- Tying into the Railbelt Energy Grid, and
- Advocating and supporting efforts to develop a State-Wide Energy Grid

6. **Bristol Bay will search diligently for and promote acceptable energy alternatives that will reduce the carbon imprint in the Bristol Bay region.**

Rationale: Clean energy initiatives are supported by a vast number of Alaskans and people in the Bristol Bay Region. In order to reach that goal, it may be necessary for the Bristol Bay region to build a bridge between now and the future of renewables. Use of clean coal technology as an energy bridge from diesel power to green power sources may be an acceptable alternative as we watch crude oil prices move over a $100 a barrel. Diesel use is going to become cost prohibitive if crude oil continues to rise and the federal government continues to push use of Ultra-Low Sulfur diesel.

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[6] See Appendix 4 for Review of Energy Policy and Energy Resource Studies for Bristol Bay and Alaska.

[7] In the "NonRailbelt Report-Findings and Recommendations of the Alaska Energy Policy Task Force, 2004, page 11, the report states, "b. Long-term energy needs NonRailbelt findings: A long-term plan is needed for coordinated generation and transmission of power, to maximize the use of public funds, and to minimize the cost of power to the consumers. The Task Force adopted the definition of long-term as 20 years or more. Within the next 20 years, it was determined that NonRailbelt Alaska needs to:

- Create secure and reliable transmission between load centers
- Provide energy infrastructure for economic development
- Identify and evaluate long-term fuel sources
- Establish regional system operations where feasible
- Connect new areas to the Railbelt grid
- Replace aging generation
- Replace an aging workforce lessen dependence on fossil fuel generation where renewable options are available." http://www.akenergyauthority.org/EnergyPolicyTaskForce/FinalNonRailbeltReport.pdf .

There is an urgent need to prove several green energy sources such as the Naknek Electric Geothermal project, Togiak Tuya, wind, solar, tidal, peat, biomass, and other acceptable regional energy alternatives as soon as possible. This effort must take on the urgency of the construction of the AlCan Highway and getting a man to the moon. Anything short of a concentrated effort will leave Bristol Bay villages in a crisis.

Plan Recommendation: Multiple strategies that will accelerate the region's efforts to gain low cost, clean energy sources for its villages should be a high priority. Strategies should include:

- Continued support for the Naknek Electric Geothermal Energy Project, and
- Support for all village, regional, municipal, private, state, and federal clean, alternative energy initiatives that are currently in progress.

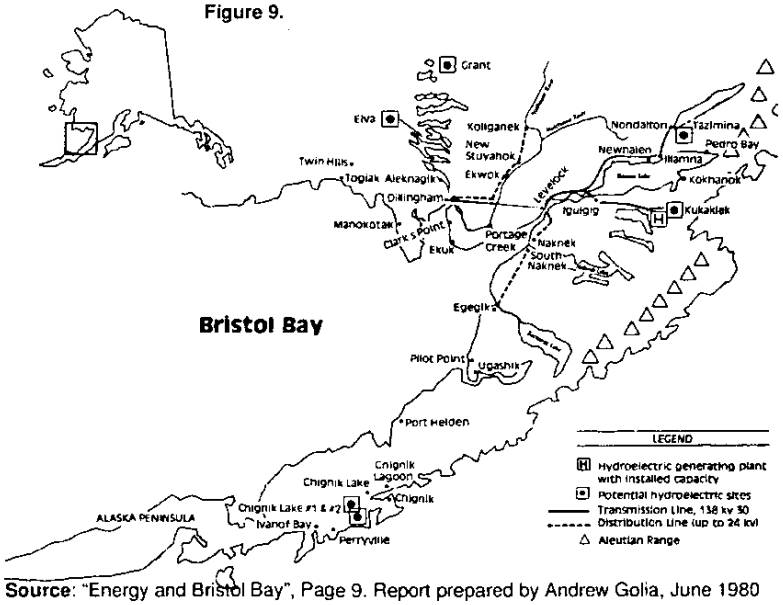
7. Bristol Bay will encourage Energy providers and producers to plan collectively for energy infrastructure development.

Rationale: Bristol Bay needs to establish strategic alliances to create a regional integrated energy development plan. This will require the leadership from all stakeholders in the Bristol Bay region. This would include all Bristol Bay villages and their respective organizations, utilities, regional organizations, municipalities, the private sector, state, and federal agencies that have an interest in the future development of the villages and the Bristol Bay region.

Plan Recommendation: Bristol Bay needs to consider the formulation of a regional entity(s) to address the many questions that arise when considering major energy projects in the region.

In June, 1980, the "Bristol Bay Energy Report" prepared by Andy Golia recommended that a Regional Energy Authority be established that would *"provide a better chance for the residents of Bristol Bay to actively seek and secure major energy development projects within the region. Unity provides strength, and such an organization would provide more political clout for local residents to work through its current energy dilemma."*

Figure 9.



Source: "Energy and Bristol Bay", Page 9. Report prepared by Andrew Golia, June 1980

The Bristol Bay Partners should consider a Regional Development authority that would be established to solve its energy crisis and to address transportation and communication needs as well. Transmission rights of way are going to have to be established in order to tie all of our villages into a regional energy grid. Those lines are going to have to be maintained and it makes economic sense to plan a transportation corridor that would parallel the regional electrical intertie to the extent practicable.

March 1, 2009
House Energy Committee - Dillingham Public Hearing

From: Tom & Karen Dearlove Tom.Dearlove@gmail.com karen.s.dearlove@gmail.com

PO Box 761

Dillingham, AK 99576

907-842-4884

AHFC Weatherization Rebate Program

Background - Web-based Queue & Energy Raters From October to the end of January, the web-based queue was referring names to energy raters without the raters knowing it/without the raters contacting AHFC for a list of referrals. This resulted in months of delay of homeowners getting their energy ratings completed and may have resulted with folks unknowingly dropping off of the queue by being assigned to inactive energy raters. At this time out of a list of 24 names provided by Gordon Isaacs, 13 Dillingham households have committed the $500 and will have their initial energy ratings done in mid March. These ratings are finally being done through AHFC receiving information about the status of active energy raters in Dillingham, and by AHFC assigning an energy rater from Homer to do these ratings.

Action: Make sure this referral of names to energy raters without the energy raters actually requesting names is not occurring in other regions of off-road Alaska.

Action: AHFC should to do targeted outreach to regions of Alaska that are underutilizing the weatherization rebate program's web-based queue. PSAs through the Alaska Public Radio Network is one method to advise folks in communities without energy raters how to queue up and how to secure a Roving Rater for their community's energy ratings.

Action: AHFC needs to purge their referral listing of energy raters to reflect those with certifications that are actively doing energy ratings. Set a standard of no less than 1 energy rating report submitted to AHFC every 3 months for certified energy raters to maintain their active status on the energy rater database .

Proposed Next Phases for the State's Homeowner Energy Conservation Programs

Background - Heating Systems Many rural homeowners are considering lower-cost biomass/wood energy systems rather than the most efficient systems that would maximize on the conversion of fuel to energy. In some cases, these less efficient systems are not only terribly inefficient, but can also create air quality problems due to incomplete combustion. Some vendors may even be heavily promoting (dumping) non-EPA certified wood burners in remote Alaska. In addition, for the energy ratings of a home, AHFC makes no differentiation

ALASKA EARTH SCIENCES, INC.
11401 Olive Lane
Anchorage, AK 99515
Telephone: (907) 522-4664

GeothermEx
3260 BLUME DRIVE, SUITE 220
RICHMOND, CA 94806
TELEPHONE: (510) 527-9876

MEMORANDUM

DATE: February 26, 2009
TO: Those Considering Requests for Support from Naknek Electric Association (NEA)
FROM: Ann Robertson-Tait, *Senior Geologist, GeothermEx*
Robert M. Retherford, *Certified Professional Geologist, Alaska Earth Sciences*
RE: Exploration and Development of Geothermal Energy in the Naknek/King Salmon Region

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To reduce reliance on oil for electrical generation and for home and business heating, NEA has researched not only geothermal, but also tidal, wind, natural gas (including coal-bed methane) hydro, coal and solar energy alternatives. In the search for geothermal energy alone, NEA has funded over $2 million dollars of scientific work over the last 8 years – including deep-looking magnetotelluric geophysical surveys which are currently helping to locate the target for a deep geothermal test well. This concerted effort by a small rural utility is almost without precedent.

NEA has recognized from the outset that the amount of geothermal energy available locally is not certain and will not be known until a deep test well is completed. Why pursue a geothermal resource?

A. **Global warming and climbing oil prices** have accelerated geothermal exploration and development on every continent -- attaining a critical mass economically and technologically.

B. **Advances in Enhanced Geothermal Systems (EGS) and binary power plant technology** now allow development of geothermal resources at greater depths and from reservoirs with lower heat values. At Naknek, EGS development is both economically viable and environmentally preferable to the existing diesel power scheme.

C. **Encouraging geological indications, including:** 1) aeromagnetic anomalies that suggest a strand of the Lake Clark Fault system cuts the target area, possibly providing conduits for recent intrusive magmatic or hydrothermal activity; 2) geothermometer temperatures of about 190°F from shallow borehole samples; 3) indications of hydrothermal activity from soil geochemistry; and 4) regional temperature gradients that imply temperatures of 300°F at 13,000 feet.

D. **Excellent return on investment** in geothermal exploration and development (see table below).

NEA Geothermal Q & A

1. *Q: Are EGS resources technologically and commercially viable? Shouldn't they be tested and developed closer to rail belt or lower 48 infrastructure (where costs are lower)?*

   A: Worldwide, geothermal power developments have been advancing into subsurface environments at great depth and with modest reservoir temperatures. Supported by a high price for geothermal power, $28 million was spent at Landau, Germany, to develop an EGS resource at 11,000 feet and 300°F. This project now generates 2.5 MW of electricity and heats hundreds of homes in the winter. With both government and shareholder support, Australian companies are investing hundreds of millions of dollars in developing EGS resources at depths of 15,000 feet or more. As shown in the table below, geothermal energy is especially attractive in Naknek because: 1) NEA is off the rail belt intertie; and 2) imported energy costs are very high.

2. *Q: Even if sufficient heat exists at depth, will the rocks have sufficient porosity and permeability for sustainable rates of water flow between the injection and production wells?*

   A: Complex faulting and fracturing are indicated by deep-looking magnetic and electromagnetic surveys and by extensional graben structures that are projected to underlie the project area. These may provide natural permeable pathways for hot water. In the absence of sufficient natural permeability, EGS hydraulic stimulation techniques will be applied to enhance well productivity.

3. *Q: Is it technologically feasible to achieve flow rates of 2,000 gpm (gallons per minute?) High flow rates are required for substantial electrical generation at temperatures of less than 350°F.*

A: Because of the relatively low energy content of hot water (compared to, for example, oil or gas), commercial production of geothermal fluids requires high flow rates. Geothermal wells have been pumped routinely at rates of 2,000 gpm or more for the last 20 years using conventional line-shaft pumps. Newer submersible pump technology enables flow rates up to 4,000 gpm. With today's technology, both types of pumps can be used at temperatures up to 390°F.

4. *Q: Given the State's limited capital to invest in rural energy programs, isn't NEA's project too expensive and risky?*

A: There is always a risk in drilling a deep well, but NEA has progressed toward reducing the risk as much as possible by using the best geophysical and geochemical techniques. Further, considering that the project site is about 50 miles from the Katmai Volcanic Cluster, the assumed temperature gradient of 2°F/100 feet may be conservative. While the capital costs are high, the cost of the current generation at Naknek is also high, and the return on investment for rural areas without interties to larger electricity distribution systems is compelling.

Although geothermal energy has provided commercial base-load electricity around the world for more than a century, geothermal development to date has been mostly limited to high-grade hydrothermal resources (with surface features like hot springs or geysers). However, since these obvious high-grade resources are limited, the U.S. Department of Energy's Geothermal Program is focused almost exclusively on technologies for developing EGS and finding hidden geothermal systems.

An impediment to the more widespread development of geothermal resources in Alaska is the up-front cost of exploratory drilling. In many countries, government funding has played a proactive role in the development of the geothermal resources by supporting initial exploratory drilling to discover and confirm the resource. This is exactly what the US Department of Energy seeks to achieve through its EGS R&D initiatives: the reduction of risk for EGS projects, thus spurring their commercialization.

NEA Geothermal Cost Matrix

Geothermal Temperature	Net MW Per Production Well	Drilling costs for 9MW capacity @ $12 million per well couplet	Cost of Production Facilities & Infrastructure, Including District Heating Plant	Total Capital Costs	Cost/gal of diesel & heating fuel	Annual Avoided Fuel Costs	Yrs to Payback
300°F[1]	3.0[2]	$36,000,000[3]	$60,000,000[4]	$96,000,000	$4.00[5]	$21,600,000[6]	4.4

Sources of Data

[1] Based on 2°F/100' geothermal gradient, averaged from 19 oil and gas wells drilled on the Alaska Peninsula

[2] Flow rates from Ormat Nevada, Inc., February 2009; electrical load of downhole pumps from Centrilift, February 2009

[3, 4] Dilley, 2008, *Geothermal Cost Matrix* for the Alaska Energy Authority; and research conducted by Alaska Earth Sciences in 2009

[5] Projected average price of oil, delivered to Naknek, at an average crude oil price of $100/barrel, 2010 through 2015

[6] 3,500,000 gallons of diesel fuel for electrical generation + 1,900,000 gallons of heating oil for home and business heating = 5,400,000 gallons per year @ average cost in Naknek of $4.00/gallon

Naknek Electric Association, Inc.
Proposed Regional Geothermal Generation Project

March 2009

Naknek Electric Association, Inc. (NEA) is exploring geothermal power production in an effort to improve its ability to provide reliable and affordable electricity. The cooperative faces an urgent need to identify sound alternatives to diesel generation due to the increasing and unpredictable costs of fossil fuels. These costs threaten the economic health and sustainability of the Bristol Bay and Lake Regions of western Alaska. Within the last few years the diesel fuel surcharge, which is reflected in the electric rate charged to NEA consumers, has increased by about 120% or more than $130.00 per month for a typical residential customer. Geothermal power production could stabilize and lower electric rates in Naknek and throughout the region where approximately 6,500 people live in 25+ isolated rural communities.

Bristol Bay is considered the Sockeye Salmon capital of the world. In recent times, the harvest of Sockeye Salmon in a single summer topped 45 million fish. Since the area has a natural economic base, lowering the cost of electricity is expected to significantly improve the local economy. If energy costs can be reduced several seafood processors have indicated they would be interested in extending their seasons in the Bay to include secondary processing of salmon.

NEA's interest in geothermal power took root over a decade ago when research completed within Katmai National Park indicated that a substantial geothermal resource could lie not far from NEA's electric lines. With new drilling technology that supports the development of geothermal resources at depths of 10,000 feet or more, NEA is assessing local geothermal resources just outside the national park and close to existing road and electric distribution infrastructure.

NEA has reviewed previous research in the form of thermal imagery map overlays, oil well production and log data, aeromagnetic interpretations indicating regional faults; and research conducted by scientists from SMU and the University of Alaska. NEA has also completed geological and geochemical surveys, drilled three shallow test wells, thermal probe testing, and a 3D seismic survey. In February 2009 a ground magnetic study, controlled source audio-frequency magnetotellurics (CSAMT) study, and natural source magnetotellurics (MT) study were performed by Zonge Engineering & Research Organization and Alaska Earth Sciences (AES) to map subsurface structures and define aeromagnetic anomalies identified by Centennial Geoscience. Ultimately, the results of the testing will assist NEA in determining an optimal location from which to drill a well of up to 13,000 feet.

In December 2008, NEA formed a partnership with Alaska Earth Sciences, an Anchorage-based geologic consulting firm specializing in mineral and energy exploration and resource evaluation to accelerate progress on this project. AES is providing permitting, project management, geological and geophysical services, and assisting with funding efforts. NEA recently signed a contract with California-based GeothermEx, one of the most respected geothermal consulting firms in North America, to develop drilling specifications and well design documents, assist in the selection of a driller, provide technical assistance during drilling, and coordinate testing and evaluation of the well, which will be drilled over the summer of 2009.

This project is the first utility-grade geothermal development in Alaska. The initial cost estimate for the plant and approximately 450 miles of transmission line interconnecting regional villages is $200 million. Over the past decade NEA has invested $2 million in research and exploration of renewable alternative energy and is committed to being a financial partner as the project proceeds. NEA is approaching both state and federal governments for matching assistance. To date, NEA has collected over $10,000 in voluntary contributions from members and friends within the Bristol Bay Region, in addition to letters of support from numerous local agencies and individuals.

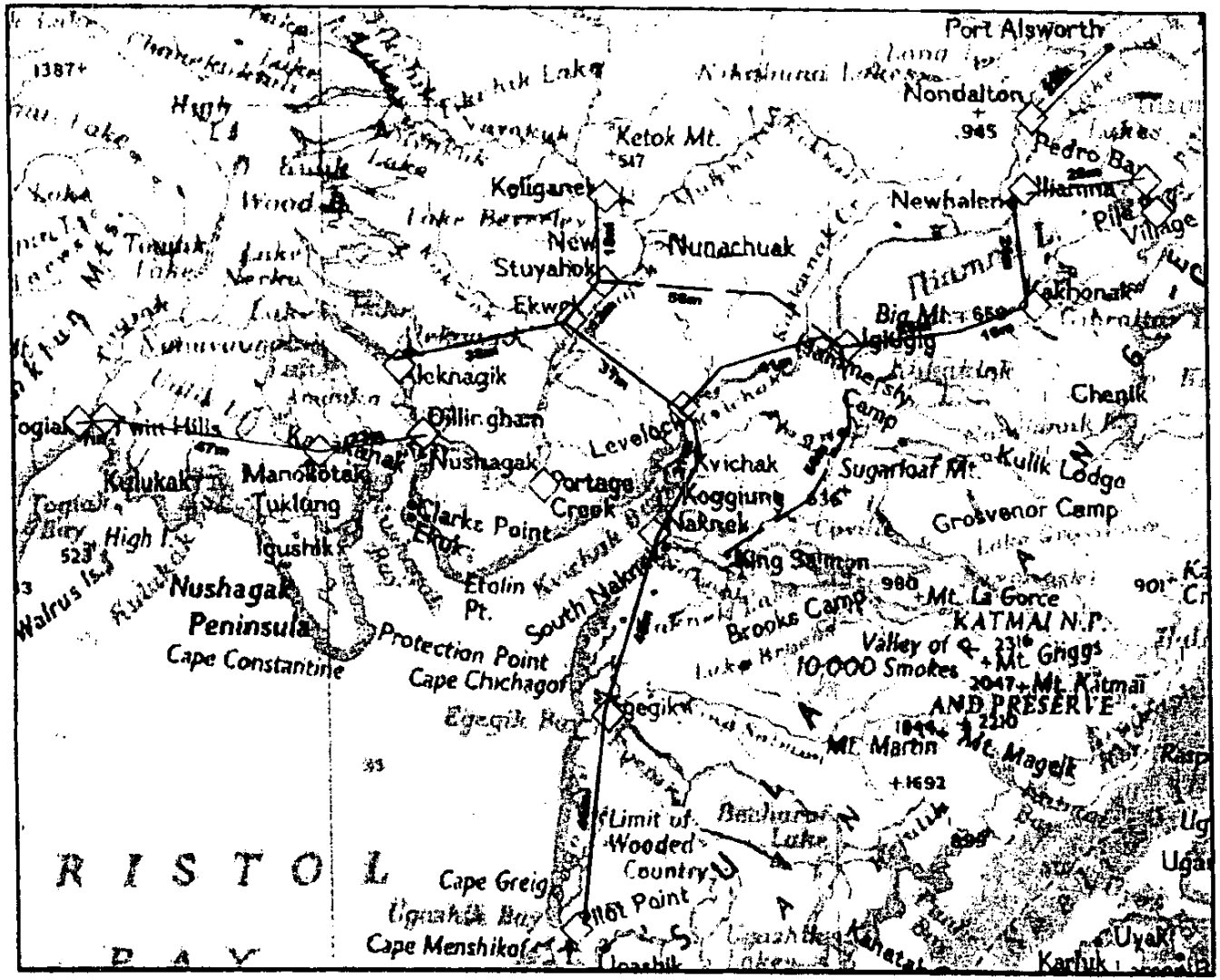
Proposed Project:

- 25 MW Geothermal Generation Facility
- 450 miles of transmission lines to bring electric energy to 25+ villages. Lines would extend from Naknek/King Salmon to Pilot Point; to Iliamna/Port Alsworth; and to Dillingham/New Stuyahok/Togiak and beyond
- Initial Load: 18 MW with full potential to use 25 MW within two years

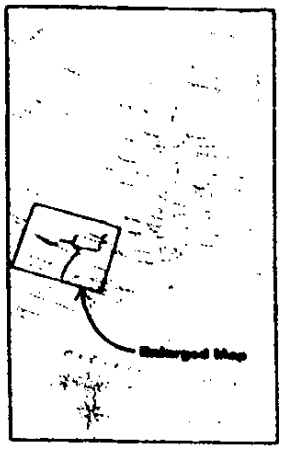
Benefits:

- Dramatic drop in the cost of power production, estimated to decrease 70%
- Cleaner environment with elimination of 3.5 million gallons of diesel fuel now used to generate electricity
- An energy base for long-term economic development sustaining local communities

While NEA's interest in the project focuses on production of electricity, identification of a geothermal resource could bring many other benefits, including hydrogen production, hot water heating to nearby communities, and the development of spas, greenhouse projects, and other related businesses. This spring NEA will begin gathering updated statistics for the region and the statistics needed for district heating for King Salmon and Naknek.



APPROXIMATE SCALE in MILES



PROPOSED REGIONAL GEOTHERMAL DISTRIBUTION NETWORK

424 Miles Overhead
24 Miles Under Lake Illiamna

424 - 41 - 31 +56 +58 = 464 m

N

NOTE: ALL SHOWN DISTANCES ARE APPROXIMATE MILAGE

PREPARED BY
COASTAL SURVEYORS
FOR
NAKNEK ELECTRIC COOP

House Energy Committee Testimony
Dave McClure, Bristol Bay Housing Authority
March 1, 2009

Members of the Committee:

My name is Dave McClure, and I serve as Executive Director of the Bristol Bay Housing Authority, and serve as the Chairman of the Southwest Alaska Vocational Education Center in King Salmon. I also am a director of Nushagak Cooperatives here in Dillingham, and have lived in Bristol Bay for 30 years

I wish to thank you and the full legislature for energy legislation adopted last year, specifically the weatherization and alternative energy funding. We all appreciate the effort you folks have taken to come out and see our challenges firsthand.

Let me stress that the Alaska Housing Finance Corporation has done an excellent job of mobilizing the weatherization program in an expeditious manner, and they work well with BBHA to accomplish the efforts to weatherize homes in our region.

My main point today is to convey the extreme scope of the need in our region. Please see the spreadsheet provided which indicates that even at the 80% income level of median income, there are over 1200 homes in the thirty one villages that are eligible for Wx assistance, which drives a total of approximately $ 42 million in need. The amount allocated to the Bristol Bay Region is less than $ 6 million. To extend the resources, BBHA has used an average of about $ 24,000 per home, which will allow us to stretch the funds and weatherize additional homes. At that expenditure level, payback is accomplished within 10 years, with the important benefit of reducing the necessary cash flow in the interim for the potential 40% savings in fuel consumption. At $ 7 per gallon, this is almost $ 3K per household in a winter.

Please know that the training dollars associated with these funds are well spent. We partner with the Denali Commission, Alaska Works Partnership and our Voc Ed Center in King Salmon to train local individuals in becoming raters, but more importantly, workers who understand building science. We have trained over 25 individuals to date in various courses of components of building science and OSHA training in order to maximize local hire.

With the rebate program, we are talking with AHFC about folks who fall just above the income threshold for weatherization, but do not have the funds to pay for a rater. AHFC has agreed to look at coming up with a system to have these folks rated, and take advantage of their improvement loan program to interim fund the rebate upgrades to their home. BBHA can assist with these rating from our folks trained with weatherization funds.

BBHA also supports the efforts of Senator Hoffman to reduce the cost of fuel oil in the region. While we support the current effort to assist communities with the purchase of fuel, and to insure everyone had adequate funds in a community to provide fuel to all homes, we also support reduction at the point of sale to the cost of fuel from State funds. This could be done with an means-test methodology such as is used by the Lifeline federal telephone subsidy, that is, if you can show you have been income screened in any number of federal programs, you would be eligible for this program without further verification. As Robin Samuelson stated last night, we have several instances of people turning to electrical heat because they cannot afford oil, even though they then have a large electrical bill to pay.

BBHA and the villages have used Federal HUD funds to react to the high costs of fuel by providing energy vouchers to homeowners; approximately $ 300,000 per year is used in this fashion over the past two years. The Federal stimulus funding will provide by formula an additional $ 2.4 million to our region thru HUD for construction activities such as weather-stripping, window insulation, and other rehab type work.

It is important for the committee to continue to fund the Weatherization program, as even with federal stimulus funding, the need in the region is six times the available funding.

BBHA also supports the Power Cost Equalization program. In many of our villages, electrical costs have increased dramatically, due to spreading the increased cost by fewer consumers. PCE is an absolute necessity for residential customers.

The hardest job all of us have is managing realistic expectations of our residents. However, by continued funding, with accountability of the resources expended and effective and efficient use of the funds will allow our scarce resources to go further.

I have asked Val Angasan, our weatherization director to testify to specifics of our efforts, and am happy to answer any questions.

Thank you.

Dillingham Census Area
2000 Census Data

(Note - Red signifies unknown fuel cost, est. at $ 6/gallon)

Village/City Name	Population	Occupied Housing Units	Total Housing Units	Poverty: Individuals	Poverty: Individuals %	Heating Degree Days	Ave Persons House-Hold	Fuel Costs ########	10% OHU	10% # ppl in HS	40% Income	20% fcx#ppl x HDD	20% HDDxunitsxfc	Score	LMI at 80%	Est. LMI Hshds	Budget Need	CAS/NAH units	# other units	Total units
Dillingham	2,466	884	1,000	287	11.6%	11,460	2.75	6.23	59.77	7.56	4.36	7.45	59.24	21.81	0.37	327	10,793,640	31	853	884
Manokotak	399	93	106	141	35.3%	11,460	4.29	7.60	6.29	11.80	13.23	14.18	7.60	11.46	0.70	65	2,148,300	14	79	93
New Stuyahok	471	105	107	152	32.3%	10,968	4.49	7.84	7.10	12.35	12.08	14.65	8.47	11.40	0.80	84	2,772,000	24	81	105
Togiak	809	202	221	247	30.5%	11,460	4.00	5.48	13.66	11.00	11.43	9.53	11.91	11.33	0.70	141	4,666,200	22	180	202
Clark's Point	75	24	51	37	49.3%	11,460	3.13	6.00	1.62	8.61	18.47	8.17	1.55	10.36	0.67	16	530,640	5	19	24
Aleknagik	221	45	107	95	43.0%	10,968	3.16	7.35	3.04	8.69	16.10	9.67	3.40	10.23	0.74	33	1,098,900	20	25	45
Ekwok	130	42	56	34	26.2%	10,968	3.10	6.25	2.84	8.52	9.79	8.07	2.70	7.21	0.64	27	887,040	14	28	42
Koliganek	182	53	77	39	21.4%	10,968	3.43	6.00	3.58	9.43	8.02	8.57	3.27	6.88	0.45	24	787,050	12	41	53
Twin Hills	69	24	33	12	17.4%	11,460	2.88	5.48	1.62	7.92	6.51	6.87	1.41	5.21	0.79	19	625,680	7	17	24
Portage Creek	36	7	22	0	0.0%	10,968	5.14	6.00	0.47	14.13	0.00	12.84	0.43	4.11	1.00	7	231,000	4	3	7
Totals	**4,858**	**1,479**	**1,780**	**1,044**	**267.1%**	**112,140**	**36.37**	**64.23**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**		**744**	**24,540,450**	**153**	**1,326**	**1,479**

Lake & Peninsula Borough Census Area

Nondalton	221	68	120	104	47.1%	10,968	3.25	7.95	11.81	6.14	15.19	15.10	14.65	13.82	0.85	58	1,907,400	5	63	68
Kokhanok	174	52	59	75	43.1%	10,968	3.35	9.25	9.03	6.33	13.91	13.84	13.04	12.47	0.81	42	1,389,960	9	43	52
Pope-Vannoy	8	5	19	6	75.0%	10,968	1.60	6.00	0.87	3.02	24.20	0.41	0.81	10.32	1.00	5	165,000	0	5	5
Newhalen	160	39	51	24	15.0%	10,968	4.10	7.71	6.77	7.74	4.84	10.60	8.15	7.14	0.69	27	888,030	6	33	39
Levelock	122	45	50	27	22.1%	11,104	2.71	6.30	7.81	5.12	7.14	6.69	7.78	7.04	0.66	30	980,100	9	36	45
Chignik Lake	145	40	50	29	20.0%	9,674	3.63	6.00	6.94	6.86	6.45	6.60	5.74	6.43	0.56	22	739,200	9	31	40
Pilot Point	100	29	69	25	25.0%	10,241	3.45	5.81	5.03	6.52	8.07	4.66	4.26	6.17	0.66	19	631,620	6	23	29
Perryville	107	33	45	16	15.0%	9,674	3.24	5.10	5.73	6.12	4.83	4.14	4.02	4.75	0.28	9	304,920	12	21	33
Port Heiden	119	41	56	5	4.2%	10,241	2.90	7.32	7.12	5.48	1.36	6.99	7.60	4.72	0.47	19	635,910	11	30	41
Iliamna	102	35	58	4	3.9%	10,968	2.91	7.71	6.08	5.50	1.27	6.76	7.31	4.48	0.26	9	300,300	0	35	35
Port Alsworth	104	34	70	7	6.7%	10,968	3.06	6.00	5.90	5.78	2.17	5.36	5.53	4.22	0.37	13	415,140	0	34	34
Egegik	116	44	286	8	6.9%	10,241	2.64	5.00	7.64	4.99	2.23	4.66	5.57	4.20	0.88	39	1,270,500	0	44	44
Chignik Lagoon	103	33	68	2	1.9%	9,674	3.12	5.21	5.73	5.89	0.63	4.07	4.11	3.05	0.23	8	250,470	0	33	33
Pedro Bay	50	17	43	3	6.0%	10,968	2.94	7.35	2.95	5.55	1.94	3.16	3.39	2.93	0.64	11	359,040	0	17	17
Chignik	79	29	80	4	5.1%	9,674	2.72	4.29	5.03	5.14	1.63	2.57	2.97	2.78	0.53	15	507,210	4	25	29
Igiugig	53	16	20	2	3.8%	10,968	3.31	6.31	2.78	6.25	1.22	2.87	2.74	2.51	0.79	13	417,120	1	15	16
Ugashik	11	7	35	1	9.1%	10,241	1.57	5.81	1.22	2.97	2.93	0.51	1.03	1.90	0.50	4	115,500	4	3	7
Ivanof Bay	22	9	12	0	0.0%	9,674	2.44	6.00	1.56	4.61	0.00	1.00	1.29	1.08	0.23	2	68,310	5	4	9
Totals	**1,796**	**576**	**1,191**	**342**	**309.9%**	**188,182**	**53**	**115.12**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**		**344**	**$ 11,345,730**	**81**	**495**	**576**
Total BBHA	643	210	328	254		63,923										119	$ 3,939,870	34	177	211
Total ACDC	1,153	366	863	88		124,259										224	$ 7,405,860	47	318	365

Bristol Bay Borough

South Naknek	137	46	137	39	28.5%	11,460	2.98	6.50	9.41	37.34	63.83	39.06	10.04	40.03	0.65	30	986,700	5	41	46
King Salmon	442	196	343	55	12.4%	11,104	2.26	6.13	40.08	28.32	27.90	27.07	39.10	31.24	0.30	59	$ 1,940,400	7	189	196
Naknek	678	247	455	25	3.7%	11,460	2.74	6.13	50.51	34.34	8.27	33.87	50.86	28.74	0.36	89	2,934,360	9	238	247
Totals	**1,257**	**489**	**935**	**119**	**44.6%**	**34,024**	**7.98**	**18.76**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**		**178**	**$ 5,861,460**	**21**	**468**	**489**
Total BBHA	6,758	2,178	3,043	1,417												**1041**	**$ 34,341,780**	208	1,971	2,179
Total ACDC	1,153	366	863	88												224	$ 7,405,860	47	318	365
Grand Total	7,911	2,544	3,906	1,505												1265	**$ 41,747,640**	255	2,289	2,544

Good afternoon. My name is Ralph Andersen. I'm the Chief Executive Officer at the Bristol Bay Native Association.

Welcome to all of you and thank you to the co-chairs for bringing the Committee to the people Dillingham and Bristol Bay. I hope you are finding your stay educational and enjoyable.

BBNA is a non-profit corporation of 31 tribes organized under State law. Our region is about 40,000 square miles or about the size of the State of Ohio. We provide a wide range of pubic assistance, education, social, economic, community, natural resources, and land management services to tribes through funding agreements with State and Federal agencies.

I'm also the Chairman of the Bristol Bay Partnership, composed of the chief executives of our regional organizations, Co-chair of AFN's Human Resources Committee – a committee of the AFN Board composed of the chief executives of the 12 regional Native non-profits -- and the Chairman of AFN's Energy Working Group.

All of these organizations share one goal in common -- we want to help find answers to lowering energy costs in our region and in rural Alaska.

During your visits around the State, to Aleknagik and here to Dillingham, you've seen first hand some of the innovative ways residents are dealing with high energy costs. You've also heard some the negative impacts we face because of high costs of energy. There are not many differences in our experiences. I hope it's clear to you that we need help now.

While fuel prices may drop, as we hope they will, when the spring barges arrive, we need to be prepared to make sure our suffering does not happen again. We need actions from the lessons of this experience to safeguard us in the future.

At BBNA we do our best to improve conditions but are consistently faced with shrinking or limited budgets and rising costs. We also realize that the challenges of finding answers to problems caused by high energy costs are too big for one organization to handle. So our regional organizations are working together to find answers.

Rural economies are in dire straits, with unemployment rates in some villages at 80% or more. Our economies and cost of living are tied directly to the price of fuel. The price of electricity, groceries, fresh milk, a dozen eggs, airline tickets, medicine, diapers, clothes, building materials, car and truck parts – ***everything*** – have all gone up with the price of fuel. Last summer our commercial fishermen took home less money than they would have if the price of fuel had been lower, and it costs a lot more for us to subsistence hunt and fish to put food on the table.

The Special Session last summer gave us hope, but the final results fell short of meeting our needs and expectations. Funding for PCE was very helpful. Waiving municipal taxes on fuel products resulted in some savings at the pump. The $1,200 dollars was good but it didn't go very far. It bought about 200 gallons of heating fuel here in Dillingham and didn't do anything to lower fuel costs. We have hope and expectations that your travels and your hearings will result in meaningful actions that will help us.

We encourage the State to adopt an energy policy--one that covers every region of the State with the goal of lowering or equalizing energy costs for all Alaskans. It should contain a plan with specific milestones to measure progress and provide accountability.

We need more than an index listing potential renewable or alternative energy sources close to our villages. We need a policy directive and, more importantly, a commitment of funds to develop those potential energy sources. We encourage the State to also help us as we transition to alternative or renewable energy sources by supporting the costs for that transition period.

In Bristol Bay, we have geo-thermal, solar, wood, wind, tidal, and hydro resources that can be developed. Some of our residents and villages have taken the initiative to develop some of them to reduce costs, and our utility companies are trying to secure funds to develop others on a larger scale.

Economies of scale tell us that power grids between our villages will reduce the costs of power production. Lately we've heard about the Governor's proposal for a Railbelt power grid. Why is rural Alaska being left out? We're hit the hardest by high energy costs. We don't have the luxury of natural gas fields or a natural gas pipeline planned nearby to power any of our generators.

We support buying down the debt of rural utilities to reduce the costs passed on to consumers. Some of our village members are still paying high electric costs for improvements to their power plants and systems even when the improvements were supposed to reduce their costs.

We support strengthening the PCE program by raising the ceiling, and adding more money to allow for expanded coverage for schools, health facilities, stores and businesses, and community buildings.

We support continuing to fully fund the State's portion of the LIHEAP program and continued funding of the Alaska heating assistance program. After a U.S. Senate Indian Affairs Committee hearing in Bethel last fall, Senator Lisa Murkowski added $30 million to the federal share of the LIHEAP program. We hope the State would do the same.

We support continuing the weatherization and home energy rebate programs under AHFC. There is an increasing demand to make our homes, schools, and buildings more energy efficient and, therefore, lower our fuel bills. It may be costly to bring them up to code and increased efficiency, but the investment pays dividends in the long run.

We support Senator Hoffman's efforts to cap fuel costs for rural Alaskans and to deliver 100 gallons of fuel to rural households. In Senator Lisa Murkowski's address to the joint session recently, I recall her saying how disappointing it is that rural Alaskans have to rely on a foreign government – Venezuela – for help. We agree that our leaders should do way better than that, especially as an oil producing State.

Finally, we support full funding for the bulk fuel revolving loan fund and encourage the Governor and legislature to accept all Federal economic stimulus funds for Alaska, especially for energy projects and the LIHEAP program.

I would like to briefly describe some of BBNA's work relating to energy.

We plan to operate the LIHEAP program under contract during next State fiscal year. We want to make sure that every eligible resident in Bristol Bay gets the help they need and qualify for under the program.

Our tribal TANF Program educates, assists and encourages clients to incorporate energy efficiency measures into their homes, such as installing CFL light bulbs, as a way to help clients meet their household budgets.

We also work with the Alaska Inter-Tribal Council and coordinate delivery of 100 gallons of free heating fuel to those in Bristol Bay who want to participate in the CITGO program. We are waiting for the final go-ahead to begin fuel deliveries which we hope will be very soon.

Last Fall, BBNA established a new Tribal Energy Program. Generally, the program is charged assisting and providing information to tribes on energy projects, initiatives and opportunities. The program funds are limited by our BIA compact but we are now seeking additional funds for full program operation on a regional basis.

BBNA is united in partnership with other Bristol Bay organizations to address the energy issue in a coordinated way. Last spring, the Bristol Bay Partnership adopted an energy policy and energy crisis recovery plan that we are now working to implement. The plan describes short, median and long term goals that we hope to achieve to wean us off fossil fuels as our only source of energy. We need your help and funding to reach those goals. I have copies of the policy and plan for the Committee.

Finally, I have 2 recommendations that I hope you will consider:

1. I encourage the Committee to hold a hearing about the pricing of the transportation and delivery of fuel to western Alaska. Why do fuel prices fluctuate so widely between coastal communities? Why, for example, are fuel costs higher in Dillingham than they are in Togiak, Bethel and Nome?

2. I encourage the Committee to explore possible regulation of fuel transportation and delivery to rural Alaska. The RCA regulates the price of transportation and delivery of natural gas to homes and businesses in Anchorage. As I understand it, Enstar buys natural gas from producers then transports and delivers it to Anchorage consumers at a cost regulated by the RCA. How or why is that any different than Delta Western and Crowley buying gasoline, diesel, propane, and heating fuel from producers and transporting and delivering them to rural consumers?

Thank you again for coming to Dillingham and Bristol Bay and for the opportunity to testify today. I will be happy to answer any questions you have.

Thank you.

3-10-09 Presentation: Southeast Alaska Interties

<target><bill></bill><subject>3-10-09 Presentation Southeast Alaska Interties</subject><comm>HENE26</comm></target>

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Southeast Conference 2009 Legislative Priorities

Energy

- Southeast Conference supports the funding of hydroelectric and other renewable energy projects in Southeast Alaska as the ultimate solution to the region's energy needs. We also support short-term policies that will alleviate the economic and social burden on communities, businesses and individuals until needed energy infrastructure is built.

Energy

Southeast Conference believes that the high cost of energy in our region is crippling our economic development. We believe that with the support for the various hydro power and other renewable energy projects in our region we can replace high cost diesel generation as a source of power. We encourage the legislature to support the regional and statewide efforts being made to craft and implement an Energy Plan, including the continuation of the Southeast Conference energy coordinator position.

- Southeast Conference supports development of the Kake-Petersburg electrical intertie link, and urges State funding for design, permitting and construction of that critical project.
- Southeast Conference supports the completion of electrical intertie projects now under construction between Juneau and Hoonah, the Reynolds Creek Hydro project and the transmission line extension on Northern Prince of Wales Island, and urges State funding and funding match for those projects.
- Southeast Conference supports all projects in the Southeast Alaska Electrical Intertie System Plan as authorized by the U. S. Congress (PL106-511).
- Southeast Conference supports continuation of a regional energy coordinator position to achieve regional energy goals, facilitate community efforts to implement a regional energy plan and to look for new opportunities for electric generation and conservation, and urges State funding for this position.
- Southeast Conference supports continued investigation of the potential to develop and export surplus hydroelectric power from Southeast Alaska to Canada and the Lower-48 States. SEC will work with the State and Canadian counterparts to coordinate efforts that further this project.
- Southeast Conference supports full funding of the Power Cost Equalization (PCE) program to assist smaller communities who rely on high cost diesel fuel to generate electricity. SEC further believes that this program's benefits should be restored to the original mandate of the program to again provide relief to public facilities, schools and qualifying businesses in these distressed communities.
- Southeast Conference supports recapitalization of the State's Power Project Loan Fund to augment grant funding and accelerate the development of renewable energy projects in Alaska. This will create a sustainable mechanism to fund future projects.
- Southeast Conference supports funding for development of alternative and clean energy projects in the region, especially in rural communities that burn high cost diesel fuel to produce energy.

ENERGY EXCERPTS FROM SEC 2009 LEGISLATIVE PRIORITIES.
COMPLETE DOCUMENT CAN BE REQUESTED AT INFO@SECONFERENCE.ORG

11171

The Southeast Intertie

Presentation to the

House Energy Special Committee

Co-Chair, Representative Charisse Millet
Co-Chair, Representative Bryce Edgmon

Committee Members

Representative Nancy Dahlstrom
Representative Jay Ramras
Representative Kyle Johansen
Representative Pete Peterson
Representative Chris Tuck

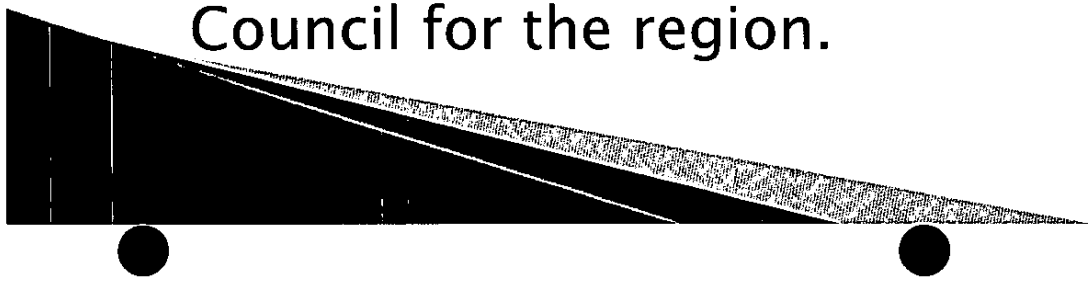
March 10, 2009

Southeast Conference

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.

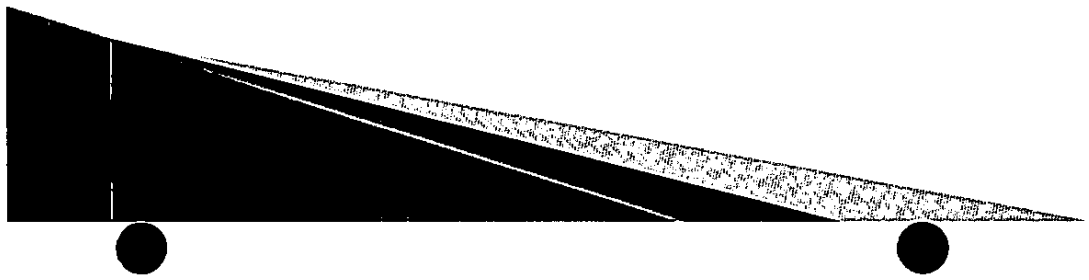


The SEC Energy Committee

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.

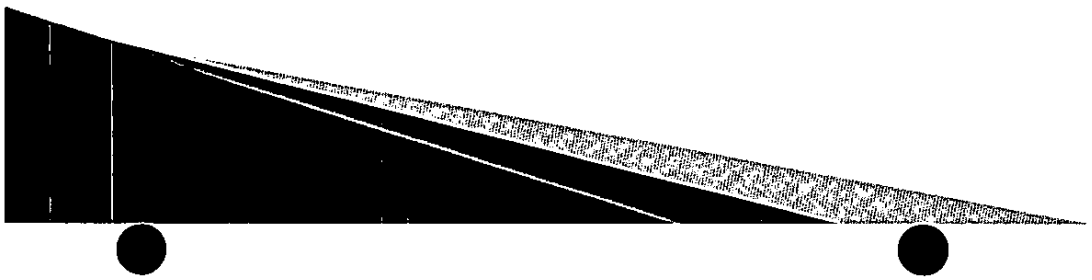
- This will be accomplished through the utilization of the regions plentiful hydroelectric potential and the development of an interconnected transmission system to share these resources throughout the region.



SEC Energy Committee Goals

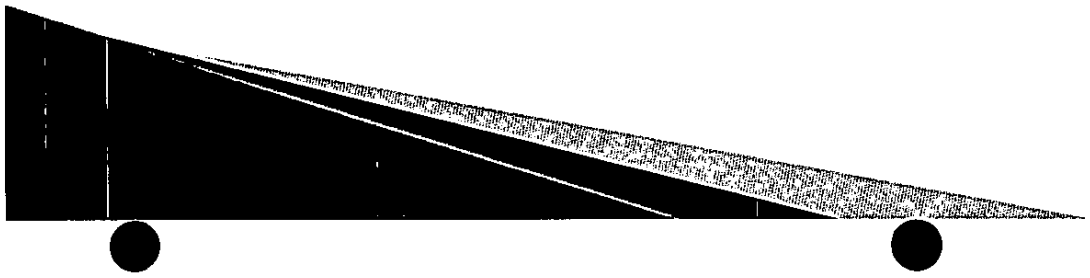
PROGRAM GOALS

- Reduce dependence of fossil fuels. This is critical in light of the recent price increases in oil.
- 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/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.



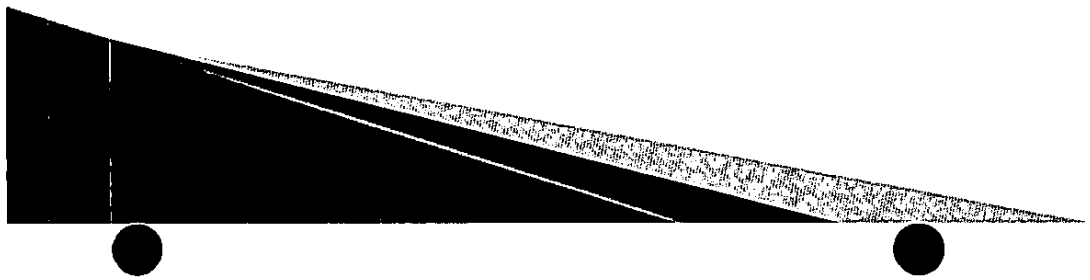
Successes to Date

- 1997 - Acres Report creates first System Plan for Southeast Intertie
- 2000 - Congressional Authorization for the S.E. Intertie (bill signed into law, authorizes up to $384 million with a 20% local match)
- 2002 - SEC hires Energy Coordinator
- 2003 - USDA Rural Development grant for economic analysis of interties to Kake & Hoonah (SEC top priority)
- 2004 - Kwaan Electric Transmission Intertie Cooperative formed
- 2005- Denali Grant funds D. Hittle Report (Kake Intertie)
- 2006 - Intertie from Juneau to Greens Creek built (halfway to Hoonah)
- 2007 - AK/BC Study Completed, $2 million dedicated to Kake Intertie, Legislative grant received to finish Swan-Tyee intertie (Nov '09)
- 2008 - Legislative grants of $500,000 for Kake - Petersburg Intertie and $2 million for Reynolds Creek awarded to Southeast Conference
- 2008 - Public Meetings held in Kake and Petersburg on Intertie, ADOT&PF announces joint-project for road, intertie a top priority. Intertie meetings also held in Hoonah (with State & Federal Gov.)



Why the Southeast Intertie?

- Immediate purpose is to provide lower cost hydroelectric generation to communities supplied with diesel-generated electricity.
- An integrated grid system can allow for the development of resources on a regional basis.
- As surplus energy is developed and rates lowered, economic development ventures will emerge.
- The Intertie system will be an enabler of other renewable resource development.



1177

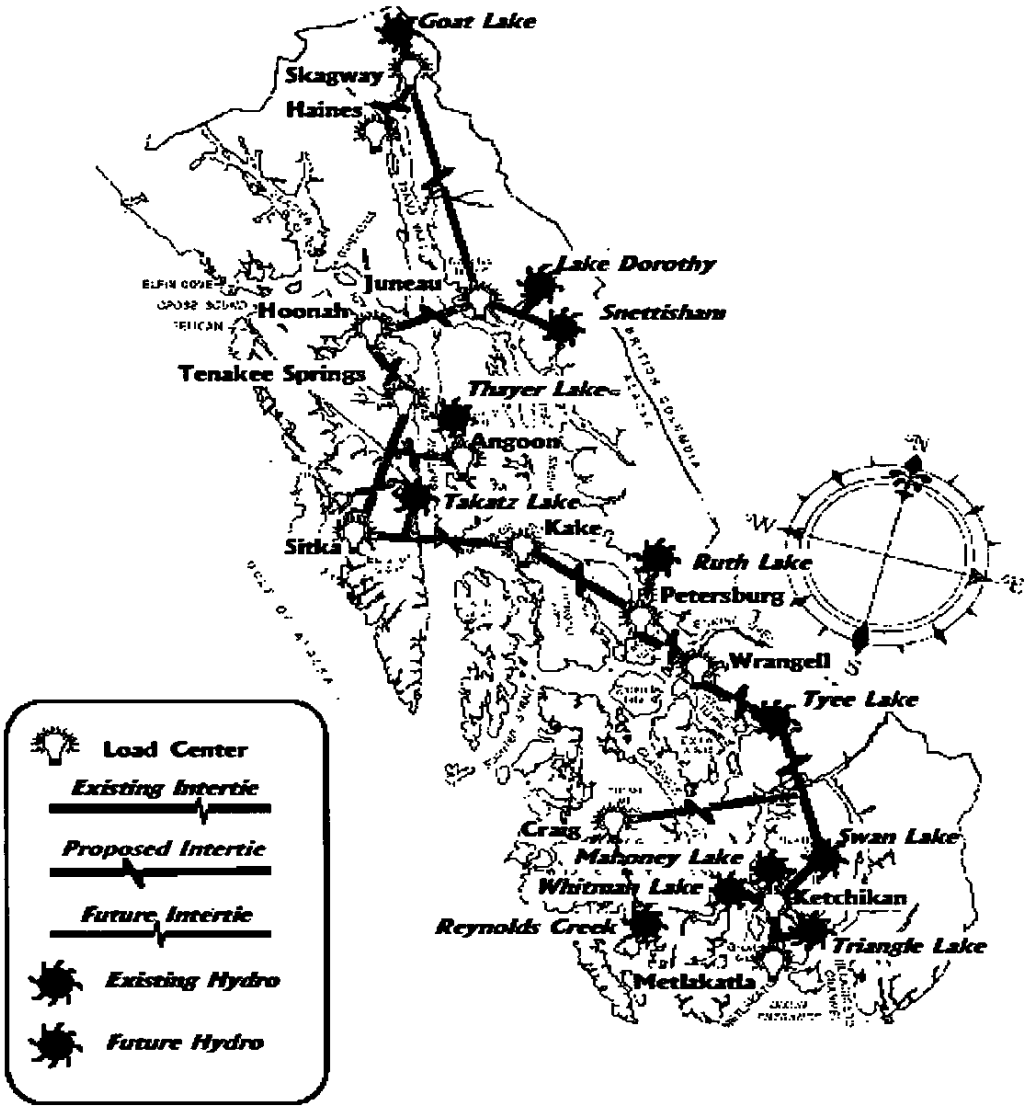
Southeast's Hydros = "Bullet Line"

Hydroelectric Site	Location	Planned Capacity	Community/Utility
Anita-Kunk Lakes	Wrangell	8.0 MW	Wrangell
Cascade Creek	Thomas Bay	80.0 MW	Cascade Creek, LLC
Connelly Lake	Haines Borough	10.0 MW	Alaska Power and Telephone
Connell Lake	Ketchikan	2.0 MW	Ketchikan Public Utilities
Elephant Falls	Hoonah	.6 MW	
Gartina Creek	Hoonah	.6 MW	
Kasidaya Creek*	Skagway	2.0 MW	Alaska Power and Telephone
Katlian River	Sitka	7.0 MW	
Lake 3160	Lace River	4.0 MW	Alaska Power and Telephone
Lake Dorothy*	Juneau	15.0 MW	Alaska Electric Light and Power
Lake Dorothy	Juneau	32.0 MW	Alaska Electric Light and Power
X Mahoney Lake	Ketchikan	9.6 MW	Ketchikan Public Utilities
Neck Lake	Whale Pass	.3 MW	Alaska Power and Telephone
Reynolds Creek*	Prince of Wales Island	5.0 MW	Haida Corp.
Ruth Lake	Thomas Bay	20.0 MW	Multiple pending FERC applications
Scenery Creek	Thomas Bay	40.0 MW	Pending FERC application
Soule River	Hyder	42.0 MW	Alaska Power and Telephone
Sunrise Lake	Wrangell	4.0 MW	
Takatz Lake	Sitka	28.0 MW	City and Borough of Sitka
Thayer Creek	Angoon	1.0 MW	Kootznoowoo, Inc.
Thoms Lake	Wrangell	7.5 MW	
Triangle Lake	Metlakatla	4.0 MW	Metlakatla Power and Light
Tyee Lake expansion	Wrangell	11.5 MW	Southeast Alaska Power Agency
Water Supply Creek	Hoonah	.6 MW	
X Whitman Lake	Ketchikan	4.6 MW	Ketchikan Public Utilities
TOTAL		***339+ MW***	

X = close to resource

TOTAL SOUTHEAST CONSUMPTION = 120 MW (approx.)

SOUTHEAST ALASKA ELECTRICAL INTERTIE

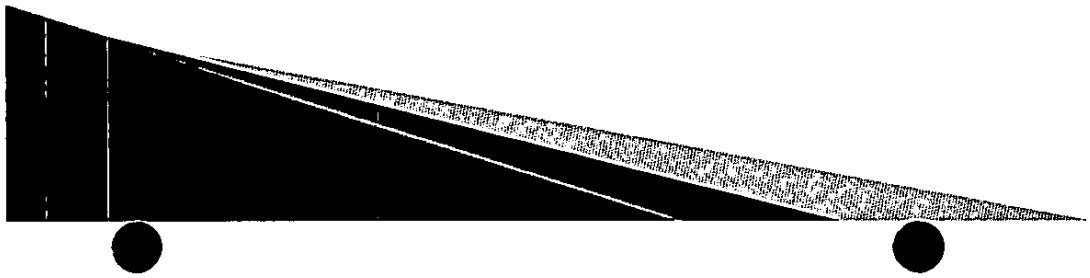


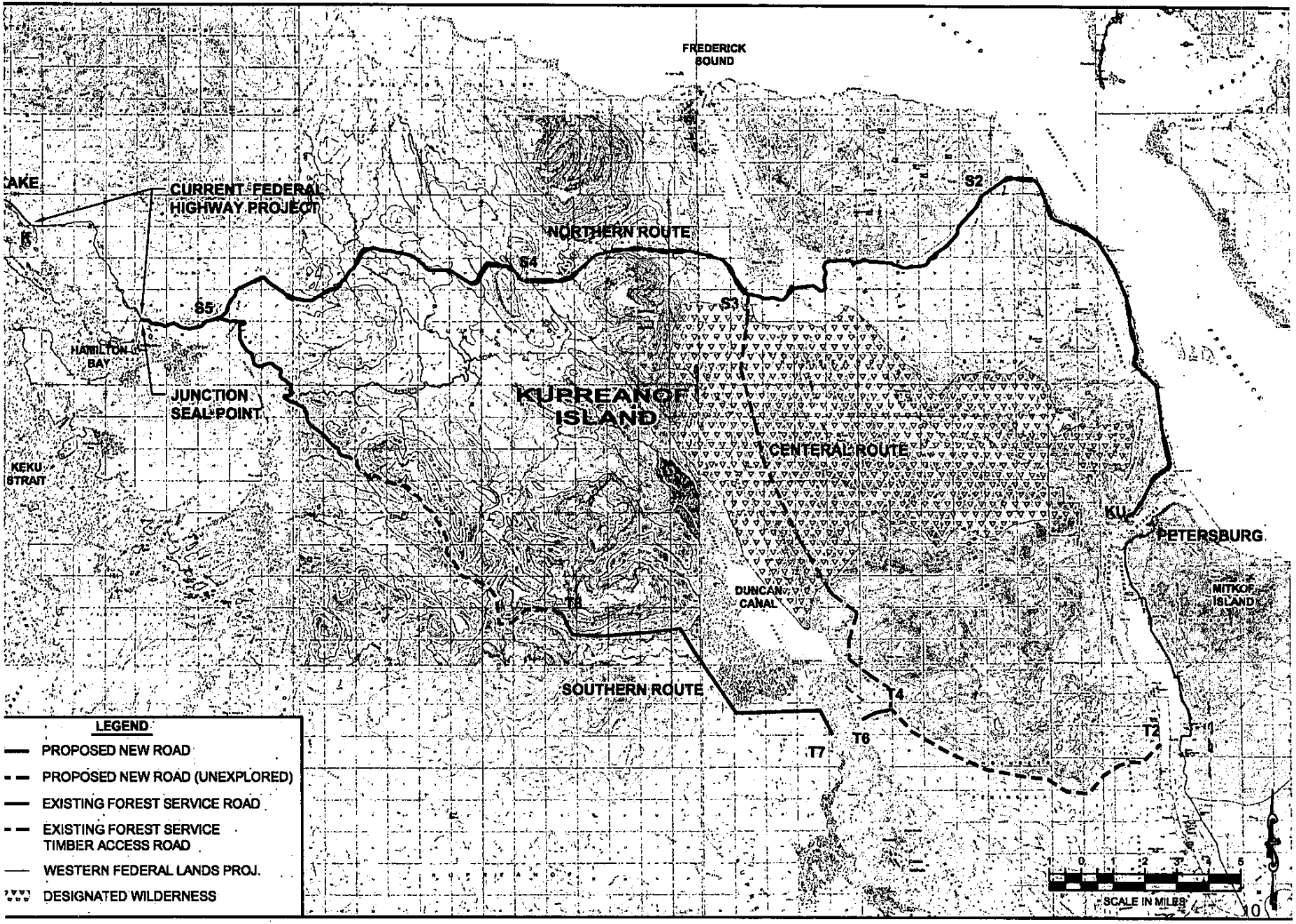
Southeast Conference

2/23/09

Kake Intertie to Petersburg

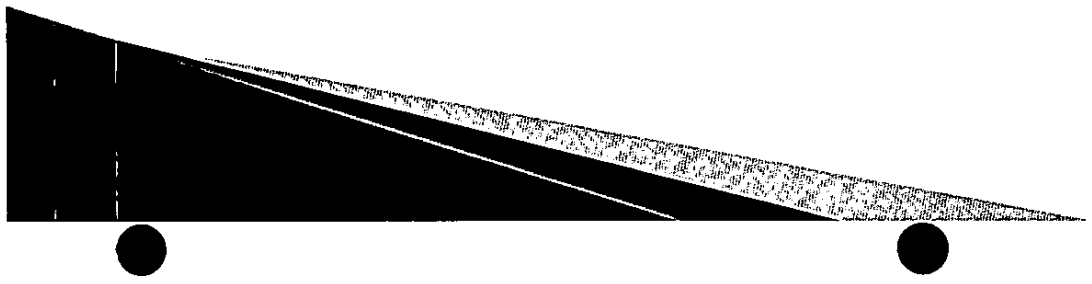
- Southeast Conference's Number 1 priority for energy!
- Facilitating Kake's project for transportation and energy.
- Working together with local municipalities, utilities and multiple governmental agencies, including the Alaska Energy Authority, the Alaska Department of Transportation and the CCTHITA Tribal Energy Department.

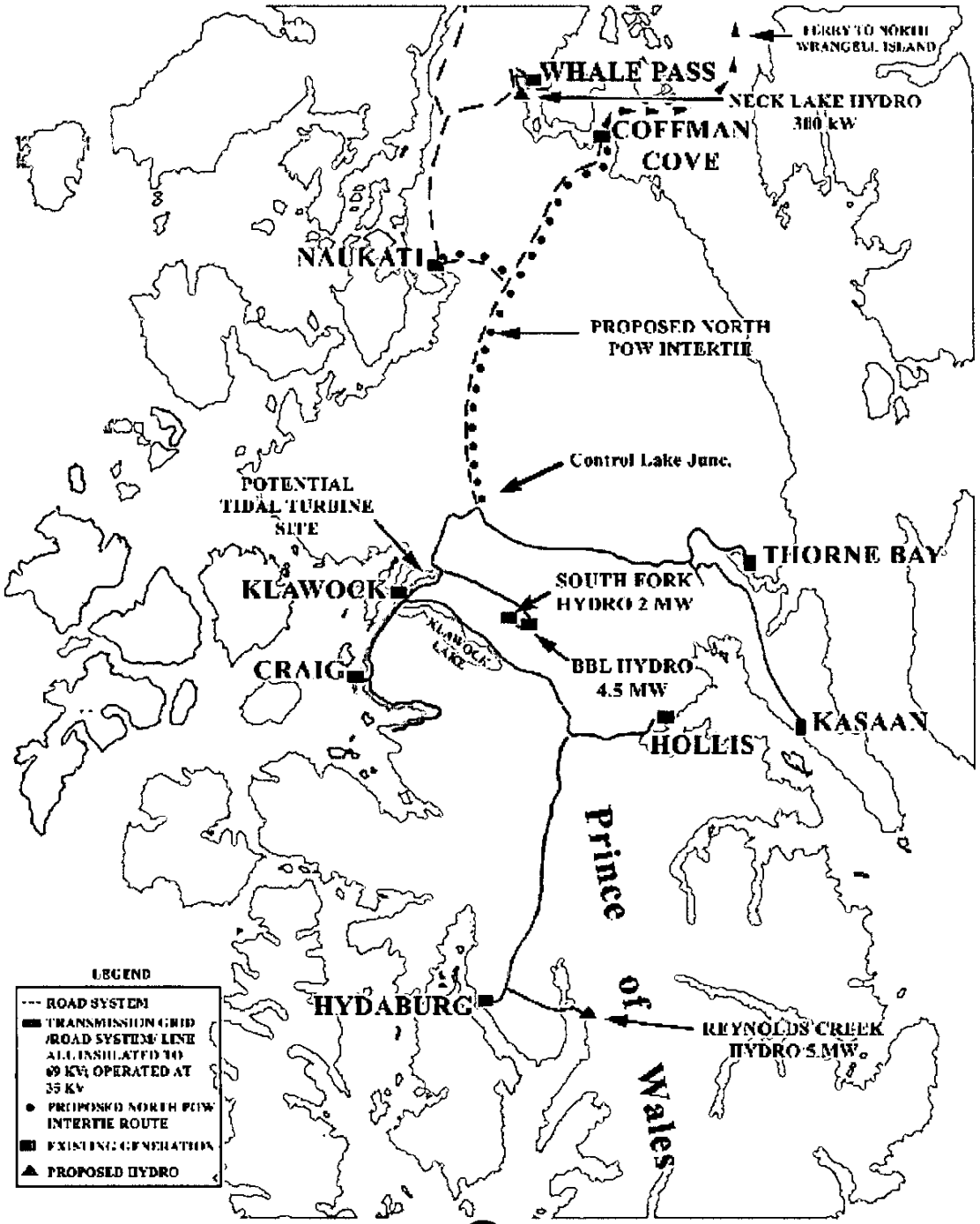



FREDERICK SOUND
CURRENT FEDERAL HIGHWAY PROJECT
NORTHERN ROUTE
S2
S4
S3
S5
HAMILTON BAY
JUNCTION SEAL POINT
KUPREANOF ISLAND
CENTERAL ROUTE
KEKU STRAIT
KU
PETERSBURG
DUNCAN CANAL
MITKOF ISLAND
T8
SOUTHERN ROUTE
T4
T6
T7
T2
LEGEND
PROPOSED NEW ROAD
PROPOSED NEW ROAD (UNEXPLORED)
EXISTING FOREST SERVICE ROAD
EXISTING FOREST SERVICE TIMBER ACCESS ROAD
WESTERN FEDERAL LANDS PROJ.
DESIGNATED WILDERNESS
0 1 2 3 4 5
SCALE IN MILES

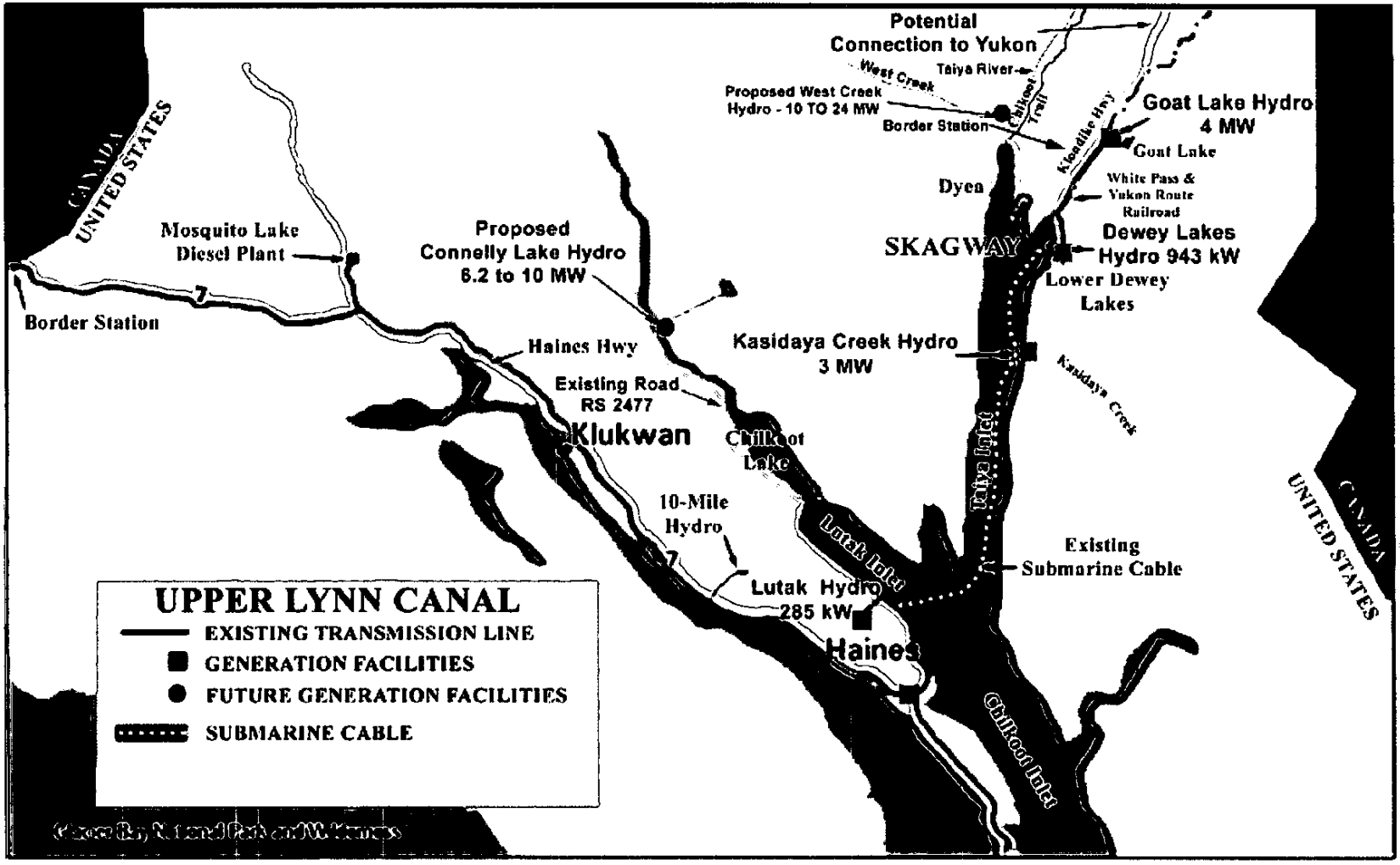
Co-locating the road and inter-tie is intended to:

- Reduce combined corridor development costs and reduce environmental impact,
- Reduce intertie construction costs,
- Reduce intertie operation and maintenance costs,
- Reduce intertie emergency repair response time and duration, and
- Improve intertie inspection and reliability of the power line.



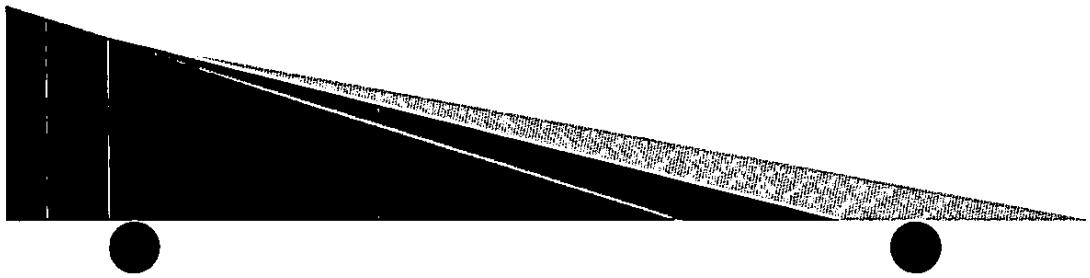

FERRY TO NORTH WRANGELL ISLAND
WHALE PASS
NECK LAKE HYDRO 380 kW
COFFMAN COVE
NAUKATI
PROPOSED NORTH POW INTERTIE
Control Lake Junc.
POTENTIAL TIDAL TURBINE SITE
THORNE BAY
KLAWOCK
SOUTH FORK HYDRO 2 MW
KLAWOCK LAKE
CRAIG
BBL HYDRO 4.5 MW
HOLLIS
KASAAN
Prince of Wales
HYDABURG
REYNOLDS CREEK HYDRO 5 MW
LEGEND
ROAD SYSTEM
TRANSMISSION GRID /ROAD SYSTEM/ LINE ALL INSULATED TO 69 KV, OPERATED AT 35 KV
PROPOSED NORTH POW INTERTIE ROUTE
EXISTING GENERATION
PROPOSED HYDRO

UPPER LYNN CANAL REGIONAL ENERGY INFRASTRUCTURE



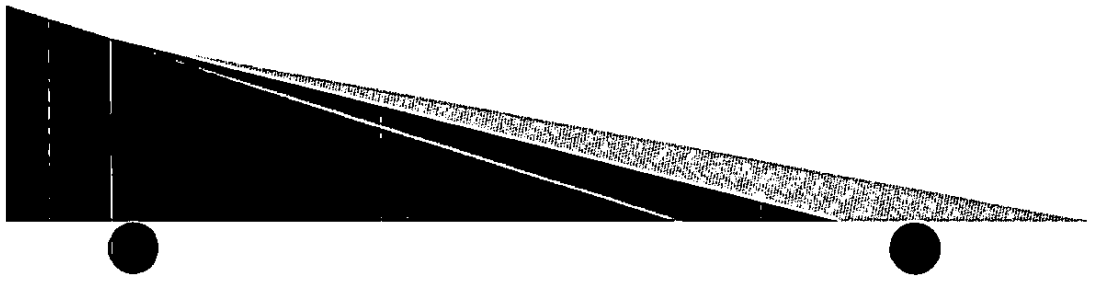
Where do we go from Here?

- Permitting and design for Kake-Petersburg Intertie (funding secured recently through HB 152 grant).
- Work with Haida Corp. to advance the Reynolds Creek Hydro to completion.
- Begin working with federal and state funding agencies to construct Kake-Petersburg Intertie - $25-34 million.
- Work with member communities/utilities 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.
- Develop regional energy plan that includes both short-term "band-aids" (PCE to businesses, schools) and long-term solutions (hydro, interties), & S.E. governance model



Alaska Renewable Energy Fund Southeast Grant Allocation, HB 152

Coffman Cove–Naukati Intertie Construction	Alaska Power & Telephone		$3,752,181
Kake–Petersburg Intertie Final Design	Kwaan Electric		$2,990,000
Falls Creek Hydroelectric Construction	Gustavus Electric		$ 750,000
Reynolds Creek Hydroelectric Construction	Haida Power, Inc.		$2,000,000
Juneau Ground Source Heat Pump Construction (Aquatic Center)			$1,450,000
Whitman Lake Hydro Construction	Ketchikan Public Utilities	$1,300,000	
Haines Central Wood Heating System	Chilkoot Indian Association		$ 288,222
Yakutat Biomass Gasification Construction	Yakutat Power		$ 249,600
Ruth Lake Hydro Reconnaissance	City of Petersburg		$ 160,000
Burro Creek Hydro Feasibility Study	Burro Creek Holdings		$ 48,000
Metlakatla–Ketchikan Intertie Construction	Metlakatla Indian Community		$ 820,000
Haines Central Wood Heating Feasibility Study	Haines Borough		$ 120,500
Wrangell Hydro Based Electric Boilers	City and Borough of Wrangell		$2,000,000
Takatz Lake Hydroelectric Feasibility	City & Borough of Sitka		$ 514,684
Juneau Ground Source Heat Pump (Airport)	City & Borough of Juneau		$ 513,000
TOTAL			**16,956,187**



Thank You!

Southeast Conference

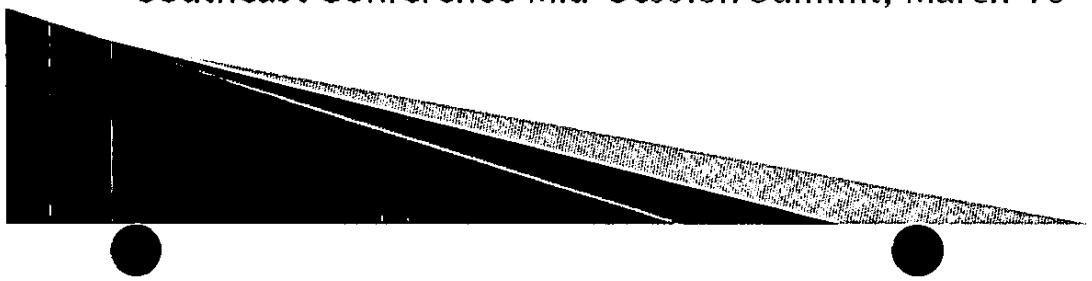
Robert Venables
Energy Coordinator

Shelly Wright
Executive Director

JC Conley, Chair
Energy Committee

Mike Korsmo
President

Southeast Conference Mid-Session Summit, March 16-17 at Centennial Hall, Juneau, AK



Southeast Conference Energy Program

Legislative Report – January 2009

Southeast Conference

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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

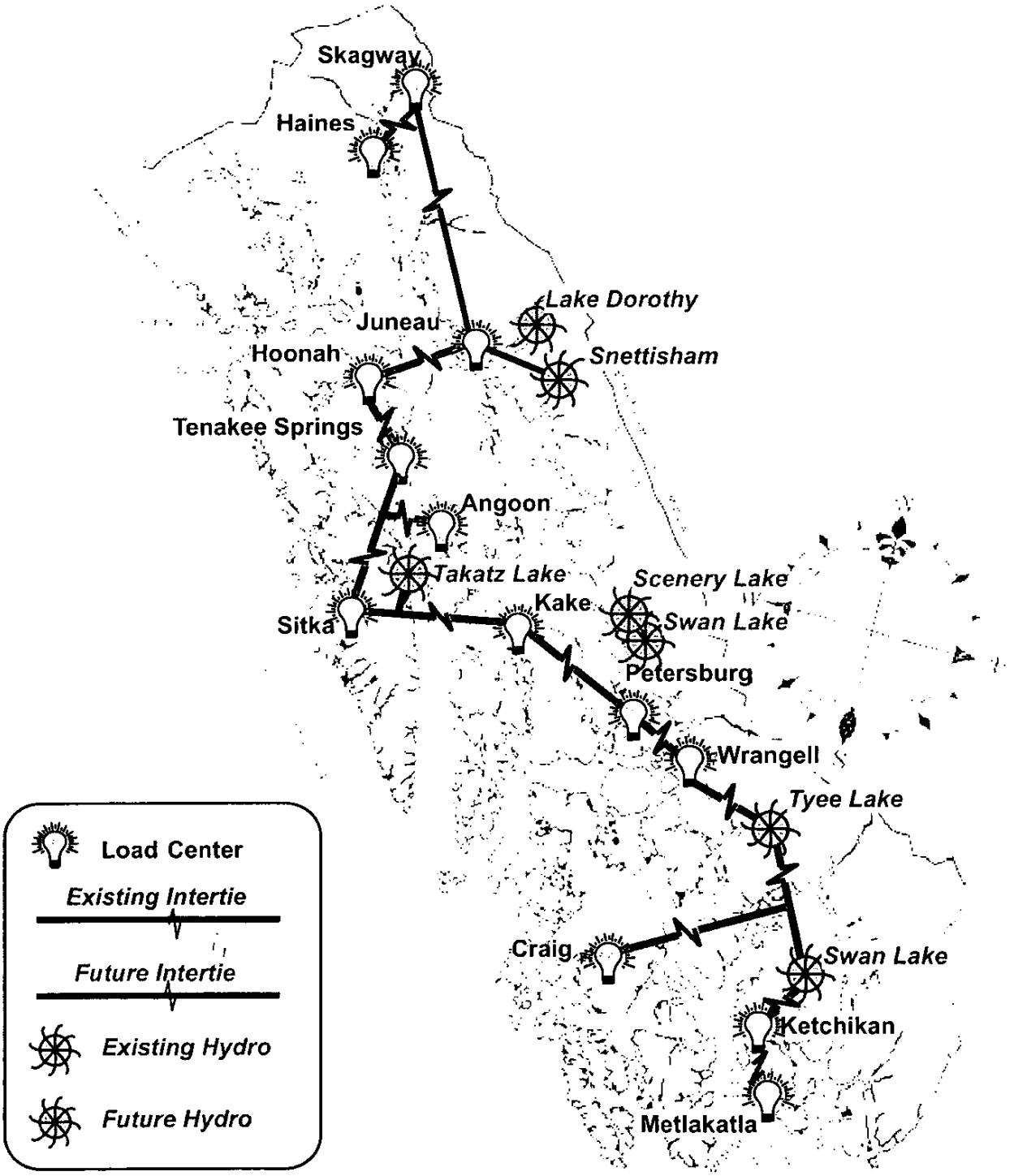
Petersburg – Ruth Lake: This Project would develop the hydro potential at Ruth Lake, with a total installed capacity of the powerhouse of 20 MW. The proposed Ruth Lake Hydroelectric Project would be interconnected to the existing transmission infrastructure currently owned and operated by the FDPPA. 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.

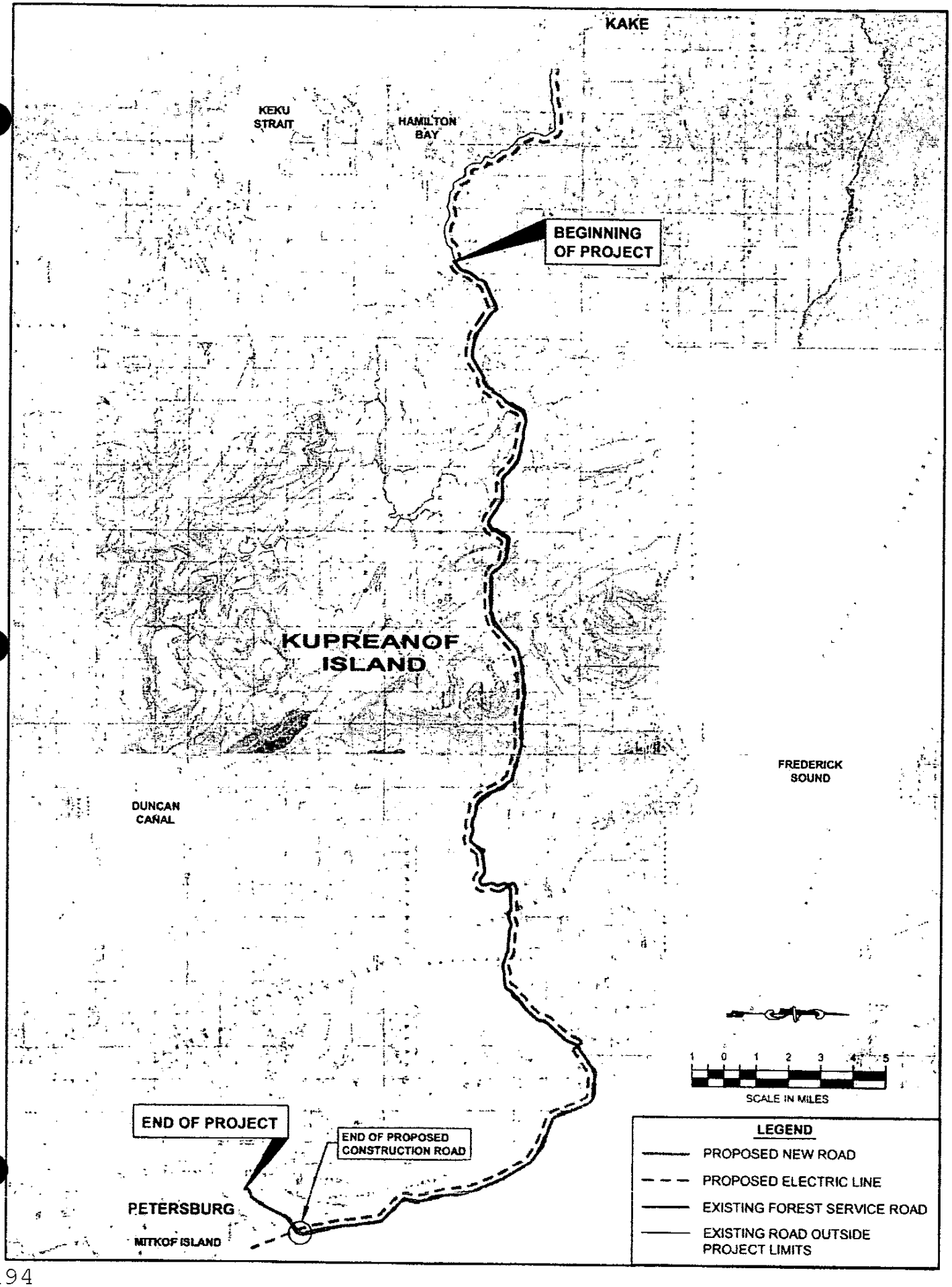
Attachments to this report:
Map1_1997 Electrical Intertie System Plan
Map2_Kupreanof Island
Map3_POW & Reynolds Creek
Map4_Ruth Lake Hydroelectric Project
Map5_Upper Lynn Canal Regional Energy Infrastructure



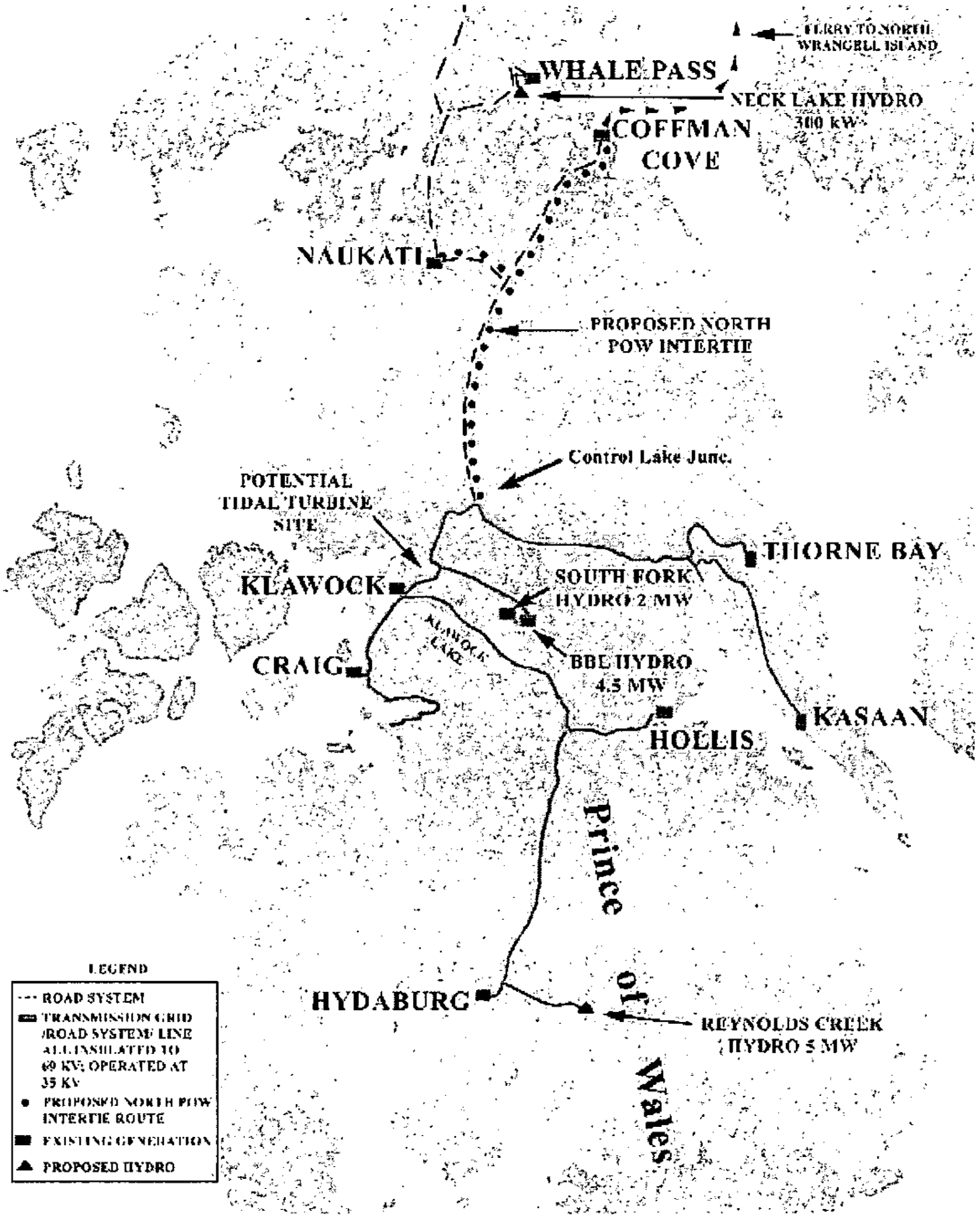
HATCH ACRES

Southeast Alaska Utilities

1997 ELECTRICAL INTERTIE SYSTEM PLAN


KAKE
KEKU STRAIT
HAMILTON BAY
BEGINNING OF PROJECT
KUPREANOF ISLAND
FREDERICK SOUND
DUNCAN CANAL
1 0 1 2 3 4 5
SCALE IN MILES
END OF PROJECT
END OF PROPOSED CONSTRUCTION ROAD
PETERSBURG
MITKOF ISLAND
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



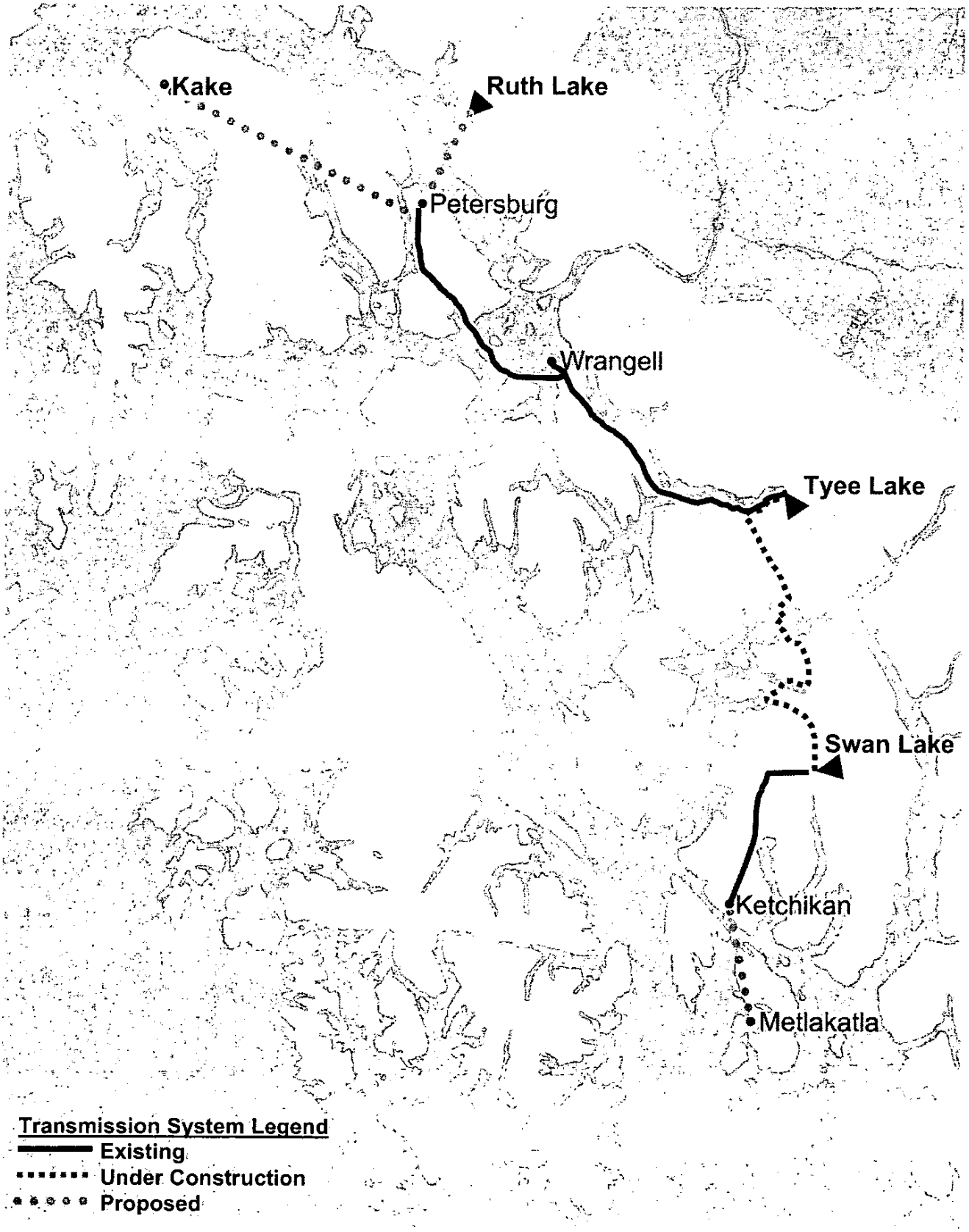
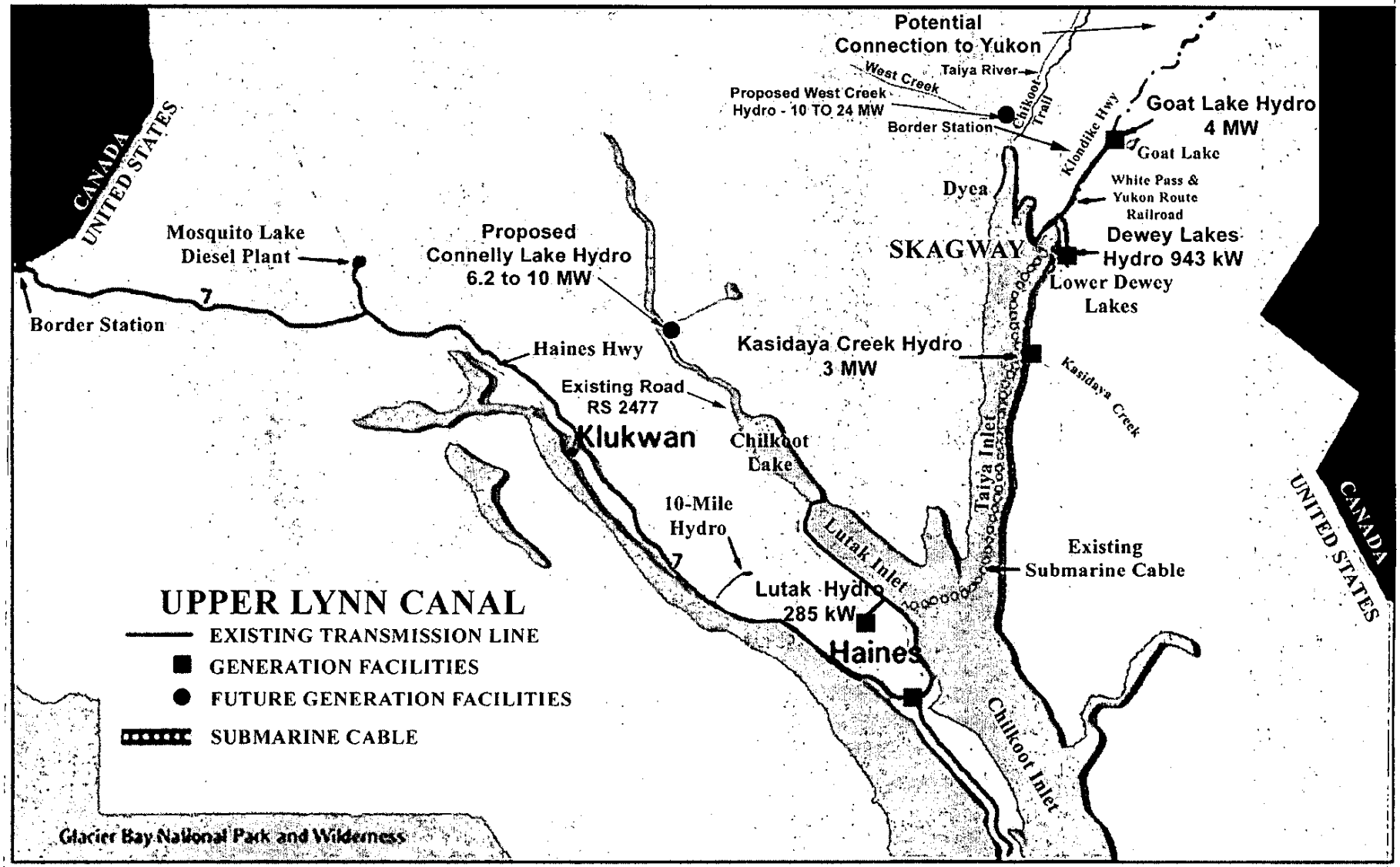


Exhibit F.2
Ruth Lake Hydroelectric Project
Southern SE Alaska Transmission System

UPPER LYNN CANAL REGIONAL ENERGY INFRASTRUCTURE



3-12-09 Overview: Fuel Pricing In Rural Alaska

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QUESTIONS FOR FUEL TRANSPORTERS

1) Can you list out some of the components of fuel pricing that could explain disparities in the cost of fuel from one village to another?

2) In any of the components you listed – could you talk about instances where your company may have had wide variations in costs from one trip to the next?

3) Do you see anything cities, villages, or utilities could be doing process-wise to lower the ultimate price consumers are paying?

4) Any factors that can help us learn about pricing of fuel products in areas of Alaska off the road system?

5) What can you tell us about infrastructure advantages such as tank storage, distributor relationships or other factors that might have direct effects on retail price at the community level?

6) Are there any regulations or restrictions that you can identify that play a role in the overall cost of your products?

7) Where do you purchase the fuel? If outside, why isn't the fuel purchased in Alaska?

NORTHSTAR GAS
Native Owned Petroleum Retailer

NorthStar Gas concerns that will have impacts on Bush Alaska

1). Transportation Costs to Rural Alaska

a. Fuel Transportaion Costs – Fuel prices in every community are made up from 3 components
   1 – Market pricing (OPIS & Platts & Anchorage Jet) on the day the fuel is lifted from the refinery
   2 – Transportation Costs – If one has a contract with the transportation companies the cost is a flat rate by location (Lower, Middle, Upper Kuskokwim). If you do not participate with a company that has a contract you are subject to the open market transportation costs which are usually double in cost.
   3 –OH&M & Community Profit Margin – Landed cost of fuel plus overhead & maintance plus a % profit margin. Each community's OH&M plus the % of profit margin varies and this is why you see the varied prices in neighboring communities.
b. Barge Services – Price per pound plus Haz Mat Receiving Charges plus Ocean Freight Related Fuel Surcharge of 25% of the total lb. cost in 2008.

Possible long term solution: Building a transportation infrastructure that would help control delivery costs.

1). Barge Transportation Service – Purchase barges and lease fleet out to a local Alaska company or help to provide financing.
2). Railroads put in where there are existing old mining roads. Example Ruby to McGrath

2). Simplify the AEA Loan application for already established customers.

a. Rather than have each community apply yearly make the loan application good for 3 to 5 years with a yearly one page loan update.
b. Have the loan approved based on payment history and have the funds released upon the final prior years payment being received.

3). PCE vs. Renewable Alternative Energies for rural Alaska sustainability

a. PCE in place long term vs up front financial investment into infrastructure in rural Alaska.

4). By Pass Mail – Price increase to rural Alaska by 42% on 5/11/09

Please feel free to contact Elaine Brown if you have any questions or comments on this document at 907-644-9205 or 907-301-0566.

STATE OF ALASKA
DEPARTMENT OF
COMMERCE
COMMUNITY AND
ECONOMIC DEVELOPMENT

Sarah Palin, Governor
Emil Notti, Commissioner

Division of Community & Regional Affairs (DCRA)

To: Adam Berg
From: Director Tara Jollie
Darte: March 4, 2009
Per your request

Fuel Costs, Capacity and Tank Farm Ownership

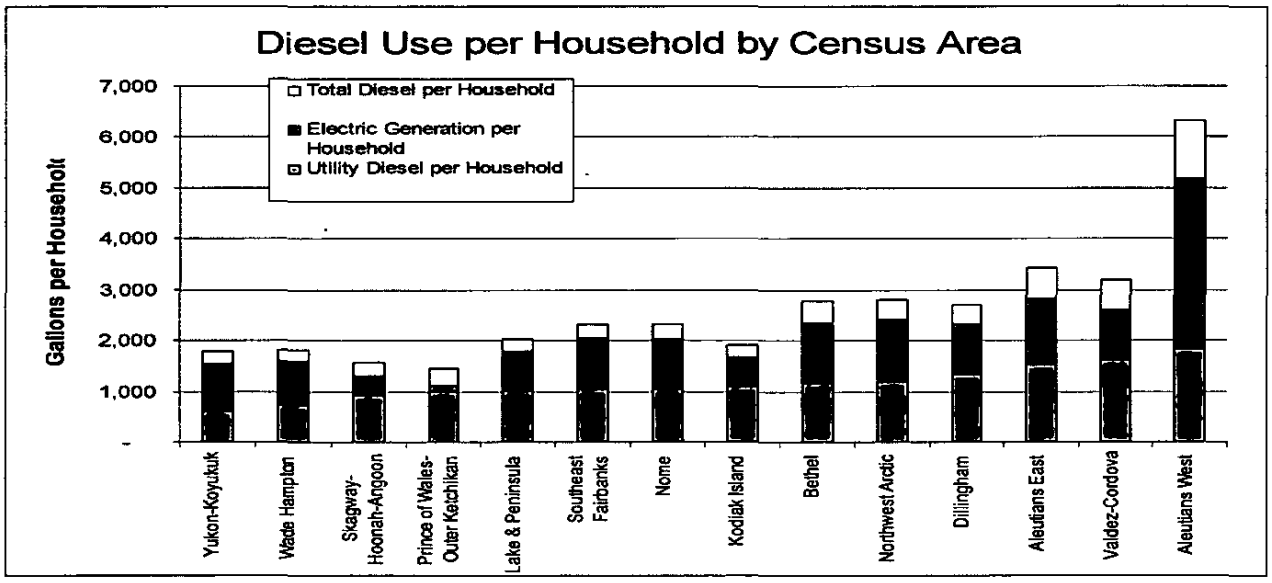
This memo provides information on:

1. Fuel price information for various communities.
2. Storage capacity for fuel around the state, and
3. Fuel usage around the state.

The fuel price information comes from surveys DCRA has conducted over the past four years. We have surveyed fuel prices in 100 communities around the state and released reports after every survey. Attached is a document that compiles that data for the last three years.

Information on storage capacity is stored in DCRA's Community Database. This information was last updated through a survey in 2007. Not all communities answered the survey so some of the information per community is more up to date than others. The information is attached as a separate document.

Information on fuel usage around the state stems from a research project conducted by the Institute of Social and Economic Research (ISER). "The goal of this project was to estimate the amount of fuel used for space heating and electricity production by communities in Alaska."[1] The report explains the mythology and the problems encountered with the data elements. By using multiple data sources and models researchers at ISER were able to determine the diesel use per household. The aggregated information by census area is illustrated in the graph below.



[1] "Alaska Community Fuel Use", Ben Saylor, Megan Wilson, Nick Szymoniak, Ginny Fay and Steve Colt, October 2008, ISER.

Owners and Capacity

Community	Pop.	Bulk Fuel Owners and Capacity
Adak	136	Aleut Corporation (9 tanks with a combined capacity of 22,000,000 gals.)
Akhiok	33	City (108,000 gals.); Ward Cove Packing/Alitak
Akiachak	628	Akiachak Enterprises (69,000 gals.); Yupiit Schools (169,000); Village Council (26,750); Army National Guard (10,000); Police Station (1,050); Village Electric (76,500)
Akiak	350	Kokarmiut Corp. (316,000 gals.); Yupiit Schools (70,250); City Electric (26,000); Army National Guard (5,500)
Akutan	859	Trident Seafoods (1,786,590 gals.); City (80,000); Aleutians East Schools (1,100)
Alakanuk	681	AVEC (117,029 gals.); Native Corp. (124,000); City Water Plant (40,000); City (4,000); Lower Yukon Schools (132,000)
Alatna	30	Alaska Power & Telephone (10,500 gals.)
Aleknagik	237	Moody's Marina & Sea Lighterage (44,700 gals.); City (10,300); Mission Lodge (18,000)
Allakaket	95	City (12,000 gals.); Yukon/Koyukuk Schools (11,000); Allakatna Co-op Store (9,252); Brice Construction (10,000)
Ambler	278	AVEC (100,800 gals.); Northwest Arctic Schools (29,000); Ambler Air Service (2,153); Village Council (238,100); Nunamiut Aviation Fuel (12,000)
Anaktuvuk Pass	277	NSB/Nunamuit Fuel (226,000 gals.); NSB Water Treatment (1,200); NSW Sewage Treatment (1,200); NSB Power Plant (10,000); NSB Fire Dept (17,500); NSB Health Clinic (6,500); NSB School (2,000); NSB Old Power Plant (5,000); NSB Heavy Equip (5,000); Nunamiut R
Anchorage	283938	Defense Fuel Supply Point (Elmendorf); U.S. Army/Ft. Richardson (736,700); AFSC/Signature Flight Support/Port of Anchorage (23,100,000); numerous
Angoon	478	Angoon Oil & Gas (80,000 gals.); Tlingit Haida Regional Electric Assoc. (62,468); City Water (3,000)
Aniak	506	Moffit Contracting (682,000 gals.); Kuspuk Schools (142,100); City Maintenance Shop (1,500); Aniak Power & Light (195,000); Alaska Commercial Co (15,200); Arctic Transportation (4,000); Steve Hill (21,000); Ryan Air (72,230); AK DOT (3,800); Bush-Tell (6,
Anvik	102	AVEC (52,972 gals.); Iditarod Schools (21,126); Ingalik Inc (29,490); Chase Ent. Store (10,520); Anvik Commercial Co. (16,555); City (6,500)
Arctic Village	155	Yukon Flat Schools (31,000 gals.); Village Electric (12,000); Village Office (5,455); Village Fuel Sales (2,100); U.S. Fish & Wildlife (4,105)
Atka	74	City of Atka total gross capacity 200,000 gallons.
Atmautluak	305	Lower Kuskokwim Schools (4,000 gals.); Village Corp./LKSD (179,250)
Atqasuk	223	Atqasuk Corp./NSB Fuel (580,000 gals.); NSB School (10,000); NSB Police (1,100); NSB Fire (7,000); NSB Clinic (6,700); NSB Power/Water (87,500); NSB Services (10,000); NSB Heavy Equipment (5,000); Atqasuk Corp. Store (2,000); City Hall/Community Center (2
Barrow	4054	Eskimos Inc./Barrow Airport (27,000 gals.); Airport (240,000)
Beaver	65	Yukon Flats Schools (57,000 gals.); Village Council Electric (32,000); Village Council Inuit Store/Airport (2,000)
Bethel	5653	Yukon Fuel Co. (9.4 million gals.); Crowley Marine (5.6 million gals.); Airport (120,500 gals.); Bethel Utilities Corp. (51,000); U.S. Federal Aviation Admin (44,000)
Bettles	28	Alaska Power & Telephone (85,000 gals.); Ace Supply Store (13,600); Bettles Lodge (10,000); Evansville Tribal Council (5,000); Brooks Range Aviation (6,100); City (10,000)
Birch Creek	26	Yukon Flats Schools (31,800 gals.); Dendu Gwich'in Village Council (30,800); AK DOT (1,000)
Brevig Mission	328	Bering Straits Schools (71,000 gals.); City (79,750); Church (8,000); Army Nat'l Guard (4,750); AVEC (66,900)

Owners and Capacity

Community	Pop.	Bulk Fuel Owners and Capacity
Buckland	457	Northwest Arctic Schools (62,500 gals.); City Power Plant (44,800); City Water/Washeteria (16,100); City Office/Clinic (14,800); Village Council Fuel Depot (151,800); Army National Guard (4,600); AK DOT (2,700)
Central	95	Central Power Co. (63,500 gals.); Arctic Mining Corp. (11,000)
Chalkyitsik	72	Yukon Flats Schools/Village Council Electric (63,425 gals.); AK DOT (1,000); Native Corp. Store (5,500); Native Corp. Airport (5,200); Village Council Clinic (1,000)
Chefornak	450	Lower Kuskokwim Schools (115,200 gals.); City (44,900); Chefarnmute Inc. (84,300); National Guard (4,300); Avugiak's Store (8,200); Army National Guard (3,800)
Chenega Bay	79	Village Council (60,000 gals.); Chugach Schools (12,000)
Chevak	942	Kashunaimiut Schools (119,300 gals.); City Water/Washeteria/Hall (39,600); Village Council (12,600); AVEC (136,700); Village Corp. Store (195,840); Village Corp. beach (46,000); Wayne Hill Store (28,000); Army Nat'l Guard (2,500)
Chignik	81	Aleutian Dragon Fisheries (191,500 gals.); Village Council (43,000); Lake & Peninsula Schools (5,400); Village Power Plant (5,000)
Chignik Lagoon	68	Lake & Pen Schools (30,000); Village Council (75,000); Village Electric (1,500); Village Incinerator (2,000); Village Council-Old Clinic (3,000); Al Anderson (16,850); Jeff Moore (3,700); Viola Grunette (1,600); Alfred Aboud (2,500)
Chignik Lake	128	Village Council (42,300 gals.); Lake & Peninsula Schools (45,400); Tide Mark Co. (16,500)
Chuathbaluk	90	Kuspuk Schools (36,400 gals.); City (17,100); Middle Kuskokwim Electric (26,400)
Circle	102	Circle Utilities (13,000 gals.); Yukon Flats Schools (110,000)
Clark's Point	66	Trident Seafoods (76,600 gals.); Southwest Region Schools (9,900); City (56,200 gals.); City Power Plant (10,200)
Coffman Cove	147	Louisiana Pacific/Ketchikan Pulp Co. (45,842 gals.); Alaska Power & Telephone (6,300); Gas Plus (7,800)
Cold Bay	72	Aleut Enterprises Corp (557,800 gals.); G&K Electric (13,400); AK DOT (23,819); FAA (2,000); Aleutians East Schools (2,790); City (3,300); U.S. Fish & Wildlife (25,000); Peninsula Air (15,300); U.S. Air Force (4,800); AT&T Alascom (500)
Cordova	2194	Orca Oil; Cordova Electric Co-op (60,000 gals.); U.S. Coast Guard (22,000)
Craig	1054	Petro Marine Services (320,010 gals.); Alaska Power & Telephone (10,698); City (998); AT&T Alascom (2,000); THRHA Senior Apartments (1,100)
Crooked Creek	129	Kuspuk Schools (24,800 gals.); Village Council Washeteria (9,500); Village Council (7,600); Middle Kuskokwim Electric Co-op (17,800); Thomas Fuel Sales (47,100)
Cube Cove	0	Silver Bay Logging (117,000 gals.)
Deering	133	Village Council (88,600 gals.); City (84,500); Northwest Arctic Schools (36,800)
Delta Junction	975	Delta Fuels Inc. (40,000 gals.); AK DOT (12,000)
Dillingham	2405	Delta Western Fuel; Peter Pan Seafoods (44,000 gals.); Nushagak Electric (1,850,000 gals.); Bristol Fuels
Diomede	144	Bering Straits Schools (42,000 gals.); City Electric Utility (80,800); Village Council Store (40,200)
Dot Lake	15	Dot Lake Lodge (7,000 gals.)
Dot Lake Village	55	Dot Lake Lodge (7,000 gals.); Village Council Utility Building (10,000)
Eagle	110	Alaska Power & Telephone (38,000 gals.)
Eek	285	Iqfijouaq Co./Store (79,400 gals.); AVEC (67,300); Lower Kuskokwim Schools (45,500); City (8,200); Army National Guard (4,300)

Owners and Capacity

Community	Pop.	Bulk Fuel Owners and Capacity
Egegik	64	Egegik Fuel Co. (44,400 gals.); Lake & Peninsula Schools (2,000); Woodbine Alaska Fish Co. (98,000); City (68,000); Nelbro Packing Co. (52,000); Egegik Trading Co. (2,000); Dick Deigh (14,400)
Ekuk	0	Columbia Ward Fisheries (190,600 gals.)
Ekwok	108	Southwest Region Schools (45,990 gals.); Ekwok Natives Ltd. (29,330); Alaska Power Systems (60,000)
Elfin Cove	21	Elfin Cove Fuel (102,645 gals.)
Elim	309	Bering Straits Schools (57,410 gals.); City (142,430); Army National Guard (4,500); AK DOT/Airport (3,000); Elim Native Store (68,130); AVEC (70,850)
Emmonak	796	AVEC (172,247 gals.); City (131,500); Lower Yukon Schools (168,000); Grant Air Services (133,000); Emmonak Corp. (421,148); Alaska Commercial Co. Store (20,000)
Ester	2041	Wigger Mine (20,000 gals.)
Fairbanks	31639	FBX Municipal Utilities (180,000 gals.); Ben Lomond Inc. (82,000); Golden Valley Electric (238,400); Petroleum Sales (510,600); UAF Power Plant (200,000); Farmers Loop Market (25,000); FBX Int'l Hydrant Fueling (100,000); AK DOT/Peger Road (38,000)
False Pass	46	Peter Pan Seafoods (321,700 gals.); City Electric (34,000); Aleutians East Schools (968)
Fort Yukon	591	Yukon Fuel Co./Yutana Barge (73,800 gals.); Yukon Flats Schools (47,000); Frontier Flying (10,500); BLM Fire Service (35,000); BLM Fish & Wildlife (2,700); Yukon Air (6,000); Sheenjek River Air (4,100); City Water Heating/Recirculation; Gwitchyaa Zhee Cor
Galena	610	JBX/Galena Airport (100,000 gals.); Warbelow's Air Service (37,000); Frontier Flying (30,000); Yukon Fuel Co. (1,297,750); City Power Plant (630,000); City Schools (60,500)
Gambell	662	AVEC (142,700 gals.); Bering Straits Schools (97,800); ANICA Native Store (332,400); 7th Day Adventist Church (2,300); Army National Guard (10,400); City (55,300); Presbyterian Church (2,700)
Glennallen	518	Standard Oil/Chevron Bulk Plant (98,000 gals.); Fisher Fuel
Golovin	167	City (97,000 gals.); Bering Straits Schools (59,400)
Goodnews Bay	235	AVEC (67,300 gals.); Mumtram Pikkai Inc. Store (113,400); Lower Kuskokwim School District (43,200); City Washeteria (16,600); Army National Guard (2,200); Goodnews River Fishing Lodge (10,000)
Grayling	164	AVEC/City/Corp/School (175,300 gals.); Native Store (24,489); Iditarod Area Schools (2,000); Hee-Yea-Lingde Corp. (20,572)
Gustavus	442	Glacier Bay National Park (7,600 gals); Whalesong Lodge (1,000); Gustavus Electric Dray (111,678); Gustavus Dray Gas Station (7,520); Gustavus Dray/Airport (9,432)
Haines	1474	White Pass Alaska (1,072,900 gals.); Delta Western (3,240,000); Ward Cove Packing (18,000); Tlingit Haida Reg. Electric (23,000); Klukwan Forest Products (60,000)
Healy	1027	Usibelli Mine (58,000 gals.); Golden Valley Electric (23,100); Healy Chevron (25,000)
Hobart Bay	1	ITT Rayonier (50,000 gals.)
Hollis	186	Alaska Power & Telephone (4,000 gals.)
Holy Cross	200	AVEC (77,600 gals.); Iditarod Area Schools (29,314); City (14,084); Deloycheet, Inc. (163,547); Holy Cross Church (6,200)
Homer	5504	Alaska Oil Sales (43,000 gals.); Petro Marine Services (180,000); Homer Fuel; Homer Marina
Hoonah	852	THREA (34,484); Hoonah Trading Co. (212,105); City School (3,000); THRHA/Senior Housing (1,100); Hoonah Cold Storage (1,971);

Owners and Capacity

Community	Pop.	Bulk Fuel Owners and Capacity
Hooper Bay	1149	Lower Yukon Schools (145,400 gals.); City (20,000); AVEC (160,900); Army National Guard (8,200); Yukon Fuel Co. (225,203); Little Flower of Jesus Parish (2,519)
Hughes	76	City Electric (20,000 gals.); Yukon-Koyukuk Schools (28,000)
Huslia	255	AVEC (67,174 gals.); Yukon-Koyukuk Schools (39,874); City/Huslia Gas & Oil (60,559)
Hydaburg	353	Haida Oil Products (100,000 gals.); THRHA/Haida Apartment Bldg. (1,000); Alaska Power & Telephone (21,000)
Igiugig	32	Village Council (63,900 gals.); Lake & Peninsula Schools (5,000)
Iliamna	93	Moody's Fuel (86,000 gals.); Village Council Clinic (2,000); Roadhouse Inn (2,000); John Swenko (7,000); Iliamna Air (10,000); Telarik Creek Lodge (5,000); Iliamna Airport Hotel (2,500); Iliaska Lodge (10,900); Iliamna Air Taxi (1,000); AK DOT/Airport (5,
Ivanof Bay	0	Lake & Peninsula Schools (21,000 gals.); Village Council (22,600); PTI Communications (4,500); A&L Fuel Sales
Juneau	30317	AEL&P/Auke Bay Power Plant (125,000 gals.); AEL&P Lemon Creek Power Plant (200,000); Klukwan Forest Products (126,500); Echo Bay Alaska Inc./Kensington Mine (60,000); Greens Creek Mine/Admiralty Island (366,000); Landfill (12,500)
Kachemak	467	Private/Home Run Oil Company
Kake	536	Kake Tribal Corp. (177,974 gals.); THREA (67,296); SOS Value Mart (5,000); Tlingit Haida Senior Center (1,000); City/Community Bldg. (3,563); Kake Hatchery (2,200); Temsco Helicopters (1,000)
Kaktovik	287	NSB (1,006,800 gals.); NSB Schools (10,000); Kaktovik Inupiat Corp. (60,000); U.S. Fish & Wildlife/Waldo Arms Hotel (33,000); SKW/Eskimos (200,000); U.S.A.F. (29,000); U.S. Fish & Wildlife/Barter Island (35,000)
Kaltag	184	AVEC (91,000 gals.); Kaltag Cooperative Industries (108,000); Yukon-Koyukuk Schools (33,200); City (19,300); Catholic Church (9,000); AK DOT/Airport (1,000); Army National Guard (3,000)
Karluk	27	Village Council (50,000 gals.)
Kasaan	63	City Bulk Fuel (10,208)
Kasigluk	545	Lower Kuskokwim Schools (116,750 gals.); Village Council (16,500); Kasigluk Inc. (136,500); Army National Guard (2,000)
Kenai	6975	City (15,000 gals.); Alaska Oil Storage (162,000); Ward Cove Packing (17,500)
Ketchikan	7732	Island Fuels Inc./Petro Alaska (60,000 gals.); Boyer Alaska Barge Lines (150,000); Ketchikan Utilities (230,000); E.C. Phillips & Son (9,100); Andrews Oil (920,500); White Pass Alaska (6,902,100); Ward Cove Packing (7,000); Salmon Falls Marine
Kiana	391	AVEC (120,300 gals.); Kiana Trading Post (51,400); Northwest Arctic Schools (107,700); City (94,300); City Firehouse (2,200); AK DOT (2,900); Blankenship Trading Post (7,100)
King Cove	756	City Electric (127,800 gals.); Aleutians East Schools (5,300); King Cove Corp. (5,000); Peter Pan Seafoods (522,515); Gould & Sons (2,800)
Kipnuk	664	Lower Kuskokwim Schools (70,200 gals.); Village Power Plant (151,300); Kugkaktlik Ltd. (324,500); Kashatok Bros. Store (13,800)
Kivalina	398	AVEC (98,800 gals.); Native Store (135,800); Northwest Arctic Schools (49,600); AK DOT (2,700); Army National Guard (10,000); City Washeteria (7,800)
Klawock	743	Klawock Island Fuels (120,000 gals.); THREA (1,000); Viking Lumber Co. (19,984)
Kobuk	119	Northwest Arctic Schools (11,700 gals.); City (16,900); Kobuk Store (8,700)

Owners and Capacity

Community	Pop.	Bulk Fuel Owners and Capacity
Kodiak	5691	Kodiak Electric (40,000 gals.); Western Alaska Fisheries (80,000); Other (150,000); US Coast Guard Support Center (1,598,000); U.S. DOT/FAA/Woody Island (54,000); Kodiak Oil Sales Inc. (1,719,000); Petro Marine Services (1,932,000)
Kokhanok	175	Village Council (58,900 gals.); Roehl's Ent. (3,800); Lake & Peninsula Schools (3,600)
Koliganek	192	Southwest Region Schools (60,000 gals.); Village Council (20,000); Electric Utility (60,000)
Kongiganak	436	Lower Kuskokwim Schools (71,600 gals.); Qemirtalek Coast Corp. (86,800); Puvurnaq Power (76,500); Village Corp. (51,900); Moravian Church (3,000); Army National Guard (1,900); A&L Variety Shop (8,900)
Kotlik	600	Electric Utility (50,000 gals.); Kotlik Yupik Corp. (220,000); Lower Yukon Schools (48,955); City (18,100); Alaska Commercial Store (15,000)
Kotzebue	3135	Crowley Marine Services Tank Farm (6,200,000 gals.); Airport/Bering Air (20,000); Air Nat'l Guard (17,000); Pacific Alaska Fuel Services; Baker's Fuel; Hanson's; Bison Street; Lee's Auto; K.I.C.; NAPA Auto Parts
Koyuk	347	Bering Straits Schools (65,500 gals.); AVEC (71,250); Koyuk Native Corp. (98,800); City (16,000); AK DOT/Airport (3,000)
Koyukuk	89	Yukon Koyukuk Schools (10,800 gals.); City lease from YKSD (63,800); AK DOT (1,000); Army National Guard (3,000); City Fuel Depot (20,400)
Kwethluk	721	Kwethluk Inc (93,750 Diesel, 116,750 Unleaded); City (17,000); Lower Kuskokwim Schools (23,500); Army National Guard (5,250); Kwethluk Electric (138,000 Diesel)
Kwigillingok	361	Lower Kuskokwim Schools (112,500 gals.); Village Council (3,000); Kwig Inc. (166,900); Army National Guard (4,300)
Larsen Bay	83	Kodiak Salmon Packers (128,900 gals.); City (75,400)
Levelock	71	Village Council (156,800 gals.); Lake & Peninsula Schools (31,500)
Lime Village	26	Iditarod Area Schools (8,000 gals.); Village Council (7,200); Electric Utility (3,000); United Utilities (1,000)
Lower Kalskag	253	AVEC (103,500 gals.); Kuspuk Schools (16,000); Twin Cities (74,770)
Manokotak	431	Southwest Region Schools (20,000 gals.); Manokotak Natives Ltd. (91,100); Manokotak Power Co. (21,400); Army National Guard (1,500); Moravian Church (2,700); Manukutaag Trading Co. (1,459)
Marshall	388	AVEC (76,560 gals.); Maserculiq/City (110,000); Lower Yukon Schools (46,000); City (14,200); Hunter Store (17,000); Maserculiq Processing Plant (10,000)
McGrath	315	B.J. Magnuson Fuel (193,500 gals.); Don Harris (80,000); McGuire's Tavern (20,200); US DOT/FAA (55,300); AK DOT (21,700); AK DNR Camp (10,300); AK DNR Airport (20,000); Catholic Church (1,200); Alaska Commercial Co. Store (1,100); MTNT Ltd. Electric (223,
Mekoryuk	208	Bering Sea Reindeer Products (15,900 gals.); NIMA Corp. (95,130); Army National Guard (3,000); Lower Kuskokwim Schools (90,400); City (34,700); AVEC (84,900)
Metlakatla	1404	Annette Island Gas Service (79,948); Electric Utility (410,000); Annette Island Schools (10,000); Wm. Duncan Church (1,000); Annette Island Packing (33,000); Community Hall (1,000); Mini Mart (1,000)
Meyers Chuck	20	Alascom Inc. (12,000 gals.)
Minto	180	AVEC (42,000 gals.); Yukon Koyukuk Schools (15,000)
Mountain Village	784	AVEC (196,149 gals.); Lower Yukon Schools (206,040); City (23,020); Azachorok Inc. (224,650); Hageland Aviation (1,495); Army National Guard (2,000)
Naknek	543	Naknek Electric Assoc (1,660,000 gals.); Naknek Engine Sales & Service (2,500); Trident Seafoods (31,000); Peninsula Auto (4,000); Nelbro Packing Co. (24,200); Paug-Vik Inc. (5,200); Southwestern AK Construction (6,000); Bristol Bay Borough (48,500)

Owners and Capacity

Community	Pop.	Bulk Fuel Owners and Capacity
Napaimute	0	Retail gas (5,000); 4-500 gallon tanks for equipment fuel
Napakiak	378	Lower Kuskokwim Schools (76,156 gals.); Napakiak Corp. (70,200); Jung's Trading Post (1,530)
Napaskiak	434	Lower Kuskokwim Schools (42,000 gals.); City Electric (43,200); Army National Guard (1,500); Napaskiak Inc. (1,500)
Nelson Lagoon	69	Nelson Lagoon Fuel Ent. (140,000 gals.); Aleutians East Schools (1,500); Harold Thompson (3,000)
Nenana	553	Nenana Heating Service Inc. (84,000 gals.); US DOT/FAA (16,000); Yutana Barge Lines (600,000)
New Stuyahok	448	AVEC (84,400 gals.); Southwest Region Schools (57,850); Stuyahok, Ltd. (41,000)
Newhalen	167	City Clinic (3,500 gals.); Nondalton Village Corp. (165,000); Lake & Peninsula Schools (5,000); City (191,700)
Newtok	353	Newtok Corp. Store (52,200 gals.); Lower Kuskokwim Schools (121,070); Newtok Corp. Electric (55,955); Tom's Store (4,125); Agayuvik Holy Family Church (3,000); Army National Guard (2,500)
Nightmute	244	Chinurak Inc. Store (40,400 gals.); Nightmute Power Co. (89,900); Army National Guard (3,000); Lower Kuskokwim Schools (27,500); Our Lady of Perpetual Help Catholic Church (1,650)
Nikolai	88	Iditarod Schools (15,300 gals.); City (72,200)
Nikolski	33	Nikolski Native Store (23,000 gals.); Umnak Power Co. (23,000); Aleutian Region Schools (9500); Chaluka Corp. Ranch (6,300)
Noatak	489	AVEC (99,800 gals.); Northwest Arctic Schools (89,500); IRA Native Store (65,300); Village Council (26,500); Army National Guard (7,400); AK DOT (3,100)
Nome	3497	Chevron/Arctic Lighterage (5,233,000 gals.); Bonanza Fuel (3,055,000); Air National Guard (20,000); MarkAir (20,000)
Nondalton	196	City (26,000 gals.); Village Council (1,000); Newhalen Lodge (10,000); Mulchatna Lodge (2,000); Lake & Peninsula Schools (17,900); Mission Statement Lodge (3,000)
Noorvik	636	AVEC (145,700 gals.); Northwest Arctic Schools (94,900); City (30,900); Native Store (130,500); Morris Trading Post (59,000)
Northway	81	AK DOT (99,000 gals.); Northway Power Plant (13,500)
Nuiqsut	403	NSB Fuel Station (468,000 gals.); NSB Fire/Rescue (8,000); NSB Municipal (32,000); NSB Electric (160,000); City (10,000); NSB Schools (2,750); NSB Clinic (6,500); NSB Police (1,100); NSB old Public Safety (2,000); Assembly of God (1,100); Kuukpik Presbyte
Nulato	274	AVEC (114,800 gals.); Yukon Koyukuk Schools (88,700); City Fuel Depot (116,900); City Old Town Water (45,500); City New Town Washeteria (5,800); H&H Ent. (12,600); Mountain General Store (9,500); Army National Guard (6,000); City Office (1,500)
Nunam Iqua	201	Lower Yukon Schools (67,240 gals.); Swan Lake Corp. (95,423); AK DOT (3,000)
Nunapitchuk	545	Lower Kuskokwim Schools (84,750 gals.); City (15,750); AVEC (158,250); Village Corp. (111,000)
Old Harbor	188	Old Harbor Fuel Co. (76,400 gals.); AVEC (41,200)
Oscarville	80	Lower Kuskokwim Schools (27,976 gals.); Village Council (20,000)
Ouzinkie	155	Ouzinkie Native Corp. Fuel Facility (71,600 gals.); Kodiak Island Schools (5,200); City (1,400)
Palmer	5506	Service Oil & Gas (45,000 gals.)
Pedro Bay	38	Village Council (29,500 gals.); Lake & Peninsula Schools (28,200)
Pelican	110	Pelican Seafoods/Kake Tribal Corp. (145,185 gals.); City Schools (2,000)
Perryville	119	Lake & Peninsula Schools (21,900 gals.); Village Council (72,500)
Petersburg	3072	White Pass Alaska (299,000 gals.); Unocal Corp. (396,000)

Owners and Capacity

Community	Pop.	Bulk Fuel Owners and Capacity
Pilot Point	61	Lake & Peninsula Schools (7,000 gals.); City (128,900)
Pilot Station	580	AVEC (96,340 gals.); Native Store (5,000); Lower Yukon Schools (47,725); City (5,260); Village Corp./City (102,800)
Pitkas Point	138	Lower Yukon Schools (22,320 gals.); Village Corp. (15,000)
Platinum	35	Arviq Inc. (67,100 gals.); City Power Plant (5,600); Lower Kuskokwim Schools (7,000)
Point Baker	16	Pt. Baker Trading Post (20,180 gals.)
Point Hope	704	NSB/Tikigag Corp. Fuel Station (1,237,000 gals.); NSB Schools (4,000); NSB Power Plant (2,000); NSB Fire (7,000); NSB Maintenance (5,000); NSB Sewage Plant (2,500); NSB Municipal (10,000); Alaska National Guard (5,000)
Point Lay	250	NSB Power Plant (10,000 gals.); NSB Fire (7,000); NSB Maintenance (5,000); NSB Clinic (6,000); NSB Schools (10,000); NSB Fuel Station (548,000)
Port Alexander	60	Southeast Island Schools (12,212 gals.); Store (2,000)
Port Alsworth	118	Lake & Peninsula Air (5,500 gals.); Lake Clark National Park (20,955); Lake & Peninsula Schools (15,000); Lake Clark Air (8,000); Alaska Wilderness Lodge (6,000); Alaska Lake Clark Air/Lodge (6,000); Fishing Unltd. (4,300)
Port Graham	134	Port Graham Corp. (91,200 gals.)
Port Heiden	87	Reeve Aleutian Airways (45,600 gals); Lake & Peninsula Schools (15,000); City (467,500); Village Council (55,000); AK DOT (5,000); Airport (3,000)
Port Lions	179	Kizhuyak Oil Sales/Village Council (90,600 gals.); Kodiak Electric Assoc (1,100)
Port Protection	56	Wooden Wheel Cove Trading Post (24,094 gals.)
Quinhagak	643	Lower Kuskokwim Schools (42,200 gals.); City (12,900); Village Council (43,700); AVEC (104,300); Qanirtuuq/Store (145,200); Moravian Church (3,700); A&C Market (9,600); Army National Guard (4,500)
Rampart	17	Yukon Flats Schools (47,500 gals.)
Red Devil	34	Kuspuk Schools (17,900 gals.); Middle Kuskokwim Electric (42,500); Red Devil Lodge (22,800); Mid Kusko Marine (23,500)
Ruby	167	Dineega Fuel Co. (194,800 gals.); Yukon Koyukuk Schools (65,610); City (12,000); AK DOT (4,000)
Russian Mission	333	AVEC (58,830 gals.); Lower Yukon Schools (29,830); Native Store (10,775); City Water (7,930); Village Corp. (63,219); City (4,600)
Saint George	114	St. George Delta Fuel Co. (1,066,200 gals.); City (4,000); Peninsula Airways (2,000); Pribilof Island Schools (1,000); St. George Tanaq Corp. (5,200)
Saint Mary's	549	Crowley Marine/City (615,000 gals.); AK DOT (98,000); Tundra Terrace Apts. (5,000); AK Court System (10,000); Native Corp. (2,000); Omni Corp. Roadhouse (2,000); City Schools (72,500); FAA (1,000); Northern Air Cargo (6,400); AVEC (217,200); St. Mary's Mi
Saint Michael	445	Bering Straits Schools (80,500 gals.); AVEC (76,000); City (14,000); Alaska Commercial Co. (32,000); Army National Guard (10,000); AK DOT (3,000); Yutana Barge Line
Saint Paul	447	TDX Corp. (1,573,200 gals.); City (1,854,600); Pribilof Island Schools (3,000); Pribilof Island Processors (1,900); City Electric (12,100); Reeve Aleutian Airways (10,200); Trident Seafoods (12,300); U.S. Coast Guard (300,800)
Sand Point	992	Trident Seafoods (642,000 gals.); Shumagin Distributors (1,000); City (1,000); Peter Pan Seafoods (1,000); Reeve Aleutian Airways (1,500); Aleutian Commercial (2,350); Sand Point Electric (40,000)

Owners and Capacity

Community	Pop.	Bulk Fuel Owners and Capacity
Savoonga	712	Village Store (279,000 gals.); City (28,500); AK DOT (9,500); National Guard (7,500); AVEC (136,200); Bering Straits Schools (149,500); Presyterian Church (5,900)
Scammon Bay	517	Lower Yukon Schools (60,100 gals.); City (10,800); Army National Guard (3,000); AVEC (81,200); Askinuk Corp. (132,800); Catholic Church (1,000)
Selawik	828	Northwest Arctic Schools (92,900 gals.); AVEC (138,900); IRA Store (258,100); Rotman Stores (9,800); HUD Housing (26,000); Army National Guard (8,500); AK DOT (2,500)
Seldovia	284	Seldovia Fuels/Delta Western (384,000 gals.)
Seward	2661	Shoreside Petroleum (120,000 gals.); City (40,000)
Shageluk	118	AVEC (54,990 gals.); Iditarod Area Schools (44,360); City/Zho-Tse Inc. (24,000); Zho-Tse, Inc. (20,359)
Shaktoolik	214	AVEC (79,270 gals.); Village Corp. (196,200)
Shishmaref	609	Bering Straits Schools (54,200 gals.); AVEC (122,200); City (87,200); Nayokpuk Trading Post (82,600); IRA Store (130,200); U.S. Fish & Wildlife (3,100); Lutheran Church (6,900); National Guard (9,700); City Water (8,200)
Shungnak	269	AVEC (122,400 gals.); IRA Store (74,300); Northwest Arctic Schools (41,700); Army National Guard (6,900); AK DOT (2,800); Commack Lodge (8,100); City (16,400)
Sitka	8644	City & Borough Incinerator (25,000 gals.); Petro Marine Services (865,500); Alaska Pulp Corp. (1,572,800); Hidden Falls Hatchery (22,000); Sitka Fuel (155,000)
Skagway	846	White Pass Alaska (2,860,000 gals.); White Pass Upper Plant (6,993,800); Alaska Power & Telephone (15,000); Petro Marine
Sleetmute	75	Kuspuk Schools (33,100 gals.); Middle Kuskokwim Electric Co-op (17,600); Crescent Lake Lodge (5,000); Hill Ent. (7,500); Nick P. Mellick and Sons (20,000)
Solomon	2	Solomon Mines, Inc. (20,000 gals.)
South Naknek	66	Kodiak Ventures (150,100 gals.); Bristol Bay Schools (24,000); Trident Seafoods (78,000); Peter Pan Seafoods (15,000)
Stebbins	598	AVEC (112,400 gals.); Bering Straits Schools (101,000); Tapraq Fuel Co./City (111,800); Ferris General Store (26,800); Army National Guard (3,000); AK DOT/Airport (3,000); Charlie Steves (3,000)
Stevens Village	71	Yukon Flats Schools (47,500 gals.)
Stony River	42	Village Council (24,100 gals.); Kuspuk Schools (30,000); Middle Kuskokwim Electric (20,000); AK DOT (1,500)
Takotna	46	Takotna Community Assoc. (173,400 gals.)
Tanana	258	Village Council (191,100 gals.); AK DOT (2,000); City Washeteria (10,000); Power Plant (46,500); School (25,000); City (25,000)
Tatitlek	113	Chugach Schools (20,000 gals.); Village Council (12,000); AK DOT (3,000)
Telida	3	Iditarod Area Schools (5,000 gals.)
Teller	256	Bering Straits School (71,200 gals.); Village Corp. Fuel (129,800); Teller Commercial Co. (218,900); Lutheran Church (6,100); City Clinic (1,000); Native Corp. Store (3,500); AK DOT (3,300); Teller Power (1,900); Army National Guard (2,300)
Tenakee Springs	102	Snyder Merchantile (71,869 gals.); City Electric (700)
Tetlin	165	Village Council (45,000 gals.); Village Corp. (120,000)
Thorne Bay	467	Petro Alaska (276,000 gals.); City (6,000); US Forest Service (20,455); Taquan Air (6,000); The Tackle Shop (3,000); Bayview Fuel & Tire (2,000)

Owners and Capacity

Community	Pop.	Bulk Fuel Owners and Capacity
Togiak	787	City (239,900 gals.); AVEC (135,700); Southwest Region Schools (59,400); Village Council (1,000); Alaska Commercial Co. Store (2,000); Army National Guard (2,000); Moravian Church (1,900); Togiak Lumber (1,700); BBNA Head Start Bldg. (1,000)
Tok	1353	Northern Energy Corp. (42,000); AK DOT (15,500); US Coast Guard Loran Station/Tok (20,000); 40 Mile Air Ltd. (20,000); Village Texaco (30,000); Alaska Power & Telephone (33,800)
Toksook Bay	610	Lower Kuskokwim Schools (34,460 gals.); AVEC (147,475); City (26,000); Nunakauiak Yupik Corp. (120,020); Army National Guard (5,000)
Tuluksak	487	Village Council (25,000 gals.); Yupiit Schools (122,811); Tulkisarmute Inc. (50,000); Army National Guard (6,500)
Tuntutuliak	422	Lower Kuskokwim Schools (74,400 gals.); Village Council (86,900); Qinarmiut Corp. (71,700)
Tununak	341	Lower Kuskokwim Schools (70,300 gals.); Tununak Elders Council (15,600); AVEC (79,800); Tununrmiut Rinit Corp. Store (120,400); Army National Guard (6,300)
Twin Hills	81	Village Council (29,400 gals.); Southwest Region Schools (31,300); Togiak Fisheries Inc. (127,500)
Tyonek	181	Village Council (4,000 gals.)
Ugashik	13	Briggs Way Cannery (17,000 gals.)
Unalakleet	724	Native Corp. (261,900 gals.); AK DOT (48,300); City Water (66,300); West Coast Aviation (336,700); Bering Straits Schools (94,000); Ryan Air (17,000); Alaska Commercial Co. (24,300); Covenant Church (1,500); AVEC (358,000); Peninsula Air (1,900)
Unalaska	3678	Delta Western; North Pacific; Offshore Systems
Upper Kalskag	244	Kuspuk Schools (49,200 gals.); Kalskag Store/Twin City Fuel (36,200); Ausdahl Mercantile (1,980); City (2,500); Morgan Fuel Service (36,800)
Venetie	181	Yukon Flats Schools (48,900 gals.); Village Council (2,000); Village Council Electric (13,000)
Wainwright	540	NSB Schools/Olgoonik Corp. Fuel Station (908,000 gals.); NSB Schools (10,000); City (2,400); Olgoonik Corp. (50,000); NSB Water (10,000); NSB Fire (7,500); NSB Sewage (1,500); NSB Power (500,000); SKW/Eskimos (1,000); Olgoonik Hotel & Restaurant (1,500);
Wales	136	AVEC (51,100 gals.); Native Corp. (97,500); Bering Straits Schools (43,500); City Office (3,500); U.S. Navy (97,600); Native Store (102,200); City Water (7,900); Army National Guard (2,900)
White Mountain	215	Bering Straits Schools/City (131,600 gals.); Native Store (43,500); Corp. Lodge (2,000); AK DOT (3,000); Tom Gray Reindeer Farm (4,900)
Whitestone Logging Camp	0	Whitestone Logging (71,257 gals.)
Whittier	174	Shoreside Petroleum Inc. (48,000 gals.)
Wrangell	2062	Unocal 76 (239,000 gals.); Delta Western (370,000); City Electric (10,000)
Yakutat	621	Delta Western (6,468,000 gals.); Alaska DOT (14,800); Sitka Sound Seafoods (12,200)

Fuel Cost

Community	Pop.	Heating Fuel #1 02/2009	Gasoline 02/2009	Heating Fuel #1 11/2008	Gasoline 11/2008	Heating Fuel #1 10/2008	Gasoline 10/2008	Heating Fuel #1 6/2008	Gasoline 6/2008	Heating Fuel #1 11/2007	Gasoline 11/2007
Akiak	350	$6.45	$6.25	6.45	6.25	$6.45	$6.25	$4.70	$5.10	$4.60	$5.00
Akutan	859	$3.65	$4.40	4.78	4.40	$4.78	$4.40	$3.36	$3.80	$2.75	$3.25
Alatna	30	$5.50	$7.00	5.50	7.00	$5.50	$7.00	$5.50	$7.00	$6.00	$6.00
Anaktuvuk Pass	277	$1.55	$6.50	1.55	8.60	$1.30	$9.00	$1.30	$8.34	$1.00	$5.50
Anderson	536	$2.53	$2.76	2.80	3.51	$4.08	$4.57	$4.88	$4.89	$3.44	$3.53
Angoon	478	$3.69	$3.53	5.01	5.00	$5.49	$5.23	$5.15	$4.87	$3.91	$4.08
Anvik	102	$5.25	$5.50	5.25	5.50	$6.25	$5.75	$6.25	$5.75	$4.50	$5.00
Arctic Village	155	$9.50	$9.00	9.00	9.00	$9.00	$9.00	$8.00	$8.00	$6.36	$7.00
Atka	74	$7.99	$5.09	7.24	5.09	$7.99	$5.09	$7.99	$5.09	$4.99	$5.09
Atmautluak	305	$5.86	$5.92	5.86	5.92	$5.86	$5.92	$5.19	OUT	$4.81	$4.81
Atqasuk	223	$1.40	$4.10	1.40	4.10	$1.40	$4.10	$1.40	$4.10	$1.40	$4.10
Barrow	4054	$5.78	$4.70	Nat Gas	4.70	Nat Gas	$4.70	Nat Gas	$4.45	Nat Gas	$4.45
Bethel	5653	$5.58	$5.48	5.75	5.59	$5.83	$5.59	$6.33	$5.77	$4.25	$4.52
Brevig Mission	328	$7.00	$6.80	7.21	7.00	$4.58	$6.64	$4.45	OUT	$4.45	$5.10
Chenega Bay	79	$5.60	$5.70	5.60	5.70	$5.60	$5.70	$5.60	$5.70	$3.30	$3.70
Chignik	81	$3.85	$3.31	3.88	3.31	$4.09	$3.84	$4.29	$4.32	$3.36	$2.84
Chitina	105	$2.87	$2.91	3.20	3.50	$4.12	$4.30	$4.79	$4.75	$3.44	$3.45
Circle	102	$2.46	$3.60	3.01	4.70	$3.97	$4.50	$4.98	$5.35	$3.50	$3.64
Clark's Point	66	$6.00	$6.00	6.00	6.00	$5.48	$5.65	$5.13	$4.70	$4.70	$5.13
Cordova	2194	$3.30	$3.50	4.34	4.94	$5.24	$4.94	$5.47	$5.32	$4.19	$4.05
Craig	1054	$2.75	$2.71	3.90	3.72	$4.29	$3.64	$4.68	$4.26	$3.61	$3.42
Deering	133	$7.88	$7.82	7.98	7.82	$7.98	$7.82	$3.86	$5.15	$3.98	$4.24
Delta Junction	975	$2.36	$2.70	2.75	2.90	$3.75	$4.24	$4.63	$4.49	$3.29	$3.24
Dillingham	2405	$6.12	$5.76	6.12	6.32	$6.23	$6.32	$5.78	$5.18	$4.24	$4.96
Eagle	110	$4.95	$5.50	4.95	5.50	$4.95	$5.50	$4.95	$5.50	$3.50	$3.75
Emmonak	796	$8.71	$7.25	7.83	7.25	$7.83	$7.25	$4.85	$5.91	$4.85	$5.91
Fairbanks	31639	$2.23	$2.47	2.63	2.75	$3.28	$3.83	$4.60	$4.34	$3.20	$3.10
Galena	610	$6.27	$6.00	6.27	6.00	$6.27	$6.80	$6.62	$6.13	$4.31	$4.69
Gambell	662	$7.88	$7.26	7.88	7.26	$7.88	$7.26	$4.75	$5.85	$4.75	$5.85
Glennallen	518	$2.77	$2.80	3.20	3.45	$4.12	$4.30	$4.29	$4.75	$3.44	$3.45
Golovin	167	$5.32	$5.30	5.32	5.30	$5.32	$5.30	$4.00	$4.25	$4.00	$4.25
Goodnews Bay	235	$6.14	$6.71	6.14	6.91	$6.32	$6.91	$4.00	$5.10	$4.00	$5.10
Grayling	164	$7.00	$6.00	7.00	6.00	$7.00	$6.00	$4.50	$5.50	$4.50	$5.50
Gustavus	442	$2.84	$2.74	4.69	4.38	$5.10	$4.98	$5.18	$4.94	$3.61	$3.63
Healy	1027	$2.77	$2.79	3.30	3.49	$3.85	$4.49	$5.20	$4.92	$3.49	$3.57
Holy Cross	200	$7.66	$7.28	7.66	7.28	$7.66	$7.28	$5.90	$5.90	$4.55	$5.30
Homer	5504	$2.08	$2.69	2.68	3.18	$3.52	$4.26	$4.72	$4.77	$3.42	$3.35
Hoonah	852	$3.50	$2.89	4.55	4.14	$5.04	$4.39	$5.38	$4.80	$4.18	$3.80
Hooper Bay	1149	$7.37	$7.16	7.37	7.16	$7.37	$7.16	$5.05	$5.32	$5.05	$5.32
Hughes	76	$8.55	$8.50	8.55	8.50	$8.55	$8.50	$7.50	$8.25	$7.50	$6.00
Huslia	255	$7.00	$7.00	7.00	7.00	$7.00	$7.00	$5.75	$5.75	$4.50	$5.00
Juneau	30317	$3.02	$2.20	4.07	2.89	$4.74	$4.25	$4.83	$4.42	$3.48	$3.31
Kake	536	$3.61	$3.33	4.85	4.67	$6.11	$5.45	$5.90	$5.34	$4.09	$3.90
Kaktovik	287	$2.00	$4.90	2.00	4.90	$2.00	$4.90	$1.50	$3.45	$1.55	$3.45
Kaltag	184	$5.50	$5.75	5.50	5.75	$5.50	$5.75	$6.25	$6.00	$4.50	$5.00
Kiana	391	$6.64	$7.21	6.64	7.21	$6.64	$7.21	$5.67	$7.00	$5.15	$5.92
King Cove	756	$4.64	$4.61	4.64	4.47	$4.30	$4.25	$3.77	$4.34	$2.82	$3.58
Kodiak	5691	$3.10	$2.85	3.83	3.55	$4.71	$4.45	$4.74	$4.64	$3.28	$3.49
Kokhanok	175	$8.11	$8.40	8.00	8.83	$8.00	$8.83	$9.10	$8.83	$6.25	$6.75
Kotlik	600	$7.79	$7.55	7.79	7.55	$8.02	$7.78	$5.11	$7.32	$4.50	$5.60
Kotzebue	3135	$6.35	$7.25	6.35	7.25	$5.99	$5.68	$4.20	$4.36	$4.20	$4.36
Koyuk	347	$8.06	$7.71	8.06	7.71	$8.06	$7.71	$3.98	$3.98	$3.98	$3.98
Kwigillingok	361	$6.70	$5.75	6.70	5.75	$6.70	$5.75	$4.85	$5.30	$4.85	$5.35
Larsen Bay	83	$5.53	$5.75	5.70	5.92	$6.12	$6.00	$6.68	$6.11	$4.33	$4.10

Fuel Cost

Community	Pop.	Heating Fuel #1 02/2009	Gasoline 02/2009	Heating Fuel #1 11/2008	Gasoline 11/2008	Heating Fuel #1 10/2008	Gasoline 10/2008	Heating Fuel #1 6/2008	Gasoline 6/2008	Heating Fuel #1 11/2007	Gasoline 11/2007
Marshall	388	$7.21	$6.21	7.54	7.26	$7.54	$7.26	$7.25	$4.64	$4.88	$4.83
McGrath	315	$6.85	$6.35	6.93	6.37	$6.93	$6.37	$7.04	$6.45	$4.92	$5.73
Minto	180	$2.85	$3.40	3.30	4.05	$5.25	$5.60	$5.70	$5.55	$4.10	$4.05
Mountain Village	784	$7.02	$6.50	7.02	6.50	$6.51	$6.50	$5.07	$5.01	$4.81	$5.01
Nelson Lagoon	69	$5.96	$5.71	5.96	5.71	$5.96	$5.71	$5.96	$5.71	$4.12	$4.82
Nenana	553	$2.44	$2.87	2.80	3.51	$3.93	$4.40	$4.88	$4.89	$3.43	$3.51
New Stuyahok	448	$6.64	$6.34	6.34	6.34	$6.64	$6.34	$4.99	$6.10	$4.70	$5.46
Nondalton	196	$5.35	$5.95	6.00	6.65	$7.15	$7.70	$7.95	$7.82	$6.15	$6.13
Noorvik	636	$7.50	$7.22	7.50	7.22	$7.51	$7.22	$4.60	$4.88	$4.60	$4.88
Nuiqsut	403	$2.54	$4.95	2.75	4.95	$2.75	$3.75	$2.75	$3.75	$1.45	$3.35
Nulato	274	$5.40	$5.75	5.40	5.75	$5.40	$5.75	$6.75	$6.00	$5.00	$5.00
Nunapitchuk	545	$6.59	$6.54	5.86	5.91	$5.86	$5.91	$5.19	$5.24	$4.75	$5.00
Old Harbor	188	$3.47	$3.86	4.43	5.95	$5.99	n/a	$6.57	$5.83	$4.23	$4.17
Ouzinkie	155	$3.47	-	3.56	n/a	$3.67	n/a	$3.56	n/a	$3.08	$3.59
Pelican	110	$4.27	$3.96	5.90	6.34	$6.65	$6.34	$5.72	$4.19	$4.21	$4.06
Petersburg	3072	$2.62	$2.63	3.93	3.52	$4.09	$4.05	$4.93	$4.31	$3.67	$3.41
Pilot Station	580	$7.42	$6.66	7.44	6.76	$7.42	$6.81	$7.13	$6.41	$5.98	$6.08
Point Baker	16	$8.80	$8.80	8.80	8.80	$8.80	$8.80	$5.50	$5.50	$4.00	$3.90
Point Hope	704	$1.65	$5.95	1.65	5.95	$1.65	$5.95	$1.90	$4.25	$1.65	$4.25
Port Lions	179	$5.65	$5.60	6.50	5.60	$6.50	$5.85	$5.25	$4.65	$3.70	$4.00
Quinhagak	643	$7.02	$6.22	7.33	6.41	$7.23	$6.41	$7.02	$6.22	$4.73	$5.24
Ruby	167	$6.15	$5.70	6.15	5.70	$6.15	$5.70	$6.15	$4.50	$4.30	$4.50
Russian Mission	333	$6.15	$6.05	6.15	6.05	$6.15	$6.05	$4.75	$5.52	$4.75	$5.52
Saint George	114	$6.50	$6.63	6.50	6.63	$6.82	$6.63	$5.50	$4.08	$4.47	$4.08
Saint Michael	445	$8.06	$7.80	8.06	7.80	$8.06	$7.80	$4.84	$5.18	$4.65	$4.98
Sand Point	992	$3.62	$3.09	4.90	3.95	$4.50	$4.05	$5.04	$4.45	$3.39	$3.24
Savoonga	712	$7.88	$7.26	7.88	7.05	$7.65	$7.05	$4.69	$5.59	$4.69	$5.59
Scammon Bay	517	$7.04	$6.93	7.04	6.93	$7.04	$6.93	$5.00	$5.00	$5.00	$4.87
Seldovia	284	$4.29	$3.81	4.09	3.90	$4.63	$4.80	$5.33	$4.98	$3.55	$3.57
Shishmaref	609	$7.91	$7.54	7.75	7.39	$7.90	$7.39	$5.09	$5.25	$5.09	$5.25
Sleetmute	75	$7.75	$7.70	7.75	7.70	$7.75	$7.70	$8.20	$7.70	$5.65	$6.35
Stebbins	598	$7.99	$7.71	7.99	7.71	$7.99	$7.71	$6.00	$5.41	$4.96	$5.41
Tanana	258	$5.80	$6.39	4.59	6.39	$4.59	$6.39	$4.95	$5.70	$3.95	$4.99
Teller	256	$6.95	$6.64	6.95	6.64	$6.75	$6.45	$8.00	$4.25	$3.80	$4.25
Thorne Bay	467	$2.75	$2.91	4.00	3.93	$4.40	$4.55	$4.41	$4.40	$3.48	$3.52
Togiak	787	$5.87	$5.53	5.87	5.63	$6.02	$5.59	$6.02	$5.59	$3.69	$4.21
Toksook Bay	610	$7.86	$7.74	7.86	7.74	$7.86	$7.74	$8.77	$7.98	$5.24	$5.89
Tuntutuliak	422	$6.86	$6.60	6.86	6.60	$6.86	$6.60	$7.66	$6.65	$5.15	$5.00
Unalakleet	724	$6.81	$6.97	6.81	6.97	$7.23	$7.15	$6.81	$4.88	$4.58	$4.65
Unalaska	3678	$3.44	$3.00	4.49	4.56	$4.69	$4.56	$4.43	$4.15	$3.49	$3.27
Upper Kalskag	244	$6.50	$6.50	6.50	6.50	$5.25	$6.50	$5.00	$5.15	$5.00	$5.15
Wainwright	540	$1.50	$7.06	1.45	4.76	$1.45	$4.58	$1.45	$4.63	$1.68	$4.33
Wales	136	$7.98	$7.73	7.98	7.73	$7.98	$7.73	$4.84	$4.94	$4.74	$4.94
White Mountain	215	$6.31	$6.05	6.25	6.05	$6.31	$6.05	$6.25	$5.99	$3.99	$4.59
Wrangell	2062	$3.18	$3.21	4.90	4.46	$4.90	$4.46	$5.35	$5.25	$3.78	$3.78

QUESTIONS FOR FUEL TRANSPORTERS

1) ***Can you list out some of the components of fuel pricing that could explain disparities in the cost of fuel from one village to another?***

- All locations are not equal, and we build our cost based on the activity associated with each delivery location.
- Product Costs/Fees
  - Date of purchase (Graph) market volatility
  - Local municipality fees/wharfage,
  - Local taxes create local price variability – Hooper Bay 5% city tax and 17 miles away, Chevak has no sales tax. (.25 - .45 cpg variance)
- Transportation/Logistics Cost
  - Length of voyage
  - Difficulty of delivery location
  - Lighterage operations
  - Float hose operation
  - Lack of discharge header at beach site – Trucking from beach to customer tanks
- Customer Operations
  - Lack of adequate storage capacity for single season delivery – resulting in multiple deliveries per season
  - Trained personnel not on-site to accept delivery when barge arrives
- Credit
  - Customer credit limits
  - Payment cycle
  - Financial management
- Volume
  - A key component to the cost build is volume. (Days required for the voyage (cost) divided by gallons delivered.

2) ***In any of the components you listed – could you talk about the instances where your company may have had wide variations in costs from one trip to the next?***

- Cost of product.
- Delivery Logistics
  - Weather delays
  - Variable beach and water conditions – Erosion, movement of sediment resulting in changing channels, beach sites and water depths.
- Volume
  - Volume ordered/delivered

3) ***Do you see anything cities, villages, or utilities could be doing process-wise to lower the ultimate price consumers are paying?***

- The largest cost component of fuel is the purchase of the product itself, and this is out of the control of the cities, villages, and utilities, but there are cost components they can manage.
- Customer Operations
  - Consolidate village supply to a single source of storage and distribution therefore maximizing delivery efficiencies and lowering costs. The Denali Commission has funded new fuel storage facilities in many

communities, but to our knowledge each is for a single purpose, e.g. AVEC. This does not help lower the overall cost for the village for the long term. When the local power co-op, school and retailer each has a tank farm, you lose the efficiency of shared cost by having a single consolidated storage facility.
    - Ensure professional management of operations
    - Provide trained personnel on-site to accept delivery when barge arrives – Implement automation to save on labor
    - Secure early bookings to improve voyage planning to take advantage of better weather patterns
- Credit
    - Improve financial management so that funds are readily available and/or credit is in place early enough to optimize delivery logistics.

4) ***Any factors that can help us learn about pricing of fuel products in areas of Alaska off the road system?***
- In addition to product cost, transportation and operating costs the following are key factors influencing pricing.
- Local Taxes
    - Taxes create local price variability – Hooper Bay 5% city tax and 17 miles away, Chevak has no sales tax. (.25 - .45 cpg variance)
- Delivery Logistics
    - Shallow delivery locations require lighterage operations. Specialized shallow draft equipment is needed for this segment of transportation. Crowley has invested in two additional shallow draft tugs that will provide this level of service.
    - Shallow delivery locations many times require beaching the barge through a tide cycle. In addition to the cost of time, there is high risk associated with putting an oil barge aground.
- Regulatory requirements
    - USCG crews
    - Training
    - OPA 90 cost
    - ADEC spill plans
    - EPA
    - State and Federal insurance requirements for transportation of fuel over water

5) ***What can you tell us about infrastructure advantages such as tank storage, distributor relationships or other factors that might have direct effects on retail price at the community level?***
- Delivery costs are directly related to the time required to travel to/from the delivery location, the marine equipment involved and the time to accomplish the fuel transfer. Port/harbor improvements can reduce delivery costs when they a) allow larger tug/barge sets to call directly rather than lighter, or b) when smaller tug/barge sets can make up to a marine header directly rather than stand off shore and use a float hose, or c) berth water depth is increased to provide a larger delivery window between tides.
- Consolidated fuel storage facilities in communities can reduce the time required to accomplish fuel transfer. The challenge is in identifying an entity who will build, operate and maintain such facilities on terms acceptable to the potential

users. The Denali Commission has funded new fuel storage facilities in many communities, but to our knowledge each is for a single purpose, e.g. AVEC.

- The most effective change to lower retail prices would be to consolidate village fuel infrastructure. Typical villages prices are based on only 25-30% of the fuel consumed. Utility and School fuel is typically handled completely outside the commercial market. If fuel infrastructure was centralized, all stakeholders would benefit from maximum economies of scale, as well as easier combined purchasing, and centralized maintenance and management.

6) ***Are there any regulations or restrictions that you can identify that play a role in the overall cost of your products?***

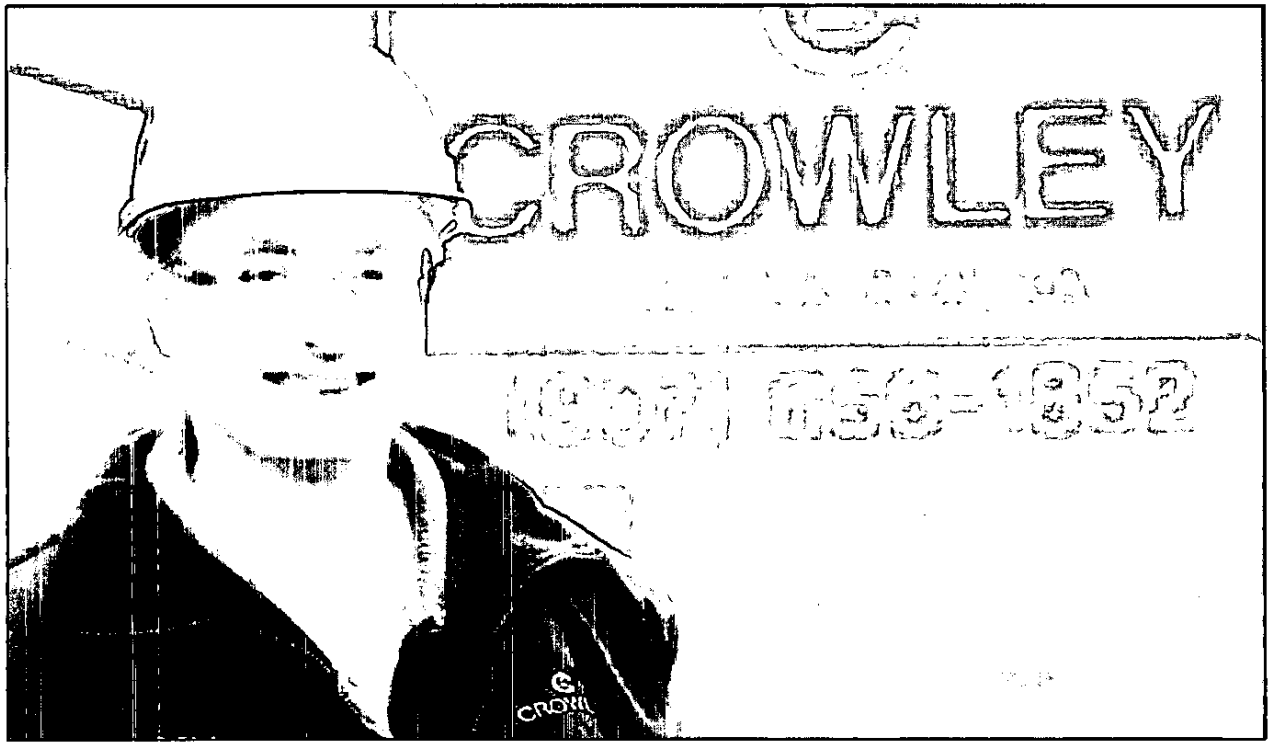
- USCG required training for crews
- OSHA required training for the tank farm personnel
- ADEC spill plans
- Certificate of Financial Responsibility (COFR) federally required insurance for the marine transportation of petroleum products.
- EPA regulations mandating use of ULSD in western Alaska in 2010 will raise fuel costs considerably. Jet fuel has been customarily used in western Alaska as and aviation fuel, heating oil and a motor fuel. It has excellent cold weather properties and it makes sense to use one product for multiple uses and reduce the cost of building storage and delivery systems for Aviation Jet, heating oil and Diesel. Alaska requested, and received, a modified compliance schedule for USLD implementation in western Alaska. The ULSD implementation begins in 2010 in the rural areas of Alaska west of Kodiak Island. The only Alaska supplier of this product is Tesoro Nikiski refinery, which makes ULSD #1 seasonally to the road system now. As we develop our distribution plans more fully, the cost of additional tankage, segregated piping, and dedicated barge compartments to protect the integrity of ULSD will become evident. In some cases, it might make no economic sense for a distributor like Crowley to supply ULSD in a particular market, except perhaps in drums.
- OPA 90, double hulled barges are required by 2015. We currently operate four (4) line haul barges that will all be forced into retirement by the OPA 90 regulations and replaced with double hull barges at a cost of $20M to $25M per barge plus the cost of a suitable tug. This capital investment will substantially increase the transportation cost per gallon.
- Overall facility compliance is an issue. Crowley performs at an extremely high level in comparison to most other service providers. This compliance comes with a premium. Obviously those less compliant firms have lower cost structures. Crowley is committed to sustainable operations through full compliance and commitment to environmental stewardship.

7) ***Where do you purchase the fuel? If outside, why isn't the fuel purchased in Alaska?***

- Majority of our fuel is purchased in Alaska. We do purchase some product from the West Coast and the Far East when the price is favorable or when it allows some efficiency in our operations.
- There currently is not enough barge capacity to supply our entire product from Cook Inlet. OPA 90 has forced the retirement of large line haul barges and the replacement tonnage is not in place. Large parcels of foreign product off tankers helps with the efficiency of our distribution, shortening the overall transportation days.

1216

Western Alaska Fuel Distribution



March 12, 2009

1217

Alaska Petroleum Distribution

- 21 fuel storage facilities
- Over 30M gallons of fuel storage.
- 100% local hire in all our communities.
- Provide good jobs with long term employment and good benefits in our communities.
- Large fleet of shallow draft vessels to service Western Alaska, both coastal and river.
- Building new equipment specifically to efficiently service the most difficult locations.

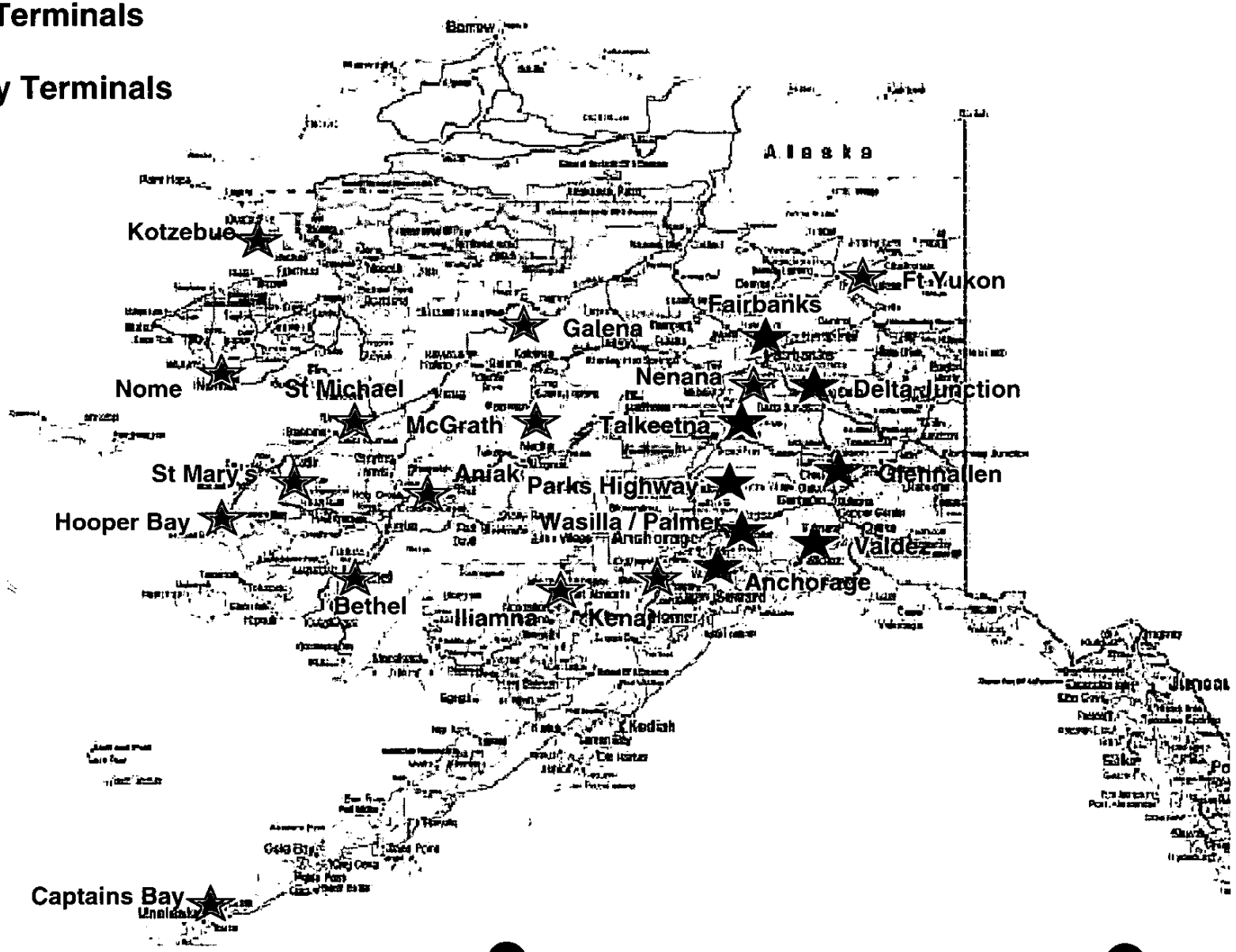
Two new AVIK Class tugs under construction.

CROWLEY®
People Who Know™

Alaska Footprint

★ Marine Terminals

★ Highway Terminals



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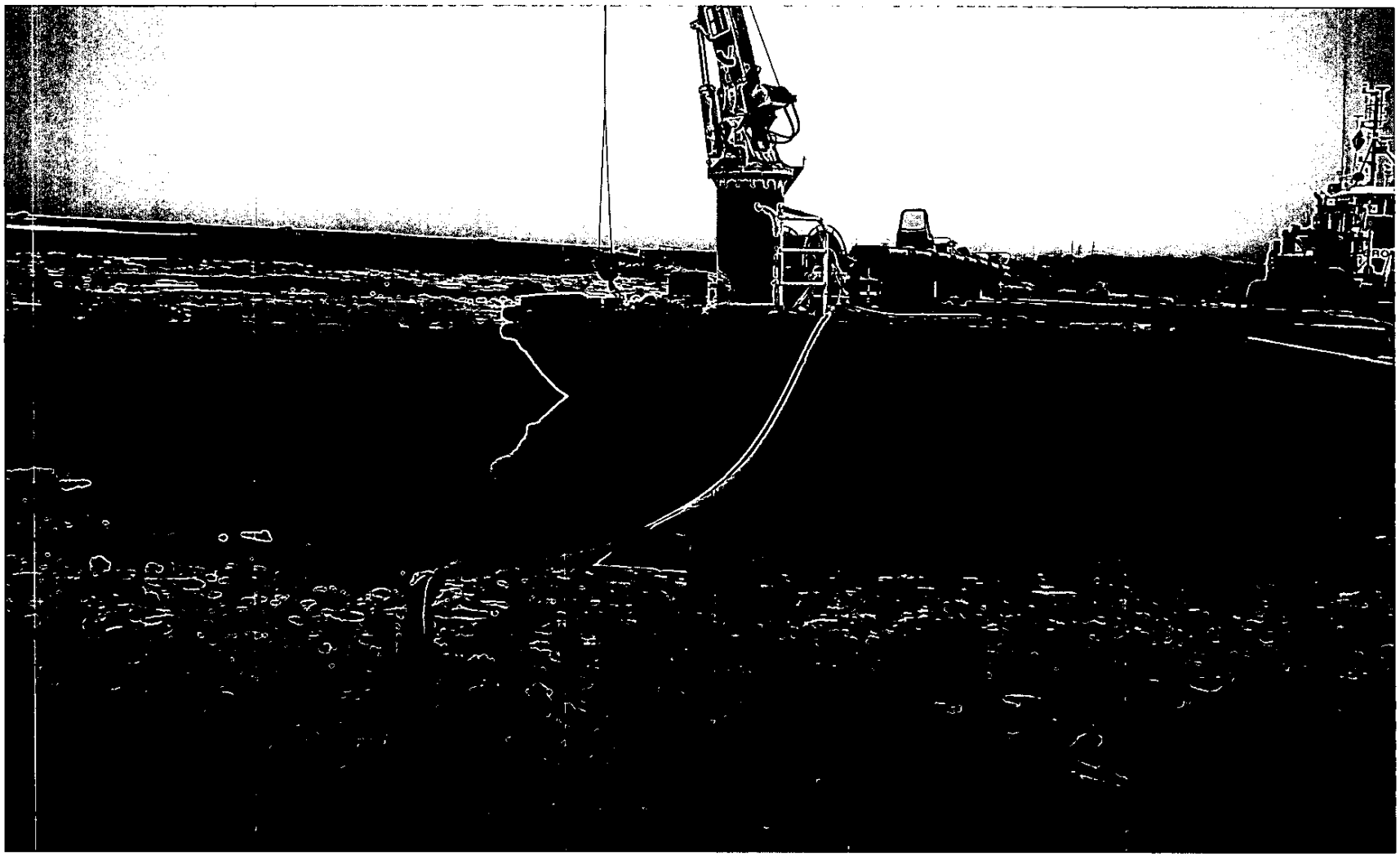
Hose Through the Mud



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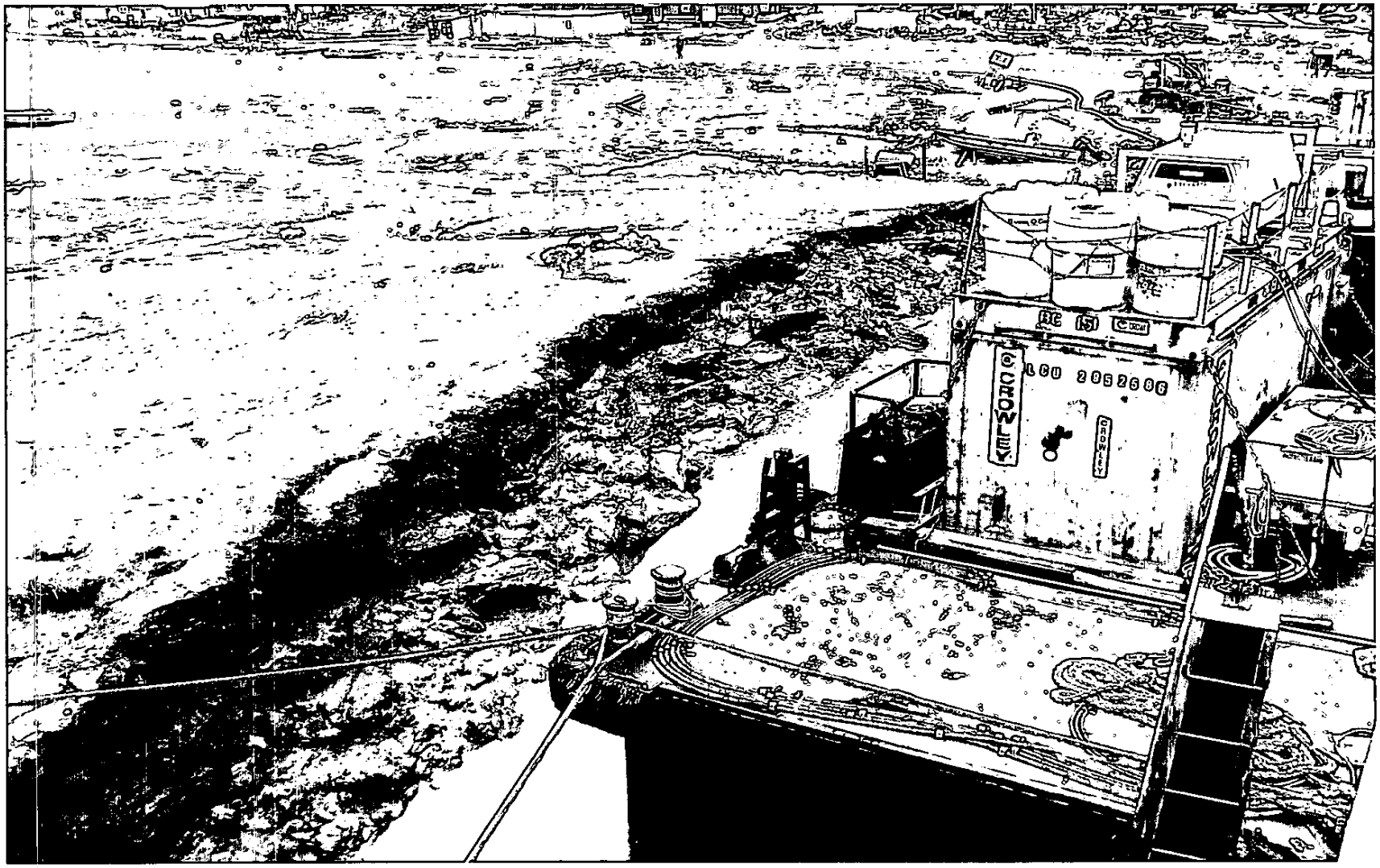
1220

Hooper Bay 2008



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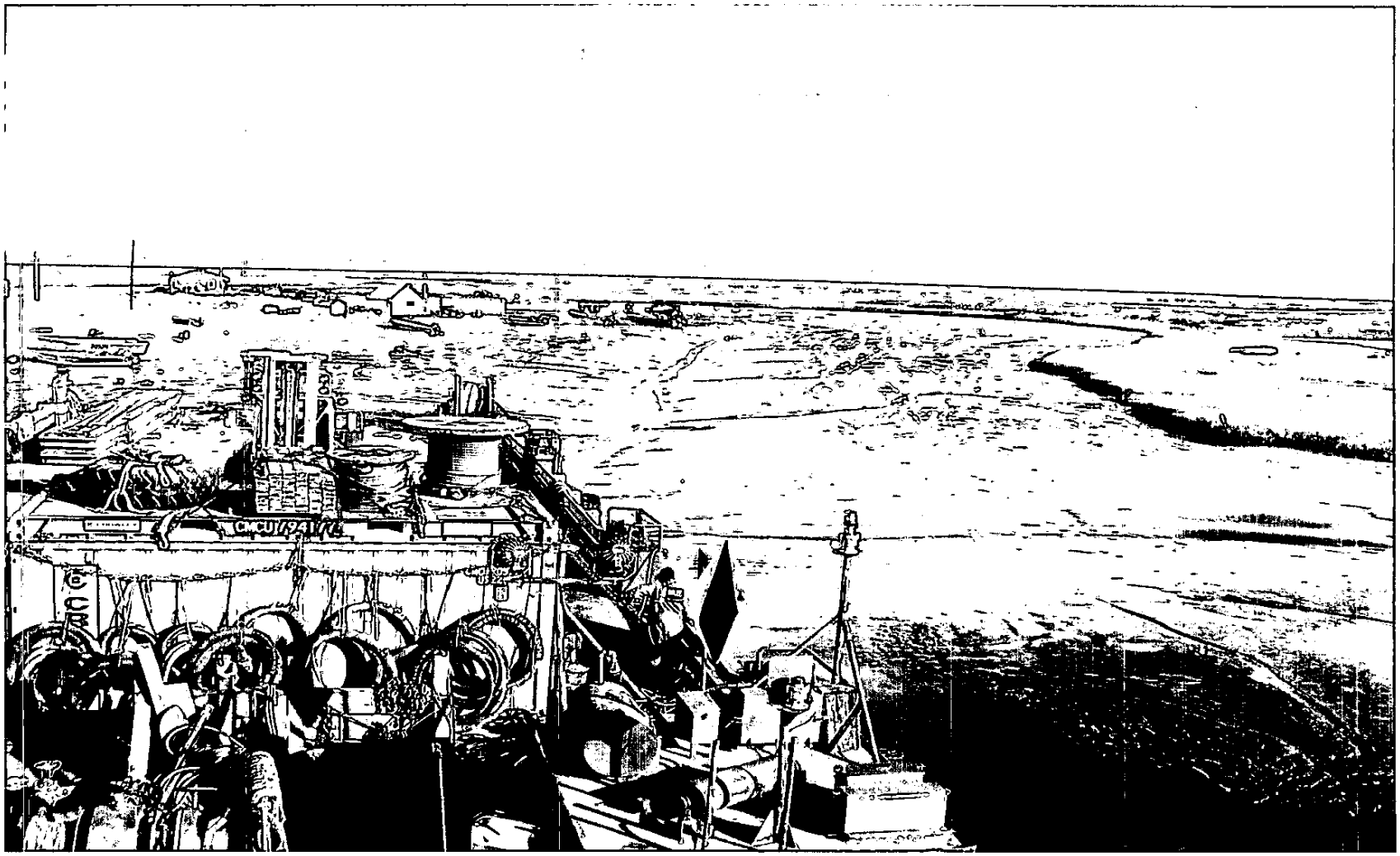
People Who Know™

Waiting for Water in the Newtok Channel 2007



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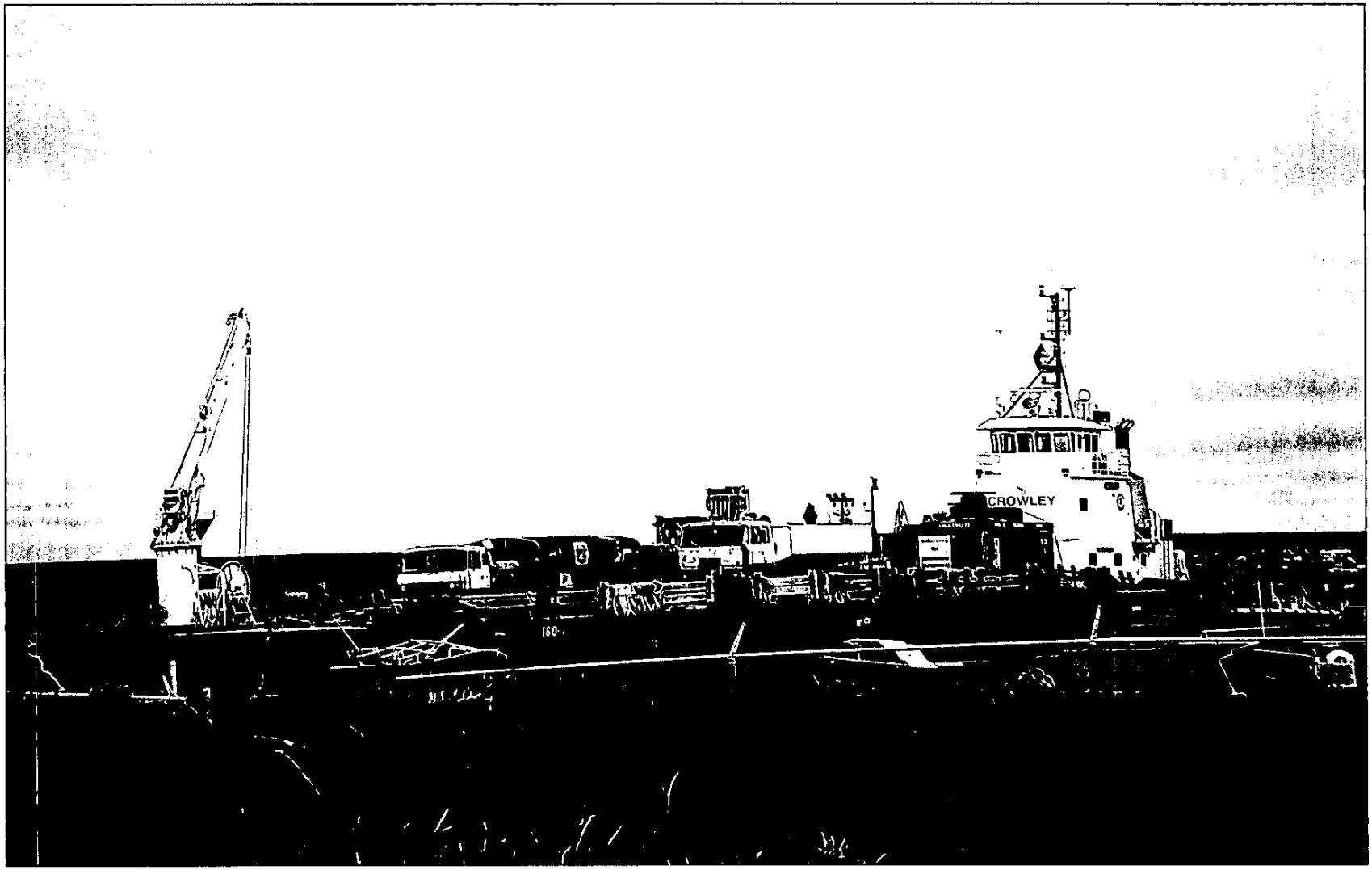
Hose Through the Fence at Newtok



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Float Hose Operation at Cape Prince of Wales 2007

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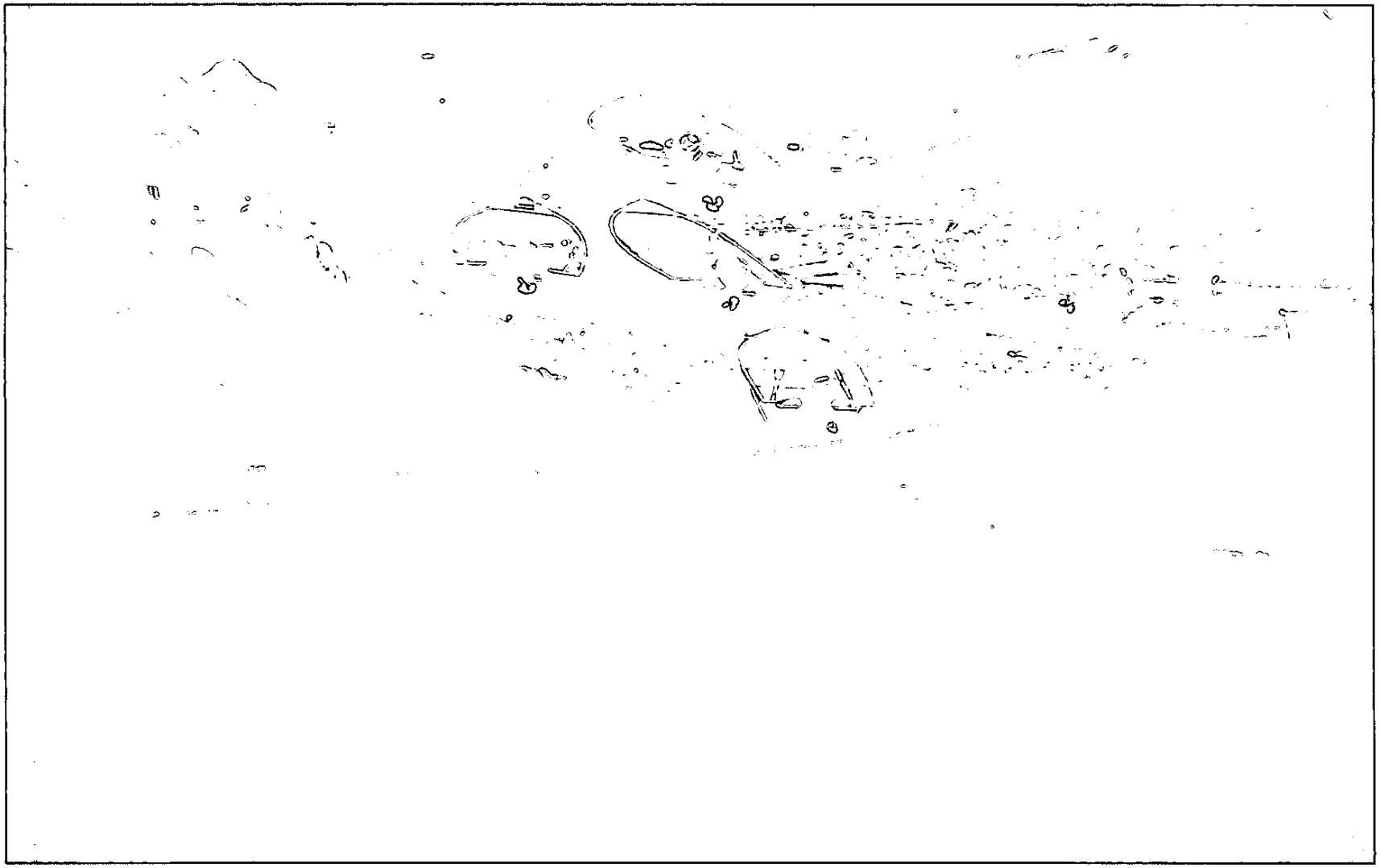
Holding the Barge off the Rocks at Little Diomede



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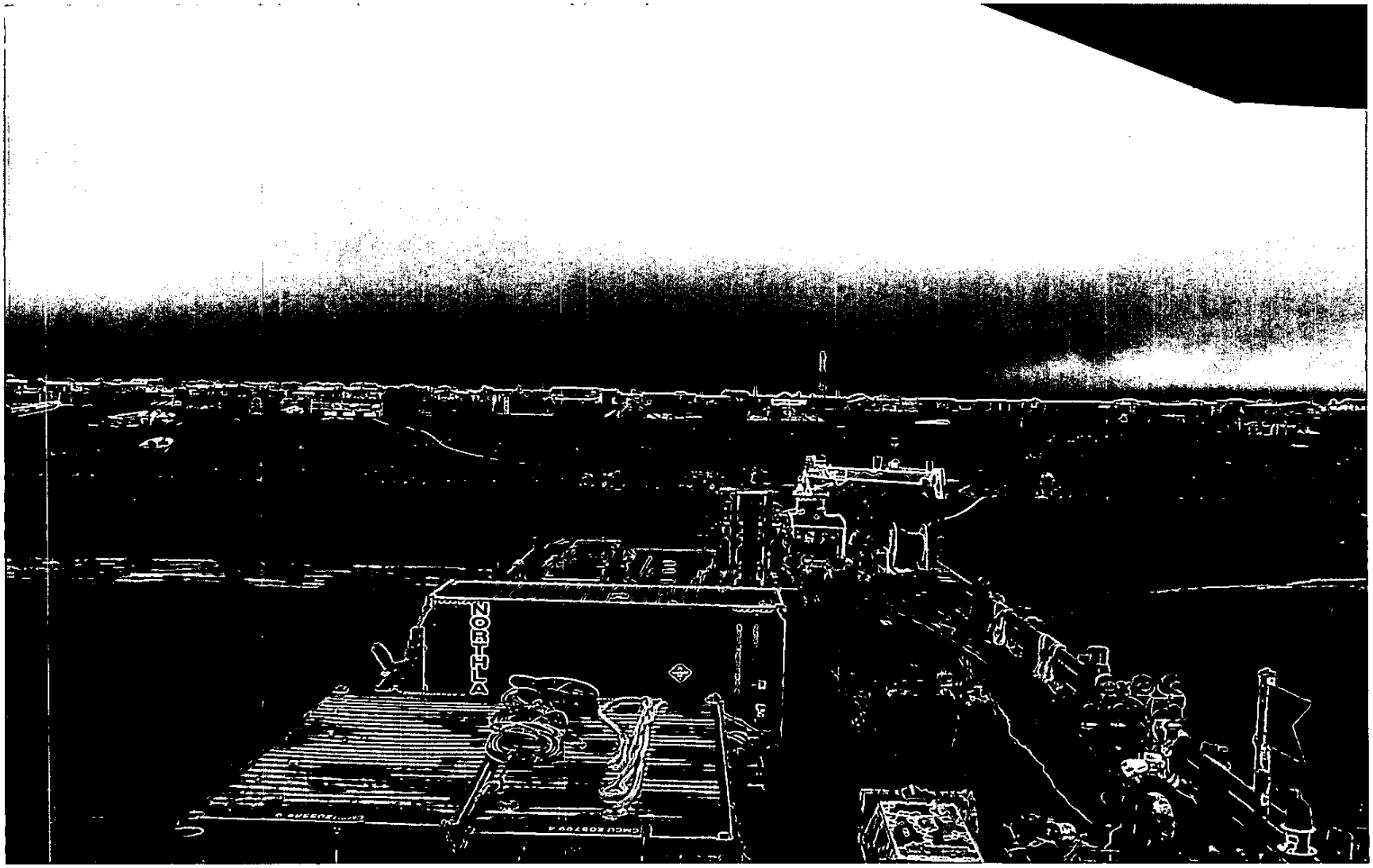
Long Hose Drag at Gamble



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Chevak Lower Tank Farm

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Tank Can Only be Filled to the Bullet Hole

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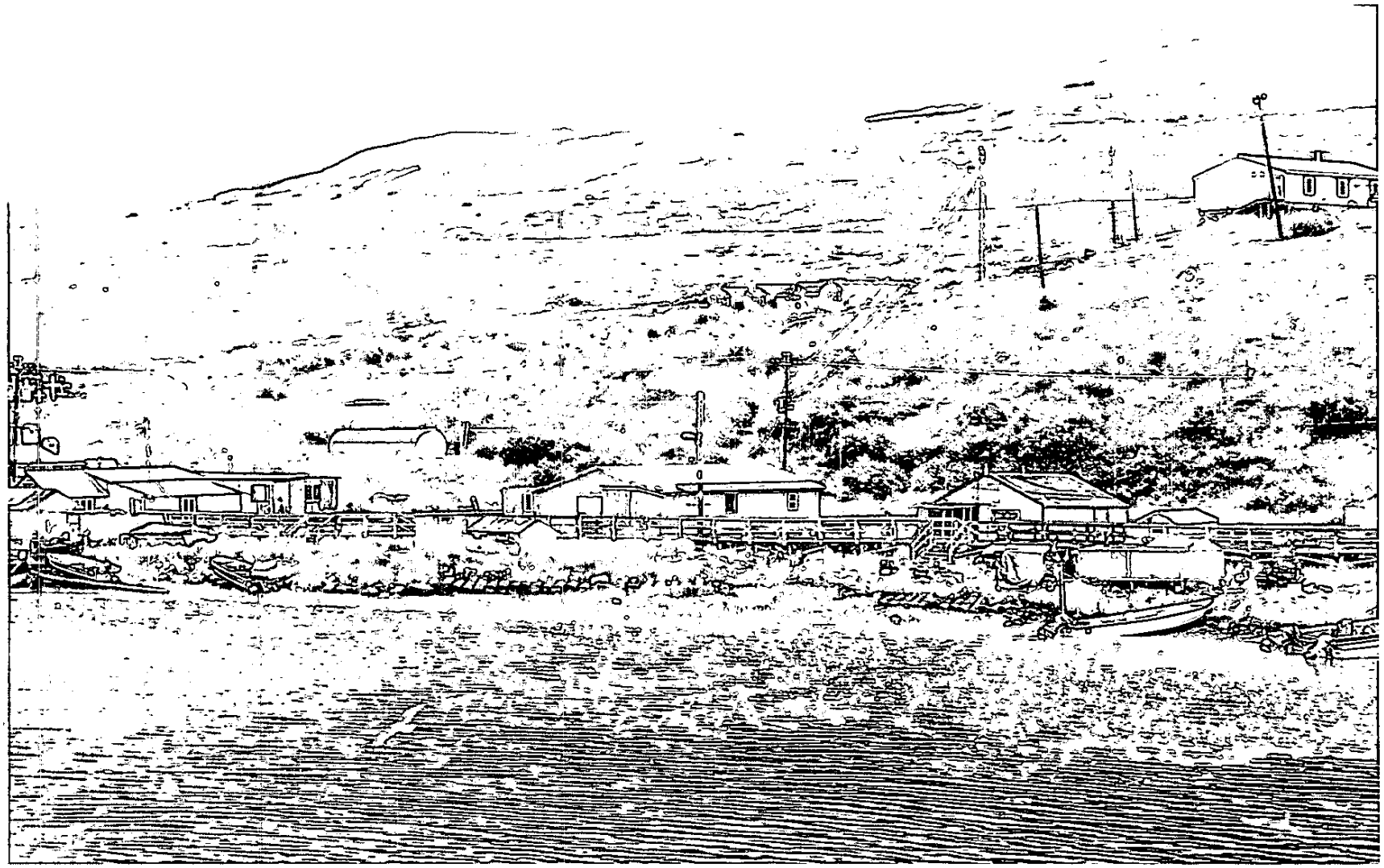
Nightmute Upper and Lower Tank Farm



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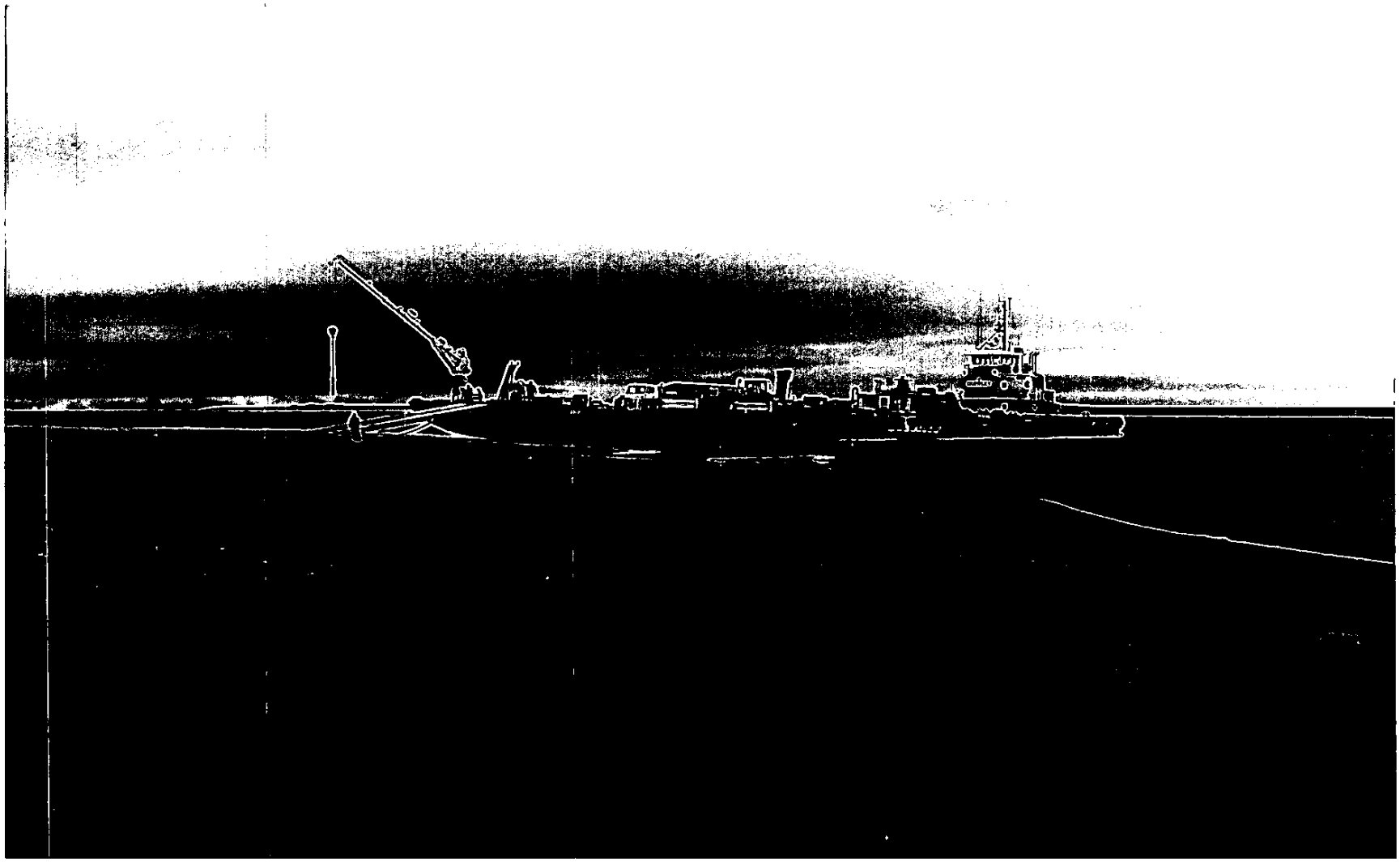
Beached at Mekoryuk in 2008



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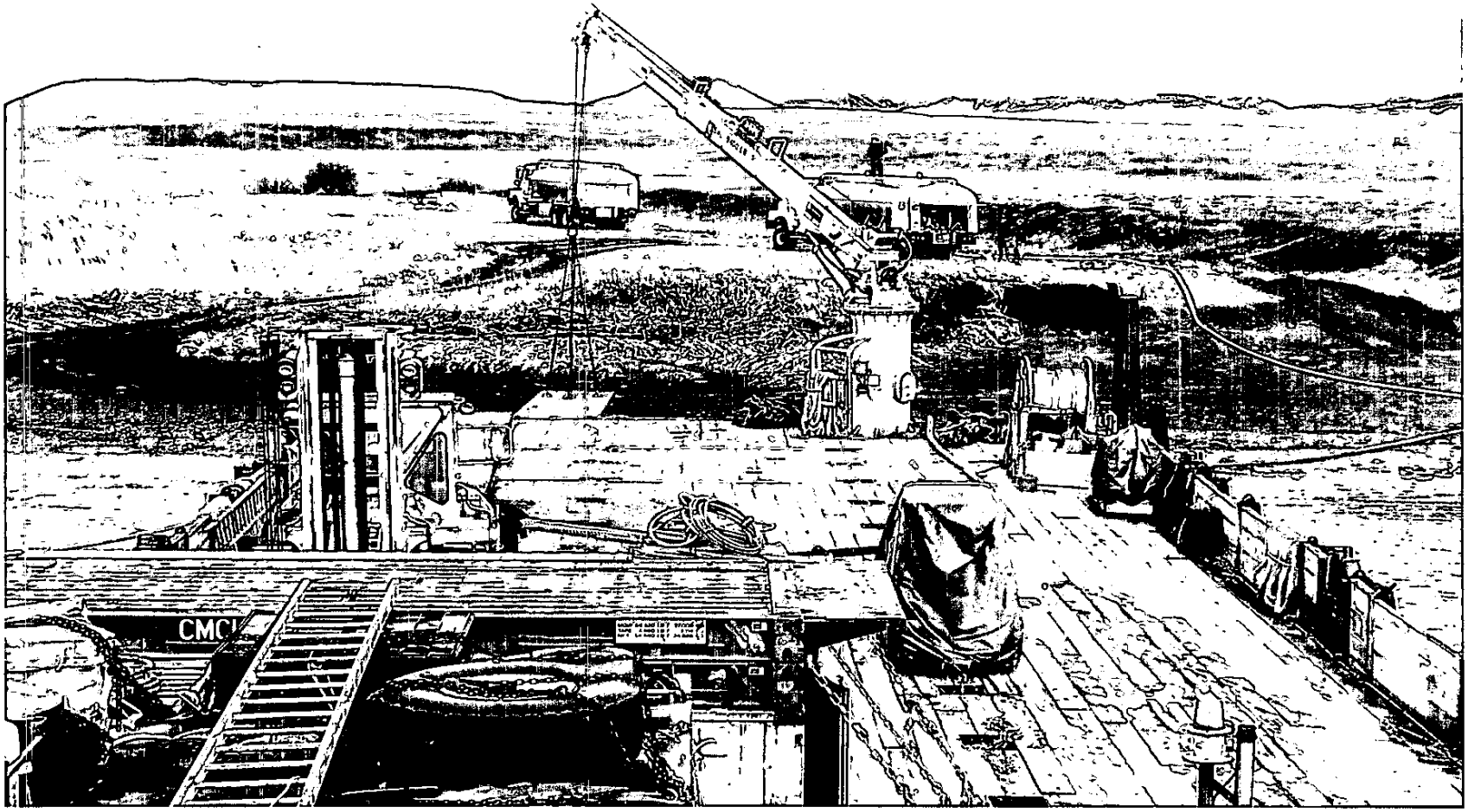
Trucking at Twin Hills



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Battered on the Beach at Barter Island

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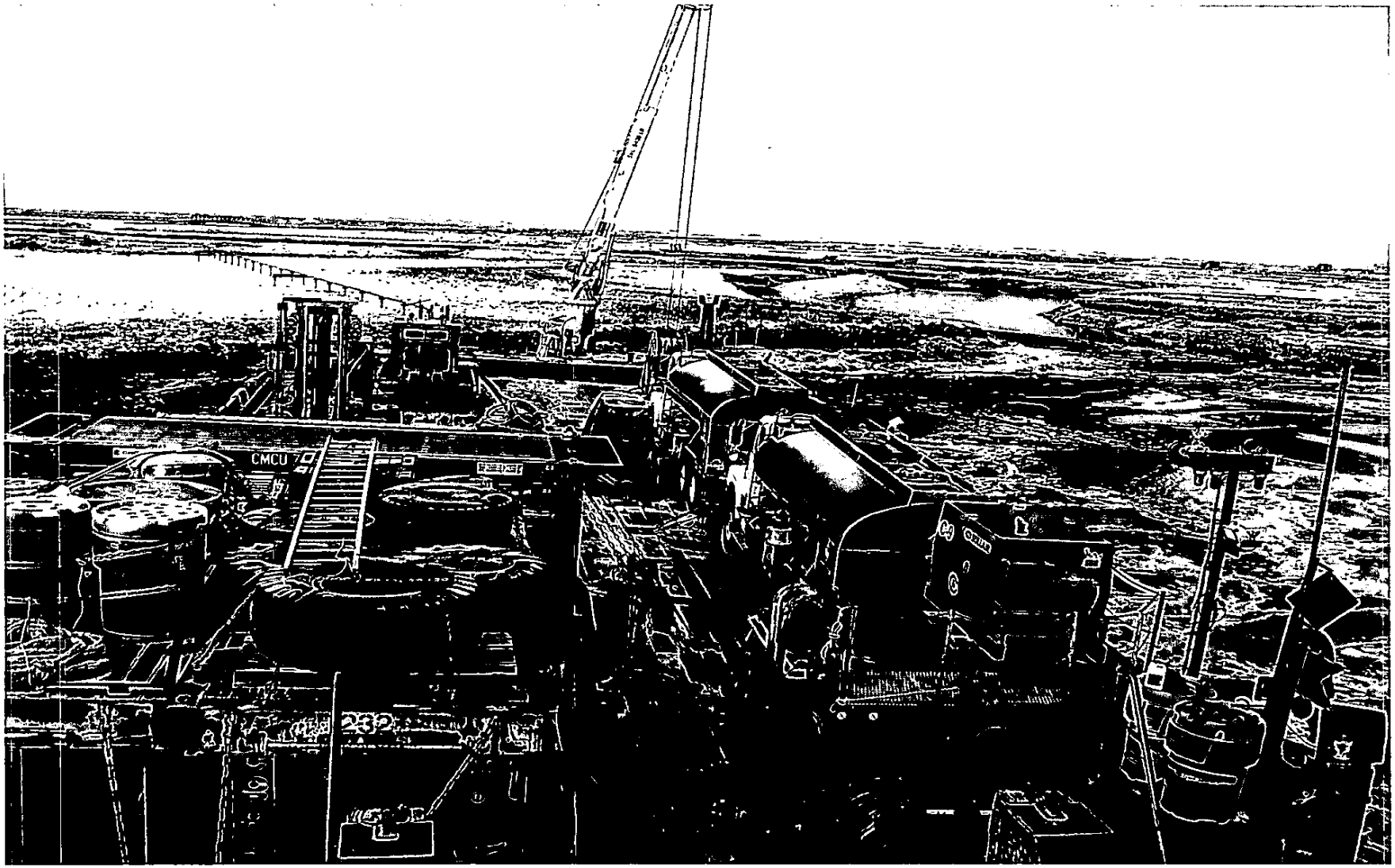
End of Season Ice at Kwigillingok



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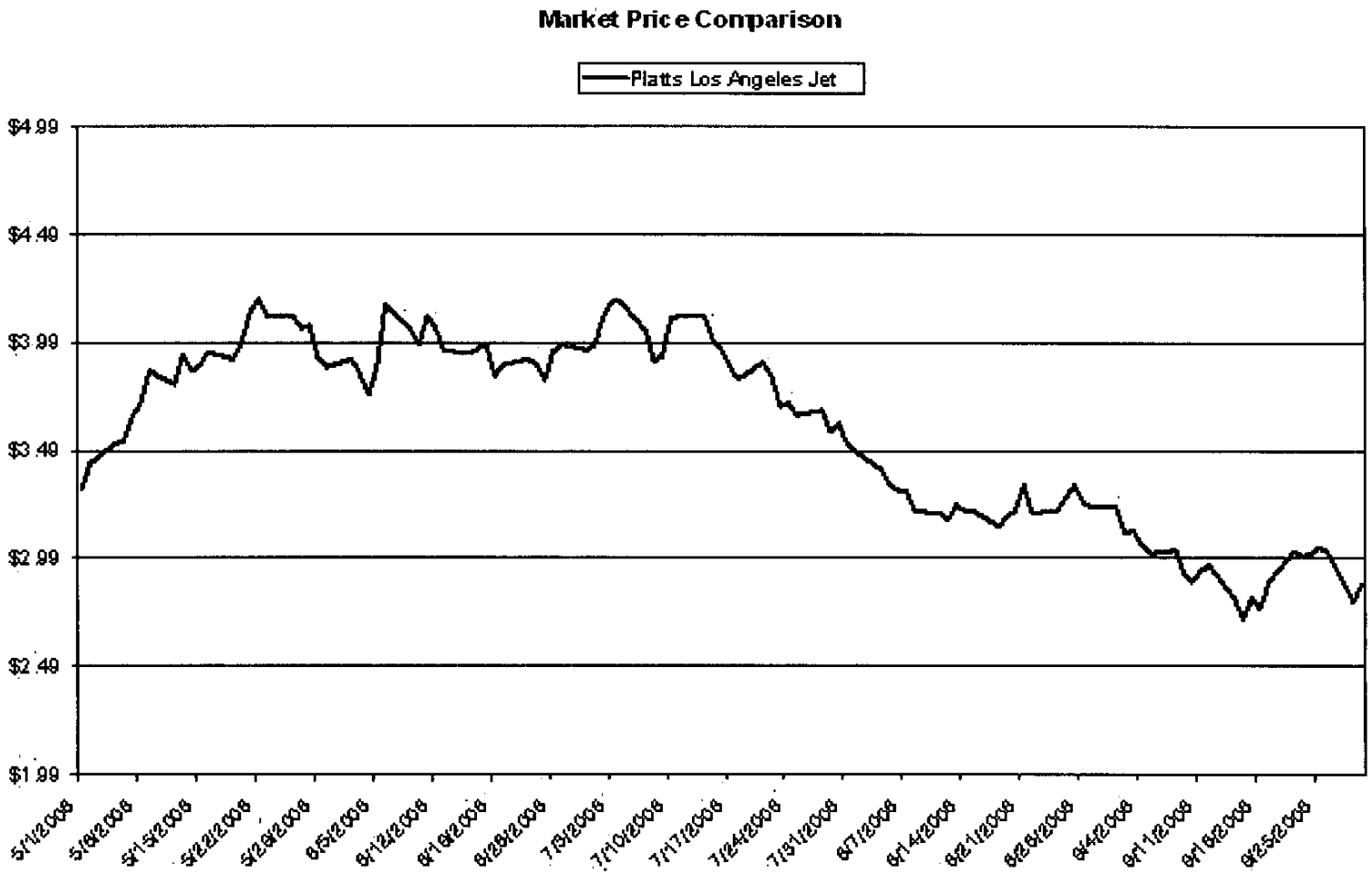
PLATTS Index Chart for May – September 2008



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3-24-09 Overview: Alaska Coal Industry

<target><bill></bill><subject>3-24-09 Overview Alaska Coal Industry</subject><comm>HENE26</comm></target>

Alaska Coal Update

Alaska State House Energy Committee

March 24, 2009

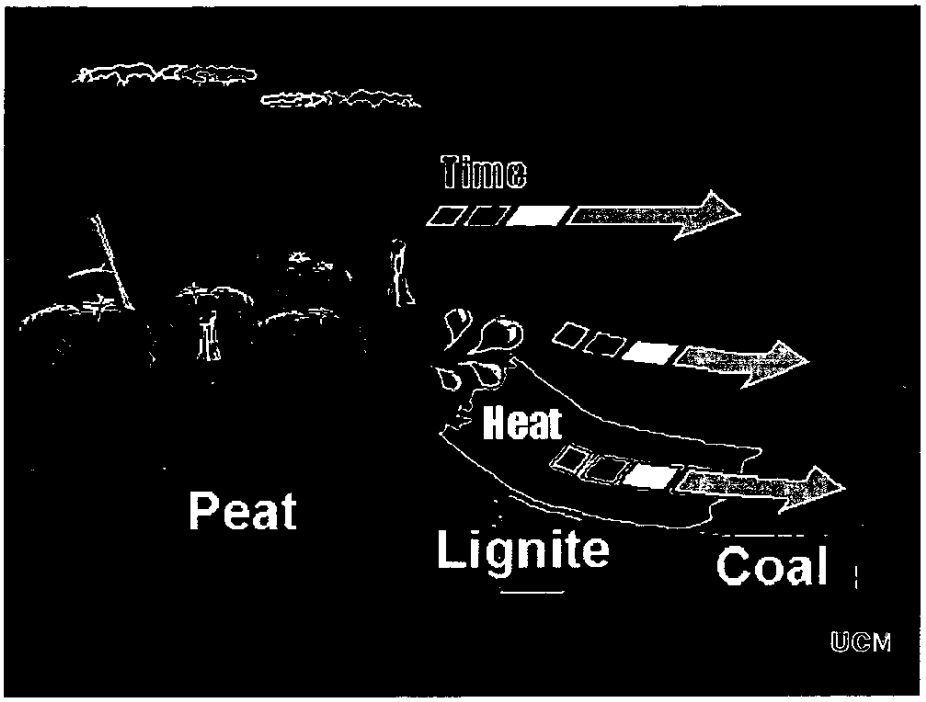
Steve Denton, VP Business Development
Usibelli Coal Mine, Inc.

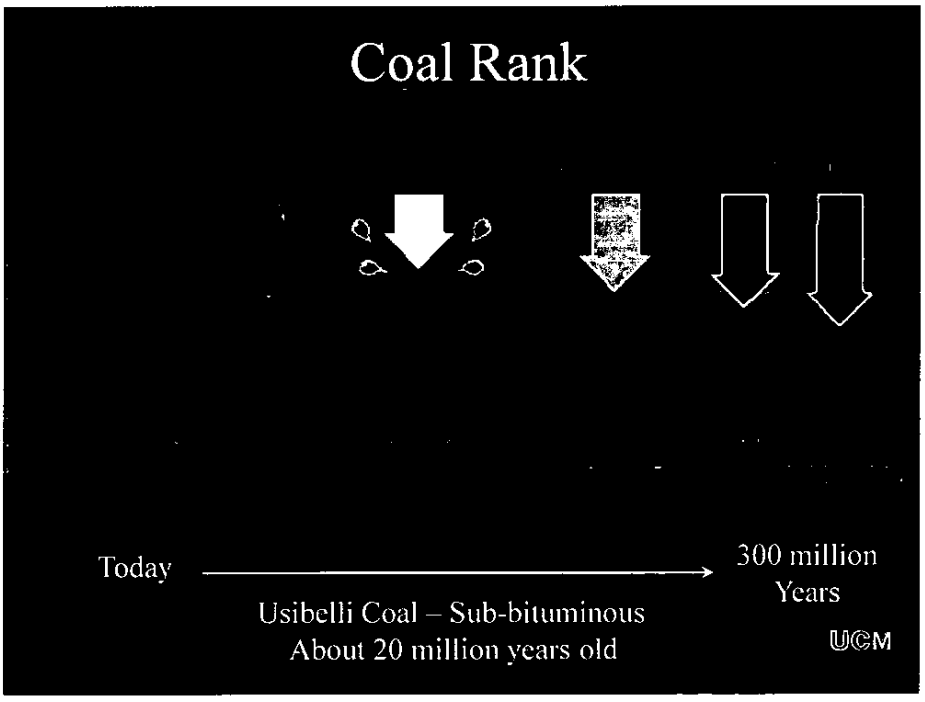
UCM

Alaska Coal Update

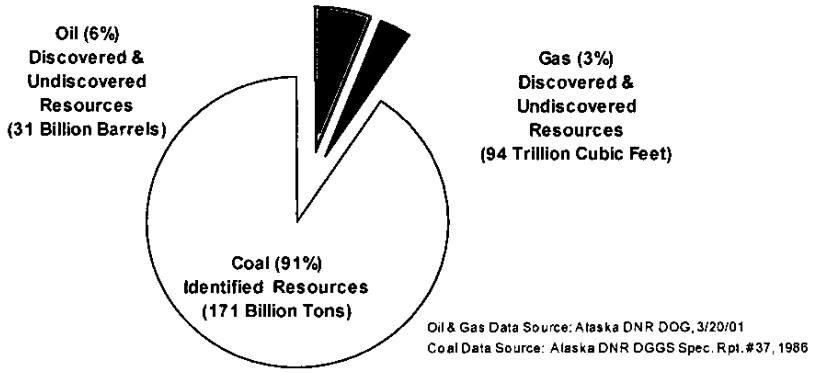
- Formation of Coal
- Coal Resources
- Transportation Infrastructure
- Alaska Coal Consumption
- Coal Exports
- Coal Utilization and Technology

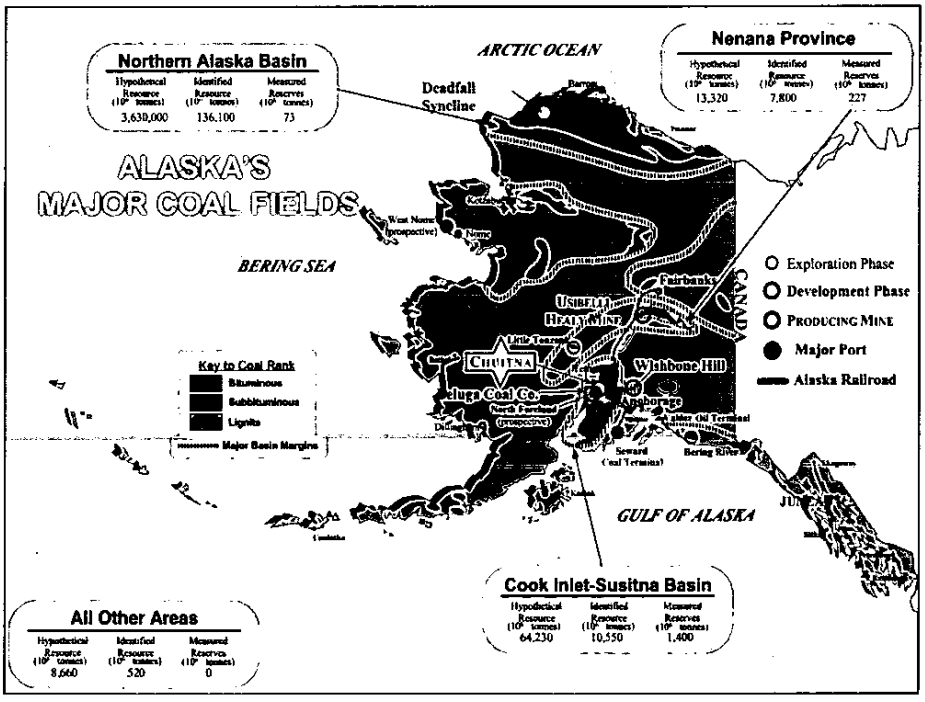
UCM


Time
Heat
Peat
Lignite
Coal
UCM


Coal Rank
Today
300 million Years
Usibelli Coal – Sub-bituminous
About 20 million years old
UCM

Alaska's Coal Resources





Alaska Coal Deposits With Export Potential

Deposit	Coal Rank	Million Short Tons	
		Reserves	Resources
Nenana (Healy)	Sub-Bituminous	500	7,000
Wishbone Hill	HV Bituminous	20	52
Cook Inlet	Sub-Bituminous	1,400	10,000
Deadfall Syncline	HV Bituminous	30	100+
Bering River	LV Bituminous	35	60

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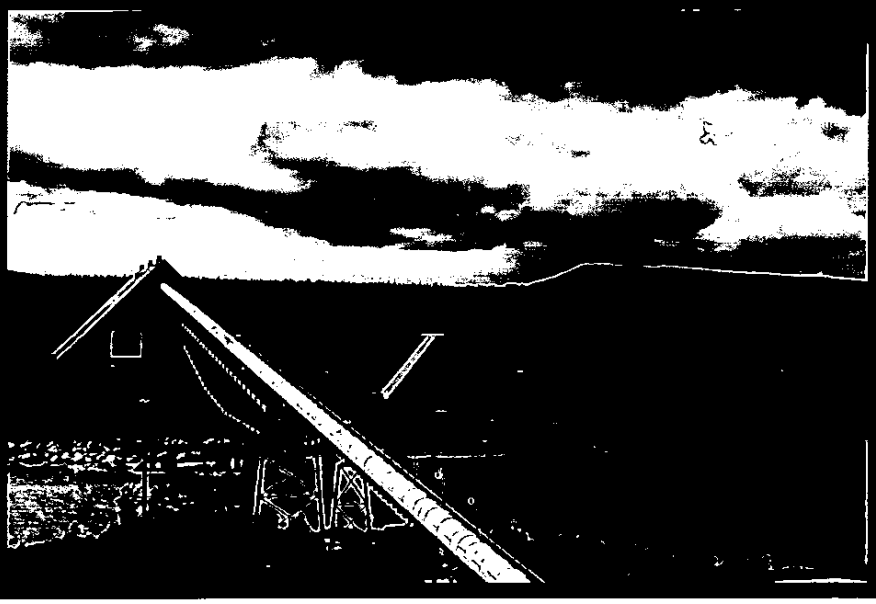
Coal Transportation



Alaska Railroad Corporation

- Owned by State of Alaska
- Fairbanks to Seward – 470 miles
- Healy to Seward – 358 miles
- Mostly single line
- Severe grades and corner radius areas
- Summer traffic congestion
- Maximum 80 car unit train to Seward

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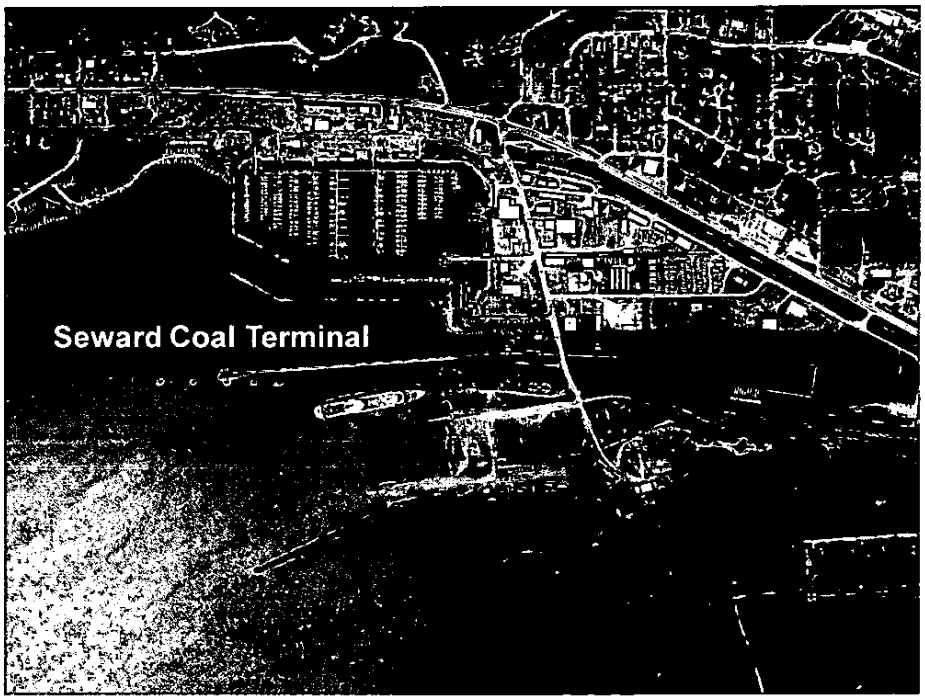
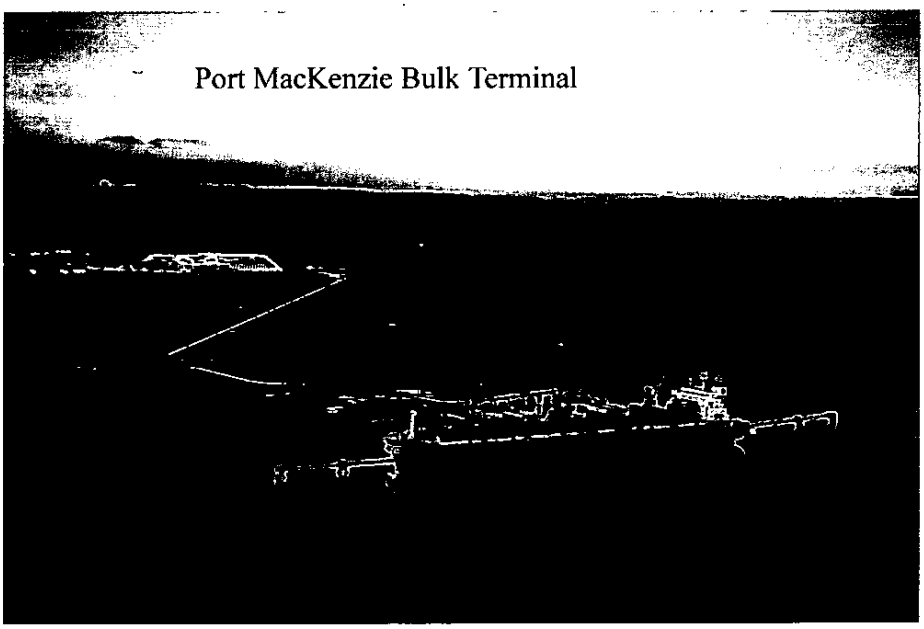


SEWARD COAL TERMINAL

- 1.5 million mt/year capacity
- 12,000 to 16,000 mt/day loading rate
- 120,000 mt stockpile capacity
- 16 meter draft (53 feet)
- 90,000 ton maximum ship size
- Owned by the Alaska Railroad Corp.
- Operated by Aurora Energy Services, LLC, affiliate of Usibelli Coal Mine, Inc.



Port MacKenzie

- Located about 150 miles closer by rail, about 2 days longer for bulk carriers.
- Currently no rail service, 43 miles new track required.
- Cape class draft, high tide departure due to shoals.
- Extreme tide range – 35 feet
- Currents to 5 knots at angle to dock
- 9 – 10 month ice free season
- Fixed loading arm
- Currently loading wood chips and gravel

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Alaska Coal Consumption

2008 – 962,024 tons of 1.54 million

FEB 1 2004

Co-Generation

- Both heat and electricity production
- High efficiency
- Low cost space heating
- High building density best
- Improved air quality

- Aurora Energy
- University of Alaska
- 3 Military Bases

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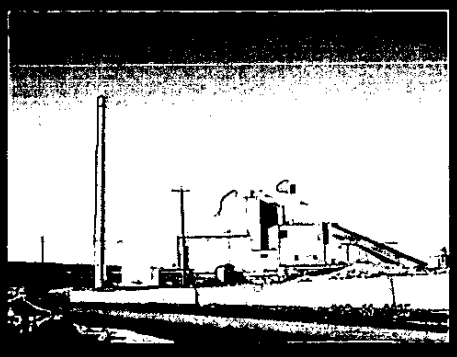
Mine Mouth Generation

- Lowest fuel transport cost
- Facilitates waste coal use
- Less site conflicts for large units
- HV transmission lines required



GVEA Unit1 and HCCP

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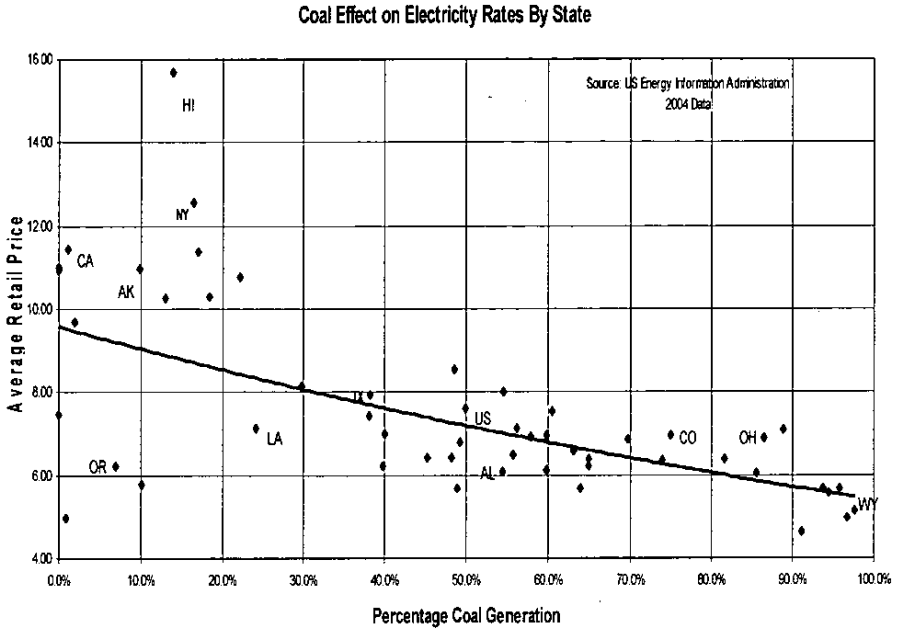
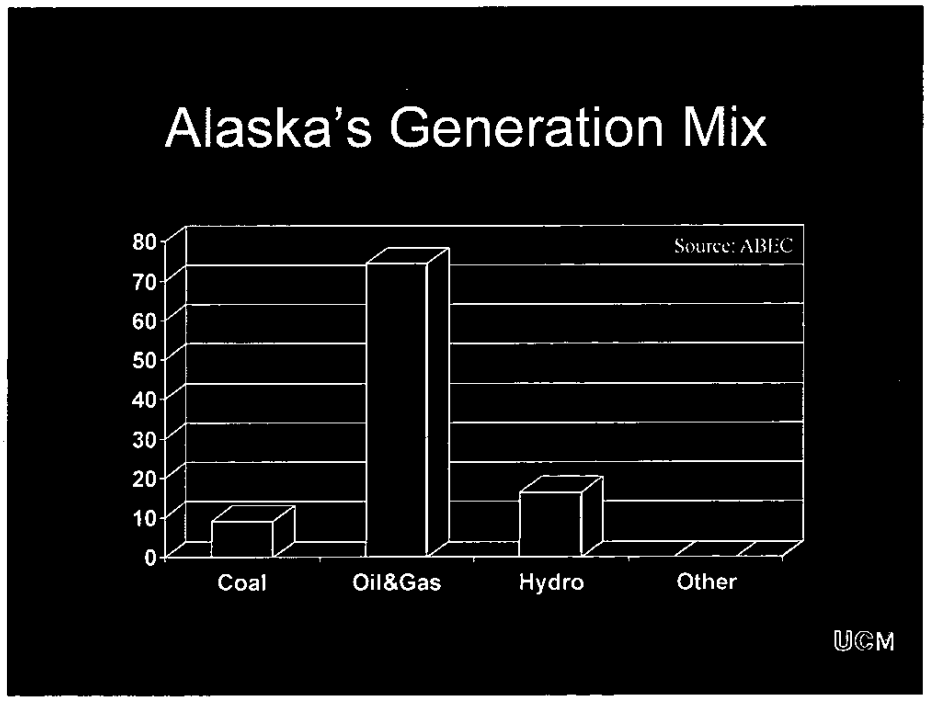

Coal Effect on Electricity Rates By State
Source: US Energy Information Administration
2004 Data
Average Retail Price
16.00
14.00
12.00
10.00
8.00
6.00
4.00
0.0%
10.0%
20.0%
30.0%
40.0%
50.0%
60.0%
70.0%
80.0%
90.0%
100.0%
Percentage Coal Generation
HI
NY
CA
AK
OR
LA
US
AL
CO
OH
WY


Alaska's Generation Mix
Source: ABEC
80
70
60
50
40
30
20
10
0
Coal
Oil&Gas
Hydro
Other
UCM

Coal Exports

World Coal Production

EIA Preliminary 2007 Data
(million short tons)

North America	1,234
Central/South America	92
Europe	814
Eurasia	537
Middle East	1.4
Africa	289
Asia & Oceania	4,069
Total	7,036

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PacRim Coal Importers

EIA Preliminary 2007 Data
(million short tons)

	Production	Consumption	Imports
Japan	0	207	207
South Korea	3	106	103
China/Hong Kong	2,804	2,904	100
India	528	579	51
Taiwan	0	73	73
Thailand	20	36	16
Malaysia	1	12	11
Mexico	12	19	7
Chile	1	6	5
TOTAL	3,369	3,942	573

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PacRim Coal Exporters

EIA Preliminary 2007 Data
(million short tons)

	Production	Consumption	Export
Australia	428	146	282
Indonesia	180	50	130
Russia	347	261	86
South Africa	283	203	80
Vietnam	44	19	25
Canada	76	62	14
TOTAL	1,358	741	617

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Usibelli Coal Exports

- Maximum 723,000 metric tons - 1990
- Recent years (metric tons):

	Asia	Chile	Total
2004	408,840	86,110	494,950
2005	362,660	93,360	456,020
2006	319,610	73,170	392,780
2007	0	279,624	279,624
2008	157,654	365,160	522,814
2009 (est)	350,000	420,000	770,000

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Coal Utilization and Technology

CLEAN COAL = CLEAN COAL TECHNOLOGY (CCT)

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Clean Coal Technology
Pollution Control Factors

- Strategies
  - Pre Combustion
  - Combustion
  - Post combustion
  - Gasification
- Green House Gases
  - Carbon dioxide
  - Methane
  - H_20 and NO_x
- Pollutants
  - ROX, SOX, & NOX
    - Particulates (ROX)
    - Sulfur dioxide (SOX)
    - Oxides of nitrogen (NOX)
  - Trace Elements
    - Mercury
    - Chlorine
    - Selenium

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CCT Strategies
Pre-Combustion

- Washing and selective mining
- Primary benefits
  - Ash removal (particulates)
  - Higher heat value (improved efficiency)
  - Sulfur removal (pyrites)
  - Some trace element removal

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CCT Technologies
Combustion

- Combustion chemistry and temperature.
- Primarily for Particulate and NOx
- Examples
  - Low NOx Burners
  - Slagging Combustor
  - Staged combustion
  - HCCP (all of the above)
  - Fluid bed combustion

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CCT Strategies
Post-Combustion

- Removes pollutants from gas stream.
- Commonly used for all pollutants
- Examples:
  - Wet scrubbing (ROX, SOX and trace elements)
  - Baghouses (particulates)
  - Duct injection (SOX, NOX and trace elements)
  - Catalytic reduction (NOX)
  - HCCP, scrubbing, baghouse , duct injection

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CCT Strategies

Gasification, Coal's Future?

- Provides opportunity to control all pollutants to nearly 100% removal.
- Potential path to carbon capture
- New Life For An Old Technology
  - Fischer-Tropsch (FT) Fuel
    - Very clean burning, zero sulfur and metals
    - Low toxicity and volatile content
  - Fertilizer
  - Chemicals
  - Power generation

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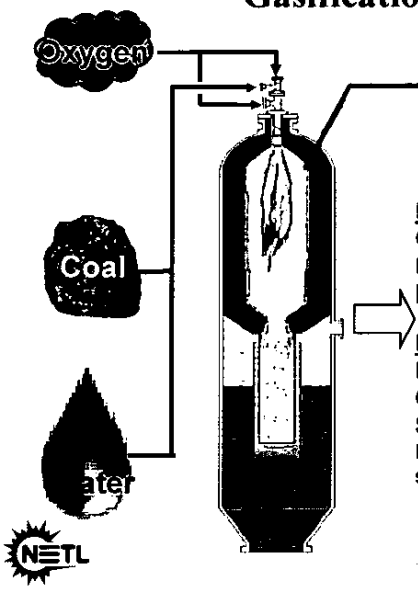
Gasification Process

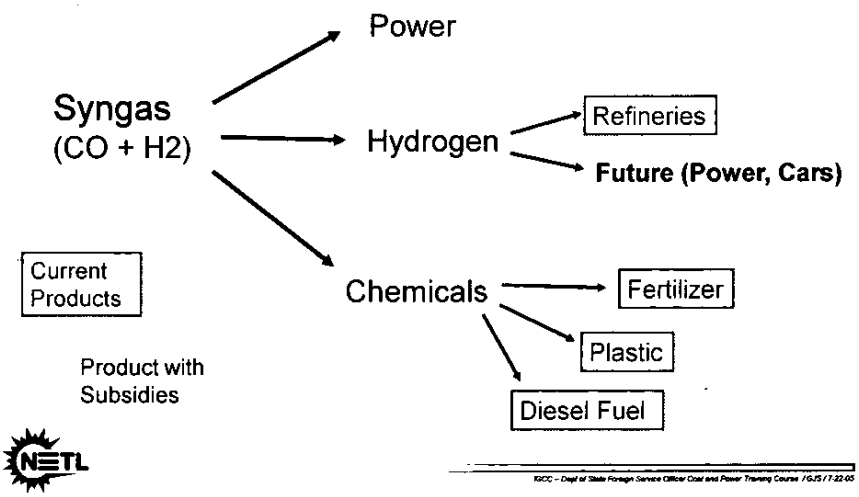
Organic material (C + H) + Water + *Not Enough* (O_2)
+ little heat
Results in gasification:
Some Heat + Carbon Monoxide (CO)
+ Hydrogen (H_2) + ash + pollutants

- **Can convert almost any organic material into heat and a combustible gas**
- **Typically the organic material is coal or pet coke, but biomass, municipal waste, natural gas, etc. will all work (pet coke is refinery waste)**

Gasification Process #2



Gasification Syngas Possibilities



ICRC's Alaska-Based FT Fuel Activities

Current and Future FT Fuel Plant Feasibility Studies:

FT Plants to Produce DOD Validation Fuel

- Small-Footprint FT Plants in Rural Alaska

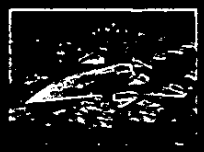
Previous Demonstrations of Syntroleum FT Fuel in:

- Denali National Park (DNP) Tour Buses, 2004
- DNP Snow-Removal Vehicles, Winter 2005
- Fairbanks North Star Borough Transit Buses, 2005
- Diesel Gen-Set at UAF (Simulates Rural Alaskan Village Power Generation Systems), 2004

ICRC

ICRC Recognizes the Importance of the Defense F-T Fuels Initiative

- F-T fuel can be produced from abundant US domestic energy resources such as coal, reducing dependency on imported petroleum
- Fuel production can be spread across the country to reduce the terrorist threat
- Large emission reductions can be obtained with existing military equipment
- Excellent thermal stability of F-T fuel enables development of high-performance future aircraft



ICRC

4-07-09 Overview: North Slope Natural Gas Pipeline Projects

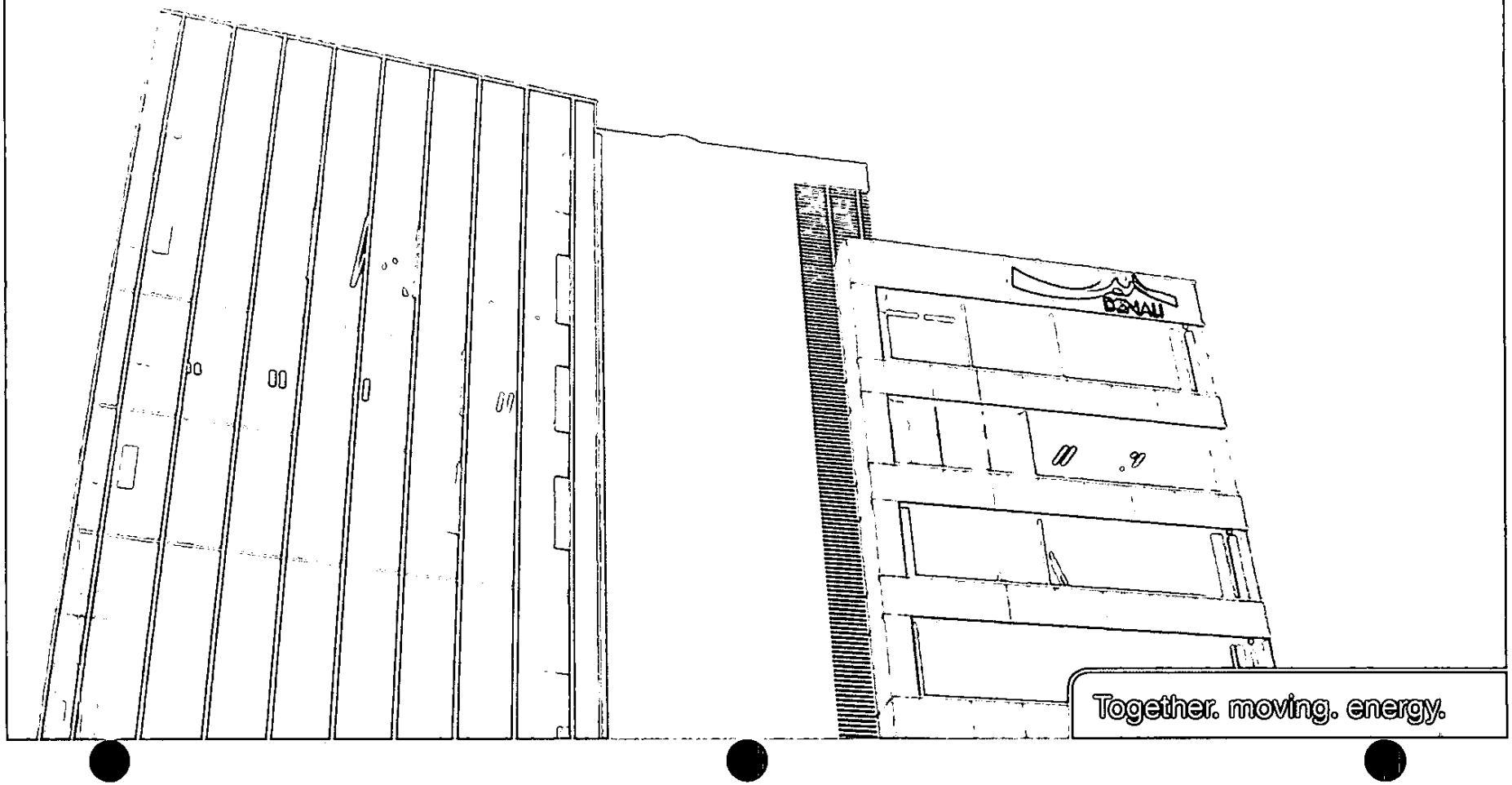
<target><bill></bill><subject>4-07-09 Overview North Slope Natural Gas Pipeline Projects</subject><comm>HENE26</comm></target>

DENALI
the alaska gas pipeline

Alaska State Legislature

House Energy Committee

April 7th, 2009



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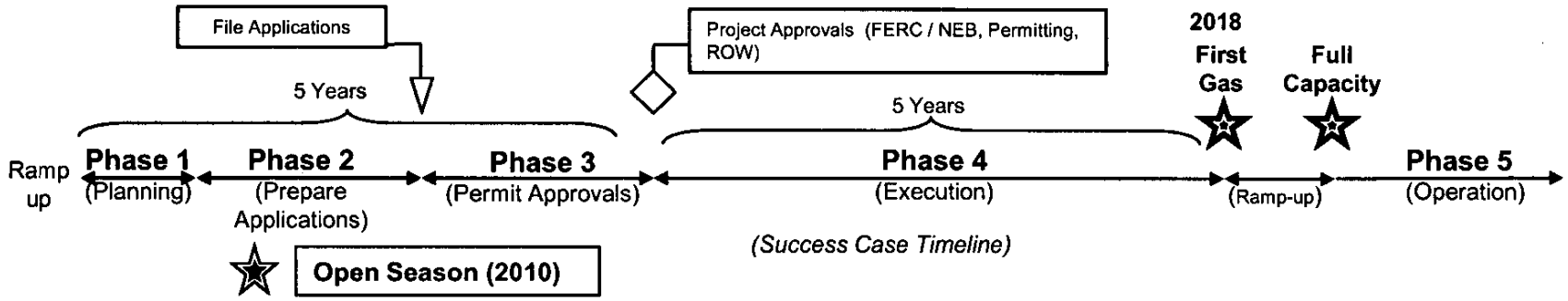
Denali – On track for success



- Denali organization in place. Open season in 2010
- Denali believes there will be a place for Alaska gas in the North American market
  - Alaska gas is a key part of the President's energy plan
  - Natural gas is the fuel of choice – viewed as the bridge to renewables
  - Anticipate the US and World economies and natural gas demand will have recovered in the next 9 to 10 years.
- The economy has not changed our focus

Together. moving. energy.

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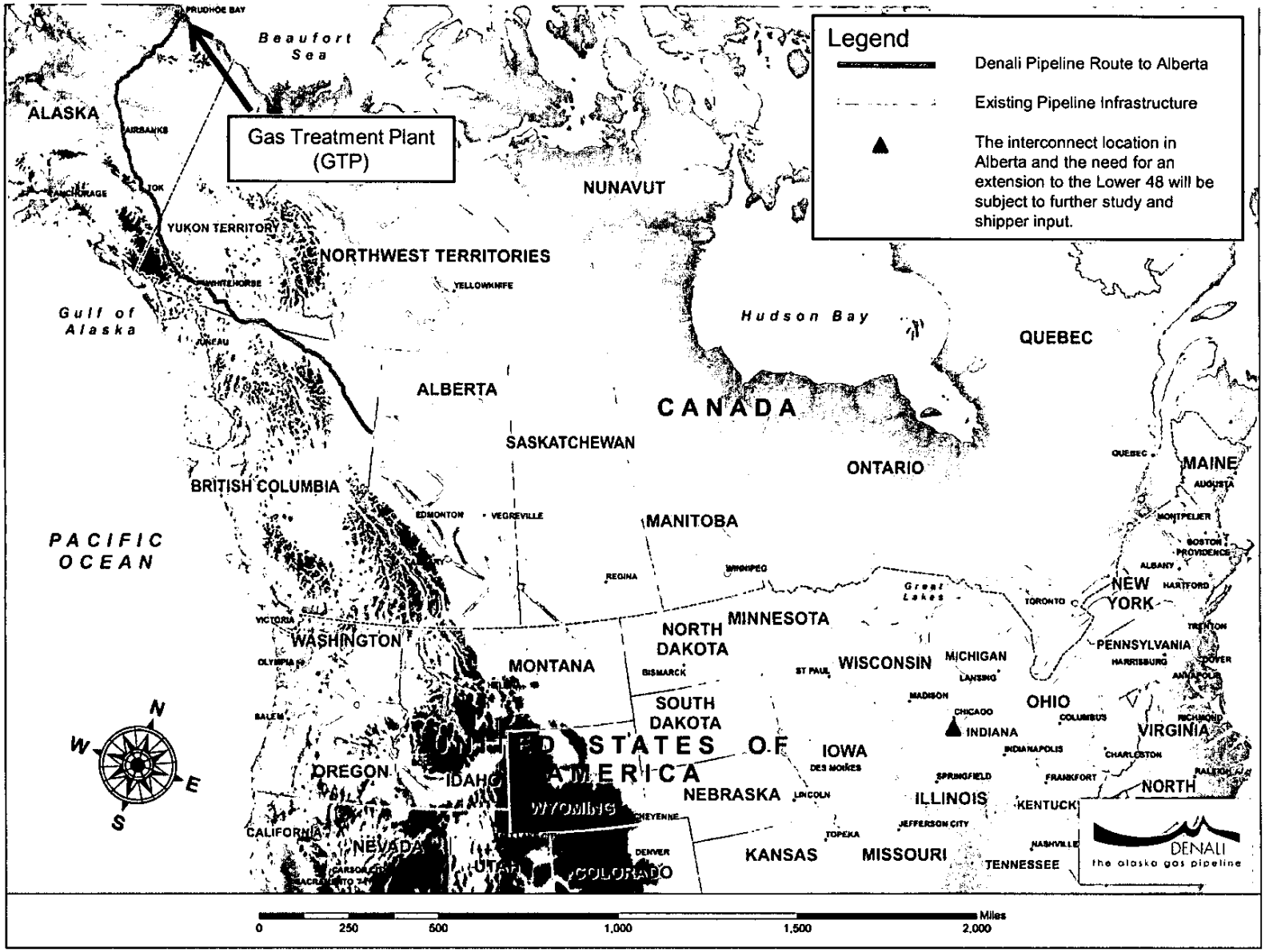
Denali Project Description

- Gas Treatment Plant (GTP) at Prudhoe Bay
  - Remove CO2, dehydrate, compress and chill the gas
- Buried, large diameter, high pressure (~2,500 psi) pipeline
- Compressor stations every 100 to 200 miles at >40,000 hp each
- About 2,000 miles to Alberta, requiring (~2-3 million tons of steel)
- Possibly another 1,500 miles to US markets (~2 million tons of steel)
- ~4bcfd to North American consumers (6-8% US daily consumption)

Denali will be the largest private energy project in North America, and will require world-class project execution skills

The Denali Project – 4 BCFD to North American consumers



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Denali Terms of Service

- Denali is an Open Access pipeline – *It's the law*
  - *"People have open access to the pipeline, not just the producers."* (FERC testimony to Joint AGIA Committee, June 16, 2008)
- Distance sensitive transportation rates for local use
- Design will provide for efficient expandability
- Solicit shippers every two years regarding expansion
- Will provide at least five offtake points within Alaska
- Will provide offtake points in Canada if warranted

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Regulatory Frameworks – Canada and U.S.

Canada

- Two regulatory frameworks are available in Canada:
  - Northern Pipeline Act (NPA) – established more than 3 decades ago; available exclusively to one party
  - National Energy Board Act – a modern, non-exclusive process that is open for use by any project proponent
- Denali will use the modern-day National Energy Board (NEB) process. No significant advantage to pursue project outside NEB framework

U.S.

- The Federal Energy Regulatory Commission (FERC) is responsible for authorizing the project
- The Alaska Gasline Inducement Act (AGIA) is not an exclusive license to build a pipeline. Denali does not need AGIA to move forward

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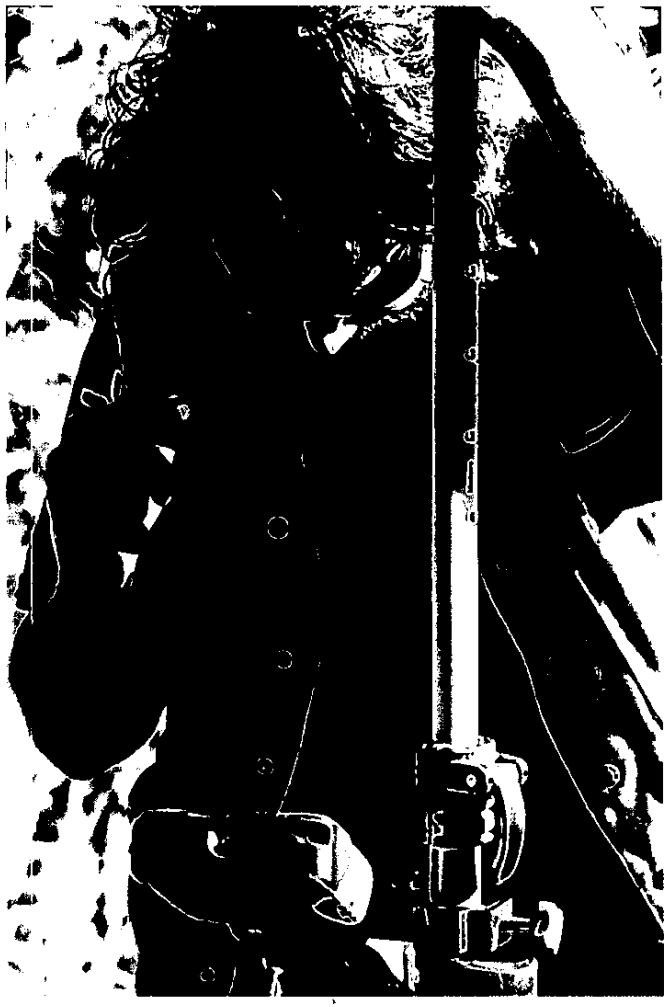
Denali Progress – Key Accomplishments



Spent ~$55 million in 2008

- Project Team mobilized
- Established Anchorage Headquarters
- Established Canadian Headquarters
- FERC pre-filing request approved
- Filed Right of Way on federal lands with Bureau of Land Management
- Successful 2008 summer field program
- Community outreach meetings in Alaska and Canada
- Established Archeology Technician program with UAF
- Member of AK DOL workforce development task force
- Met with Alaska, U.S. and Canadian government officials
- Awarded contracts for multi-million dollar Gas Treatment Plant and Pipeline preliminary engineering

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FERC Pre-filing and BLM Right of Way Application

FERC Pre-filing:

- Enables Denali and FERC to exchange information and coordinate work activities cooperatively and efficiently
- Ensures a timely application development and review process
- The FERC requested that Denali pre-file due to project size and complexity

BLM Right of Way Application:

- Initiated formal ROW process with Bureau of Land Management (BLM)
- Enables direct BLM involvement in Denali's planning process
- One third of Denali's 730 mile pipeline route in Alaska crosses land under BLM jurisdiction

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2008 Work

Summer Field Work

- Outstanding safety record
- Tok field office
- Surveyed over 200 miles of wetlands
- Investigated 70 archeological sites
- Shot over 1700 miles of ortho-photography
- Shot 730 miles of "immersive" video
- Investigated 538 potential stream/river crossings
- Performed route reconnaissance
- Identified contaminated sites
- As many as 80 people in the field

Engineering Progressed

- Route optimizations
- Technical studies
- Environmental assessments
- Cost estimates and schedules
- Plan project execution
- ~100 people engaged

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Who's Been Working with Denali?

$55 million spent in 2008

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Two Major Engineering Contracts Awarded

Fluor / WorleyParsons
ARCTIC SOLUTIONS
A JOINT VENTURE

Fluor WorleyParsons Arctic Solutions (Gas Treatment Plant)

- Major elements include technical studies, design basis, execution planning, cost estimating, and schedule development
- Arctic Solutions has significant arctic and North Slope experience, strong capability in the design and construction of mega projects in Alaska.

BECHTEL

Bechtel (Mainline – pipeline and compressor stations)

- Major elements include engineering, design basis development, cost estimating, scheduling, procurement planning and infrastructure and logistics assessments
- Bechtel has extensive experience designing and constructing major pipelines, including some of the world's longest. Long history of design and construction of megaprojects worldwide.

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the alaska gas pipeline

2009 Plans Focused on Open Season

- Broader work program will result in updated cost estimate – essential for open season
- Awarded Gas Treatment Plant contract - preliminary engineering underway
- Awarded Contract for Alaska to Alberta Mainline – preliminary engineering underway
- Ongoing work with DNR, FERC, NEB, OFC
- Continue to meet FERC prefiling requirements and engage FERC 3rd Party Contractor
- Work with AK DOTPF on infrastructure requirements
- Field work program in Canada, minimal program in Alaska
- Workforce Development (UAF, AKDOL, survey crew training)
- Stakeholder engagement in Alaska and Canada
- Progress commercial work for open season

DENALI
the alaska gas pipeline

Denali is the only project proponent that . . .

- Has decades of Alaskan and Canadian construction and operational experience
- Has the desire and experience to construct and operate the Gas Treatment Plant (GTP)
- Has prefiled with the Federal Energy Regulatory Commission
- Has established a significant Alaska Headquarters office
- Is spending only its own money to move the project forward

Denali is moving forward with confidence in uncertain economic times

5-29-09 Statewide Energy Policy, Bethel Public Testimony, HB 218, HB 219

<target><bill>HB 218</bill><subject>5-29-09 Statewide Energy Policy, Bethel Public Testimony, HB 218, HB 219</subject><comm>HENE26</comm></target>

House Special Committee on Energy

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Fax (907) 465-2069
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Juneau, AK 99801
Phone (907) 465-4451
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Rep_Bryce_Edgmon@legis.state.ak.us

AGENDA

Friday, May 29, 2009
1:00 p.m. – 4:00 p.m.
Bethel City Council Chambers

+=		**STATEWIDE ENERGY POLICY DISCUSSION**
+=	**HB218**	**CREATING DEPT OF ENERGY / AEA BD**
+=	**HB219**	**RENEWABLE ENERGY GRANT REQUIREMENTS**

*	First hearing in first committee of referral
+	Teleconferenced
=	Bill was previously heard / scheduled

AVCP Calista Region

Biennial Energy Plan 2008-2010

Nuvista Light and Electric Cooperative, Inc.
A regional wholesale cooperative participated by
Calista Corporation/AVCP/AVCPRHA/YKHC/AVEC/Chaninik Wind Group/MKEC/Kwethluk Power/ Yukon Delta Fisheries Development Association

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Introduction

The AVCP CALISTA Regional Biennial Energy Plan is the work and the progress of the AVCP Calista Regional Leadership to:

- ***develop and adopt a long term energy policy for sustainable energy***
- ***work collectively and combine our resources***
- ***identify conventional and non-conventional renewable energy development***
- ***identify strategies for funding and deployments methods***

Regional Leadership

Executive officers, board members, staff of the major regional organizations, local governments, utilities and the business community.

The Leadership is using the Nuvista Light and Electric Cooperative on the Biennial Energy Plan.

The Nuvista Light and Electric Cooperative, Inc. a regional wholesale utility formed by Calista Corporation and currently administered by the Association of Village Council Presidents.

Energy Planning Participants

Sven Paukan, Nuvista Chairman, AVCP Board, Andreafski Tribe
Paul George Guy, Nuvista Vice-Chairman, Calista Board, Kwethluk Power Company and Kwethluk Inc.
Arthur S. Heckman Sr., Nuvista Secretary, Calista Board, Pilot Station Village Corporation
Daniel Waska, Nuvista Treasurer, AVCP Board, Atmautluak Tribe
Moses Owen, Nuvista Board, AVCP Board, Akiak Tribe
Willie Kasayulie, Nuvista Board, Calista Board
Myron Naneng, AVCP President
Ron Hoffman, AVCP Regional Housing Authority CEO
Robert Nick, AVCP Regional Housing Authority Board Chairman
Martin B. Moore, City of Emmonak
William Igkurak, Chaninik Wind Group Chairman
Matthew Nicolai, Calista Corp., President & CEO
Andrew Guy, Calista Corp., General Counsel
Doug Nicholson, Donlin Creek, LLC, General Manager
Brent Petrie, Alaska Village Electric Cooperative, VP
Ernie Baumgartner, Middle Kuskokwim Electric Cooperative, CEO
Gene Peltola, Yukon Kuskokwim Health Corporation, CEO

Task Force and Committees

Western Alaska Fuel Task Force
Chair - Meera Kohler, AVEC
Elaine Brown, Northstar Gas
Greg McIntyre, YKHC
Ivan M. Ivan, Akiak TC
Willie Kasayulie, Calista Corporation
Deborah Vo, Yukon Delta Fisheries Development Association
Allen Joseph, AVCP Regional Housing

Legislative Committee
Chair- Michelle Sparck, AVCP
Elaine Brown, North Star Gas
Rep. Bob Herron
Allen Joseph, AVCP Regional Housing Authority
Meera Kohler, AVEC
Mary Nelson, Donlin Creek LLC Biennial Energy Plan

Renewable Energy Committee
Chair - John Sargent, City of Bethel
William Igkurak, Chaninik Wind Group
Brent Petrie, AVEC

Goals and Deployment Objectives

Energy Security and Economic Stability

- ***Develop integrated energy solutions that meet local energy requirements and economic development needs***

Energy Parity and Stability

- ***Establish statewide energy cost parity to make home heating affordable and equitable***

Energy Generation and Transmission

- ***Pursue an All Alaskan Generation and Transmission Utility to save energy dollars and reduce electricity rates across All Alaska***

Integrated Renewable Energy Solutions

- ***Expand Wind Energy Projects along the eastern Bering Sea Coast and the Bethel area***
- ***Determine feasibility for integrated wind/diesel/solar/biomass heating and electric systems with community heat storage system.***
- ***Determine feasibility of Regional Hydroelectric Project (Lake Chikuminuk) to provide region-wide electricity and heat.***
- ***Develop and install Biomass projects: including wood fired boilers, heaters and wood chippers for community facilities and buildings.***

Statewide heating fuel price parity

Introduce statewide heating fuel price parity legislation to cap at $3 per gallon (September 1 through March 31) for all Alaska residents

- ***Formula (delivered fuel cost above $3.00 X total gallons for number of households served) not including O&M, overhead cost, etc.***
- ***Fuel Price Parity set only when price of oil per barrel results in delivered cost of fuel above $3.00 per gallon (note: in 2009 most communities delivered costs are under $3.00 per gallon)***
- ***Formula (delivered cost above $3.00 X total gallons for number of households served) not including O&M, overhead cost, etc.***

All Alaskan G&T Utility to include Rural, Southeast and Railbelt

- ***Takes ownership of G&T Assets across Alaska***
- ***Power costs are pooled and power bought back at postage-stamp rate or a 2 tier rate (utilities then add their costs and sell it to customers)***
- ***Costs range from 5¢ to 50¢ kWh***
- ***Distribution costs range from 3¢ to 20¢ kWh***
- ***PCE currently costs $30 million per year***
- ***Rural school electricity costs $20 million per year***
- ***Other state rural offices pay $20 million per year***

By going to All Alaska G&T the state saves energy money to pay for a significant portion of major project investments thereby driving generation costs down to stabilize rates.

Rural utilities can work together to reduce their delivered costs via shared services and other methods.
End results are rates costing about 25¢ kWh and making PCE unnecessary.

Regions and communities no longer have to compete for investment grants as the AAG&T would build the projects to benefit all Alaskans.

Rural villages will no longer have to struggle with O&M.

The State is currently promoting a Generation and Transmission (commonly known as a G&T) utility for the entire Railbelt. Under that scenario, the existing six utilities will no longer be responsible for developing new G&T projects and possibly will also turn their existing G&T assets over to the new G&T. Power will be generated by the G&T and will be delivered to the existing utilities, generally at a "postage-stamp" rate. The receiving utilities, which will be distribution utilities, will be responsible to deliver the electricity to the end users and will bill the customers.

The AAG&T expands this concept to the entire state. The AAG&T would essentially take ownership of the generation assets throughout the state. To accomplish this, the existing utility essentially "spins-off" its generating plant to the new organization, which would then operate it. All the power costs across the state would be pooled into a single bucket. Each distributing utility would then buy power back from the pool at a postage-stamp rate or, perhaps, a two-tiered rate, and would then add their own costs to that power and sell it to their customers.

- Power generation costs currently range from 5 cents to 50 cents a kWh.
- Distribution costs range from 3 cents to 20 cents a kWh.
- PCE currently costs the State $30 million a year.

- Rural school electricity costs the State $20 million a year.
- Other State rural offices pay electric bills of $20 million a year.

By going to an AAG&T concept, the State could conceivable save enough energy dollars to pay for a significant portion of investment into major projects benefiting the Railbelt, thereby driving the cost of generation down enough to essentially pay for the power cost subsidy necessary to equalize the cost of generated power across the state. The delivered cost across the state will vary because smaller utilities will obviously have higher distribution and administration costs per kWh, but those utilities can work together to reduce those costs through shared services and other measures.

The end result would be electricity costing from about 8.5 cents a kWh to about 25 cents a kWh to every Alaskan. PCE would no longer be needed and the endowment could be put to its best use as an investment in a major project like Susitna. Regions and communities would no longer have to compete for investment grants as the AAG&T would build the projects that will deliver the maximum benefit to **all** Alaskans. Rural villages would no longer have to struggle to operate and maintain complex generation systems and instead would all support the best investments for the State since they would all benefit directly from every dollar invested in generation assets.

Goals and Deployment Objectives (cont.)

Consolidate local individual utilities into Regional Cooperative Utilities

- ***Bethel and nearby 12 villages***
- ***Coastal and Tundra villages***

Sub-regional inter-ties

- ***Pursue sub-regional inter-ties and distribution systems beginning with an inter-tie to connect the villages of Alakanuk and Emmonak; and the villages of St. Mary's, Mountain Village and Pilot Station.***

Bulk Fuel – Western Alaska Fuel Task Force

1. ***Reduce fuel consumption in 2009 by 10%***
   a. ***Determine fuel users, consumption, and storage capacity of each community (utility, schools, village corporations, local organizations, tribal council)***
   b. ***Link villages/users together under cooperative purchase agreements***
2. ***Seek changes to State and Federal Fuel Programs***
3. ***Conduct Education Outreach***

AVCP Calista Region's Energy Supply and Demand

Fuel Price and Electricity

Prices for residential heating oil, regular gasoline increased well over 100% since 2007 in many of the regions villages (prices without taxes). The AVCP Calista region's prices have followed national trends and will continue to be linked to world oil prices. Delivered prices in spring 2008 rose to $8.00 gallon for home heating fuel throughout the region.

Electric utility rates are higher as 2009 begins, between 53¢ and 65¢ per kWh, and electric bills have been averaging around $342 to $360 per month in villages of the region. Usage has been anywhere around 530kWh to 750kWh per household. Increases in the electric rates have been reflective of higher delivered fuel costs in recent years and the PCE program has been significant in every community in helping to make electricity affordable to families in the region.

Fuel costs have been going up between $6.00 and $8.00 per gallon. Recently in the village of Emmonak fuel had to be flown in at a cost near $10.00 per gallon when local storage runs out. Energy costs take up a significant portion of family disposable income, which in recent months is estimated 60% to 70% due to price hikes.

Any further increases in fuel costs and electric rates will have the effect of making fuel and electricity unaffordable. Recent studies that were conducted in the region (Nuvista Light and Power 2002 and 2004 Energy Studies) have shown that lower income residents devote higher amounts of their disposable income to energy and use less.

Unemployment rates are currently between 16.6 and 22.8 for the Bethel and Wade Hampton Census districts respectively. However, the jobless rate is even more significant and relevant indicator of the economic condition in the region. The rate is 38.5% and 43.3% for the Bethel and Wade Hampton census districts. Total income in 2007 for the Bethel census district was $431.4 million and $124.8 million which provided a median income of $45,200 and average monthly income about $2,700 for the Bethel

census district; and $36,600 median income and $1,750 average monthly for the Wade Hampton census district.

2008 Kuskokwim Salmon Fishery

A total of 494,108 salmon was harvested in 2008 in the Kuskokwim area by 462 permit holders for an estimated ex-vessel value of $1,487,111. This provides an exvessel value of $3,219 per permit holder. (2008 ADF&G Kuskokwim River Salmon Fishery Report)

2008 Yukon Commercial Fishery Summary

A total 312,513 salmon were commercially harvested in the Lower Yukon in 2008. A total of 444 permit holders fished in the Lower Yukon area for a total of $1,363,746 in ex-vessel earnings from the 2008 commercial fishery. This provides an exvessel value of $3,071 per permit holder. (ADF&G 2008 Annual Yukon Salmon Fishery Report)

Both higher fuel costs and increases to electric rates also have the effect of making other local goods and services unaffordable. This has been demonstrated since the fall of 2008 with the onset of winter and freezing temperatures. Because of low income and higher energy costs, there were numerous families in the region that were unable to afford fuel, electricity and food items from the local store. This humanitarian crisis surfaced in numerous news media and generated food drives and donations to villages in the Yukon delta.

This is an indicator that populations throughout the region are vulnerable, local economies are fragile and susceptible to further fuel and price and electric rate increases.

Fuel Price and Use

Prices for residential heating oil, regular gasoline increased well over 100% since 2007 in many of the regions villages (prices without taxes). The AVCP Calista region's prices have followed national trends and will continue to be linked to world oil prices. Delivered prices in spring 2008 rose to $8.00 gallon for home heating fuel throughout the region.

The news media reported earlier in 2008 the fuel bill for the Alaska Village Electric Cooperative, which serves 53 small villages in the west of the state, went up to $26 million from $14 million in 2007.

Village residents are already paying electric bills of $300 a month and will look to rates increasing to an unaffordable one-third to one-half from fuel increases. With average household incomes of only $17,500 many families are unable to maintain their livelihood and support their families.

Fuel costs by village (Tundra Drums Newspaper 1/3/08)

The price of gasoline and heating oil in the Yukon-Kuskokwim Delta is sometimes twice that of prices in Anchorage and Fairbanks. Villages are ranked by the cost of heating oil, from highest to lowest.

Village	Vendor	Gasoline	Heating oil
Akiachak	Akiachak Fuel Sales Inc.	$5.55	$5.44
Akiak	Stephan Ivan and Sons Store	$5.00	$4.60
Alakanuk	Alakanuk Native Store	$5.83	$5.04
Aniak	Crowley Maritime Corp.	$4.62	$4.28
Atmautluak	Atmautluak Ltd. Store	$4.93	$4.81
Bethel	Northstar Gas	$4.84	$4.55
Chefornak	Chefarnmute Inc. Yupiak Store	$5.46	$4.44
Chevak	Chevak Co. Store	$5.35	$5.15
Chuathbaluk	City of Chuathbaluk	$5.10	$5.15
Crooked Creek	Thomas Trading Post	$5.95	$5.85
Eek	Iqfijouaq Co. Inc.	$5.11	$5.15
Emmonak	Emmonak Corp.	$5.91	$4.85
Gambell	Gambell Native Store	$6.02	$4.89
Goodnews Bay	Mumtram Pikkai Inc.	$5.25	$4.12
Grayling	HYL Fuel	$5.50	$4.50
Holy Cross	Holy Cross Oil Co.	$5.30	$4.55
Hooper Bay	Crowley Maritime Corp.	$5.32	$5.05
Kasigluk	Kasigluk Inc.	$5.45	$5.40
Kipnuk	Kugkaktlik Ltd.	$5.51	$4.60
Kongiganak	Qemirtalek Store	$4.48	$4.45
Kotlik	Kotlik Yup'ik Enterprises	$5.95	$5.11
Kwethluk	Kwethluk Sports Store	$5.16	$4.96
Kwigillingok	Kwik Inc.	$5.35	$4.85
Marshall	Marshall Enterprises	$4.83	$4.88
McGrath	Crowley Maritime Corp.	$5.73	$4.92
Mekoryuk	NIMA Store	$5.42	$4.82
Mountain Village	Azachorok Fuel Co.	$5.01	$4.81
Napaskiak	Napaskiak Tribal Council	$5.08	$5.15
Newtok	Newtok Traditional Council	$4.99	$4.90
Nunapitchuk	Nunapitchuk Ltd. general store	$5.40	$5.35
Pilot Station	Pilot Station Inc. Native Store	$6.08	$5.98
Quinhagak	Qanirtuuq Inc.	$5.40	$4.87
Russian Mission	Russian Mission Native Corp.	$5.52	$4.75
Savoonga	Savoonga Native Store	$5.76	$4.83
St. Marys	Crowley Maritime Corp.	$4.85	$4.86
Togiak	Togiak Fuel Distributors LLC	$4.21	$3.68
Toksook Bay	Nunakaviak Yup'ik Corp.	$5.89	$5.24
Tuluksak	Tuluksak Native Store	$4.93	$4.32
Tuntutuliak	Qinarmiut Corp. Store	$5.00	$5.15
Tununak	Tununrmiut Rinit Corp.	$4.75	$4.56
Upper Kalskag	City of Upper Kalskag	$5.15	$5.00

For comparison:
Anchorage Various $3.06 $3.20
Fairbanks Various $3.07 $3.18

SOURCE: Telephone survey by The Tundra Drums

Fuel Prices as of May 12, 2009

Villages		Stove oil per gallon	with tax	Fuel	with tax
Akiachak		7.06	7.41	6.59	6.91
Akiak		6.45	no tax	6.25	no tax
Alakanuk		7.25	7.54	6.74	7.03
Atmautluak		5.69	5.86	5.75	5.92
Chefornak		7.90.	8.06	7.55	7.70.
Chevak		5.95	no tax	6.00.	no tax
Eek		6.62	6.75	6.29	6.42
Emmonak		7.60.	7.83	7.04	7.25
Goodnews Bay		6.14	6.32	6.71	6.91
Kasigluk		5.69	5.92	5.74	5.97
Kipnuk		7.71	7.94	7.13	7.34
Kongiganak		6.50.	no tax	5.90.	no tax
Kotlik	Cash	7.85	8.85	7.55	8.55
Kotlik	Charge	7.79	8.85	7.61	8.55
Kwethluk		8.10.	no tax	5.86	no tax
Kwigillingok		6.70.			
Marshall		7.25	7.54	6.98	7.26
Mekoryuk		6.08	6.32	5.49	5.71
Mtn. Village		6.82	7.02	6.31	6.50.
Napakiak		6.40.	6.59	5.75	5.92
Napaskiak					
Newtok		6.47	no tax	6.30.	6.42
Nightmute		7.93	no tax	7.74	no tax
Nunam Iqua		7.35	no tax	7.20.	no tax
Nunapitchuk		5.69	5.86	5.74	5.91
Oscarville					
Pilot Station		7.13	7.42	6.55	6.81
Platinum		5.45	no tax	5.75	no tax
Quinhagak		7.02	7.23	6.22	6.41
Scammon Bay		6.90.	7.07	6.79	6.93
Toksook Bay		7.86	no tax	7.98	8.13
Tuluksak		6.79	6.99	6.39	6.58
Tuntutuliak		6.86	no tax	6.60.	no tax
Tununak		6.14	no tax	5.43	no tax
Hooper Bay		7.37	no tax	7.16	no tax
St. Mary's		6.67	no tax	6.41	no tax

Electricity

Utility	Community	Pop 06/30/07	Total Fuel Used (gallons)	Total Cost of Fuel/Gallon	Avg Price of Fuel/Gallon	Total Diesel Generated kWhs
Akiachak Native Community Electric Co.	Akiachak	644	181,453	$ 596,325.38	$ 3.29	1,800,172
Akiak, City of	Akiak	378	90,305	$ 272,651.20	$ 3.02	
AVEC	Alakanuk	678	132,087	$ 248,342.41	$ 1.88	1,757,214
AVEC	Chevak	916	180,785	$ 345,846.13	$ 1.91	2,287,638
AVEC	Eek	291	56,570	$ 108,336.85	$ 1.92	775,087
AVEC	Emmonak	740	202,893	$ 385,988.38	$ 1.90	2,884,529
AVEC	Goodnews Bay	238	54,725	$ 105,155.68	$ 1.92	686,347
AVEC	Hooper Bay	1,133	207,586	$ 389,582.77	$ 1.88	922,360
AVEC	Kasigluk	534	162,151	$ 310,947.73	$ 1.92	2,235,444
AVEC	Lower Kalskag	252	-	$ -	***	
AVEC	Marshall	370	86,539	$ 164,360.37	$ 1.90	1,203,402
AVEC	Mekoryuk	192	68,559	$ 128,585.15	$ 1.88	962,073
AVEC	Mountain Village	786	176,569	$ 330,378.50	$ 1.87	2,615,914
AVEC	Nightmute	234	45,085	$ 84,482.52	$ 1.87	588,666
AVEC	Nunapitchuk	516	-	$ -	***	-
AVEC	Pilot Station	565	128,455	$ 241,443.70	$ 1.88	1,701,354
AVEC	Pitkas Point	103	-	$ -	***	
AVEC	Quinhagak	642	134,072	$ 259,790.18	$ 1.94	1,802,038
AVEC	Russian Mission	329	59,709	$ 111,665.65	$ 1.87	815,679

AVEC	Scammon Bay	509	121,579	$ 296,144.96	$ 2.44	1,635,960
AVEC	St. Mary's, Andreafsky	715	215,077	$ 408,856.64	$ 1.90	3,196,819
AVEC	Toksook Bay	596	139,588	$ 267,737.43	$ 1.92	2,552,597
AVEC	Tunanak	328	-	$ -	***	
AVEC	Upper Kalsag	276	91,301	$ 172,331.09	$ 1.89	1,255,023
Aniak Light & Power Company	Aniak	528	195,889	$ 540,199.25	$ 2.76	2,569,600
Atmautluak Joint Utilities	Atmautluak	304	53,931	$ 173,703.84	$ 3.22	33,269
Bethel Utilities Corp.	Bethel/Oscarville	6,019	3,084,531	$ 11,632,705.15	$ 3.77	42,140,800
Kipnuk Light Plant	Kipnuk	688	142,565	$ 451,036.54	$ 3.16	1,427,939
Kotlik Electric Services	Kotlik	609	151,270	$ 486,744.88	$ 3.22	1,763,129
Kwethluk, Inc.	Kwethluk	695	100,363	$ 285,573.91	$ 2.85	1,438,119
Kwig Power Company	Kwigilligok	361	70,347	$ 189,187.38	$ 2.69	1,065,250
Lime Village Electric Utility	Lime Village	28	9,721	$ 51,666.35	$ 5.31	101,016
MKEC	Chuathbaluk	93	25,565	$ 81,655.43	$ 3.19	258,721
MKEC	Crooked Creek	145	23,876	$ 76,182.40	$ 3.19	274,824
MKEC	Red Devil	36	15,424	$ 49,270.05	$ 3.19	151,124
MKEC	Sleetmute	92	27,655	$ 87,272.92	$ 3.16	286,831
MKEC	Stony River (11)	42	15,078	$ 47,499.46	$ 3.15	143,427
Napakiak Ircinraq Power Company		373	-	$ -	***	

Napaskiak Electric Utility		428	74,098	$ 235,252.27	$ 3.17	934,527
Naterkaq Light Plant	Chefornak	457	73,122	$ 264,217.17	$ 3.61	904,180
Nunam Iqua Electric Company		158	51,717	$ 154,223.89	$ 2.98	699,396
Platinum, City of		38	20,570	$ 76,508.11	$ 3.72	199,072
Puvurnaq Power Company	Kongiganak	427	77,820	$ 229,133.10	$ 2.94	951,274
Tuluksak Traditional Power Utility		466	75,738	$ 228,234.80	$ 3.01	869,717
Tuntutuliak Community Service Assoc.	Tuntutuliak (7)	399	43,963	$ 100,930.75	$ 2.30	542,072
Unqusrag Power Company	Newtok	315	39,791	$ 60,148.68	$ 1.51	274,248

(2007 PCE Statistical Report, State of Alaska)

Economic and Community Development Analysis

High costs of living impact on regional income, poor salmon runs and competition from international markets on local fishery, high dependency on government grants, high energy costs, fuel shortages combined with high fuel costs, inadequate transportation and energy infrastructure, high unemployment; all of which are symptomatic of basic economic and community problems the region is faced with today. These present very comprehensive challenges requiring initiatives that involve coordination of efforts between the various service organizations with resources to assist in economic development activities in the region.

Average Prices of Fuel and Food Items in the Region

These are some current prices as of 02/25/09

Stove Oil:
$7.00 per gallon (Bulk)
Regular Unleaded Gasoline:
$6.69 per gallon
Propane:
$264.00/100# -25 gal. bottle
Telephone Service (Basic): $34.43/mo
Housing Payment/Rent: $290.00 to $683.00

Average Ticket from Village to Bethel Round Trip: $410.86
Average Ticket from Village to Anchorage Round Trip: $556.36
Basic Cellular Service: 1200/min $55.00/avg. Monthly
Snow-machine 550-800cc $8,200.00
Outboard Motor 100-115hp $10,713.00

SELECTED FOOD ITEMS (ON SALE IN LOCAL STORE)

10lb of Potatoes: $10.99

Apples: $2.86/lb

Bath Tissue: $34.56/24 pkl

1 Doz. Grade A Eggs: $4.36

1 Lb. Coffee: $10.28

1 lb. Butter $5.00

10 lb. Flour: $15.43

Beef Steak: $13.44/lb

Ground Beef: $5.11/lb

Gallon of Milk: $9.26

White Bread: $4.12

Sales Tax: 2%

2008 Kuskokwim Salmon Fishery

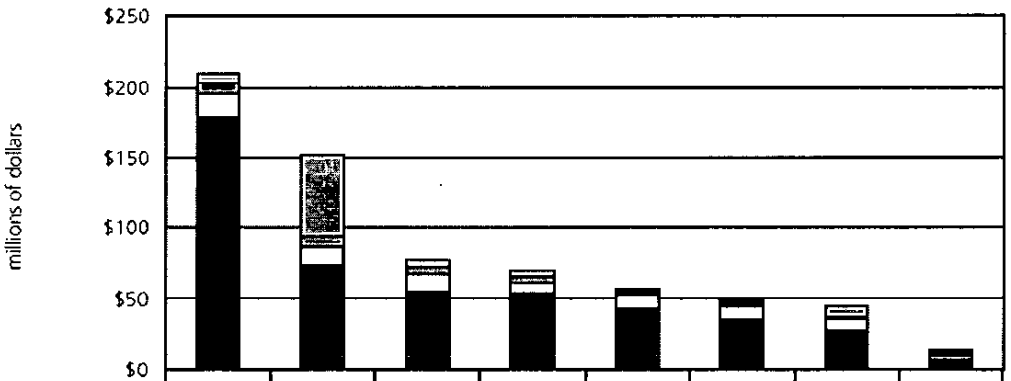
A total of 494,108 salmon was harvested in 2008 in the Kuskokwim area by 462 permit holders for an estimated ex-vessel value of $1,487,111. (2008 ADF&G Kuskokwim River Salmon Fishery Report)

2008 Yukon Commercial Fishery Summary

A total 312,513 salmon were commercially harvested in the Lower Yukon in 2008. A total of 444 permit holders fished in the Lower Yukon area for a total of $1,363,746 in ex-vessel earnings from the 2008 commercial fishery. (ADF&G 2008 Annual Yukon Salmon Fishery Report)

Grants in the Bethel Region

Figure 5-3. Federal Money in Remote Rural Census Areas, 2000



	Bethel	Yukon Koyukuk	Nome	Northwest Arctic	Wade Hampton	Dillingham	North Slope	Lake and Peninsula
Procurement	$5.28	$57.73	$4.15	$3.79	$1.80	$2.91	$8.85	$0.64
Wages	$8.32	$7.24	$6.17	$3.98	$2.08	$2.91	$1.73	$1.51
Transfers	$18.67	$13.70	$12.35	$8.60	$10.15	$8.26	$7.23	$3.83
Grants	$176.69	$72.48	$54.59	$52.30	$42.09	$35.25	$27.39	$6.22

Source: ISER, Status of Alaska Natives Report, 2004, page 5-13; [Consolidated Federal Funds Report]

As the center for goods, services and government the Bethel census area is heavily dependent upon government grants. The graph above demonstrates how much the Bethel census area weighs in compared to other regions of Alaska when it comes to government grants. The region is susceptible to policy changes in government that impact the level of government grant funding.

Fossil Fuel Resources

Petroleum *Supply*

The AVCP Calista region has a few identified potential fossil fuel resource exploration targets and imports 100 percent of its petroleum. There are no refineries that exist in the region and distances from large bulk fuel facilities are far from villages making transportation of fuel an issue.

Fuel Shipping

Transporting the fuel from West Coast USA/Canada or Cook Inlet to Bethel and points along the Kuskokwim River requires the following steps: (1) line-haul barge transportation from the supply source across open ocean and up the Kuskokwim River to Bethel, (2) off-load and temporary storage at Bethel, and (3) transfer of fuel to smaller river barges and delivery to Kuskokwim area villages. The shallow nature of the Kuskokwim River above Aniak (between Bethel and Crooked Creek) provides the greatest challenge, both physically and financially, to delivering fuel to middle Kuskokwim River villages.

Both Yukon Fuel Company and Crowley Marine each operate tank farms in Bethel. Fuel for mid and lower Yukon villages is barged down river from Nenana to fuel storage facilities in villages along the Yukon River by Yutana Barge lines. Early spring often means air shipment by Everts Air Cargo or by other air cargo freighter to villages in the region when villages run out of fuel.

Disruptions in the supply and distribution chain of fuel throughout the system can create a severe and prolonged shortage of fuel and price volatility. Added surcharges when fuel often has to be delivered by air cargo, creates a additional hardship on village residents.

Fuel is delivered from the months of June to September with approximately 150 days of barge delivery. Bulk fuel storage for Bethel is shown as follows:

Tank Owners / Total Capacity
Yukon Fuel Co. 9.4 million gal
Crowley Marine 5.6 million gal
Airport 120,500 gal
Bethel Utilities Corporation 51,000 gal
U.S. Federal Aviation Administration 44,000 gal

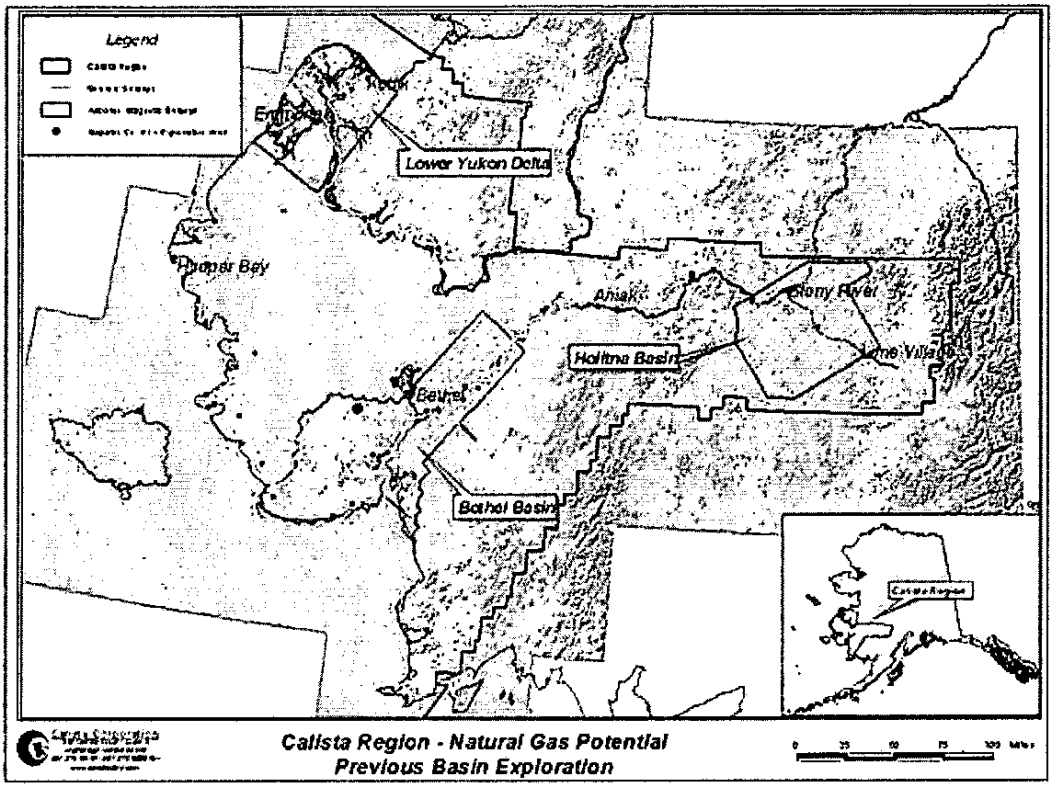
Natural Gas *Supply*

Natural Gas and Oil Exploration/Venture Activities

(Calista Corporation - AVCP 2004 Economic Summit)

Aeromagnetic surveys in the region conducted by the State of Alaska Division of Geological & Geophysical Surveys for conventional hydrocarbon resources focused on three geographic areas: The Bethel Basin, the Lower Yukon Delta, and the Holitna Basin. According to geologists the potential for conventional petroleum resources is nonexistent. The source rock studies done to date have been mostly negative in this regard. However, there has been no drilling conducted to provide information about subsurface conditions to make definitive results on the potential for shallow gas. And in each basin the potential for shallow gas within the Tertiary section has not been fully explored. As technology improves for developing small shallow gas resources then it is possible to re-examine these areas for exploration.

The Bethel Basin is a Cenozoic non-marine basin, roughly outlined by a 5800 square mile airborne magnetic survey area flown by the state in 1994-1996. The regions lone exploration well is the Napatuk Creek #1 drilled by Pan American in 1961 to a very dry depth of 14,890 feet. The main target was a very subtle low gravity area, which turns out to be on the flank of the basin. 2-D seismic data collected for Shell Oil in the early seventies outlined an elongate structural basin to the south (ed. near the village of Kipnuk). The Yukon Delta is a large modern deltaic complex underlain by non-marine Tertiary sandstone and shale, unconformably overlying a thick, complexly deformed flysch. The delta is on the edge of Norton Basin in Norton Sound. 2D seismic coverage by Amoco in the early eighties identified an antiformal closure (ed. at the mouth of the Yukon River) that was apparently slated to be drilled. The Holitna Basin is a Cenozoic non-marine tectonic basin in the lowland draining the Alaska Range to the east and the Kuskokwim Mountains to the west. It is adjacent to the Denali Farewell fault zone, a regionally dominant right-lateral fault system. It has many similarities to other interior basins like the Minchumina Basin further east. It is characterized by a prominent, but small, -40mgal gravity low. Note that it is also about 45 miles from Donlin Creek. The Holitna is rimmed by Paleozoic basinal and platform carbonates; Triassic carbonates and marine siliciclastics.



Propane
(LPG – Liquid Petroleum Gas)

Households and Utilities

Propane is presently used in most villages in the region, primarily for cooking, and some water heating, and to a lesser extent space heating. Total Household and Utility Propane Demand in Bethel are approximately as follows:

ISO Container Barge (Gallons)
Bethel 378,000 household and 7,761,000 utility

Renewable Energy Resources

Wind, hydroelectricity projects, biomass (wood and organic solid waste), and to some degree solar energy along with alternative fuels can provide the AVCP Calista region with energy sustainability, independence and rural community development. The recently completed Alaska Energy Authority Energy guide demonstrates the potential generation capability for renewable energy based upon location to potential hydroelectric power and wind class and other available renewable energy sources.

Wind

There is abundant wind energy resource available in the AVCP Calista region. The 2002 Nuvista study evaluated wind generation in those villages where there is sufficient wind resources to justify installation of wind turbines. The study assumed wind generation would be considered in areas where the Wind Power Class is 4/5 or greater as designated in the Wind Energy Resource Atlas of the United States.

Wind Power Class

7	6	5	4
Sheldon's Point	Emmonak	Kotlik	Mt. Village
Scammon Bay	Alakanuk	Nunapitchuk	St. Mary's
Hooper Bay	Tuntutuliak	Kasigluk	
Chevak		Atmautluak	
Newtok		Eek	
Tununak			
Toksook Bay			
Nightmute			
Chefornak			
Kipnuk			
Kongiganak			
Kwigillingok			
Quinhagak			
Goodnews Bay			
Platinum			
Mekoryuk			

It is assumed that a maximum allowable wind penetration of 50% would not be unreasonable. A maximum wind penetration of 50% would require a total installed wind turbine capacity of 935 kW. Using this information, in conjunction with wind power density in Watts/meter2 for each wind power class, it is possible to develop an approximate relationship involving installed wind turbine capacity, annual energy generated and wind power class. This relationship is summarized in the following table.

(Assumes 50% Wind Penetration)

Wind Power Class	Percent of Total Energy Generated from Wind	Kilowatts Generated per Installed KW
4/5	6.5	1505
5/6	8	1912
6/7	16.5	3824
7	23.7	5481

The data can be used to estimate the total installed capacity and the total annual kWhs generated by wind turbines if the wind power class and annual village energy requirements are specified. For example, if a village's annual energy requirement is 4,000,000 kWhs and it is located in wind power class 7 area, the total percent of the village's annual energy requirements generated by wind turbines is 23.7% x 4,000,000 or 948,000 kWhs annually. Installed wind turbine capacity is calculated by dividing 948,000 kWhs by 5481 kWh/KW, which results in a total installed wind turbine capacity of 173 kW.

There are two wind generation projects developed and managed by the Alaska Village Electric Cooperative. These are located in the communities of Toksook Bay on Nelson Island on the Eastern Bering Sea Coast, and Kasigluk which is 20 miles west of Bethel.

Toksook Bay (Alaska Village Electric Cooperative)
Three 100 kW Northern Power Systems Northwind 100 turbines were installed in 2006. This wind-diesel system also supplies power to nearby Tununak and Nightmute. This system is estimated to displace 52,000 gallons of diesel fuel per year. (AEA)

Kasigluk (Alaska Village Electric Cooperative)
Three 100 kW Northern Power Systems Northwind 100 turbines were installed in the summer of 2006. This wind-diesel system also supplies power to nearby Nunapitchuk and Old Kasigluk. This system is estimated to displace 52,000 gallons of diesel fuel per year. (AEA)

In recent years local utilities have become more interested in co-generation capabilities based upon the wind energy potential demonstrated by these projects. Four villages of the lower Kuskokwim River Bay area joined together under an organization called the Chaninik Wind Group whose aim is to develop wind generation capacity of the four villages in that area and reduce their dependence on fossil fuel generated electricity and heating. They are currently engaged in developing a wind development project to determine the feasibility of a subregional wind farm project to serve the four villages and will also determine the wind resource availability for expansion and possible build-out to other parts of the region. The Chaninik Wind Group received a $4.8 milion state grant in 2008 to pursue these efforts.

Regional Hydroelectric Power

It has been estimated from previous studies conducted involving a potential Kuskokwim region Hydroelectric project that approximately 16 to 30 megawatts of power and roughly 130 million kwh of energy may be available for Bethel and the 12 villages from Tuluksak to Quinhagak located along the Kuskokwim River. This project has the potential of replacing diesel as the primary source of energy in this region. Reconnaissance studies conducted for the Alaska Power Authority of this project demonstrated energy costs of 18¢ per kwh as opposed to 30¢ per kwh for continued diesel generation with a medium interest rate of 7%. In today's dollars that could equate to approximately 23¢ per kwh as opposed to 38¢ per kwh based upon conservative estimates of inflation costs. 2007 PCE reports indicate costs of 40¢ per kwh to 60¢ per kwh without PCE adjustments for continued diesel power generation demonstrating greater potential savings per household. Additional savings to the state in the form of reduced PCE requirements provide added cost saving benefit to the state over the long term. Hydroelectric power in the Kuskokwim Region is a viable first alternative compared to wind and other renewable energy options. Wind energy systems installed in the region have proven to be expensive and can only provide a portion savings in diesel fuel costs. Diesel fuel costs are expected to remain high for the foreseeable future and the consistency of lower energy costs provided by a full capacity regional hydroelectric system offers a significant advantage over the long term for the region. This fact has been demonstrated by other successful regional hydroelectric projects constructed in Alaska during the past 30 years for other communities. Even more importantly, the project may allow communities to switch to partial electric heating and eliminate the use of very expensive heating fuel oil. The economic savings from this project will allow area residents to save more of their disposable income for other economic endeavors.

Hydrokinetic Electric Projects

As technology advances hydrokinetic power projects may offer some communities an alternative solution over wind and biomass. Certain locations at or near the conjunctions of rivers and sloughs where water depths and currents create year-round ice-free or minimal ice flows may offer potential sites for hydrokinetic generators without the construction of a dam. This would involve a commercial hydrokinetic turbine, which harnesses the power from moving water. This technology is being tested in other river locations with oversight provided by FERC.

Biomass

Biomass resources are available in the AVCP Calista Region and include wood, plant and to some extent fish waste, other organic matter, or gasses from the decomposition of that matter. Currently there are no biomass fuels utilized for generation of electricity, commercial heat and transportation. Wood fired heaters and stoves are used in many homes throughout the region as a main source of heating. Wood fired steambaths

exist in most every village in the region. Approximately 36% of heating is with wood in the region.

Woody Biomass

A 2006 University of Alaska Cooperative Extension Service study for the Kuskokwim Native Association determined nearly 23 million ft3 commercial stands of spruce and 22.7 million ft3 of non-commercial stands for a total 44.6 million ft3 grow in the Lower Kuskokwim. The study shows that it increases 1.3 percent annually. A similar analysis would be appropriate for the lower Yukon area communities to determine available woody biomass.

The Alaska Energy Authority's Biomass Energy Program provides practical working community scale working examples in other parts of Alaska that are applicable to the region, particularly in the middle Kuskokwim and lower Yukon parts of the region. The City of Craig's Gasification Heater System and wood fired heating systems in the interior Alaska for community facilities provide examples for project deployment. The "Fuel for Schools" program employed in the lower 48 states also provides a working program model for local school districts to plan and develop their own community heating replacement project.

Community or business wood chipper development to supply wood chips for wood fired community heating and home wood fired heating systems offers a viable economical development option for the AVCP Calista Region. There are a variety of low cost equipment and options that are available for community or business development considerations.

Fish Oil and Bio Diesel

The feasibility of producing by-product fish oil from shore-based and floating salmon processors on the Kuskokwim and Lower Yukon from as a byproduct of fish processing plants should be determined. This oil can be utilized as boiler fuel. AEA conducted successful tests of raw fish oil/diesel blends in a 2.2 MW 2-cycle Fairbanks Morse engine generator using 50-50 raw fish oil-diesel blend for power production.

Biodiesel is an engine fuel manufactured from renewable sources, such as vegetable oils, recycled cooking greases or oils, or animal fats. Biodiesel is a U.S. EPA-approved substitute manufactured to established industry standards. Currently AEA is working with University of Alaska Fairbanks ' (UAF's) Arctic Energy Technology Development Laboratory, Alaska Department of Environmental Conservation, and the National Park Service to test performance of biodiesel in generators at UAF and Denali National Park. The team has produced a brochure describing the project.

Municipal Waste

Solid wastes offer potential for providing additional local heating of public facilities. Waste heat energy should be incorporated into each community biomass wood energy project to determine feasibility for combined operations.

"Alaskans generate approximately 650,000 tons of garbage per year. Currently there is no large scale recovery of energy from burning unsorted garbage in Alaska. The Sitka Waste-to-Energy facility operated from 1985 to 2000 and provided heat to nearby Sheldon-Jackson College. Fairbanks Memorial Hospital operated a small onsite heat recovery incinerator from 1989 to 2001..." (Alaska Energy Authority website)

Geothermal

Geothermal resources include high-temperature (100 degrees Celsius or 212 degrees Fahrenheit and higher) for electricity generation, intermediate temperature (100 - 50 degrees C) for industrial, agricultural and municipal applications and low temperature heat pump applications. There is one potential site near Mount Hamilton on Ophir Creek southwest of Aniak, and another small site in the upper Chuilnuk River with the closest village at Stony River. The site on Ophir Creek has potential for producing between 200 and 300 degrees of heat. Water from the Ophir Creek Hot Springs is currently utilized by a local family at a nearby residence.

Solar

Solar energy presents a challenging renewable resource for development in the region. Annual average solar insolation is calculated at 3.5 to 4.0 kWh/m^2/day. There is one active solar power generation system in the region located at Lime Village, where a 106 panel hybrid photovoltaic-diesel-battery system is generating 12 kW. Larger community utility scale solar generation hybrid projects are determined to have high capital costs and low yearly solar output. However, in locations where individual homeowners and facilities are located off the power grid and where relatively electricity needs are lower, solar hybrid systems may prove to be a viable option as shown by the Lime Village example. Solar panels may cost less over time and photovoltaic systems for small power uses would become more economical as fuel prices and cost of fossil-fueled electricity increase.

There are three primary ways in which solar energy is collected: directly for light and heat; by heating water in piped water designed solar panel collectors; and to generate electricity using photovoltaic panels. There are a wide variety of solar energy technologies, each with their own market constraints and costs. Solar energy used directly in homes and facilities for light and heat can help reduce energy needs if buildings are designed properly and effective technologies are employed.

It has been shown that facility and home life-cycle cost can be lower than conventional energy sources if solar is installed when the building is constructed. A determination should be made for new housing and facility construction as to the level of solar energy that can be employed in each construction for lighting and heating. As technologies continue to improve, state incentives need to be developed to promote local investment in solar energy as part of a renewable energy system. Solar photovoltaics (PV) generate electricity directly from sunshine. Solar electric systems have minimal maintenance requirements, have power warrantees in excess of 25 years and in many locations can directly interface with the utility grid. As the world market for solar electric power increases, the manufacturing cost is expected to fall substantially.

Alaska Energy Authority Renewable Energy Grants Round I

AVCP Calista Region Projects Funded in Round I

Project Name	Project_Cost	Grant_Fund_Request
Bethel Wind Power x 4	$3,197,986	$2,598,320
Hooper Bay Wind Farm Construction	$2,220,141	$2,220,141
Kongiganak Wind Farm Construction	$3,200,000	$1,700,000
Kwigillingok Wind Farm Construction	$3,200,000	$1,700,000
Mekoryuk Wind Farm Construction	$3,506,406	$3,155,765
Quinhagak Wind Farm Construction	$4,313,603	$3,882,243
Toksook Bay Wind Farm Expansion Construction	$1,153,056	$1,037,750
TOTALS	**$20,791,192**	**$16,294,219**

AVCP Calista Region Projects not Funded in Round I

Project Name	Project_Cost	Grant_Fund_Request
Bethel Wind Farm Construction (BNC land)	$8,710,000	$6,960,000
Napaimute Solar PV Construction	$123,494	$109,471
Napaskiak Wind Farm Feasibility Study		

AVCP Calista Region Project not Forwarded to State II Review

Project Name	Project_Cost	Grant_Fund_Request
Crooked Creek Renewable Energy Reconnaissance Study	$178,000	$137,543

Alaska Energy Authority Renewable Energy Grants Round II

Project_Name	Project_Cost	Grant_Fund_Request
Akiachak Wind_ANCEC	$600,000	$4,500,000
Akiachak Wind_ANCEC	$600,000	$4,500,000
Akiak Wind		$200,000
Emmonak Wind and Transmission_AVEC	$1,062,818	$10,733,179
Scammon Bay Wind Analysis_AVEC	$6,190	$4,436,800
St. Mary's Wind Analysis_AVEC	$5,500	$6,310,000
Mountain Village Wind_City and Tribe	$11,155	$133,255
Kiseralik_Chikuminuk Hydro_AVCP	$150,000	$400,000
Bethel Wind Power x4_City of Bethel	$599,666	$3,197,986
Crooked Creek Hydro Kinetic		$368,000
High Penetration Wind Diesel Heat_Kipnuk	$1,600,000	$10,188,000
Kotlik Pellet Stove_KYE	$50,000	$626,400
Orutsaramiut Native Council	$771,900	$70,200
Tuntutuliak High Penetration Wind Diesel	$1,600,000	$3,360,000

AVCP Calista Regional Energy

Calista

NORTHSTAR GAS
Native Owned Petroleum Retailer

YKHC

AVEC
ALASKA VILLAGE ELECTRIC COOPERATIVE

Middle Kuskokwim Electric Cooperative

Chaninik Wind Group

Kwethluk Power House

Introduction

The AVCP CALISTA Regional Biennial
ergy Plan is the work and the progress of
AVCP Calista Regional Leadership to:

- velop and adopt a long term energy policy
  ustainable energy
- collectively and combine our resources
- fying conventional and non-conventional
  able energy development
- strategies for funding and deployments
  ls

Regional Leadership

- Executive officers, board members, staff of the major regional organizations, local governments, ilities and the business community.
- e Leadership is using the Nuvista Light and ctric Cooperative on the Biennial Energy Plan.
- Nuvista Light and Electric Cooperative, Inc. a nal wholesale utility formed by Calista ration and currently administered by the iation of Village Council Presidents.

Energy Planning Participants

...en Paukan, Nuvista Chairman, AVCP Board, Algaaciq Tribe
... George Guy, Nuvista Vice-Chairman, Calista Board, Kwethluk
... Power Company and Kwethluk Inc.
... S. Heckman Sr., Nuvista Secretary, Calista Board, Pilot
...tion Village Corporation
...aska, Nuvista Treasurer, AVCP Board, Atmautluak Tribe
...en, Nuvista Board, AVCP Board, Akiak Tribe
...yulie, Nuvista Board, Calista Board
...ng, AVCP President
..., AVCP Regional Housing Authority CEO
...AVCP Regional Housing Authority Board Chairman
...re, City of Emmonak
...k, Chaninik Wind Group Chairman
...i, Calista Corp., President & CEO
...alista Corp., General Counsel
..., Donlin Creek, LLC, General Manager
...aska Village Electric Cooperative, VP
...ner, Middle Kuskokwim Electric Cooperative, CEO
...kon Kuskokwim Health Corporation, CEO

1300

Task Force and Committees

- *stern Alaska Fuel Task Force*
- *ir - Meera Kohler, AVEC*
- *Brown, Northstar Gas*
- *clntyre, YKHC*
- *an, Akiak TC*
- *yulie, Calista Corporation*
- *Yukon Delta Fisheries Development Association*
- *AVCP Regional Housing*

- *ittee*
- *Sparck, AVCP*
- *orth Star Gas*

- *CP Regional Housing Authority*
- *EC*
- *in Creek LLC Biennial Energy Plan*

- *mmittee*
- *t, City of Bethel*
- *aninik Wind Group*

Goals and Deployment Objectives

- *nergy Security and Economic Stability*
  - *evelop integrated energy solutions that meet cal energy requirements and economic elopment needs*
- *Parity and Stability*
  - *lish statewide energy cost parity to make heating affordable and equitable*
- *eneration and Transmission*
  - *an All Alaskan Generation and ission Utility to save energy dollars and electricity rates across All Alaska*

als and Deployment Objectives

rated Renewable Energy Solutions

- Wind Energy Projects along the eastern Bering Sea nd the Bethel area
  - termine feasibility for integrated nd/diesel/solar/biomass heating and electric systems with mmunity heat storage system.
- feasibility of Regional Hydroelectric Project (Lake k) to provide region-wide electricity and heat.
- install Biomass projects: including wood fired ers and wood chippers for community facilities s.

Goals and Deployment Objectives

- askan G&T Utility
- s ownership of G&T Assets across Alaska
- costs are pooled and power bought back
- ge-stamp rate or a 2 tier rate (utilities
- their costs and sell it to customers)
- ange from 5¢ to 50¢ kWh
- ion costs range from 3¢ to 20¢ kWh
- rently costs $30 million per year
- ool electricity costs $20 million per year
- te rural offices pay $20 million per year

oals and Deployment Objectives

- oing to All Alaska G&T the state saves energy
  y to pay for a significant portion of major project
  nents thereby driving generation costs down to
  rates.
- lities can work together to reduce their delivered
  shared services and other methods.
- s are rates costing about 25¢ kWh and
  E unnecessary.
- d communities no longer have to compete
  ent grants as the AAG&T would build the
  enefit all Alaskans.
- s will no longer have to struggle with O&M.

Goals and Deployment Objectives

- ...solidate local individual utilities into Regional ...operative Utilities
  - ...Bethel and nearby 12 villages
  - ...oastal and Tundra villages

- ...ub-regional inter-ties and distribution ...s beginning with an inter-tie to connect ...ges of Alakanuk and Emmonak; and the ... of St. Mary's, Mountain Village and Pilot

Goals and Deployment Objectives

- ...el – Western Alaska Fuel Task Force
- ...duce fuel consumption in 2009 by 10%
  - Determine fuel users, consumption, and storage ...acity of each community (utility, schools, village ...orations, local organizations, tribal council)
  - Link villages/users together under cooperative ...ase agreements
- ...anges to State and Federal Fuel
- ... Education Outreach

Goals and Deployment Objectives

ewide heating fuel price parity capped at $3 per lon (Sept. 1 through March 31) to reduce the of heating for all Alaska residents

Formula (delivered fuel cost above $3.00 X total allons for number of households served) not cluding O&M, overhead cost, etc.

l Price Parity set only when price of oil per barrel ults in delivered cost of fuel above $3.00 per on (note: in 2009 most communities delivered s are under $3.00 per gallon)

Alaska State Legislative Priorities for 2010

- atewide G&T utility to include Rural, theast and Railbelt
- duce statewide heating fuel price parity tion to cap at $3 per gallon mber 1 through March 31) for all residents
- mula (delivered cost above $3.00 X total ons for number of households served) not ding O&M, overhead cost, etc.

Alaska Energy Authority Renewable Energy Grants Round I

	Cost	Grant
nd Power x 4	$3,197,986	$2,598,320
y Wind Farm	$2,220,141	$2,220,141
Wind Farm	$3,200,000	$1,700,000
Wind Farm	$3,200,000	$1,700,000
nd Farm	$3,506,406	$3,155,765
nd Farm	$4,313,603	$3,882,243
Vind Farm	$1,153,056	$1,037,750
	$20,791,192	$16,294,219

AEA Grants Round II - pending

	Cost	Grant
Wind ANCEC	$600,000	$4,500,000
	$200,000	
ind & Transmission AVEC	$1,062,818	$10,733,179
Wind Analysis AVEC	$6,190	$4,436,800
Analysis AVEC	$5,500	$6,310,000
Wind City and Tribe	$11,155	$133,255
Hydro AVCP	$150,000	$400,000
x4	$599,666	$3,197,986
ro Kinetic		$368,000
Heat	$1,600,000	$10,188,000
YE	$50,000	$626,400
Council	$771,900	$70,200
sel	$1,600,000	$3,360,000

American Recovery & Reinvestment Act

- E Energy Efficiency and Conservation Block
  t: tribes receive 2% set-aside of $2.8 billion.
- Renewable Energy Bonds: One-third of the
  ed amount is available to tribes.
- Energy Conservation Bonds: allocations
  s local governments.
- rt for tribal Smart Grid Demonstration

- 0 Alaska Weatherization Assistance
  d $28,232,000 for the State Energy
  rrently declined by Governor Palin)

DoE Energy Efficiency and Conservation Block Grants

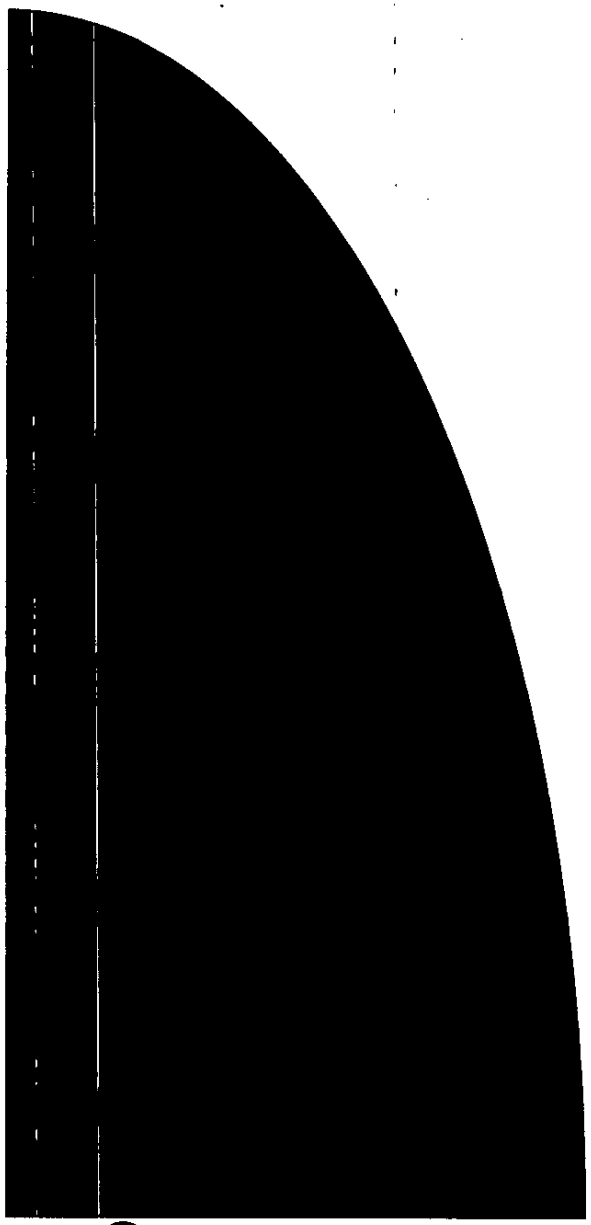
ount of funding for each Tribe will be based on a
o be published in the Federal Register.

to the $56 million EECBG tribal set-aside funds,
ligible to receive awards on a competitive basis
,000 made available under the Act. These
unts include administrative, training, and
stance costs that will reduce available
ants by 1-2%.

am information is available at
re.energy.gov/wip/block_grants.cfm

2009 Omnibus Appropriation Act

- ppriations Act Provides Nearly $2 Billion in New
  ling to DoE Energy Efficiency & Renewable Energy
- million for biomass energy;
- illion for solar energy
- on for concentrating solar power
- n for wind energy
- for "water power," which includes both
  al hydropower and tidal and marine
  s.
- e development activities, and other
  ctivities also received funding increases
  propriations act.



Quyana Cakneq

NORTHSTAR GAS
Native Owned Petroleum Retailer

Fuel Costs to Rural Alaska

- **Fuel prices in every community are made up from 3 components**
- 1 – Market pricing (OPIS & Platt's & Anchorage Jet) on the day the fuel is lifted from the refinery
- 2 – Transportation Costs – Transportation cost vary by location (Lower, Middle, Upper Kuskokwim).
- 3 –OH&M & Community Profit Margin – Landed cost of fuel plus overhead & maintance plus a % profit margin. Each community's OH&M plus the % of profit margin varies and this is why you see the varied prices in neighboring communities.

Product	Applicable Index:	Price
Diesel Fuel #1	Platt's LA Jet	1.4009
Diesel Fuel #2	OPIS SEA DF 2 ULS	1.5891
Unleaded Gas	OPIS SEA UNL Gross	1.6678
AV100LL	Chevron ANC Rack	2.5999
Village Differential		1.172

- All Prices shown include Fed, State Taxes
- QTY (GAL) 50,000 - 99,999 DF#1 - 2.8678 HF#1 – 2.6248 #2 – 2.6248 UNL Gas – 3.0747 AV 100 – 4.0168

  100,000 DF#1 – 2.8178 HF#1 – 2.5748 #2 – 3.0060 UNL Gas – 3.0247 AV 100 – 3.9668

NORTHSTAR GAS
Native Owned Petroleum Retailer

- Statewide heating fuel price parity capped at $3.00 per gallon (Sept. 1 – March 31)

- The reimbursement would take place at the Rural Community fuel distributor level.
- Formula (# of households * XXX gallons allowed per household * cost above the $3.00). Example 500 households * 500 gallons allowed per household = 250,000 total gallons allowed for reimbursement * .35 (3.35 delivered cost – 3.00 capp) = $87,500.00 to be reimbursed to the fuel distributor. Any fuel sold to households above the 500 gallons would be priced at fair market value.

NORTHSTAR GAS
Native Owned Petroleum Retailer

	Coast		L Kusko		M Kusko		U Kusko		Yukon	
	HF Spring	HF Fall	HF Spring	HF Fall	HF Spring	HF Fall	HF Spring	HF Fall	HF Spring	HF Fall
2004	2.0076	1.9455	2.0076	1.9455	2.0876	2.0255	2.1476	2.0855	2.0076	1.9455
2005	2.4000	2.6700	2.4000	2.6700	2.4800	2.7500	2.5400	2.8100	2.4000	2.6700
2006	3.1150	3.2930	3.1150	3.2930	3.1950	3.3730	3.2550	3.4330	3.1150	3.2930
2007	2.9070	2.9210	2.9070	2.9210	2.9890	3.0030	3.0510	3.0650	2.9080	2.9220
2008	4.8920	3.8960	4.8920	3.9860	4.9740	4.0680	5.0350	4.1290	4.8920	3.9860
2009	$2.7122		$2.6997		$2.6722		3.4226		3.0726	

	Coast		L Kusko		M Kusko		U Kusko		Yukon	
	UL Spring	UL Fall	UL Spring	UL Fall	UL Spring	UL Fall	UL Spring	UL Fall	UL Spring	UL Fall
2004	2.4260	2.2090	2.4260	2.2090	2.5060	2.2890	2.5660	2.3490	2.4260	2.2090
2005	2.5770	2.8670	2.5770	2.8670	2.6570	2.9470	2.7170	3.0070	2.5770	2.8670
2006	3.3650	3.1430	3.3650	3.1430	3.4450	3.2230	3.6320	3.4100	3.3650	3.1430
2007	3.4600	2.9460	3.4600	2.9460	3.5420	3.0280	3.6040	3.0900	3.4600	2.9460
2008	4.2400	4.1200	4.2400	4.1200	4.3220	4.2020	4.3830	4.2640	4.2400	4.1200
2009	3.2636		3.2513		3.2738		3.7242		3.6242	

NORTHSTAR GAS

Native Owned Petroleum Retailer

Price Per Barrel	Delivered Cost	Price Per Gallon	Transportation
114.53	4.37	3.12	1.25
100.87	4.17	2.92	1.25
93.97	3.96	2.71	1.25
81.19	3.59	2.34	1.25
71.85	3.38	2.13	1.25
66.75	3.29	2.04	1.25
60.77	3.19	1.94	1.25
53.62	3.01	1.76	1.25
50.77	2.95	1.70	1.25
46.96	2.83	1.58	1.25
40.81	2.68	1.43	1.25
36.22	2.62	1.37	1.25

Example on Pricing Your Fuel

Operating Expenses

Wages		
Operator		
Rate/Hour $		10.00
Hours per Week	20	
Annual Wages (50 weeks) $	**10,000**	
Clerical		
Rate/Hour $	10.00	
Hours per Week	10	
Annual Wages (50 weeks) $		**5,000**
Administrator		
Rate/Hour $		15.00
Hours per Week	10	
Annual Wages (50 weeks) $		**7,500**
Total Wages $	**22,500**	
Taxes & Workers Comp $	2,250	
Equipment Rental $	2,000	
Phone $	500	
Electric $	3,000	
Interest (6.0%) $	7,736	
Office Rent $	4,800	
Prop & Liab Ins $	5,000	
RAFS Services $	5,000	
Maintenance $	2,500	
Facility Payments $	2,000	
Reserves $		5,000
Miscellaneous $	2,500	
Total Operating Expenses $		**64,786**

Gallon

Fuel Purchases

Gas			
	Gallons	20,000	
		Price Per Gallon	3.85
	Dollars	77,000	
HF#1			
	Gallons	30,000	
	Price Per Gallon		3.80
	Dollars	114,000	
Total Fuel Costs:			
		Gallons	**50,000**
	Dollars	**191,000**	

Operating Expenses per Gallon **1.30**

(Total Operating Expenses /Total Gallons) = 64,786 / 50,000

Sales:			
Gas			
	Gallons	20,000	
	Price**	5.15	= (3.85 + 1.30)
	Dollars	$ 103,000	
HF#1			
	Gallons	30,000	
		Price **	5.10
	Dollars	$153,000	
	Total Sales:		
	Gallons	**50,000**	
	Dollars	**$256,000**	

****Fuel Purchase Expense Plus Operating Expense per**

Sales – Fuel Costs = $256,000 - $191,000 = $65,000

NORTHSTAR GAS
Native Owned Petroleum Retailer

- Revision of AEA Loan Application:

- Make the AEA Loan Application valid for 5 years. This eliminates Rural Alaska Communities from having to fill out an 11 page application on an annual basis. This would also allow the letter of intent, promissory note, waiver of sovereign immunity resolution, borrowing resolution, bulk fuel facilities questionnaire, fuel tank farm information sheet to be valid for the life of the application (5yrs). Due to seasonal activities, participation in community meetings to get approval and signatures have been proven to be difficult and holds up the whole loan process.

- On an annual basis, the Rural Alaska Communities would be responsible for filling out a 2 page Bulk Fuel Loan Agreement.

- Allow approval of the AEA Loan Application from a faxed copy rather than waiting for the original Application to arrive in the US Mail. This would expedite the application process. Funds would only be released upon receipt of the Original Signed Application.

- The loan approval process would be based on prior years payment history. If a community is late in payment or has a questionable history, their 5 year loan approval would be revoked and an annual application would need to be filled out until the communities history improves.

- If a loan is approved based on payment history but the community still has one or two months of payments due, the approved funds would not be released until the final prior years loan payment is received. The written approval letter would allow the community to become a credit worthy customer rather than a risk.

PUT ON LETTERHEAD

Testimony to the Special Committee on Energy
By
Myron P. Naneng, Sr., President

May 29, 2009

About the YK and Advocacy
On behalf of our 56 federally recognized Tribes, I would like to welcome you all to Bethel, the hub of the Yukon Kuskokwim Delta. We tried this gathering before in February when the darkness, snow and cold was still prevalent and would help us better illustrate energy efficiencies our part of the State needs. Nevertheless, we are glad to have you here.

My name is Myron Naneng, I am the President of this region's non-profit corporation. We are pleased to have this Committee formed in response to the Energy Crisis a large part of the State experiences. Quyana, thanks to Representative Co-Chairs, Charisse Millett and Bryce Edgmon for hosting this hearing, and for bringing such an important Legislative presence to parts not traditionally visited in the course of your duties representing your own districts.

We'd also like to thank the Speaker of the House, Mike Chenault and Rules Chairman, John Coghill for joining the other Committee members to hear directly from Rural Alaska on our lack of energy infrastructure, consumption, needs, challenges and long-term plans. Senator Lyman Hoffman has long represented our interests for the greater parts of Rural Alaska, and we are glad to have Representative Bob Herron join him in Juneau.

We continue to present our position in seeking appropriate and adequate energy relief for rural regions of this great state outside the railbelt, natural gas, hydro-electric and road-system.

AVCP recognizes the many attempts the State Legislature has made to address the rural energy crisis as it loomed in the last session, as well as in the first few weeks of the 26th Legislature. We have presented supporting comments to many pieces of legislation like SB 88 (extending the PCE program), 91 (a fuel cap subsidy); 114 (utilizing State transportation resources for compassionate aid to Yukon villages) 115 and 116 (to authorize and appropriate funds for emergency energy relief) and most recently, for the $28.6 million in federal stimulus money for weatherization and renewable energy projects that the Governor has rejected.

I want to make it perfectly clear, that we did not want to advocate for costly emergency legislation this winter. Last summer, we wanted very much to be proactive in addressing

the high fuel costs most of our villages had to lock-in at in order to service their communities when oil was going for over $140 a barrel. What may have been good for State coffers was ironically a debt sentence for our village households, corporations and services. SB 4002 attempted to address our concerns in a comprehensive and long-term manner that were trumped by the well-intentioned but badly formulated energy rebate. However, we are grateful for the far-sighted benefits that a fully funded Renewable Energy Grant program authorized under the Alaska Energy Authority (AEA) beyond the first $100 million in FY2009 would provide for areas such as ours.

When oil prices plummeted, the State went through a very serious budget shortfall and fears of a monumental deficit – that affected intended state capital projects and other appropriated mandates. Since mid-January, the price of Alaska North Slope crude oil has rebounded by a third, bringing money back into the state treasury through taxes and royalties.

Petroleum Dependency at the YK Level and living in Disaster Mode

Because we are roadless, all of our villages have to import fuel by barge or by air in emergencies. In most cases, we have no choice but to sign no-fault contracts with fuel vendors if weather or acts of god prevent a scheduled delivery. Some of our villages, with human resources turnover or other constraints, are unable to make their fuel orders in concordance to State programs such as the bulk fuel loan in time to lock in at more agreeable rates. Factors such as these aggravate the already challenging nature of providing light and heat to our communities with little or no energy infrastructure.

There have always been constantly expressed concerns by some of your colleagues within the Senate and your House counterpart that the subsidy in SB 88 creates an unending entitlement program, that it is an insufficient one-size-fits-all solution to an enduring program. Truthfully, it could be that way should the commercial fisheries continue to collapse; however, the circumstances that brought about this particular energy crisis are unusual. The price of oil topping over $100 a barrel, the commercial salmon fishery on either river no good, but catastrophic on the Lower Yukon, the early freeze-up and particularly hard winter has sopped up whatever energy program and cash most families need for our sub-arctic winters. Because of the poor fishing season, the cash usually generated by that commercial practice was not there to outfit seal, small whale or moose hunting and gathering expeditions that make up most of our winter sustenance.

Frankly, this winter's river break-ups and flooding that finally prompted a Governor Declared Disaster also heavily exacerbates our region's economy. By the time the National Weather Service called off its flood warning for Emmonak and other Lower Yukon River villages Tuesday, May 26, breakup flooding had soaked a total of roughly 40 communities along more than 3,000 miles of rivers, according to the state. There is no limit to how much federal money Alaska can get in disaster funding and the state is still assessing the damages on both rivers even after the letter requesting aid has gone out to President Obama. Even with a cap on how much a single family can receive at $30,300, it is rare for families to get the maximum amount allowed.

We appreciate the state authorized spending up to $2.5 million on the emergency response to the floods to cover things like delivering food, testing water and travel, but we hope that a coordinated response with the federal government and tribal organizations such as AVCP, the Housing Authority and the Health Corporation will maximize the benefits of the effort and provide for smart, lasting and sustainable results.

Rebuilding with State Renewable Energy Program, ARAA and Emergency Funds
With continued and full funding by the Legislature of the Renewable Energy Fund coupled with federal stimulus infrastructure and emergency disaster funds, we may be looking at a reality where accessible energy sources come to fruition in a matter of years, rather than a matter of decades. With affordable energy at the village level, a failed fishing season would not break us as badly as this hard winter has shown and break-up and flooding will.

When arguments on fairness and equality are thrown around, keep in mind, that families with mid-range incomes who live in Anchorage were projected to spend about 3% of their income on energy costs (based on May prices) and that figure increases to about 5% of your income if you live in other cities or towns on Alaska's road system.

Mid-income households in remote villages (places you can only reach by water or plane) were expected to spend about 11% of the paycheck on energy because we rely on diesel fuel, while the majority of Anchorage families use natural gas.

ISER estimates that the median annual cost of power and heating for an Anchorage family is about $2,400, compared to about $4,100 for midsize towns and cities and **$6,600 for remote rural villages**. Enclosed is a worksheet on the fuel prices at each of our villages, you can see that the lowest price for stove oil is published at $5.45 per gallon with no tax. The highest is listed as $8.10 in Kwethluk. Gas is offered at its lowest in Tununak at $5.43 and at its highest in Kotlik at $8.55 a gallon.

AVCP provides direct assistance to many families in our member villages that include a Housing Improvement Program, TANF and LIHEAP to name a few. Last year we assisted 1,846 households with energy assistance, and we anticipate the same number if not more appeals for the remainder of this season.

Much publicity has gone out on our energy crunch affecting our Subsistence hunting capabilities and our pantries. The food we traditionally obtain through fishing and hunting usually stock our winter supply and commodities from the stores usually supplement our diet. Because so many families could not afford to outfit hunting expeditions, and Subsistence fishing was disastrous, there are instances of people going cold and hungry each month in this colder than normal winter. I am also providing an inventory of Bethel prices for food, and you can see how expensive it is to stock your pantry and refrigerator with healthy and nutritious foods for our households. A box of corn flakes goes for $8.49, goldfish crackers for $13.99, a bag of carrots go for $12.99, a case of corn is $29.88, one case of Apple Juice is $74.16 and a case of Tuna goes for

$90.72. The staples alone can break a whole month's budget, we aren't even talking about a well rounded shopping list for nutritious meals.

On a related matter, there has been a lot of discussion among regional and tribal entities about heating and lighting village dependent offices that are necessary for operations to the community. When Governor Palin said in her Energy Plan press conference that she had tried to, but failed, to get a hold of people in Emmonak in response to a private citizens appeal for help in the Bristol Bay Times, we were confused as to whom she tried to communicate with. . .the people of Emmonak from the Mayor's office, the tribal council and Nick Tucker all said an hour before in our joint Agency teleconference that their calls were never answered in the Governor's office.

It turns out that whatever attempts the Governor's office made - was communicating to a shuttered City Office, because the village couldn't afford to keep the building operational more than one week out of the month. All other entities were operational, all of them frantically calling out for help with the State.

We tried to do this proactively, in public statements and resolutions. We warned that the $1,200 rebate would not adequately address the remote / rural fuel needs - and with the taxes due from as little as $90 to over $300 per person, we will continue to see pain in affected households this year. If we had access to affordable energy sources, all the factors we laid out for you would not have hurt us so badly this winter.

Senator Hoffman's call for the state to make up the difference in the instance where an Alaskan has to pay more than $3 a gallon for residential heating fuel up to 600 gallons purchased per residence from September through March, in addition to SB 88's extension of the PCE program, will continue to go a long way to keeping our homes heated, and saving our families from deciding between freezing or going hungry next winter.

But what we truly seek, and I think you lawmakers from other parts of the State agree, is a long-term solution to our energy needs. You being here is a very serious attempt to address these needs, and seeking solutions to curbing energy consumption, maximizing bulk fuel purchases and creating greater efficiencies with supplemental / alternative energy sources will help make village life more economical and feasible. Once we can provide affordable energy sources in our communities, the potential to diversify and establish new industry and economy is possible, and we want to see that for our villages and our youth. The answer is not to continue to export our workforce to the North Slope or other points beyond our geographical border, industry and economy can happen out here as long as the State invests in us and allows us to explore responsible and reasonable development that has appropriate energy sources to support it. I would think that what is good for Rural Alaska, is good for the whole of Alaska, and I think you share that sentiment with us.

I'd like to Introduce the work we've been doing with all our regional non-profit and for-profit organizations on energy. Over the last year we've been working together in developing a regional energy plan which our tribes adopted last fall.

The AVCP CALISTA Regional Biennial Energy Plan is the work and the progress of the AVCP Calista Regional Leadership to:

- ◆develop and adopt a long term energy policy for sustainable energy
- ◆work collectively and combine our resources
- ◆identifying conventional and non-conventional renewable energy development
- ◆identify strategies for funding and deployments methods

Regional Leadership of the AVCP Calista Regional Energy Plan includes:

- ▪Executive officers, board members, staff of the major regional organizations, local governments, utilities and the business community.
- ▪The Leadership is using the Nuvista Light and Electric Cooperative on the Biennial Energy Plan.
- ▪The Nuvista Light and Electric Cooperative, Inc. a regional wholesale utility formed by Calista Corporation and currently administered by the Association of Village Council Presidents.

Energy Planning Participants **included**

- ▪***Sven Paukan, Nuvista Chairman, AVCP Board, Algaaciq Tribe***
- ▪***Paul George Guy, Nuvista Vice-Chairman, Calista Board, Kwethluk Power Company and Kwethluk Inc.***
- ▪***Arthur S. Heckman Sr., Nuvista Secretary, Calista Board, Pilot Station Village Corporation***
- ▪***Daniel Waska, Nuvista Treasurer, AVCP Board, Atmautluak Tribe***
- ▪***Moses Owen, Nuvista Board, AVCP Board, Akiak Tribe***
- ▪***Willie Kasayulie, Nuvista Board, Calista Board***
- ▪***Myron Naneng, AVCP President***
- ▪***Ron Hoffman, AVCP Regional Housing Authority CEO***
- ▪***Robert Nick, AVCP Regional Housing Authority Board Chairman***
- ▪***Martin B. Moore, City of Emmonak***
- ▪***William Igkurak, Chaninik Wind Group Chairman***
- ▪***Matthew Nicolai, Calista Corp., President & CEO***
- ▪***Andrew Guy, Calista Corp., General Counsel***
- ▪***Doug Nicholson, Donlin Creek, LLC, General Manager***
- ▪***Brent Petrie, Alaska Village Electric Cooperative, VP***
- ▪***Ernie Baumgartner, Middle Kuskokwim Electric Cooperative, CEO***
- ▪***Gene Peltola, Yukon Kuskokwim Health Corporation, CEO***

Task Force and Committees formed during the planning process included:

Western Alaska Fuel Task Force

- ◆***Chair - Meera Kohler, AVEC***
- ◆***Elaine Brown, Northstar Gas***
- ◆***Greg McIntyre, YKHC***
- ◆***Ivan M. Ivan, Akiak TC***
- ◆***Willie Kasayulie, Calista Corporation***
- ◆***Deborah Vo, Yukon Delta Fisheries Development Association***

- *Allen Joseph, AVCP Regional Housing*

Legislative Committee
- *Chair- Michelle Sparck, AVCP*
- *Elaine Brown, North Star Gas*
- *Rep. Bob Herron*
- *Allen Joseph, AVCP Regional Housing Authority*
- *Meera Kohler, AVEC*
- *Mary Nelson, Donlin Creek LLC Biennial Energy Plan*

Renewable Energy Committee
- *Chair - John Sargent, City of Bethel*
- *William Igkurak, Chaninik Wind Group*
- *Brent Petrie, AVEC*

Goals and Deployment Objectives **we've developed included:**

Energy Security and Economic Stability
- *Develop integrated energy solutions that meet local energy requirements and economic development needs*

Energy Parity and Stability
- *Establish statewide energy cost parity to make home heating affordable and equitable*

Energy Generation and Transmission
- *Pursue an All Alaskan Generation and Transmission Utility to save energy dollars and reduce electricity rates across All Alaska*

Quyana, thank you for coming here today, and we look forward to continuing to be of assistance to the Alaska Legislature on these issues.

AVCP Calista Region's Energy Costs

Testimony of Felix Hess
Calista Corporation, Board Secretary
Before the Alaska Legislative House Special Committee on Energy
Bethel, Alaska
May 29, 2009

Fuel Price and Electricity

Prices for residential heating oil, regular gasoline increased well over 100% since 2007 in many of the regions villages (prices without taxes). The AVCP Calista region's prices have followed national trends and will continue to be linked to world oil prices. Delivered prices in spring 2008 rose to $8.00 gallon for home heating fuel throughout the region.

Electric utility rates are higher as 2009 begins, between 53¢ and 65¢ per kWh, and electric bills have been averaging around $342 to $360 per month in villages of the region. Usage has been anywhere around 530kWh to 750kWh per household. Increases in the electric rates have been reflective of higher delivered fuel costs in recent years and the PCE program has been significant in every community in helping to make electricity affordable to families in the region.

Fuel costs have been going up between $6.00 and $8.00 per gallon. Recently in the village of Emmonak fuel had to be flown in at a cost near $10.00 per gallon when local storage ran out. Energy costs take up a significant portion of family disposable income, which in recent months is estimated 60% to 70% due to price hikes.

Any further increases in fuel costs and electric rates will have the effect of making fuel and electricity unaffordable. Recent studies that were conducted in the region (Nuvista Light and Power 2002 and 2004 Energy Studies) have shown that lower income residents devote higher amounts of their disposable income to energy and use less.

Unemployment rates are currently between 16.6 and 22.8 for the Bethel and Wade Hampton Census districts respectively. However, the jobless rate is even more significant and relevant indicator of the economic condition in the region. The rate is 38.5% and 43.3% for the Bethel and Wade Hampton census districts. Total income in 2007 for the Bethel census

district was $431.4 million and $124.8 million which provided a median income of $45,200 and average monthly income about $2,700 for the Bethel census district; and $36,600 median income and $1,750 average monthly for the Wade Hampton census district.

2008 Kuskokwim Salmon Fishery

A total of 494,108 salmon was harvested in 2008 in the Kuskokwim area by 462 permit holders for an estimated ex-vessel value of $1,487,111. This provides an exvessel value of $3,219 per permit holder. (2008 ADF&G Kuskokwim River Salmon Fishery Report)

2008 Yukon Commercial Fishery Summary

A total 312,513 salmon were commercially harvested in the Lower Yukon in 2008. A total of 444 permit holders fished in the Lower Yukon area for a total of $1,363,746 in ex-vessel earnings from the 2008 commercial fishery. This provides an exvessel value of $3,071 per permit holder. (ADF&G 2008 Annual Yukon Salmon Fishery Report)

Both higher fuel costs and increases to electric rates also have the effect of making other local goods and services unaffordable. This has been demonstrated since the fall of 2008 with the onset of winter and freezing temperatures. Because of low income and higher energy costs, there were numerous families in the region that were unable to afford fuel, electricity and food items from the local store. This humanitarian crisis surfaced in numerous news media and generated food drives and donations to villages in the Yukon delta. This is an indicator that populations throughout the region are vulnerable, local economies are fragile and susceptible to further fuel and price and electric rate increases.

Goals and Deployment Objectives

Calista Corporation concurs with the goals and deployment objectives developed for energy sustainability and economic viability in the AVCP Calista Region.

Energy Security and Economic Stability

- *Develop integrated energy solutions that meet local energy requirements and economic development needs*

Energy Parity and Stability

- *Establish statewide energy cost parity to make home heating affordable and equitable*

Calista also firmly supports the concept of an All Alaska Energy Generation and Transmission Utility to bring together all the energy needs of rural and

urban Alaska and bring the costs of e3nergy down to an affordable rate for all Alaskans.

We agree that we need to seek Integrated Renewable Energy Solutions and desire to expand Wind Energy Projects along the eastern Bering Sea Coast and the Bethel area. Including, determine feasibility for integrated wind/diesel/solar/biomass heating and electric systems with community heat storage system.

For the villages in the vicinity of Bethel it is vital that hydroelectric power be determined. In that light we support a determination of feasibility for a Regional Hydroelectric Project such as at Lake Chikuminuk to provide region-wide electricity and heat.

We want to see the development and installation of Biomass projects in those communities where it is appropriate: including wood fired boilers, heaters and wood chippers for community facilities and buildings.

So for the upcoming Alaska State Legislative Session, our Legislative Priorities for 2010 include:

- *Statewide G&T utility to include Rural, Southeast and Railbelt*
- *Introduce statewide heating fuel price parity legislation to cap at $3 per gallon (September 1 through March 31) for all Alaska residents*
    - *Formula (delivered cost above $3.00 X total gallons for number of households served) not including O&M, overhead cost, etc.*

Concerning federal funding, we seek the legislature support and assistance to make sure that as much of the assistance directed to energy in rural Alaska be applied for and acquired. These include:

American Recovery & Reinvestment Act

- DoE Energy Efficiency and Conservation Block Grant: tribes receive 2% set-aside of $2.8 billion.
- Clean Renewable Energy Bonds: One-third of the authorized amount is available to tribes.
- Qualified Energy Conservation Bonds: allocations to tribes as local governments.
- DoE support for tribal Smart Grid Demonstration projects.
- $18,142,580 Alaska Weatherization Assistance Program and $28,232,000 for the State Energy Program (currently declined by Governor Palin) Calista Corporation, as with many other organizations are adamant in opposing the governor's position in denying these funds for rural Alaska.

DoE Energy Efficiency and Conservation Block Grants

- The amount of funding for each Tribe will be based on a formula to be published in the Federal Register.

- In addition to the $56 million EECBG tribal set-aside funds, tribes are eligible to receive awards on a competitive basis for $400,000,000 made available under the Act. These funding amounts include administrative, training, and technical assistance costs that will reduce available funding for grants by 1-2%.

2009 Omnibus Appropriation Act

- Appropriations Act Provides Nearly $2 Billion in New Funding to DoE Energy Efficiency & Renewable Energy
- $217 million for biomass energy;
- $175 million for solar energy
- $30 million for concentrating solar power
- $55 million for wind energy
- $40 million for "water power," which includes both conventional hydropower and tidal and marine technologies.
- Infrastructure development activities, and other supporting activities also received funding increases under the appropriations act.

In closing, we want to thank the Alaska Legislature's dedication and commitment to all Alaska in seeking a statewide energy solution to the energy crisis our people are facing and will continue to face if action is not taken. We look forward to working with each and everyone of you in developing a plan that can achieve our energy sustainability and economic viability.

Quyana Cakneq

NORTHSTAR GAS

Native Owned Petroleum Retailer

"Created to serve the people of Rural Alaska."

NorthStar Gas, LLC was formed in July of 1998 to grant Native ownership of a fuel company, primarily to deliver bulk fuel to Rural Alaskan Villages. As a Native Owned Petroleum Retailer, NSG manages a gas station in Bethel, deliver Heating Fuel and Unleaded Gasoline* in the Yukon Kuskokwim Delta Region and retails petroleum products in bulk, i.e. snowmachine oil, outboard motor oil.

The owners consist of 2 Regional Corporations and 16 Village Corporations

Regional Corporations

Calista Corporation
NANA Development

Village Corporations

Akiachak Enterprises – Akiachak
Askinuk Corporation – Scammon Bay
Atmautluak LTD. – Atmautluak
Azachorok, Inc. – Mountain Village
Chinuruk, Inc. – Nightmute
Choggiung Ltd. – Dillingham
Iqfijouaq, Inc. – Eek
Kasigluk, Inc. – Kasigluk
Kokarmiut Corp. – Akiak
Kwethluk, Inc. – Kwethluk
KWIK, Inc. – Kwigillingok
Napaskiak, Inc. – Napaskiak
Nunapitchuk, LTD. – Nunapitchuk
Qanirtuuq, Inc. – Quinhagak
Qemirtalek Coast Corp. – Kongiganak
The Kuskokwim Corporation

NORTHSTAR GAS
Native Owned Petroleum Retailer

Fuel Costs to Rural Alaska

Fuel prices in every community are made up from 3 components

1. Market pricing (OPIS & Platt's & Anchorage Jet) on the day the fuel is lifted from the refinery
2. Transportation Costs – Transportation cost vary by location (Lower, Middle, Upper Kuskokwim).
3. OH&M & Community Profit Margin – Landed cost of fuel plus overhead & maintenance plus a % profit margin. Each community's OH&M plus the % of profit margin varies and this is why you see the varied prices in neighboring communities.

Fuel Cost Example:

Product	Applicable Index	Price
• Diesel Fuel #1	Platt's LA Jet	1.4009
• Diesel Fuel #2	OPIS SEA DF 2 ULS	1.5891
• Unleaded Gas	OPIS SEA UNL Gross	1.6678
• AV100LL	Chevron ANC Rack	2.5999
• Village Differential	(Transportation)	1.172

- All Prices shown include Fed, State Taxes

50,000 - 99,999 GAL

DF#1 - 2.8678 HF#1 – 2.6248 #2 – 2.6248 UNL Gas – 3.0747 AV 100 – 4.0168

100,000 GAL

DF#1 – 2.8178 HF#1 – 2.5748 #2 – 3.0060 UNL Gas – 3.0247 AV 100 – 3.9668

NORTHSTAR GAS
Native Owned Petroleum Retailer

FUEL PRICE PARITY – HEATING FUEL

- Statewide heating fuel price parity capped at $3.00 per gallon (Sept. 1 – March 31)

- The reimbursement would take place at the Rural Community fuel distributor level.

- Formula (# of households X gallons allowed per household X cost above the $3.00). Example 500 households * 500 gallons allowed per household = 250,000 total gallons allowed for reimbursement * .35 (3.35 delivered cost – 3.00 cap) = $87,500.00 to be reimbursed to the fuel distributor. Any fuel sold to households above the 500 gallons would be priced at fair market value.

NORTHSTAR GAS
Native Owned Petroleum Retailer

	Coast		L Kusko		M Kusko		U Kusko		Yukon	
	HF Spring	HF Fall	HF Spring	HF Fall	HF Spring	HF Fall	HF Spring	HF Fall	HF Spring	HF Fall
2004	2.0076	1.9455	2.0076	1.9455	2.0876	2.0255	2.1476	2.0855	2.0076	1.9455
2005	2.4000	2.6700	2.4000	2.6700	2.4800	2.7500	2.5400	2.8100	2.4000	2.6700
2006	3.1150	3.2930	3.1150	3.2930	3.1950	3.3730	3.2550	3.4330	3.1150	3.2930
2007	2.9070	2.9210	2.9070	2.9210	2.9890	3.0030	3.0510	3.0650	2.9080	2.9220
2008	4.8920	3.8960	4.8920	3.9860	4.9740	4.0680	5.0350	4.1290	4.8920	3.9860
2009	$2.7122		$2.6997		$2.6722		3.4226		3.0726	

NORTHSTAR GAS
Native Owned Petroleum Retailer

	Coast		L Kusko		M Kusko		U Kusko		Yukon	
	UL Spring	UL Fall	UL Spring	UL Fall	UL Spring	UL Fall	UL Spring	UL Fall	UL Spring	UL Fall
2004	2.4260	2.2090	2.4260	2.2090	2.5060	2.2890	2.5660	2.3490	2.4260	2.2090
2005	2.5770	2.8670	2.5770	2.8670	2.6570	2.9470	2.7170	3.0070	2.5770	2.8670
2006	3.3650	3.1430	3.3650	3.1430	3.4450	3.2230	3.6320	3.4100	3.3650	3.1430
2007	3.4600	2.9460	3.4600	2.9460	3.5420	3.0280	3.6040	3.0900	3.4600	2.9460
2008	4.2400	4.1200	4.2400	4.1200	4.3220	4.2020	4.3830	4.2640	4.2400	4.1200
2009	3.2636		3.2513		3.2738		3.7242		3.6242	

NORTHSTAR GAS

Native Owned Petroleum Retailer

Example: Price Per Barrel	Example: Delivered Cost	Example: Price Per Gallon	Example: Transportation
114.53	4.37	3.12	1.25
100.87	4.17	2.92	1.25
93.97	3.96	2.71	1.25
81.19	3.59	2.34	1.25
71.85	3.38	2.13	1.25
66.75	3.29	2.04	1.25
60.77	3.19	1.94	1.25
53.62	3.01	1.76	1.25
50.77	2.95	1.70	1.25
46.96	2.83	1.58	1.25
40.81	2.68	1.43	1.25
36.22	2.62	1.37	1.25

Example on Pricing Your Fuel

Operating Expenses

Wages	
Operator	
Rate/Hour $	10.00
Hours per Week	20
Annual Wages (50 weeks) $	**10,000**
Clerical	
Rate/Hour $	10.00
Hours per Week	10
Annual Wages (50 weeks) $	**5,000**
Administrator	
Rate/Hour $	15.00
Hours per Week	10
Annual Wages (50 weeks) $	**7,500**
Total Wages $	**22,500**
Taxes & Workers Comp $	2,250
Equipment Rental $	2,000
Phone $	500
Electric $	3,000
Interest (6.0%) $	7,736
Office Rent $	4,800
Prop & Liab Ins $	5,000
RAFS Services $	5,000
Maintenance $	2,500
Facility Payments $	2,000
Reserves $	5,000
Miscellaneous $	2,500
Total Operating Expenses $	**64,786**

Fuel Purchases

Gas			
	Gallons	20,000	
	Price Per Gallon		3.85
	Dollars	77,000	
HF#1			
	Gallons	30,000	
	Price Per Gallon		3.80
	Dollars	114,000	
Total Fuel Costs:			
	Gallons	**50,000**	
	Dollars	**191,000**	

Operating Expenses per Gallon **1.30**

(Total Operating Expenses /Total Gallons) = 64,786 / 50,000

Sales:		
Gas		
	Gallons	20,000
	Price**	5.15 = **(3.85 + 1.30)**
	Dollars	$ 103,000
HF#1		
	Gallons	30,000
	Price **	5.10
	Dollars	$153,000
Total Sales:		
	Gallons	**50,000**
	Dollars	**$256,000**

****Fuel Purchase Expense Plus Operating Expense per Gallon**

Sales – Fuel Costs = $256,000 - $191,000 = $65,000

NORTHSTAR GAS
Native Owned Petroleum Retailer

Revision of AEA Loan Application:

- Make the AEA Loan Application valid for 5 years.
  - Eliminates annual filing of an 11 page application.
  - Supporting documentation (ie: letter of intent, promissory note, waivers, resolutions) to be valid for 5yrs.

Due to seasonal activities, participation in community meetings to get approval and signatures have been proven to be difficult and holds up the whole loan process.

- Annually a 2 page Bulk Fuel Loan Agreement would need to be filed.

Revision of AEA Loan Application (cont.):

- Allow approval of the AEA Loan Application from a faxed copy rather than waiting for the original mailed application. This would expedite the application process. Funds would only be released upon receipt of the Original Signed Application.

- Loan approval would be based on prior years payment history. Late payments or questionable credit would revoke the 5 year loan approval requiring an annual application to be filled out until credit history improves.

- If a loan is approved based on payment history but the community sill has payments outstanding, the approved funds would not be released until the final prior years loan payment is received. The written approval letter would allow the community to become a credit worthy customer rather than a risk.

May 29, 2009

Members of the House Energy Committee
House of Representatives
State of Alaska

Honorable Co-Chairs and Committee Members:

Welcome to Bethel. Thank you for making the time to visit our rural communities to see firsthand what we are doing to cope with our energy issues.

I am Meera Kohler, President and CEO of Alaska Village Electric Cooperative. We were established 40 years ago to bring "the light" to Alaska's villages – communities where Alaskans relied upon kerosene lamps and seal oil for their modest energy needs.

I'm sure many of you have read Willie Hensley's recent book – Fifty Years from Tomorrow. Willie was AVEC's first president. He had the vision that, by perseverance and dedication, we could make the impossible happen. That vision led the way to ANCSA – and to AVEC.

But AVEC was not a slam dunk. We teetered on the brink of bankruptcy for many years. It was not until the early 80s that we were able to finally collect enough revenue to pay for our very modest operations and PCE made that possible.

It surprises many to know that AVEC's generation and distribution assets were not built with state or federal largesse. We now have more than $114 million invested in our utility systems, not counting any grant-funded plant. All we had at the beginning were REA loans that had to be paid back. It was not until this decade, when we became a Denali Commission partner, that we were able to start upgrading our power plants and tank farms to acceptable utility standards. Our villages are still the only communities that actually bring a substantial amount of cash to match our various federal construction grants. We have almost $100 million of federally funded plant improvements now and more than $12 million in AVEC equity match.

This morning, you visited Kasigluk and toured the wind farm there. Kasigluk is one of our villages. Power from the diesel and wind generators there serve both Kasigluk and the nearby village of Nunapitchuk. The power plant, wind turbines tank farm and intertie cost some $15 million. 10% came from AVEC's equity – the rest came from the Denali Commission and the RUS. Not a penny of state funds were used. About 20% of the two communities' power comes from wind and the fuel cost per kWh is 12 cents lower than neighboring communities.

But wind is not the answer to reduce the cost of power. Our average cost of electricity is more than 62 cents a kWh. Fuel alone is 37 cents this year and non fuel costs are 25 cents. PCE helps make power affordable for homes and public facilities, but it does nothing for commerce and schools. We must find a way to do away with PCE so that electricity can be affordable for everyone!

4831 EAGLE STREET * ANCHORAGE, ALASKA * PHONE (907) 561-1818 * FAX (907) 562-4086

The answer is for all Alaskans to be treated the same, at least as far as electricity is concerned. To that end, we propose the All Alaska Generation and Transmission plan. The concept is very simple. The AAG&T in effect operates all the generation and transmission assets in the state of Alaska. All the existing utilities become distributing utilities only. Power is sold back from AAG&T at a "postage stamp" rate and the local utilities add their local administration, billing and operating costs to achieve local retail rates, likely ranging from 13 cents to 25 cents a kWh.

Currently, utilities sell some 6.5 billion kWh in the state. 85% of those sales are in the Railbelt and in other low-cost areas like Barrow, Juneau and Sitka, where retail rates average less than 13 cents a kWh. Of the remaining 15%, about 8.5% of sales are in non-PCE communities like the Four Dam Pool where the cost of power is now around 30 cents and the last 6.5% covers the PCE communities where the average retail rate is around 55 cents.

By pooling all power and selling it to utilities at a uniform rate, we achieve many purposes:

- Communities outside the Railbelt are no longer second-class citizens when it comes to reliable electricity. Even diesel power plants are complicated to operate and many communities have tenuous generation systems because of the lack of qualified local personnel.
- Economic development becomes feasible. Unaffordable electricity is a prime reason why local commerce cannot develop and flourish.
- The need for PCE goes away, saving the state some $32 million a year.
- The cost of operating rural schools declines dramatically as electricity cost drop, likely saving another $20 million annually.
- Similarly, costs to operate other state facilities decline, estimated to save another $20 million each year.
- The perennial challenges in keeping the lights on across the state diminish as a technically competent operations team will work across the state to address local generation challenges.
- And of paramount importance, vying for scarce capital grants disappears. The entire state will unite behind generation projects that deliver the maximum benefits to the largest area because reducing the cost of power in Anchorage, for example, will translate to lower generation costs for the entire state. Regional projects that deliver the maximum benefits will not have to compete for funds because they will naturally fall into a state-wide priority list.

Honorable legislators, it is time to end the politics of separation. We are all Alaskans equally. We all deserve affordable and reliable electricity. Electricity is the basic underpinning of modern society. Without it, we would not have schools, potable water, sewer systems, healthcare or airports. For too long, electricity for rural Alaskans has been an almost unaffordable luxury. You can change that and our children and grandchildren will thank you, as I do.

Thank you for the opportunity to comment.

Yours very sincerely,

Meera Kohler
President & CEO

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Yukon Delta Fisheries Development Association

1016 West Sixth Avenue • Suite 301 • Anchorage • AK 99501
Tel: (907) 644-0326 Fax: (907) 644-0327

To: The State of Alaska – Legislative House Special Committee on Energy

Co-Chairs: Rep. Bryce Edgmon and Rep. Charisse Millett
Members: Rep. Nancy Dahlstrom, Rep. Kyle Johansen, Rep. Jay Ramras, Rep. Pete Petersen, and Rep. Chris Tuck

Written & Oral Testimony of:
Yukon Delta Fisheries Development Association (YDFDA)
May 29, 2009

Good afternoon members of the House Special Committee on Energy. My name is Deborah Vo and I am the Rural Development Specialist for Yukon Delta Fisheries Development Association (YDFDA), one of the six Community Development Quota (CDQ) organizations representing the Lower Yukon villages of Alakanuk, Emmonak, Kotlik, Nunam Iqua, Mountain Village, and Grayling. I am here to provide public testimony on energy issues as it relates to the Yukon-Kuskokwim Delta region.

First, YDFDA supports the Goals and Deployment Objectives outlined in the AVCP Calista Regional Energy Plan. These goals and objectives reduce the costs of generating power by integrating renewable energy solutions such as wind, hydro, and biomass projects.

Secondly, YDFDA supports bulk fuel purchasing under cooperative purchase agreements. It will reduce purchasing costs by our villages by participating in this type of arrangement.

On the All Alaskan Generation and Transmission Utility (AAG&T), YDFDA supports the concept as a long-term solution since the benefits reaped from such arrangement will be advantageous to all Alaskans. The Power Cost Equalization (PCE) subsidy that is necessary to equalize the cost of generated power across the state will no longer be needed under this scenario. However, the high cost of energy must be reduced in rural Alaska to spark economic development in our communities immediately.

Until the concept of the AAG&T is realized, YDFDA recommends and supports expanding the PCE program to private enterprises and public facilities, such as schools and clinics, in rural communities at 50% of what is subsidized to households and other community facilities and utilities. Currently, our subsidiary, Kwikpak Fisheries that operates in Emmonak, pays for the full cost of power including the fuel surcharge. The exorbitant cost of power, coupled with the high cost of transporting our product to market, makes it extremely difficult to compete globally and with non-rural communities. The savings incurred by lowering the cost of power will allow Kwikpak Fisheries to pay

a higher price to the fishermen in our villages for their fish, therefore contributing more cash to the local economy. Along the same lines, making PCE available to local schools and clinics to operate and maintain quality service at a more reasonable cost contributes to overall healthy and sustainable villages. Private investment by local and regional businesses is important to our communities and for our communities to thrive, affordable energy must be an important part of that equation.

Thank you.

YUKON-KUSKOKWIM HEALTH CORPORATION

"Working Together to Achieve Excellent Health"

Testimony of

GENE PELTOLA

President and Chief Executive Officer
Yukon-Kuskokwim Health Corporation

to the
Alaska State Legislature
House Special Committee on Energy
Bethel, Alaska May 29, 2009

Good afternoon Speaker Chenault, Co-Chairs Edgmon and Millet and members of the House Special Committee on Energy. Thank you for traveling to Bethel to take testimony regarding the important issues of sustainable energy, high energy costs and their impacts on Rural Alaskans

I am Gene Peltola, President and Chief Executive Officer of the Yukon-Kuskokwim Health Corporation (YKHC). YKHC is the regional tribal health organization for the 58 Tribes of the YK Delta, and as the principal health care provider in the region, we serve Natives and non-Natives alike. Within a service unit the size of Oregon, we operate a hospital, 5 sub regional clinics, 44 village clinics and a variety of outpatient and inpatient services here in Bethel.

The impact of high energy costs on the delivery of health care to our residents and its affect on the Company are staggering and certainly not sustainable. For village residents, high energy costs effectively deny access to higher levels of health care. For example, if a patient in Kotlik was seen at our village clinic and was referred to the Bethel hospital, travel costs alone could likely prevent the visit.

The one-way air fare from Kotlik to St. Mary's is $125 and $150 from St. Mary's to Bethel. If the patient was then referred to Anchorage for treatment, the round-trip Alaska Airlines fare is currently $542.60. Patients are beginning to forego their health care visits, simply because patient travel costs are too expensive as a result of high fuel costs. This often leads to higher acuity patients not being seen in a timely manner.

YKHC owns and operates five Sub-Regional Clinics in Aniak, St. Mary's, Emmonak, Toksook Bay and Hooper Bay. In 2004 we spent $84,000 and this year we expect to spend $150,000 on heating fuel and utilities at the Emmonak Sub-Regional Clinic. We experienced similar costs and increases at the other Sub-Regional Clinics.

Here in Bethel, the Yukon-Kuskokwim Delta Regional Hospital consumes approximately 10% of the local power production and YKHC's total power consumption for all our Bethel facilities is closer to 15% of local power generation. We are struggling to manage the steady rise in energy costs. In 2006 the electric bill for the Hospital alone was $1.19 million. We are projecting electrical costs for 2009 at nearly $2 million. In 2004 YKHC, corporate wide, spent a total of $3 million on fuel and utilities. For 2009, we are projecting to spend over $7 million on fuel and utilities. These energy cost increases are not due to any significant increases in our demand, instead the substantial rise in fuel costs. Unfortunately, for every dollar increase, we must decrease health services that we otherwise would have been able to provide to the residents of the YK Delta.

A strong and fully funded Power Cost Equalization (PCE) program is extremely important for residents to be able to continue living in rural Alaska, and is necessary for non-profit businesses operating community facilities.

Unfortunately, the PCE statutes and regulations do not differentiate between a small village and a larger rural hub like Bethel. There is no allowance for the fact that a hub community will have more and larger community facilities that in fact serve their larger regions. The current PCE allocation for community facilities is 70 KWH per resident per community. This gives Bethel a community facilities allocation of about 420 thousand KWH which is too small for its size. YKHC's Community Health Services Building alone uses about 100 thousand kilowatt hours of electricity per month. The current community facilities formula should be revisited. My staff is prepared to work with your Committee on this important statewide issue.

We endorse the concept of an All-Alaskan Generation and Transmission Utility bringing low cost electricity to every community on our State through interties and power purchasing agreements. We know that this is being seriously considered for the road system and should be extended to all of Rural Alaska.

YKHC has had the benefit of lessons learned from our Rural Utility Cooperative, or RUC, which provides a variety of technical assistance and management services to community water and sewer systems. These lessons point to two things – economies of scale and the need for continuity in system components. My point here is that it should be the policy of the State, as new energy systems are developed and brought on line to ensure uniformity of technology and the provision of technical assistance.

While we encourage the development of new generating systems, particularly wind systems, we do not believe it is economical for an organization like ours to build stand-alone capacity. A 50 KW wind powered turbine contributing about 1% of the Hospital's electric needs hardly offsets the high cost of construction and operation. Aggregated wind systems like AVECs and Chaninik's make far more sense.

There is no incentive here in Bethel for the local power utility to explore alternative energy to reduce energy costs when they can simply pass on fuel costs to their consumers, including YKHC. Also waste heat costs from the local power plant per BTU are nearly the same as heating oil costs per BTU when it seems it should be substantially less.

Thank you, and I will be happy to answer any questions you might have.

Napaskiak Incorporated
P.O. Box 6069
Napaskiak, Alaska 99559
(907) 737-7413

May 29, 2009

RE: Energy Testimony

Honorable Legislators and Representatives:

On behalf of the Napaskiak Incorporated Shareholders we want to thank the Alaska Legislature's efforts in addressing the energy needs of all Alaskans. Even with the proximity of Napaskiak to Bethel we have seen record fuel prices. With the prices fuel as they are in Napaskiak and our region we have been crippled with choices on whether or not to pay our electric bill or go cold in our homes or to go out to subsistence hunt and gather for meat or fish. This fall we were faced with a dilemma on whether to go cold or pay for a fuel delivery in the upwards of $1.43 delivery fee per gallon, and a record wholesale cost for fuel oil, combined with cold weather and the basic need for survival our customer and shareholders had to pay $7.096 a gallon the whole winter which amounted to $354 a barrel of oil, some families had to sacrifice more than half of their paycheck a month to survive the unyielding cold this winter.

In the Corporation's store we have a delinquency rate of 34% and rising of all of our customers who charge for food and everyday necessities. The delinquency rate is due to the struggling economy and the choice to heat their homes or pay for their electricity so they don't spoil their foods or go cold because some of those homes do not have wood stoves. The Corporation Store is not eligible for the PCE program for being a profit entity and we have to pay $0.60 per kilowatt hour, which translates to and average of $3,500 a month.

We (Napaskiak Residents) have been fortunate with the help of the Association of Village Council Presidents helping our shareholders, customers and Tribal Members in the community of Napaskiak, without their help this winter would have looked very bleak. Thank you AVCP.

Inflation is here! The cost of the dollar is decreasing at an alarming rate. Postal rates have gone up, thus increasing the cost of food and other necessities, more than ever we will see a migration of shoppers going elsewhere for shopping instead of supporting their local store and local economy unless something is done. We have fought and made our voices known to keep the postal rates down to no avail. Something needs to be done and fast to increase the viability of our local economies in Napaskiak and Rural Alaska that are struggling or on the brink of failure.

Cordially,

Phillip Nicholai Jr.
General Manager.

Cc: file

KUSKOKWIM
CAMPUS

College of Rural and Community Development
P.O. Box 368 • Bethel, Alaska 99559 • (907) 543-4500 • FAX (907) 543-4527

May 29, 2009

House Special Committee on Energy:
Honorable Co-Chair Bryce Edgemon
Honorable Co-Chair Charisse Millet
Honorable Nancy Dalstrom
Honorable Kyle Johansen
Honorable Jay Ramran
Honorable Pete Petersen
Honorable Chris Tuck

Welcome to Bethel and the Yukon-Kuskokwim Delta. I thank you for providing us this opportunity to testify on energy. I am the director of the Kuskokwim Campus – University of Alaska Fairbanks, which is the institution of higher education for this region of approximately 25,000 people. KuC primarily offers certificates and associate degrees, with a select few bachelors degrees, including one exclusive to our campus—the BA in Yup'ik Language and Culture. We are the only rural campus in western Alaska with a dormitory and multiple buildings that cost money to maintain and operate.

In FY 05, KuC total utility bill for the year was $243,607. Estimating the bill for the final month of this fiscal year, it will cost $439,704—an increase of nearly $197,000 or 80 percent this fiscal year. This increase equates to nearly three jobs at KuC. I have had to cut positions or find grant funds to cover them. It means any growth in academic programs does not happen or has to be supported by soft money. It leaves me apprehensive about equipment or utility failure, such as vehicles and the heating or water and sewage system. It means I now routinely request a longer holiday closure to save on utility and personnel costs and I reduce the duration of staff contracts. I know at some point, valued and dedicated staff will look elsewhere for 12-month jobs; they have families to feed and bills to pay.

This is just an illustration to support what you hear from organizations and people in this region that energy cost relief is desperately needed. As a college campus, I am willing to partner with other groups to pilot alternative energy projects. One suggestion I have for possible assistance is to extend Power Cost Equalization to state and federal customers, or at least educational institutions.

I thank you for your time and am willing to answer any questions you may have.

Sincerely,

Mary C. Pete
Director

House Special Committee on Energy
Hearing at Bethel, Alaska May 29, 2009

Representative Bryce Edgmon Co-Chair
Representative Charisse Millett Co-Chair
Representative Nancy Dahlstrom
Representative Kyle Johansen
Representative Jay Ramras
Representative Pete Petersen
Representative Chris Tuck
Representative Mike Chenault, Speaker of the House

Testimony of Jerry Drake, Bethel Alaska

Honorable Representatives,
As you are all well aware of the high costs of energy in rural Alaska and the effects it has, I would like to take this opportunity to offer instead a suggestion that may help reduce those costs and our reliance on high cost energy sources.

The way that wind and solar energy is currently being presented/marketed simply does not work. I base that on the simple fact that if it were cost effective, you would see it in wide use. An example of this was just shown on the evening Anchorage news last week. Where a gentlemen in Anchorage installed a solar water heating system in his home at a cost of some $14,000.00 with a payback period of 15 years. As long as we keep looking at the problem the same way, only the wealthy will be able to afford renewable energy with a questionable payback period, as is the case today.

Here's the suggestion. As State and Federal agencies are already providing housing in many areas of the State. A joint research project through perhaps the Denali Commission be instituted. The research would be to find out what components are available off the shelf to provide supplemental heat alone. These could be either wind, solar or a combination of the two. This supplemental heat would be simple and not intended to be a replacement for current heating systems. Converting a home over to complete reliance on wind and/or solar power and selling back to the grid add expensive and extremely complicated systems to a home. Both are project killers in rural Alaska.

If the right combinations of off the shelf wind, solar and heaters can be found that are inexpensive, reliable and easy to maintain, then we will have an effective system. The target total cost should be in the $3,000.00 to $7,500.00 range. I say this because if a house uses say 600 gallons of oil per year at $5.00 per gallon. Then a 20% reduction in use would save approximately $600.00 per year or $3,000.00 over 5 years. And if a 50% reduction could be achieved then the savings would be $1,500.00 per year or $7,500.00 over 5 years. I believe that if these costs and payback periods are met, a cost effective system would be in place that anybody could take advantage of.

If the State is unable to conduct the necessary research to achieve this goal, how about a one time X-Prize like competition? The first person or organization that can achieve something like the above costs and payback period wins a cash prize. It stays in effect till it's met. That could be the best $500,000.00 the State ever spent.

This would be an excellent use of stimulus energy funds. If the only reason not to accept the stimulus energy funds is the requirement of a statewide energy standard, then that is a non-issue. As the State already has a Building Energy Efficiency Standard (BEES) there is no issue here. The financial institutions have always been the de-facto code enforcers in rural Alaska, ensuring that new construction meets this standard. Anyone that does not adhere to the standard doesn't care because they are not getting financing or ever planning to sell.

AVCP Calista Region's Energy Costs

Testimony of Felix Hess
Calista Corporation, Board Secretary
Before the Alaska Legislative House Special Committee on Energy
Bethel, Alaska
May 29, 2009

Fuel Price and Electricity

Prices for residential heating oil, regular gasoline increased well over 100% since 2007 in many of the regions villages (prices without taxes). The AVCP Calista region's prices have followed national trends and will continue to be linked to world oil prices. Delivered prices in spring 2008 rose to $8.00 gallon for home heating fuel throughout the region.

Electric utility rates are higher as 2009 begins, between 53¢ and 65¢ per kWh, and electric bills have been averaging around $342 to $360 per month in villages of the region. Usage has been anywhere around 530kWh to 750kWh per household. Increases in the electric rates have been reflective of higher delivered fuel costs in recent years and the PCE program has been significant in every community in helping to make electricity affordable to families in the region.

Fuel costs have been going up between $6.00 and $8.00 per gallon. Recently in the village of Emmonak fuel had to be flown in at a cost near $10.00 per gallon when local storage ran out. Energy costs take up a significant portion of family disposable income, which in recent months is estimated 60% to 70% due to price hikes.

Any further increases in fuel costs and electric rates will have the effect of making fuel and electricity unaffordable. Recent studies that were conducted in the region (Nuvista Light and Power 2002 and 2004 Energy Studies) have shown that lower income residents devote higher amounts of their disposable income to energy and use less.

Unemployment rates are currently between 16.6 and 22.8 for the Bethel and Wade Hampton Census districts respectively. However, the jobless rate is even more significant and relevant indicator of the economic condition in the region. The rate is 38.5% and 43.3% for the Bethel and Wade Hampton census districts. Total income in 2007 for the Bethel census

district was $431.4 million and $124.8 million which provided a median income of $45,200 and average monthly income about $2,700 for the Bethel census district; and $36,600 median income and $1,750 average monthly for the Wade Hampton census district.

2008 Kuskokwim Salmon Fishery

A total of 494,108 salmon was harvested in 2008 in the Kuskokwim area by 462 permit holders for an estimated ex-vessel value of $1,487,111. This provides an exvessel value of $3,219 per permit holder. (2008 ADF&G Kuskokwim River Salmon Fishery Report)

2008 Yukon Commercial Fishery Summary

A total 312,513 salmon were commercially harvested in the Lower Yukon in 2008. A total of 444 permit holders fished in the Lower Yukon area for a total of $1,363,746 in ex-vessel earnings from the 2008 commercial fishery. This provides an exvessel value of $3,071 per permit holder. (ADF&G 2008 Annual Yukon Salmon Fishery Report)

Both higher fuel costs and increases to electric rates also have the effect of making other local goods and services unaffordable. This has been demonstrated since the fall of 2008 with the onset of winter and freezing temperatures. Because of low income and higher energy costs, there were numerous families in the region that were unable to afford fuel, electricity and food items from the local store. This humanitarian crisis surfaced in numerous news media and generated food drives and donations to villages in the Yukon delta. This is an indicator that populations throughout the region are vulnerable, local economies are fragile and susceptible to further fuel and price and electric rate increases.

Goals and Deployment Objectives

Calista Corporation concurs with the goals and deployment objectives developed for energy sustainability and economic viability in the AVCP Calista Region.

Energy Security and Economic Stability

- *Develop integrated energy solutions that meet local energy requirements and economic development needs*

Energy Parity and Stability

- *Establish statewide energy cost parity to make home heating affordable and equitable*

Calista also firmly supports the concept of an All Alaska Energy Generation and Transmission Utility to bring together all the energy needs of rural and

urban Alaska and bring the costs of e3nergy down to an affordable rate for all Alaskans.

We agree that we need to seek Integrated Renewable Energy Solutions and desire to expand Wind Energy Projects along the eastern Bering Sea Coast and the Bethel area. Including, determine feasibility for integrated wind/diesel/solar/biomass heating and electric systems with community heat storage system.

For the villages in the vicinity of Bethel it is vital that hydroelectric power be determined. In that light we support a determination of feasibility for a Regional Hydroelectric Project such as at Lake Chikuminuk to provide region-wide electricity and heat.

We want to see the development and installation of Biomass projects in those communities where it is appropriate: including wood fired boilers, heaters and wood chippers for community facilities and buildings.

So for the upcoming Alaska State Legislative Session, our Legislative Priorities for 2010 include:

- *Statewide G&T utility to include Rural, Southeast and Railbelt*
- *Introduce statewide heating fuel price parity legislation to cap at $3 per gallon (September 1 through March 31) for all Alaska residents*
    - *Formula (delivered cost above $3.00 X total gallons for number of households served) not including O&M, overhead cost, etc.*

Concerning federal funding, we seek the legislature support and assistance to make sure that as much of the assistance directed to energy in rural Alaska be applied for and acquired. These include:

American Recovery & Reinvestment Act

- DoE Energy Efficiency and Conservation Block Grant: tribes receive 2% set-aside of $2.8 billion.
- Clean Renewable Energy Bonds: One-third of the authorized amount is available to tribes.
- Qualified Energy Conservation Bonds: allocations to tribes as local governments.
- DoE support for tribal Smart Grid Demonstration projects.
- $18,142,580 Alaska Weatherization Assistance Program and $28,232,000 for the State Energy Program (currently declined by Governor Palin) Calista Corporation, as with many other organizations are adamant in opposing the governor's position in denying these funds for rural Alaska.

DoE Energy Efficiency and Conservation Block Grants

- The amount of funding for each Tribe will be based on a formula to be published in the Federal Register.

- In addition to the $56 million EECBG tribal set-aside funds, tribes are eligible to receive awards on a competitive basis for $400,000,000 made available under the Act. These funding amounts include administrative, training, and technical assistance costs that will reduce available funding for grants by 1-2%.

2009 Omnibus Appropriation Act

- Appropriations Act Provides Nearly $2 Billion in New Funding to DoE Energy Efficiency & Renewable Energy
- $217 million for biomass energy;
- $175 million for solar energy
- $30 million for concentrating solar power
- $55 million for wind energy
- $40 million for "water power," which includes both conventional hydropower and tidal and marine technologies.
- Infrastructure development activities, and other supporting activities also received funding increases under the appropriations act.

In closing, we want to thank the Alaska Legislature's dedication and commitment to all Alaska in seeking a statewide energy solution to the energy crisis our people are facing and will continue to face if action is not taken. We look forward to working with each and everyone of you in developing a plan that can achieve our energy sustainability and economic viability.

Quyana Cakneq

ONC
ORUTSARARMIUT NATIVE COUNCIL

May 29, 2009

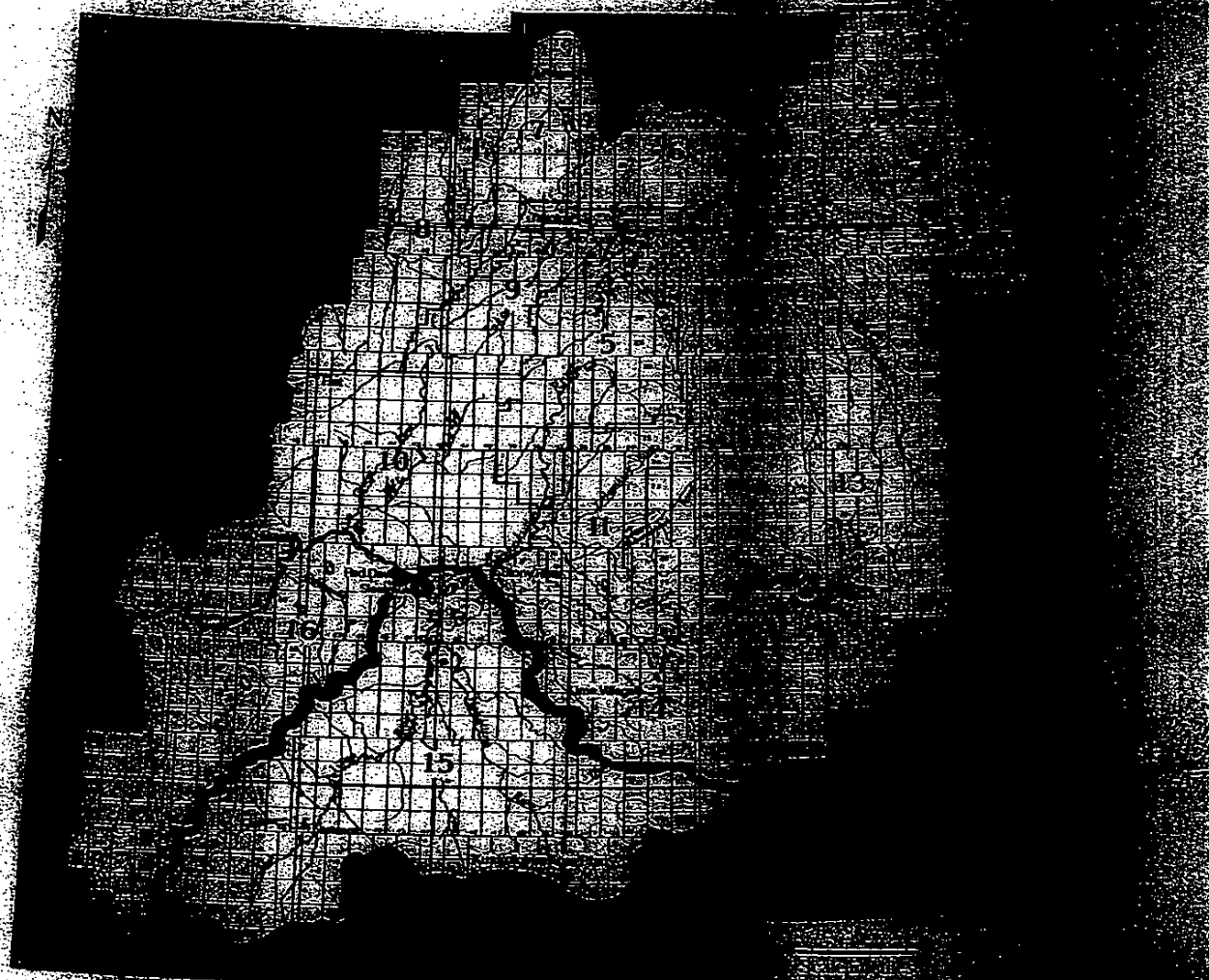
To: House Energy Committee

From: Greg Roczicka, Director – Natural Resource Dept.

Though perhaps not in a direct line of what your current hearings are after or anticipating, the attached is highly relevant and directly related to energy savings and cost reduction in the long term (in addition to its primary intent). A basic fact here is that the less time and distance someone has to spend or travel in pursuit of subsistence harvest activities, the less energy is burned or monetary costs incurred. We strongly urge and appreciate your positive consideration and support for the attached legislation when it comes before you next session. Quyana.

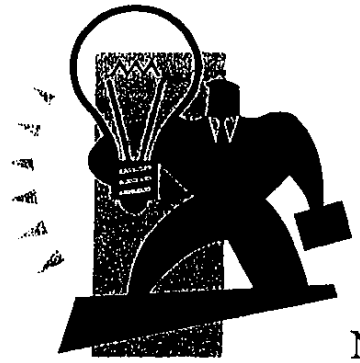
P.O. Box 927, Bethel, Alaska 99559-0927 Phone (907) 543-2608

Management Unit



- Management Unit 1: North Fork
- Management Unit 2: East Fork
- Management Unit 3: Aonzona
- Management Unit 4: Big River — South Fork
- Management Unit 5: Kuskokwim River
- Management Unit 6: Nixon Fork
- Management Unit 7: Innoko
- Management Unit 8: Dishna — Iditarod
- Management Unit 9: Takotna River
- Management Unit 10: George River
- Management Unit 11: Swift River
- Management Unit 12: South Alaska Range
- Management Unit 13: North Alaska Range
- Management Unit 14: Stony River
- Management Unit 15: Holitna River
- Management Unit 16: Hololuik — Oskawalik
- Management Unit 17: Aniak River
- Management Unit 18: Birch Tree Crossing

Closed to Brown Bear Hunting, Fishing and Trapping Reserve. (HB 227)



Napaskiak Utilities
P.O. Box 6041
Napaskiak, Alaska 99559
Phone #1-907-737-7432
Fax #1-907-737-7989
May 28, 2009

Honorable Representative Bob Herron
Honorable House Special Committees on
Energy and Honorable House Speaker Mike Chenault
State Capital, Room 415
Juneau, Alaska 99801-1182
Phone: 1-907-465-4942 Fax 1-907-465-4589

RE: Fuel & Energy {electricity) Crisis:

As you are already aware of our Fuel & Energy Crisis in our community of Napaskiak, Alaska, through media news and State of Alaska's agencies from Govenor's office on down the chain of command, that we did not receive any of our fuel for winter use to community this fall fuel barge delivery that triggered our Emergency Crisis for both villages of Napaskiak, Alaska to power plant (generators) and residents of our communities.

We-Napaskiak Utility ordered fuel with Crowely Fuel Co. paid for $277,000.00 at and around October 12-15, 2008 for 60,000 dollars/DF#1 fuel for Generators(Power Plant) at $4.plus a gallon delivered and confirmed- that didn't make the delivery as expected this fall delivery-Oct. 08 due to ice thickness on the Kuskokwim river. Crowley did tried to do everything that they can to delivery fuel, but with a price to deliver fuel at 7.00 to 8.00 a gallon cutting our purchase order to 30,000 gallons of fuel from 60,000 gallons and on top of that pricing is a lease for 3,000 gallon tank delivered at for $3,000 a trip times 2 = $6,000 with equipment (pump & hoses from the airport to tank farm. As of we did and tried looking at air delivery same payment for $277,000.00 plus with way less to deliver at 30,000 gallons DF#1 fuel cut in half instead of 60,000 gallons ordered at $277,000.00 for $4.00 to $5.00 a gallon and the copy of the quote pricing can be sent for reference That means we have had to double our electrical service rate to $1.00 a KWH or more to keep up with the economy and running as a non-profit business(local) municipality of

Napaskiak, AK to buy more fuel this fall and in the future in Spring and fall for FY10 and 80% of the community is in poverty level/disaster list with Dept of Commerce. Nobody won't be proud for the proposed rate in anyway at all. Our current rate is at .60 cents a kilowatt and most likely it will double to over $1.00 a kilowatt hour service charge without any assistance from state or the federal agencies to deliver fuel at that time. We as a community desperately in need of assistance fast for Wind Turbine System from State Program Grants to disdressed community of Napaskiak. The copies of fuel delivery are can be sent by air and it is with a price to accommodate the needs of our communities.

Per our conservation with State of Alaska officials/administrations from Governors office down the chain of command (key personnels) to the public services that the great State of Alaska operates on and were not willing to help or assist at that time with any financial and fuel delivery for winter fuel that did not happen this fall for winter fuel to Napaskiak, Alaska that has put the communities of Napaskiak in EMERGENCY FUEL CRISIS for Power Plant Generators Fuel and residents of our communities for heating & basic essential electrical needs for cooking, etc in households. The manifested fuel delivery by Crowley Company is not at fault by Napaskiak. Instead of awaiting for up-river or tundra villages to get enough high water to deliver fuel, somebody should of detour to both villages and deliver fuel to village of Napaskiak, Alaska. At requesting any assistance from State and the agencies concerning energy needs-I am starting to think that the state's chain of command at some point down the line is looking at the difference between urban and rural areas/get laugh at afterwards the conversations with any subjects that deal with business from Urban and Rural settings that needs to be looked into for any service and communications that state has for services., if so .regards to our situation with our high cost of fuel that we use to operate in a year of over $200,000.00 and more a year for fuel alone not including Operation & Maintenance and the generators run on Diesel that are not in fuel efficiency to operate at this time of the year during winter uses at 24/7 electrical use daily is uncontrollably rising fast.

We did everything possible contacting state's Governors Rural Affairs-Alaska Energy Authority-North Star Gas-Division of Emergency and Representatives from Juneau, Alaska, also the media from Alaska concerning our fuel crisis that jeopardize both community of Napaskiak memo to your office.

Having to exhaust all the alternative of getting assistance from state we have no choice but to buy fuel at a price that is not at our fault that lead to fuel crisis at any time, PLEASE respectfully consider for assistance in financial transportation and equipment for Wind Turbine System that will greatly reduce use of fuel and reduce the rates for services to community of Napaskiak in our fuel crisis.

If you have any questions, Please give my office a call at above address or by fax and respectfully thank-you for your consideration to this very important matter to the public.

Sincerely,
City of Napaskiak-Utility(electricity)

Joseph Bavilla-Mayor
City of Napaskiak

Carl Maxie Sr
Napaskiak Utility Manager-Acting Admin.

May 29, 2009

To the Legislative Energy Committee

I would like to express my thoughts for the problem of energy costs in rural Alaska.

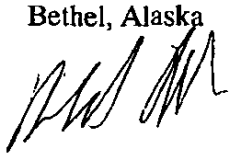
First, we need to stop the artificial high prices and monopoly of fuel here. To my understanding, all the fuel we get in Bethel comes from the Kenai oil fields. It does not come from the Middle East. It is also my understanding the oil in the ground belongs to the people of Alaska. So instead of getting a discount price, we are paying an outrageous price for fuel. The fuel companies by the fuel in Kenai at world price, and them tack on extra shipping and handling charges. Instead, the state should renegotiate contracts with the oil producers. As citizens of an owner state, we should be paying a lower price for our fuel.

There is a fuel monopoly here in Bethel. Crowley sets its own price, and controls the entire market. By definition, this is a monopoly and should be investigated under federal anti-trust laws. There is supposed to be an alternative, Delta Fuel. Two years ago I went there to buy fuel. They stated their price was "2 cents less than Crowley". The attendant did not know the price, only that it was 2 cents less. They also refused to sell me fuel because of Crowley's policies on size of containers. It seemed to me Crowley still controlled the price and the delivery of fuel. As a solution, I suggest the City of Bethel, the state, and the Feds enforce anti-trust laws. An independent arbitrator should set the price of fuel we pay here.

Last year, the State gave us $1200 each on dividend checks to help with the high cost of fuel. We also get a PCE credit on electric rates. These programs help people a lot. However, they do not help solve the problems; they just subsidize high fuel and energy prices. Instead, the State should use its resources to push permanent solutions to energy problems in rural Alaska. The State could spend money to develop alternative energies, such as wind power, which has great and realistic potential in rural Alaska. This could provide permanent solutions, instead of just subsidizing the existing system.

In conclusion, I am advocating for a change in fuel pricing based not upon world price plus but upon internal Alaska oil policy, an end to Crowley's monopoly here, and finally putting resources into permanent solutions including alternative energy development.

Richard Robb
Bethel, Alaska



HOUSE BILL NO. 227

IN THE LEGISLATURE OF THE STATE OF ALASKA

TWENTY-SIXTH LEGISLATURE - FIRST SESSION

BY REPRESENTATIVE HERRON

Introduced: 4/10/09
Referred:

A BILL

FOR AN ACT ENTITLED

"An Act establishing state fish and game reserves; creating the Holitna River Basin Hunting, Fishing, and Trapping Reserve; and providing for an effective date."

BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF ALASKA:

*** Section 1.** AS 16.20 is amended by adding new sections to read:

Article 6. Fish and Game Reserves.

Sec. 16.20.700. Purpose. The purpose of AS 16.20.700 - 16.20.720 is to promote management activities to rebuild or enhance fish and wildlife populations and habitats to maintain historical and sustainable harvest levels for continued high levels of human consumptive use of these resources.

Sec. 16.20.710. Regulations. The Board of Fisheries or the Board of Game, where appropriate, shall adopt regulations identifying areas each considers advisable for conservation and protection purposes to carry out the purpose of AS 16.20.700.

Sec. 16.20.720. Holitna River Basin Hunting, Fishing, and Trapping Reserve established. (a) All state-owned surface and subsurface water and all land

acquired in the future by the state within the watershed of the Holitna River and Hoholitna River is designated as the Holitna River Basin Hunting, Fishing, and Trapping Reserve.

(b) The Holitna River Basin Hunting, Fishing, and Trapping Reserve is established to

(1) ensure management and protection of fish and wildlife populations and habitat to perpetuate subsistence, commercial, and sport use of the area's fish and wildlife;

(2) implement maximum use and benefit, sustained yield, and common use principles by using effective management techniques for conserving and developing the area's natural resources to regain or maintain historical harvest levels with human consumptive use of these resources as a priority;

(3) maintain and enhance healthy and abundant fish and wildlife populations commonly used for consumption by humans to provide high levels of human consumptive use in keeping with amounts determined by the Board of Fisheries and the Board of Game to be reasonably necessary to provide for subsistence uses and with other population and use goals or objectives set by the appropriate board.

(c) In order to fulfill the purposes of this section, and notwithstanding any other provision of law, the Department of Fish and Game, the Board of Fisheries, and the Board of Game shall manage the fish and game resources of the area to provide for high levels of human harvest and, as necessary, shall

(1) control predation and adjust predator and prey population ratios through whatever methods or means are considered appropriate to particular circumstances;

(2) conduct management actions designed to further the purposes of this section so long as the appropriate board has not found, based upon substantial evidence, that the challenged management actions are counterproductive or ineffective in maintaining or enhancing healthy and abundant fish or wildlife populations commonly used for consumption by humans for food to provide for high levels of human consumptive use;

(3) use the information the department or the appropriate board considers to be the most credible for conducting management activities, including historic information, scientific information, and traditional environmental knowledge.

(d) The Department of Natural Resources may not acquire by eminent domain privately owned land within the Holitna River Basin Hunting, Fishing, and Trapping Reserve but may acquire privately owned land by purchase, exchange, or other means for inclusion in the reserve.

(e) Public access to the Holitna River Basin Hunting, Fishing, and Trapping Reserve by boat, aircraft, dog team, snow machine, all-terrain vehicle, or other means consistent with the purposes of this section may not be prohibited but may be regulated by either the Board of Fisheries or Board of Game as necessary to meet the purposes of this section.

(f) Access to and from private property within the Holitna River Basin Hunting, Fishing, and Trapping Reserve shall be guaranteed through access corridors established through agreement among the Department of Fish and Game, Department of Natural Resources, and a private property owner.

(g) Entry upon the Holitna River Basin Hunting, Fishing, and Trapping Reserve for purposes of exploration and development of oil and gas resources is subject to final approval by the Department of Fish and Game and may not be permitted unless a person fully demonstrates that exploration and development is compatible with the purpose of this section.

(h) Except as otherwise provided in this section, the Department of Fish and Game and the Department of Natural Resources shall exercise each department's respective authority over the Holitna River Basin Hunting, Fishing, and Trapping Reserve through a management plan prepared by the Department of Fish and Game in consultation with the Department of Natural Resources.

*** Sec. 2.** This Act takes effect immediately under AS 01.10.070(c).

Holitna Basin Hunting Fishing Trapping Reserve Summary Statement:

Although provided for in AS 16.05.251 & 255 giving BOG & BOF authority for "setting aside reserve areas, refuges and sanctuaries...subject to the approval of the legislature;" the only areas created to date under 16.020., Articles 1-5 are for refuges, sanctuaries, ranges & critical habitat areas. No "reserve" has ever yet been actually designated. In essence – a blank slate as to identifying the purpose and intent for what a "reserve" is...

A primary purpose for this legislation is to address significant conflicts caused by Animal Welfare Groups' legal challenges that suspend or pre-empt active management programs (e.g. predator control) regarding the issue of managing fish or game populations for human harvest benefit. It intends to switch the burden of proof to their shoulders, so they must first conclusively and scientifically show or prove them as ineffective prior to their being suspended or curtailed. It seeks to further block legal avenues for "process challenges" in designated Reserve areas by such animal welfare entities, who work to embed their singular/ philosophic/political differences of opinion into the state's management structure to the detriment of all other uses.

Although some limited active management programs are currently being conducted with the support of the present gubernatorial administration, with past history as any indication, this cannot be counted upon to continue into or through future administrations. There are several areas within currently identified Intensive Management Areas that may be noted as essential "Breadbasket Areas" which exemplify high quality habitat and productivity contributions to the entire GMU sub-region that could qualify for such an elevated level of management protections. Game Management Unit 20E, portions GMU 13 or the Kenai Peninsula, the Koyukuk, Copper, Mulchatna or Noatak River drainages may be similarly considered to be added in future to follow this Reserve concept being established here for the Holitna River basin.

The Holitna River drainage is an extremely productive area in Western Alaska that (prior to 1996 & 2000 ballot initiatives) has been a major contributor for providing a large diversity of fish or wildlife uses ever since statehood. It is the largest drainage feeding the Kuskokwim Watershed that is the major contributor for salmon production: prime habitat for moose, bear, caribou and furbearers, along with being an important rearing & staging area for several species of migratory waterfowl. It is unique in the respect that its productive habitat encompasses a wide area, rather than being confined to a relatively narrow riparian corridor, as is more commonly found in the majority of other rivers throughout the region. Recognition of its exceptional status is further emphasized by the State DNR's 2006 denial of the coal bed methane exploration permits in the area; stating that "...the possible adverse impacts to the high fish & wildlife values and related human uses are too great to be mitigated with the project as proposed..."

To fulfill the stated management intent of the Kuskokwim Area Plan adopted by the State of Alaska in March, 1988 that "The emphasis of state land management for the Holitna management unit is protection of fish and wildlife populations and habitat to support continued subsistence, commercial and sport use of these resources." The Holitna River Basin Hunting Fishing and Trapping Reserve is hereby created pursuant to the State's Intensive Management law, with the explicit intent to fully implement and promote those concepts embodied in the State's established principles of development and conservation of its resources for maximum common use, benefit, and welfare of the people; sustained yield for all those who are similarly situated with regard to the subject matter and purpose to be served of recognizing subsistence use harvest as a priority; and in maintaining abundant fish and game populations important to providing amounts necessary or identified management objectives in providing high levels of consumptive use.

The proposed reserve concept was initiated by Sleetmute Traditional and Orutsararmiut Native Councils; has records of support from the Lower Kuskokwim, Central Kuskokwim, Stony/Holitna and Anchorage Fish & Game Advisory Committees, Kuskokwim Salmon Mgmt Working Group, Association of Village Council Presidents and Calista Corporation; undergone legal review through the State Board of Game process and twice received their endorsement. It presently awaits Board of Fisheries action through their Habitat Committee.

Holitna Basin Hunting, Fishing and Trapping Reserve (HHFTR) Legislation
Development Recap and Status

January, 2006: Proposal #45 to designate the Holitna drainage as a new Game Management Sub-unit (as 19E) deliberated at Board of Game (BOG) Statewide regulatory meeting. In response to public testimony, BOG amended to incorporate Reserve concept; reissued as new proposal #158; and publishes for further public review, comment, and deliberation at the Region III regulatory meeting in March.

March, 2006: Board of Game action passes the proposal with records of support from ONC, AVCP, Lower Kuskokwim, Central Kuskokwim, and Anchorage Fish & Game Advisory Committees. Makes title change from "Game Reserve" to "Hunting and Trapping Reserve". Requested sponsors to further develop draft legislative language in consultation with DWC & BOG Dept. of Law (DOL) representatives.

April, 2006: Companion proposal (#157) submitted (per proposal cycle deadline) to Board of Fisheries by Sleetmute Tribal Council and Orutsararmiut Native Council to add fisheries component.

August, 2006: Draft language for Holitna Reserve sent to DWC & BOG-DOL for review and comment.

- Representative Kapsner/Nelson & Senator Hoffman agree to support legislation when language ready.

September, 2006: Proposal #157 supported/endorsed by Kuskokwim Salmon Mgmt. Working Group.

October, 2006: DNR issues Final Best Interest Finding that denies coal bed methane exploration permits in the Holitna Basin after two year review period stating "...the possible adverse impact to the high fish & wildlife values and related human uses are too great to be mitigated with the project as proposed..."

- Support resolution (#06-10-04) passes unanimous at annual AVCP Convention
- BOG formally receives/reviews draft language at special regulatory meeting in Anchorage and reaffirms support of proposed legislative effort. Requests sponsors to continue working with DWC and BOG-DOL to further refine statutory language prior to legislative introduction.

November, 2006: Calista Corporation provides letter of support for draft language as currently written.

December, 2006: Lower & Central Kuskokwim Advisory Committees reaffirm support. Draft language sent to legislative counsel for bill formatting by Representative Nelson.

January, 2007: Draft bill re-circulated for additional review and comment from DWC, BOG-DOL, Board of Fisheries and public.

February, 2007: Board of Fish tables proposal (#157) to their October, 2007 work session and refers to a Habitat Committee created from Bristol Bay area proposal #121, addressing Tularik Creek Refuge/Reserve connected to Pebble Mine development project.

- BOG Chair provides final comments on draft language from BOG-DOL to sponsors and offers open invitation for additional BOG support if needed .
- Final BOG/legal comments incorporated into draft language and presented to Representative Nelson for introduction.

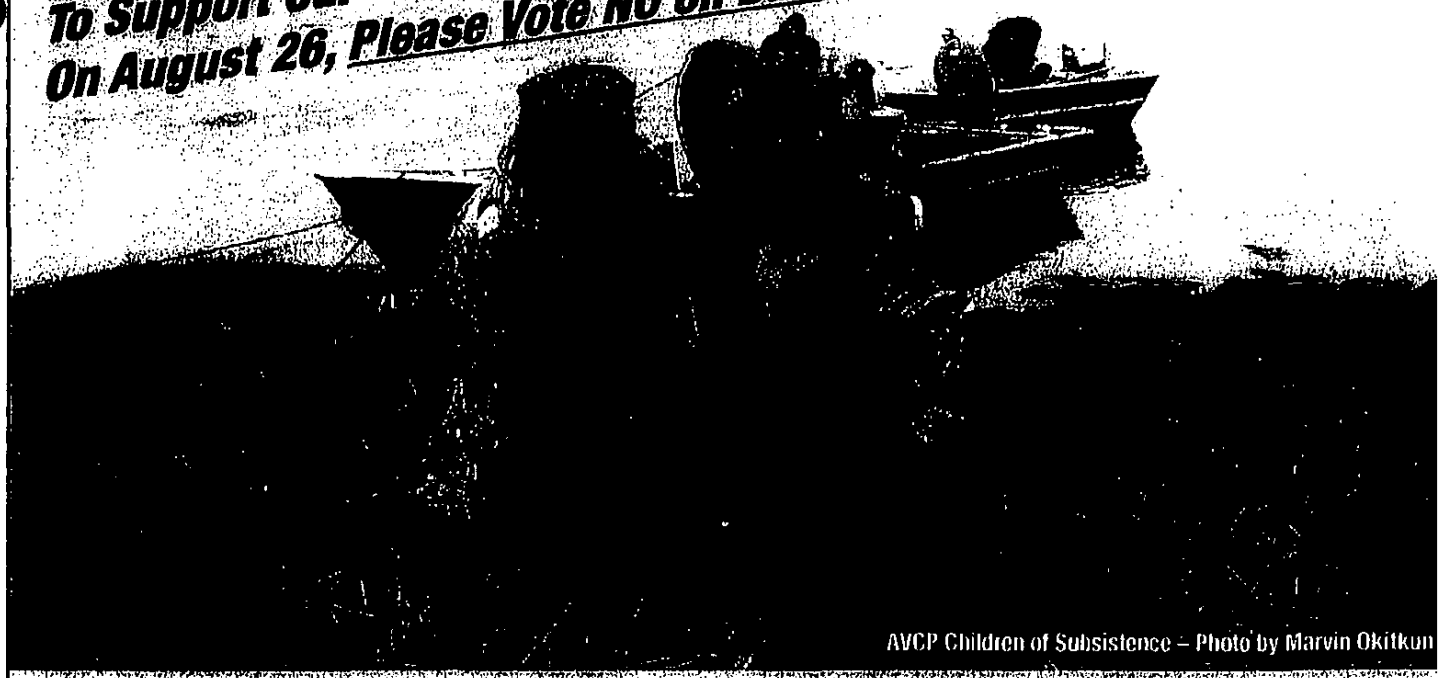
March, 2007: Notified by Representative Nelson that due to legislative protocol she should not be the primary bill sponsor. Though the area is part of her constituents Customary & Traditional hunting area, it is not physically within her voting district, but that of Representative Woody Salmon. She has forwarded all information to date to his office and remains committed to work as co-sponsor in helping with its passage. Efforts to solicit support and introduction from Rep. Salmon produce no response. Sleetmute/ONC sponsors confer and given surrounding circumstances agree to hold off pursuing introduction until the 26th legislative session.

October, 2007: Board of Fish takes no further action on proposal as agenda item at fall work session, other than noting it is still a "live" issue, with any further action dependent on recommendation from referral to their habitat committee.

February/March, 2009: Discussions reinitiated with Rep. Herron who stated willingness to pursue introduction and support for HHFTR intent and passage. Favorable response received at Board of Game spring meeting from new ADFG personnel appointed through current administration.

April, 2009: After consulting w/ Rep. Salmon (who states no objection), Rep. Herron introduces HB #227 w/ understanding/intent to further develop support base for interim and pursue action during 2010 legislative session.

To Support Our Future Subsistence Harvests On August 26, Please Vote NO on Ballot Measure #2



AVCP Children of Subsistence – Photo by Marvin Okitkun

Ballot Measure #2 would shut down the few current predator management programs and only allow them in the future on an emergency basis. Managing to provide amounts necessary for subsistence should not be done on an emergency basis!

Predator management has strong support in bush Alaska. A poll conducted by Dittman Research, Inc. of villages in the Bristol Bay, Kuskokwim, Yukon and Tanana River drainages, found 70% in favor of predator control efforts.

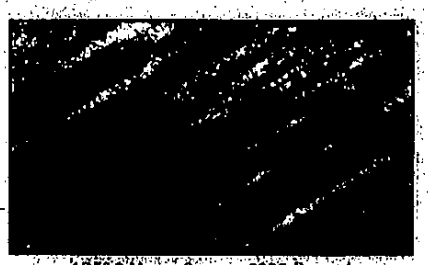
The Alaska Federation of Natives have gone on record for 8 consecutive years expressing their support and the need for predator management programs; and specifically opposing ballot initiatives such as this one through Resolution #'s 00-47, 01-07, 02-12, 03-08, 04-08, 04-09, 05-13, 06-12, & 07-15.

Since the 1996 and 2000 ballot initiatives were passed, moose populations have declined by 75-80% in many areas, largely attributed to the lack of adequate predator management. The result has been that many moose & caribou subsistence hunts have been severely restricted, or closed to hunting entirely!

Failure to incorporate and employ predator management as a basic management function undermines the State's subsistence priority law and does not provide reasonable subsistence harvest opportunity.

"We understand there is another effort underway to place a measure on the ballot that would effectively halt the State's predator management efforts. We strongly oppose all such ballot initiatives."
(AFN letter to Governor, December 2, 2005).

ADF&G Moose Surveys 1960-1996



ADF&G Moose Surveys 2002-Present

1 Wolf in 20 Minutes on 40 Mile Herd Calving Grounds
16 Caribou Calves Killed - None Eaten.

To Bring Back & Keep our Moose and Caribou Herds Healthy & Abundant, Please Vote NO on Ballot Measure #2

This message sponsored by Orutsararmiut Native Council, with support of Association of Village Council Presidents, Bristol Bay Native Association, and Yukon-Kuskokwim Health Corporation.

Testimony to:

Alaska State House of Representatives Special Committee on Energy

By Robert Nick
Nunapitchuk, AK

May 29, 2009

Introduction

Good morning, my name is Robert Nick, from Nunapitchuk. I am chair of AVCP Regional Housing Authority and a member of the Nunapitchuk IRA Council.

Please allow me to express my thanks to Rep. Bob Herron of Bethel for this opportunity for myself and others to testify before this committee and allowing us provide input on rural Alaska energy issues, which are dramatically affecting us today and our State in many ways. Because of that, I'm very encouraged that members of the Alaska State Legislature are willing to come this far and listen to our concerns. I and others appreciate that very much.

Rural Challenges

As you know we have certain unique challenges especially in rural Alaska. As of today, regular gas prices in Anchorage and the road system range under $3. But in the rural areas, such as Bethel, gas prices are about $5.65 to $5.75. Further out in the villages, gas costs $6 to $8, while heating oil is just above the price of gas. Gas and heating oil costs more the further you get from hub communities.

These new energy prices of the last two years were very distressing, to say the least, on the state of the people in rural Alaska and the local economies in which they live. For many people, it is causing them to use all their personal resources, namely cash, to stay warm or fed. A person can buy 15 gallons of gas in Anchorage at $2.39 a gallon for their car and pay just $37.85. A person in Toksook Bay has to pay $116.90 for the same quantity of gas, at the cost of $7.74. That's just about 300 percent of the cost of paying for gas in Anchorage. Say that same person in Anchorage buys car gas every two weeks: In one year he buys $1,059.80 for his gas; the guy in Toksook will pay $3,273.20.

You have heard in some of our villages, people with few cash resources were being forced this past winter to buy food or fuel. Many chose fuel over food so their children could sleep in a warm house. As for food, children were told by their parents to eat breakfast and/or lunch at school. As for the parents, they say "they make do" with whatever they can. Many homes experienced empty cupboards and refrigerators over the winter, getting by on 100 percent subsistence foods, which in late winter gets harder to get. It had gotten so bad that the now famous "Emmonak" case was borne out of it.

This past winter was very cold and dumped some of the deepest snows. People living in poorly insulated homes, we are told, were trying to keep their homes warm using electric stoves, radiant heaters, or other electric burners. The red, hot glow of those electrical appliances as we all know has a financial bite to it in the end. To heat their homes this way, some households paid up to $1,000 or more when their electricity bills arrived.

Electricity in bush Alaska is very expensive for most communities. AVEC is one such electric company in the bush. I hope you read in the Anchorage Daily News in June 2008, that AVEC's fuel bill went from $14 million in 2007 to $26 million in 2008. Five years ago, that same bill was only $6 million. At nearly $30 million this year, being passed down to consumers. Needless to say, we heard that families fell behind in paying their monthly electric bills.

Marshall-area folks stated that despite their village being located in a wooded area, there was so much snow this winter that was hard to go look for logs along the river and collect firewood.

Lack of Jobs in Rural Alaska

Many Alaska village residents that really need help during this energy crisis don't have jobs or have low-paying jobs because of the depressed local economies of rural communities. Even during times when the economy of the United States is healthy, Alaska communities usually suffer depressed economies. But due to the recent high energy prices, grocery items are now very expensive because most have to be flown in. So for each grocery item, we have to pay the airline's freight cost, fuel and surcharges along with the cost of running the store and their employees. The lack of jobs is tough for people relying on store bought foods to supplement subsistence foods.

Like I said, rural Alaska doesn't consist of a strong economy. This region consists of Bethel Census and Wade Hampton Census Districts, whose April 2009 unemployment rates are 16.8% and 24.5 % respectively. (24.5% is the highest in the State.) Overall, the Alaska unemployment rate is 8.4%, while the U.S. unemployment rate is 8.9% (U.S.D.O.L., April 2009). In Alaska, the poverty rate is 7.8% or 52,264 Alaska residents out of 670,053. The Bethel Census poverty rate is 20.7% (U.S. Census, 2004 est.) or a fifth of the people out of the 17,147 population (U.S. Census, 2006 est.), while in Wade Hampton, the poverty rate is 26% (U.S. Census 2004) or a *quarter* of the population of 7,580 (2006 est.). When you think about it, these people living at or under the poverty levels already live a very tough life even before the energy crisis hit.

We depend on commercial salmon fishing in summer in both the Kuskokwim and Yukon Rivers for much of our cash resources for the summer and fall, and to take care of our needs for the coming winter. But that is no more. Fishing used to contribute a lot to the region's economy, but now the money that we make from fishing barely pays for expenses. As you might know, Fish and Game canceled the Yukon River's commercial king salmon fishery this spring, due to the expected low numbers of Chinook this year. That means Yukon River fishermen who depended on this fishing income for an economic boost won't make or have any money like they used to, to help them get over

the winter's slump. That means bills can't be paid, loan payments can't be paid (those tied to commercial fishing), and there won't not be much cash reserves to spend on summer and fall food gathering activities, which is the number #1 expense for rural Alaskan families.

AVCP Housing in Bethel reports that some families from the villages are falling behind in making their monthly house payments. In this era, when you have to choose between buying food or fuel, other bills not in these two categories become a lot less of a priority. That means many businesses will lose money. Coupled with no fishing income, the AVCP Region may soon suffer the severe economic crisis that recently hit the rest of the nation and undermine the entire economic system under which we operate. That is why some of our non-profits have been calling for an economic disaster declaration in the Y-K Delta by the Governor of Alaska.

Conclusion - Request and Support for Assistance to Rural Residents with Energy Issues

In conclusion, I fully and wholeheartedly support the House Special Committee on Energy's activities and fact-finding missions to Bethel and other Alaska communities regarding energy issues.

By way of combating high energy costs in Alaska, there are many options we should consider for combating the high cost of energy. First of all, efforts to drill for more oil in Alaska, with environmental safety in mind, should be pursued and supported by the Alaska State Legislature. Alternative energy options should also be pursued and funded; for example, harnessing wind energy appears to be the first of the new technological advances easily available to Alaska villages, and wind turbines have stabilized energy costs wherever they have been deployed. In some villages, households are reportedly paying electricity costs at what an average Anchorage home might pay. But though energy costs have not come down in the vast majority of those villages that have wind turbines, they have kept them from rising as they have in other communities without wind turbines. These wind projects are expensive to maintain, therefore, I urge the Alaska State Legislature to support and fund wind generation projects in rural Alaska.

In addition, the State of Alaska should support and provide funding other green projects, namely geothermal, hydro, tidal, gasification, inter-ties, and/or biomass projects – even nuclear if possible – to address the energy crisis one way or another, once and for all. If the military can safely harness and utilize nuclear energy in their submarines, then there ought to be a way to apply that energy option into bush Alaska. We should also support the Governor's idea to merge rail-belt utilities into one entity, but go one farther: include rural Alaska into that merger of utilities. We'd welcome the opportunity to share our expenses with the rest of the state and pay the lower costs that other areas of the state seem to be paying.

We also ask the Alaska State Legislature to request all of the Economic Stimulus funding from the American Recovery and Reinvestment Act that is slated for Alaska, including that for weatherization and renewable energy projects. We are deeply disheartened by the Governor of Alaska for turning money away slated for weatherization and renewable

energy projects. Why turn money away that other states are willing to grab? We also need to support and expand improvement of weatherization programs by non-profits, tribes and local organizations, for the sake of those folks in villages who have to use electric stoves, radiant heaters, hot plates and other heaters that cause their monthly heating bills to spike to $1,000 or more this past winter.

AVCP Housing weatherized 114 homes this past year and is slated to weatherize another 121 this year. They are only required to do 90 homes a year but they want to do more. Weatherization dollars really do help the residents of the State of Alaska, and it is ALREADY helping families to tighten their homes and reduce their energy costs. We've heard their fuel bills have gone down substantially but we have not yet done a study to see what kinds of savings are happening. We have around 6,500 to 7,000 homes in the Y-K Delta. That means we only weatherized just fewer than 2 percent of the homes in the said area. With the $28 million that the Governor is turning away, we could have weatherized many more homes than just 2% of the homes in the Y-K Delta.

The Governor's turning away money for weatherization and renewable energy projects was unneeded. AVCP Regional Housing and all other (14) housing authorities in the State are already mandated to comply with Alaska Building Energy Efficiency Standards of the State of Alaska. This went into effect on January 1, 1992. This also applies to schools, public buildings and commercial property.

In any case, we encourage the State of Alaska to develop a statewide energy policy. The energy policy would be a good way to have an energy plan for the state of Alaska, one with strategies on development of sustainable energy in all areas of Alaska, along with funding strategies. It would also help to make it easier for communities with little expertise to implement energy saving activities or options that are best suited for their area or situation.

Thank you very much for listening to me and hearing me out. I don't speak only for myself, but many of the residents in the Y-K Delta who are facing many hardships this winter because of high energy costs. Again, I welcome you to Bethel and the Y-K Delta, and thank you very much for coming.

Tua-i!

Willie Keppel

From: "Willie Keppel" <wkeppel@unicom-alaska.com>
To: "deMarban, Alex" <AdeMarban@adn.com>
Sent: Friday, February 23, 2007 8:22 AM
Subject: snags/energy study

Good morning Alex,

Have a good one for you.

Bethel Alternative Energy Committee put together a proposal for bid for the initial engineering study for a wind farm.

The winning bidder was Electric Power Supply of Anchorage.

The problem we are facing is, Bethel Utilities Corp., a private monopoly electric supplier, is balking and foot dragging to stall the study. By statue and tariff, they have to comply, but in which century seems to be the issue. It's already to the point where EPS is considering dropping the contract. That's exactly what *BUC wants.*

This sets the stage for an in-depth article, which explains to all urbanites, part of the main problems of paying for the high cost of energy in Rural Alaska.

Consider some of these points:

1. BUC is the only monopoly that serves three communities in the State.
2. BUC makes it's profit on the cost plus system, instead of a tariff incentive for higher profits, based on the lowest cost for a kWh produced.
3. BUC has rejected bids from the two Native owned and operated fuel delivery services, in favor of delivery from Crowley.
4. Crowley gets every single penny provided by the State's PCE program.
5. BUC's October filing with the regulatory commission shows their delivered fuel cost at $3.85 per gallon. [they buy in excess of two million gallons of fuel a year]
6. If you as a private consumer purchase *3000 gallons of fuel or more in a single day, your bulk fuel is* $3.64 a gallon, including taxes. You can cut a deal with Hoffman Fuel to deliver for 17 cents a gallon, to a single tank. Add that up, $3.81 a gallon.
7. In a nut shell, the legal scam, allowed by tariff, flies in the face of all the Administrations and Legislators that have worked diligently to try and lower or stabilize the cost of electricity in Rural Alaska.
8. *Crowley was allowed to buy out Yukon Fuel as former Att. Gen. Renkes decided that this buy out would* not constitute a monopoly.
9. In Bethel, Crowley is masquerading as a duel competitor with Delta Western as opposing opponent. Nothing could be further from the truth.
10. For the first time ever, we just received conformation from the State that we officially lost population. It's not just the Villages. *Wait until you see the exodus that will happen when the barges arrive this spring* and people can load their vehicles and containers of household goods. I lost track of how many people I know that are leaving, come spring. All of them are escaping because of the market driven prices for goods and services, directly related to fuel and electricity.
11. I didn't know the exact numbers for prices until recently, so it follows that Legislators don't have a clue what is going on out here. An in-depth story will help bring to focus the needed changes in law and tariff that only a NEW administration, can make happen.

I'm a walking wealth of info, so is our new City administration. All of us are dedicated to getting the costs of living in line. Please feel free to contact Manager Wally Baird, 543-2047, Public Works Director, Wayne Ogle, 543-3110, Councilman Tundy Rodgers, 543-2035, or Mayor Dan Lineberger, 543-3733.

Dan and Tundy also serve on our Alternative Energy Comm.

2/27/07

If you contact Wayne Ogle, he can get you hooked up to the City website that allows you to follow the Cities main projects, i.e., wind, water and sewer.

Alex you have the power of the pen and all the space you need to expose one of the biggest State sponsored scams, in favor of industry over it's own citizens. I have more than enough documentation to back my mouth. Lets put them together and make a real, lasting difference.

Happy trails, Willy

2/27/07

Cites AK, 423 P. 2d 285

Kenai peninsula is $6,100,000.[14] At the time this action was instituted below, appellant's total investment within the city of Kenai was $160,000, and it was serving a total of eighty-five consumers within the city.[15] The evidence adduced at the preliminary injunction hearing demonstrated that the city of Kenai had duplicated portions of appellant's electrical distribution system located within the city of Kenai and had succeeded in persuading eleven of appellant's customers to subscribe to its own electrical service. The record also discloses that at no time had the city of Kenai ever granted a franchise to appellant Homer Electric Association to operate within its city limits.

We are called upon to decide the effect of the 1963 amendments to Alaska Public Service Commission Act. More particularly, we must determine whether the issuance of a certificate of public convenience and necessity to appellant is a grant of an exclusive right, or monoply, within the delineated service area, which is entitled to protection against competition from the city of Kenai's utility which is exempt from the Public Service Commission's regulation. The 1963 amendments to the Alaska Public Service Commission Act are silent on the question of whether the grant of a certificate of public convenience and necessity was intended as a grant of a monopoly to the regulated utility.

In support of its contention that it received a monopoly by virtue of its certificate, appellant relies on the general policy behind state regulation of utilities and the legislative history of the 1963 amendments (House bill 228) to the Alaska Public Service Commission Act.[16] Appellant lays great stress upon the Governor's letter which accompanied the introduction of House bill 158 during the 1963 legislative session.[17]

House bill 158 required that public utilities obtain a certificate of public convenience and necessity, and specifically included municipal utilities within the jurisdiction of the Public Service Commission. This bill was then referred to the Commerce Committee and died there. Subsequently, the House Commerce Committee introduced House bill 228 which was signed into law by the Governor without comment.

Comparison reveals that the first four sections of House bill 158 were embodied and enacted in House bill 228 with only

14. Of this figure $3,573,571.17 represents the value of its total investment in electrical distribution facilities; the remaining balance represents appellant's investment in generation and general plant facilities. The financing for appellant's system was received from the Rural Applications Administration pursuant to a thirty-five year loan.

15. At the time the lawsuit arose appellant had a total of 2,000 customers throughout its entire service area.

16. Typical of the authorities cited by appellant in regard to its theory of state regulation of utilities argument is the following:

> The theory of the regulation of municipal public utilities by the state through such a commission is to avoid competition which is now generally recognized as a needless economic waste and an entirely insufficient method of securing the necessary regulation and control. Under this method the state through its commission takes the place of competition and furnishes the regulation which competition can not give, and at the same time avoids the expense of duplication in the investment and operation of competing municipal public utilities.

3 Pond, Public Utilities § 901 (4th ed. 1932). See Corporation Comm'n of Arizona v. People's Freight Line, Inc., 11 Ariz. 158, 16 P.2d 420, 422 (1932); Calumet Serv. Co. v. City of Chilton, 143 Wis. 334, 135 N.W. 131, 143-144 (1912).

17. AS 24.30.060(b) provides in part:

> Bills presented by the governor shall be delivered with a letter to the rules committee of either house and bear the inscription 'Rules Committee by Request of the Governor.' * * * The governor * * * may submit a statement of purpose and effect with each bill and appear personally or through a representative before any committee consid-

minor changes.[18] The significant tion between the Governor's propos lation (House bill 158) and the C Committee's bill, which was enac law, is that the former specifically municipal utilities (with the exce water and sewer utilities) within t of the Alaska Public Service Cor Act, whereas the latter amended A 640(2) of the act to exclude mu owned and operated utilities.[19]

[1] We agree with appellant's that it is an accepted method of det legislative intent to look to intr executive messages.[20] From a re the Governor's letter which acco the introduction of House bill 1 manifest that the Governor envi certificate of public convenience an sity as granting a monopoly.[21] other hand, it is equally apparent Governor also intended that n utilities were to be included un proposed amendments.

18. The following were enacted with changes: Proposed AS 42.06.010 w acted as AS 42.05.193. Proposed A 06.020 was enacted as AS 42.05.194. posed AS 42.06.030 was enacted 42.05.195 and proposed AS 42.06.04 enacted as AS 42.05.196.

19. See note 11 supra.

20. See 2 Sutherland, Statutory Con tion § 5004 (3d ed. 1943).

21. The Governor's letter reads in p

> Utilities face problems which m a necessity for them to operate noncompetitive basis in the area serve. A utility requires an eno amount of capital for its facilitie a long period of time to realize turn on its capital investment. bility and uncertainties are not ducive to long-range programs, a smaller utilities are subject to un able economic changes, the more cessful they are likely to be. In competition in the utility field the life of trade. Duplication of ties for a fixed market results creased costs which are borne b consumer. It is the function o

Message

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From: "Rep. John Harris" <Representative_John_Harris@legis.state.ak.us>
Subject: RE: energy
Date: Mon, 12 Mar 2007 08:11:10 -0800
To: "Willie Keppel" <wkeppel@unicom-alaska.com>

Willy:

Thanks for your comments. The earnings of the Permanent Fund are an option to provide funding for renewable energy projects. I wish you luck on your wind farm project in Bethel. If this legislation passes, maybe it will be of some help.

John Harris

From: Willie Keppel [mailto:wkeppel@unicom-alaska.com]
Sent: Friday, March 09, 2007 5:28 PM
To: Rep. John Harris
Cc: wally baird
Subject: energy

Good afternoon,

I watched you and Sen. Ellis on T.V. this morning, discussing how to fund energy.

I have been advocating this for years and even sent a letter outlining my thoughts to the Commerce Dept when the Gov. invited public input a month a or two ago.

My idea is to use the Permanent Fund.

I would like the utilities or communities to be able to approach AEA/AIDEA with their plan for alternative energy. Then when the engineering plan is acceptable to the State's experts, they should be able to submit the financial request to the board of Governors for the Permanent Fund.

Living in Bethel and paying the astronomical price we pay for electricity, has always irked me, knowing how much money we invest in Wall Street and other markets. This Republican believes that it is high time to invest in ourselves.

I figure a small change in the law would allow the people to invest in themselves. Long term, low interest. To me it is a win-win situation. You as a Legislator would not have to go through the yearly combat to find funds to invest in an infrastructure, that would only benefit the economy.

Since we generate new revenues from oil each year, nothing would have to be sold to provide the loans.

No more or no less would be invested than what is recommended by the experts at AEA/Aieda.

The City of Bethel is working with an engineering company at the moment to do phase one of the engineering for a wind farm. How we come up with the millions that will be needed is very much in the air. We do know that the power company will have to pay us 34 cents for every kilowatt we produce. That is the avoided fuel cost. I look at all the States that are investing heavily in wind and realize that they are getting less than 10 cents for their produced product. It only follows that if it is good for them, it's three times as good for us.

Close to thirty years ago, I was undecided about the dam project and intertie for Copper Valley Electric. Twenty years later and the same amount of dividends, I'm a believer in investing in ourselves.

It was dam good business and it's time to jumpstart the program again.

Thank-you for your time and consideration, Willy Keppel, Bethel, 543-3986

Jump to the beginning of this Message

BETHEL UTILITIES CORPORATION

3380 C Street, Suite 210
Anchorage, Alaska 99503
Phone: (907) 562-2500
Fax: (907) 562-2502

May 23, 2006

Mr. Wally Baird
City Manager
City of Bethel
P.O. Box 1388
Bethel Alaska 99559

Dear Wally,

I enjoyed meeting with you last week and think we had a very productive and much needed meeting of the minds.

As requested, I will hereby confirm my offer to resolve the issues between BUC and the City regarding street light pole rental and heat for the City complex as follows:

- The City shall execute the pole rental agreement previously delivered to the City as written.
- BUC shall waive any right to collect pole rental amounts for prior years.
- The City shall be allowed to continue to place street lights on BUC poles on an as-needed basis per the terms of the above referenced agreement.
- BUC shall continue to supply heat to the City office complex.
- BUC and the City shall execute a heat-use agreement to provide for heat at a to-be-agreed-upon flat charge tied to BUC's cost of fuel.
- The City shall assume responsibility for the heat line servicing the City complex from where it branches from BUC's main circulating heat line. Such responsibility shall include the cost of maintenance, repairs, and liability, including environmental, property damage and personal injury.
- The City shall waive any claim for adjustments to past amounts billed by BUC for heat.

As you are aware, BUC had scheduled the termination of heat service to the City complex effective May 31, 2006. In light of our mutual pledge to try to timely resolve the two issues above in the manner described, we will forgo the termination of heat at this time.

Please present this matter to the City Council as soon as possible and let us know the outcome. If there is anything we can do in the meantime to help move this along, please let me know.

Best regards,

Edward L. Tilbury
President

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Message

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From: Jana Grenn <jana_grenn@rca.state.ak.us>
Subject: RE: Bethel Information Request
Date: Tue, 06 Mar 2007 10:31:02 -0900
To: "wkeppel@unicom-alaska.com" <wkeppel@unicom-alaska.com>

Good Morning Mr. Keppel:

In regards to your information request, the majority of the information you are looking for can be found on the Commission's website at http://www.state.ak.us/rca/. On the right hand side of the page is a section called Quick Links and underneath that is an item called Data Page Search (imaged documents and transcripts), you will want to click on this. This will open a page called RCA Data Access Project, under the Reports Section, you will want to click on Current tariffs (it is the 4th item under the Reports Section). This will open a listing of all of the tariffs we have on file for regulated utilities. They are sorted according to their Certificate numbers; in this case Bethel is Certificate number (CPCN) 43. When you locate Bethel, you will want to click on number 43. This will open a page specifically on Bethel. You will want to scroll down until you reach the section titled Tariff Filings.

The tariff filings section, lists all the tariff filings that the utility has ever made and the documents associated with those filings. As a side note, if you are interested in any information prior to 2001, it will not be available to view via the website. Prior to 2001, the Commission was not scanning all of its filings into its database system. There are descriptions for each filing. In your case you will be looking for filings with descriptions, such as PCE Funding Level Change and COPA, PCE & NFPPR. You said you would like to see the last 3 modifications to Bethel's PCE; in this case you will want to select TA193-43, 192-43 and 191-43. When you click on these filings a page will be brought up that lists the initial tariff filing, all supplemental filings, staff memorandums and letter orders associated with that TA number. You can only view the documents one at a time and in order to do so, you must click on the long identification number above each item.

In addition, you also mentioned you wanted to see the last 4 years worth of what I am assuming are COPA filings, where Bethel projects its 3-month fuel costs and kWh sales. Here are the following Tariff filings you will want to look at:

TA193-43, TA191-43, TA189-43, TA185-43, TA183-43, TA181-43, TA180-43, TA177-43, TA176-43, TA175-43, TA174-43, TA171-43, TA169-43, TA167-43, TA166-43 and TA163-43

These filings will also be where you will find the invoices for the fuel purchases made by the company. The contracts or bids for these fuel purchases are not required to be filed with the Commission; however, the invoices are. As far as I can tell the Commission also does not require that bid packets for the contract to haul fuel from the bulk plant to the utility be filed; however, more research may be needed if that is your primary area of interest.

Finally, you wanted to know if Bethel filed non-regulated fuel and power cost reports. Bethel is an economically regulated utility and is not required to file non-regulated fuel and power cost reports. The information you would find in such reports, would be found in the COPA filings made by Bethel on a quarterly basis and are required by the Commission and the utility's tariff. If you would like any or all of this information in hard copy, we can accommodate that request as well, however, the Commission does charge $0.20 per page, plus shipping.

Hopefully, you will find this information helpful. If you have any questions or need any additional information, please call or email me.

Thank You-

Jana Grenn

Utility Tariff Analyst

Regulatory Commission of Alaska

907-263-2194

From: Willie Keppel [mailto:wkeppel@unicom-alaska.com]
Sent: Sunday, February 25, 2007 7:52 AM
To: rca_mail@rca.state.ak.us
Subject:

Good morning,

I don't have the program to open a lot of documents and would appreciate some help.

I would like to see the last 3 modifications to the PCE for Bethel Utilities.

I am wondering if Bethel files non-regulated fuel and power cost reports and if so, may I have a copy of the last 2 years worth?

I would also like to know where to find the last two years worth of filings that show on the electric bill as fuel coefficiency, or if you have it a copy.

In the tariff there is a page on estimated fuel cost, filed every 90 days and I would like to see the last 4 years worth. It takes 18 minutes for me to download a tariff for Bethel and it shows only the current one.

How do I find the bid packets received for contract to haul fuel from the bulk plant to Bethel Utilities.

May I see all the contracts for fuel purchase for the last 5 years?

How about the bids for the same?

Which program do I need to download to open all of the filings?

Is this program available through the State, on line?

Thank-you, Willy Keppel, Bethel, 543-3986

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APUC No. 43 Sheet No.

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BETHEL UTILITIES CORPORATION

RULES AND REGULATIONS

5.15 INTERCONNECTION OF CONSUMER OWNED ALTERNATE TECHNOLOGY AND FOSSIL FUEL STANDBY GENERATION EQUIPMENT (continued) N

Customers may appeal this refusal to the Alaska Public Utilities Commission, 420 L Street, Suite 100, Anchorage, Ak. 99501, Phone number (907) 276-6222.

3. If an unauthorized interconnect is found, the Company will immediately terminate service to those facilities and reconnect the service only when all conditions of these Rules and Regulations are satisfied.

FOSSIL FUEL STANDBY GENERATION

The Company will not permit the interconnection and operation of fossil fuel standby generation facilities, such as diesel or gasoline engine driven standby generators, with its integrated distribution system under any circumstances. Diesel or gasoline driven standby generators shall be connected to the customer's load only through a double throw switch that will prevent parallel operation with the Company's distribution system.

OTHER CONSIDERATIONS

BUCI is obligated to connect with cogeneration facilities that meet the safety and reliability standards established by the Federal Energy Regulatory Commission. The customer shall be solely responsible for all accidents or injuries to persons or property caused by the operation of the customer's equipment, or by any failure of the customer to maintain his equipment in a satisfactory and/or safe operating condition, and shall indemnify, defend and save harmless the Company from any and all claims,

Tariff Advice No. 72 Effective: 1/23/87

Issued by: BETHEL UTILITIES CORPORATION

By: TS Sterrett, Jr. Title: CONTROLLER

THOMAS S. STERRETT, JR.

APUC No. 43 Original 16.05 Sheet No.

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BETHEL UTILITIES CORPORATION

RULES AND REGULATIONS

5.15 INTERCONNECTION OF CONSUMER OWNED ALTERNATE TECHNOLOGY AND FOSSIL FUEL STANDBY GENERATION EQUIPMENT (continued)

suits, losses or damages for injuries to persons or property, of whatsoever kind or nature arising directly or indirectly out of the operation of such

equipment or by the failure of the customer to maintain its equipment in a satisfactory and/or safe operating condition.

5.16 CUSTOMER POWER OUTAGE N

If a power outage occurs, the customer should attempt to determine if the outage is caused by failure of the customer's equipment or of the Company's equipment. If the customer determines the fault to be the Company's responsibility, the Company will send a serviceman out to investigate the reported outage. If the cause of the outage is determined to be the failure of the Company's equipment, the Company will correct the problem and restore service as soon as possible. However, if the cause of the outage is determined to be in the customer's portion of the service, the customer will be charged for all actual expenses associated with the serviceman's visit to the customer's service location (see Schedule of Fees and Charges).

5.17 PERSONAL GUARANTEE REQUIREMENTS N

The Company reserves the right to require personal guarantees of payment from the principal shareholders or officers prior to or anytime after accepting a corporation's application for service. The Company also reserves the right to require all general partners of a partnership to sign an application for service.

Tariff Advice No. 72 Effective: 1/23/87

Issued by: BETHEL UTILITIES CORPORATION

By: T S Sterrett Jr. Title: CONTROLLER

THOMAS S. STERRETT, JR.

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BETHEL UTILITIES CORPORATION

RULES AND REGULATIONS

5.14 AUTHORIZED BREAKING OF A METER SEAL N

Under certain circumstances, a customer may request permission to break a meter seal in order to facilitate disconnection for electrical work. Such requests should be addressed to the Company. A fee will be charged for resealing the equipment (see Schedule of Fees and Charges).

5.15 INTERCONNECTION OF CONSUMER OWNED ALTERNATE TECHNOLOGY AND FOSSIL FUEL STANDBY GENERATION EQUIPMENT N

ALTERNATE TECHNOLOGY GENERATION

1. The Company will permit the interconnection and operation of alternate technology generation facilities such as wind energy conversion systems or small scale hydroelectric facilities with its intergrated distribution system upon compliance by the customer with the following provisions:

a) A customer who owns any alternate technology generation shall request approval from the Company to interconnect with its system at least forty five days prior to the date on which the customer would intend to make any connection in any way to electric circuitry common to the Company's integrated distribution system.

b) The customer shall submit to the Company along with its request for interconnection complete documentation of the alternate technology generation equipment including, but not limited to:

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RULES AND REGULATIONS

5.15 *INTERCONNECTION OF CONSUMER OWNED ALTERNATE* TECHNOLOGY AND FOSSIL FUEL STANDBY GENERATION EQUIPMENT (continued) N

schematics, wiring diagrams, performance specifications, descriptions of energy storage devices, circuit protection equipment, regulation equipment, automatic disconnect equipment and any other proprietary device provided by the equipment manufacturers.

c) Upon approval of the interconnection by the Company the customer shall agree under special contract with the Company to pay the cost of any special metering equipment or circuit modifications determined by the Company as necessary to accomplish the interconnection, to pay the costs incurred by the Company to make such interconnection, to install power factor corrective equipment to maintain a power factor of not less than 0.9, to operate the generation equipment in strict compliance with safety procedures established by the Company, and to accept the terms of purchase of energy as set forth in the contract or the Rate for Purchase of Non-Firm Power from Qualifying Facilities as provided in this tariff.

2. The Company reserves the right to refuse interconnection with alternate technology generation facilities or limit the number of interconnections with alternate technology generation facilities on any circuit if it is determined by the company that any such interconnection would be harmful or hazardous to its system, employees or other customers. If a proposed interconnection is refused by the Company, the Company will provide the customer, within thirty days of the initial request, written notice of refusal, including a statement of the reason(s) for the refusal.

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Issued by: BETHEL UTILITIES CORPORATION

By: T S Sterrett, Jr. Title: CONTROLLER

THOMAS S. STERRETT, JR.

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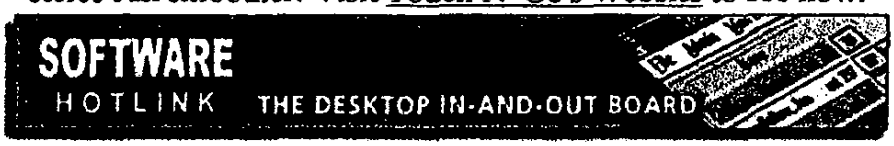

Title 3. Commerce, Community, and Economic Development

Chapter 50. Telecommunications

Section 750. Application, purpose, and waiver

3 AAC 50.750. Application, purpose, and waiver

(a) 3 AAC 50.750 - 3 AAC 50.820 apply to all electric utilities subject to the regulatory jurisdiction of the commission under AS 42.05.361 - 42.05.441. These sections govern interconnection and purchases and sales of electric power between an electric utility and a qualifying facility.

(b) The purpose of 3 AAC 50.750 - 3 AAC 50.820 is to encourage cogeneration and small power production by setting out guidelines for the establishment of reasonable, nondiscriminatory charges, rates, terms, and conditions under which interconnection and purchases and sales of electric power will occur between an electric utility and a qualifying facility.

(c) Any requirement in 3 AAC 50.750 - 3 AAC 50.820 may be waived, in whole or in part, or be modified by order of the commission upon application and a showing of good cause. An entity shall file and the commission will consider an application in accordance with 3 AAC 48.805.

History: Eff. 11/20/82, Register 84; am 4/24/2004, Register 170

Authority: AS 42.05.141

AS 42.05.151

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Title 3. Commerce, Community, and Economic Development

Chapter 50. Telecommunications

Section 760. Interconnection

3 AAC 50.760. Interconnection

(a) An electric utility shall make interconnection with a qualifying facility as may be necessary to accomplish purchases or sales under 3 AAC 50.750 - 3 AAC 50.820.

(b) Notwithstanding (a) of this section, an electric utility is not required to interconnect with a qualifying facility if

(1) the electric utility, solely because of purchases and sales over the interconnection, would become subject to federal regulation under Subchapter II of the Federal Power Act, 16 U.S.C. Â§ 824; or

(2) a qualifying facility does not comply with the safety and reliability standards prescribed for interconnection by the commission.

(c) An electric utility may assess a qualifying facility interconnection charges which are reasonable and *nondiscriminatory with respect to other customers that have similar load characteristics.*

(d) Interconnection charges may include the reasonable costs of connection, switching, metering, transmission, distribution, safety provisions, administration, and other costs incurred by the electric utility directly related to the installation and maintenance of the physical facilities necessary to permit interconnected operations with a qualifying facility, to the extent these costs are in excess of the corresponding costs which the electric utility would have incurred if it had not engaged in interconnected operations, but instead generated an equivalent amount of electric power from other sources. Interconnection costs do not include any costs included in the calculation of avoided costs.

(e) An electric utility shall offer a qualifying facility the option of reimbursing the electric utility for

interconnection charges over a reasonable period of time. The electric utility may charge reasonable interest, to be prescribed in its tariff or special contract, for the financing of the interconnection costs.

(f) If a dispute arises under 3 AAC 50.810, an electric utility shall submit to the commission the information necessary to support the methodology and calculations used in developing the charges assessed to a qualifying facility for interconnection.

(g) An electric utility shall offer to operate in parallel with a qualifying facility.

(h) An electric utility shall offer a qualifying facility that has a generating capacity of 10 kilowatts or less the option of using a single detent meter during parallel operation.

History: Eff. 11/20/82, Register 84

Authority: AS 42.05.141 (a)

AS 42.05.151 (a)

AS 42.05.291 (b)

AS 42.05.301

AS 42.05.361 (a)

AS 42.05.381 (a)

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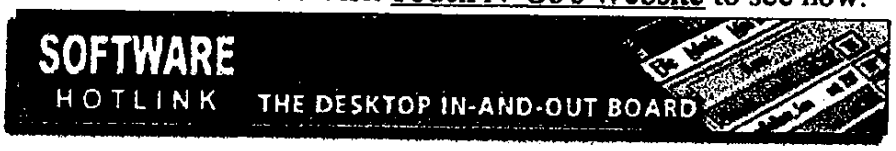

Title 3. Commerce, Community, and Economic Development

Chapter 50. Telecommunications

Section 770. Purchases

3 AAC 50.770. Purchases

(a) An electric utility shall purchase, in accordance with (c) - (f) of this section, any electric power which is made available from a qualifying facility.

(b) Notwithstanding (a) of this section, an electric utility is not required to purchase electric power from a qualifying facility if

(1) due to operational circumstances, purchases from a qualifying facility result in costs greater than those which the electric utility would have incurred if it had not made such purchases but had instead generated or purchased an equivalent amount of power; if purchases have started, an electric utility seeking to stop purchase under this paragraph shall notify in writing each affected qualifying facility in time for the qualifying facility to stop the delivery of electric power to the electric utility, or the electric utility shall pay the expense it would have incurred had power continued to be purchased from the qualifying facility at established rates during the same period;

(2) during a system emergency, purchases from a qualifying facility would further contribute to the emergency; or

(3) with the agreement of the qualifying facility, the electric utility transmits the electric power to another electric utility which is obligated to purchase that electric power as if it were supplied directly by the qualifying facility.

(c) Rates for purchases of electric power must be just and reasonable and must not discriminate against qualifying facilities or adversely affect the consumers of the electric utility.

(d) For purchases from a qualifying facility which supplies non-firm power, rates must be based on the cost of energy which the electric utility avoids by virtue of its interconnection with the qualifying facility. Rates under this subsection must comply with the following requirements:

(1) Unless otherwise modified by the commission, avoided energy costs, expressed in cents per kilowatt-hour, must be determined from the sum of fuel and variable operation and maintenance expenses and the energy portion of purchased-power expense for a 12-month period, approved by the commission, updated by subsequent fuel costs, and divided by the number of kilowatt-hours sold for the same time period. Expenses and kilowatt-hours sold associated with hydroelectric generation must be specifically excluded from the computation of avoided costs for an electric utility which relies on hydroelectric generation for 25 percent or more of its total power requirements.

(2) An electric utility shall submit to the commission the following information for the calendar or fiscal year preceding the date of filing, or a more recent 12-month period, to support rates for purchases of non-firm power:

(A) the data and computation of avoided energy costs specified in (d)(1) of this section; and

(B) at its option, the data and computation of avoided energy costs based on any other methodology deemed appropriate and justifiable by the electric utility.

(3) Rates for purchases of non-firm power must be adjusted contemporaneously with fuel-cost rate adjustments and with changes in avoided energy costs in general rate revisions.

(e) For purchases from a qualifying facility which supplies firm power, rates must be based on the costs of energy and capacity which the electric utility avoids by virtue of its interconnection with the qualifying facility. Rates under this subsection must comply with the following requirements:

(1) In determining avoided energy and capacity costs, to the extent practicable, the following factors must be taken into account:

(A) the estimated avoided energy costs stated on a cents per kilowatt-hour basis for the current calendar or fiscal year and each of the next five years;

(B) the electric utility's plan for the addition of capacity by amount and type, for purchases of firm energy and capacity, and for requirements for each year during the next 10 years;

(C) the estimated capacity costs at completion of the planned-capacity additions and planned-capacity firm purchases, on the basis of dollars per kilowatt and the associated energy costs of each unit, on the basis of cents per kilowatt-hour; these costs must be expressed in terms of individual generating units and of individual planned firm purchases;

(D) the availability of capacity or energy from a qualifying facility during system daily and seasonal peak periods;

(E) the ability of the electric utility to avoid costs due to the availability of energy or capacity from the qualifying facility; and

(F) the costs or savings resulting from variations in line losses due solely to purchases from qualifying facilities.

(2) An electric utility shall submit to the commission the information necessary to support the methodology and calculations used in developing rates for purchase of firm power based on avoided energy and capacity costs.

(f) Rates for purchases from a qualifying facility, the construction of which was commenced on or after November 9, 1978, must be set at an electric utility's full avoided costs as determined under (d) or (e) of this section. Rates for purchases from a qualifying facility, the construction of which was commenced before November 9, 1978, may be set at less than full avoided costs, provided that the lower purchase rates are established in accordance with (c) of this section.

(g) An electric utility which is legally obligated to obtain all of its requirements for electric power from another electric utility shall submit to the commission the requisite avoided cost data of its supplying utility and the rates at which it currently purchases such energy and capacity. The supplying electric utility shall make the necessary information available to the purchasing electric utility at the time its wholesale power rates are approved by the commission.

(h) An electric utility or qualifying facility may agree by special contract, subject to 3 AAC 48.390, to different rates, terms, or conditions for purchases than otherwise required by this section. A contract between an electric utility and a qualifying facility is valid if the commission determines the rates, terms, or conditions for purchases are just and reasonable to the customers of the electric utility and in the public interest. The contract may not be nullified under 3 AAC 50.770(b) (1) without prior commission approval.

History: Eff. 11/20/82, Register 84

Authority: AS 42.05.141 (a)

AS 42.05.151 (a)

AS 42.05.291 (c)

AS 42.05.361 (a)

AS 42.05.391 (a)

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Title 3. Commerce, Community, and Economic Development

Chapter 50. Telecommunications

Section 780. Sales

3 AAC 50.780. Sales

(a) An electric utility shall provide service to a qualifying facility including, but not limited to, supplementary power, back-up power, maintenance power, and interruptible power.

(b) Notwithstanding (a) of this section, an electric utility is not obligated to provide supplementary power, back-up power, maintenance power, and interruptible power to a qualifying facility upon a showing to and determination by the commission, after reasonable notice and an opportunity for public comment, that compliance with that requirement will either impair the electric utility's ability to give adequate service to its customers or impose an undue burden on the electric utility.

(c) Rates for sales must be just and reasonable and in the public interest and must not discriminate against the other consumers of the utility or against a qualifying facility in comparison to rates for sales to other customers of the electric utility with similar load or other cost-related characteristics.

(d) An electric utility shall submit to the commission the information necessary to support the methodology and calculations used in developing rates for sales of electric power to a qualifying facility in conformance with applicable commission regulations.

(e) Rates for sales of back-up power and maintenance power

(1) must not be based upon an assumption that forced outages or other reductions in electric output by all qualifying facilities on an electric utility's system will occur simultaneously, or during the system peak, or both, unless the assumption is supported by factual data; and

(2) must take into account the extent to which scheduled outages of the qualifying facilities can be

usefully coordinated with the scheduled outages of the electric utility's facilities.

(f) During any system emergency, an electric utility may discontinue sales to a qualifying facility, provided that the discontinuance is on a nondiscriminatory basis.

History: Eff. 11/20/82, Register 84

Authority: AS 42.05.141 (a)

AS 42.05.151 (a)

AS 42.05.291 (c)

AS 42.05.301

AS 42.05.361 (a)

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Last modified 7/05/2006

6-17-09 Statewide Energy Policy, Fairbanks Testimony, HB 218, HB 219

<target><bill>HB 218</bill><subject>6-17-09 Statewide Energy Policy, Fairbanks Testimony, HB 218, HB 219</subject><comm>HENE26</comm></target>

Alaska Legislature
House Special Committee on Energy

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AGENDA

Wednesday, June 17, 2009
5:00 – 8:00 p.m.
University of Alaska Fairbanks
UA Regents Conference Room

1) Opening comments by Co-chairs Rep. Charisse Millett and Rep. Bryce Edgmon

2) Presentations:

- Wind-diesel technology, Alaska Center for Energy and Power
- Propane distribution, Mary Anne Pease, ANGDA

3) Public hearing

###

Alaska Legislature
House Special Committee on Energy

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Sectional Analysis
House Bill 218: Creating Dept of Energy / AEA Board

Section 1

Deletes the Home energy conservation and weatherization program as a program eligible to receive money from the Alaska Housing Finance Corp. (See Sections 6 and 10 below).

Section 2

Adds the Dept. of Energy to the definition of "department".

Section 3

Adds the board of directors of the Alaska Energy Authority to the list of official state boards and commissions.

Section 4

Moves the Alaska Natural Gas Development Authority from the Department of Revenue to the Department of Energy.

Section 5

Adds the Dept. of Energy to the state list of principal offices and departments.

Section 6

Adds a new chapter to statute creating the Department of Energy and defining its duties which includes developing and administering a statewide energy plan. Mandates that the new department assist in planning and implementing the home energy loan program, rural capital retrofit program, and the energy efficiency and weatherization program.

Section 7

Moves the Alaska Energy Authority from the Dept. of Commerce, Community & Economic Development to the Department of Energy.

Section 8

Changes how the directors of the Alaska Energy Authority are selected.

Section 9

Changes existing statute regarding powers and rules of the Alaska Energy Authority to conform to the changes made in Section 8.

Section 10

Deletes the existing Home energy conservation and weatherization program from AHFC statutes to conform with the changes made in Section 6.

Prepared by the House Special Committee on Energy. *Bill Version: 26-LS0843\R*

Alaska Legislature
House Special Committee on Energy

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Sectional Analysis
House Bill 219: Renewable Energy Grant Requirements

Section 1

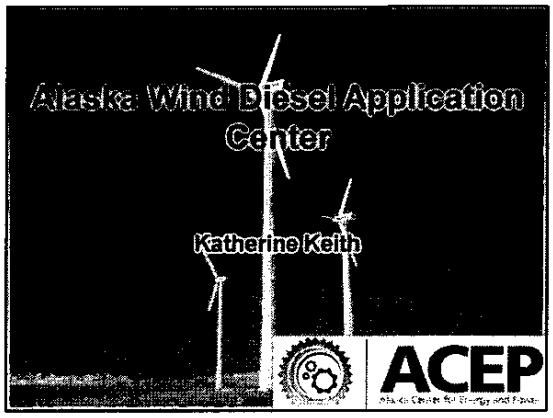
Adds language assuring that the applicant has verified to AEA that matching funds are available for the project and that the project is likely to have a financial benefit exceeding the amount of the grant

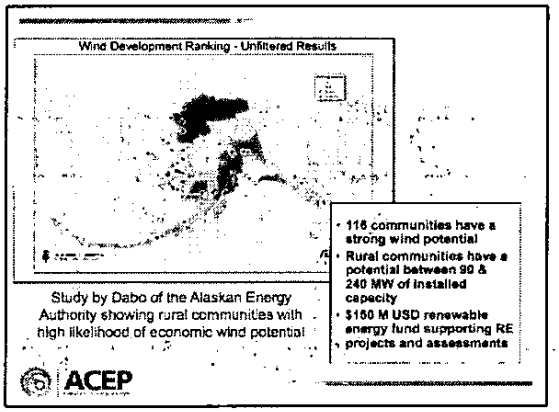
Also adds a requirement that each successfully funded project file activity reports with AEA.

Section 2

Adds language requiring AEA to hire an economist with experience in the area of renewable energy. The economist would be required to prepare written evaluations of each project recommended for funding and to submit a report detailing those results to the legislature.

Prepared by the House Special Committee on Energy. *Bill Version: 26-LS0815\R*





Wind Diesel Projects

Current Wind Diesel Projects
- Hooper Bay
- Kasigluk
- Kotzebue
- Nome
- St. Paul Island
- Savoonga
- Selawik
- Toksook Bay
- Wales

Planned Projects
- Chevak
- Mekoryuk
- Quinhagak
- Toksook Bay
- Kodiak
- Gambell
- Kwig & Kong
- Tin City
- Buckland, Deering, Noorvik

ACEP

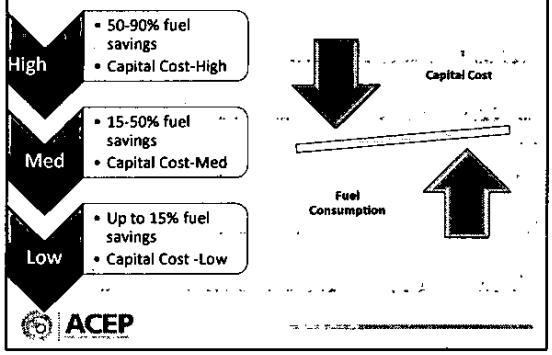
Round 152 Funding

Round 1
- $47.7 Million for Wind Energy
- 21 Wind Projects
- 18 out of 21 Wind Diesel Systems

Round 2
- $14.6 Million
- 14 Wind Projects

ACEP

Wind-Diesel Classes

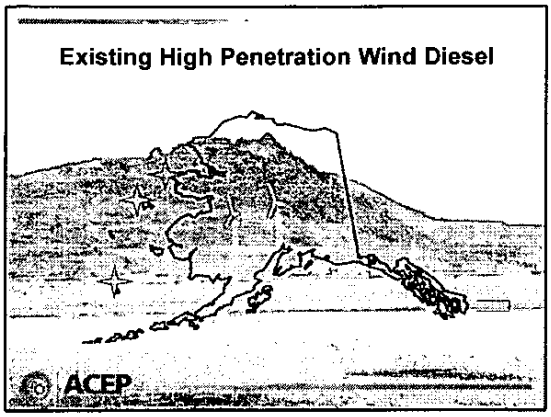


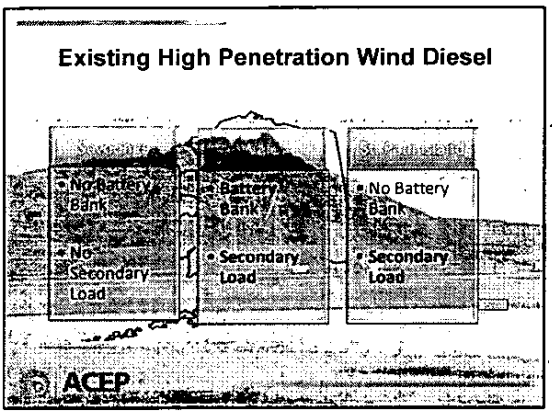
ACEP

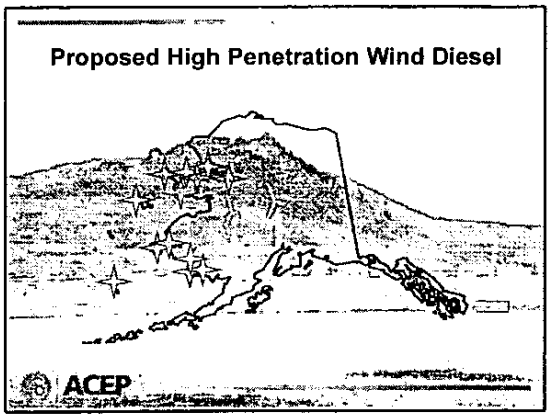
High Penetration Wind Diesel Systems

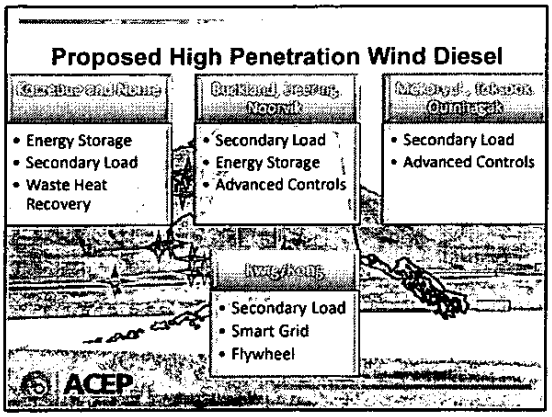
Ultimate Objective:
Reduce diesel consumption
Optimizing system performance
Reduce capital cost
Definition:
Peak Instantaneous (kW) 100-400%
Annual Average (kWh) 50-150%
Ability to enter diesel off mode

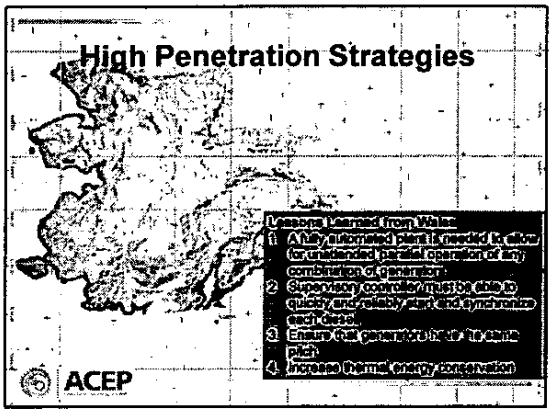
ACEP


Existing High Penetration Wind Diesel
ACEP


Existing High Penetration Wind Diesel
No Battery Bank
No Secondary Load
Battery Bank
Secondary Load
No Battery Bank
Secondary Load
ACEP


Proposed High Penetration Wind Diesel
ACEP





Secondary Loads/Energy Storage

- Energy Storage
  - Batteries/Pumped Hydro/Compressed Air
  - Hydrogen
- Thermal Uses
  - Space Heating
  - Water Heating
  - Power Generation (ORC/Ammonia Power Cycle)
  - Absorption Chilling (Ice making-Air conditioning)
- Transportation
  - Plug-in Hybrid Electric Vehicles (PHEV)
  - Electric Vehicles: ATVs and Mass Transit
  - Hydrogen Internal Combustion Engine

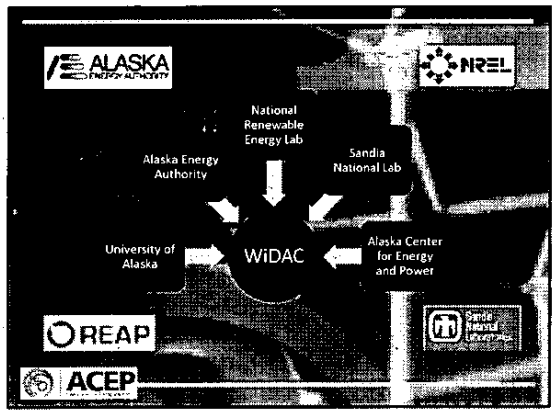
ACEP

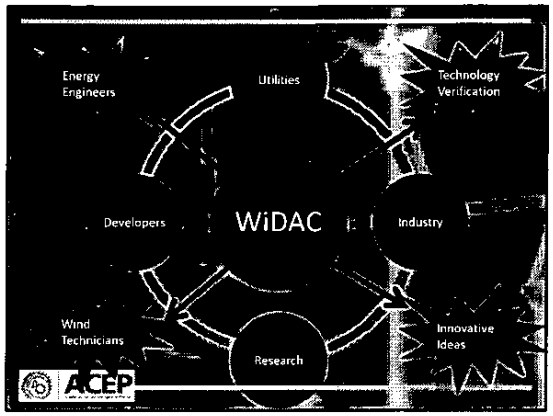
The purpose of the

Alaska Wind-Diesel Applications Center (WiDAC)

is to support the broader deployment of cost-effective wind-diesel technologies to reduce and/or stabilize the cost of energy in rural communities.

ACEP

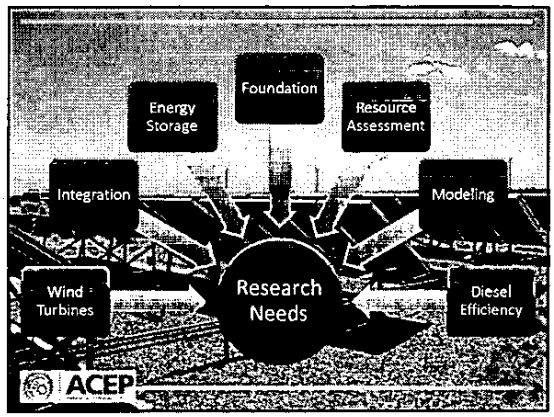




Focus Areas

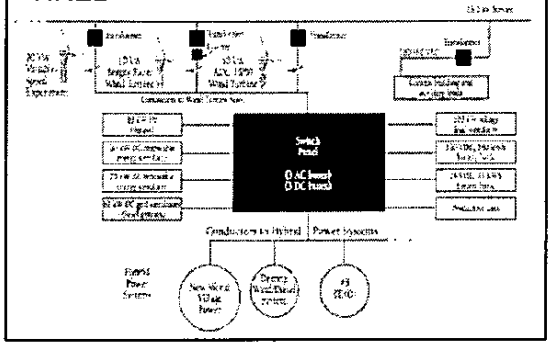
Research and Development	• Independent analysis & testing • Applied research
Technical Support	• Feasibility studies and • Build human capacity
Workforce Development and Education	• Wind for schools • Technician levels

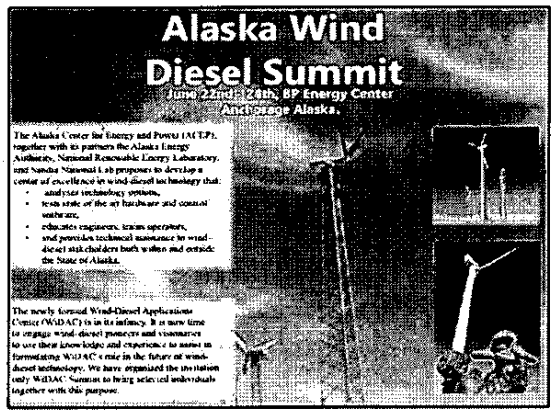
ACEP



HYBRID POWER TEST BED

NREL





For more information visit:

www.uaf.edu/acep

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ACEP

Alaska
Natural Gas Development Authority

North Slope Propane Source

Alaska Propane Opportunities Conference

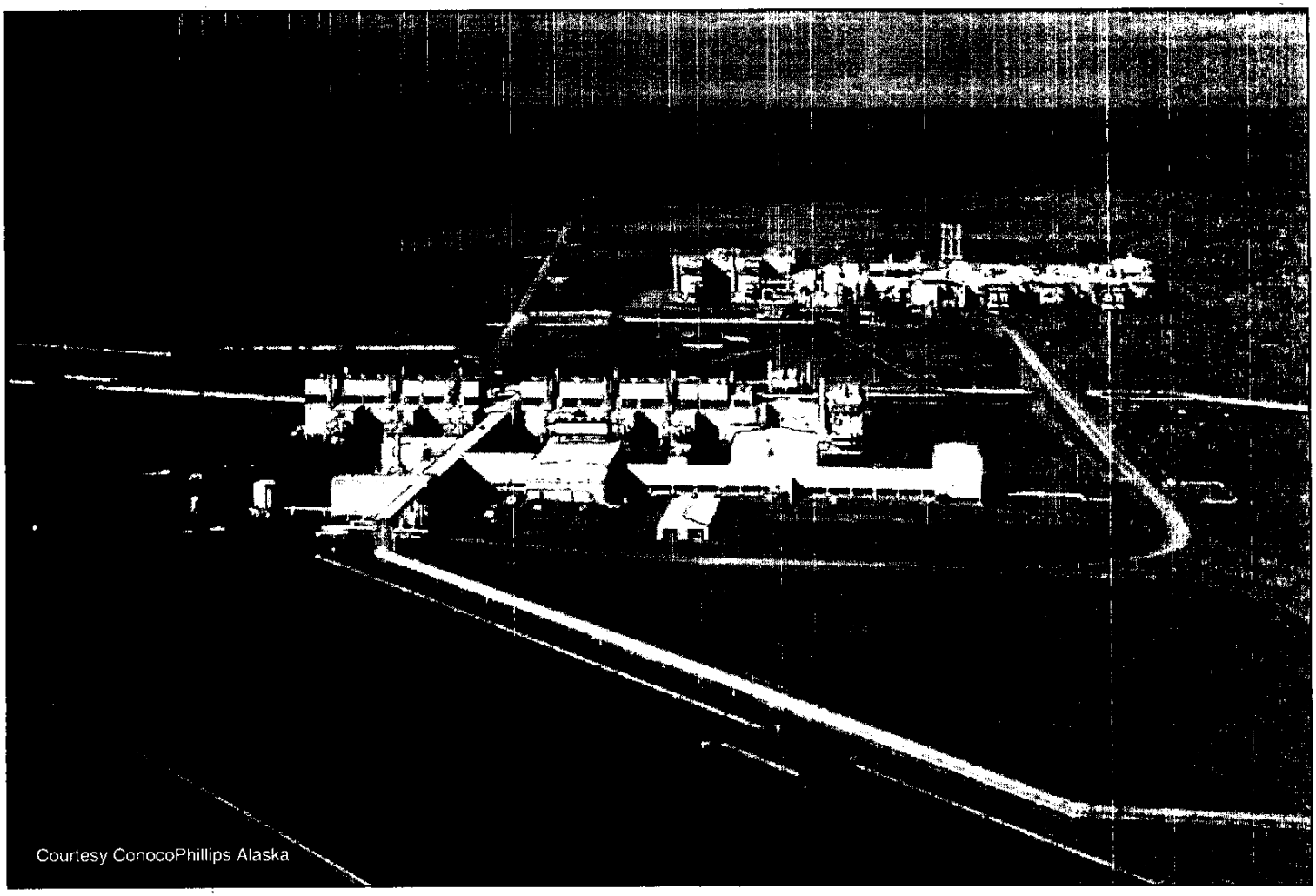
June 17, 2009

NANA WorleyParsons

Prudhoe Bay Operations Overview

- ~13 Billion Barrels Oil Recoverable
  - Original estimate ~9.6 billion
  - Produced to date ~11 billion
- ~1.5 Million BPD Produced Water
- ~24-26 Trillion CF Gas Recoverable
  - ~7-8 BSCFD produced

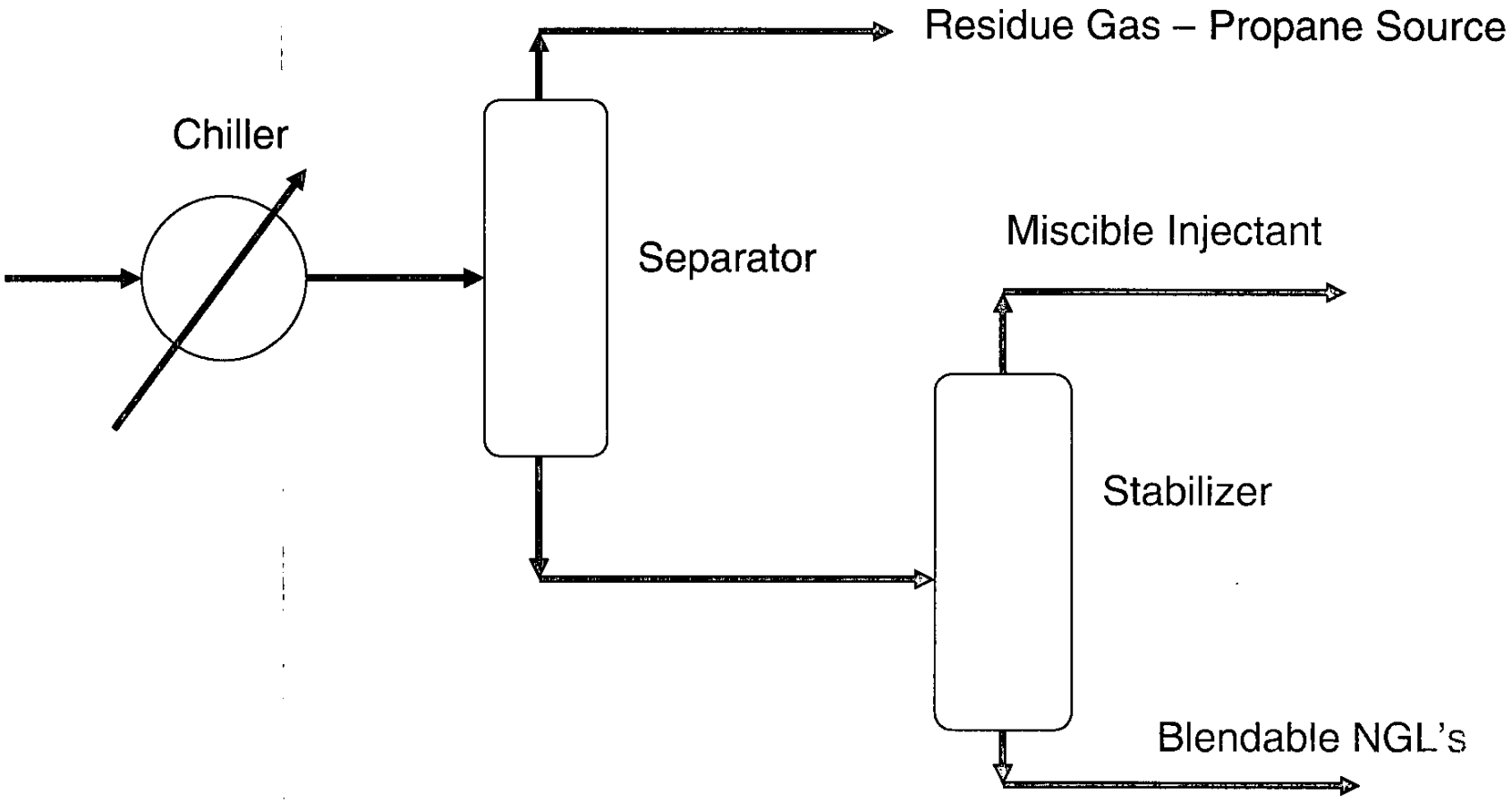
Prudhoe Bay Gas Facilities



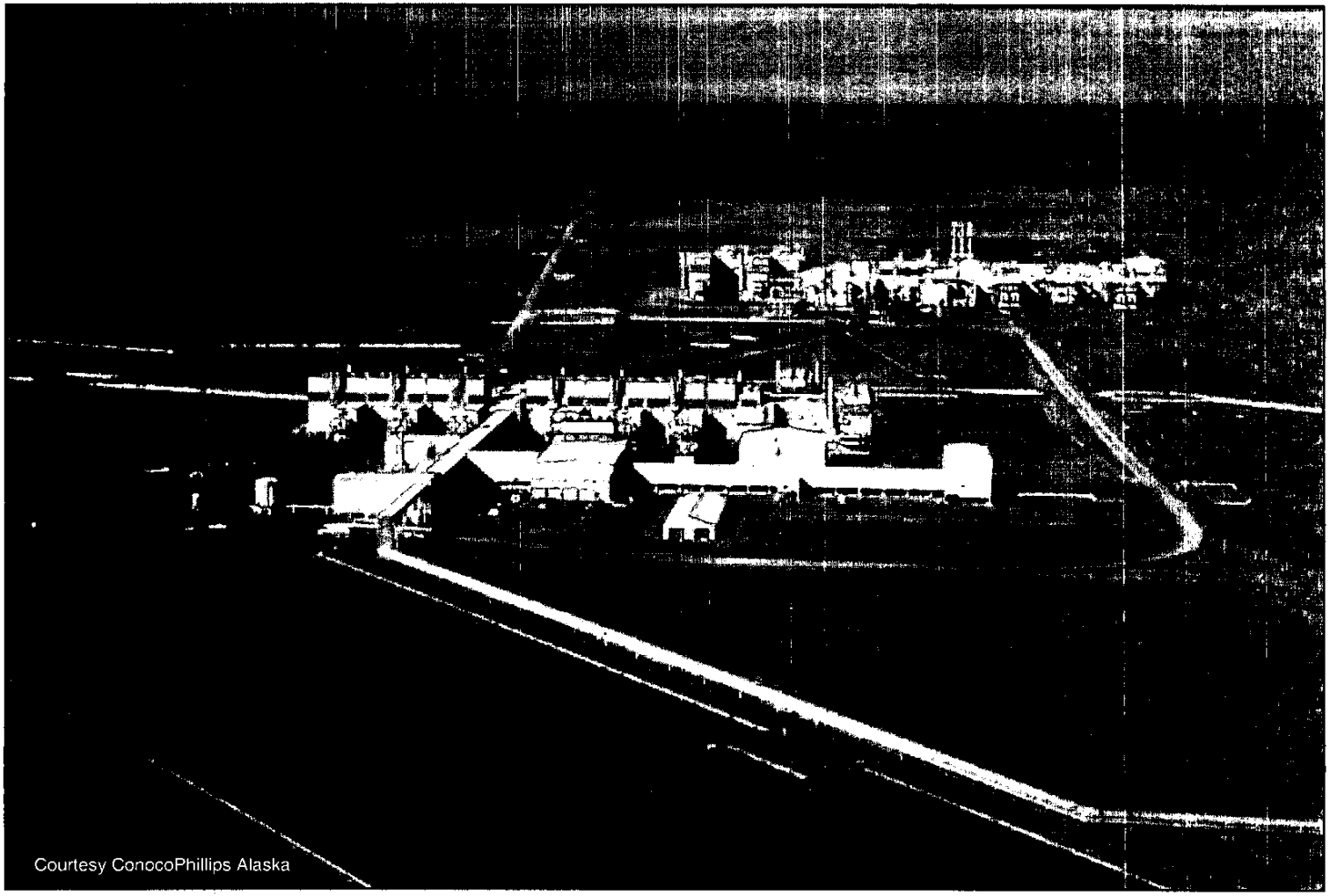
Prudhoe Bay Central Gas Facility

- The CGF Processes Gas into 3 Streams
  - Heaviest Components Blended with Oil
  - Mid Weight Components used for Miscible Injection
  - Light Components (or Residue Gas)
    - Fuel
    - Re-injected into Gas Cap - Propane Source

Prudhoe Bay Central Gas Facility

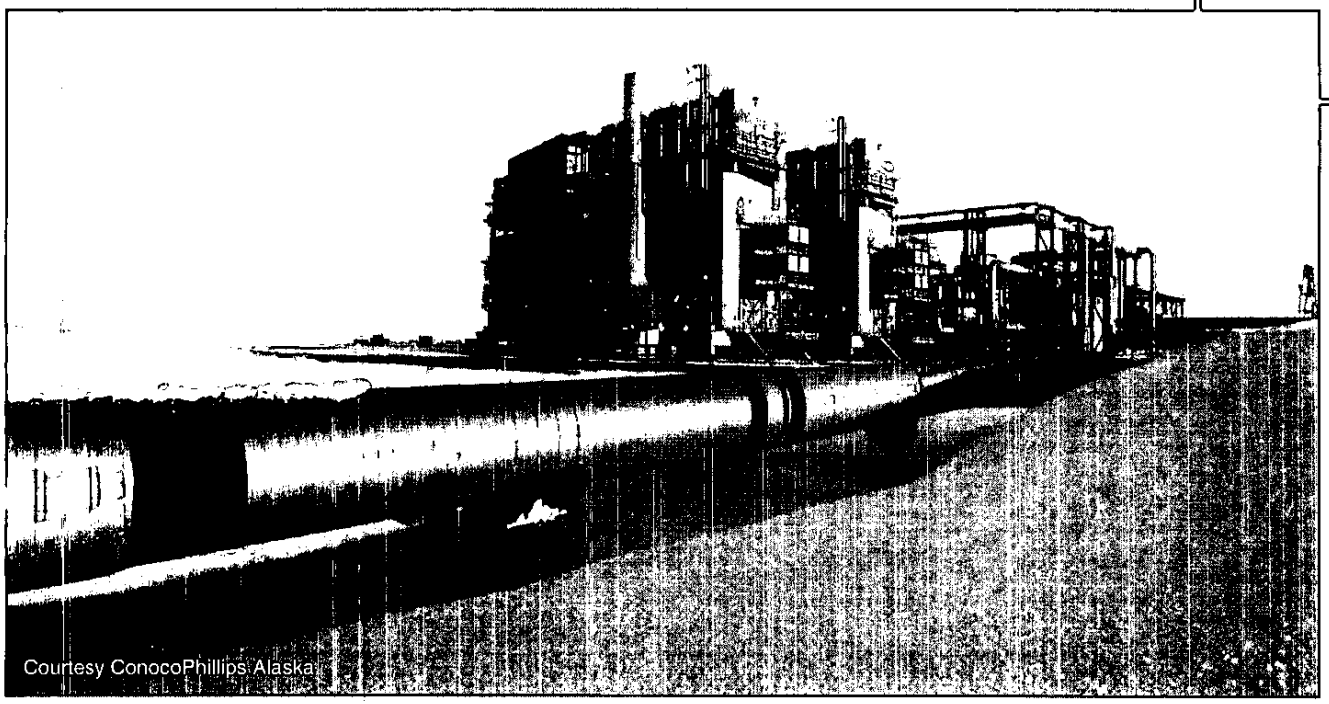


Prudhoe Bay Gas Facilities



Courtesy ConocoPhillips Alaska

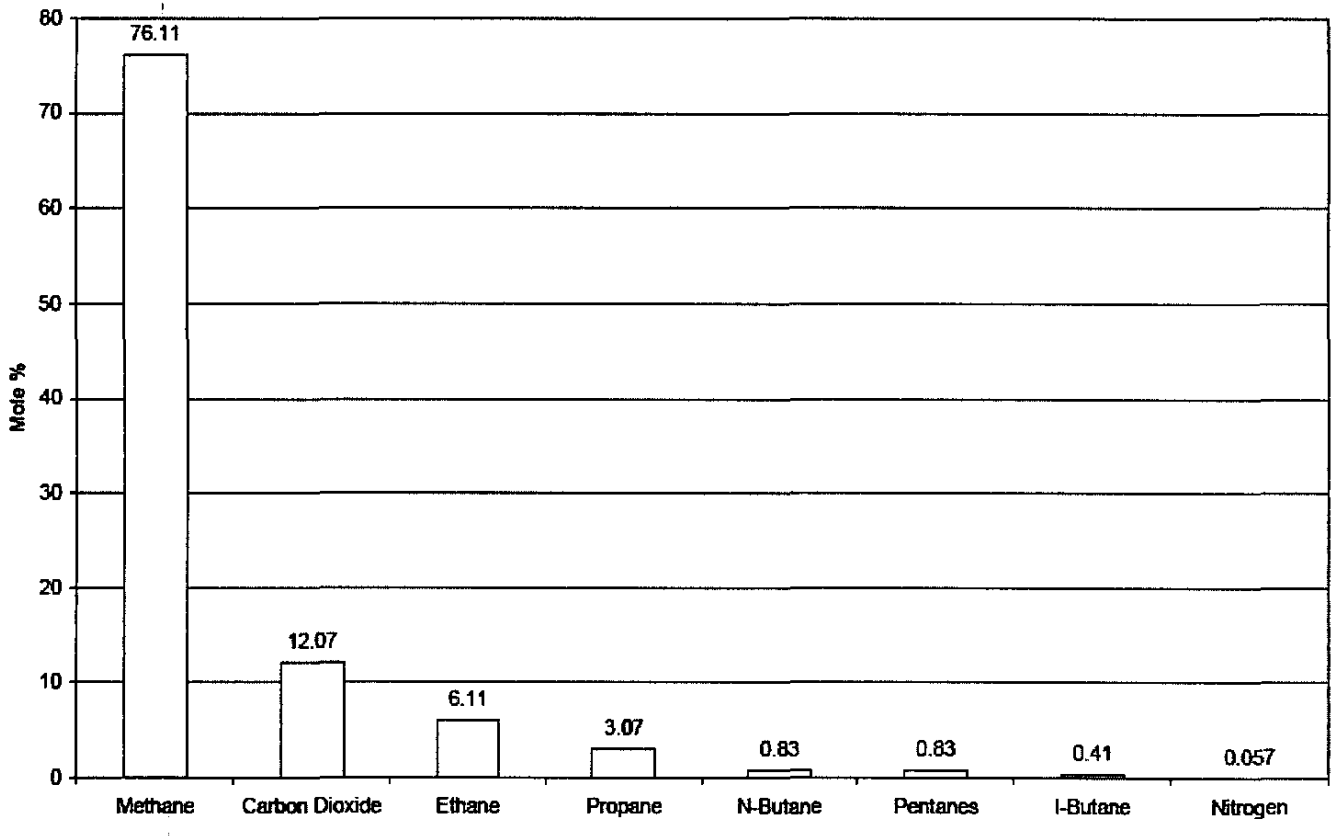
Prudhoe Bay Gas Facilities



Potential Propane Extraction Facility Supply & Return

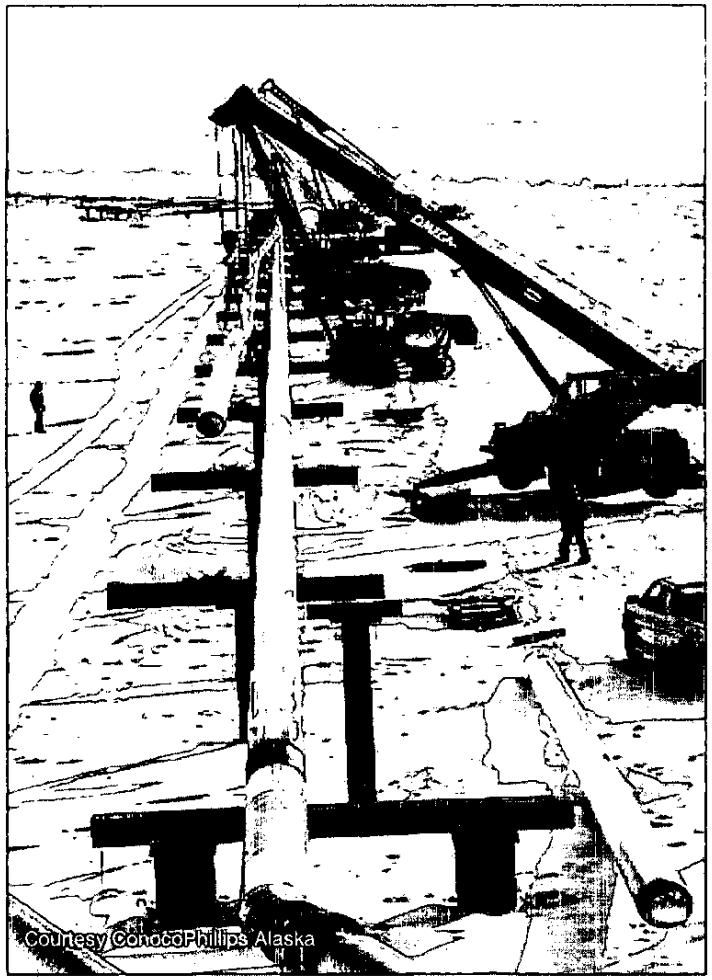
Prudhoe Bay

- Typical Gas Composition



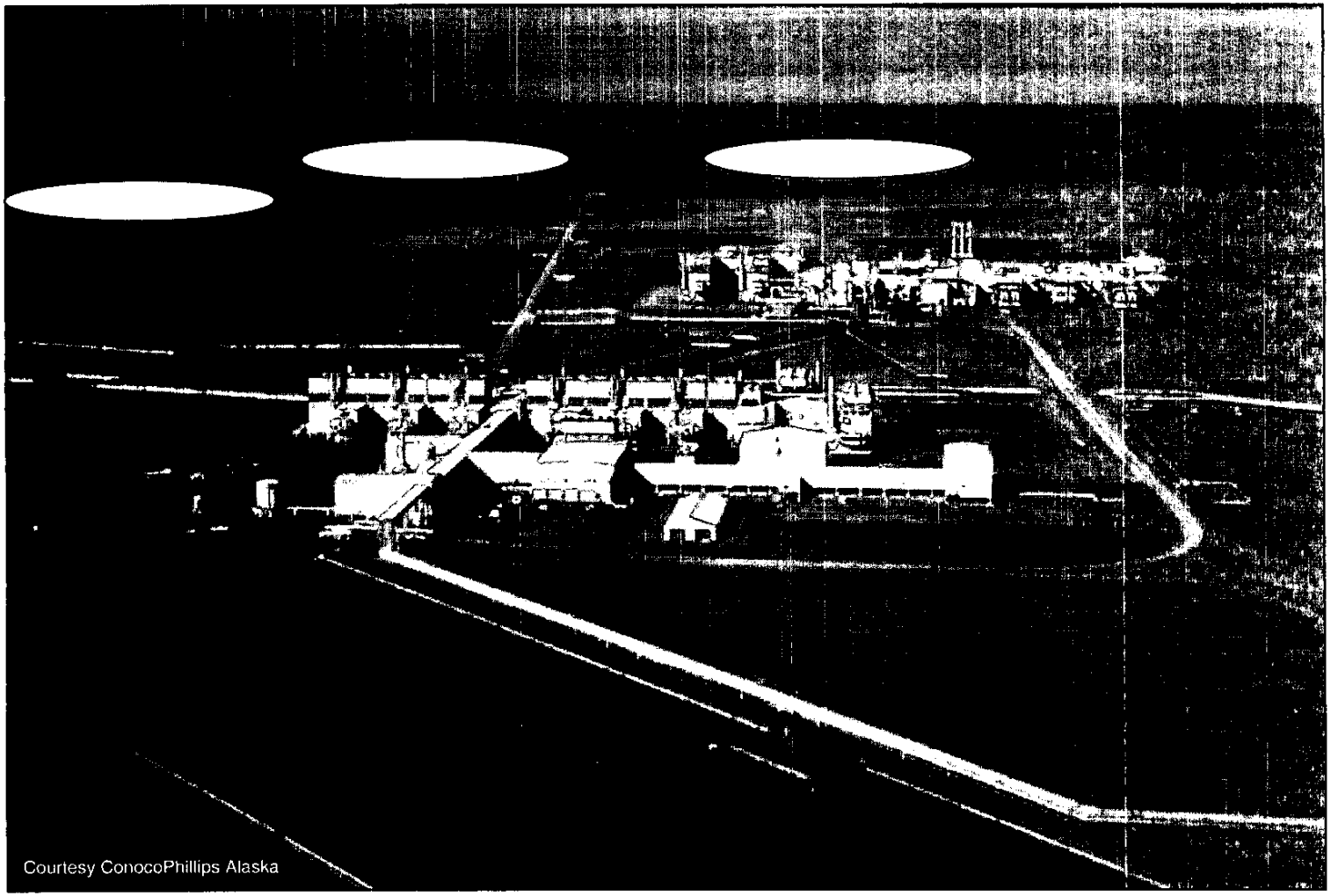
(ANGDA)

Potential Propane Quantity



- ~1 BSCFD Residue Gas Supply
  - @ 2-3% Propane
- ~10+ MBPD Propane Available

Potential Propane Facility Locations



Propane Source

- Prudhoe Bay Gas
- Tie-In Downstream Central Gas Facility
- 1 BSCFD Stream ~ 10 MBPD Propane

Golden Valley Electric Association
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Prepared Statement of Golden Valley Electric Association

Before the

Special Committee on Energy

of the

House of Representatives

on an

Alaska Energy Plan

June 17, 2009

House: Co-Chairs, Rep. Bryce Edgmon and Rep. Charisse Millett, Rep. Dahlstrom, Rep. Johansen, Rep. Ramras, Rep. Petersen, and Rep. Tuck.

State name for the record: David Gardner

Madam Chair and members of the committee, Golden Valley is pleased to have this opportunity to discuss Alaska's energy future. Energy, as has been so often said, is the lifeblood of our society. Energy is also, at least in many of its current forms, a scarce resource. As demand for energy increases in Alaska and around the world, as current stocks of oil and natural gas are depleted, and as new regulatory structures establish financial disincentives for the carbon emitted by fossil fuels, the cost of these fuels may rise sharply. As Alaskans, we accept the necessity of belt-tightening in difficult times; however, the problem of ensuring continued access to affordable, reliable energy is a problem. A problem that will call upon the creativity and dedication of the private sector and upon the rigorous action of local, state, and federal government.

Golden Valley strongly advocates the development of a comprehensive Energy Plan for Alaska. The Alaska Energy Plan would be a vision of the role that Alaska's utilities and state government officials, agencies, and elected representatives can play in solving energy problems and shaping our energy future. To be sure, the United States government must address larger issues such as funding for energy research and development, and legislation or regulation of green house gases. However, there are steps that Alaska can take to move toward more stable, independent patterns of energy generation and use. Here is what we feel are some of the components a plan should attempt to identify:

1. Utility Scale Renewable Resources: The statutory requirements that stipulate that Alaska's electric utilities provide power to consumers at the lowest possible cost has helped to keep electric rates in the state low. However, certain features of this structure in Alaska have acted as barriers to the amount of electricity generated by renewable resources in the state, especially utility-scale projects. Alaska's lawmakers and electric utilities will need to work together to overcome these barriers if carbon emissions from traditional fossil-fired power plants come under greater scrutiny in the coming months and years. One immediate step should include moving forward with the Susitna hydroelectric project.

2. Energy Efficiency: Energy efficiency, or the reduction of demand for energy, is also generally considered a "resource." Reducing consumption by one kilowatt-hour is equivalent to increasing supply by the same amount. Thus, products and practices such as programmable thermostats, "smart" meters, efficient appliances and lighting systems, building insulation, and simple common-sense reductions in demand can all play a role in meeting Alaska's electricity production needs.

3. Transmission: Increasing the amount of electricity generated by renewable energy sources, replacing aging infrastructure, and the development of a transmission grid across Alaska will require a significant investment in the construction of new transmission lines. Much like the job of power pool organizations in the Lower 48, we must establish an Alaska Power Pool to facilitate the planning and coordination of transmission line development throughout the state. The responsibilities of the Alaska Power Pool would include planning, siting, and routing of transmission line additions, and sources of financing for new lines and line upgrades. These are difficult and expensive tasks, but achievable if local, state and federal officials work together with public and private utilities toward a mutually beneficial solution.

4. Energy diversity: Regardless of future regulatory changes, the focus of Alaska's electric utilities must be on developing a diverse portfolio of generating sources in order to provide affordable, reliable energy to Alaskans in the most environmentally responsible manner possible. Because of Alaska's vast natural resources, a diversified energy portfolio must include coal, hydroelectric, oil, natural gas, wind, solar, geothermal, and biomass.

5. Renewable Portfolio Standard (RPS) or Renewable Energy Standards (RES): A RPS/RES is a statutory requirement that all utilities operating within the state generate a certain percentage of the electricity they distribute from renewable sources. Currently, 28 states have adopted RPS/RES legislation and changes within the federal government, including President Obama's renewable initiatives and shifts in congressional committees, indicate that a nationwide RPS/RES may be enacted in the near future. However, Golden Valley opposes mandatory RPS/RES legislation because without careful consideration RPS/RES requirements can create inequitable subsidies from one region of the state to another, and cause electric consumers to suffer from lower electric reliability and precipitous rate increases.

6. Other Resource Utilization Measures and Actions: Partner with the Alaska legislature and with Alaska's congressional delegation to:

a. Extend the federal production tax credits for renewable energy.

b. Make federal tax credits for wind energy production tradable. This would allow not-for-profit utilities to capture the tax credits that are otherwise only available to investor-owned utilities.

c. Increase annual appropriations for the Renewable Energy Production Incentives (REPI). REPI is designed to offer public utilities incentives for the development of renewable generating capacity in place of the production tax credits, for which they do not qualify.

d. Expand the use of Clean Renewable Energy Bonds (CREBS). Under one congressional plan, billions in CREBS would be available to public utilities and electric cooperatives for new renewable energy projects.

e. Support the continuation of federal tax credits for small-scale wind production.

f. Support the continuation of federal tax credits for residential photovoltaic electricity generating systems.

g. In partnership with the University of Alaska, support the development and rapid, low-cost implementation of carbon capture and sequestration technologies at existing and future coal-fired generating plants.

7. Alaska Center for Energy and Power: Researching new energy technologies is crucial for the continued availability of affordable, reliable energy in Alaska. Research that leads to advances in the viability or efficiency of renewable energy technologies, for example, can create jobs, lessen dependence on foreign fossil fuel, and reduce greenhouse gas emissions. Research that identifies new means of conservation can help lower demand for energy and thereby reduce its cost. Through cooperation with federal grant-making bodies, local and state governments, and national research institutions, the Alaska Center for Energy and Power (based at the University of Alaska) can play a leading role in tackling these research questions.

8. Plan Today: Energy Solutions for Tomorrow! Golden Valley supports the efforts of the Senate and House Special Committees on Energy to develop a vision for Alaska's energy future. A vision would be instrumental in establishing both a state Energy Policy and Plan that streamlines current energy programs as well as develops future energy solutions for the state.

In closing, Golden Valley Electric Association suggests the following draft as Alaska's Energy Policy: It is the policy of the State that Alaska, through a statewide Energy Plan, have adequate, reliable, affordable, sustainable, and clean energy resources by promoting the development of nonrenewable energy resources, including natural gas, coal, and oil; and renewable energy resources, including geothermal, solar, wind, biomass, and hydroelectric. Alaska will promote the development of resources and infrastructure sufficient to meet the state's growing energy demand, while reducing dependence on foreign energy sources, through energy conservation, energy efficiency, energy research, energy related workforce development, and state regulatory processes that balance economic costs with environmental quality.

Alaska Energy Plan for the 21st Century

Good evening Representatives. My name is Jessie Peterson, and I am the local issues and energy coordinator at the Northern Alaska Environmental Center, located here in Fairbanks. The 2 tracks of my position are very fitting, as of course, energy IS the local issue in Fairbanks and other Interior communities.

Alaska can reach Gov Palin's goal of 50% renewable energy by 2025 if we look to the future, not to the past for real solutions. The Interior is brimming with innovative folks who are ready and willing to mold the future of our energy portfolio. I hope the creative solutions you see on this trip will reassure you that folks in the Interior are leaders, and are ready and willing to step up and find solutions to our energy needs.

With our vast renewable energy sources, new technologies, and enterprising spirit we can meet our energy needs, save money, revitalize our economy, and reduce greenhouse gas emissions without having to look to past technologies for our answers. In order to get there, Alaska will Need:

- State leadership on an energy vision – thank you for being here and doing that.
- I urge you, our leaders, to work with our utilities to create an energy vision that can be beneficial to our utilities while still focusing on energy efficiency and renewable energies, such as through decoupling measures and other such policies to remove the traditional formula of more energy used = cheaper rates.
- To consider a policy such as a renewable Portfolio Standard, or RPS. This is a regulation that requires the increased production of energy from renewable energy sources. (An RPS will show the renewable energy industry that AK is open for business. In other states, including California and PA, an RPS has lead to a significant private sector increase in jobs.)

(The Renewable Energy Alaska Project and their Executive Director Chris Rose can certainly point you towards more information on the benefits of an RPS.)

Alaska's energy plan should:

- Reduce carbon emissions
- Provide affordable and reliable baseload power for our communities
- Reduce our dependence on nonrenewable fossil fuels
- Implement energy efficiency and conservation programs that save energy
- Invest in new technologies
- Empower Alaskans to be part of the solution

I thank you for supporting the numerous energy efficiency and renewable energy bills introduced during the 2009 session, and urge you to continue to push for energy legislation during the 2010 session:

It's time for Alaskans to reclaim our position as leaders – and we are blessed with the abundance and diversity of renewable energy options and innovative leaders to make it happen. An investment in renewable energy and energy efficiency measures will simultaneously create new economic opportunities while helping to address the challenge of our lifetime, climate change.

Thank you for dedicating your time to exploring and learning more about the vast and innovative energy potential across Alaska, and for listening to what Alaskans envision for an energy policy. It is certainly time to be bold.

Contact Information:
Jessie Peterson
Local Issues and Energy Coordinator
Northern Alaska Environmental Center
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Email: jessie@northern.org

Energy Committee Hearing: Alaska House of Reps. June 17, 2009

Richard Seifert
ffrds@uaf.edu
Professor, Energy and Housing
UAF Cooperative Extension Service

I work in the Cooperative Extension service as an "Energy Specialist", but my job is much more than that. An energy perspective, and the vision with which it informs me, along with the tools and information available from the CES and my peers, has led me to endorse fully moving toward a sustainable Alaska by what is now being called "The Sustainable Transition", and typified by the book : "The Transition Handbook," By Rob Hopkins. It's subtitle is *From oil dependency to local resilience"*. Needless to say, this is a profoundly appropriate title and sub-title, for ALL Alaska.

In his prescient book of 1993, *Ecological Literacy"*, Professor David Orr lists the skills we'll need for the sustainable transition: "*Hence, the transition requires people to know a great deal about solar design, horticulture, waste, composting, greenhouses, intensive gardening, food preservation, household economics, and on-site energy systems.*"

These happen to be almost precisely the skill base and information set available from our Cooperative Extension Service. We have the tools for the Sustainable Transition and we have the people with the know-how. Call on us and we'll show you more.

As a basis for policy, a fruitful approach is to ask the right questions. For instance, if we are to move toward renewable energy resources for Alaska's energy needs, a primal question is, just how much can renewables provide? Which type of renewable resource is best matched to the need and peak demands? Where shall we put the renewable systems for maximum security and public safety? I have studied this and offer a paper at the website: www.sustainalaska.org titled: "*A Sustainable Alaska : Could we do it?*" I haven't finished the full effort yet, but I can tell you already that the answer is yes, we could do it!

A crucial past stumbling block is the legacy and history of doing energy development by "Projects." This is a flawed and imperfect way to solve energy problems. It leads to a lot of false starts, and failed efforts, and often suffers from lack of planning and foresight. It is the result of a history of "project policy" the pork barrel habit of placating communities, constituents, and powerful lobbies with "projects" to make jobs or solve short-term needs. An energy policy must not be driven by this legacy. It needs to be holistic, durable, based on scientific and engineering reality, truly cooperative and statewide, and optimize each region's resources and needs, rather than force half-baked maladaptive projects onto defenseless communities. Go slow to go fast will work best

for renewable energy development. Feeding pork into communities piecemeal, communities which can't maintain or repair projects, is a pattern we must abandon.

Here are some key elements of good energy policy:

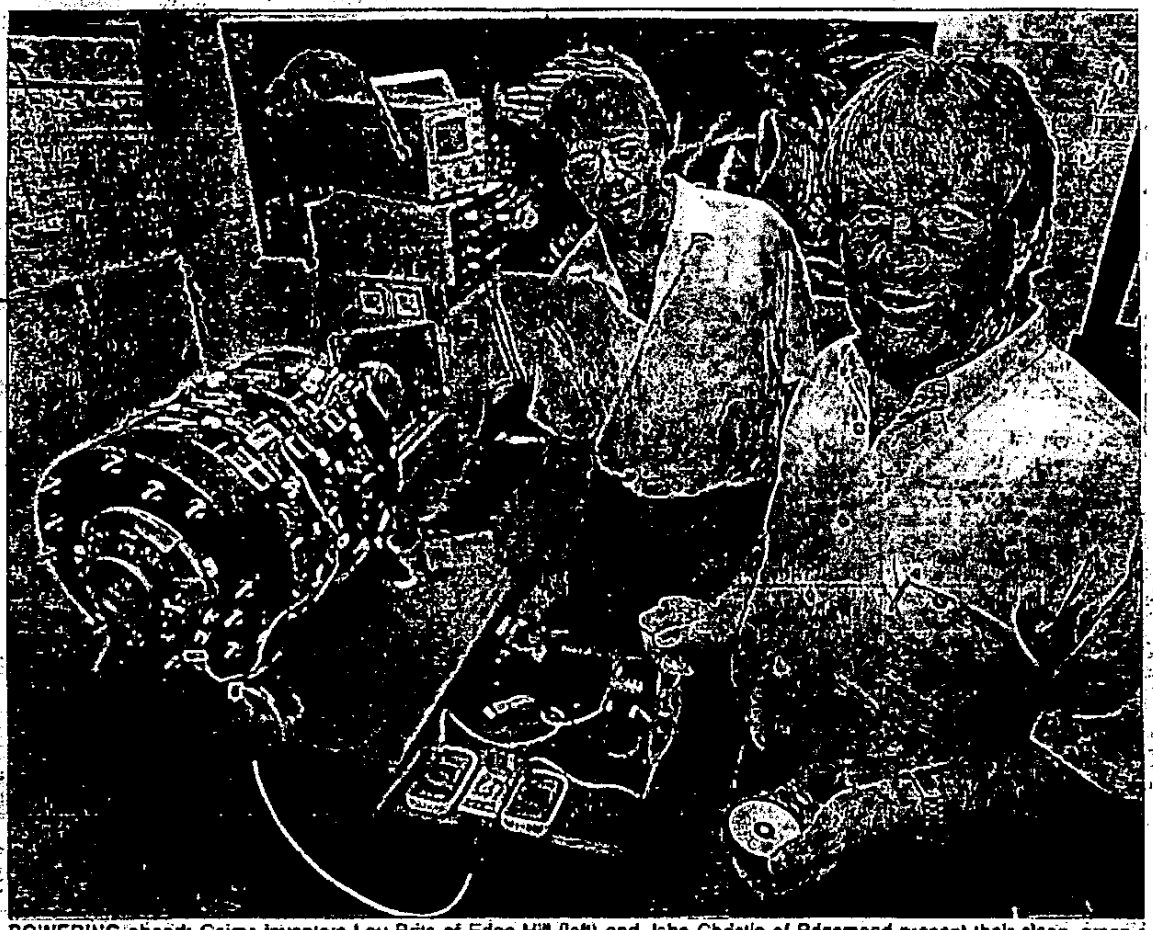
1. Always do the conservation first: one of our strengths now. Saving, not even using energy is always less costly than providing it.
2. Accentuate the positive. Look for the best renewables: Wind on the coasts, hydro where it is most available and least damaging, biomass, and fossil fuels only when absolutely nothing else will suffice.
3. Place highest value on the highest value energy: create renewably powered electrical utilities and interties. Develop renewable electrification to the maximum.
4. Always ask: how durable is this system? Will it last? Does it cause climate change?
   Can it be sustained?
5. Pay as you go finance with our own collateral, using the Permanent Fund for bonding our energy future. This is not only consistent, it is possibly the wisest use of our Permanent fund – to ensure our energy future and insure that it is not a cause of climate change.
6. Education, education, education. Your university can and should serve this need. ACEP, Engineering departments, the Cooperative Extension energy information, all are available to you for the asking with budget support.

Thank you for this opportunity to testify and advocate for energy policy. It is the huge lack which must be met soon, if we are to continue to prosper and have a comfortable standard of living with highly technical communication, the internet, and financial security. Without reliable renewable electricity, none of these will last.

June 15, 2009
www.uaf.edu/coop-ext/faculty/seifert/
www.sustainalaska.org

Richard Seifert

VORLD FIRS



POWERING ahead: Cairns inventors Lou Brits of Edge Hill (left) and John Christie of Brinsmead present their clean, green e which is set to take on the world. Picture: Mike Watt

the machine would be in perpetual motion.

A demonstration of the motor from the carpeted study of Mr Christie's Brinsmead home revealed the device in all its glory — bigger than the average cyclone back-up gen-

five years ago and began sharing ideas.

One and a half years ago, the design was perfected and the pair lodged a patent with Brisbane patent attorneys Griffith Hack.

Mr Christie said the

served Daintree region and the Torres Strait.

He said the price tag for the devices could vary in remote locations depending on government rebates, freight and installation costs.

The beauty of the

pair now face is in raising $500,000 to start their production plant.

"We're trying to keep it local, and trying to keep it in Australia, but it's hard because, offshore, they are more aggressive in

on the market first, and then we'll take it to the world," he said.

Mr Christie said it had been hard to keep it hid on the invention which had such a huge potential in the quest for clean, green,

(Note - 'Ergon' refers to the local electricity supplier utility which used to be known as the FNQEB Far North Queensland Electricity Board).

Two Cairns inventors yesterday unveiled a world first commercial machine which can power a house from a

permanent, clean, green and virtually free energy source.

The machine, developed by Brinsmead mechanical engineer John Christie and Edge Hil electrician Lou Brits, has an international patent pending and is expected to go on the market for $4000-$5000.

Relying on the attraction and repulsion of internal magnets, the Lutec 1000 operates continually on a pulse-like current 24 hours a day - producing 24 kilowatts of power - once it is kickstarted from a battery source.

The device is more than 500 per cent efficient, compared to a car which is less than 40 per cent efficient and loses power through heat and friction.

No powerlines would be needed to distribute energy from the individual power sources.

There is no heat, harmful emissions or airborne matter in the transmission.

If it were not for the magnets, which have a life of 1300 years, and the battery pack, which has a life of about five years, the machine would be in perpetual motion.

A demonstration of the motor from the carpeted study of Mr Christie's Brinsmead home revealed the device in all its glory - bigger than the average cyclone back-up generator but much less noisy.

M Christie and Mr Brits have been tinkering together on the motor in their spare time since they met in a Sheridan St cafe five years ago and began sharing ideas.

One and a half years ago, the design was perfected and the pair lodged a patent with Brisbane patent attorneys Griffith Hack.

Mr Christie said the next step was to develop a small-scale pilot plant in Cairns to begin distributing the motors to the places they were needed most - such as shops and homes in the power-starved Daintree region and the Torres Strait.

He said the price tag for the devices could vary in remote

locations depending on government rebates, freight and installation costs.

The beauty of the device was that it was transportable and could be packed in a removalist van along with other earthly possessions when moving house, he said

The only problem the pair now face is in raising $500,000 to start their production plant.

"We're trying to keep it local, and trying to keep it in Australia, but it's hard because, offshore, they are more aggressive in taking up new initiatives," Mr Christie said.

Already, the invention has received interest from the United States, China, Japan and Indonesia.

"But we want to set up here and put the product on the market first, and then we'll take it to the world," he said.

Mr Christie said it had been hard to keep a lid on the invention which had such a huge potential in the quest for clean, green, energy production.

He said he and Mr Brit also feared the worst once they realised the significance of their invention.

"We were afraid the kids would be kidnapped or we'd be shot, I'm not kidding," he said.

"You hear horror stories about people running up against fuel companies, but it's all hogwash - people in the main are desperately looking for technologies that will help our environment."

The pair have begun discussions with Ergon as there is also the opportunity of selling energy back to the grid.

Mr Christie said the average home with a pool needed only 14kW of energy per day - which meant a 10 kW daily excess would be left over during the generation process

Griffith Hack partner Cliff Carew, who was speaking from Brisbane, confirmed the device was genuine and unique.

"An international application has been lodged, they've

conducted an international search and haven't come up with anything similar, so it would seem to be a new concept," Mr Carew said.

He said it would be another two and a half years before the patent was recognised in 140 countries around the world - the usual length of time for an international patent to be processed.

MainPage
http://www.rense.com

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Tom Staudenmaier's
ELECTRIC MERGER COMMITTEE

1303 West 33rd Street, Suite 206 • P.O. Box 140170, Anchorage, Alaska 99514-0170 •
Phone 1-907-222-5168 • Fax 1-907-222-5169 • Cell 1-907-227-5726

CUT YOUR MONTHLY BILL A MINIMUM OF 50% TO 80%

HOW?

VOTE INTO LAW, THE FULL IMPLEMENTATION OF TOM STAUDENMAIER'S ELECTRIC MERGER PLAN.

Tom Staudenmaier's Electric Merger Plan shall give the Alaskan people who reside in Southcentral, Interior and Southeast Alaska two separate power grids tied together that are in complete form, functional, and reliable. Tom Staudenmaier's Electric Merger Plan shall provide the basic foundation for the industrialization and economic development in Southcentral, Interior and Southeast Alaska for the next 100 years. "REMEMBER", Tom Staudenmaier's Electric Merger Plan means TRUE ALASKAN LOCAL HIRE, the creation of TENS OF THOUSANDS OF NEW JOBS for present and future Alaskans. The abundance of cheap power is the best resource the State of Alaska and her residents can offer to themselves and any industrual enterprise.

22 February 2008
IMMEDIATE NEWS RELEASE

Supreme Court of Alaska
THOMAS G. STAUDENMAIER, PLAINTIFF
vs.
MUNICIPALITY OF ANCHORAGE and BARBARA GRUENSTEIN
MUNICIPAL CLERK
CASE NO. S-11446

Alaska Supreme Court unanimously ruled that the initiative proposition of section 16.02 of the Municipal Charter is unconstitutional. Mayor Mark Begich's administration refused to accept the new petition as Supreme Court Justice Warren Matthews wrote in Case No. S-11446 on December 20, 2007, Initiative No. 1 - Cessation of garbage and waste collection services, and Initiative No. 2 - Cessation of all natural gas production, hydro electric production, electricity generation and distribution services. We have to file a new lawsuit requesting the full Alaska Supreme Court to make a final ruling through a new lawsuit filed in State Superior Court on two issues: (1) Is Justice Matthews correct in what he stated in the opinion in Case No. S-11446? and (2) If the answer is no, we will then ask the Alaska Supreme Court, through a new case filed in the State Superior Court, to decide once and for all to wipe out the initiative process in the Alaska Constitution, or order Mayor Mark Begich's administration to issue the petitions on Initiatives No. 1 and No. 2 as stated above.

MATTHEWS, Justice, concurring. I agree with today's opinion. I write these additional words to dispel any possible conclusion that the court's broad interpretation of the term "appropriations" prohibits substantive lawmaking by initiative that properly should be within the initiative power. The proposals with which we are concerned seek to get the Municipality of Anchorage out of the electrical and garbage collection utility businesses. But they do so by requiring the Municipality to sell the tangible property that it uses in those businesses.

The anti-appropriations clause of article XI, section 7 of the Alaska Constitution does not prohibit the objective of these proposals, only their means. Thus, if the proposals were phrased to directly prohibit the Municipality from, after a certain date, selling or distributing electricity or offering garbage collection services, the anti-appropriations clause would not render the proposals illegitimate. The lesson of today's opinion is that laws effecting substantial changes in policy can be made by initiative, but when they create surplus property, the disposition of such property is a matter for the representative lawmaking body.

Tom Staudenmaier

Tom Staudenmaier's Electric Merger Plan is the best and brightest ideas energizing in the State of Alaska!

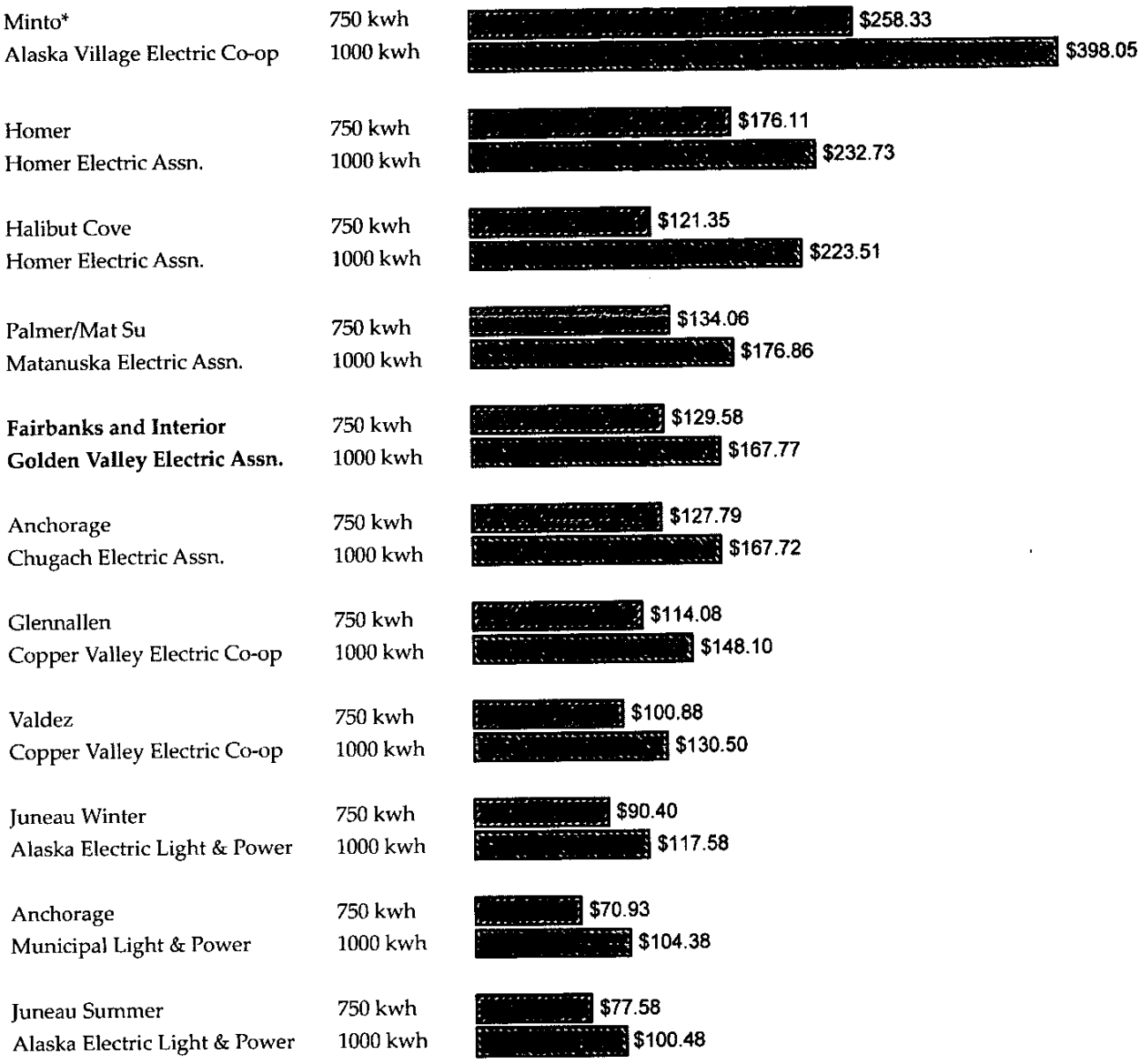
If You Find a Better Plan – Go Buy It!... REMEMBER, WE ALASKANS ALL BENEFIT EQUALLY...
How You Vote on Tom Staudenmaier's Electric Merger Plan is Your Business. Making That Vote Possible is Our Business.

GVEA COPA for —
Dec 2008
Jan 2009
Feb 2009

Statewide Comparison of Residential Rates

Costs for 750 Kilowatt-Hours and 1000 Kilowatt-Hours

Rates effective February 2009



*Power Cost Equalization (PCE) state subsidy has been applied.

Source: Electric rates and charges provided as of Feb. 2009

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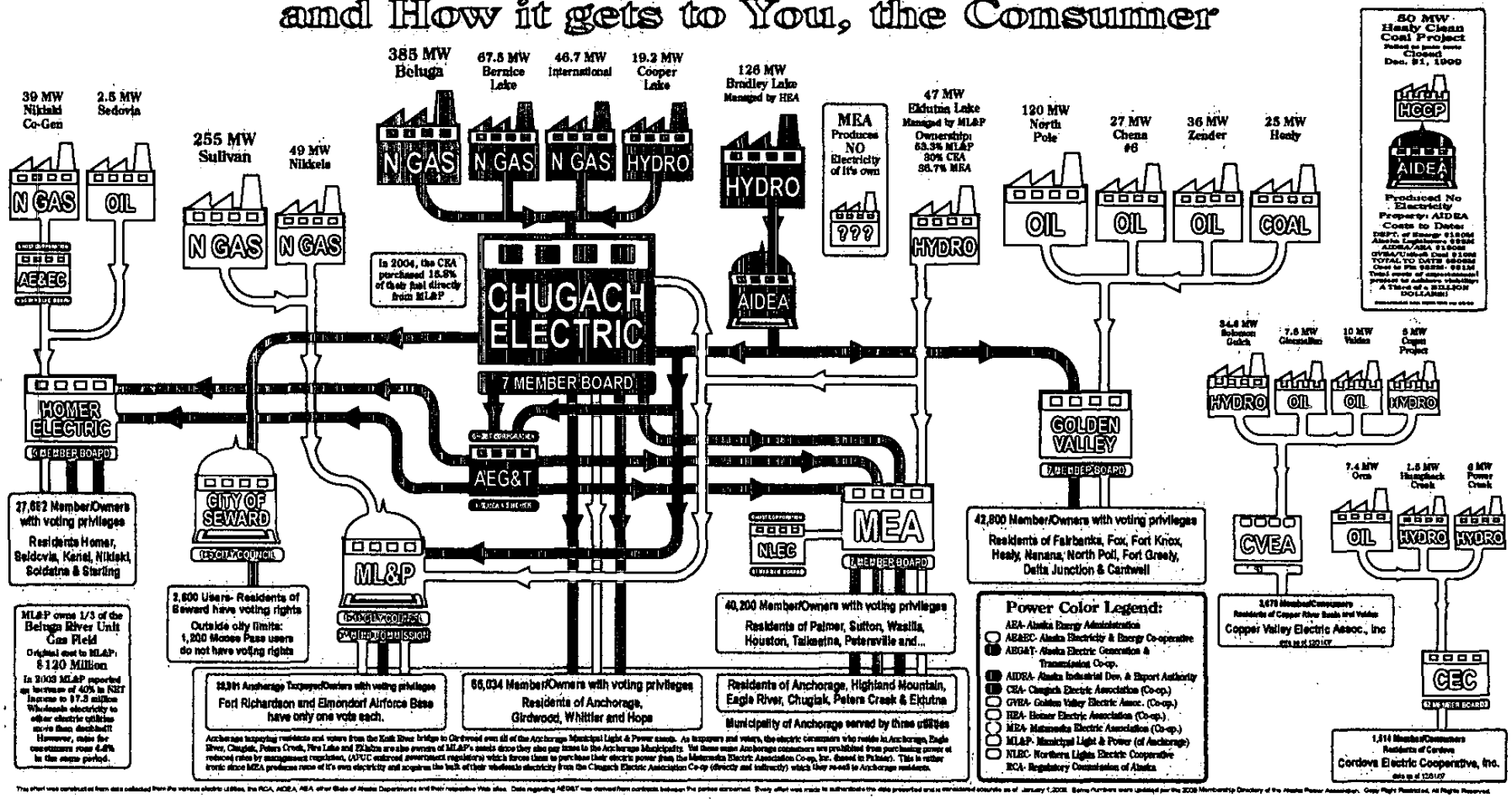
Governor Sarah Palin's Proposed (03/09/09):
Greater Railbelt Energy & Transmission Corporation (Bill SB 143)
...Would seize all energy generating facilities along the Greater Railbelt Region and combine them with the Bradley Lake Hydro facility... Creating *another* entity run by *(another)* board of directors of 12 members (a representative from each energy group concerned), plus one member appointed by the Governor.
Note- This plan excludes Cordova Electric and Copper Valley Electric Co-ops.

It is the goal.. **of Tom Staudenmaier's Electric Merger Committee**
to consolidate and streamline the management of the various electric co-ops and municipal entities under two non-profit, member owned co-operatives and in doing so, provide cheap, reliable electricity to the citizens of Alaska.

Better Ideas.. Better Living for ALL Alaskans!
This material was prepared by the Tom Staudenmaier's Electric Merger Committee
PO Box 140170, Anchorage, AK 99514-0170 phone: 1-907-222-5168 fax: 1-907-223-5169 cell: 227-5726

Who Produces Electricity in Southcentral & Interior Alaska and How it gets to You, the Consumer



This chart was constructed from data collected from the various electric utilities, the RCA, AIDEA, AEA, other State of Alaska Departments and their respective Web sites. Data regarding AEG&T was derived from synthesis between the parties concerned. Every effort was made to authenticate the data presented and is considered accurate as of January 1, 2008. Some numbers were updated per the 2008 Membership Directory of the Alaska Power Association. Copy Right Protected, All Rights Reserved.

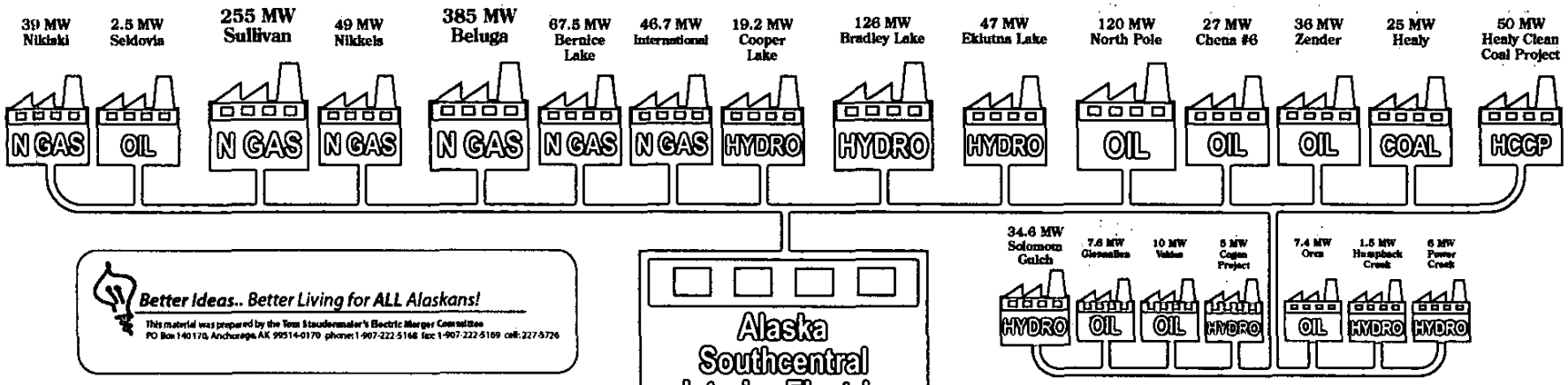
It is the goal..

of Tom Staudenmaier's Electric Merger Committee

to consolidate and streamline the management of the various electric co-ops and municipal entities under two non-profit, member owned cooperatives

and in doing so, provide cheap, reliable electricity to the citizens of Alaska.

Alaska Southcentral Interior Electric Co-op., Inc



Better Ideas.. Better Living for ALL Alaskans!

This material was prepared by the Tom Staudenmaier's Electric Merger Committee
PO Box 140170, Anchorage, AK 99514-0170 phone: 1-907-222-5166 fax: 1-907-222-5169 cell: 227-5726

Alaska Southcentral Interior Electric Cooperative, Inc

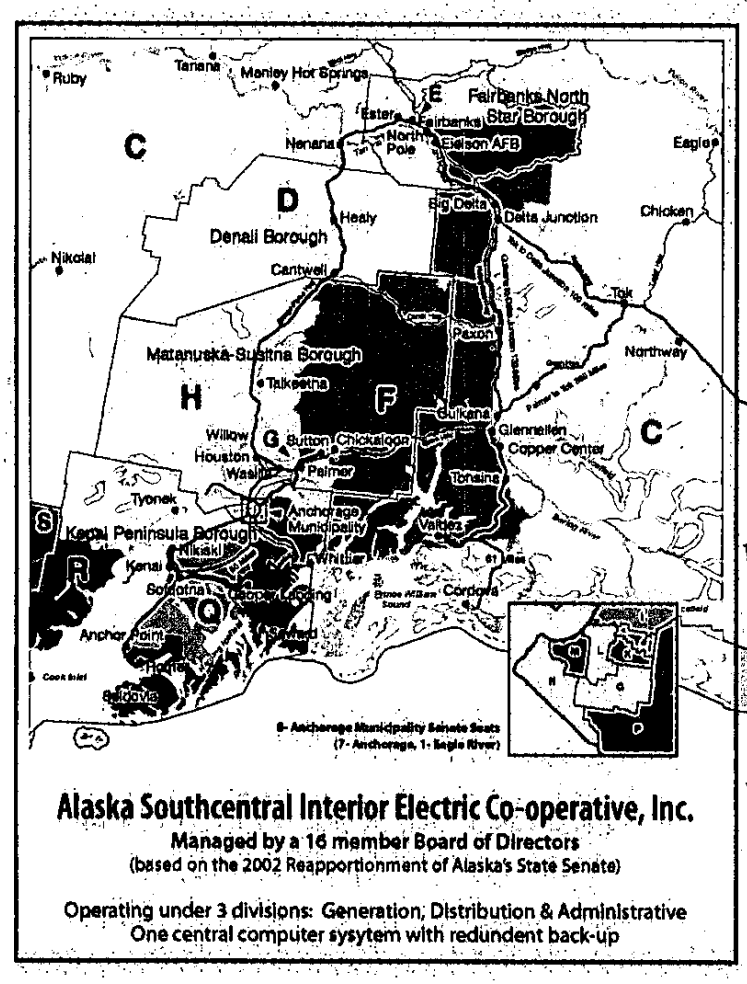
16 MEMBER BOARD*
3 Divisions- Generation, Distribution & Administration

Approximately 180,000 Southcentral Interior Member/Owners Empowered to Vote

Cutting their monthly electric bill by a minimum of 50%!

* 16 member board based on 2002 Reapportionment of Alaska's State Senate.

This chart was constructed from data collected from the various electric Utilities, the RCA, AIDEA, AEA, other State of Alaska Departments and their respective Web sites. Data regarding AGOAT was derived from contracts between the parties concerned. Every effort was made to authenticate the data presented and is considered accurate as of January 1, 2008. Some numbers were updated per the 2008 Membership Directory of the Alaska Power Association. Copy Right Restricted, All Rights Reserved



Alaska Southcentral Interior Electric Co-operative, Inc.

Managed by a 16 member Board of Directors
(based on the 2002 Reapportionment of Alaska's State Senate)

Operating under 3 divisions: Generation, Distribution & Administrative
One central computer sysytem with redundent back-up

It is the goal..

of Tom Staudenmaier's Electric Merger Committee

to consolidate and streamline the management of the various electric co-ops and municipal entities under two non-profit, member owned co-operatives

and in doing so, provide cheap, reliable electricity to the citizens of Alaska.

Transmission Lines:
Existing
Proposed

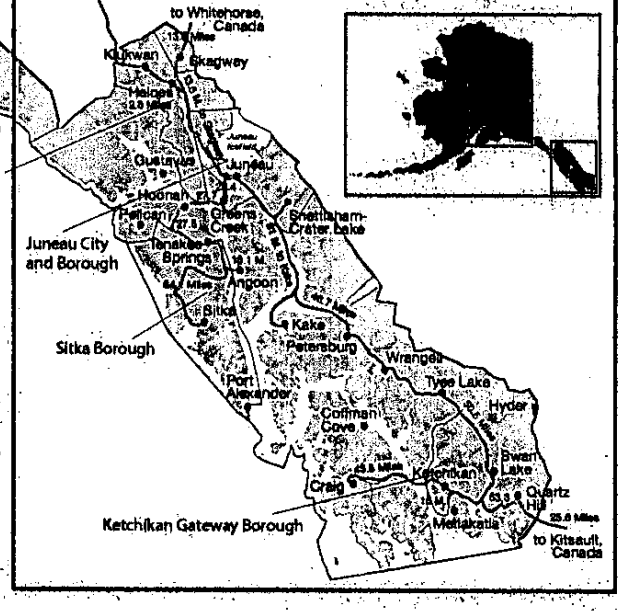
Yakutat Borough

Haines Borough

Alaska Southeast Electric Co-operative, Inc.

Managed by a 7 member Board of Directors
(one from each major city)

Operating under 3 divisions: Generation, Dist. & Administrative
One central computer sysytem with redundent back-up



Better Ideas.. Better Living for ALL Alaskans!

This map was prepared from materials found on www.elections.state.ak.us Web site, August 1st, 2006 by the Tom Staudenmaier's Electric Merger Committee, PO Box 140170, Anchorage, AK 99514-0170 phone: 1-907-222-5168 fax: 1-907-222-5169 cell: 227-5726

CHUGACH
POWERING ALASKA'S FUTURE

April 16, 2009

Thomas G. Staudenmaier
P.O. Box 140170
Anchorage, Alaska 99514

Dear Mr. Staudenmaier:

Per your request, the attached document includes three tables that summarize the following information:

Table 1. Chugach's net average cost to generate a kilowatt-hour.

Table 2. The proportionate value of retail loads for Southcentral Alaska utilities.

Table 3. The average cost of wholesale power sold to Homer Electric Association, Inc. (HEA), Matanuska Electric Association, Inc. (MEA), and Seward Electric System (SES).

The data presented in all tables have been updated for the year ended December 31, 2008.

If you have any questions or require further information, please do not hesitate to call me at 762-4741.

Sincerely,

CHUGACH ELECTRIC ASSOCIATION, INC.

Rick Freymiller

Rick Freymiller, Director
Regulatory Affairs & Pricing

Attachment: Attachment I – Summary of Southcentral Alaska Electric Service Data - 2008

Chugach Electric Association, Inc.
5601 Minnesota 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

Chugach Electric Association, Inc
Anchorage, Alaska

Attachment: I

Summary of Southcentral Alaska Electric Service Data - 2008

Table 1: Net Average Cost per Kilowatt-Hour (All Chugach Owned Generation)

Year	Cents/kWh	Year	Cents/kWh	Year	Cents/kWh
1981	1.574	1992	2.406	2003	3.781
1982	1.748	1993	2.651	2004	4.532
1983	1.894	1994	2.295	2005	5.148
1984	1.91	1995	2.553	2006	6.530
1985	1.908	1996	2.591	2007	6.383
1986	1.749	1997	3.009	2008	7.173
1987	1.78	1998	3.198		
1988	1.806	1999	2.694		
1989	1.867	2000	3.089		
1990	1.996	2001	4.241		
1991	2.059	2002	3.965		

Source: Chugach Electric Association FERC Form 12, Page 12c, line 5.

Table 2: Retail Electric Energy Loads in Southcentral Alaska

	2008	
Utility	GWh	Percent
Chugach Electric Association, Inc.	1,205.8	33.4%
Anchorage Municipal Light and Power	1,118.8	31.0%
Homer Electric Association, Inc.	523.3	14.5%
Matanuska Electric Association, Inc.	700.9	19.4%
Seward Electric System	63.8	1.8%
Total	3,612.6	100.0%

Source: ML&P, Chugach Electric Association, HEA and MEA retail total from FERC Form 1, Page 301 or 304, line 10. Seward Electric System total based on system energy delivered at the G&T level, including generation from Fort Raymond and purchases from Chugach Electric Association.

Table 3: Average Cost of Wholesale Power

	2008		
Utility	MWh	Cost	Cents/kWh
Homer Electric Association, Inc.	517,368.0	$41,133,287	7.950
Matanuska Electric Association, Inc.	742,666.0	$65,600,034	8.833
Seward Electric System	63,734.0	$4,798,286	7.529
Total	1,323,768.0	$111,531,607	8.425

Source: Chugach Electric Association FERC Form 12, Section 12b, pages 1 and 2.

Anchorage School District

5530 E. Northern Lights Blvd.
Anchorage, Alaska 99504-3135
(907) 742-4000

April 7, 2009

Mr. Thomas Staudenmaier
Electrical Merger Committee
P.O. Box 140170
Anchorage, AK 99514

Electricity Costs FY 2008-2009, FY 2009-2010

In response to your request for information from the Anchorage School District regarding electricity, the following information has been compiled. The actual cost amounts for FY 2008-2009 will not be available until July 2009, therefore the budgeted amounts for FY 2008-2009 have been included.

	Budget Projections FY 2008-2009	Budget Projections FY 2009-2010
Administrative & Support Units	$ 348,700	$ 419,300
Elementary Schools	3,621,900	4,003,200
Special Education/Special Services Units	99,200	100,800
Charter Schools	51,000	43,000
Secondary Schools	5,027,400	5,387,000
	$ 9,148,200	$ 9,953,300

The following summarizes budgeted activity by source:

Chugach Electric	$ 4,607,100	$ 5,280,900
Municipal Light & Power	2,743,200	2,808,000
Matanuska Electric	1,622,500	1,648,600
U.S. Government	175,400	215,800
	$ 9,148,200	$ 9,953,300

The budgeted FY 2008-2009 expenditures reflect the closure of Clark Middle School. The projections for FY 2009-2010 reflect reopening of Clark Middle School and closure of Chester Valley Elementary School scheduled to operate at Kennedy due to the school renovation project.

Sincerely,

Carol Comeau

Carol Comeau
Superintendent

MATANUSKA ELECTRIC ASSOCIATION

POWER LINES

A MONTHLY NEWSLETTER FOR OUR MEMBERS

Board approves $104 million operating budget

MEA's Board of Directors recently approved 2009 operating and capital budgets of $104 million and $23 million, respectively. The budgets include funds to construct an estimated 1,400 new electrical services, about the same number the co-op is building this year. MEA is projected to have 55,200 customers at year-end 2008, representing a 35 percent increase during the past decade.

The operating budget projects that the cost of purchasing power from Chugach Electric Association will represent about 68 percent of the total cost of providing electric service in 2009, said Director of Administration Matt Reisterer. MEA buys electricity from Chugach under an "all requirements" contract that runs through Dec. 31, 2014.

The operating budget also projects three increases in base rates: 1.48 percent in the second quarter, 0.81 percent in the third quarter, and 2.13 percent in the fourth quarter.

Capital budget expenditures

The $23 million capital budget includes construction of the new services noted above, as well as:

- $160,000 for preparation of a System Long-Range Planning Study. The engineering study will include a review and analysis of MEA's existing transmission and distribution system to make recommendations for modifications and upgrades required to achieve an efficient and reliable system that provides for projected load growth.
- $75,000 for preliminary engineering of a line extension to serve the Chulitna River area near Milepost 134 of the Parks Highway. This project would provide service to a proposed new state visitors' center. That area also is home to Mt. McKinley Princess Lodge and a proposed new Boy Scout "high adventure" camp near Blair Lake.
- $750,000 for work associated with the relocation of Trunk Road.

Continued on Page 2

Lighting tips for your home

It's easy to use more light than you need. More than 16 percent of the electricity we use in our homes goes into lighting. Most Americans overlight their homes, so lowering lighting levels is an easy conservation measure.

Indoor Lighting

Turn off lights in any room not being used. Light-zone your home and save electricity. Concentrate lighting in reading and working areas and where it's needed for safety (a stairwell, for example). Reduce lighting in other areas, but avoid very sharp contrasts.

To reduce overall lighting in non-working spaces, replace bulbs throughout the house with bulbs of the next lower wattage. Watch out for 'cures' that promise more than they deliver. For example, an "Energy Choice" bulb may seem to offer you 100 Watts of light while you pay for only 90 Watts. In reality, you get 90 Watts and pay for 90 Watts.

Consider installing solid state dimmers or hi-low switches when replacing light switches. They make it easy to reduce lighting intensity in a room and thus save energy.

Use one large bulb instead of several small ones in areas where bright light is needed.

Use long-life incandescent lamps only in hard-to-reach places. They are less energy efficient than ordinary bulbs.

Continued on Page 3

Don't Miss the Goal!

The MEA Scholarship deadline is *March 6!*

THIS MONTH:

Board approves $104 million operating budget – Pages 1 & 2

Protecting computers and electronics – Page 2

Board Briefings – Page 3

Lighting tips for your home – Pages 1 & 3

Great Land Recipe: Johnny Cake – Page 4

January 2009

Vol. XXV, No. 1

MEA
POWER FOR A NEW GENERATION

MEA rate increase linked to Chugach Electric's costs

By DARRELL L. BREESE
Alaska Star

Matanuska Electric Association customers will see a rate increase of more than 30 percent when they get their bills at the end of the month.

MEA sells electricity to its customers as a retailer, meaning when the wholesale agency it purchases from raises its rates it must pass the cost onto the consumer.

MEA's power provider, Chugach Electric Association, has done just that.

Chugach announced a rate increase for both its retail and wholesale customers effective Jan. 1.

According to Chugach spokeswoman Patty Bogan, the rate increase is necessary to offset the projected increase to the price of natural gas, which it uses to drive its power plant.

The move doesn't sit well with MEA General Manager Wayne Carmony.

"Chugach's wholesale power costs are going up 31 percent," he said. "Regrettably, that also means an increase to MEA members."

He went on to explain that MEA is bound by an "all-requirements" contract with Chugach, meaning it can only purchase power from the Anchorage-based utility.

"Part of MEA's priority is to try and keep rates as low as possible for its members," said Lorali Carter, MEA's manager of government and corporate communications. "But the increase is a direct flow through. When Enstar increase rates, Chugach pays more. Then Chugach raises rates and MEA pays more. Meaning MEA has to pass the increase onto the consumer."

Chugach also sells electricity to Homer Electric Association; its rate will go up 29 percent.

According to Carter, the rate increase will cost the average MEA user an extra $26.53 a month over what they paid last January.

She added that recent weather conditions would compound the cost to home and business owners.

"The recent cold snap brought an increase in the use of natural gas and electricity," she said. "Meaning the rate increase will hit pocketbooks even harder."

Carter said the increase is another reason MEA has been striving to develop its own power generation facility over the last couple of years.

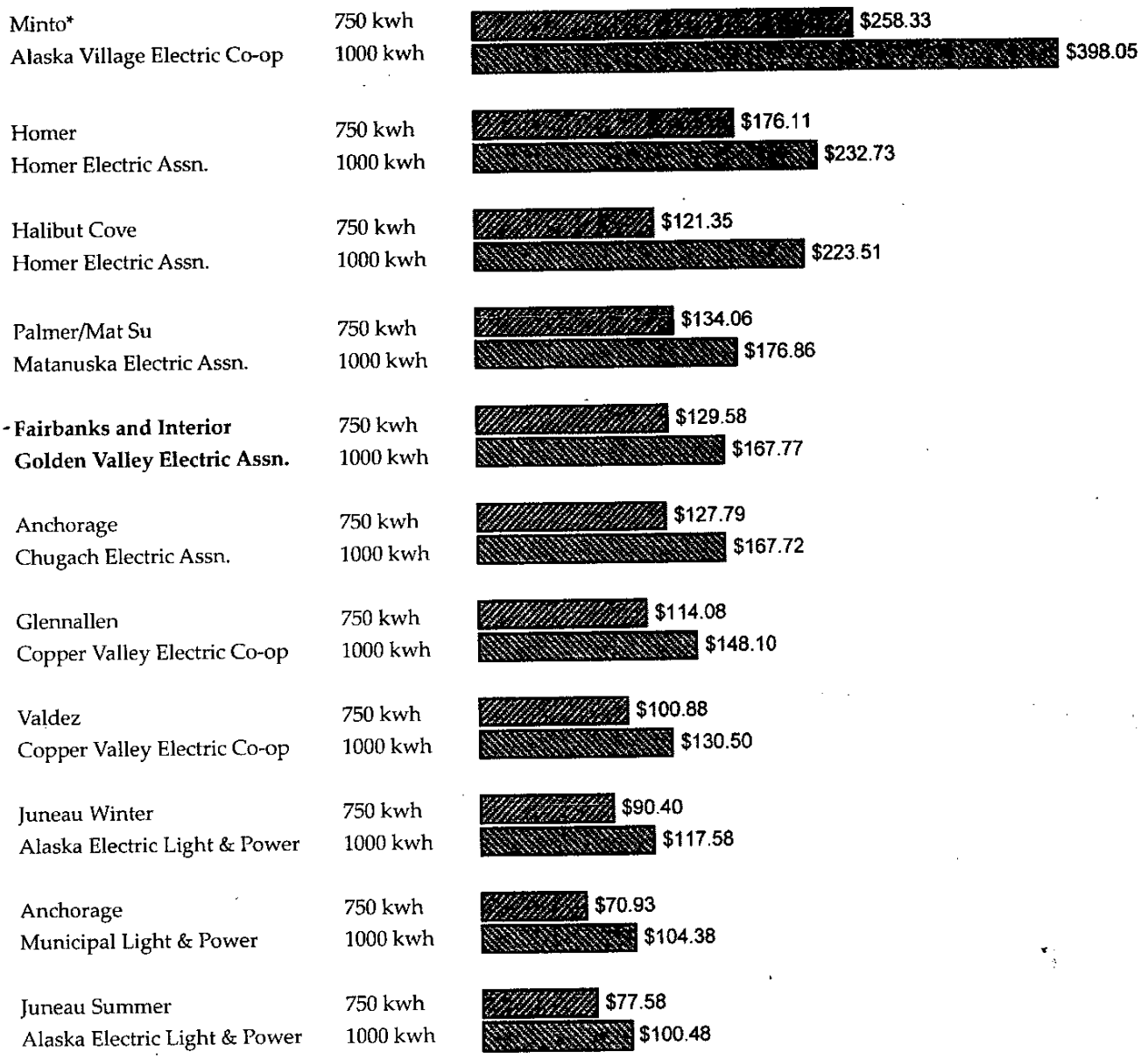
The member-owned utility is negotiating with Eklutna Inc. to build a natural gas power plant on Eklutna land near the Knik River.

GVEA COPA for
Dec 2008
Jan 2009
Feb 2009

Statewide Comparison of Residential Rates

Costs for 750 Kilowatt-Hours and 1000 Kilowatt-Hours

Rates effective February 2009



*Power Cost Equalization (PCE) state subsidy has been applied.

Source: Electric rates and charges provided as of Feb. 2009

GVEA
Golden Valley Electric Association
Your Touchstone Energy® Cooperative

PO Box 71249, Fairbanks, AK 99707 • (907) 452-1151 • 1-800-770-GVEA • www.gvea.com

Thomas Staudenmaier
PO Box 140170
Anchorage, AK 99514-0170

Deadline Continued from Page 3

This is not MEA's first attempt to develop a power plant. In 2007 the utility had plans to build a coal-fired power plant in Palmer, but those plans were tabled after objection from its members.

Plans for the Eklutna facility have not met with similar objections.

"The difference is the Palmer plant was fueled by coal," said MEA board of directors president Lois Lester. "I don't think people objected to the idea of a power plant, it was the coal they didn't like."

After plans halted on Palmer site, largely due to a restrictive ordinance the Matanuska-Susitna Borough passed, MEA began looking for potential sites within the municipality of Anchorage.

In June 2008 the utility reached an agreement with Eklutna to move forward with the purchase of 70 acres near the Village of Eklutna. The land is on the east side of the Glenn Highway between the railroad tracks and the base of Eklutna Mountain. The power plant will occupy 30 acres of the site, with the remainder serving as a buffer.

"We agreed to let MEA use the sight because it was already the home of a power plant," said Eklutna CEO Curtis McQueen. "In 1928 Anchorage Light & Power Company constructed the Eklutna Power Plant, which was in operation until the 1940s on the site."

The partnership between MEA and Eklutna includes the potential for cogeneration. Cogeneration is the process by which nearby facilities use waste steam from the power plant for heating or other purposes.

The first possible use of cogeneration being considered by Eklutna is the restoration of salmon habitat in Eklutna River.

"We're excited about dovetailing habitat restoration in the river with the construction of the power plant," McQueen said. "For years we've been looking for ways to bring the salmon back to the river and this appears to be a golden opportunity to do just that."

McQueen hinted at other possible uses of the cogeneration, such as future housing development in Eklutna Village.

There are still some unanswered questions about the power plant; MEA has yet to lock in a source of natural gas, which is needed to fuel the plant.

"We've talked with Enstar and they said extending the 20-inch pipe that is across the highway is possible," Carter said. "As for the gas supply, it's still early in the process us to know where the gas we need will come from. But like everyone else we're hoping the governor's plans for an in-state gas pipeline become a reality to help keep the rates down for our customers."

Deadline looms for Eklutna power plant

By DARRELL L. BREESE
Alaska Star

Matanuska Electric Association's plans to build a 180-megawatt power plant in Eklutna got a vote of approval from the Anchorage Planning and Zoning Commission. Now the member-owned utility faces a short window of opportunity to complete the project before December 2014.

The utility plans to have the natural gas-fueled power plant operational before its contract to purchase electricity from Chugach Electric Association expires.

"We're proposing an aggressive but realistic schedule," said Lorali Carter, manager of government and corporate communications for MEA. "Five years may not seem like a short amount of time, but when you're talking about constructing a power plant it is just enough time."

The approval by the planning and zoning commission is the first step in the process. It allowed for a zoning change from residential to industrial on a 70-acre parcel owned by Eklutna Inc., meaning the utility can move forward with construction plans.

"We still need to go before the (Anchorage) assembly and get their approval for the zoning change," Carter said. "But things are moving in the right direction."

The aggressive schedule set by MEA calls for solicitation of bids to build the plant to begin in April. Then permits from state and federal departments of environmental protection will need to be applied for so construction can begin in April 2012.

"If we don't experience any unexpected delays we should be able to meet the schedule," Carter said. "Our goal is to have the power plant ready for testing by October 2014 and to begin providing power generation on Jan. 1, 2015."

Carter estimated it would cost $500 million to construct and make the facility operational. MEA has 50,000 residential and commercial customers.

See Deadline, Page 20

1436

Smoky Feb. 2009 Kelly

Another agreement reached on sale of Healy power plan

AUG. 1 DEADLINE: Project has been in dispute 10 years.

The Associated Press

FAIRBANKS — Golden Valley Electric Association and the Alaska Industrial Development Export Authority have signed another agreement that calls for working out the sale of an experimental coal-fired power plant near Healy by Aug. 1.

State Department of Revenue Commissioner and AIDEA board chairman Pat Galvin said the second-phase deal over the Healy Clean Coal Project was the result of a month of negotiations.

"This is a sequential deal where we are refining the terms as we move forward, recognizing it is a fairly complex issue," Galvin said.

If the deal is not done, Golden Valley, a rural power cooperative based in Fairbanks, and the state could resume litigation.

The Healy plant was built in the late 1990s as an experimental "clean coal" technology plant with state and federal funds. The plant has not operated since 2000. Critics say it never produced power that could be sold commercially.

GVEA and the state have been in a dispute over the plant for almost 10 years. GVEA and the Alaska Industrial Development Export Authority, a quasi-state agency that assists in financing to promote economic growth and diversification, announced a settlement in January that halted litigation scheduled for trial June 1.

The deal signed Friday is an asset sale agreement.

GVEA CEO Brian Newton compared the process of stepped agreements to buying a house, a deal brokered in stages.

The agreement detailed the purchase plans, arranges a schedule and sets protocol for transferring documents.

Also involved is the Homer Electric Association, which acquired plant operations rights from AIDEA even as ownership and control were being negotiated with GVEA.

The state is agreeing to sell the plant to the Tri Valley Electric, a subsidiary of GVEA, for $50 million. The state authority will finance the purchase price at 5 percent interest over 25 years. The state also will offer a $45 million loan at 6.5 percent interest over 25 years to help GVEA with restart costs.

GVEA estimates $300 million and up to two years will be needed to bring the plant on line.

GVEA will start paying off debt when the plant starts generating power or on Jan. 1, 2014, whichever comes first. GVEA's Tri Valley will sell half the power generated to Homer Electric Association and half to GVEA.

Newton said creating ley Electric to own and ope Healy plant was a business d

"It saves the members r we put it into a wholly owned iary," he said.

A separate entity can rea er profit margins than GV said. The utility's lenders r higher rates. Newton estima ings of $2 million annually b ing Tri Valley.

GVEA would buy power f Valley under contract, so rat be adjusted every three mo members' bills. Coal-fired po fluctuate in cost but probabl much as diesel-fired power ha ton said.

MEA board approves offer to purchase Eklutna site for power plant

By DARRELL L. BREESE
Alaska Star

The Matanuska Electric Association board of directors voted unanimously to approve extending an offer of $2.58 million to Eklutna Inc. for 70 acres of land near Eklutna on which the utility wants to build a 130-megawatt natural gas-fueled power plant.

During the Feb. 9 MEA board meeting, the directors discussed the merits of the project and heard from Eklutna's executive director Curtis McQueen about the corporation's willingness to sell the parcel for such development.

"Eklutna Village tribal members are in favor of the sale," he told the board. "And we hope this will speed the corporation's own development plans in the area."

MEA General Manager Wayne Carmony told the board that the utility would construct a 130-megawatt power plant on the Eklutna site, powered by two natural gas-fueled turbines.

"This site is an ideal place to build a power plant," he said. "There are transmission lines within a few hundred feet of the property."

Carmony also said he liked the Eklutna location because it would exempt MEA from having to comply with Matanuska-Susitna Borough power plant regulations, which the cooperative felt were too restrictive.

MEA and Eklutna began discussing the possible purchase of the site in June 2008. While the MEA board has authorized the purchase, it's contingent on final approval for rezoning by the Anchorage Assembly.

It is also contingent on approval by Eklutna Inc. board of directors.

MEA spokeswoman Lorali Carter said the plant is expected to cost approximately $400 to $500 million.

Another $47 million in transmission line upgrades will be done as a separate project, Carmony said. MEA plans to pay for the plant over time through member rates.

MEA's board also unanimously approved a resolution asking the Matanuska-Susitna Borough to sell it some land on Hollywood Road near Big Lake.

MEA believes the parcel is well situated for a power plant.

The process to purchase of this parcel began several years ago when the borough assembly voted to sell it to MEA, but the decision was vetoed by then-mayor Tim Anderson.

Though MEA would like the land, said MEA assistant general manager Tuckerman Babcock, it's more for future plans than for anything immediate.

"We don't need two power plants and a natural gas pipeline doesn't go by Hollywood yet," he said. "It is still a very good site for future consideration with respect to its connection to our transmission lines."

Reach the reporter at darrell.breese@alaskastar.com

"This site is an ideal place to build a power plant. There are transmission lines within a few hundred feet of the property."

– Wayne Carmony

Palin crafts bill to create energy corporation

RAILBELT: So far, the six utilities are unable to agree on anything, though.

The Associated Press

FAIRBANKS — Gov. Sarah Palin plans to introduce a bill calling for creating a joint corporation of the six railbelt electric utilities.

Palin says such an entity could unite a "fragmented group of rival utilities" and could save rate payers $10 million annually.

The utilities are Fairbanks-based Golden Valley Electric Association, Homer Electric Association, Anchorage's Municipal Light and Power, Chugach Electric Association, the City of Seward and Matanuska Electric Association.

Golden Valley cooperative president Brian Newton said the utilities are far from agreeing on a structure after months of talks.

"We haven't quite figured out what the administration is proposing," Newton said. "Even though they may have conceptually what they think is going to work, the utilities haven't agreed to that at all."

Joe Balash, special assistant to the governor, said the administration believes people would be better served by spending more on a large project that could meet all power needs, rather than on smaller-scale works.

The utilities grew separately yet are linked by a transmission system. As their facilities age, most have new projects they want state funding for.

Altogether, the utilities manage an interconnected load of up 800 megawatts of electricity, Balash said. That's comparable to a medium-small utility outside the state.

"There may be opportunities to develop large projects that capture efficiencies of scale," Balash said. "The benefits of that mean lower-cost energy to consumers, to businesses and ultimately will lead to better growth."

The proposed corporation could have state bonding power and would oversee generation and transmission. The utilities would remain as local distributors.

Balash said the legislation would establish the corporate structure and provide some startup funds to begin work on a transition agreement.

Still to be determined is how strong the bill's language would be in getting utilities on board.

Balash said a participation requirement "is not exactly the best prescription" for getting the utilities to work together.

The message, then, he said is, "Don't come looking to the state for anything until or unless ... you're working together."

Palin vetoed a number of Railbelt energy proposals in 2007, except for one project, a Railbelt Electric Grid Authority study that was completed last fall.

The study found that proposed power generation projects would cost more than the utilities could afford. The study recommended creation of a state authority.

GVEA's Newton said he didn't want a consortium affiliated with state government. He said railbelt utility managers have met for months on how to structure a joint corporation, but so far there is no consensus.

"All of the railbelt utilities have not agreed on any particular form or anything," Newton said. "Time will tell. It would be nice if we could come to an agreement."

Sunday Feb. 2009 Daily news

Another agreement reached on sale of Healy power plant

AUG. 1 DEADLINE: Project has been in dispute 10 years.

The Associated Press

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"It saves the members money if we put it into a wholly owned subsidiary," he said.

A separate entity can realize lower profit margins than GVEA, he said. The utility's lenders mandate higher rates. Newton estimated savings of $2 million annually by creating Tri Valley.

GVEA would buy power from Tri Valley under contract, so rates could be adjusted every three months on members' bills. Coal-fired power can fluctuate in cost but probably not as much as diesel-fired power has, Newton said.

LISA MURKOWSKI
ALASKA

COMMITTEES:
ENERGY AND NATURAL RESOURCES
RANKING MEMBER
SUBCOMMITTEE ON ENERGY

FOREIGN RELATIONS
RANKING MEMBER, SUBCOMMITTEE ON
EAST ASIAN AND PACIFIC AFFAIRS

HEALTH, EDUCATION, LABOR,
AND PENSIONS

INDIAN AFFAIRS
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(907) 543-1639

January 9, 2009

Tom Staudenmaier
Post Office Box 140170
Anchorage, Alaska 99514-0170

Dear Tom:

Thank you for contacting me with your questions about the history of the Government Accountability Office (GAO) as well as a list of federal salaries. I appreciate the chance to respond.

The GAO is the audit, evaluation, and investigative arm of the United States Congress. It is located in the Legislative branch of the United States Government. It was established as the General Accounting Office by the Budget and Accounting Act of 1921 (P.L. 67-13, 42 Stat. 20, June 10, 1921). The Act made the GAO independent of the executive branch and gave it a broad mandate to investigate how federal dollars are spent. The Act also required the President to prepare an annual budget for the federal government. The Act required the head of GAO to "investigate, at the seat of government or elsewhere, all matters relating to the receipt, disbursement, and application of public funds, and shall make to the President and to Congress reports and recommendations looking to greater economy or efficiency in public expenditures." According to the GAO's current mission statement, the agency exists to support the Congress in meeting its constitutional responsibilities and to help improve the performance and ensure the accountability of the federal government for the benefit of the American people. The GAO is unique in that its auditors conduct not only financial audits, but also engage in a wide assortment of performance audits.

In regard to a copy of all federal salaries, federal employees in the executive branch are paid under a number of different salary systems. You can read about the salary system governing career employees at www.opm.gov. As you may be aware, a large number of federal employees serve at the pleasure of the President of the United States. You can read more about these employees and their salaries in a publication known in Washington as the "Plum Book." This document is on the Internet at http://www.gpoaccess.gov/plumbook/2008/index.html. Legislative branch salaries are a matter of public information and can also be researched on the Internet.

Again, thank you for contacting me.

Sincerely,

Lisa Murkowski
United States Senator

STATE OF ALASKA

THE LEGISLATURE

1990

Source

CSHCR 56(Res) am

Legislative Resolve No.

111

Relating to global climate change.

BE IT RESOLVED BY THE LEGISLATURE OF THE STATE OF ALASKA:

WHEREAS there is evidence that the activities of humans are rapidly increasing the amount of greenhouse gases in the upper atmosphere through the burning of fossil fuels and are destroying the ozone layer through the use of CFC's and other chemicals; and

WHEREAS the evidence is that the increase of these gases and the destruction of the ozone layer will lead to warming of our climate; and

WHEREAS rapid warming of our climate will lead to major environmental damage to ecosystems and improvements upon the land; and

WHEREAS the people of Alaska have ample opportunities to reduce their use of fossil fuels and ozone-destroying chemicals and to better their standard of living through increased efficiency and available energy conservation technology; and

WHEREAS investigating what can be done now will reduce the future high cost of mitigating the likely damages that will result; and

WHEREAS the State of Alaska should take a lead role in this issue for the protection of the health, safety, and welfare of its citizens; and

WHEREAS the National Governors Association and the National Conference of State Legislatures are investigating potential actions that states may take to reduce global warming and are preparing recommendations for a national policy with regard to global climate change; and

WHEREAS the governor of the State of New Jersey has issued an executive order charging state entities in New Jersey to pursue policies and conduct activities so as to reduce the threat of global climate change;

BE IT RESOLVED by the Alaska State Legislature that the governor is respectfully requested to investigate possible state policies and procedures that can be implemented, if necessary, to determine how the state can most effectively help to combat global climate change.

6-23-09 TransCanada and ExxonMobil Partnership Re: AGIA

<target><bill></bill><subject>6-23-09 TransCanada and ExxonMobil Partnership Re AGIA</subject><comm>HENE26</comm></target>

House Resources Committee and House Energy Special Committee

TransCanada/ExxonMobil Agreement Hearing
Tuesday, June 23, 2009
9:00am – 1:00pm
Anchorage LIO, Room 220

AGENDA

9:00-10:30	TransCanada, Tony Palmer Exxon/Mobil, Marty Massey
10:30-11:00	State of Alaska – AGIA Pipeline team
11:00-11:10	Break
11:10-12:00	Denali Pipeline Project, Bud Fackrell
12:00-12:20	BP LLC, Claire Fitzpatrick
12:30-12:45	ConocoPhillips, Wendy King

STATE OF ALASKA

SARAH PALIN, GOVERNOR

DEPARTMENT OF NATURAL RESOURCES & DEPARTMENT OF REVENUE

ALASKA GASLINE INDUCEMENT ACT

For Immediate Release - On Thursday June 11, the Governor's Gasline Team Lead, Marty Rutherford, issued a letter to TransCanada's Tony Palmer stating that the proposed project agreement between TransCanada Corporation and ExxonMobil would not require state approval as an amendment or modification of the license issued under the Alaska Gasline Inducement Act (AGIA).

Under the agreement, ExxonMobil will work with Alaska's project licensee, TransCanada Alaska (TC Alaska), to progress the AGIA licensed gas pipeline project. TC Alaska's obligations under the AGIA license will not be impacted by the new partnership, nor is Exxon's participation contingent upon any action or concession from the State. "The partnership is an exciting step forward," said Commissioner Tom Irwin. "It demonstrates just the type of commercial alignment which AGIA was designed to encourage."

By adopting the AGIA process, the legislature established a clear set of commercial terms for developing a pipeline to commercialize Alaska's North Slope natural gas resources. Through an open and transparent bidding process, TC Alaska was awarded the state's AGIA license. Under the license, TC Alaska has committed to advance a gas pipeline project to the point of securing a certificate of public convenience and necessity (CPCN) from the Federal Energy Regulatory Commission (FERC). In addition, the AGIA license ensures that the pipeline will be operated to provide low cost tariffs and open access for new gas shippers. In exchange for those commitments, the state will invest up to $500 million in the development of the project, and provide certain tax and royalty terms for gas which is committed during the initial Open Season.

Under the agreement, the project schedule will remain unchanged. An initial Open Season will be completed in July 2010, during which potential shippers will be provided an opportunity to make shipping commitments for capacity in the pipeline, either to Alberta and into the North American gas pipeline network, or to Valdez for liquefaction and shipment as LNG.

ExxonMobil's actions show that they believe that working with TransCanada and the state through AGIA is the best opportunity for aligning the parties to move this project forward. They bring world-class expertise to the project in construction planning, regulatory and environmental work, as well as technical capability and prior study information that will enhance development of the Gas Treatment Plant. Their early collaboration with TC Alaska will accelerate pre-Open Season spending to roughly $150 million, and will help to ensure a project design that is tailored to meet the technical needs of potential gas shippers.

The Commissioners indicated that there will be additional opportunities to enhance stakeholder alignment. "This new partnership is further confirmation of the project's commercial viability" said Commissioner Pat Galvin. "This event continues the undeniable progress in this long lead-time project. An AGIA gasline provides Alaskans with a source of careers, affordable energy, and secure state revenue. Producers and new explorers in the state will benefit from an affordable and accessible means of monetizing Alaska's vast natural gas resources. Americans will receive a plentiful and reliable source of clean energy, and a step towards energy independence."

For supporting documents and further information please visit http://www.gov.state.ak.us/agia/

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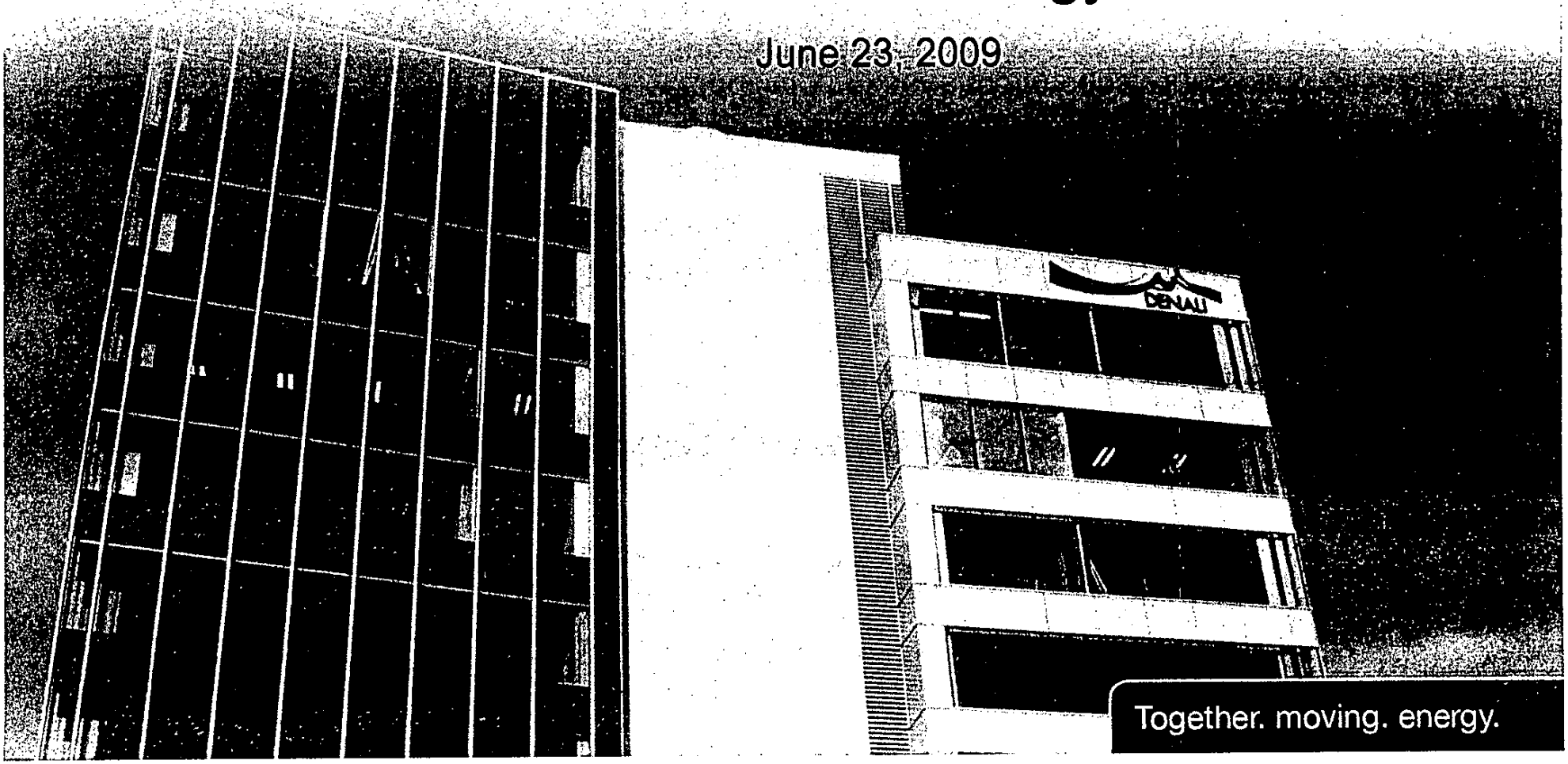
DENALI

the alaska gas pipeline

www.denalipipeline.com

Project Update
House Resources and Energy Committees

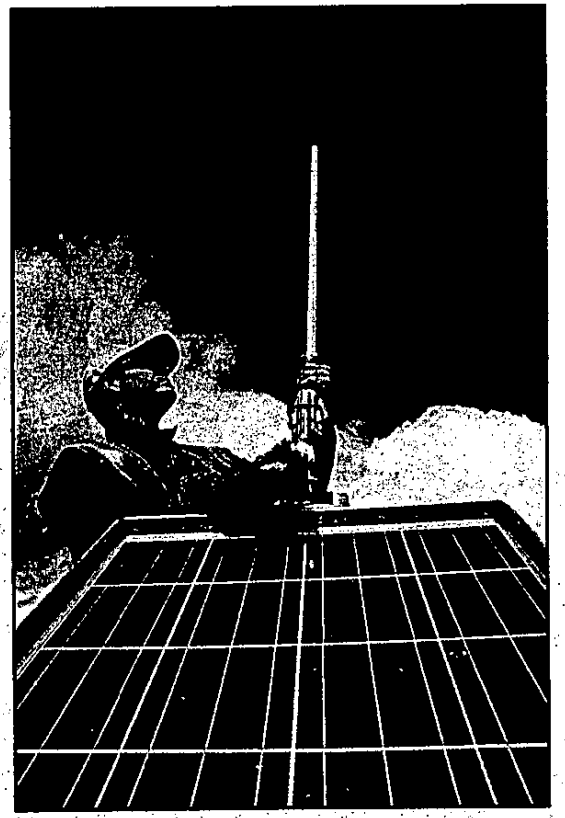
June 23, 2009



Together. moving. energy.

DENALI
the alaska gas pipeline

Denali - The Alaska Gas Pipeline



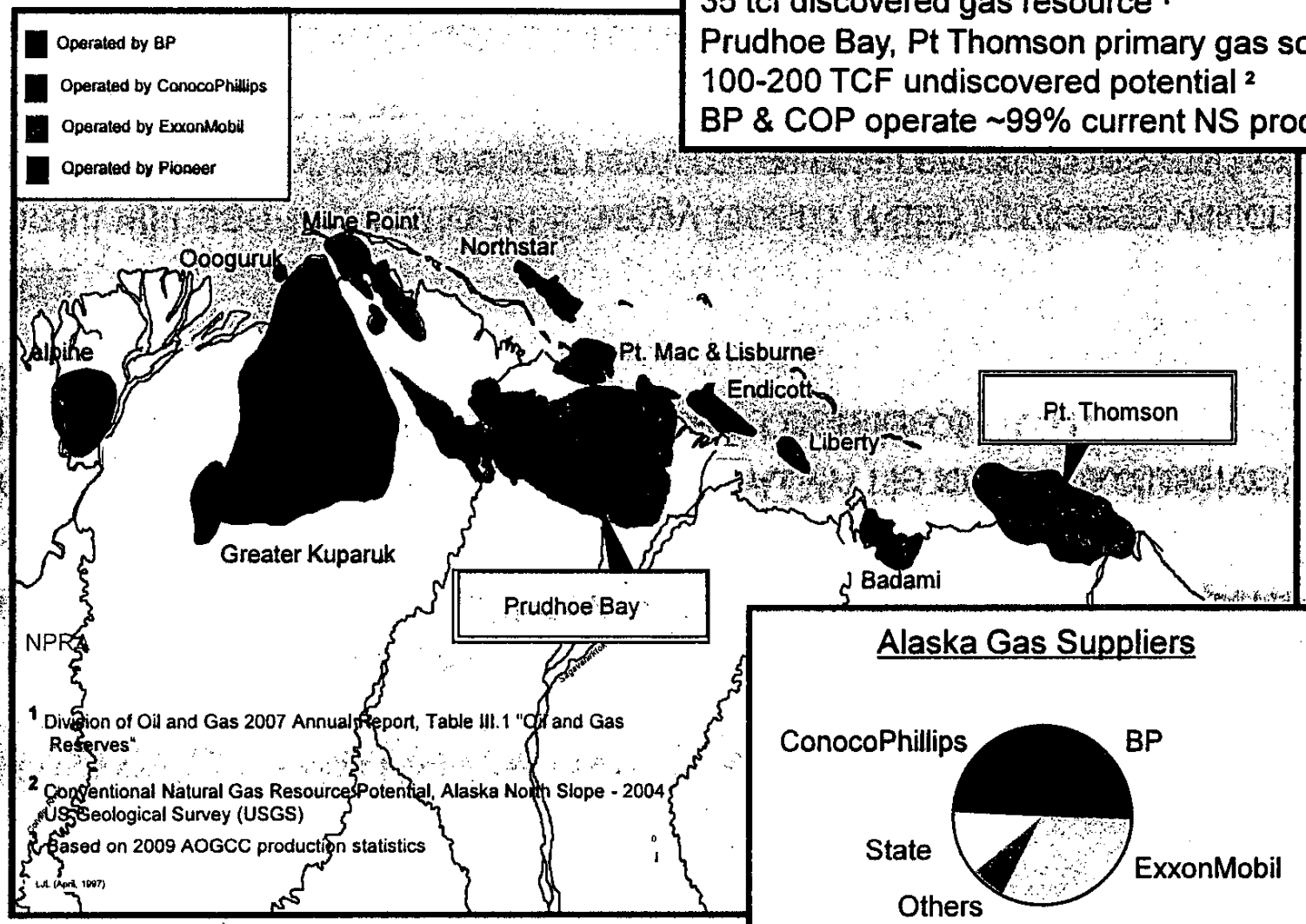
Moving Forward -

- BP and ConocoPhillips formed Denali to build the Alaska Gas Pipeline
- Denali is uniquely qualified to deliver this gigantic, complex project
  - Unparalleled experience in North Slope operations and project construction
  - Worldwide experience in constructing and operating mega projects
  - Strong balance sheets
- Denali remains on track to conduct an Open Season in 2010
- Positioned for a superior commercial offering
- The economy has not changed our focus

DENALI
the alaska gas pipeline

North Slope Oil and Gas Fields

35 tcf discovered gas resource [1]
Prudhoe Bay, Pt Thomson primary gas sources
100-200 TCF undiscovered potential [2]
BP & COP operate ~99% current NS production[3]



Together. moving. energy.

DENALI
the alaska gas pipeline

Regulatory Frameworks – U.S. and Canada

U.S.

- The Federal Energy Regulatory Commission (FERC) is responsible for authorizing and ***regulating*** the project
- The Alaska Gasline Inducement Act (AGIA) is not an exclusive license to build a pipeline. Denali can proceed outside of AGIA

Canada

- Denali will use the National Energy Board (NEB) process which incorporates all of the modern environmental regulations and is open to any project proponent
- The NEB and FERC have a history of working together to approve cross-border energy projects

DENALI
the alaska gas pipeline

Denali Terms of Service

- Denali is an Open Access pipeline – *It's the law*
  - *"People have open access to the pipeline, not just the producers."*
    (FERC testimony to Joint AGIA Committee, June 16, 2008)
- Will include the gas treatment plant
- Distance sensitive transportation rates for local use
- Will use FERC mandated rolled in rates
- Design will provide for efficient expandability
- Solicit shippers every two years regarding expansion
- Will provide at least five offtake points within Alaska
- Will provide offtake points in Canada if warranted

DENALI
the alaska gas pipeline

Denali Progress – Key Accomplishments

Spent ~$100 million in the past year

- Project Team mobilized
- Core team of 80 to 90 people with Anchorage and Canadian Headquarters
- FERC pre-filing request approved
- Filed Right of Way on federal lands with Bureau of Land Management
- Successful 2008 summer field program
- Community outreach meetings in Alaska and Canada
- Advanced workforce development
- Met with Alaska, U.S. and Canadian government officials
- Awarded contracts for multi-million dollar Gas Treatment Plant and Pipeline preliminary engineering

DENALI
the alaska gas pipeline

Denali has a core team of 80-90 people and dozens of contractor companies supporting its work

eba
Hawk CONSULTANTS LLC
ABR
Air Logistics A Bristow Company
ARDENT INNOVATION INC.
DOYON Limited
Zelt psi
HDR Alaska
AERO-METRIC
Baker
NWTS
pbs professional business services
CH2MHILL
CFS
LOUNSBURY & ASSOCIATES
J.D.Hair&Associates,Inc. Consulting Engineers
WESTERN
NATURAL RESOURCE GROUP
NORTH SLOPE TELECOM, INC
Resource Data Inc.
PND ENGINEERS, INC.
Rotor-Therm INCORPORATED
nhc northwest hydraulic consultants
SECURITY AVIATION
LINK PROJECT SERVICES
Era Aviation, Inc.
Chuuk Cultural Resource Services
Golder Associates
NORTH CARIBOO AIR
NCI
JCTI James C. Tiwore, Inc.
IVS
IMMERSIVE VIDEO SOLUTIONS, LLC
BECHTEL
Fluor / WorleyParsons ARCTIC SOLUTIONS

Together. moving. energy.

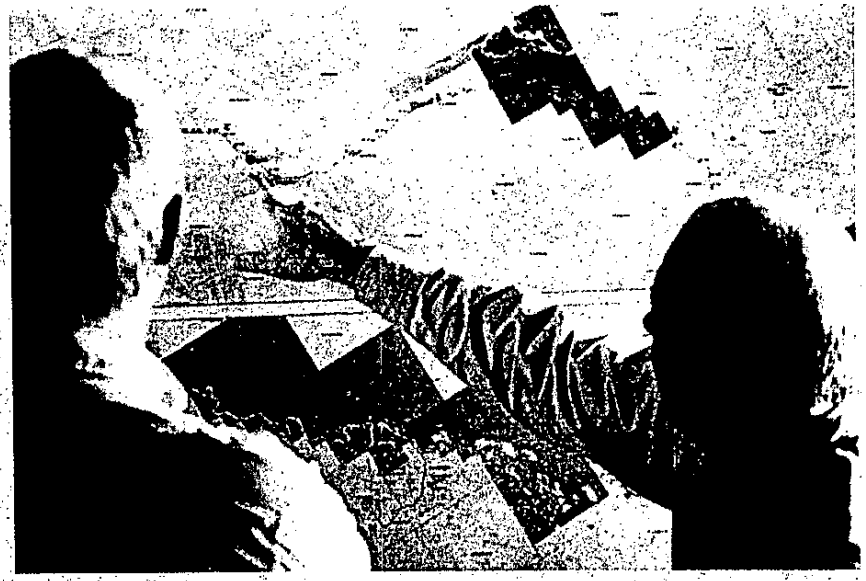
DENALI
the alaska gas pipeline

2009 Plans Focused on Open Season

- Broader work program will result in updated cost estimate – necessary for 2010 open season
- Ongoing work with DNR, FERC, NEB, OFC, BLM
- Continue to meet FERC prefiling requirements and engage FERC 3rd Party Contractor
- Work with AK DOTPF to advise on infrastructure requirements
- Field work program focused on Canada
- Workforce Development (UAF, AKDOL, survey crew training)
- Stakeholder engagement in Alaska and Canada
- Progress commercial work for open season

Fluor / WorleyParsons ARCTIC SOLUTIONS

BECHTEL



DENALI
the alaska gas pipeline

Denali is on track and moving ahead

- Focus on 2010 Open Season
- Cost estimate will provide confidence to shippers
- Denali positioned for a superior commercial offering
- Denali does not require state funding to move forward
- The economy and competition has not changed our focus

ALIGNMENT SUMMARY

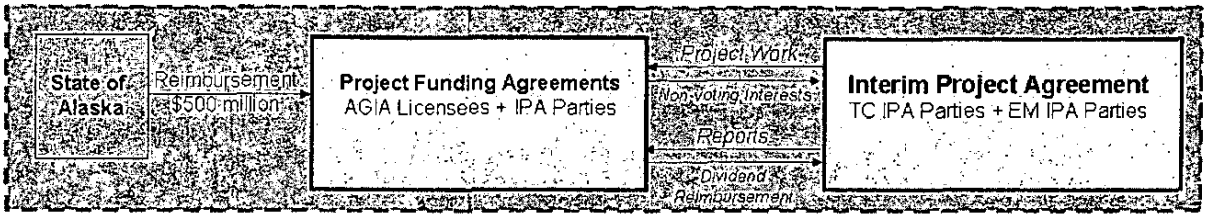
TransCanada's Alaska Pipeline Project – Alignment with ExxonMobil
June 11, 2009

- TransCanada (TC) and ExxonMobil (EM) have reached agreement to work together to progress TransCanada's Alaska Pipeline Project (details on Page 2)
- TC / EM will jointly advance all aspects of the project – technical, commercial, regulatory, financial, etc.
- TC Alaska and Foothills remain the AGIA Licensees; AGIA rights / obligations are unchanged and remain with Licensees; EM is ready to work with the State to enable full participation in the AGIA license
- Project Schedule unchanged – initial Open Season target completion by July 2010
- AGIA Project Scope unchanged – Gas Treating Plant (GTP) and pipeline from Prudhoe Bay to Alaska delivery points, LNG via Valdez, or Lower 48 markets via Alberta Hub
- Current TC / EM alignment not contingent on any commitments by State
- TC can progress project independently if it so elects, using all jointly developed assets / information
- Legislation / Regulatory – utilize ANGPA (Alaska Natural Gas Pipeline Act) in Alaska and NPA (Northern Pipeline Act) in Canada
- Upfront spending increased to $150 million through Open Season – emphasis on early execution / construction planning, regulatory, environmental, land and GTP
- Development costs will be shared by TC / EM
  - TC retains majority interest
  - No change to State's total reimbursement contribution of $500 million
- In early May, TC provided State Administration with full disclosure of proposed TC / EM arrangement
  - State has reviewed the TC / EM arrangement and has determined that no action is needed by the State as a results of the arrangement
  - State administration supports TC / EM alignment

Bottom Line Benefits

- Real progress to align all essential parties necessary for successful project
  - Need full support of State of Alaska, US / Canadian governments, North Slope producers, and other interested parties
- Combination of TC and EM brings unrivaled expertise and experience to the project
- TC / EM share a common goal – realization of an Alaska pipeline project

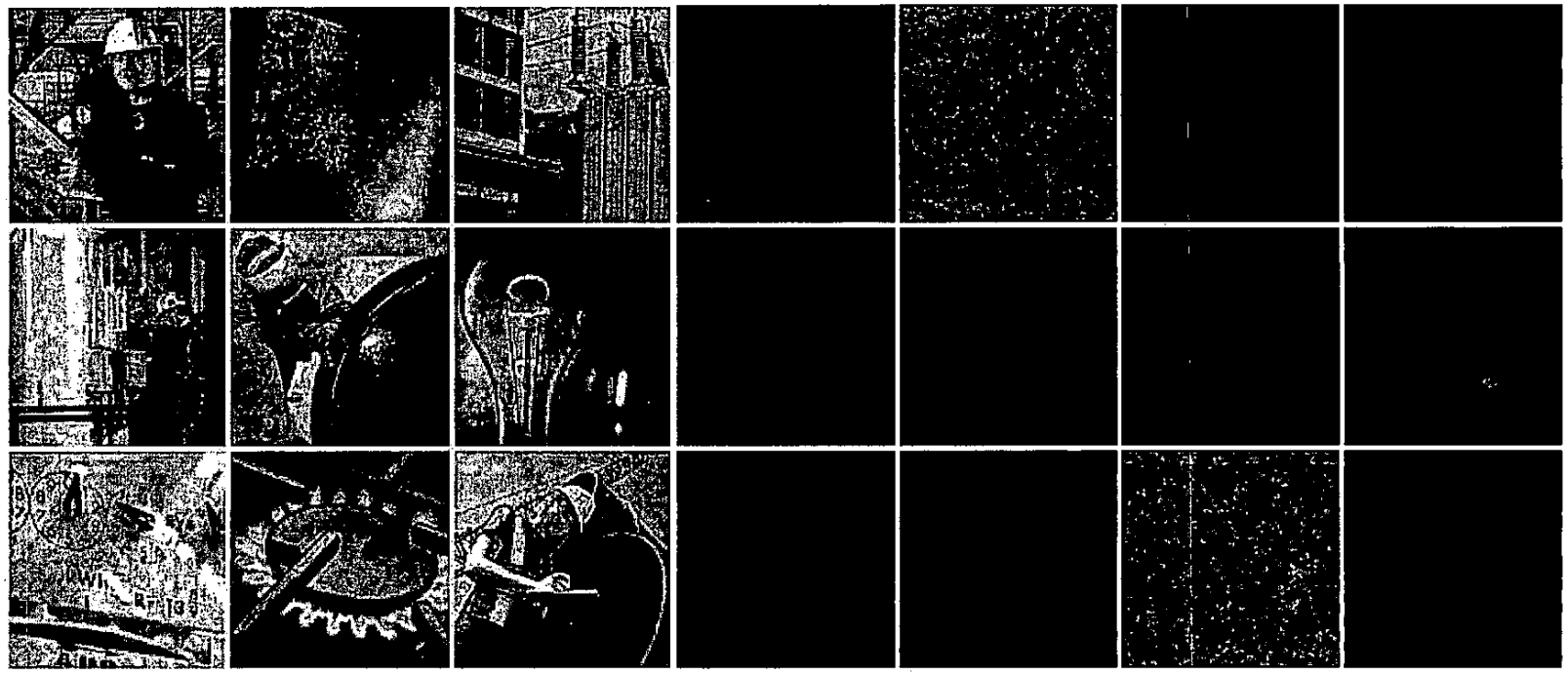
Project Framework



	AGIA Licensees	IPA Parties
US PFA	• TransCanada Alaska Company, LLC	• TransCanada Alaska Development Inc • ExxonMobil Alaska Midstream Gas Investments, LLC
Canada PFA	• Foothills Pipe Lines (North B.C.) Ltd. • Foothills Pipe Lines (South Yukon) Ltd.	• TransCanada PipeLines Ltd. • ExxonMobil Canada Resources Company

- Objective is to perform work necessary to facilitate completion by TC Licensees of Open Seasons in US and Canada by target of July 2010 and pursue required regulatory authorizations for pipeline construction
- Interim Project Agreement (IPA) establishes basis under which TC / EM work together
- Project Funding Agreements (PFA) are companion agreements to IPA
  - Executed simultaneously with IPA; a separate PFA for US and Canada
  - Provides "bridge" between TC Licensees and IPA parties
- TC Licensees maintain interface with the State of Alaska and retain AGIA obligations
- TC Licensees maintain sole discretion over request for State reimbursement for qualified expenditures
- TC Licensees have right to use all work provided to them by the IPA parties for the purposes of meeting the TC AGIA obligations
- All major project components, including regulatory filings and open season contracts, will be made or entered into in the name of and on behalf of the AGIA Licensees
- TC Licensees have the right, at all times, to progress the project alone, if they so choose
  - If TC Licensees elect to do so, they have the right to all jointly developed work product and both parties will retain rights to project information
  - Parties have agreed to a reasonable transition to sole management by TC in the event of a termination

- During the term of the PFA, the IPA parties will earn non-voting interests in the TC Licensees, upon the transfer of work product
- At the time EM becomes a participant in the TC Licensees, the non-voting interests will convert to voting interests in the AGIA Licensees
- State reimbursements to TC Licensees will be distributed to the IPA parties through dividends, in proportion to their participating interests in the IPA
- IPA includes typical joint venture terms
- The project is managed by a Management Committee, with TC as chair (Tony Palmer)
- Fully-integrated project team staffed at all levels by personnel of both TC / EM
- EM is IPA lead and TC is the sub-IPA lead for the Canadian portion of the project; through Open Season, TC remains primarily responsible for the overall pipeline / compression work and EM primarily responsible for the GTP work
- Project costs are jointly funded based on the parties' proportionate shares



TransCanada's Alaska Pipeline Project

Senate/House Committees- Alignment with ExxonMobil

June 23, 2009

TransCanada
In business to deliver

Overview

- TransCanada (TC) and ExxonMobil (EM) have reached agreement to work together to progress TransCanada's Alaska Pipeline Project
  - Immediate EM participation and project support
  - TC / EM will jointly advance all aspects of the project – technical, commercial, regulatory, financial, etc.
  - EM contributing prior study results, existing Alaska ROW data
- TC Alaska and Foothills remain the AGIA Licensees
  - AGIA rights / obligations are unchanged and remain with Licensees
  - EM is ready to work with the State to enable full participation in the AGIA license
- Project Schedule unchanged
  - Initial Open Season target completion by July 2010

TransCanada

Overview (cont')

- AGIA Project Scope unchanged
  - GTP and pipeline from Prudhoe Bay to Alaska delivery points, LNG via Valdez, or Lower 48 markets via Alberta Hub
  - TC / EM will also advance an upstream gas transmission pipeline from Point Thomson to GTP to be included in the Open Season
    - Outside of AGIA project and ineligible for AGIA reimbursement
- Current TC / EM alignment not contingent on any commitments by State
- TC can progress project independently, if it so elects, using all jointly developed assets / information

TransCanada

Overview (cont'd)

- Legislation / Regulatory
  - Utilize ANGPA (Alaska Natural Gas Pipeline Act) in Alaska and NPA (Northern Pipeline Act) in Canada
- Upfront spending increased to $150 million through Open Season
  - Additional front-end spending reflects increased emphasis on early execution/construction planning, additional efforts in regulatory, environmental and land areas, as well as size, complexity and execution challenges of GTP
- Development costs will be shared by TC / EM
  - TC retains majority interest
  - No change to State's total reimbursement contribution of $500 million

TransCanada

Overview (cont'd)

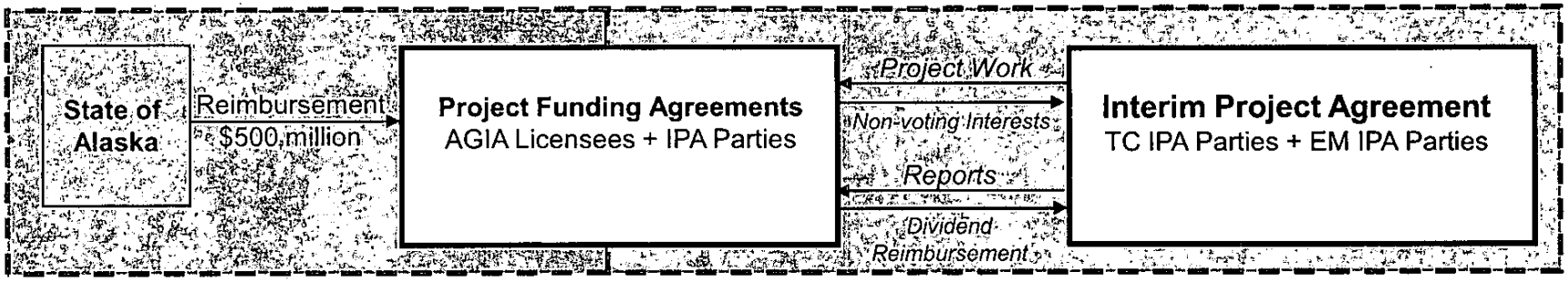
- In early May, TC provided State Administration with full disclosure of proposed TC / EM arrangement
  - State has reviewed the TC / EM arrangement and has determined that no action is needed by the State as a result of the arrangement
  - State administration supports TC / EM alignment
- Bottom Line
  - Real progress to align all essential parties necessary for successful project
  - Combination of TC and EM brings unrivaled expertise and experience to the project
  - TC / EM share a common goal – realization of an Alaska pipeline project

TransCanada

Project Framework

Objectives

- Perform work necessary to facilitate completion by TC Licensees of Open Seasons in US and Canada by July 2010 target
- Pursue required regulatory authorizations for pipeline construction



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TransCanada

Project Framework (cont'd)

- Interim Project Agreement (IPA) establishes basis under which TC / EM work together
- Project Funding Agreements (PFA) are companion agreements to IPA
  - Executed simultaneously with IPA; separate PFA for US and Canada
  - Provides "bridge" between TC Licensees and IPA parties
- TC Licensees maintain interface with the State of Alaska and retain AGIA obligations
- TC Licensees maintain sole discretion over request for State reimbursement for qualified expenditures

TransCanada

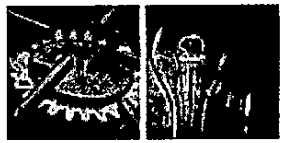
Project Framework (cont'd)

- TC Licensees have right to all work provided to them by IPA parties for purposes of meeting TC AGIA obligations
- All major project components, including regulatory filings and Open Season contracts, will be made or entered into in the name of and on behalf of the AGIA Licensees
- TC Licensees have the right, at all times, to progress the project alone, if they so choose.
  - If TC Licensees elect to do so, they have the right to all jointly-developed work product; and both parties will retain rights to project information
  - Parties have agreed to a reasonable transition to sole management by TC in the event of a termination
- During the term of PFA, the IPA parties will earn non-voting interests in the TC Licensees, upon transfer of work product

TransCanada

IPA - interim project Agreement

Project Framework (cont'd)



- When EM becomes a participant in TC Licensees, the non-voting interests will convert to voting interests in AGIA Licensees
- State reimbursements to TC Licensees will be distributed to IPA parties in proportion to their participating interests in the IPA
- IPA includes typical joint venture terms
- The project is managed by a Management Committee, with TC as chair (Tony Palmer)
- Fully-integrated project team staffed at all levels by personnel of both TC / EM
- EM is IPA lead and TC is the sub-IPA lead for the Canadian portion of the project. Through Open Season, TC remains primarily responsible for the overall pipeline / compression work and EM primarily responsible for the GTP work.
- Project costs are jointly funded based on the parties' proportionate shares.

TransCanada

Benefits of Alignment with ExxonMobil

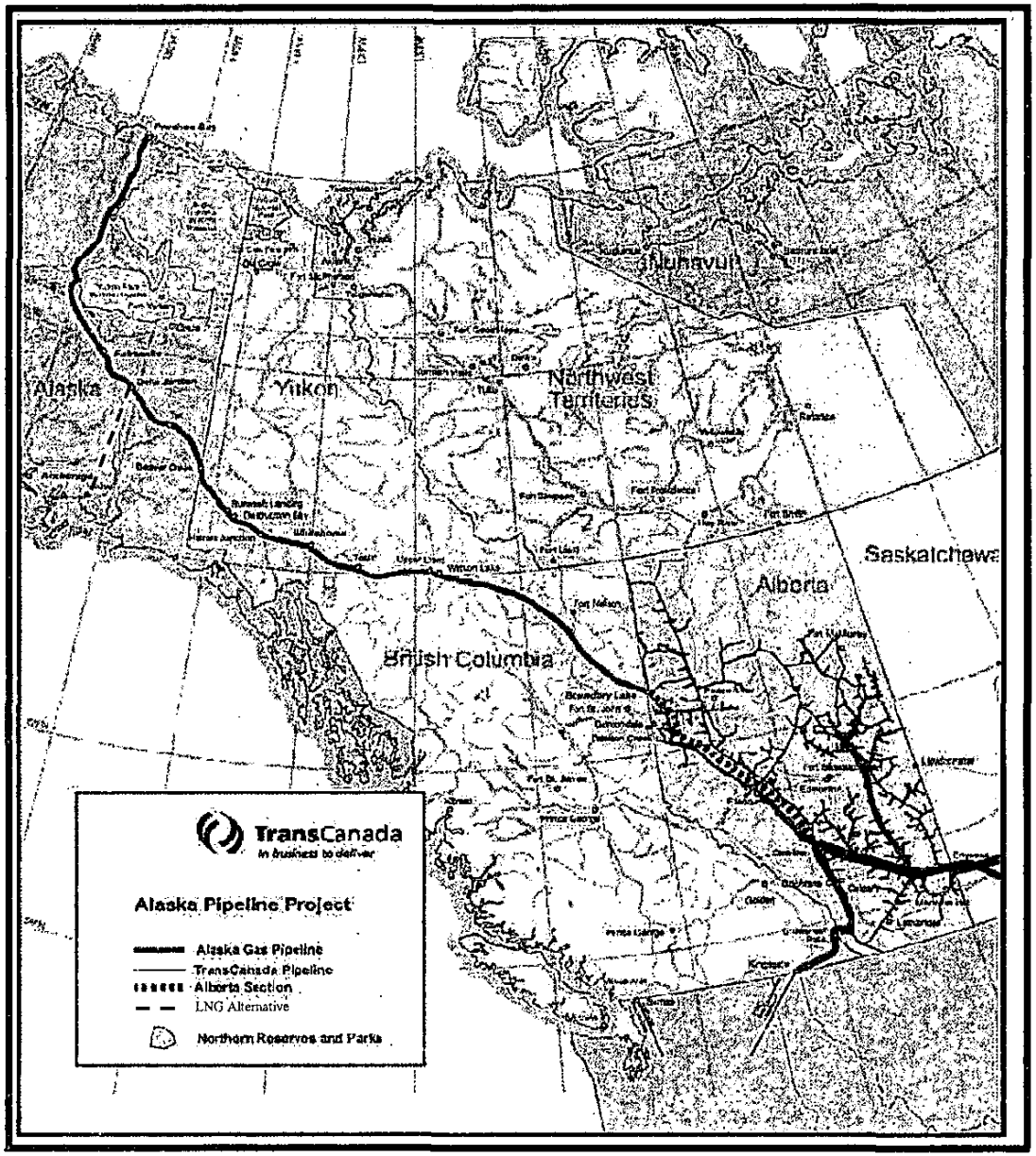
- Represents real progress to align all essential parties necessary for successful project
  - TC/State alignment under AGIA License in 2008
  - EM supports progress of TransCanada's Alaska Pipeline Project under AGIA
  - EM ready to work with State of Alaska and TC to become a full participant in AGIA Licensees
- Combination of TC and EM brings unrivaled expertise and experience to the project
  - TransCanada
    - TC has in-house expertise and experience to develop top quality CAPEX and rate estimates for the initial Open Season
    - 2000+ employees responsible for transporting 20% of North American gas
    - Recipient of the 2008 Global Pipeline Award for leading-edge technology
    - Current North American pipeline projects: $12 B Keystone Project under construction, North Central Corridor Project in Alberta under construction, Bison and Guadalajara pipelines in application/approval stages

TransCanada

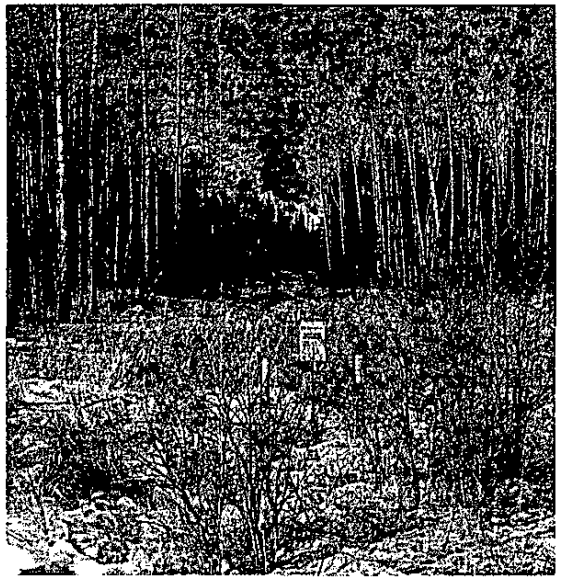
Benefits of Alignment with ExxonMobil (cont'd)

- ExxonMobil
  - Global financial and project management strength
  - Recognized industry leader in execution of large complex projects
  - Substantial financial resources
  - Largest holder of discovered Alaska North Slope natural gas resources
  - Gas treatment plant technology/expertise, as well as pipeline systems
  - Decades of Alaska experience
  - Access to 2001 ANS Producer Study and TAPS information
  - Committed to timely development of Alaska's gas resources
- Combination will deliver excellence in project execution
- TC/ EM share a common goal – realization of an Alaska pipeline project constructed under AGIA
  - Need full support of State of Alaska, US/Canadian governments, North Slope producers, including ConocoPhillips and BP, and other interested parties

TransCanada

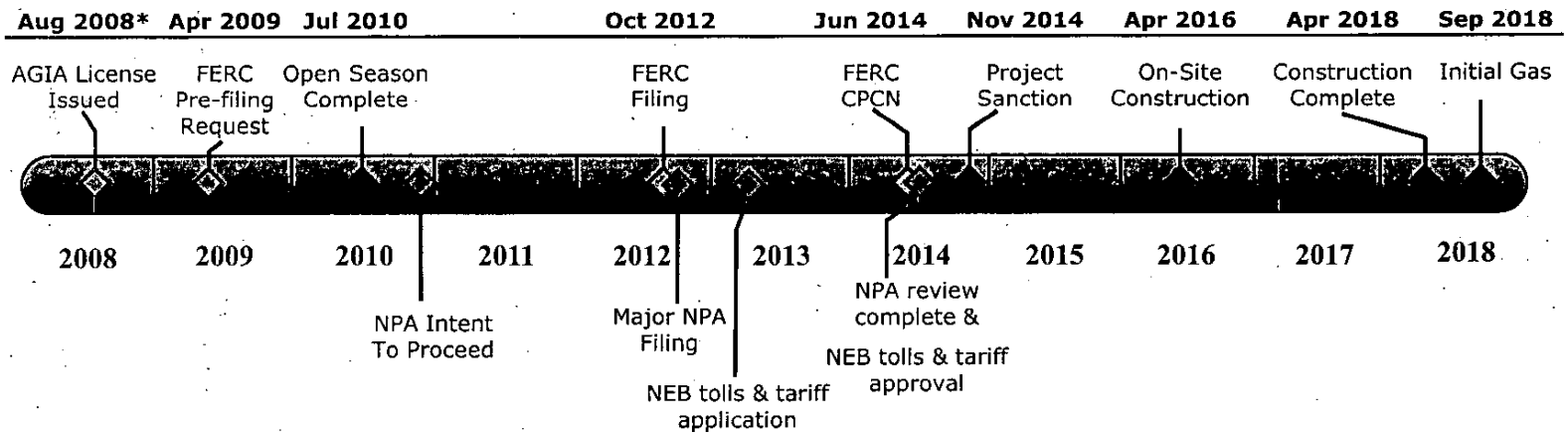


TransCanada's Alaska Pipeline Project



TransCanada

Project Schedule



◆ Common project activities

◈ Alaska-specific activities

◈ Canada-specific activities

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

TransCanada

TC Project Accomplishments Since June 2008

- TC/State alignment under AGIA License
  - TC Application reviewed and License approved by Legislature
  - AGIA License issued on December 5, 2008
  - AGIA Coordinator appointed
- Alignment with ExxonMobil
  - Achieves real progress toward broader alignment
- Capital Cost Estimate – engineering, environmental, limited field work, etc.
  - Extensive work underway since August 2008
  - Project team in place
  - Pre-FEED contractors retained – significant Alaska players engaged
  - Bringing EM personnel onboard broadens the expertise and experience of TC's project team and enhances credibility with potential customers

TransCanada

TC Project Accomplishments Since June 2008 (cont'd)

- Attracting Customers
  - Ongoing discussions with potential customers for deliveries in Alaska, LNG via Valdez and to Lower 48 markets via Alberta Hub
  - Drafting of commercial terms for Open Season underway
  - EM alignment improves likelihood of success
- LNG
  - Cost estimation and commercial terms drafting underway
  - Discussions with potential customers resulted in 3.0 Bcf/d design formally 3.0 BCF
  - Potential customers can select Valdez as delivery point in initial Open Season

TransCanada

TC Project Accomplishments Since June 2008 (cont'd)

- Canada Regulatory
  - EM reviewed / endorsed NPA as the Canadian regulatory model for project
  - Re-staffing of Northern Pipeline Agency underway
  - Northern Pipeline Agency coordinating project within Government of Canada, and with Canadian provinces
    - Multi-department meetings completed with federal agencies, BC and Yukon
    - Individual agency meetings underway
- U.S. Regulatory
  - FERC Pre-file
    - April 2009, two years earlier than TC's approved AGIA schedule
    - Progressing communications with FERC project staff
  - Multi-agency meetings complete, individual meetings underway
  - Ongoing discussions with Federal and State coordinating agencies

TransCanada

TC Project Accomplishments Since June 2008 (cont'd)

- Canadian First Nations
  - TC has contacted all Right-of-Way First Nations and offered to negotiate Participation Agreements
  - 5 of 8 Yukon First Nations ready to discuss
  - Negotiations have commenced with some parties at least one, possibly 2 or 3
- ANNGTC Withdrawn Partners
  - ANNGTC Partnership in dissolution
  - Full mutual releases in hand from all but one Withdrawn Partner
- Fort Nelson Upside
  - NEB decision approving Federal regulation for TC Alberta System improves chance of achieving Fort Nelson upside
  - TC also proposing Groundbirch and Horn River pipelines into North BC

1 thousand TCF
700 miles closer to
Ioms-48.
20% recoverable = 20-50 TCF
Largest formation (Horn River, probable ~~proved~~ potential)

2 employed by TC Alaska
now
since last Aug. 84 employees

TransCanada

TC Project Accomplishments Since June 2008 (cont'd)

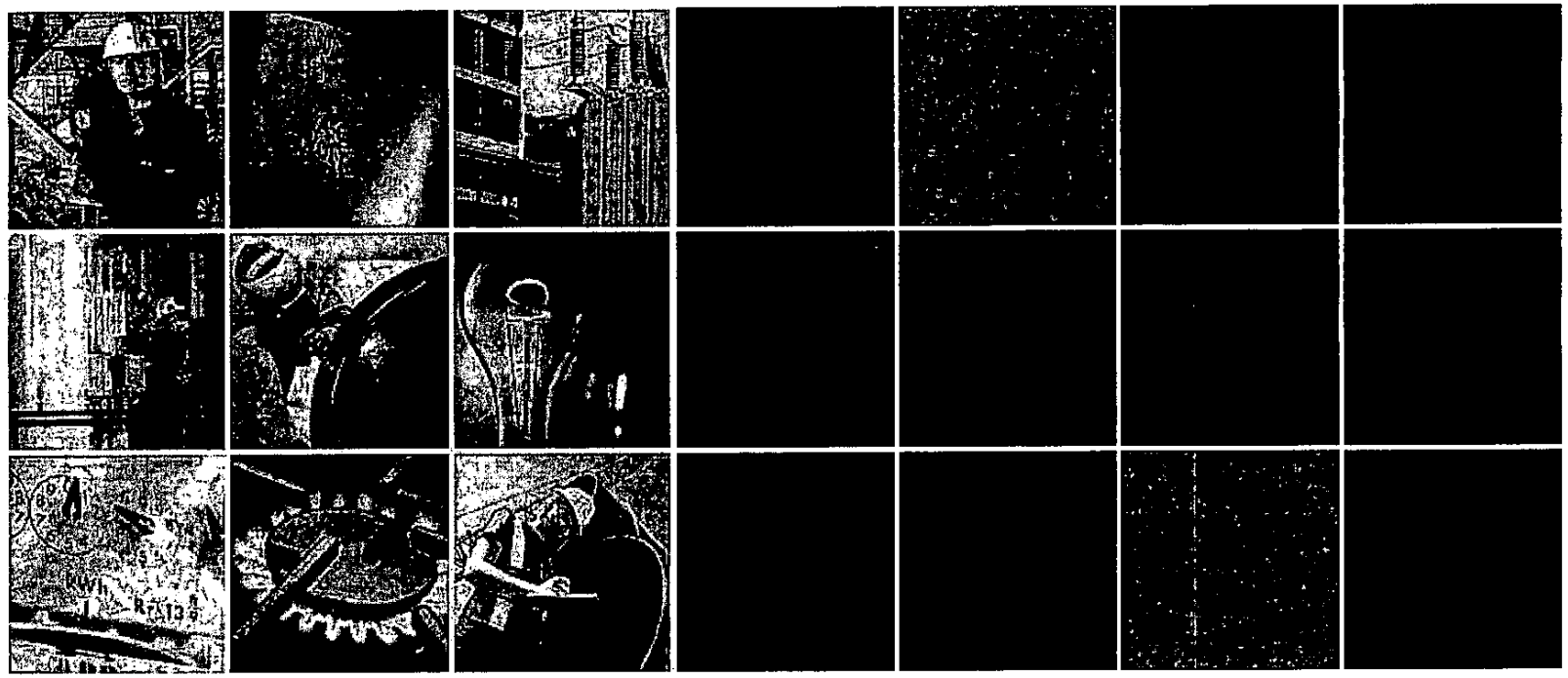
- In-State Gas Study
  - Contract awarded to Northern Economics
- Anchorage Office
  - Open in early 2009
  - Expansion planned later this summer

TransCanada

Next Steps Through Open Season to July 2010

- Complete cost estimate
  - Engineering, environmental, field work, etc.
- Finalize Commercial Terms and Precedent Agreements
- Advance Canadian First Nations Participation Agreements and Fort Nelson issue
- Complete In-State Gas Study
- Ongoing discussions with potential customers
- State/EM dialogue on issues to achieve successful initial Open Season
- File Open Season package with FERC and obtain approval
- Conduct Open Season

TransCanada



Thank You

TransCanada
In business to deliver

Jeff Turner

From: Rep. Mike Hawker
Sent: Monday, June 22, 2009 11:06 AM
To: Larry Persily; Rep. Charisse Millett
Cc: Jeff Turner
Subject: RE: Questions for Exxon, TransCanada, et al.
Attachments: Questions re Alaska Natural Gas Pipeline Project.pdf

also:

Has Exxon changed its position with regard to AGIA not providing a commercially viable framework for a pipeline?

Is Exxon committed to bidding gas into a TC open season regardless?

What needs to change in AGIA for Exxon to bid gas into a TC open season?

Has Tony Palmer been house hunting in Alaska yet?

See the attached questions someone gave Paskvan for more ideas. These are serious quesions that must be asked and answered before a pipeline can happen.

M

From: Larry Persily
Sent: Monday, June 22, 2009 10:48 AM
To: Rep. Charisse Millett
Cc: Jeff Turner; Rep. Mike Hawker
Subject: Questions for Exxon, TransCanada, et al.

Charisse,

I've tried to come up with questions for Exxon, TransCanada, BP and ConocoPhillips outside of the usual inquiries (such as why now to Exxon, why join with TC and not Denali, and is TC sticking with its optimistic 2018 in-service date?).

Here are some possibilities for you to consider for Tuesday's hearing:

To Exxon: Will you commit to shipping gas down a line without Point Thomson leases, or are they essential to a North Slope gas project of this size?

To Exxon, BP and CP: Will you commit to shipping gas without stronger assurances of state tax stability than the 10 years provided in AGIA?

To all producers: Does "fiscal certainty" mean only a long-term lock on taxes, or is there another way to get there?

To TransCanada: Now that Exxon has signed on as a partner, do you expect to take on a

stronger role in pushing the state for fiscal stability for producers?

To everyone: Is there anything the state could do to help get all four of you working together on the same project? Are there things you fear the state might do to help but that actually could hurt getting the four of you together?

To TransCanada: Will Exxon's involvement help improve the accuracy of your construction cost estimates due out next year?

To all: What range of accuracy do you expect for construction cost estimates when you release them next year with the open season (such as plus or minus 30 percent)?

To TransCanada and Exxon: Is planning and design work on a gas line to Point Thomson covered by state reimbursement under the AGIA license? If not, why not?

To the producers: Do you anticipate any legal challenges or do you have any legal concerns whatsoever over the state's production tax structure that imposes a minimal production tax on gas used in-state while collecting a much higher tax gas shipped out of state?

To Exxon: Though TAPS has been profitable, would you prefer not to enter into a gas line partnership similar to TAPS and Prudhoe Bay, where you are not the operator, where all partners essentially have veto rights, and where you could be asked to pay your share of a partner's negligence?

To TransCanada: In your AGIA application, you asked the state to help you in Washington, D.C., on two issues: Getting the federal government to sign on as a backstop shipper in case there are not sufficient bidders during the open season; and getting the federal government to help lessen the pain of construction cost overruns by requiring federally guaranteed loan repayments only when natural gas prices pass a preset level and shippers can afford a higher tariff. Are you still pushing for those concessions from the federal government? Have you dropped those ideas? Does the boost in federal loan guarantees to $30 billion – a provision in the pending Senate Energy Committee bill – eliminate the need for any further federal assistance?

To all: No doubt shale gas production is helping to oversupply the North American gas market this year and will add substantially to supplies in the years ahead. While we all want the market to still need Alaska gas, does the wealth of shale gas push back at all the year when Alaska gas will be needed in the market?

Need anything else, just let me know. And I'll see you and Bryce tomorrow afternoon. What time works for you?

Larry

Jeff Turner

From: Larry Persily
Sent: Monday, June 22, 2009 10:49 AM
To: Rep. Charisse Millett
Cc: Jeff Turner; Rep. Mike Hawker
Subject: Questions for Exxon, TransCanada, et al.
Importance: High

Charisse,

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To Exxon: Will you commit to shipping gas down a line without Point Thomson leases, or are they essential to a North Slope gas project of this size?

To Exxon, BP and CP: Will you commit to shipping gas without stronger assurances of state tax stability than the 10 years provided in AGIA?

To all producers: Does "fiscal certainty" mean only a long-term lock on taxes, or is there another way to get there?

To TransCanada: Now that Exxon has signed on as a partner, do you expect to take on a stronger role in pushing the state for fiscal stability for producers?

To everyone: Is there anything the state could do to help get all four of you working together on the same project? Are there things you fear the state might do to help but that actually could hurt getting the four of you together?

To TransCanada: Will Exxon's involvement help improve the accuracy of your construction cost estimates due out next year?

To all: What range of accuracy do you expect for construction cost estimates when you release them next year with the open season (such as plus or minus 30 percent)?

To TransCanada and Exxon: Is planning and design work on a gas line to Point Thomson covered by state reimbursement under the AGIA license? If not, why not?

To the producers: Do you anticipate any legal challenges or do you have any legal concerns whatsoever over the state's production tax structure that imposes a minimal production tax on gas used in-state while collecting a much higher tax gas shipped out of state?

To Exxon: Though TAPS has been profitable, would you prefer not to enter into a gas line partnership similar to TAPS and Prudhoe Bay, where you are not the operator, where all

partners essentially have veto rights, and where you could be asked to pay your share of a partner's negligence?

To TransCanada: In your AGIA application, you asked the state to help you in Washington, D.C., on two issues: Getting the federal government to sign on as a backstop shipper in case there are not sufficient bidders during the open season; and getting the federal government to help lessen the pain of construction cost overruns by requiring federally guaranteed loan repayments only when natural gas prices pass a preset level and shippers can afford a higher tariff. Are you still pushing for those concessions from the federal government? Have you dropped those ideas? Does the boost in federal loan guarantees to $30 billion – a provision in the pending Senate Energy Committee bill – eliminate the need for any further federal assistance?

To all: No doubt shale gas production is helping to oversupply the North American gas market this year and will add substantially to supplies in the years ahead. While we all want the market to still need Alaska gas, does the wealth of shale gas push back at all the year when Alaska gas will be needed in the market?

Need anything else, just let me know. And I'll see you and Bryce tomorrow afternoon. What time works for you?

Larry

Senator Joe Paskvan

Alaska State Senate • District E • Fairbanks • Ft Wainwright

Pat Galvin, Commissioner
Department of Revenue
550 W 7th Ave, Suite 1820
Anchorage, AK 99501

June 11, 2009

Dear Mr. Galvin,

I appreciate the work that you and the members of the Governor's gas line team have done to advance the Alaska gas line project. After today's announcements about the TransCanada and ExxonMobil alignment, I am more optimistic about the July 2010 open season.

In respect to today's announcement, I submit the following questions for your timely consideration:

1. At what point must the State of Alaska elect between receiving its royalty share in-kind as compared to in-value? As a matter of policy, the question of what the State of Alaska will do with its gas needs to be addressed.

2. If either the full royalty share or some portion of the royalty share is received in-kind, does the State of Alaska participate similar to a producer in the open season? If so, does the State become committed to the pipeline construction and operational costs in proportion to its in-kind election?

3. In short, does the policy of whether or not the State elects in-kind or in-value need to be made before July, 2010? Secondly, would the State's decision to accept in-kind gas obligate the State to pay proportionately the tariff, for example, for 30 years on that percentage?

4. If the State were to elect to receive in-value, would the State lose control over any in-state use of the natural gas?

5. Assuming the 12.5% is applied upon 4bcf, this equates to 500mmcf as the State's share. Does the State accordingly need to begin looking for purchasers of 500mmcf in-state and/or in the export market? How much flexibility does the State have after the line is constructed to adjust, without penalty, its election as to receive in-kind or in-value?

6. As a general assumption, it is reasonable to assume that over a period of 30 years that the initial construction and operational costs will be in the 100s of billions of dollars. Does

In Juneau:
State Capitol, Juneau, AK 99801
(907) 465-3709 Office • (907) 465-4714 Fax

senator_joe_paskvan@legis.state.ak.us

In Fairbanks:
1292 Sadler Way, Ste. 308 Fairbanks, AK 99701
(907) 451-4347 Office • (907) 451-4348 Fax

the election to receive in-kind obligate the State to pay its proportional share of whatever those costs are (i.e., similar to the producers obligation)?

7. Assuming we have an obligation to pay, should the State consider having a pro rata share of pipeline ownership?

8. What involvement does the Administration currently see as to the role of the Legislature in any negotiations with the pipeline company?

These are decisions that should be fully understood well before the July 2010 open season.

My thoughts have been developing with this recent announcement. I appreciate your consideration of these requests and look forward to a written reply at your earliest convenience.

If you require any clarification, please don't hesitate to call me any time.

Sincerely,

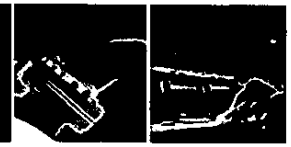
Senator Joe Paskvan

Cc: Sarah Palin, Governor, State of Alaska
Tom Irwin, Commissioner, Department of Natural Resources
Alaska State Senators
Alaska State Representatives

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

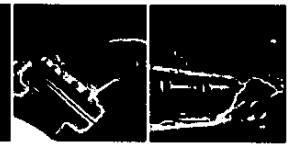
Option Two: Pipeline from the North Slope to Valdez, Alaska

- 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

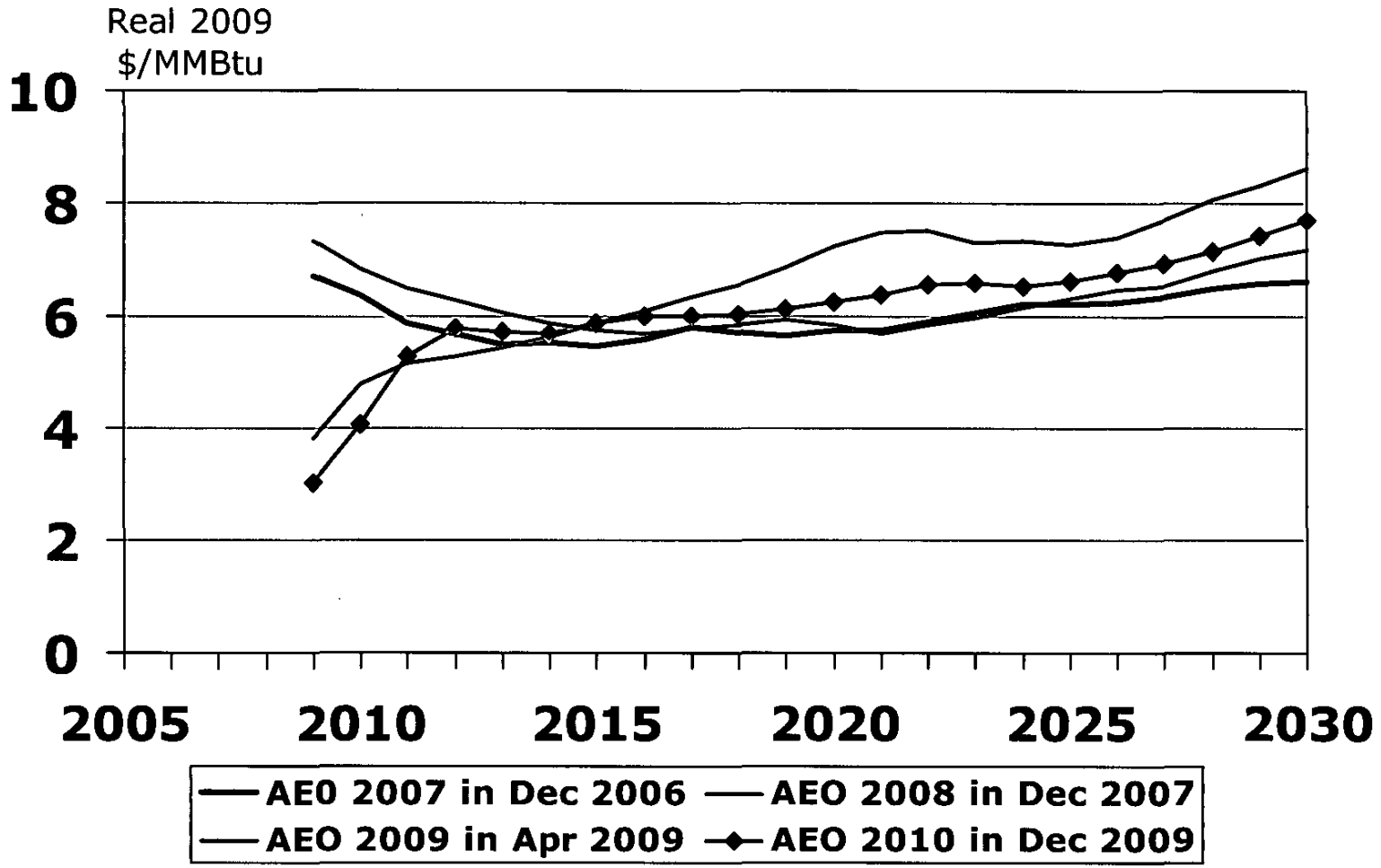
- Capital cost range $32B-$41 B
- Target in-service 2020
- Tariff range (incl. fuel)* $2.80-$3.50 / MMBtu (from GTP to Alberta Hub)
- Alberta Hub gas price** $6.25-$7.65 / MMBtu

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

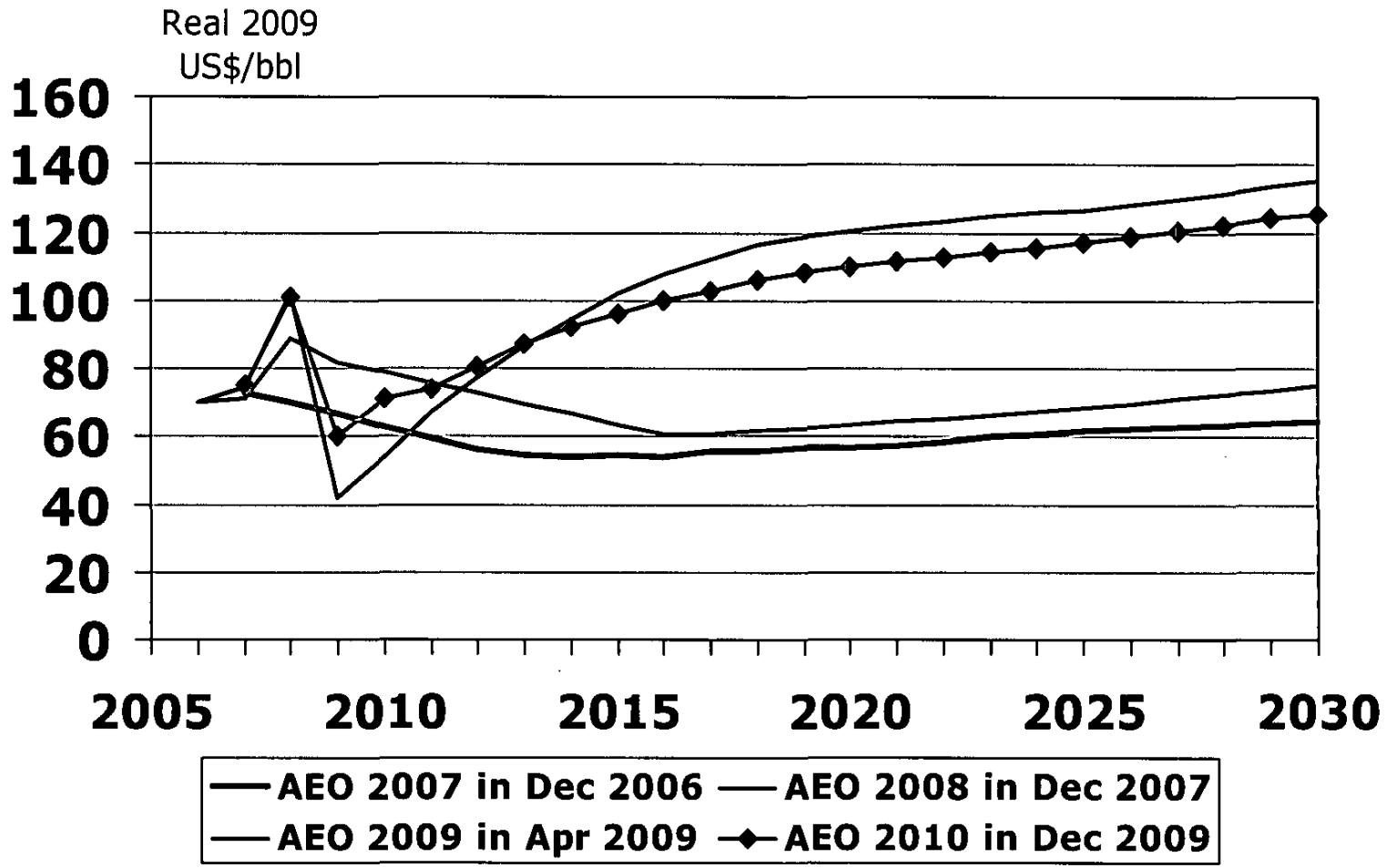
- Capital cost range $20B-$26 B
- Target In-service 2020
- Tariff range (incl. fuel)* $2.45-$3.15 / MMBtu (from GTP to Valdez)
- Henry Hub gas price** $6.75-$8.15 / MMBtu
- Oil prices** $110-$125 / bbl

Both the Alberta and Valdez options are technically and commercially viable based on current project costs and natural gas/oil price forecasts

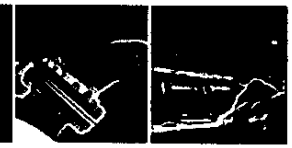
* **Prudhoe Bay to Valdez (25-year contract term). Add $0.15-0.20/MMBtu for Pt. Thomson line**

** **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



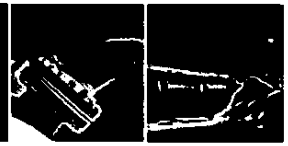
APP Development Stage – Post Open Season



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

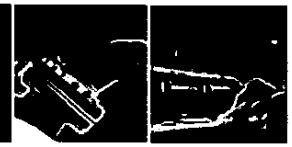
Post Open Season



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

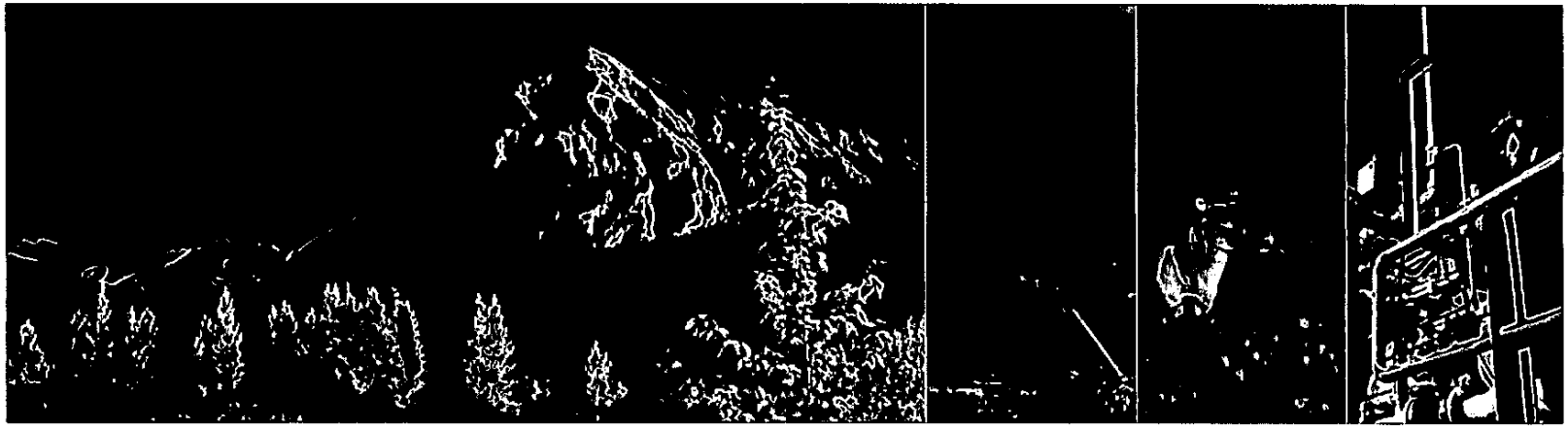
Alberta / Valdez options both viable

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

ALASKA
PipelineProject

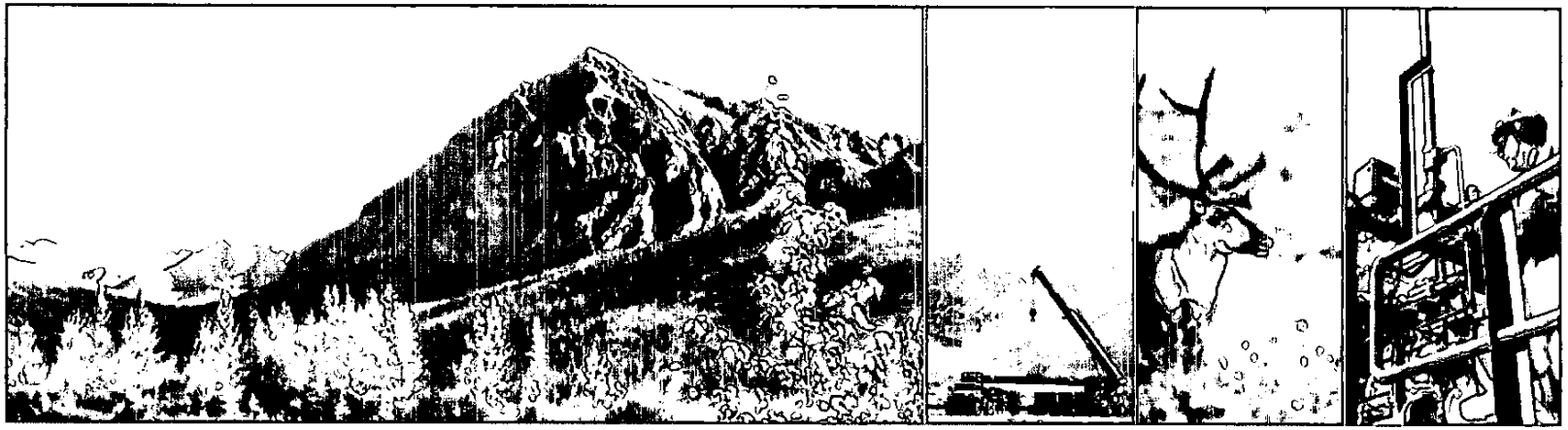


Thank You

Note: APP's Open Season plan is available at www.thealaskapipelineproject.com or on the FERC website

TransCanada ExxonMobil

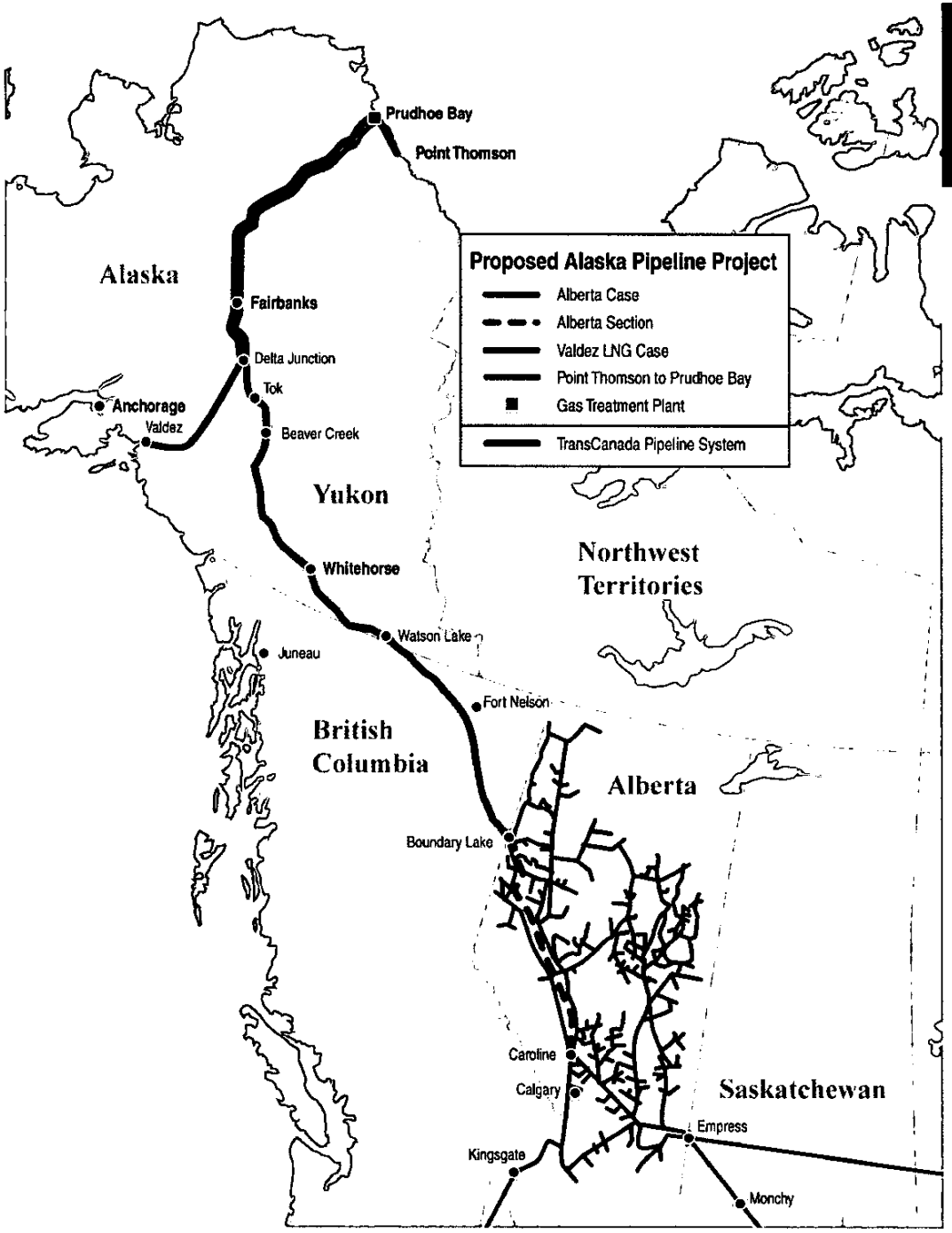
ALASKA
PipelineProject



Alaska Legislature
Senate/House Resources & Energy Committees

February 2010

TransCanada ExxonMobil



First Open Season for North Slope Gas

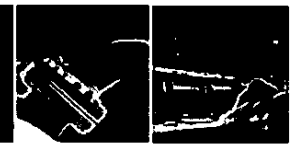
- On January 29, the Alaska Pipeline Project (APP) filed its plan with FERC to implement the first Open Season in history of North Slope natural gas.
- In an Open Season, the pipeline company provides potential shippers with an engineering design, commercial terms and an estimate of project costs, tariffs 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

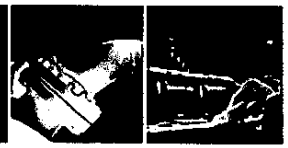
- Producers / Shippers
  - Explored / developed gas reserves; reviewed transportation alternatives; researched potential natural gas markets
- State of Alaska
  - Established State's requirements in AGIA; granted AGIA License; finalizing royalty regulations under AGIA
- U.S. Government / FERC
  - Established 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

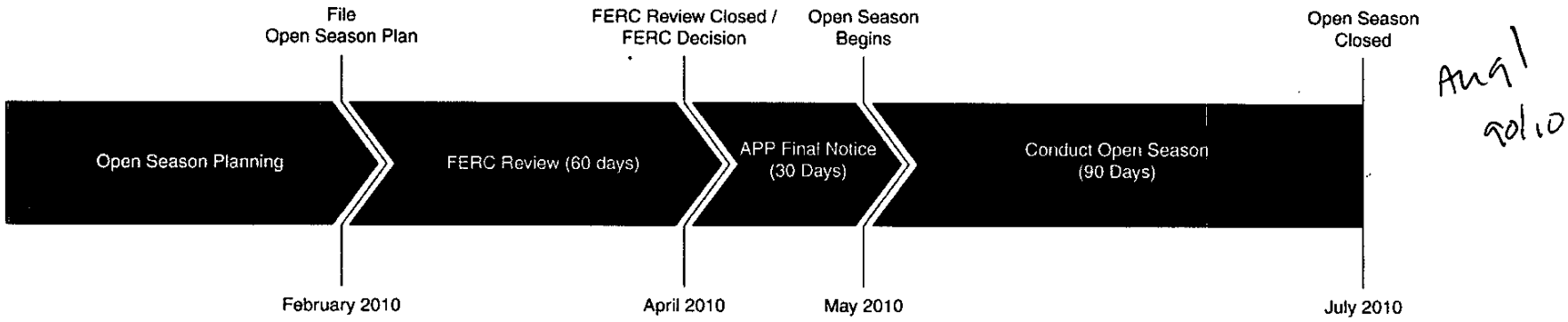
- APP
  - Alignment of key stakeholders
    - TransCanada / State of Alaska via AGIA License in 2008
    - TransCanada / ExxonMobil in 2009
    - Continue to offer equity participation to BP / ConocoPhillips
  - Initiated FERC (NEPA) pre-filing process in U.S.; Continuing interface with Northern Pipeline 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



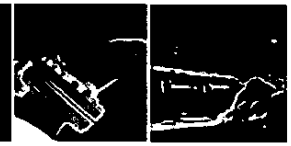
Timeline

- **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

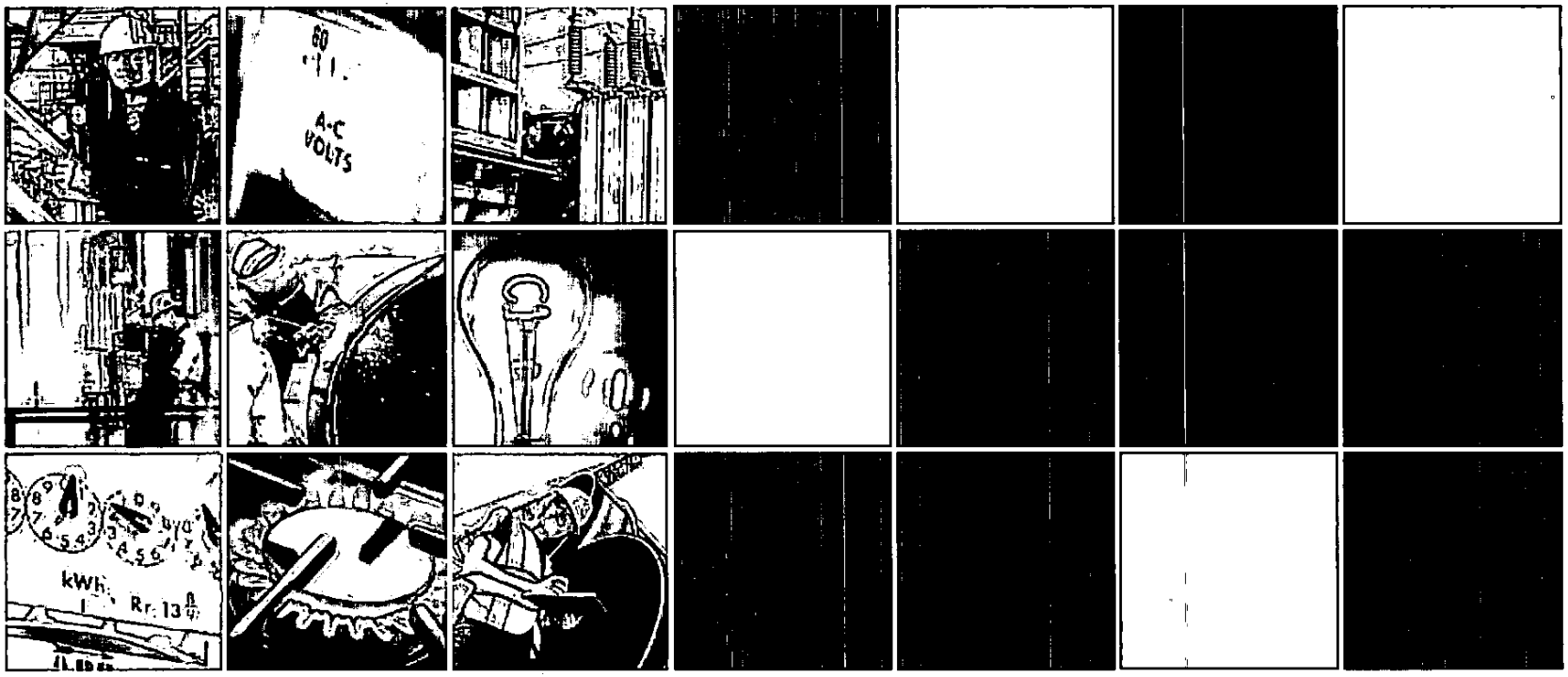


Aug 1 2010

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**

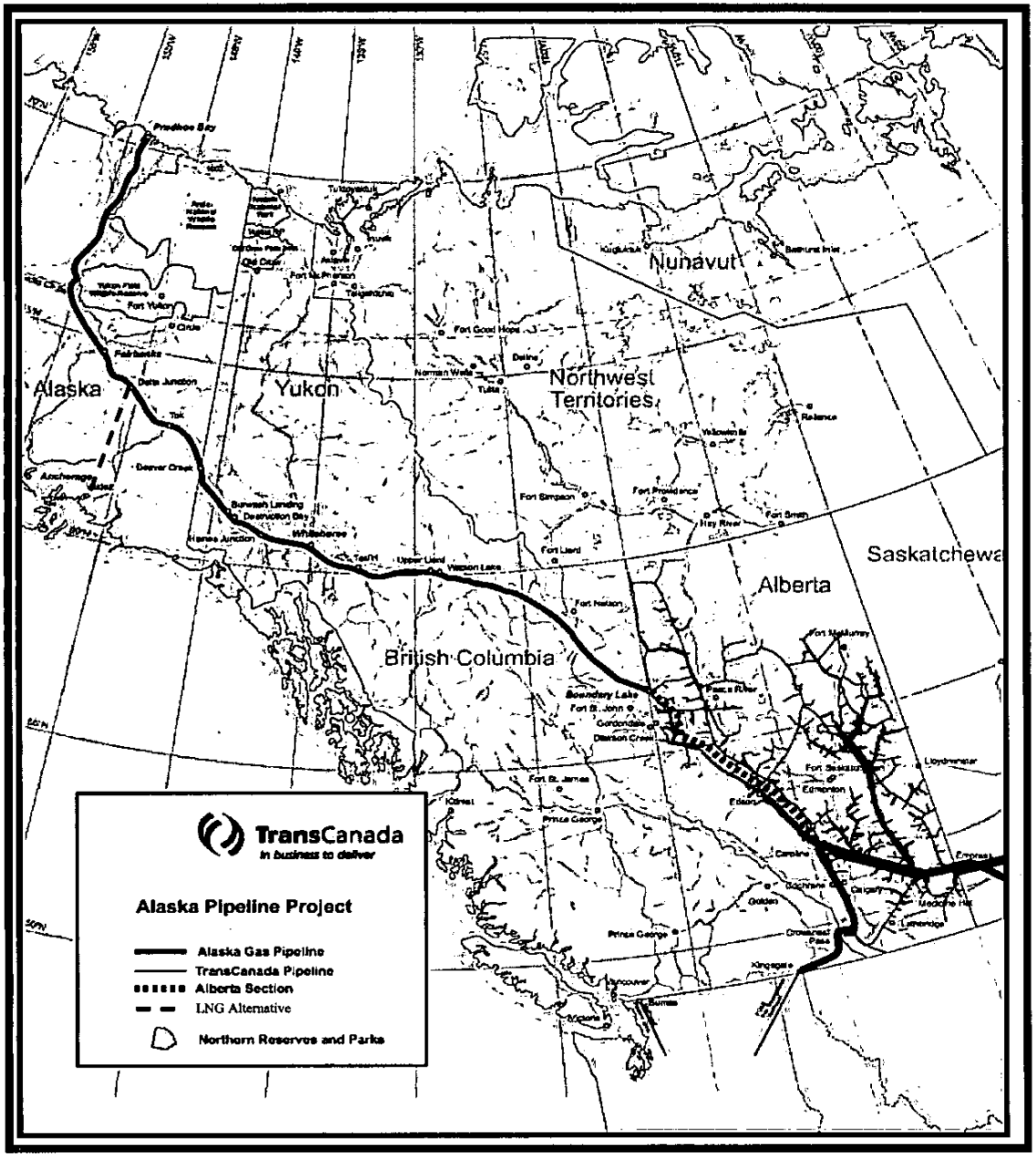


TransCanada's Alaska Pipeline Project

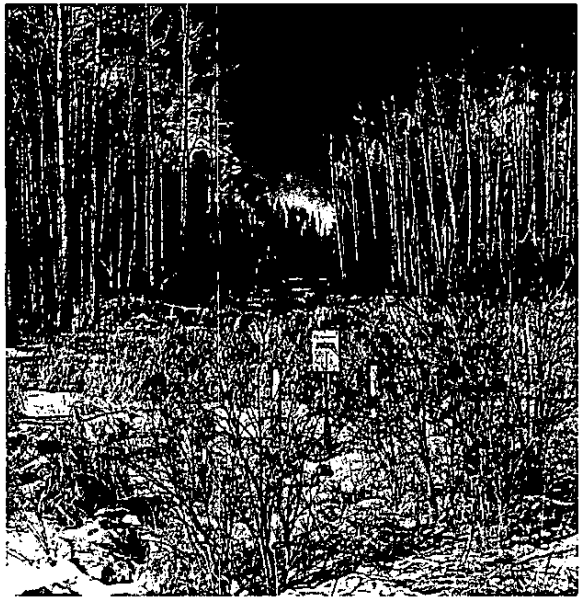
Status Report
House Energy Committee
April 7, 2009

TransCanada
In business to deliver

1500

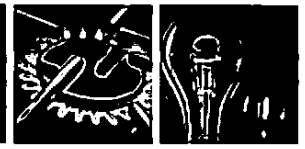


TransCanada's Alaska Pipeline Project



TransCanada

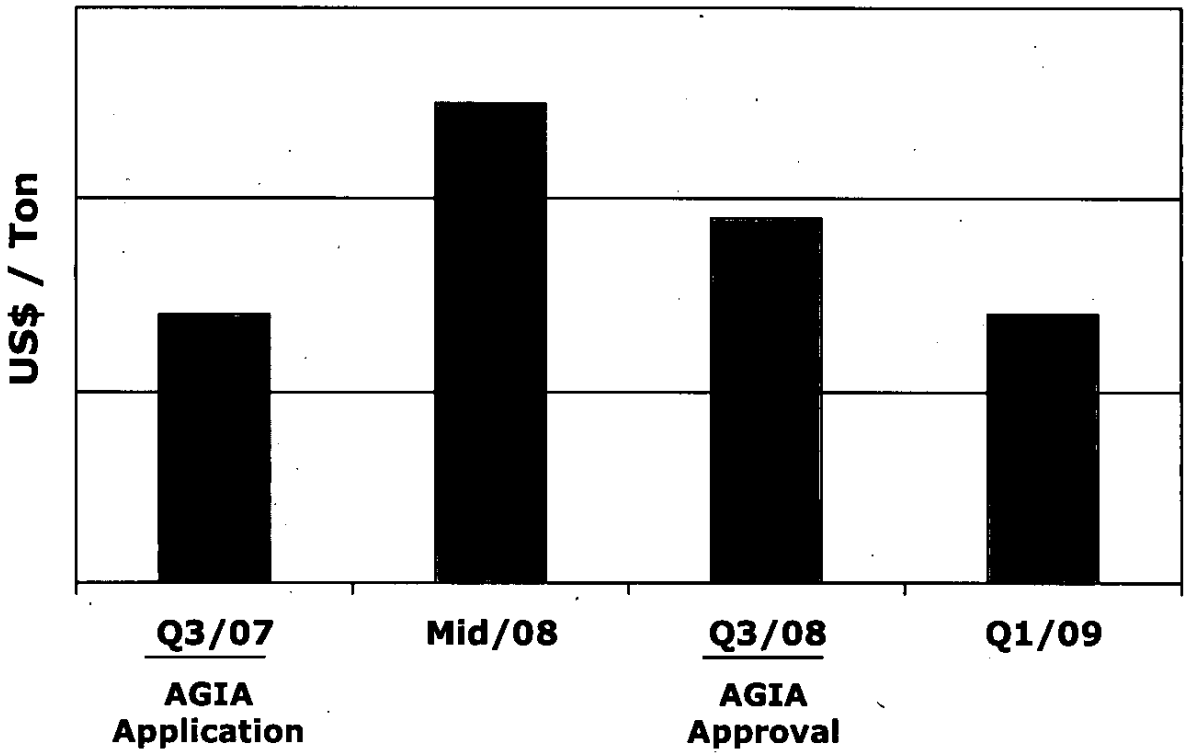
Project Design



- Two alternatives
  - To Lower 48 via Alberta Hub
  - To LNG markets via Valdez
- Alberta Hub
  - 5 Bcf/d gas treatment plant (GTP)
  - 4.5 Bcf/d pipeline
    - 48-inch diameter, 2500/2600 PSIG
- LNG
  - 3 Bcf/d pipeline/GTP
    - 48-inch diameter, 2500/2600 PSIG

TransCanada

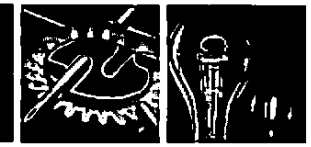
Economic / Technical Viability - Pipe Prices

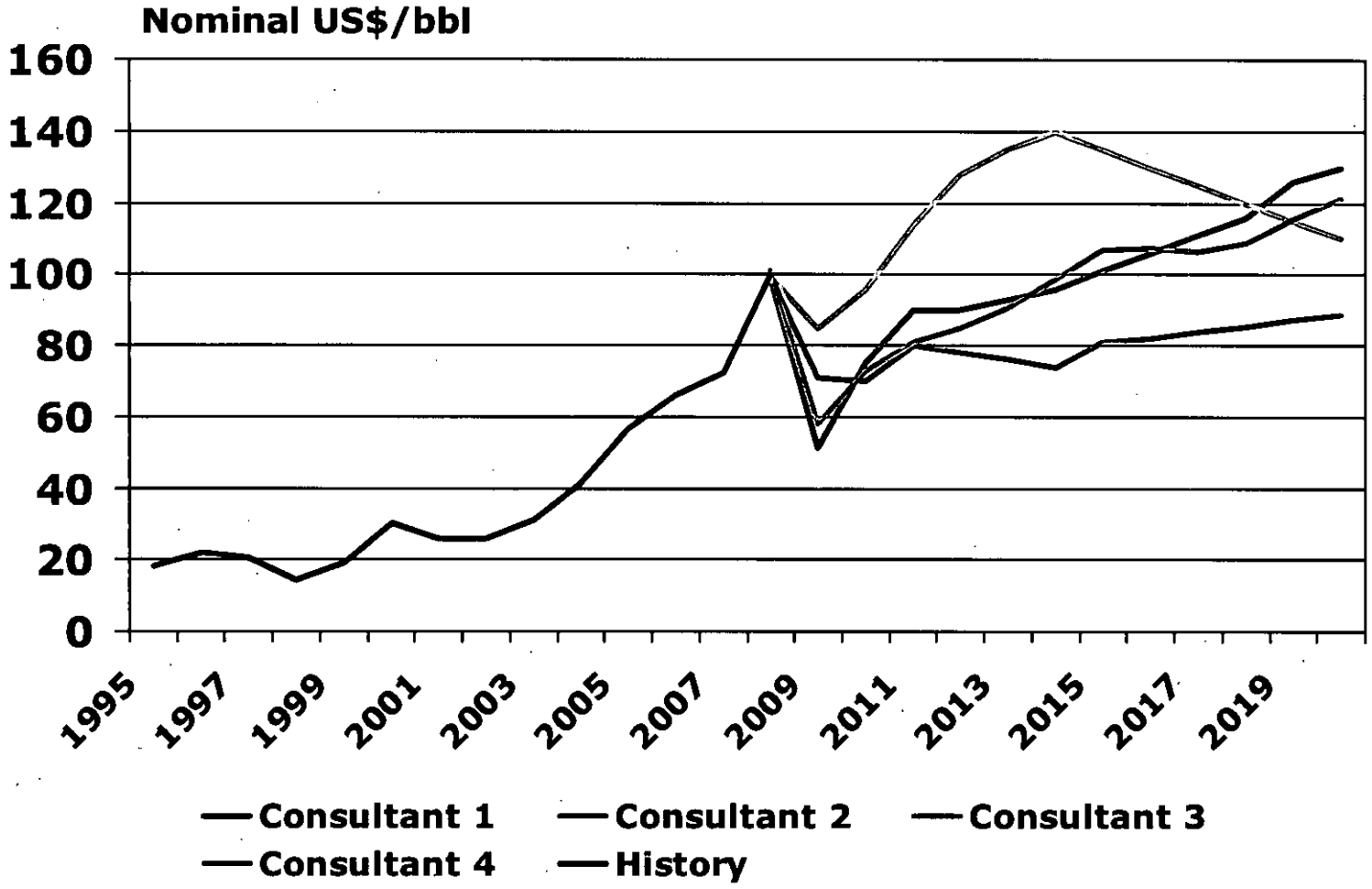


Q1 2009 pipe prices at same level as TransCanada's AGIA Application

TransCanada

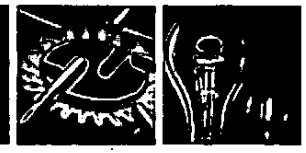
Economic / Technical Viability - Recent Crude Oil (WTI) Price Forecasts – Jan/09

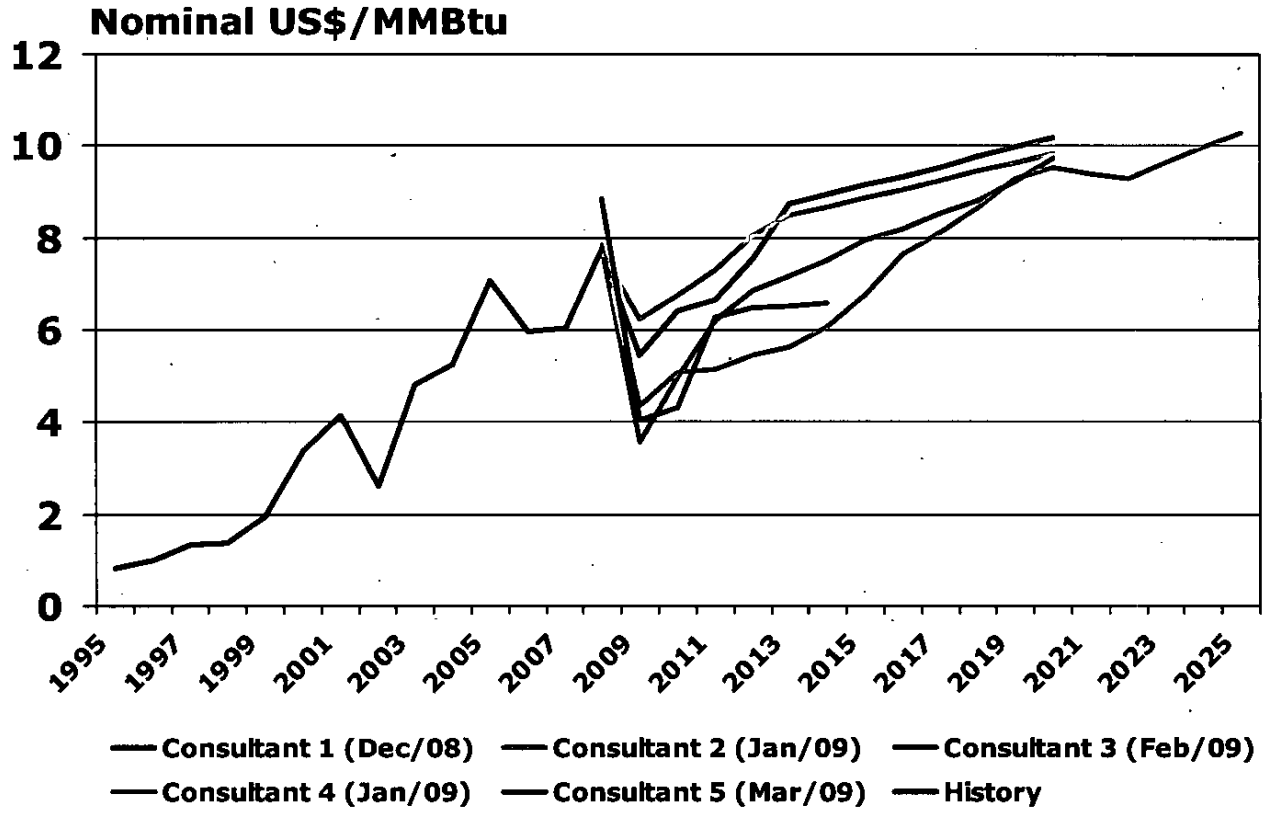




TransCanada

Economic / Technical Viability - Recent Alberta Hub Gas Price Forecasts

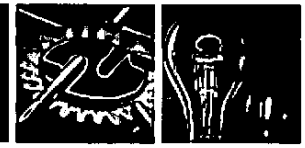


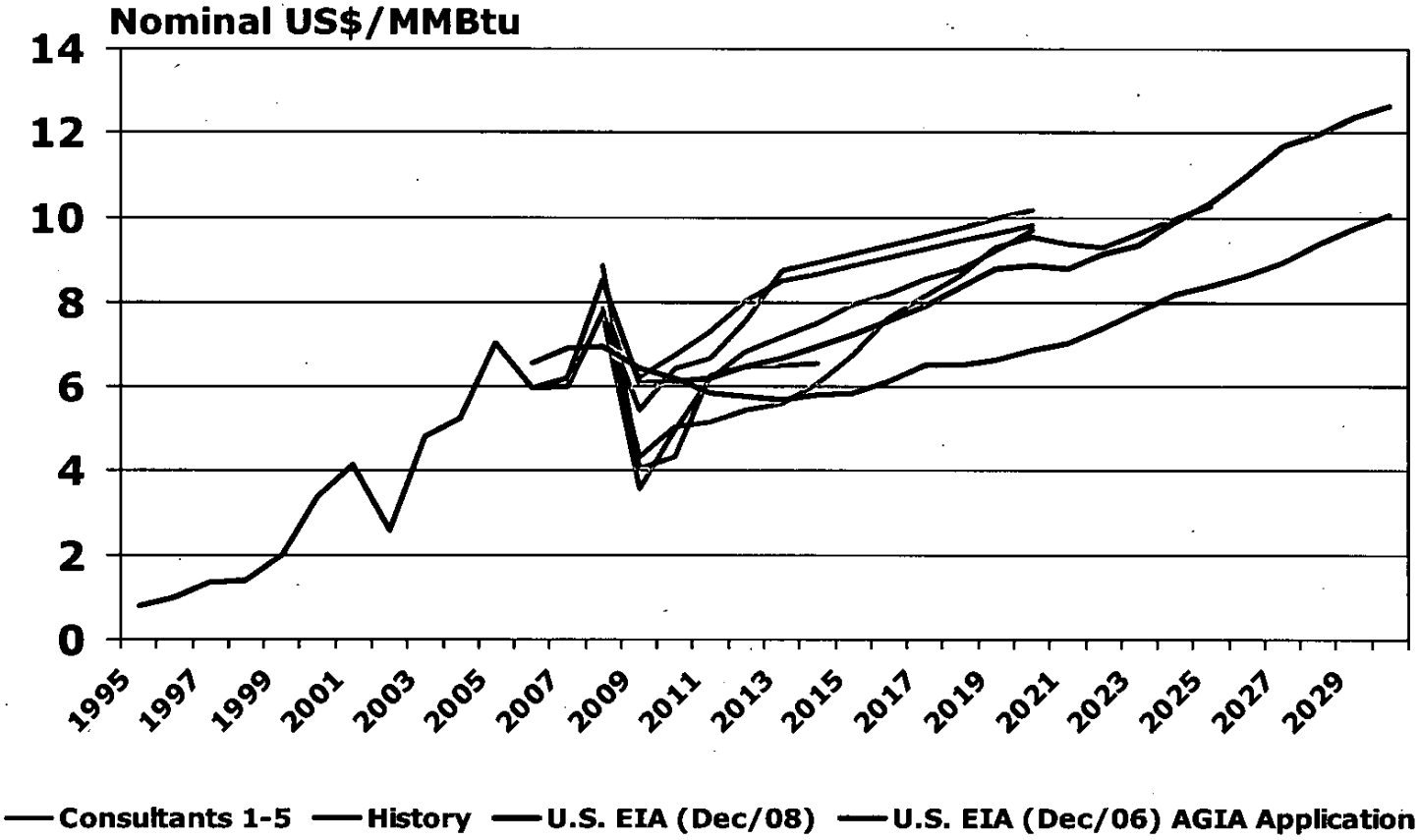


Alaska Pipeline economics remain attractive based on recent forecasts (2018 and beyond)

TransCanada

Economic / Technical Viability - U.S. EIA Alberta Hub Gas Price Forecasts





Current EIA Forecast approx. $2/MMBtu higher than projections used in TC's AGIA Application

TransCanada

Economic / Technical Viability - Impact on Project Economics

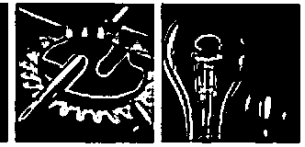
	AGIA Application		March 2009	
	2018 1st Yr	25-Yr Annual Avg	2018 1st Yr	25-Yr Annual Avg
U.S. EIA Gas Price Forecast ($/MMBtu)	$6.53	$9.92	$8.37	$12.43
Pipeline + GTP Tolls [1] ($/MMBtu)	$2.76	$3.03	$2.76	$3.03
Netback (pre-tax) ($/MMBtu)	$3.77	$6.89	$5.61	$9.40
Producer/Govts Total Revenue [2] ($Billions)		$350		$475

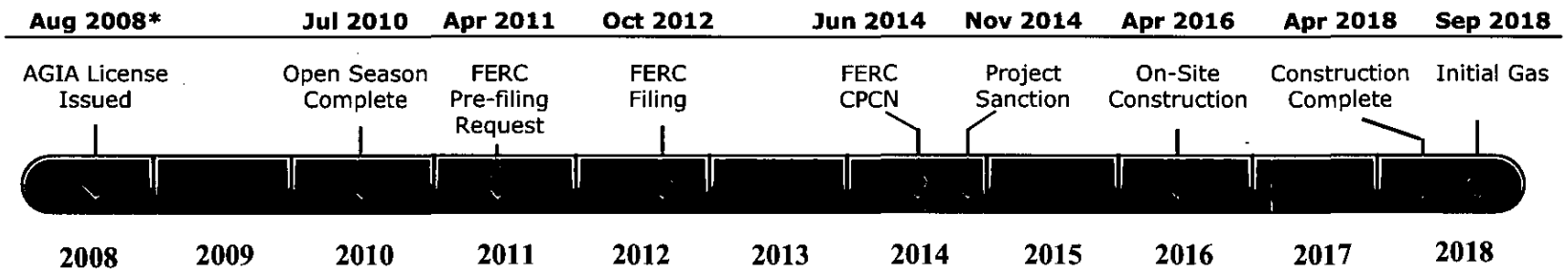
Current U.S. EIA forecast results in extra $125 B to producers/governments

[1] Includes fuel
[2] Direct revenue only – no indirect impacts from additional E&P activity and spin-offs

TransCanada

Project Schedule, Work Plan and Budget



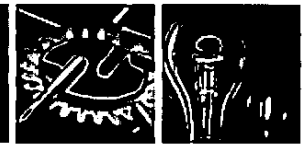


* AGIA license assumed to be issued in August 2008 – actual date December 5, 2008

- TransCanada's work plan was comprehensively set out in our AGIA Application and responses to data requests
- Capital costs of $26 Billion (2007 $ excluding AFUDC)
  - Includes approximately $0.6 Billion for Open Season and regulatory certification

TransCanada

Engineering, Environmental, Field, Commercial and Regulatory Update - 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
  - FERC discussions regarding advancing pre-filing date
- Conduct successful Open Season

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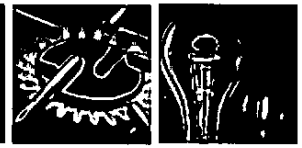
TransCanada Open Season Work Plan (August 2008 – July 2010)



- TransCanada has the in-house expertise and experience to develop top quality CAPEX and rate estimates for the initial Open Season
  - 2000+ pipeline employees responsible for transporting 20% of North American natural gas every day
  - Standardized operating and construction procedures for all activities already in place
    - Maintains low costs while achieving environmental / safety standards
    - CAPEX – 19% / 28% lower than Canadian and U.S. competitors respectively
    - OPEX – 25-35% lower than U.S. / Canadian competitors
  - TransCanada is a proven leader in development of U.S. and Canadian interstate / inter-provincial natural gas pipelines
  - Recipient of the 2008 Global Pipeline Award for leading edge technology

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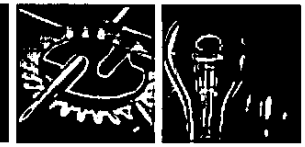
Engineering



August 2008 – Q1 2009

- 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 and initiated implementation of winter geotechnical field program (~120 borehole samples)
- Collected arctic engineering test data and research on frost heave

Outlook –Q2 2009

- Complete terrain mapping and winter geotechnical field program in Alaska
- Determine requirements for a summer geotechnical field program in Alaska
- Continue route reconnaissance and corridor selection in Alaska
- Begin engineering (Pre-FEED) for GTP
- Conduct interface meetings with Prudhoe Bay and Point Thomson operators

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Environmental

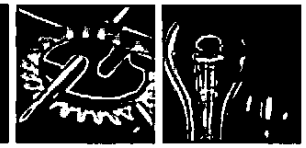
August 2008 – Q1 2009

- Established GIS platform to support environmental planning and permitting
- Provided preliminary environmental constraints information for Alaska routing, Alaska and Canada construction planning
- Completed initial route update review in Canada

Outlook –Q2 2009

- Complete environmental information needs analysis with regulatory agencies to support construction planning, cost estimating and environmental work planning
- Commence development of RFP for TransCanada environmental contractor – issuance in Q3 2009

Regulatory / Permitting



August 2008 – Q1 2009

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

Outlook –Q2 2009

- Continue FERC discussions re pre-file date
- NPA multi-department engagement
- Continue discussions with individual agencies to update Environmental Information Needs Analysis – U.S. and Canada

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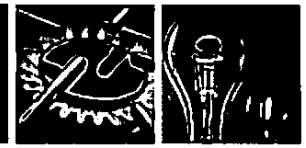
Regulatory / Permitting (cont'd)



August 2008 – Q1 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
- February 25 and March 9 – NPA engagement meetings – in Ottawa
- March 10 – FERC
- March 16-19 – continued multi-agency meetings in Anchorage and Fairbanks

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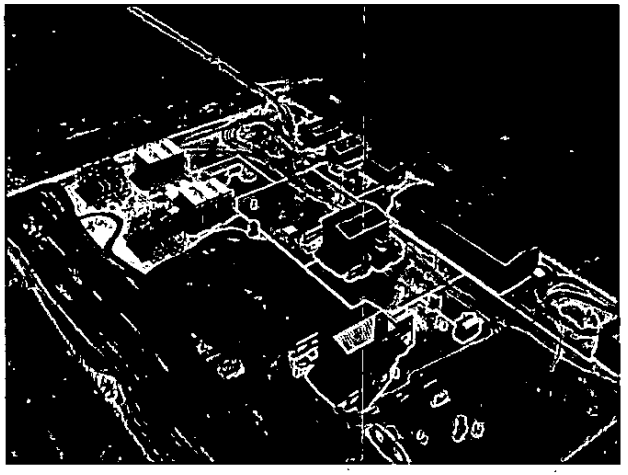
Commercial

August 2008 – Q1 2009

- Continued discussions with potential shippers

Outlook – Q2 2009

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



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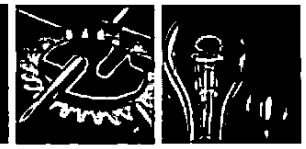
Canadian Authorizations and Right-of-Way



- Project delays critical factor in final capital costs
  - TransCanada has sole access to specific legislation, regulations and ROW for this project in Canada
- Legislation
  - Northern Pipeline Act (NPA)
    - Specific project legislation available only to TC
  - Canada / U.S. Treaty
    - Establishes rights / responsibilities of both countries available only to TC
- Regulation
  - Northern Pipeline Agency
    - Single-window regulatory agency available only to TC
    - Proven track record with Prebuild through 1998
    - Certificate of Public Convenience and Necessity in place
    - Re-staffing of Northern Pipeline Agency underway
- Right-of-Way
  - Yukon ROW in hand available only to TC

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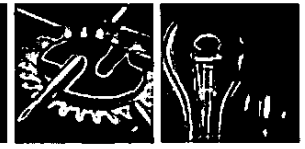
Canadian Authorizations and Right-of-Way (cont'd)



- First Nations
  - NPA Terms and Conditions set out specific benefits
  - Participation Agreement negotiations commencing
- Environmental
  - TC has proven expertise in both FERC and Canadian forums
  - Go / no-go decision already made – <u>available only to TC</u>
- TransCanada's Performance
  - 7000 miles of interstate / inter-provincial pipelines constructed in 1990's on schedule
  - 4000 mile Keystone Pipeline – first phase under construction
  - TC transports 2/3^{rds} of Canadian gas and 20% of North American gas

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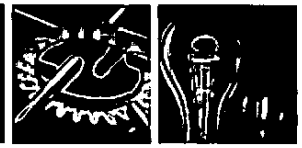
LNG



- In initial Open Season, potential shippers will have opportunity to nominate gas deliveries to points:
  - Within Alaska
  - To Asia / Lower 48 via Valdez
  - To Lower 48 via Alberta Hub
- TransCanada has commenced the necessary design, engineering, environmental, field and commercial work to provide CAPEX, tolls and commercial terms for LNG alternative

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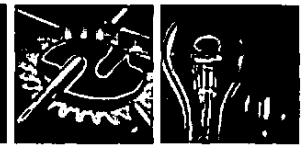
Timing of Initial Open Season, FERC Pre-filing, FERC Application



- Already covered in Slide #9

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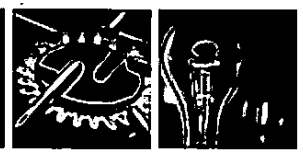
Gas Treatment Plant



- Design covered in Slide #3
- TransCanada will develop / own only if necessary
  - TransCanada has commenced work on GTP for initial Open Season
  - Pre-FEED Contract awarded to URS in March 2009
    - ASRC Energy Services will provide subcontracting to URS

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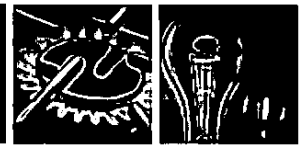
Cost Analysis



- TC's AGIA Application in November 2007 estimated project CAPEX at $26 Billion, including $0.6 Billion for development costs through initial Open Season and regulatory certification
  - At present, no change to these estimates
  - In early 2010, TC will have completed an updated project CAPEX estimate for its initial Open Season
- TC's AGIA Application proposed a return reduction in event of capital cost overruns
  - AGIA Application also set out TC's work plan, management oversight and track record on controlling costs.

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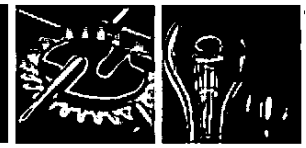
In-State Gas Deliveries



- TC's AGIA Application committed to 5 delivery points in Alaska and a single distance-sensitive rate (subject to FERC approval) for Alaska consumers
  - Status unchanged
  - TC will complete a study of in-state gas use later in 2009. This study will assist with definition of delivery points and determination of the distance-sensitive rate.

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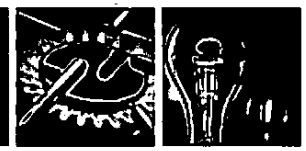
Alaska Contractors / Suppliers



- 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
  - Sub-contractor geotechnical consultant - DMR
- Office setup and support - Peach Investments LLC and GCI, Anchorage

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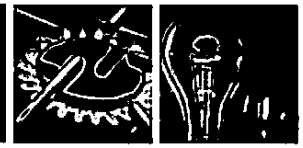
Alaska Headquarters, Alaska Hire, Project Labor Agreement for Construction



- HQ
  - December 1, 2008 lease for Anchorage office
  - Office Manager in place
- Alaska Hire
  - To date, approximately 42 Alaskans have been employed on the project either directly by TransCanada or via contractors
  - These individuals were hired within the state
  - TC has participated in alignment meetings with Department of Labor (Alaska)
    - AGIA Training Strategic Plan Steering and Implementation Committee
    - Alaska Pipeline Trades Academy Dedication and Tour
    - Alaska Workforce Investment Board

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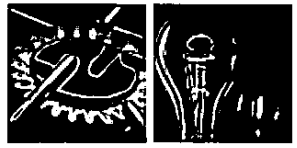
Alaska Headquarters, Alaska Hire, Project Labor Agreement for Construction (Cont'd)



- Reimbursement Agreements in place with Alyeska, BLM (Alaska) and JPO
- Project Labor Agreement for Construction
  - Initial meetings with Alaska labor leadership to discuss initial plans and path forward towards PLA for construction phase.
- Developing relationships with communities
  - Project information presentations and discussions at Tok, Nuiqsut, Barrow, Tanana Chiefs Conference annual convention, Four Village Coalition, RDC.
  - LNG information meeting in Valdez

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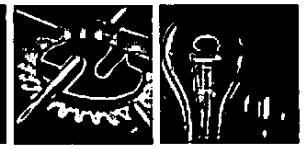
Project Ownership and Construction



- At present, TC is sole project sponsor
  - TC has indicated its preference that other parties develop / construct the GTP
    - TC will develop / own if necessary
  - TC will offer equity opportunity to shippers in initial Open Season that subscribe for a threshold volume

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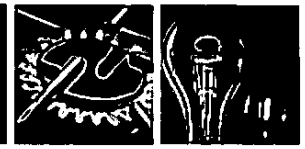
TransCanada's Readiness, Financial Capacity and Technical Ability



- TC's AGIA Application comprehensively set out our readiness, financial and technical capacity. Outlined below is TC's recent access to capital markets:
  - Raised C$5.5 billion in capital since November 2008
    - Raised C$1.157 billion in common equity through a public offering
    - Issued US$1.25 billion 30-year Senior Unsecured Notes at 7.625 per cent
    - Issued US$750 million 10-year Senior Unsecured Notes at 7.125 per cent
    - Secured a US$1.0 billion bank facility dedicated to funding the Keystone Pipeline system
    - Issued C$400 million 30-year Medium Term Notes at 8.05 per cent
    - Issued C$300 million 5-year Medium Term Notes at 5.05 per cent
  - Alaska Pipeline Project will have access to US$18 billion Federal Loan Guarantee
    - **Commence financing at decision to proceed (2014/15)**

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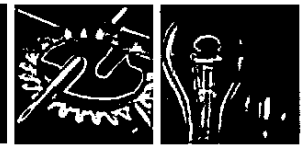
Website



www.transcanada.com

- Alaska Pipeline Project
  - Project Overview
  - Project Materials
  - News Releases
  - Status and Timelines
  - AGIA
  - Contractor / Vendor Registration
  - Careers
  - Contacts

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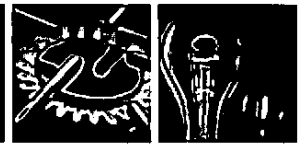
Summary



- AGIA Bill approved and License issued
- TC's commitments unchanged from AGIA Application
- TransCanada aggressively advancing the project
  - Engineering / Cost Estimation, Environmental, Administrative
  - Commercial, Regulatory and First Nations
- Project activities and schedule unaffected by recent turbulence in financial markets
- TransCanada has solid access to capital markets
- Current gas price forecasts result in an increase of $125 Billion revenue to producers/governments as compared to projections in TransCanada's AGIA Application
- Major projects like the Alaska Pipeline Project succeed or fail based on long-term project economics (i.e. 25-50 years commencing in 2018), not short-term swings in natural gas prices
- TransCanada will continue to focus on costs, schedule and attracting customers

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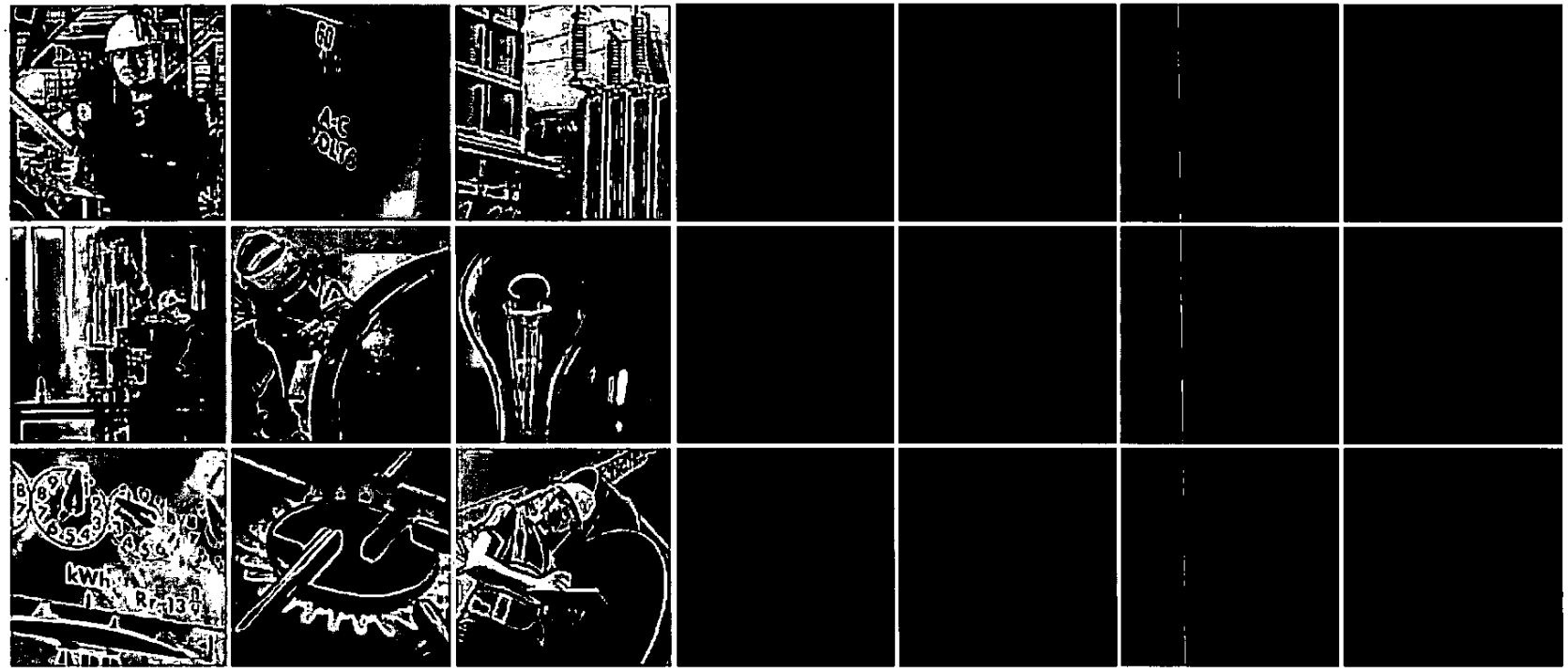

Thank You

TransCanada
In business to deliver

7-27-09 Presentation: Status of Federal Stimulus Energy Funds

<target><bill></bill><subject>7-27-09 Presentation Status of Federal Stimulus Energy Funds</subject><comm>HENE26</comm></target>

1530

Alaska Legislature
House and Senate Special Committees on Energy

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AGENDA

Monday, July 27th 2009
11:30 a.m. – 1:00 p.m.

1. Presentation by Larry Persily, House Finance Committee aide – status of federal energy funds

###

House and Senate Energy Committees, July 27, 2009 – Anchorage
Presentation by Larry Persily, Aide to Rep. Mike Hawker
Federal Economic Stimulus Funds for Energy-Efficiency Programs

Recap of federal stimulus funding for energy-efficiency improvements in Alaska

$18 million for home weatherization

- Continuation of existing program administered by Alaska Housing Finance Corp.

$9.6 million for Energy Efficiency and Conservation Block Grants

- 60% to communities; 40% for state to spend.
- Alaska Energy Authority and AHFC to split the 40%.
- AEA likely to administer grants to communities for the 60%. AEA and AHFC are working to develop criteria for the grants and selection process.
- The $9.6 million can go to retrofits of commercial, public and residential structures; heating systems; energy-efficiency audits; lighting upgrades; landfill gas recovery; public transportation; public outreach; most anything to reduce energy costs.
- In addition to the $9.6 million, there is $4.5 million that goes directly to the Top 10 cities and Top 10 boroughs in Alaska by population. (The 60% of the state's $9.6 million must go to communities that did not receive a direct federal allocation.)
- An additional $12.2 million goes directly to 241 tribal governments in Alaska (ranging from a minimum $34,000 to CIRI's $939,000; average is $51,000).

$28 million for State Energy Program

- Not new program; started in 1996 (precursor dates to 1976); state received $392,000 in FY2007 and $258,000 in FY2008.
- Money goes to designated state energy office; in Alaska, that is AHFC.
- 1996 memorandum of understanding amended in 2001 to share funds 50-50 between AHFC and AEA.
- Department of Energy objectives for State Energy Program are: Increase energy efficiency to reduce costs for consumers, businesses and government; reduce reliance on imported energy; improve the reliability of electricity and fuel supplies; and reduce the effects of energy production and use on the environment.
- Money can go toward building retrofits and weatherization, loans and grants for energy-efficiency projects, distribution to municipalities for local efforts, promotion and public education of energy-efficiency standards, street lighting upgrades — almost anything to improve energy efficiency and save energy costs.
- The money cannot go toward land purchases or research.
- Required 20% state match of past years waived for stimulus funds.

Status of $28 million appropriation

- Legislature appropriated $28 million (HB199); Gov. Palin vetoed the budget item.
- If the Legislature fails to override the veto, the money would revert to the U.S. Treasury; it would not go to other states.
- Application deadline was May 12; AHFC met the deadline but governor declined to provide required assurances (in addition to vetoing the appropriation). The Department of Energy agreed to accept a late, complete application from Alaska.
- The department considered an extension to January 2010 but decided against waiting that long and set Sept. 30 deadline for full application with assurances.
- Legislature can override the veto but cannot direct the funding.
- If lawmakers override the veto, the funding would remain a line item $28 million to AHFC; spending decisions would be up to the governor.
- AHFC and AEA in March submitted proposals to the governor's Office of Management and Budget to spend their 50% shares. The governor's office never adopted the proposals, which were never presented to the Legislature. The state can amend the spending plan in its application to the Department of Energy.
- AHFC proposed $4.5 million for community building weatherization, $2 million for weatherization and rebate support (software and expanded energy audit program), $4 million for home-based renewable energy program, $1.8 million for consumer education, $2 million to write statewide energy-efficiency standards.
- AEA proposed $7 million to its Renewable Energy Fund, $2.5 million for research and development of renewable energy, $3.9 million for energy-efficient equipment rebates and incentives, $750,000 for energy-efficiency training and education, and $100,000 for commercial facility energy audits.

Federal rules for State Energy Program funds

- Department requires each governor to certify the state will promote and encourage improved energy efficiency for residential and commercial buildings.
- State law is a controlling factor in each governor's assurances to promote and encourage improved energy-efficient construction. The Department of Energy is not demanding and does not expect those states without statewide energy code authority to take over code jurisdiction from municipalities.
- In those cases the department will accept a governor's assurances that the state will assist those municipalities that want to consider improved energy-efficiency standards, while the state helps to promote energy-saving construction methods.
- Alaska is the only state not approved for State Energy Program stimulus funding.
- Missouri governor's assurance accepted by the department: "The state is committed to working with communities to create model energy-efficiency standards that, if local units of government chose to implement, should reduce energy costs for Missourians. I and my staff will also work with the Missouri General Assembly to pursue incentives to assist communities in promoting improved energy efficiency consistent with the goals of ARRA."

What the Department of Energy does and does not require

- Initial reports were that states would have to show compliance with model energy-efficiency standards for 90% of new and renovated square footage between 2009 and 2017.
- Department officials later reported — confirmed in a May 14 meeting in Washington, D.C., and in subsequent phone calls and e-mails — that while such compliance in eight years is a goal it is not a mandate. The Department of Energy will not measure or count square footage, nor will it demand or expect states to count square footage.
- The department merely wants each state to prepare a plan for how it intends to promote and encourage improved energy-efficiency standards. The plan is not due at the time of application for the funds; it can be submitted later. An acceptable plan could include outreach and education efforts among homeowners, commercial property owners and builders, lenders and others in the industry; assisting municipalities in their energy-efficiency efforts; providing state guidance and assistance; pretty much a general plan to promote energy efficiency and savings.
- Compliance guidelines being drafted by the Pacific Northwest National Laboratory under contract to the Department of Energy are just that — voluntary guidelines for states that want to measure and monitor their success at improving energy efficiency for buildings.
- The national laboratory, in Richland, Wash., issued its second revision of the compliance guidelines in June. Staff is reviewing the comments received and expects to issue the final report as soon as next month.
- The intent of the guidelines is to provide states with common criteria for measuring and comparing improvements in energy efficiency. For example, the final guidelines may suggest that each state select X number of residential structures and X number of commercial structures for energy audits to track energy-efficiency improvements over time. The agency expects its final guidance to provide states with a shortened and realistic checklist to judge compliance with energy-efficiency standards in buildings.

Cost-effectiveness of energy-efficiency construction

- I was unable to find any nationwide report that precisely quantified an average economic value for energy-efficiency upgrades, such as: For each dollar spent on improvements, the property owner would realize X dollars of savings over the life of the building. Too much depends on the size of the house, the climate, the quality of original construction, and building costs.
- However, there is a lot of city-, state- and industry-specific data:
  - ✓ The Home Energy Saver Calculator project, sponsored by the U.S. Department of Energy, Department of Housing and Urban Development and others, determined that 10 energy-efficiency improvements in an average home would produce annual savings of $600 in energy costs — a 16% return on investment.
  - ✓ The Florida Legislature passed the Energy Act of 2008, directing the Florida Building Commission to develop rules for determining the cost effectiveness of energy-conservation measures. A February 2009 report provided the rate of return on investments in several energy-conservation improvements such as R-38 ceiling insulation, 22%, and attic radiant barrier, 35%.
  - ✓ Austin, Texas, which has adopted progressively stronger energy codes since 1985, has seen in that time the annual average energy use for homes per square foot drop from 9 kilowatt hours to 6.5 kilowatt hours.
  - ✓ A July 2008 report from the National Action Plan for Energy Efficiency, led by the Department of Energy and EPA and including state utility regulators and private utility operators, cited a 2005 Nevada study: "... upgrading the energy efficiency of commercial buildings to comply with the code would cost about $1.60 per square foot but would result in $0.68 per square foot of energy savings per year, meaning a simple payback of about 2.4 years."
  - ✓ The same national report quoted from a 2003 Southwest Energy-Efficiency Project that a new home in Phoenix built to energy-efficient standards would cost $1,500 more than a home not up to the same standards, with a payback in energy savings within four years.
  - ✓ Puget Sound Energy, which serves more than 1 million electrical customers and nearly 750,000 natural gas customers in Puget Sound, reported in February 2009 that a complete home weatherization could save homeowners 25% on their heating costs.
  - ✓ A January 2008 report by the Western Governors' Association — Policy Recommendations for Energy-Efficient Buildings — stated that energy-efficiency upgrades to the Colorado State Capitol Complex produced a 25% to 30% drop in energy costs. The savings come to $800,000 a year on a $13.6 million investment in new lighting, heating, cooling and energy-management systems.

Planned Activities List for SEP Recovery Act Funds

Alaska Housing Finance Corporation

Updated March 20, 2009

Program	Task Area	Budget Request SEP	AHFC Receipts and State General Funding	Total per Program Area	Details
Projects through the Alaska Housing Finance Corporation (AHFC)					
Weatherization and Home Energy Rebate Support	software enhancement, data tracking and	$ 1,500,000.00	$ 155,000,000.00	$ 156,500,000.00	AHFC will also use these funds to support data tracking on weatherization, home energy rebate program, and continue software development of energy rating and weatherization assessment software (AKWarm)
Statewide Energy Standards	Energy Code & Greenbuilding Standards	$ 2,500,000.00	$ 250,000.00	$ 2,750,000.00	AHFC is developing greenbuilding standards to be included in energy ratings. A bill has been introduced in the legislature to implement a statewide energy code. Implementation, enforcement and training will be done with these funds.
Energy Efficiency Education	Residential Energy Efficiency training,	$ 1,500,000.00	$ 4,750,000.00	$ 6,250,000.00	Workshops for consumers, energy auditors, contractors and other housing professionals in energy efficiency education
Residential Renewable Energy Rebate	Rebates for residential renewable energy systems	$ 4,116,000.00	$ -	$ 4,116,000.00	Establish a renewable energy rebate program for residential systems
Weatherization Whole Community Retrofit	Wx Supplement to look at other energy efficiency projects in a community	$ 4,500,000.00	$ 200,000,000.00	$ 204,500,000.00	Allow the WAP to weatherize buildings outside the WAP eligibility guidelines while crews are active in remote communities
Subtotal		$ 14,116,000.00	$ 360,000,000.00	$ 374,116,000.00	
Projects through the Alaska Energy Authority, (AEA) under contract					
End Use Efficiency: Commercial, Industrial and Institutional (CI&I)	Commercial Facility Energy Audit Cost Share	$ 100,000.00		$ 100,000.00	AEA will share the cost of an energy audit with any commercial facility in the state, up to a maximum dollar limit while funds are available.
	New & Remodeled School Design Assessments for EE			$ -	AEA will pay for engineering reviews of any new or to-be-remodeled rural schools, focusing exclusively on proper energy efficient design and equipment.
	EE Training, Education, and Resource Building (CI&I)	$ 750,000.00		$ 750,000.00	AEA (and/or contractors) will provide education and trainings, and will build EE resources, such as energy auditors, funding opportunities, and other information relating to commercial, industrial and institutional energy efficiency and conservation.
	Energy Efficient Equipment Rebates/ Incentives (CI&I)	$ 3,910,000.00		$ 3,910,000.00	AEA will provide rebates, incentives, or payment matching for the installation of energy efficient equipment at commercial, industrial and institutional facilities, while funds last, to spur the rapid change to energy efficient equipment in these sectors.
	Emerging EE Technologies (CI&I)			$ -	AEA will partially fund the installation and research costs associated with installing and testing emerging energy efficiency technologies, especially as they relate to northern climate performance to assist commercial, industrial or institutional facilities.
	Subtotal EE	$4,760,000.0	$ -	$ 4,760,000.00	
Renewable Energy	Renewable Energy Fund	$7,020,000.0	$5,896,700.0	$12,916,700.0	AEA will fund recommended yet unfunded renewable energy projects above and beyond the State of Alaska's funding through the 2009 legislative session's House Bill 152.
	Applied R&D for Renewable Energy	$2,500,000.0		$2,500,000.0	AEA will fund applied research and development on integrating energy systems for communities to possibly provide both electrical and heat needs for the community through renewable energy, thereby reducing diesel use, using local fuels, reducing the cost of energy and reducing the community carbon footprint.
	Subtotal RE	$9,520,000.0	$5,896,700.0	$15,416,700.0	
Subtotal Alaska Energy Authority		$14,280,000.0	$5,896,700.0	$20,176,700.0	
Total SEP Project Costs		$28,396,000.0	$365,896,700.0	$394,292,700.0	

Proposed Programs and Activities for SEP and Energy Efficiency Block Grants
Associated with the Economic Stimulus Bill
Alaska Energy Authority
Updated March 10, 2009

Program	Task Area	Budget Request SEP (thousands)	Budget Request EE Block Grant, incl competitive grants* (thousands)	Total per Program Area (thousands)
End Use Efficiency: Commercial, Industrial and Institutional (CI&I)	Commercial Facility Energy Audit Cost Share	$100.0		$100.0
	New & Remodeled School Design Assessments for EE		$50.0	$50.0
	EE Training, Education, and Resource Building (CI&I)	$750.0		$750.0
	Energy Efficient Equipment Rebates/ Incentives (CI&I)	$3,910.0	$2,798.3	$6,708.3
	Emerging EE Technologies (CI&I)		$100.0	$100.0
	Total EE	**$4,760.0**	**$2,948.3**	**$7,708.3**
				$0.0
Renewable Energy	Renewable Energy Fund	$7,020.0	$5,896.7	$12,916.7
	Applied R&D for Renewable Energy	$2,500.0		$2,500.0
	Total RE	**$9,520.0**	**$5,896.7**	**$15,416.7**
				$0.0
TOTAL		**$14,280.0**	**$8,845.0**	**$23,125.0**

* The EE Block Grant funds listed here includes the 28% to states and the 2% for competitive grants.

Department of Energy
Washington, DC 20585

July 24, 2009

The Honorable Mike Chenault
Speaker of the State House of Representatives
of the State of Alaska
State Capitol
Juneau, Alaska 99801

Dear Mr. Chenault:

This letter is in response to communications between your office and the Department of Energy over the last several months regarding Alaska's share to State Energy Program funding as provided under the American Recovery and Reinvestment Act of 2009 (Recovery Act; Pub. L. No. 111-5).

We have carefully weighed the concerns expressed by your office, together with the over-arching goals of the Recovery Act to stimulate the economy and create jobs quickly. The Department has decided to extend the deadline for submission of the required assurances under Section 410 of the Recovery Act to September 30, 2009, to afford the State an opportunity to address the issues that have arisen.

We appreciate the concern that the Alaska State legislature is not in regular session until January 19, 2010, and note that certain actions may be taken by the legislature prior to this date in order to fully benefit from the energy provisions of the Recovery Act. Among them, Section 1607(b) of the Recovery Act states that:

> If funds provided to any State in any division of this Act are not accepted for use by the Governor, then acceptance by the State legislature, by means of the adoption of a concurrent resolution, shall be sufficient to provide funding to such State.

Therefore, the Department will accept a concurrent resolution or equivalent action from the Alaska legislature providing the assurances required under Section 410 in lieu of a communication from the Governor.

Consistent with the assurances required by the Governor, to the extent that the necessary assurances listed in section 410 require action that is outside the authority of the State legislature, the State legislature will need to indicate that it is taking action that is within its authority to promote those actions.

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We understand the State legislature may also poll its members and call a special session. We also understand that the deadline of September 30, 2009, should provide sufficient time for the Alaska legislature to provide the assurances required under Section 410 of the Recovery Act, as well as any other required materials and submissions.

The Department will conclude that Alaska has elected to reject the State Energy Program funding provided under the Recovery Act if we have not received the necessary communication by 5:00 p.m., Eastern Daylight Time on September 30, 2009.

We welcome your continued engagement in these matters. If you need additional information, please contact me or Ms. Sky Gallegos, Deputy Assistant Secretary for Intergovernmental and External Affairs, at (202) 586-2032.

Sincerely,

S. Chalk

Steven G. Chalk
Chief Operating Officer
Energy Efficiency and Renewable Energy

cc: The Honorable Lisa Murkowski
United States Senate
Washington, DC 20510

The Honorable Mark Begich
United States Senate
Washington, DC 20510

The Honorable Don Young
U.S. House of Representatives
Washington, DC 20515

The Honorable Sarah Palin
Governor of Alaska
State Capitol
Juneau, Alaska 99801

The Honorable Gary Stevens
President of the Senate of the State of Alaska
State Capitol
Juneau, Alaska 99801

COMMONWEALTH
NORTH

Resolution 2009-4
In support of accepting Stimulus Package energy efficiency funding
July 21, 2009

WHEREAS, COMMONWEALTH NORTH, Alaska's public policy forum, recognizes that Alaska's level of health care should be improved for all of its citizens, as described in the 2005 Commonwealth North study entitled "Alaska Primary Health Care: Opportunities and Challenges."

WHEREAS, COMMONWEALTH NORTH acknowledges and supports the Governor's efforts to improve energy efficiency in Alaska through programs sponsored by the Alaska Housing Finance Corporation and other State programs, and to promote policies to reach the goal of Alaska becoming a national leader in renewable energy.

WHEREAS, COMMONWEALTH NORTH acknowledges and supports the Governor's leadership in maintaining State's rights.

WHEREAS, accepting the Energy Efficiency Community Block Grant funds under the American Recovery and Reinvestment Act of 2009 will help Alaska achieve its objective of moving closer to energy independence and:

1. These funds could be made available for community centers, including health clinics.
2. Over the past several years community health centers have become even more important in providing medical treatment to our aging population.
3. Some of the energy efficiency funds could be used for weatherization of many of the older clinics. Rather than simply providing assistance with payment of energy bills, it would be good public policy to reduce those bills through energy efficient weatherization and retrofitting.

WHEREFORE, BE IT RESOLVED AS FOLLOWS:

COMMONWEALTH NORTH encourages the Legislature to accept the Energy Efficiency Community Block Grant funds under the American Recovery and Reinvestment Act of 2009, to support the work of our community health centers.

This resolution to be forwarded to Lieutenant Governor Sean Parnell and all members of the Alaska State Legislature.

Approved by the Commonwealth North Board of Directors
May 19, 2009

David Wight, President

We share the goal of having Alaska a national leader in renewable energy. AARP feels that accepting the State Energy Program funds will help us achieve this objective and get us closer to energy independence.

We sincerely hope you will consider accepting these funds.

If you have any questions or need more information, please do not hesitate to have your staff contact me. Thank you for your consideration.

Sincerely,

J. Patrick Luby

J. Patrick Luby
Advocacy Director
907-762-3314 (work, direct)
907-599-0839 (cell, 24 hours)
jluby@aarp.org

CC: Members of the Alaska Senate and House of Representatives

AARP Alaska
3601 C Street
Suite 1420
Anchorage, AK 99503

T 1-866-227-7447
F 907-341-2270
TTY 1-877-434-7598
www.aarp.org/ak

July 9, 2009

The Honorable Sean Parnell
Lieutenant Governor of Alaska
550 West 7th Avenue
Anchorage, Alaska 99501

Dear Lieutenant Governor Parnell:

On behalf of the 97,000 members of AARP in Alaska, we respectfully request that, as one of your first acts as our new Governor, you consider accepting the State Energy Program funds allocated to Alaska in the federal "stimulus package."

We understand that these funds could be made available for community centers, including health clinics. Over the past several years, more and more AARP members have relied on community health centers as they have been turned away by their physicians who will no longer accept them as Medicare patients. As the situation has grown worse, AARP has worked more closely with the community health centers.

We appreciate the funds that the Legislature has provided to these critical "safety net" health centers. However, the more we have dealt with them about senior health care issues, we have also heard them express concerns about their growing utility bills and energy costs.

If you will accept the State Energy Program funds for Alaska, some of these funds could be used for weatherization of some of the older clinics. Rather than simply providing assistance with payment of energy bills, it would be good public policy to reduce those bills through energy efficient weatherization and retrofitting.

One other issue to consider is the reductions that have been initiated by the Denali Commission. This will have significant impact on funding for our rural clinics.

Just think if we rebuilt all the public buildings, including the clinics, that were destroyed in the recent flooding along the Yukon but the new buildings were state-of-the-art models of energy efficiency. They could inspire new public construction and weatherization retrofitting throughout Alaska.

Jennie Chin Hansen, President
William D. Novelli, Chief Executive Officer

Planned Activities List for SEP Recovery Act Funds

Alaska Housing Finance Corporation

Updated March 20, 2009

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Statewide Energy Standards	Energy Code & Greenbuilding Standards	$ 2,500,000.00	$ 250,000.00	$ 2,750,000.00	AHFC is developing greenbuilding standards to be included in energy ratings. A bill has been introduced in the legislature to implement a statewide energy code. Implementation, enforcement and training will be done with these funds.
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Residential Renewable Energy Rebate	Rebates for residential renewable energy systems	$ 4,116,000.00	$ -	$ 4,116,000.00	Establish a renewable energy rebate program for residential systems
Weatherization Whole Community Retrofit	Wx Supplement to look at other energy efficiency projects in a community	$ 4,500,000.00	$ 200,000,000.00	$ 204,500,000.00	Allow the WAP to weatherize buildings outside the WAP eligibility guidelines while crews are active in remote communities
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Proposed Programs and Activities for SEP and Energy Efficiency Block Grants
Associated with the Economic Stimulus Bill
Alaska Energy Authority
Updated March 10, 2009

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Proposed Programs and Activities for SEP and Energy Efficiency Block Grants Associated with the Economic Stimulus Bill
Alaska Energy Authority
Updated March 10, 2009

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COMMONWEALTH
NORTH

Resolution 2009-4
In support of accepting Stimulus Package energy efficiency funding
July 21, 2009

WHEREAS, COMMONWEALTH NORTH, Alaska's public policy forum, recognizes that Alaska's level of health care should be improved for all of its citizens, as described in the 2005 Commonwealth North study entitled "Alaska Primary Health Care: Opportunities and Challenges."

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WHEREAS, accepting the Energy Efficiency Community Block Grant funds under the American Recovery and Reinvestment Act of 2009 will help Alaska achieve its objective of moving closer to energy independence and:

1. These funds could be made available for community centers, including health clinics.
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This resolution to be forwarded to Lieutenant Governor Sean Parnell and all members of the Alaska State Legislature.

Approved by the Commonwealth North Board of Directors
May 19, 2009

David Wight, President

House Energy Committee, Aug. 7, 2009 – Kenai

Presentation by Larry Persily, Aide to Rep. Mike Hawker

Recap of federal stimulus funding for energy-efficiency improvements in Alaska

$18 million, home weatherization

- Continuation of existing program administered by Alaska Housing Finance Corp.

$9.6 million, Energy Efficiency & Conservation Block Grants (+$4.5 million + $12.2 million)

- 60% of $9.6 million to communities; 40% for state to spend.
- Alaska Energy Authority and Alaska Housing Finance to split the 40%.
- AEA likely to administer grants to communities for the 60%. AEA and AHFC are working to develop criteria for the grants and selection process.
- The $9.6 million can go to retrofits of commercial, public and residential structures; heating systems; energy-efficiency audits; lighting upgrades; landfill gas recovery; public transit; outreach; most anything to reduce energy costs.
- In addition to the $9.6 million, $4.5 million will go directly to the Top 10 cities and Top 10 boroughs in Alaska by population. The Kenai Peninsula Borough will receive $192,200; the city of Kenai, $50,000. (The 60% of the state's $9.6 million must go to communities that did not receive a direct federal allocation.)
- An additional $12.2 million goes directly to 241 tribal governments in Alaska (ranging from a minimum $34,000 to CIRI's $939,000; the average is $51,000).

$28 million, State Energy Program

- Not new program; started in 1996 (precursor dates to 1976); state received $392,000 in FY2007 and $258,000 in FY2008.
- Money goes to designated state energy office; in Alaska, that is AHFC.
- 1996 memorandum of understanding amended in 2001 to share funds 50-50 between AHFC and AEA.
- Department of Energy objectives for State Energy Program are: Increase energy efficiency to reduce costs for consumers, businesses and government; reduce reliance on imported energy; improve the reliability of electricity and fuel supplies; and reduce the effects of energy production and use on the environment.
- Money can go toward building retrofits and weatherization, loans and grants for energy-efficiency projects, distribution to municipalities for local efforts, promotion and public education of energy-efficiency standards, street lighting upgrades — almost anything to improve energy efficiency and save energy costs.
- The money cannot go toward land purchases or research.
- Required 20% state match of past years waived for stimulus funds.

Status of $28 million appropriation

- Legislature appropriated $28 million (HB199); Gov. Palin vetoed the budget item.
- If the Legislature fails to override the veto, the money would stay with the U.S. Treasury (it would not go to other states).
- Application deadline was May 12; AHFC met the deadline but governor declined to provide required assurances (in addition to vetoing the appropriation). The Department of Energy agreed to accept a late, complete application from Alaska.
- The department considered an extension to January 2010 but decided against waiting that long and set Sept. 30 deadline for full application with assurances.
- Legislature can override the veto but cannot direct the funding.
- If lawmakers override the veto, the funding would remain a line item $28 million to AHFC; spending decisions would be up to the governor.
- AHFC and AEA in March submitted proposals to the governor's Office of Management and Budget to spend their 50% shares. The governor's office never adopted the proposals, which were never presented to the Legislature. The state can amend the spending plan in its final application to the Department of Energy.
- AHFC proposed $4.5 million for community building weatherization, $2 million for weatherization and rebate support (software and expanded energy audit program), $4 million for home-based renewable energy program, $1.8 million for consumer education, $2 million to write statewide energy-efficiency standards.
- AEA proposed $7 million to its Renewable Energy Fund, $2.5 million for research and development of renewable energy, $3.9 million for energy-efficient equipment rebates and incentives, $750,000 for energy-efficiency training and education, and $100,000 for commercial facility energy audits.

Federal rules for State Energy Program funds

- Department merely requires the governor to pledge that the state will promote and encourage improved energy efficiency for residential and commercial buildings.
- **The Department of Energy confirmed in an Aug. 5 letter: "The Legislature ... does not need to adopt, impose or enforce a statewide building code in order to qualify for State Energy Program funds."**
- The letter further explained: "Rather, the state must provide assurances to DOE ... that the state will encourage, promote and assist municipalities that choose to adopt their own energy-efficiency codes to achieve the goals of (the State Energy Program) ... reduced energy consumption in public and private buildings."
- Alaska is the only state not approved for State Energy Program stimulus funding.
- The department accepted the following assurances from the governor of Missouri: "The state is committed to working with communities to create model energy-efficiency standards that, if local units of government chose to implement, should reduce energy costs for Missourians. I and my staff will also work with the Missouri General Assembly to pursue incentives to assist communities in promoting improved energy efficiency consistent with the goals of ARRA."

What the Department of Energy does and does not require

- Initial reports were that states would have to show compliance with model energy-efficiency standards for 90% of new and renovated square footage between 2009 and 2017.
- Department officials later reported — confirmed in a May 14 meeting in Washington, D.C., in subsequent phone calls and e-mails, and in the Aug. 5 letter — that meeting up-to-date energy-efficiency standards is a goal, not a mandate. The Department of Energy will not measure or count square footage, nor will it demand or expect states to count square footage.
- The department merely wants each state to prepare a plan for how it intends to promote and encourage improved energy-efficiency standards. The plan is not due at the time of application for the funds; it can be submitted later. An acceptable plan could include outreach and education efforts among homeowners, commercial property owners and builders, lenders and others in the industry; assisting municipalities in their energy-efficiency efforts; providing state guidance and assistance; pretty much a general plan to promote energy efficiency and savings. State will need to report results of their plan.
- Compliance guidelines being drafted by the Pacific Northwest National Laboratory under contract to the Department of Energy are just that — voluntary guidelines for states that want to uniformly measure and monitor their success at improving energy efficiency for buildings.
- The national laboratory, in Richland, Wash., issued its second revision of the compliance guidelines in June. Staff is reviewing the comments received and expects to issue the final report as soon as late this month.
- The intent of the guidelines is to provide states with common criteria for measuring and comparing improvements in energy efficiency. For example, the final guidelines will suggest that each state select X number of residential structures and X number of commercial structures for energy audits to track energy-efficiency improvements over time. The agency expects its final guidance to provide states with a shortened and realistic checklist to judge compliance with energy-efficiency standards in buildings.

Cost-effectiveness of energy-efficiency construction

- I was unable to find any nationwide report that precisely quantified an average economic value for energy-efficiency upgrades, such as: For each dollar spent on improvements, the property owner would realize X dollars of savings over the life of the building. Too much depends on the size of the house, the climate, the quality of original construction, and building costs.
- However, there is a lot of city-, state- and industry-specific data:
  - ✓ The Home Energy Saver Calculator project, sponsored by the U.S. Department of Energy, Department of Housing and Urban Development and others, determined that 10 energy-efficiency improvements in an average home would produce annual savings of $600 in energy costs — a 16% return on investment.
  - ✓ The Florida Legislature passed the Energy Act of 2008, directing the Florida Building Commission to develop rules for determining the cost effectiveness of energy-conservation measures. A February 2009 report provided the rate of return on investments in several energy-conservation improvements such as R-38 ceiling insulation, 22%, and attic radiant barrier, 35%.
  - ✓ Austin, Texas, which has adopted progressively stronger energy codes since 1985, has seen in that time the annual average energy use for homes per square foot drop from 9 kilowatt hours to 6.5 kilowatt hours.
  - ✓ A July 2008 report from the National Action Plan for Energy Efficiency, led by the Department of Energy and EPA and including state utility regulators and private utility operators, cited a 2005 Nevada study: "... upgrading the energy efficiency of commercial buildings to comply with the code would cost about $1.60 per square foot but would result in $0.68 per square foot of energy savings per year, meaning a simple payback of about 2.4 years."
  - ✓ The same national report quoted from a 2003 Southwest Energy-Efficiency Project that a new home in Phoenix built to energy-efficient standards would cost $1,500 more than a home not up to the same standards, with a payback in energy savings within four years.
  - ✓ Puget Sound Energy, which serves more than 1 million electrical customers and nearly 750,000 natural gas customers in Puget Sound, reported in February 2009 that a complete home weatherization could save homeowners 25% on their heating costs.
  - ✓ A January 2008 report by the Western Governors' Association — Policy Recommendations for Energy-Efficient Buildings — stated that energy-efficiency upgrades to the Colorado State Capitol Complex produced a 25% to 30% drop in energy costs. The savings come to $800,000 a year on a $13.6 million investment in new lighting, heating, cooling and energy-management systems.

Department of Energy
Washington, DC 20585

August 5, 2009

Larry Persily
Legislative Aide
Office of Alaska House Finance Committee Co-Chair Rep. Mike Hawker
State Capitol, Room 505
Juneau, AK 99801

Dear Mr. Persily,

Thank you for the opportunity to clarify what is required for compliance with the building codes requirements contained in Section 410 of the American Recovery and Reinvestment Act of 2009 (ARRA), which would enable DOE to release the $28,232,000 allocated to Alaska under ARRA for the State Energy Program.

The Department recognizes that all or some of the actions specified in Section 410 may not be within the authority of the Alaska State Governor or the State Legislature. For that reason, we have accepted Section 410 letters in which Governors have given us assurance that they have requested the appropriate authorities in their states to adopt the specified measures. The Legislature, because it has not adopted the authority for overall residential and commercial building code and energy-efficiency code enforcement in the past and instead leaves that to the discretion of municipalities, does not need to adopt, impose and enforce a statewide building code in order to qualify for SEP funds.

Rather, the state must provide assurances to DOE (either through gubernatorial certification or legislative resolution), that the state will encourage, promote and assist municipalities that choose to adopt their own energy-efficiency codes to achieve the goals of SEP – reduced energy consumption in public and private buildings.

If you have any further questions regarding this issue, please let me know.

Sincerely,

Gilbert P. Sperling
Program Manager
Weatherization and Intergovernmental Program
Office of Energy Efficiency and Renewable Energy
US Department of Energy

Printed with soy ink on recycled paper

8-07-09 Statewide Energy Policy, Kenai Public Testimony, HB 218, HB 219

<target><bill>HB 218</bill><subject>8-07-09 Statewide Energy Policy, Kenai Public Testimony, HB 218, HB 219</subject><comm>HENE26</comm></target>

Alaska Legislature
House and Senate Special Committees on Energy

Rep. Charisse Millett
Anchorage LIO, Room 630
Anchorage, AK 99501
Phone (907) 269-0222
Fax (907) 269-0223
Rep_Charisse_Millett@legis.state.ak.us

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Sen. Lesil McGuire
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Fax (907) 269-0249
Senator_lesil_mcguire@legis.state.ak.us

AGENDA

Friday, August 7th 2009
2:00 p.m. – 5:00 p.m.
Challenger Learning Center, 9711 Kenai Spur Highway, Kenai
Aurora Borealis Room
Rep. Charisse Millett, Chair

1. Presentation by Mayor Dave Carey, Kenai Peninsula Borough – renewable energy and energy conservation in the Kenai Peninsula Borough

2. Presentation by Larry Persily, House Finance Committee aide – status of ARRA federal energy stimulus funds

3. Presentation by ~~Phil Steyer,~~ MARK FOSTER Joint Utility Task Force Committee – status of Greater Railbelt Energy and Transmission Corporation (GRETC) legislation

4. Public testimony on HB 218, HB 219 and statewide energy plan

###

Remarks to the House and Senate Special Committees on Energy
By Kenai Peninsula Borough Mayor Dave Carey August 7th, 2009

Representative Millett, Representative Edgmon and Senator McGuire:

Thank-you for allowing me to address this Special Committee on Energy and for holding this meeting in Kenai, here at the awesome Challenger Center for Technology. I am Borough Mayor Dave Carey and our topics today could not be more important to the State of Alaska's residents and especially to those of us that live in the Kenai Peninsula Borough and those considering moving their families and commercial interests here.

Until last October, when I was elected Borough Mayor, I had served for 21 years on the Homer Electric Association Board of Directors, being President for the last 6 years. I was also a Board Member and officer of the Alaska Energy & Electric Cooperative (AEEC) and the Alaska Power Association Executive Committee and chairperson of their Legislative Committee.

Energy in Alaska is truly at a crossroads. One needs only to drive by the idle Agrium facility to understand the issue of loss of jobs and community health. The Oil and Gas industry on the Kenai Peninsula is slowly withdrawing as the need for new exploration and development is not keeping pace with the demands of residential, let along commercial, users. We are facing the possibility of brownouts this winter if the temperature drops too low. This could result in loss of life as well as failure of businesses which are already on the economic edge of sustainability.

House Bill 218 deals with the establishment of a state Department of Energy. This idea on its own is neither good nor bad. The important question, as a new bureaucracy is being discussed, is whether or not energy policy and application would be enhanced and streamlined. Would this assist in getting the needed natural gas to the Kenai Peninsula and to South Central

Alaska? Developing and administering a comprehensive energy plan for Alaska is long overdue and it must address production, distribution, conservation and consumption. All four factors must be seen as essential. A unified rail belt system is required for generation and transmission but distribution must be left to the local co-ops.

Promoting cost-effective energy efficiencies in new construction and renovations, in maintenance of existing public buildings and in the establishment of community standards is good. However, they must be supported by local residents and those in decision-making positions.

This new Department would serve as the conduit for all US Department of Energy funds. This is a good idea if it speeds up the process of getting funds to the local communities and those individuals that will apply the funds. All too often, the paperwork required by new government programs is so burdensome that businesses and individuals walk away. Government must do all it can to be user-friendly while providing needed oversight of public funds.

House Bill 219 relates to renewable energy grant funds and the process for determining who gets funding. It also speaks to the desire that all funds are correctly spent and includes the requirement that activity reports for each project by submitted at intervals to be decided by the authority. This all sounds reasonable. However, it is my experience, that especially smaller projects, can end up requiring so much work on activity reports and related paperwork, that a significant amount of the funds are spent on people, sitting at desks and computers, rather than the funds being spent to directly provide for the project purpose.

Since these Bills (218 219) both deal with Energy funds for renewable projects, let me just add my own opinion that all federal funds, stimulus or otherwise, should be accepted by the State and if any other region objects, the Kenai Peninsula Borough will happily use those funds for renewable development.

Today I am providing this Special Committee, hot off the presses, the Kenai Peninsula Borough Agenda "Promoting Alternative Energy and Energy Efficiency". It is my goal that the Kenai Peninsula Borough becomes the premier area of Alaska for the development and implementation of alternative energy research. As you read through this booklet which is on-line through the Borough Mayor's Office webpage, you will see that we are including all possible types of alternative energy as well as what we have done so far in government and in industry. This booklet will include many additions in the future as we obtain more grants and more information. Please remember, you should keep the Kenai Peninsula Borough at the front of the line whenever you have to make a decision concerning who gets funding for alternative energy grants and programs.

It is logical for you to do this because you will be building on the historical progress and foundation since the discovery of the Swanson River Field in 1957 and the energy which it has provided all of us. We must never think of energy from fossil fuels as the enemy of alternative energy. We must have both along with conservation and technological efficiencies.

At our formation in December of 1963, 38% of the Kenai Peninsula Borough is comprised of the Cook Inlet. 28% of the Borough is the West-Side of the Inlet. Our Borough is truly both urban and rural with the needs of each. Please do not continue to develop energy policy that pits rural vs. urban vs. Southeast. We must have an Alaskan Energy Policy that meets the needs of every Alaskan and does not support the destruction of the rural ways of life and peoples.

And finally, I wish to promote the development of Geo-thermal energy. The Kenai Peninsula Borough includes four active volcanoes, Spur, Redoubt, Illiamna, and St. Augustine. We should all be promoting policies and regulations to assist in the development of Geo-Thermal energy. Mt. Spur could provide a significant amount of clean energy for the people of Anchorage, the MatSu and the Kenai Peninsula Borough. TY.

J

AUGUST 7, 2009

FROM PAT HAWKINS
36115 PIONEER DRIVE
SOLDOTNA, ALASKA
99669-7039

TO- House SPECIAL COMMITTEE ON ENERGY
ENERGY COMMITTEE

SUBJECT ENERGY SHORTAGES

I AM A 43 YEAR RESIDENT OF ALASKA, HAVING LIVED 20 YEARS IN ANCHORAGE AND 23 YEARS IN SOLDOTNA.

I HAVE TESTIFED AT PUBLIC HEARINGS REGARDING OUR ENERGY CRISIS FOR YEARS, AND YET THE STATE HAS FAILED TO ACT. OR DO ANYTHING OTHER THAN MORE STUDIES, AND HIRE MORE PEOPLE AND FORM COMMITTEES TO STUDY THE ISSUE. TO DEATH.

(2)

WE HAVE AN ABUNDANCE OF NATURAL GAS AT PRUDHOE. BUT WE DO NOT HAVE THE LEADERSHIP AND WILL TO BUILD AN INSTATE GAS PIPELINE FOR ALASKA.

WIND, HYDRO, THERMAL, TIDAL ALL GREAT IDEAS, BUT WE NEED TO MOVE NOW - AND NOT WAIT -

OUR FAMILY WILL PASS ON OUR PFD CHECK TO GET INSTATE GAS - NOW - THE STATE NEED TO PARTNER WITH PRIVATE INDUSTRY TO MOVE ON THIS NOW.

THE PRIVATE SECTOR WILL NOT MOVE ON THIS PIPELINE AS THE COST TO THEM IS NOT WORTH THE PRICE, IT IS TIME FOR THE STATE TO ACT -

THANK YOU

PAT HAWKINS

907-262-1728 - OR 907-741-1140

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CHECKED: TAF
DATE: 8/08/08
REV 4 | FILE NAME 330 911.DWG

Hydropower Site Plan
Southeast Intertie Plan
BCTC Transmission Plan

Cascade Creek LLC
PO Box 23000 · Juneau, AK 99802
907-586-3333

Alaskans First - Renewable Energy is Fo er

9-01-09 Presentation Cook Inlet Natural Gas

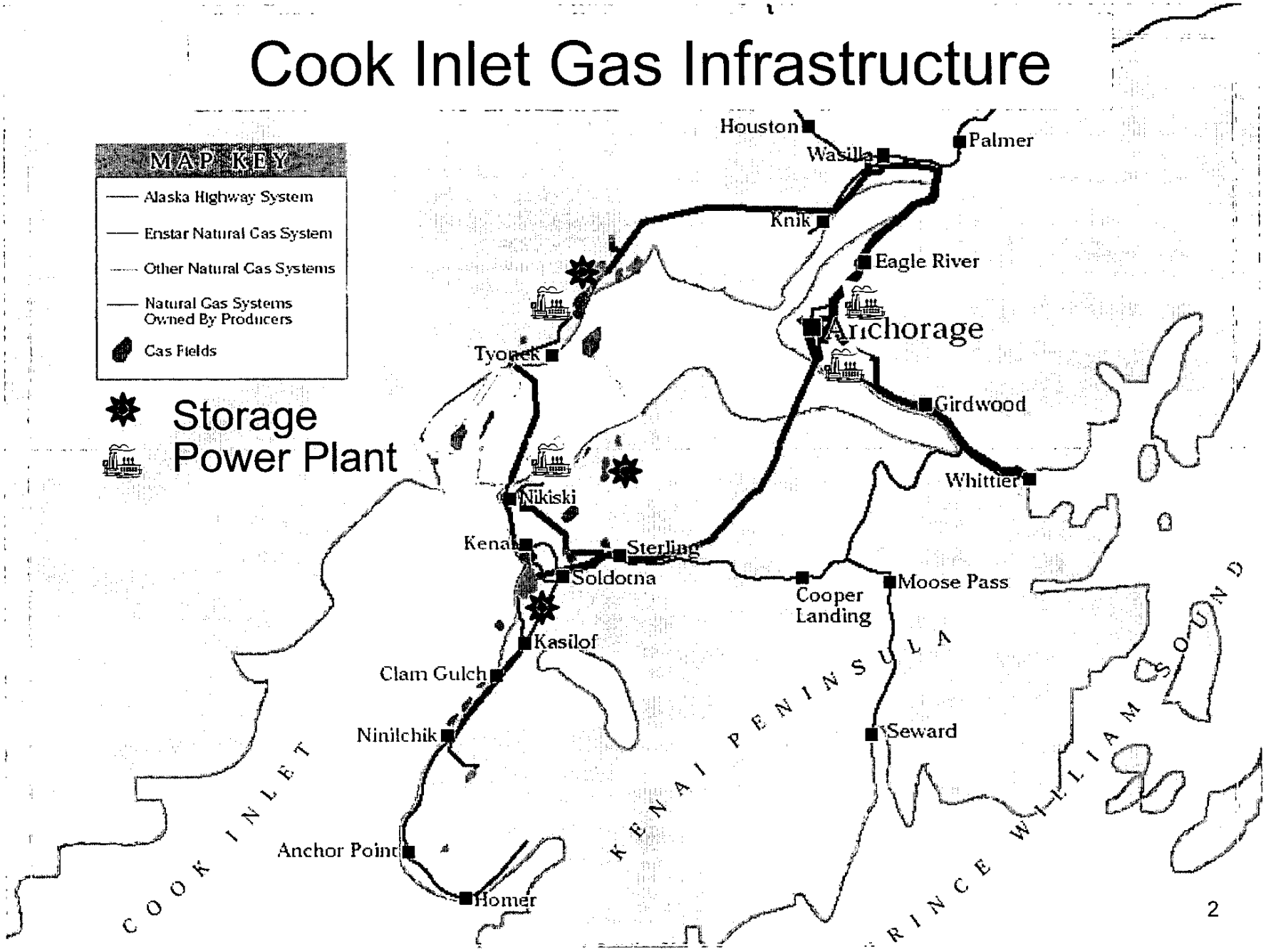
<target><bill></bill><subject>9-01-09 Presentation Cook Inlet Natural Gas</subject><comm>HENE26</comm></target>

ENSTAR
Natural Gas Company

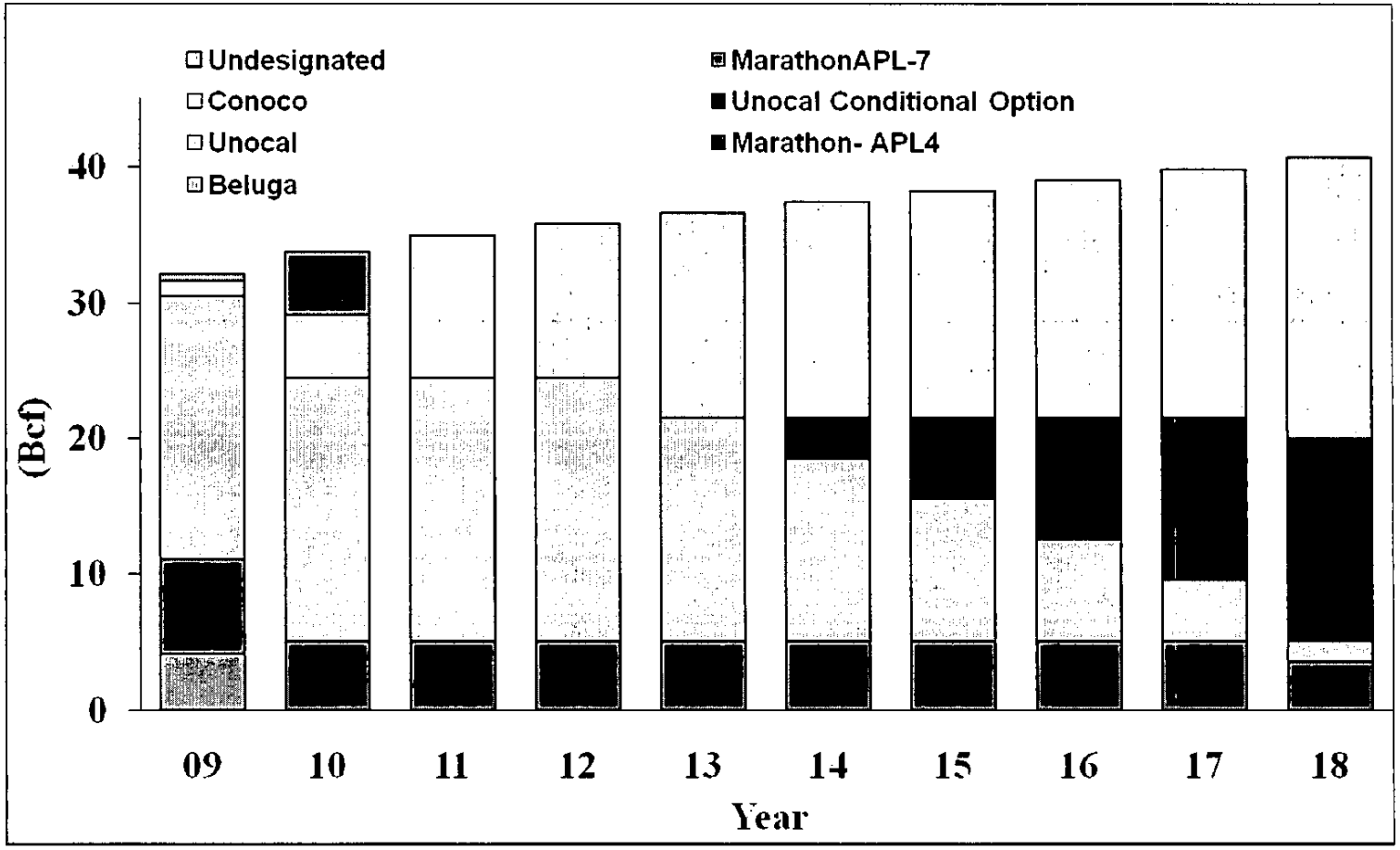
House Special Committee on Energy

September 1, 2009

Cook Inlet Gas Infrastructure



Gas Supply – Winter 2009/2010 Outlook



ENSTAR Natural Gas Company

All Our Energy Goes Into Our Customers

Cook Inlet
Peak Day Comparison

	2/3/99	1/9/07	1/3/09
Average Temp	-19° F	-10° F	-11° F
On ENSTAR System	272	292	314*
Off ENSTAR System:			
CEA Beluga	83	83	60*
CEA/HEA Nikiski	14	12	12
Nikiski LNG	224	150	40
Fertilizer Plant	157	0	0
Other Industrials	13	6	14
Total Cook Inlet Deliverability Est.	763	543	440
Less Storage Volumes**	0	~43	~60
Well Supply	763	500	380

Volumes in MMcf

*CEA Beluga Received 20 MMcf from ENSTAR System

** Source DNR 3/17/09 House Energy Committee Presentation

ENSTAR Natural Gas Company

All Our Energy Goes Into Our Customers

ENSTAR 2009/2010 Supply Portfolio

2009

- Beluga River Unit Producers
- ConocoPhillips
- Marathon APL-4
- Marathon APL-7
- Union

FORECASTED PEAK 270MMcfd

2010

- ConocoPhillips
- Marathon APL-4
- Marathon APL-7
- Union

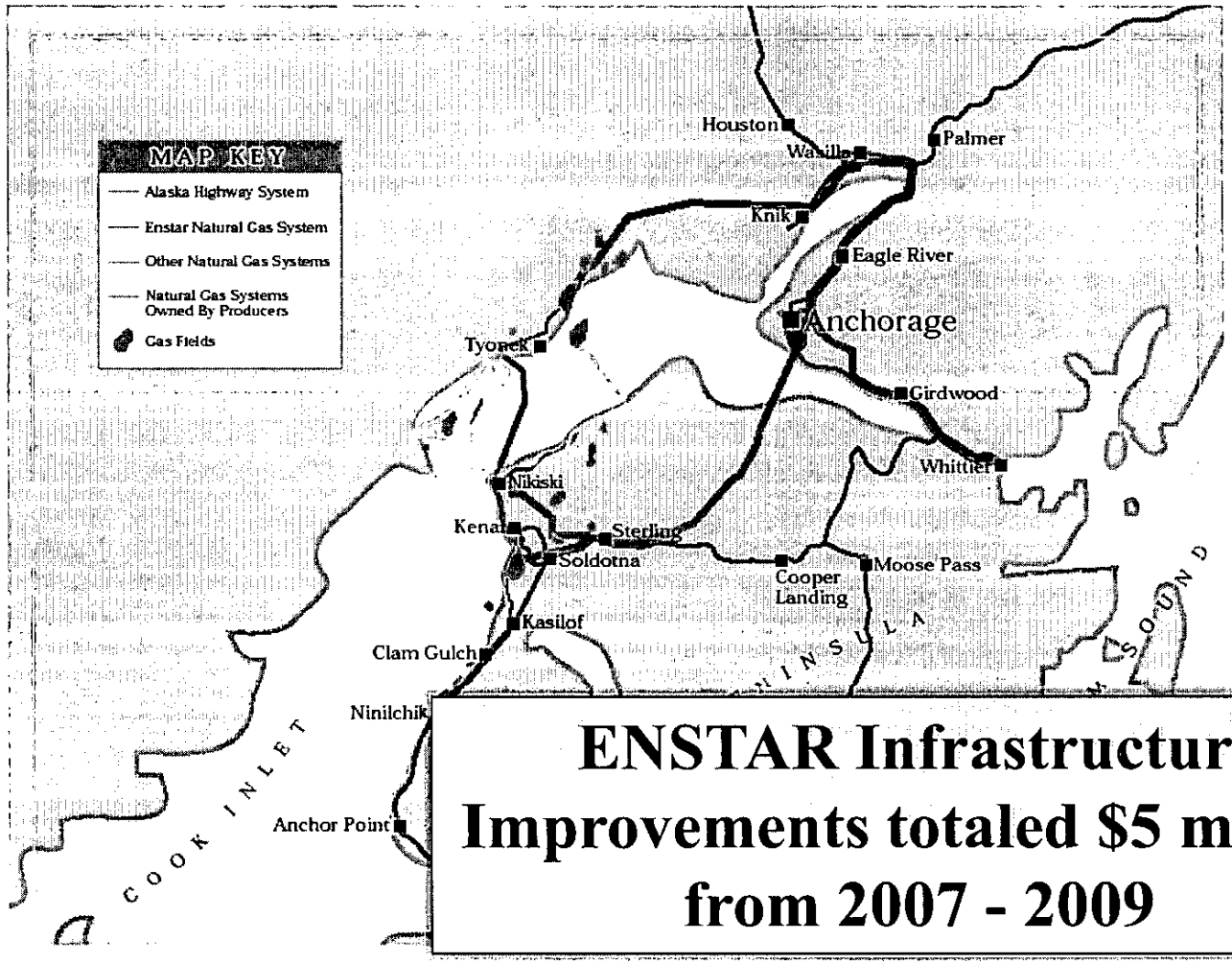
FORECASTED PEAK 282MMcfd

ENSTAR's requirements are contracted for until Dec 31, 2010

ENSTAR Natural Gas Company

All Our Energy Goes Into Our Customers

ENSTAR System



ENSTAR Infrastructure Improvements totaled $5 million from 2007 - 2009

ENSTAR Natural Gas Company

All Our Energy Goes Into Our Customers

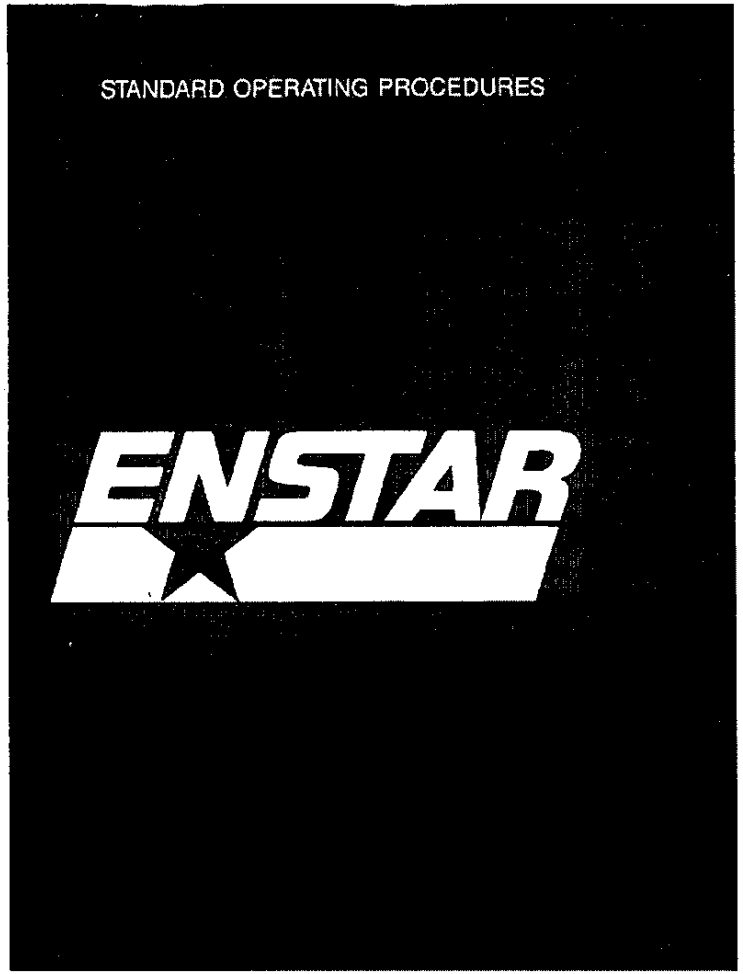
ENSTAR Operations

- ENSTAR staffed 24/7/365
  - Trained staff to respond to emergencies
- Central Operations center in Anchorage
  - Regional Offices in Soldotna & Wasilla
- Alternative Gas Control locations
  - Wasilla & Sterling
- Redundant Communications Network
- Equipment & Supplies pre-staged
  - Anchorage, Wasilla, Soldotna,& Sterling

ENSTAR Natural Gas Company

All Our Energy Goes Into Our Customers

ENSTAR Standard Operating Procedures



OPERATIONS DEPARTMENT
STANDARD OPERATING PROCEDURES

TABLE OF CONTENTS

Updated: May 29, 2009

SOP NUMBER	REVISION NUMBER	Date Issued	TITLE	CFR 192 Procedure	This Procedure Applies to APC	ENSTAR	Pre Richardson (Dayon Utilities and Honeywell)
1000			General Information				
1	004	8/15/06	Procedure Manual Policy Statement	No	x	x	x
10	004	8/15/06	How to Use This Manual	No	x	x	x
15	005	8/15/06	How to Add, Change or Delete a Procedure	No	x	x	x
20	004	8/15/06	Operations Organization Chart	No	x	x	x
1100			Emergency Procedures/Safety				
1	004	8/15/06	Hazard Communication Program	No	x	x	x
5	014	8/15/06	ENSTAR Emergency Operating Plan	Yes	x	x	x
10	010	8/15/06	Reporting Incidents	Yes	x	x	x
15	004	8/15/06	Reporting Safety Related Conditions	Yes	x	x	x
20	002	8/15/06	Hearing Conservation Program	No	x	x	x
25	008	8/15/06	Operator Qualification Plan	Yes	x	x	x
30	003	8/15/06	Easement and ROW Safety	Yes	x	x	x
35	006	8/15/06	Respiratory Protection Standards	No	x	x	x
40	003	8/15/06	Lockout Tagout Procedures	No	x	x	x
45	003	8/15/06	Excavation Standards	No	x	x	x
50	004	8/15/06	Damage Response Procedures	Yes	x	x	x
55	003	8/15/06	Uniform Policy	No		x	
60	004	8/15/06	Customer and Emergency Response Official Education Program	Yes	x	x	x
62	003	5/29/09	Public Awareness Program	Yes	x	x	x
65	002	8/15/06	Customer Pipe Notification	Yes	x	x	x
70	002	8/15/06	Confined Space Entry Procedure	No	x	x	x
75	003	8/15/06	Oil Spill Reporting and Cleanup Procedures	No	x	x	x
85	003	8/15/06	Prevention of Accidental Ignition of Natural Gas	Yes	x	x	x
90	003	8/15/06	Eye Protection Policy	No	x	x	x
1200			Security				
1	002	8/15/06	Security Assessment and Security Plan	Yes	x	x	x
5	004	8/15/06	Unauthorized Natural Gas Usage Prevention and Handling Procedures	No	x	x	x
10	006	8/15/06	Security Practices for Valves, Regulator Stations and Metering Stations	Yes	x	x	x
1300			Engineering and Design				
5	004	8/15/06	Station and Valve Identification Numbering System	Yes	x	x	x
6	002	8/15/06	Operating Valve Maintenance Procedure	Yes	x	x	x
10	003	8/15/06	Transmission System Class Location and MAOP Review Procedures	Yes	x		
15	003	8/15/06	Engineering Records Retention Procedures	No	x	x	x
20	003	8/15/06	Expenditure Request	No	x	x	
1400			Damage Prevention				
1	005	8/15/06	Damage Prevention Program	Yes	x	x	x
5	006	8/15/06	Blasting Policy and Procedures	No	x	x	x
15	003	8/15/06	Routine Leak Surveying Procedure	Yes	x	x	x
20	011	5/29/09	Pipeline Surveillance and Patrol	Yes	x	x	x
25	005	8/15/06	Investigation of Accidents and Material Failures	Yes	x	x	x
30	003	8/15/06	Pipeline Markers	Yes	x	x	x
1500			Corrosion Control				
5	012	4/1/09	Corrosion Control Policy	Yes	x	x	x
1600			Gas Control				
1700			Gas Measurement and Regulation				
1	003	8/15/06	Safe Entrance to Gas Handling Facilities	No	x	x	x
5	004	8/15/06	Regulator Station Maintenance Procedure	Yes	x	x	
10	001	8/15/06	Periodic Meter Change-Out Program	No		x	
15	007	4/1/09	Meter Location Standards and Drawings	No		x	x
20	004	8/15/06	Natural Gas Odorant Handling Procedures	Yes	x	x	
30	002	8/15/06	Displacement Meter Handling Techniques	No	x	x	
35	001	8/15/06	Meter Control System	No		x	
1800			Compressor Stations				
5	004	8/15/06	Gusanet Compressor Station Operation	Yes	x		
10	003	8/15/06	Kalifornsky Compressor Station Operation	Yes	x		
15	002	8/15/06	Compressor Station Maintenance	Yes	x		
20	004	8/15/06	Compressor Station Tests and Inspections	Yes	x		

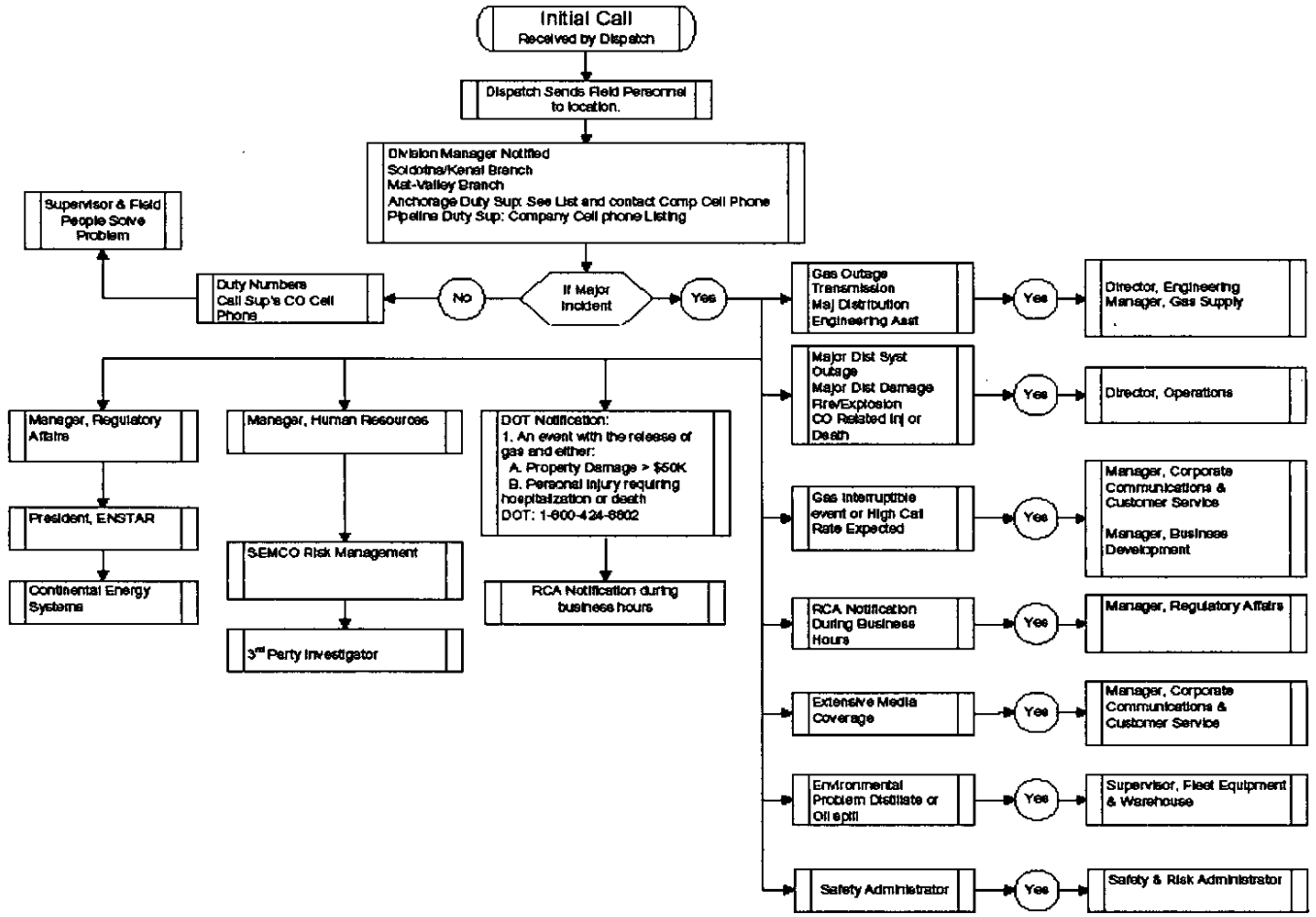
ENSTAR Natural Gas Company

All Our Energy Goes Into Our Customers

Standard Operating Procedures

- Comprehensive Review of Emergency Operating Plans
  - Gas Supply Disruption
  - Gas Leaks
  - Damages- contractors/homeowners
  - Natural Disasters
  - Fires
- Employee Training
  - Operator Qualifications Program
- PHMSA annually audits ENSTAR
  - Two audits successfully concluded early summer 2009

ENSTAR Emergency Response Call Tree*



*phone numbers redacted

ENSTAR Natural Gas Company

All Our Energy Goes Into Our Customers

Cook Inlet Gas Supply Coordination

- Primary utility users of gas

CHUGACH
POWERING ALASKA'S FUTURE

ENSTAR
Natural Gas Company

ML&P
SEVENTY-FIVE YEARS
ANCHORAGE, AK

- ENSTAR hosts Annual Shippers/Producers Meeting
- Shippers forecast demand
  - Annual/Monthly/Daily
- Daily nominations on ENSTAR Pipelines coordinated between
  - ENSTAR/Shipper/Supplier

Incident Management

Gas Supply Interruption

presented to:

House Special Committee on Energy

September 1, 2009

September 1, 2009

Railbelt Utility Coordination

The success of meeting the daily energy requirements of Southcentral Alaska requires the coordination of all Railbelt Utilities.

ENSTAR Natural Gas Company

MEA

GVEA

HEA Homer Electric Association, Inc.

CHUGACH POWERING ALASKA'S FUTURE

75 SEVENTY-FIVE YEARS ML&P ANCHORAGE, AK

September 1, 2009

Chugach Plans for Potential Events

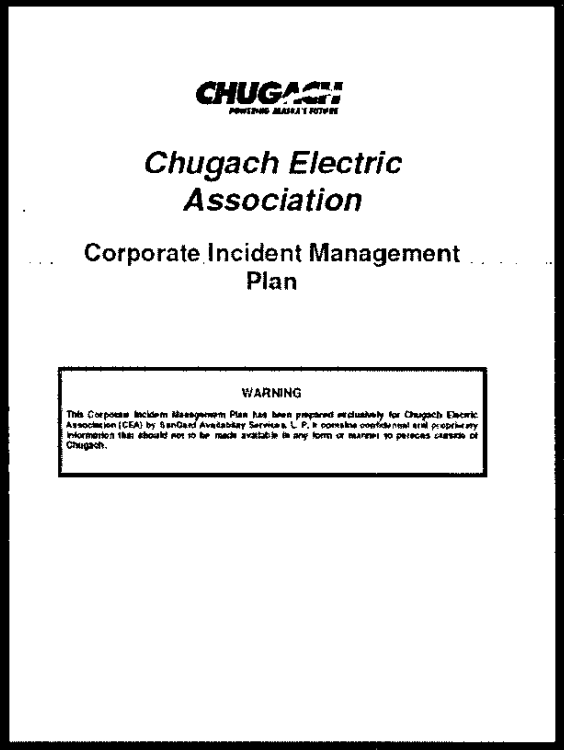
- Severe weather
- Avalanche
- Flood
- Accidental & Intentional damage
- Fire
- Dam breach
- Hazardous material release
- SCADA disruption
- Gas supply interruption
- Explosion
- Earthquake
- Wildlife
- Volcanic activity

September 1, 2009

Most Events do not Impact Consumers

- Knowledgeable and well-trained staff are available 24/7
- Redundancy and backup systems are designed into electric system
- System Operating rules maintain maximum flexibility
- Joint utility coordination reduces risks

Corporate Incident Management Plan Provides Incident Response Oversight



Chugach's Overall Incident Management Plan

- Incident notification
- Management reporting
- Management and incident team contact information
- Situation assessment & reporting
- Emergency operations center
- Damage assessment
- Salvage & restoration
- Transition from crisis-to-normal operations

September 1, 2009

Additional Chugach and Inter-Utility Plans

Chugach Plans

- Accounting Recovery Plan
- Member Services Recovery Plan
- Information Systems Disaster Recovery Plan
- Cooper Lake Hydro Incident Plan
- Volcano Preparedness Plan
- Alstom Strategic Alliance
- WESCO Strategic Alliance

Inter-Utility Plans

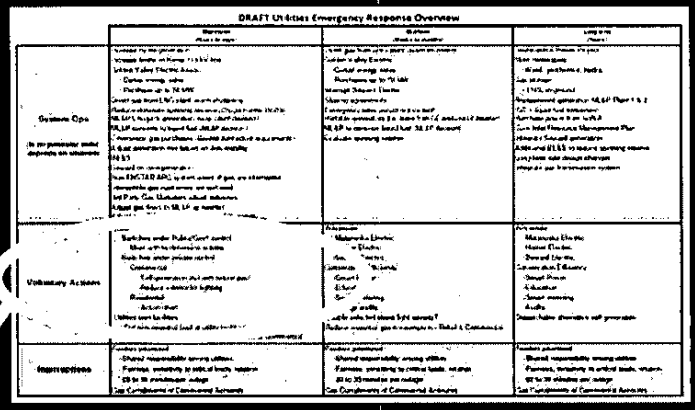
- Intertie Operating Committee and Sub-Committee Agreements
- Railbelt annual joint G&T planning
- Coordinated inter-utility assistance based on ASCC Mutual Assistance Agreement
- Gas coordination working group
- Statewide Operations Managers Group
- Enstar's tariff section 1200 – covering gas shortage cost sharing and a interruption program
- Alaska Partnership for Infrastructure Protection

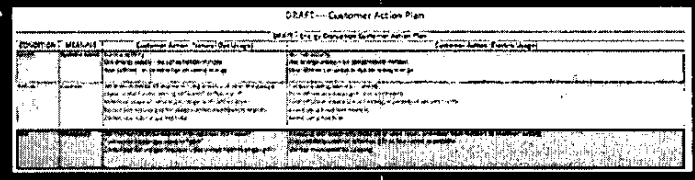
September 1, 2009

Gas Supply Interruption Incident Response Overview

SHORT-TERM MID LONG

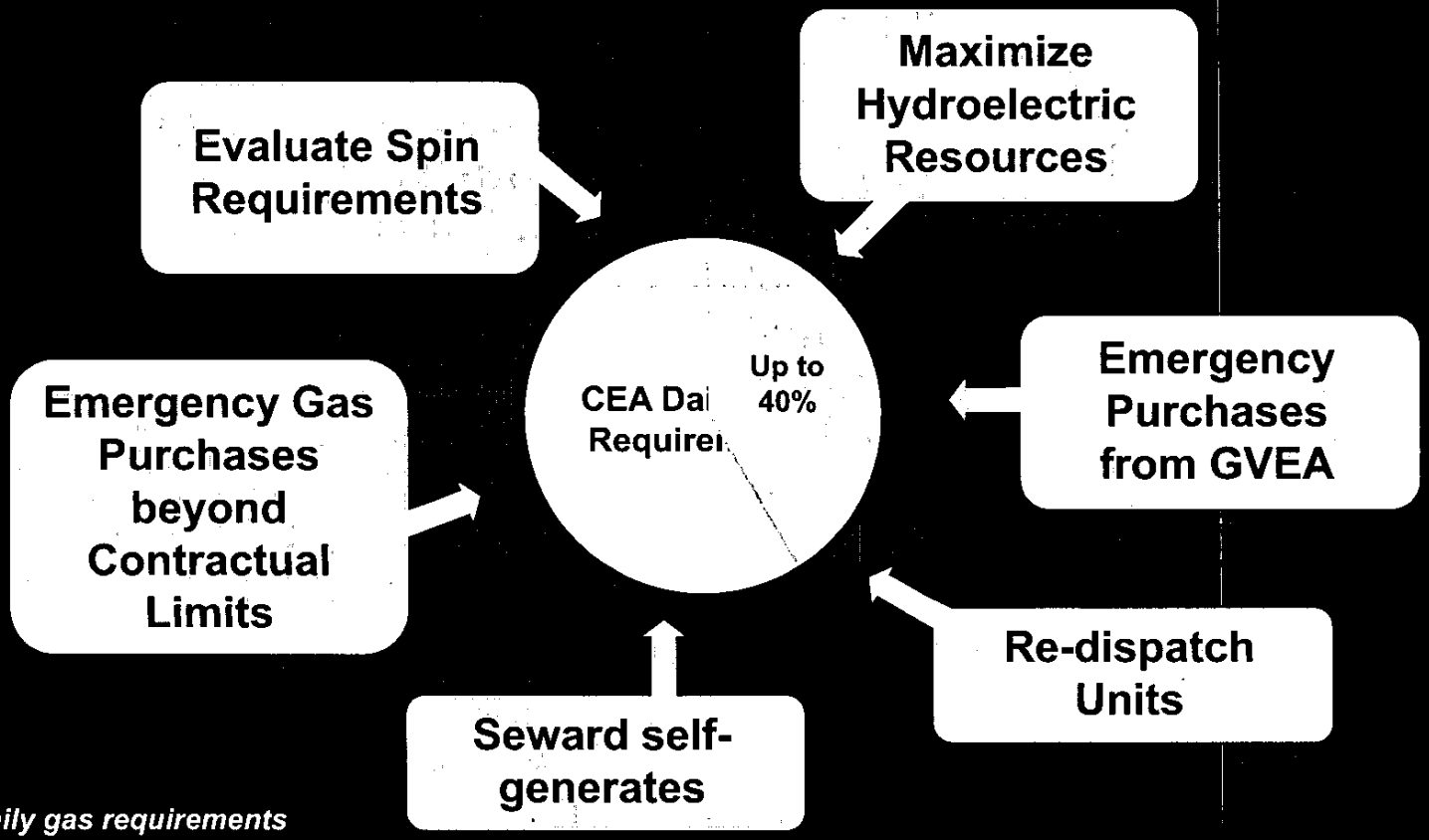
System Operations	stem ations	stem ations
Voluntary Consumer Response	ntary sumer onse	ntary sumer onse
Consumer Interruptions	sumer uptions	sumer uptions





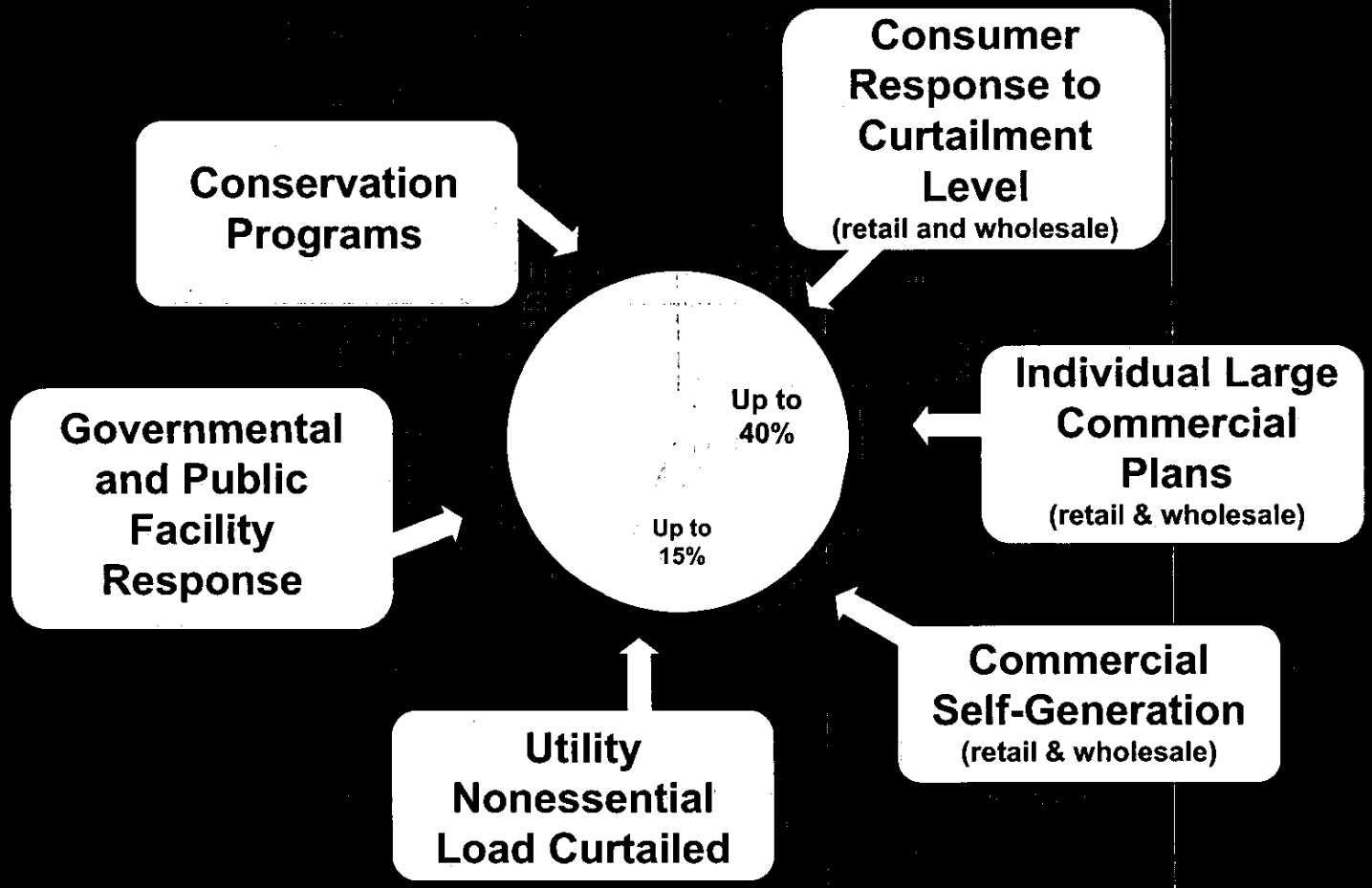
September 1, 2009

System Operations Response to a Gas Supply Interruption

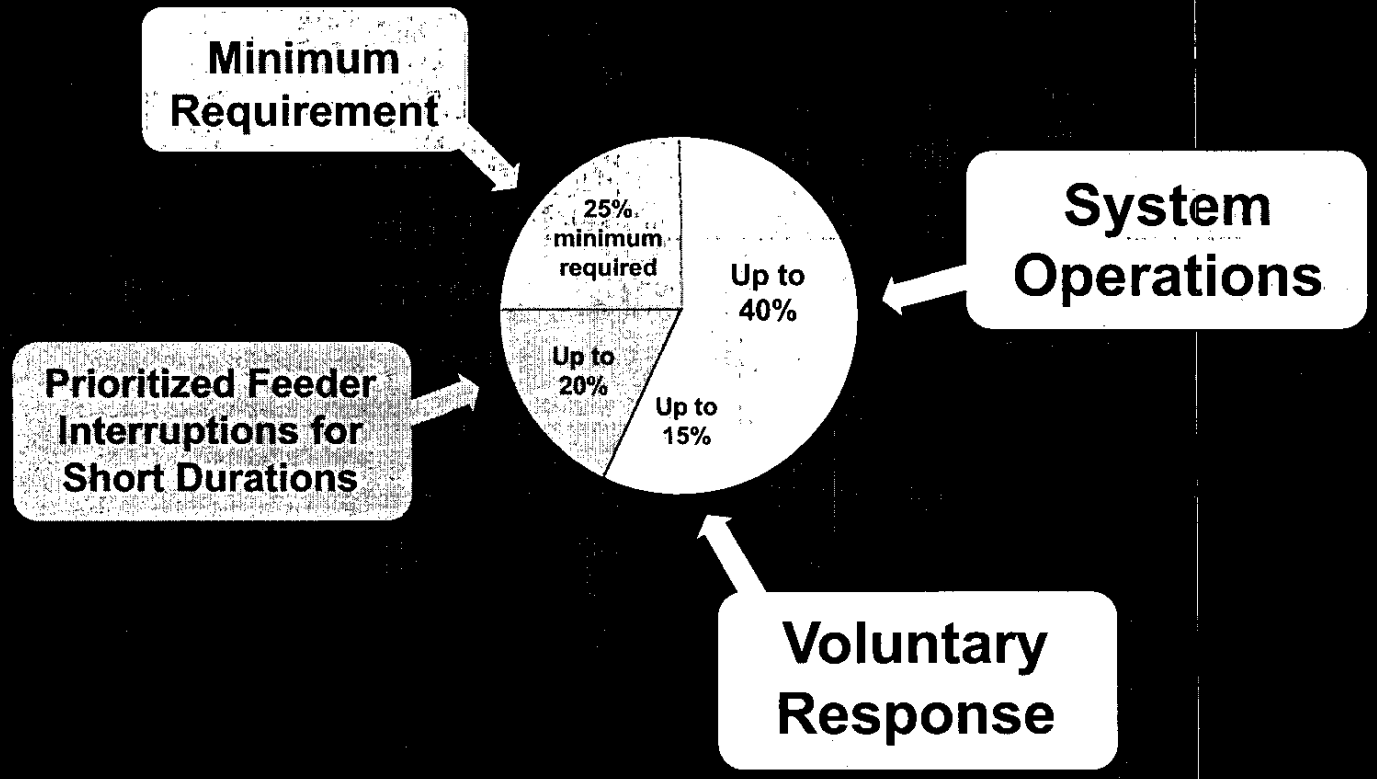


** - CEA daily gas requirements include Chugach retail and wholesale members MEA, HEA and SES*

Voluntary Consumer Response to a Gas Supply Interruption



Customer Interruptions



September 1, 2009

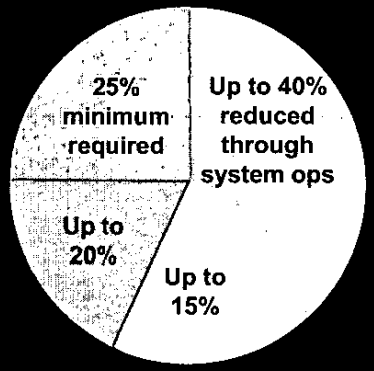
Daily Gas Peak Requirements & Potential Curtailments

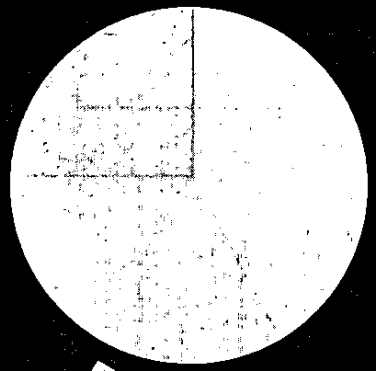
Utility	Daily Demand (mmcf/d)	% Curtailment	Curtailment (mmcf/d)
ML&P	38,000	~75%	~28,000
Chugach	95,000	~75%	~70,000
Enstar	270,000	~10%	~27,000
Total:	403,000	~31%	~125,000

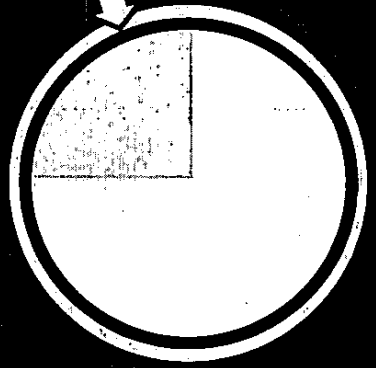
September 1, 2009

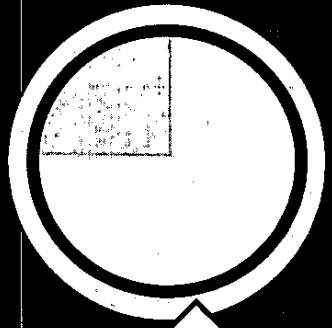
Looking Forward

Reducing Gas Demand









New Power Plants Reduce Fuel Reqs.

Liquid Fuel Operation & Natural gas Storage

Conservation, Efficiency Programs & Renewable Resources Reduce Fuel Reqs.

Next Steps

By September 30, 2009

- Conduct electric & gas utility tabletop exercise with system operators

Coordination with Municipality of Anchorage

- By September 18, 2009 - community education plan
- October 2009 - energy conservation month & notification of alert status
- October 2009 – conduct real-world test of voluntary curtailment
- By October 23, 2009 - complete MOA Emergency Action Plan
- By November 6, 2009 – MOA tabletop exercise
- By November 13, 2009 - review of MOA tabletop exercise and modify MOA Emergency Action Plan accordingly

DRAFT Utilities Emergency Response Overview

	Short-term *(Hours to days)*	Mid-term *(Weeks to months)*	Long-term *(Years)*
System Ops **(In no particular order, depends on situation)**	Increase hydro generation Increase limits on Kenai 115 kV line Golden Valley Electric Assoc. - Curtail energy sales - Purchase up to 70 MW Divert gas from LNG plant *(warm shutdown)* Reduce/eliminate spinning reserve *(Chugach arms SILOS)* ML&P/Chugach generation swap *(Joint decision)* ML&P converts to liquid fuel *(ML&P decision)* Emergency gas purchases *(Beyond contractual requirements)* Adjust generation mix based on deliverability BESS Seward on own generation Non-ENSTAR/APC system users of gas are interrupted Interuptible gas customers are curtailed 3rd Party Gas Marketers adjust deliveries Adjust gas flows to ML&P as needed Adjust gas delivery points based on deliverablity	Divert gas from LNG plant *(warm shutdown)* Golden Valley Electric -Curtail energy sales -Purchases up to 70 MW Seward on own generation Sharing agreements Emergency rates *(would require tariff)* Portable generators *(i.e. lease from GE and use oil bladder)* ML&P to continue liquid fuel *(ML&P decision)* Evaluate spinning reserve	Southcentral Power Project Replacement generation ML&P Plant 1 & 2 More renewables -Wind, geothermal, hydro Gas storage - LNG, in-ground IGT – liquid fuel conversion Purchase power from GVEA Cook Inlet Resource Management Plan Intergrate Seward generation Additional BESS to reduce spinning reserve Long-term rate design changes Integrate gas transmission system
Voluntary Actions	Retail -Switches under Public/Gov't control -Meet with to determine actions -Switches under private control Commercial -Self-generation *(not with natural gas)* -Reduce exterior/lot lighting Residential -Action chart Utilities own facilities -Cut non-essential load at utility facilities Reduce non essential gas consumption - Retail & Commercial	Wholesale -Matanuska Electric -Homer Electric -Seward Electric Conservation/Efficiency -Smart Power -Education -Smart metering -Energy audits Disable selected street light circuits? Reduce essential gas consumption - Retail & Commercial	Wholesale -Matanuska Electric -Homer Electric -Seward Electric Conservation/Efficiency -Smart Power -Education -Smart metering -Audits Dispatchable alternative self-generation
Interruptions	Feeders prioritized -Shared responsibility among utilities -Fairness, sensitivity to critical loads, rotation -20 to 30 minutes per outage Gas Curtailments of Commercial Accounts	Feeders prioritized -Shared responsibility among utilities -Fairness, sensitivity to critical loads, rotation -20 to 30 minutes per outage Gas Curtailments of Commercial Accounts	Feeders prioritized -Shared responsibility among utilities -Fairness, sensitivity to critical loads, rotation -20 to 30 minutes per outage Gas Curtailments of Commercial Accounts

Revised 8/26/2009

Energy Policy for Alaska

Presented by:
Chris Rose, Renewable Energy Alaska Project
Bill Popp, Anchorage Economic Development Corporation
The House Energy Committee
November 17, 2009

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 Anderson, 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

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!

DRAFT----Customer Action Plan

DRAFT - Energy Disruption Customer Action Plan

CONDITION	MEANING	Customer Action (Natural Gas Usage)	Customer Action (Electric Usage)
Green	Systems Good	Normal activity Use energy wisely – Be conservation-minded Your utilities can provide tips on saving energy	Normal activity Use energy wisely – Be conservation-minded Your utilities can provide tips on saving energy
Yellow	Caution	Set thermostat to 65 degree in living areas, and 40 in the garage Lower water heater setting to "warm" or "vacation" Minimize usage of natural gas range, and clothes dryer Do not use natural gas fire places, decorative heaters or grills. Do not use natural gas hot tubs	Postpone doing laundry or dishes Turn off unnecessary lights and electronics Turn off unnecessary space heating, especially in unused rooms Avoid using head bolt heaters Avoid using hot tubs
Red	Emergency	Set thermostat at 60 degrees in living areas (55 if away) Turn water heater gas valve to "pilot" Do not use natural gas fireplaces, decorative heaters or gas grills	If heating with electricity, close off unused rooms and lower heat registers to minimum setting Consolidate household activities into as few rooms as possible Use the microwave for cooking

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Energy for a Sustainable Alaska: the Railbelt Predicament

Testimony before House Energy Committee

04/01/10

Study Group Chairs

Mary Ann Pease & David Wight

Study Group Members

Nils Andreassen
Institute of the North
Chris Birch
NANA Development Corp
Hallie Bissett
BP Exploration Alaska
Deborah Brollini
Alaska Native Tribal Health Consortium
Patrick Burden
Northern Economics
Katie Conway
Brian Davies
Davies Consulting
Brit DelMoral
Daniel Dieckgraeff
ENSTAR Natural Gas Company
Pat Doyle
Anchorage Daily News
Jim Egan
Commonwealth North
Carl Ekstrom
Anchorage Community Development
Joe Farrell
ConocoPhillips Alaska
Therese Gramercy
TGML Publications

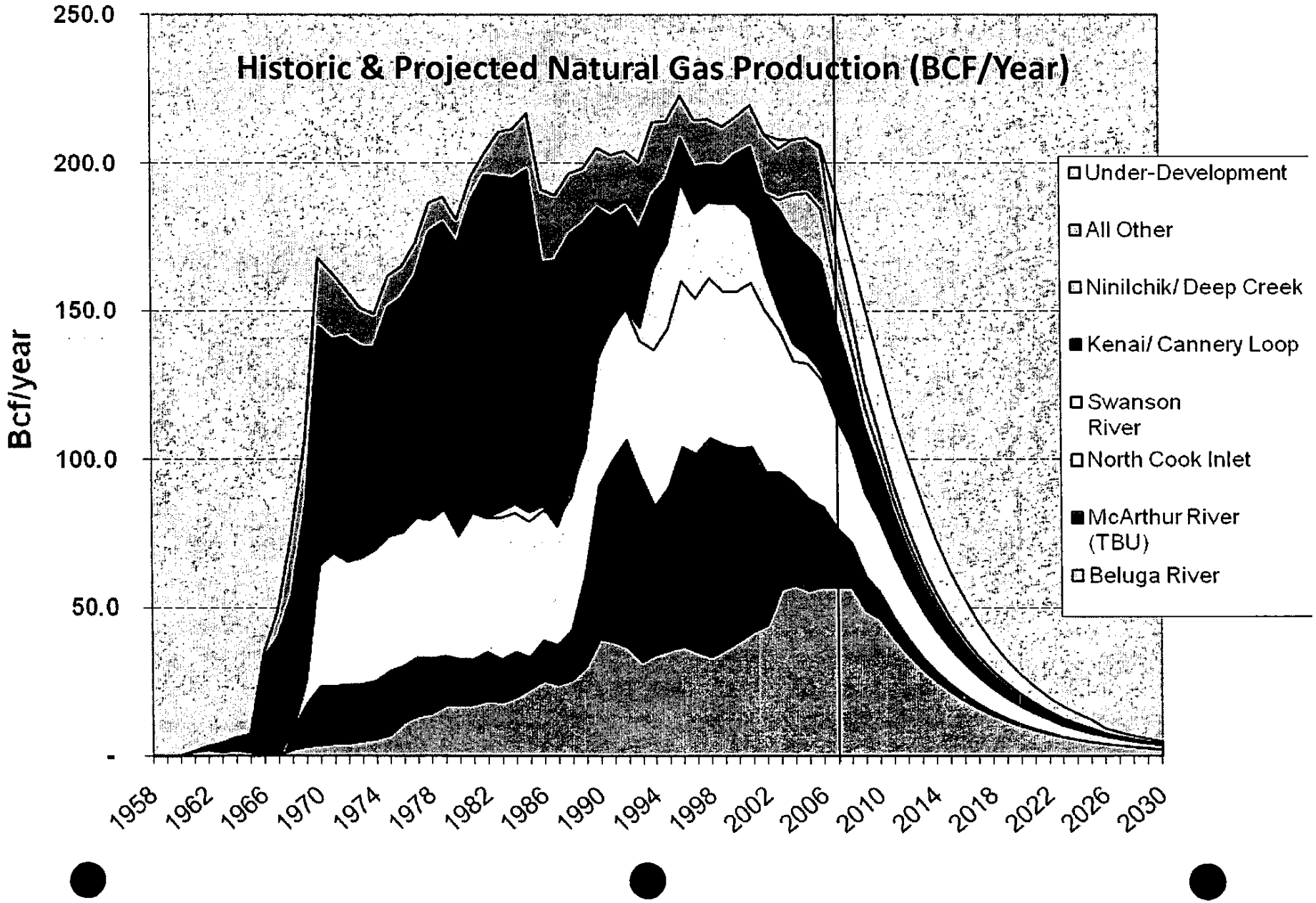
Joe Griffith
Matanuska Electric Association
Harold Heinze
Alaska Natural Gas Development Authority
James Hemsath
Alaska Industrial Development and Export Authority
Carolyn Heyman-Layne
Sedor, Wendlandt, Evans & Filippi LLC
Scott Heyworth
Alaska Natural Gas Development Authority
David Hudspeth
Abacus Finance Ltd.,
Grant Hunter
Grant W. Hunter JD MLS
Anthony Izzo
TMi Consulting
Lonnie Jackson
Rural Energy Enterprises
Wilson Justin
Mt. Sanford Tribal Consortium
Brad Keithley
Perkins Coie LP
Elizabeth Kennedy
Meera Kohler
Alaska Village Electric Co-op, Inc.

Marilyn Leland
Alaska Power Association
David Marquez
NANA Development Corp
Chris Menefee
Hoefler Consulting Group
Andrew Niemiec
Knik Arm Bridge and Toll Authority
Arden Page
James Posey
Municipal Light & Power
Peter Raiskums
Denali Alaska FCU
Ashley Schmiedeskamp
Cook Inlet Region, Inc.
Debra Schnebel
Scott Balice Strategies
Lee Schoen
SeaWolf Consultants
Colleen Soberay
Ch2M HILL, Inc.
Jerry Strang
Nick Szymoniak
Enstar Natural Gas
Tim Wiepking
Richard Wilson
Richard G. Wilson and Associates

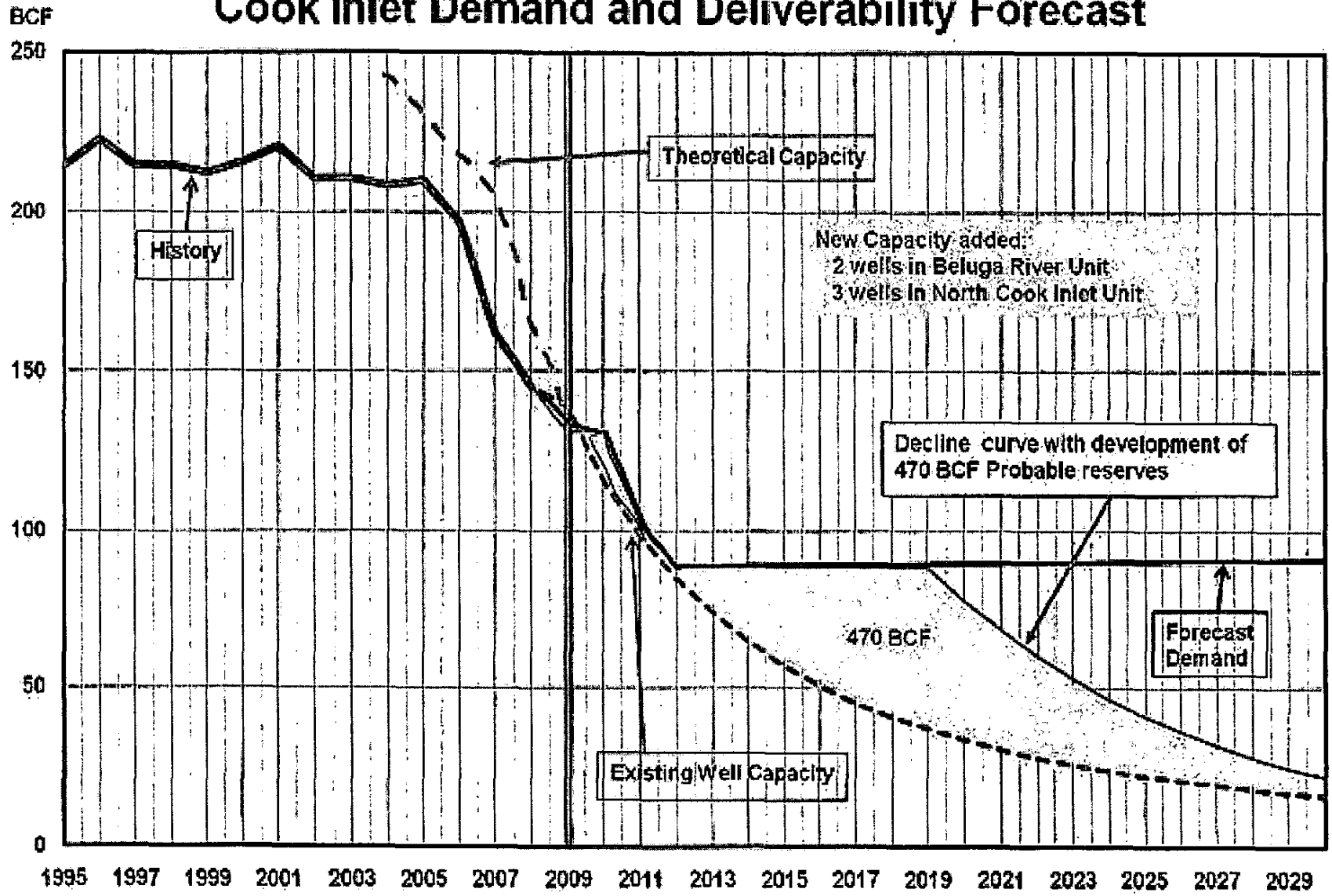
Committee Presentations

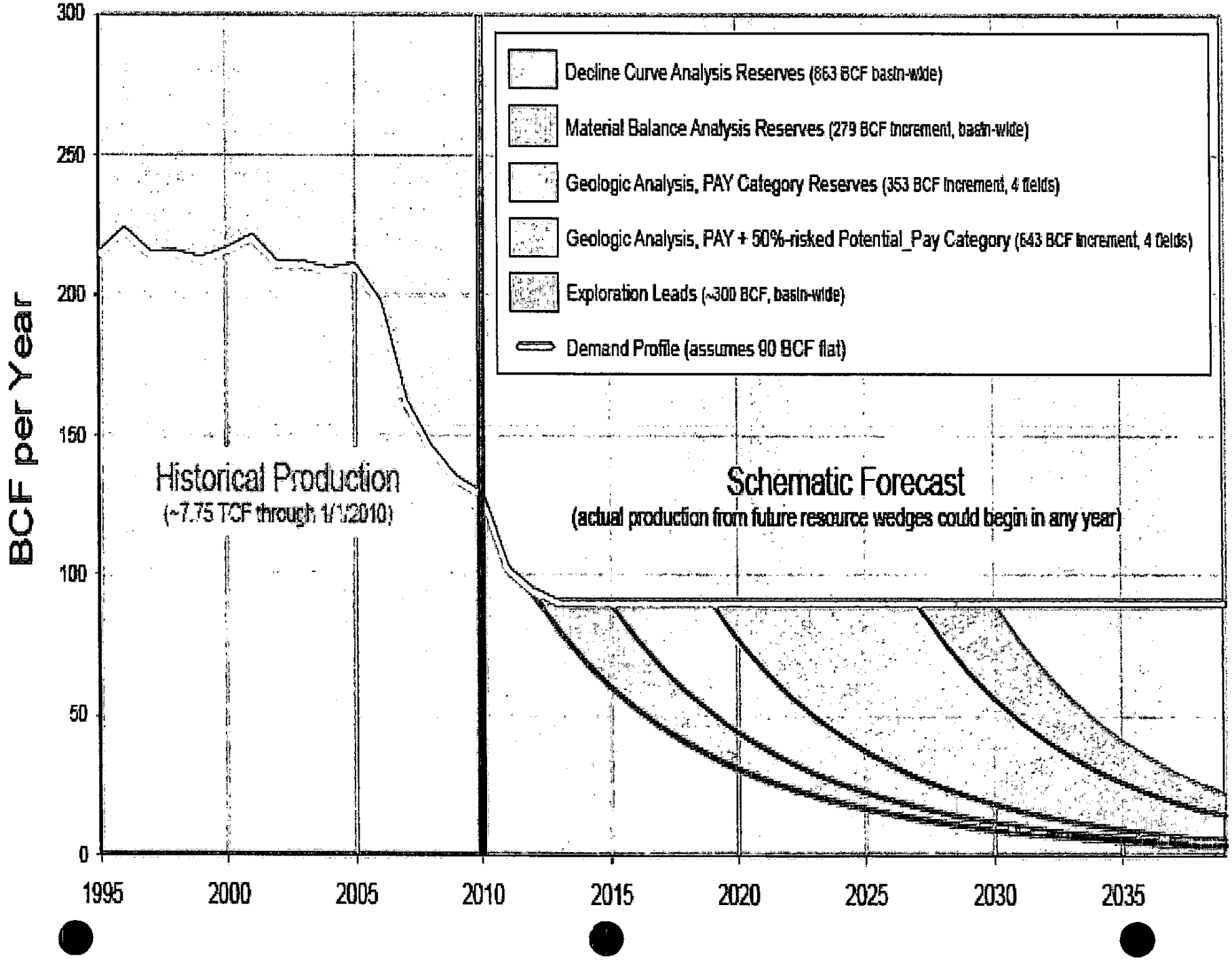
March 26, 2009 – Initial Meeting
April 10, 2009 – **Harry Noah** (Governor's Director of In-State Gas Pipelines)
April 24, 2009 – **Steve Haagenson** (Executive Director of AIDEA Energy)
May 1, 2009 – **Dan Clark** (ConocoPhillips)
May 8, 2009 – **Debra Schnebal** (Public/Private Partnerships)
May 22, 2009 – **Colleen Starring** (ENSTAR)
June 5, 2009 – **Carri Lockhart** (Marathon)
June 12, 2009 – **Dan Seamount** (Experienced Cook Inlet Exploration geologist)
June 19, 2009 – **Robert Pickett** (Regulatory Commission of Alaska)
June 26, 2009 – **Kurt Gibson** (Department of Natural Resources, Division of Oil and Gas)
July 10, 2009 – **John Lau** (ENSTAR) "Bullet Line" Gas Pipeline
July 17, 2009 – **Steve Gilbert** (Alaska Wind Energy)
August 7, 2009 – **Kate Giard & Tony Price** (Regulatory Commission of Alaska)
August 14, 2009 – **Don Anderson** (nuclear energy alternatives)
August 21, 2009 – **Scott Waterman** (Alaska Housing Finance Corporation)
August 28, 2009 – **Nick Goodman** (TDX Power) & **Bryan Carey** (AEA & AIDEA)
September 4, 2009 – **Daniel Patrick** O'Tierney (Chief Assistant Attorney General RAPA)
October 9, 2009 – **Mary Ann Pease** (MAP Consulting/Propane Project)
October 16, 2009 – **James Strandberg** (Alaska Energy Authority)
October 23, 2009 – **Kevin Banks** (Kevin Banks, Director of the Division of Oil and Gas)
November 11, 2009 – **Gene Therriault** (Governor's Chief Energy Advisor)
November 20, 2009 – **Meera Kohler** (President and CEO Alaska Village Electric Cooperative)
December 4, 2009 – **Roger Marks** (President of the Anchorage Chapter of the US Association for Energy Economics)
December 11, 2009 – **Kevin Harper** (Program Manager, Black & Veatch - GRETC)
January 8, 2010 – **Rebecca Logan** (Chairman, Chugach Electric Association) & **Representative Charisse Millett**
January 28, 2010 – **Harold Heinze** (CEO, Alaska Natural Gas Development Authority)

The Southcentral Gas Predicament



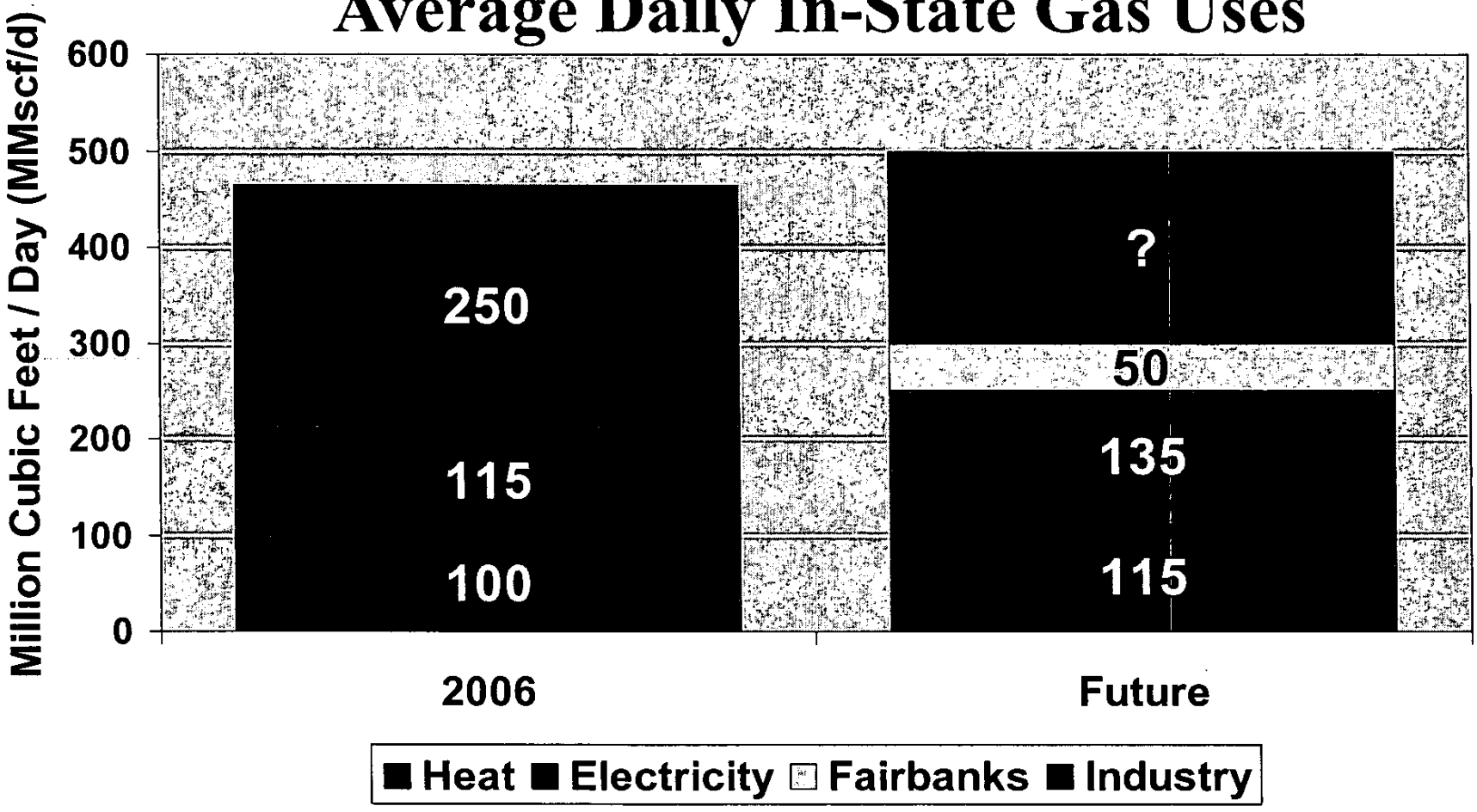
Cook Inlet Demand and Deliverability Forecast




BCF per Year
300
250
200
150
100
50
0
1995
2000
2005
2010
2015
2020
2025
2030
2035
Decline Curve Analysis Reserves (863 BCF basin-wide)
Material Balance Analysis Reserves (279 BCF increment, basin-wide)
Geologic Analysis, PAY Category Reserves (353 BCF increment, 4 fields)
Geologic Analysis, PAY + 50%-risked Potential_Pay Category (643 BCF increment, 4 fields)
Exploration Leads (~300 BCF, basin-wide)
Demand Profile (assumes 90 BCF flat)
Historical Production
(~7.75 TCF through 1/1/2010)
Schematic Forecast
(actual production from future resource wedges could begin in any year)

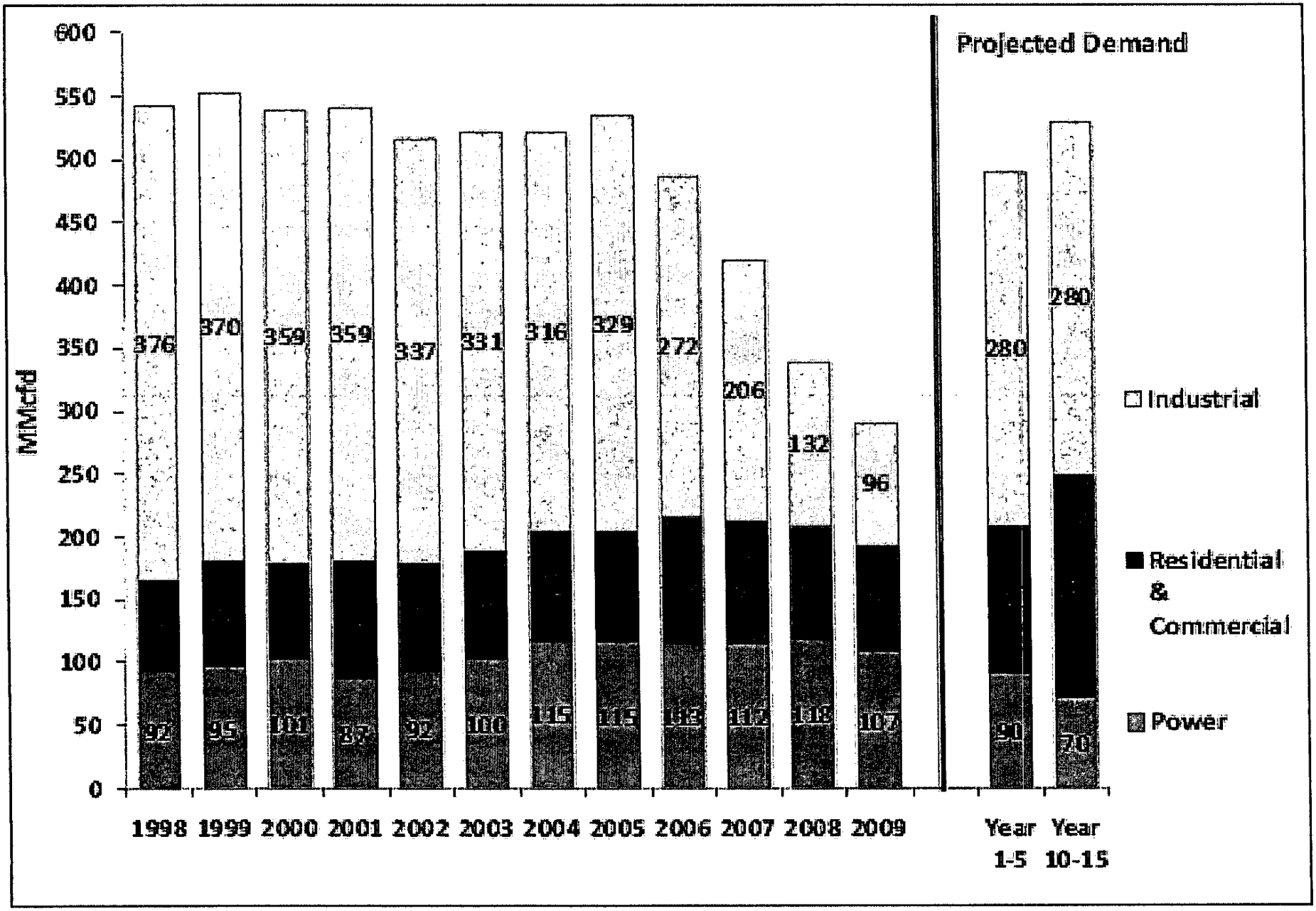
Deliverability

Average Daily In-State Gas Uses



(250 mmscfpd) / (4.5 BCFPD) = 5 %

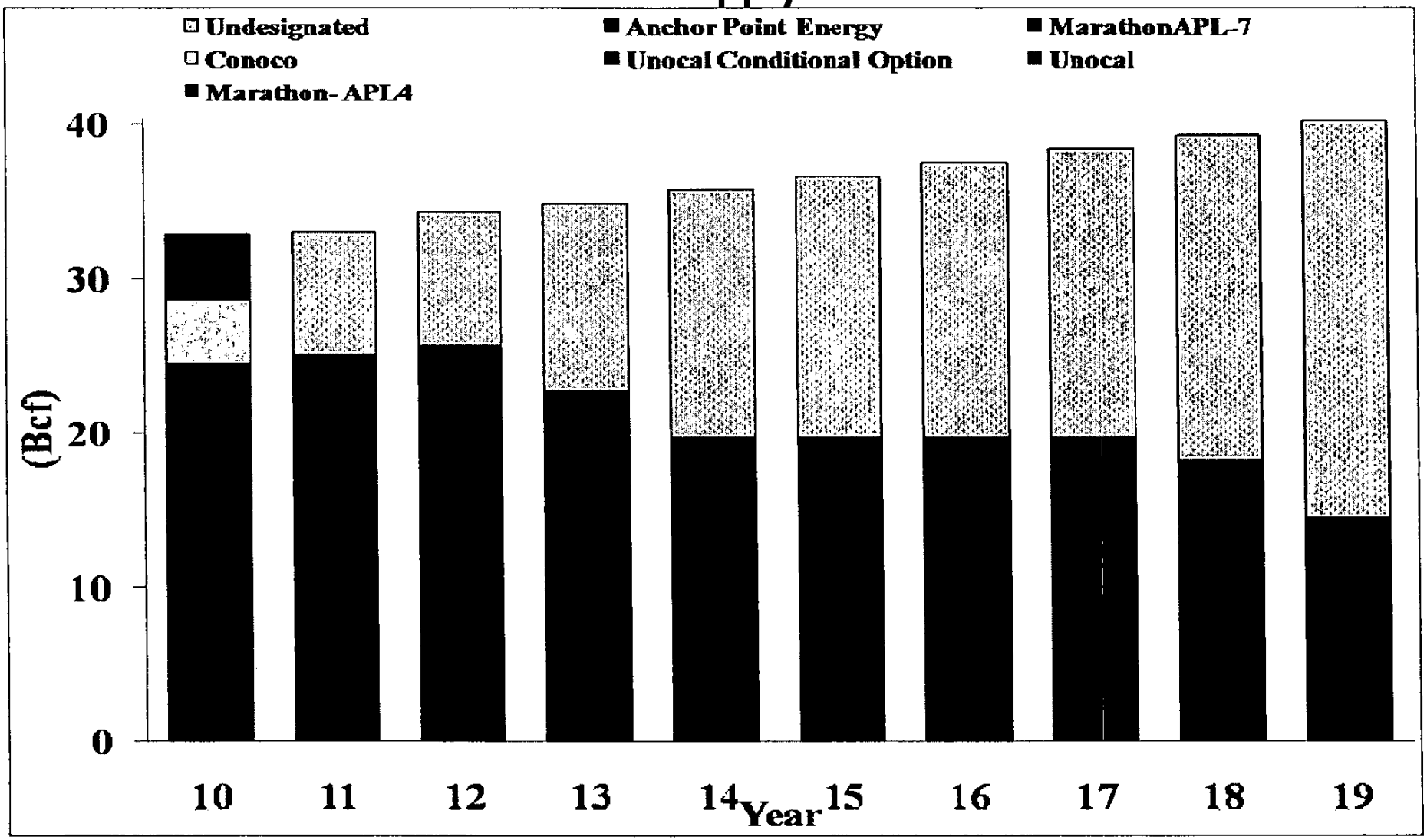
Historic and Projected Total Annual Average Daily Demand for Natural Gas



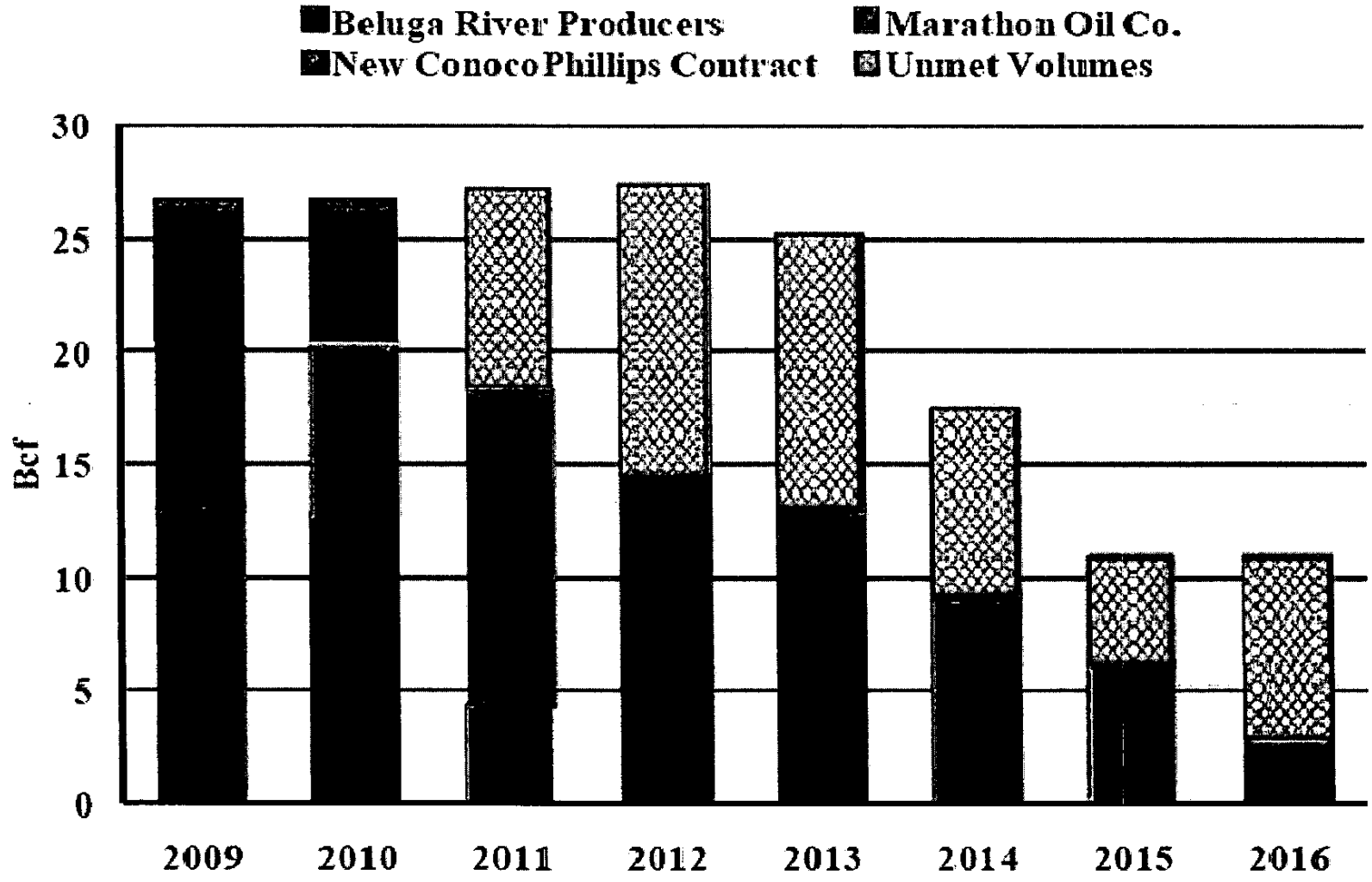
The Current Southcentral Energy Supply Scenario

The Not So Convenient Truth

Enstar Gas Supply Outlook

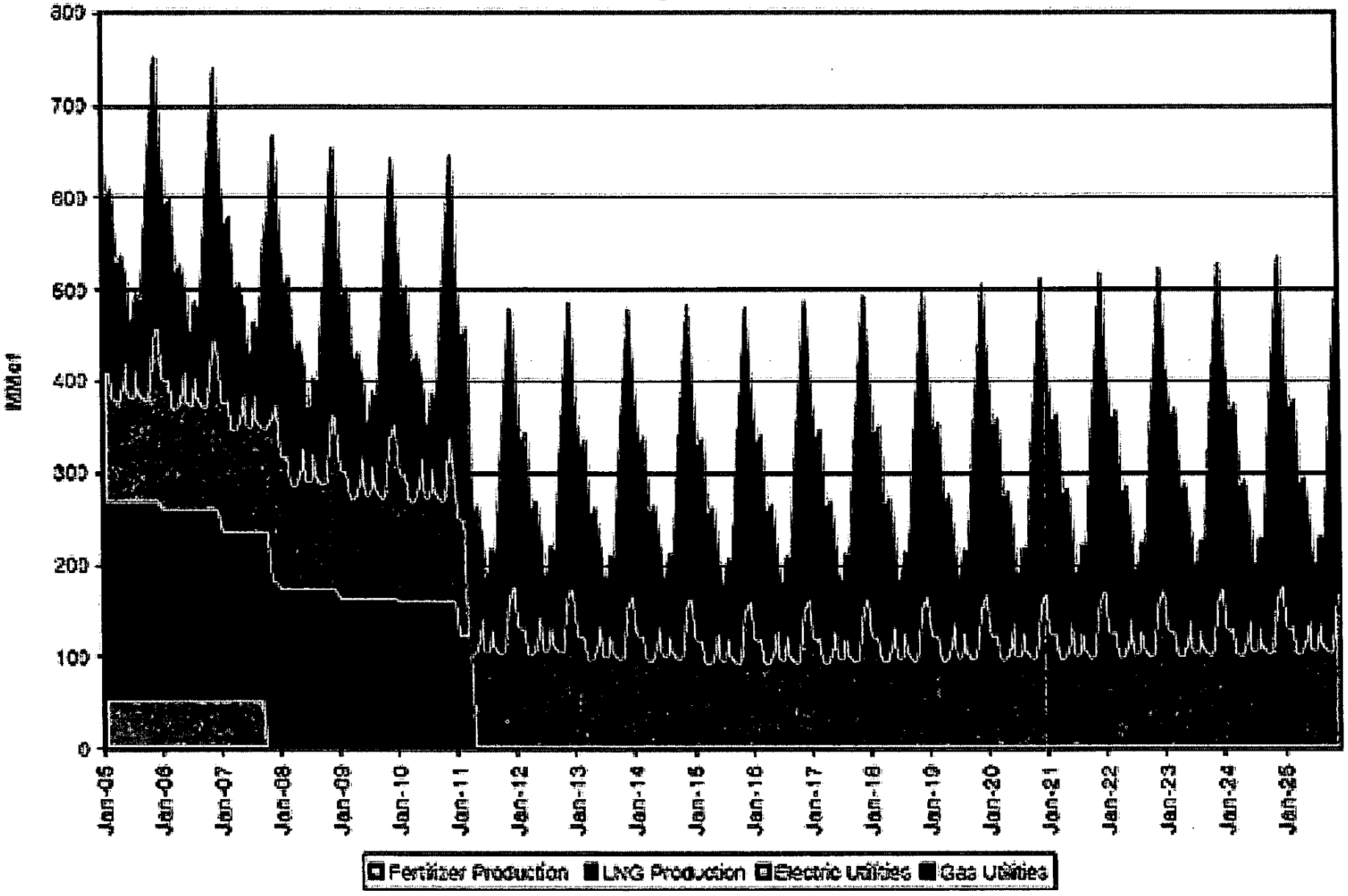


Chugach Electric Association Gas Supply



Source: Chugach Long-Term Natural Gas Volume Forecast, April 2009 Update

Natural Gas Demand Forecast Peak Daily Demand



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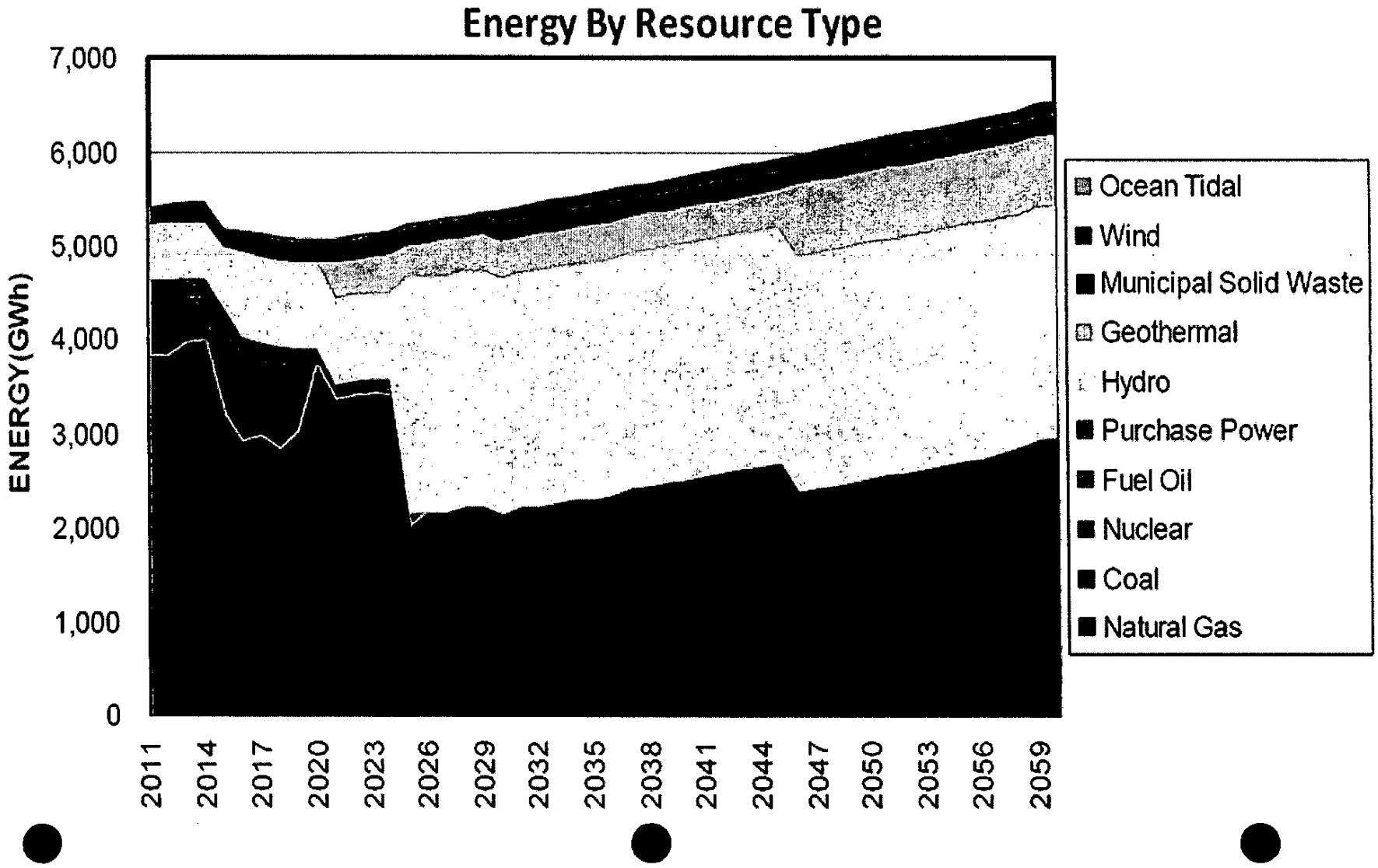
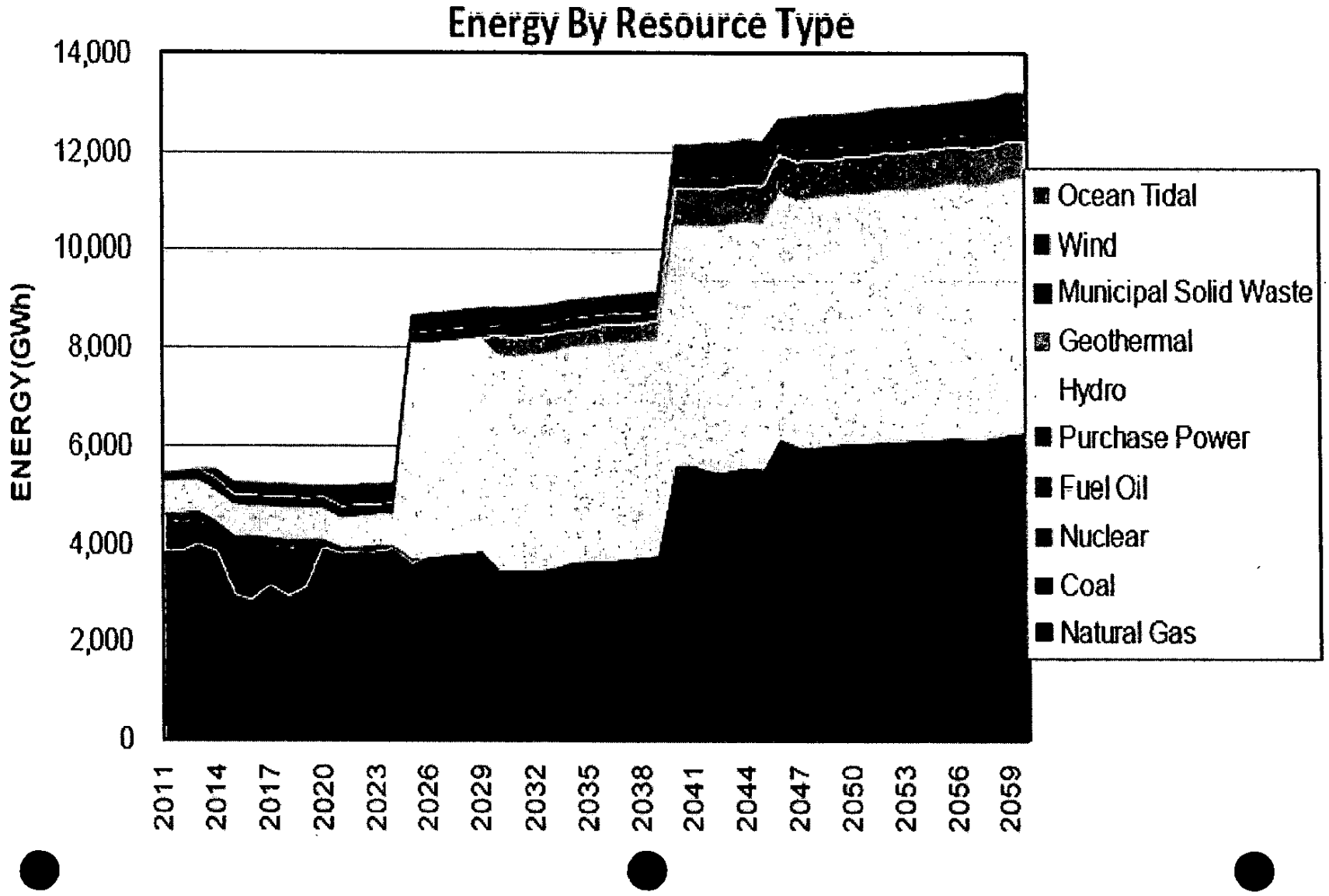
With Great Energy Opportunity Comes Great Responsibility and Leadership

Alaska has significant energy potential and a vast natural resource base. Many energy alternatives could play a critical role in the diversification of Alaska's energy portfolio in an economic and sustainable model. We must move forward to protect Alaska from the economic drag associated with continued volatility of world, national and local fuel prices, and offer stable opportunities for citizens and business to invest in the future.

Results – Scenario 1B



Results – Scenario 2B



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Framing the Energy Issues Timeframe for Policy Decisions

- Now
- Transition
- Longer term

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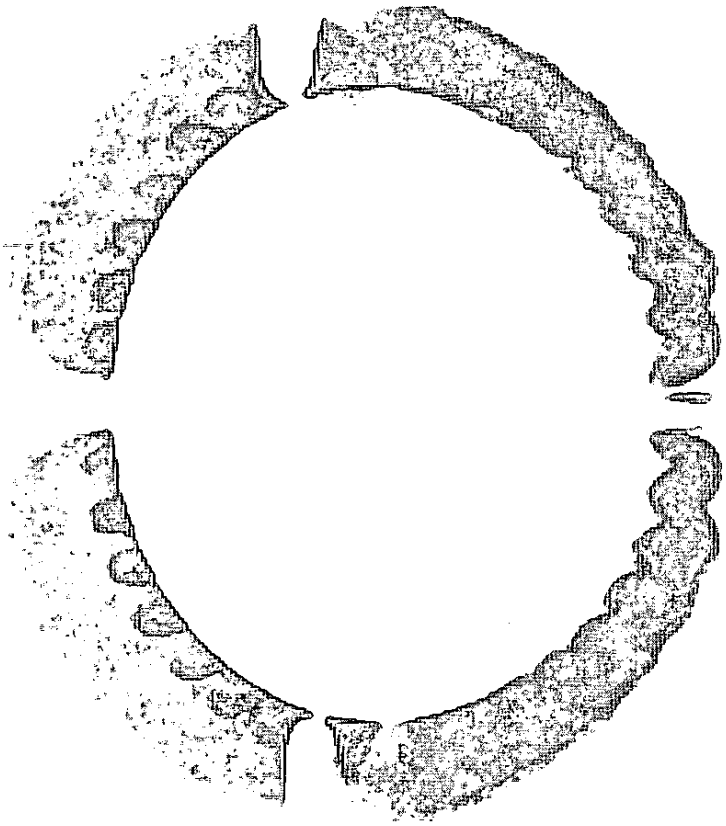
Now - Deliverability Response

- Mayor's tri-color preparedness grid
  - Being prepared
  - Having a plan
  - Conservation
- Real savior – ML&P's ability to switch to all diesel generation – saving the natural gas for the rest of the heating grid



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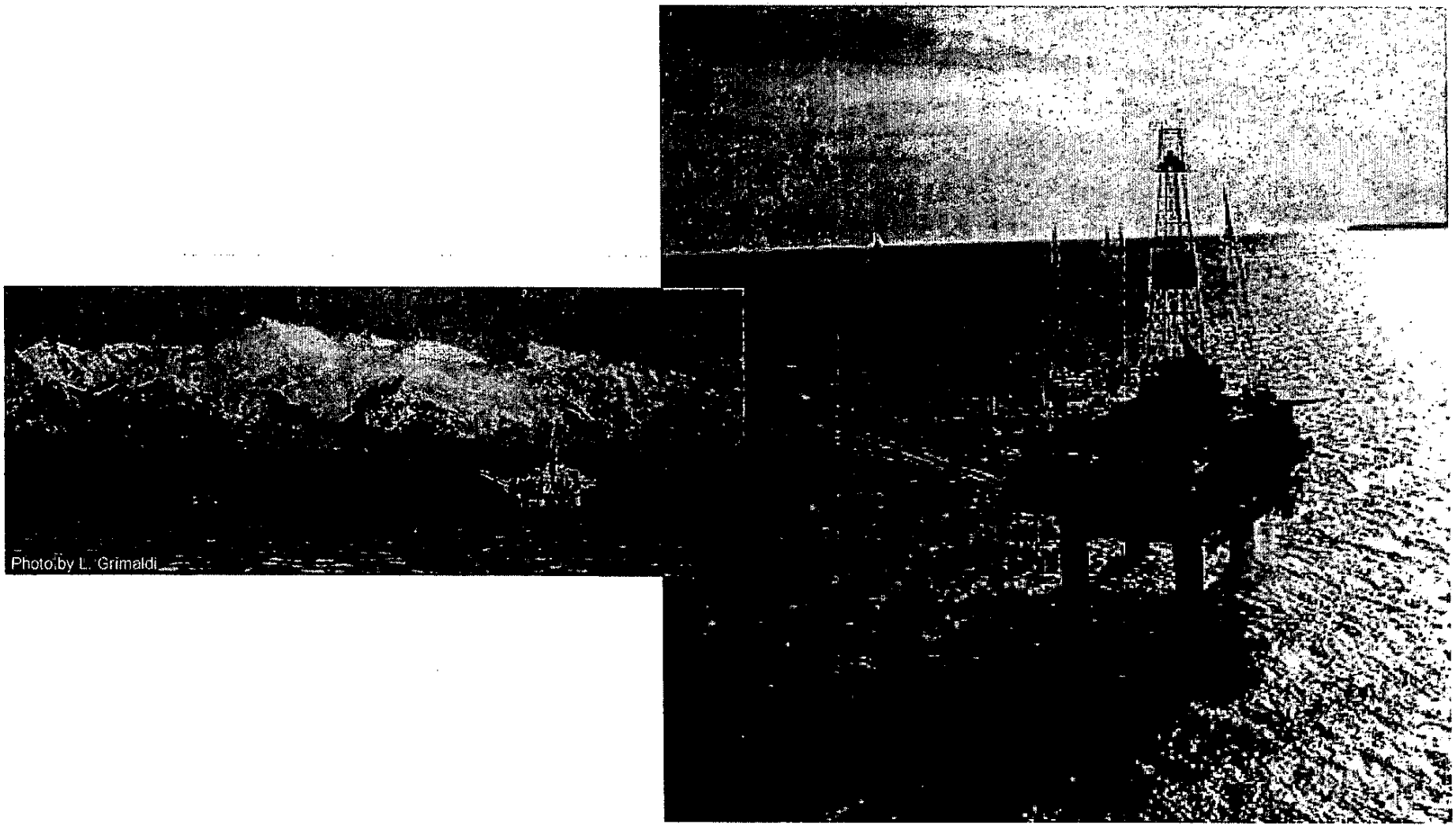
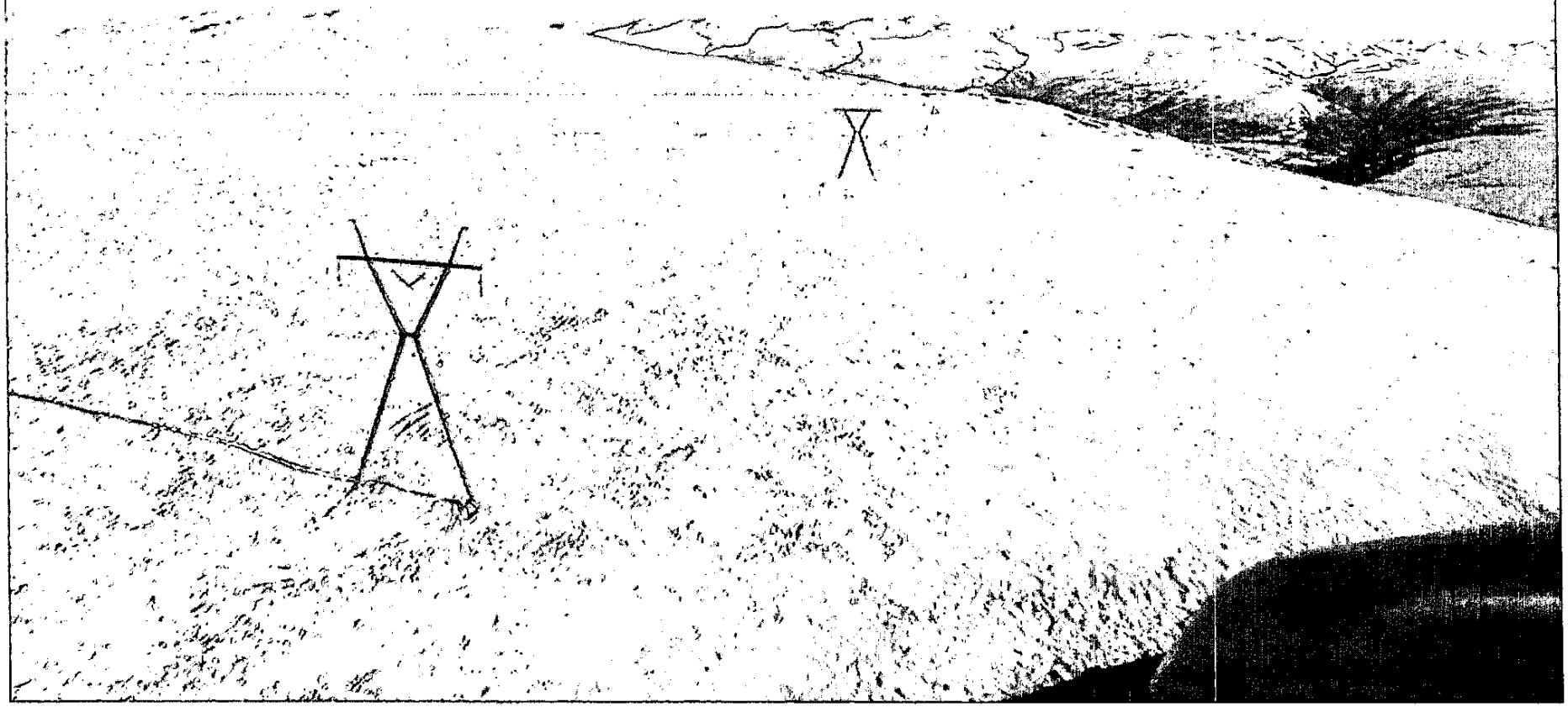
Intermediate Term Transitional Solutions

- Gas Storage
- Import LNG
- Drill more wells – Cook Inlet and elsewhere
- In-state gas line
- Renewables – Fire Island wind

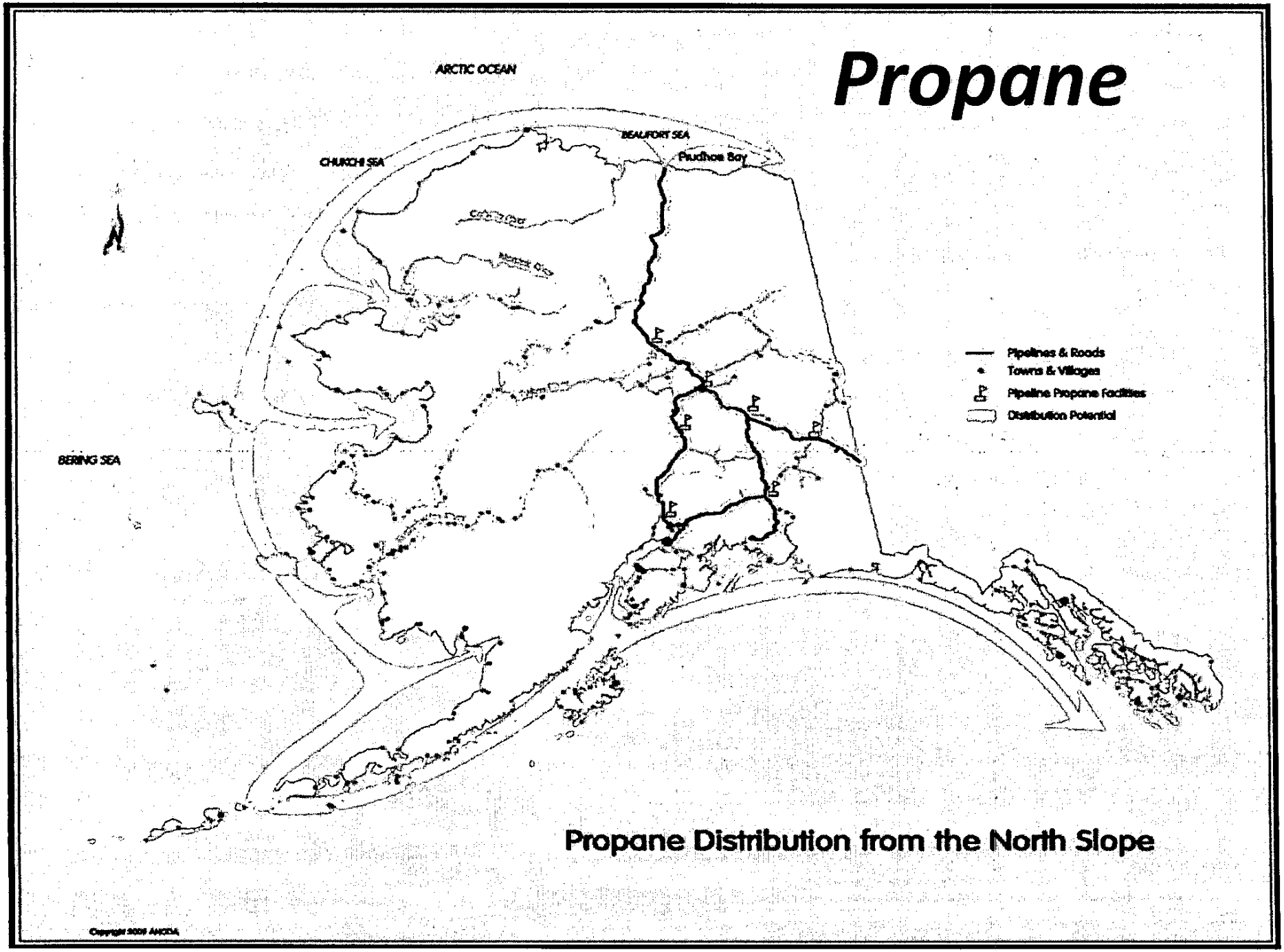
Encourage Increased, Near Term Exploration and Drilling



Gas Storage



Propane


ARCTIC OCEAN
CHUKCHI SEA
BEAUFORT SEA
Prudhoe Bay
BERING SEA
Pipelines & Roads
Towns & Villages
Pipeline Propane Facilities
Distribution Potential
Propane Distribution from the North Slope
Copyright 2009 AHEDA

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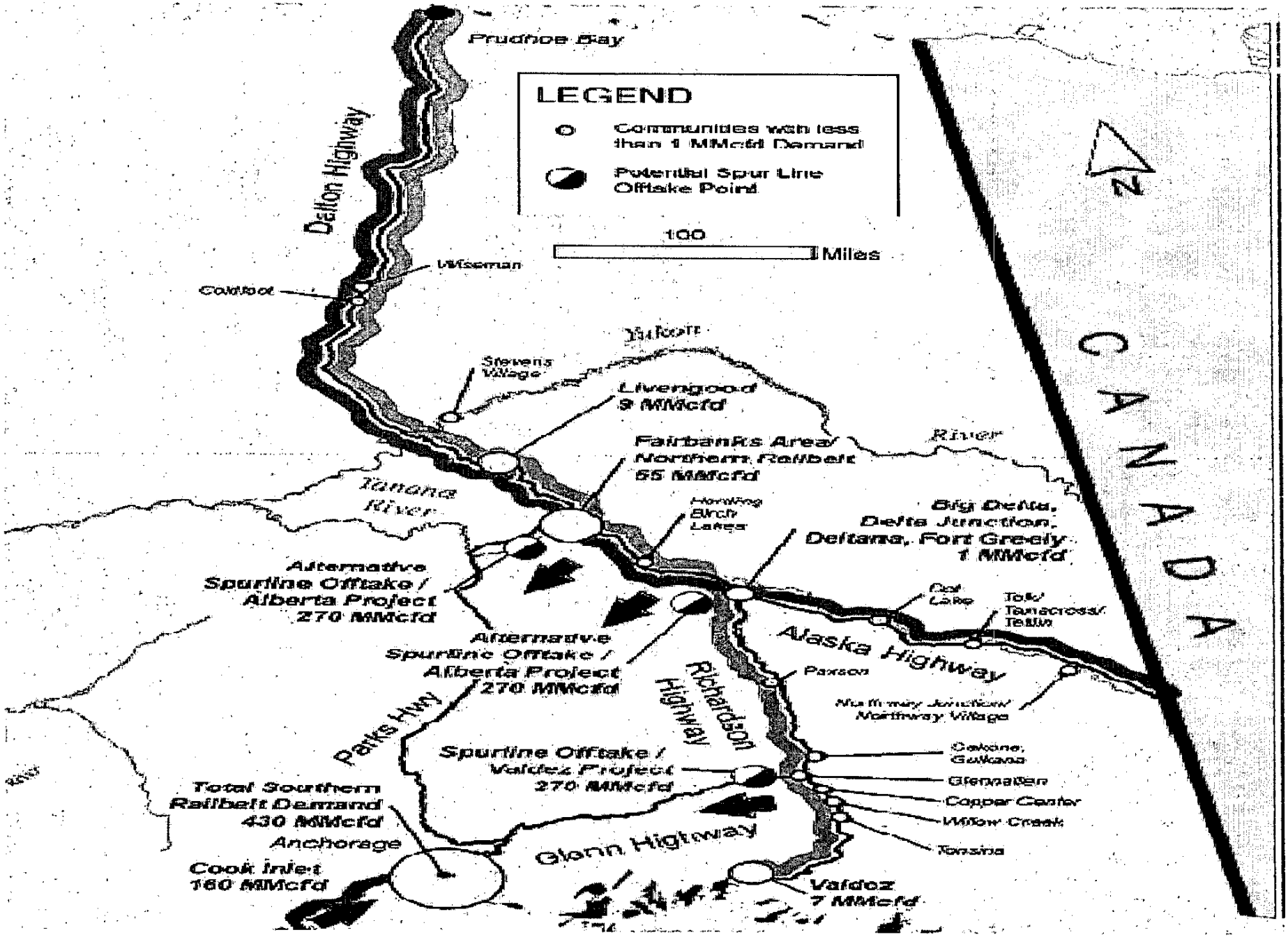
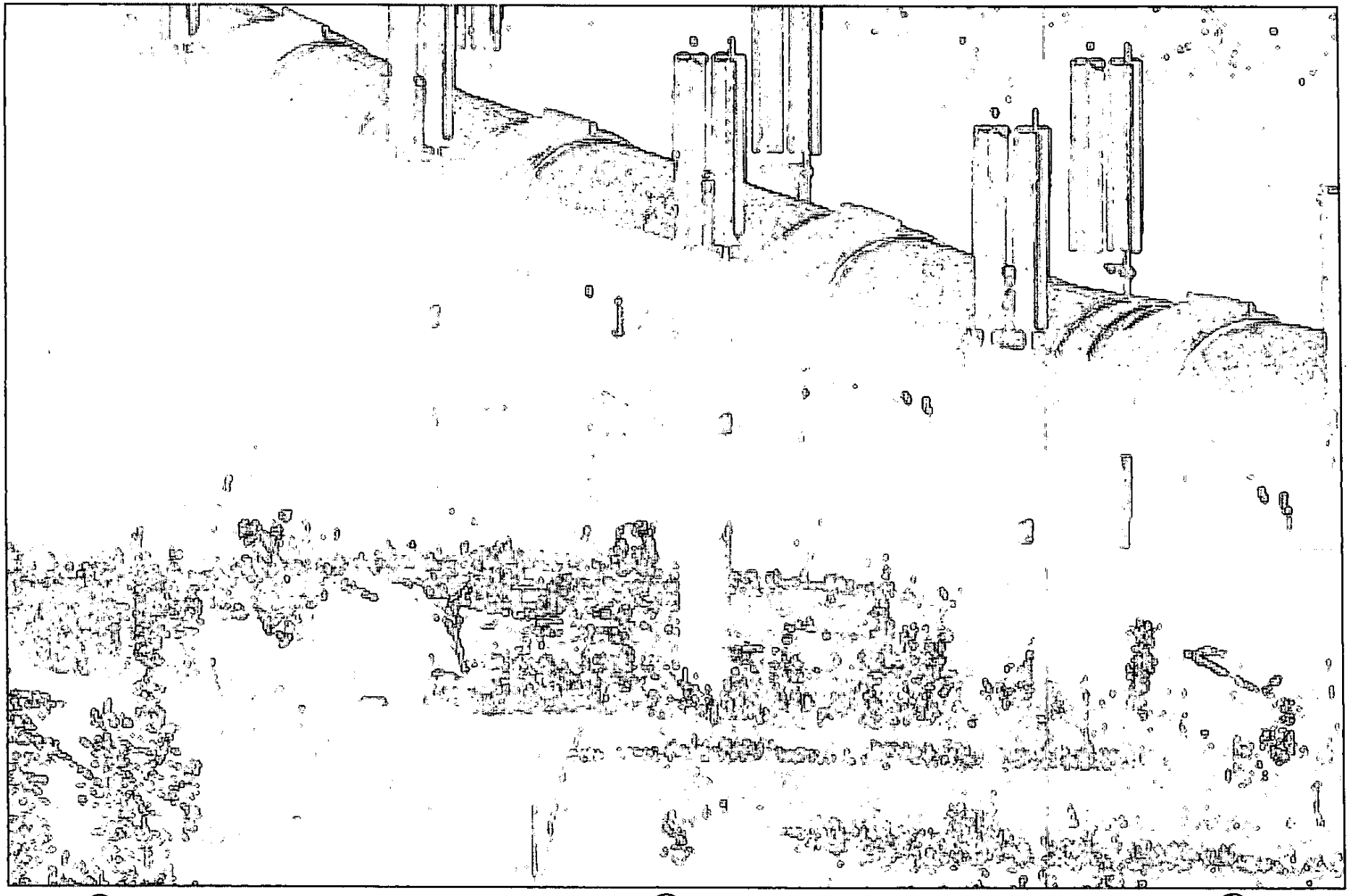
Long Term
Future Solutions

- Most options/Most time/Richness of Solutions
- Main line
- North Slope gas into Southcentral
- Susitna and other large scale renewable projects
- All have a *Big $$$ price tag*

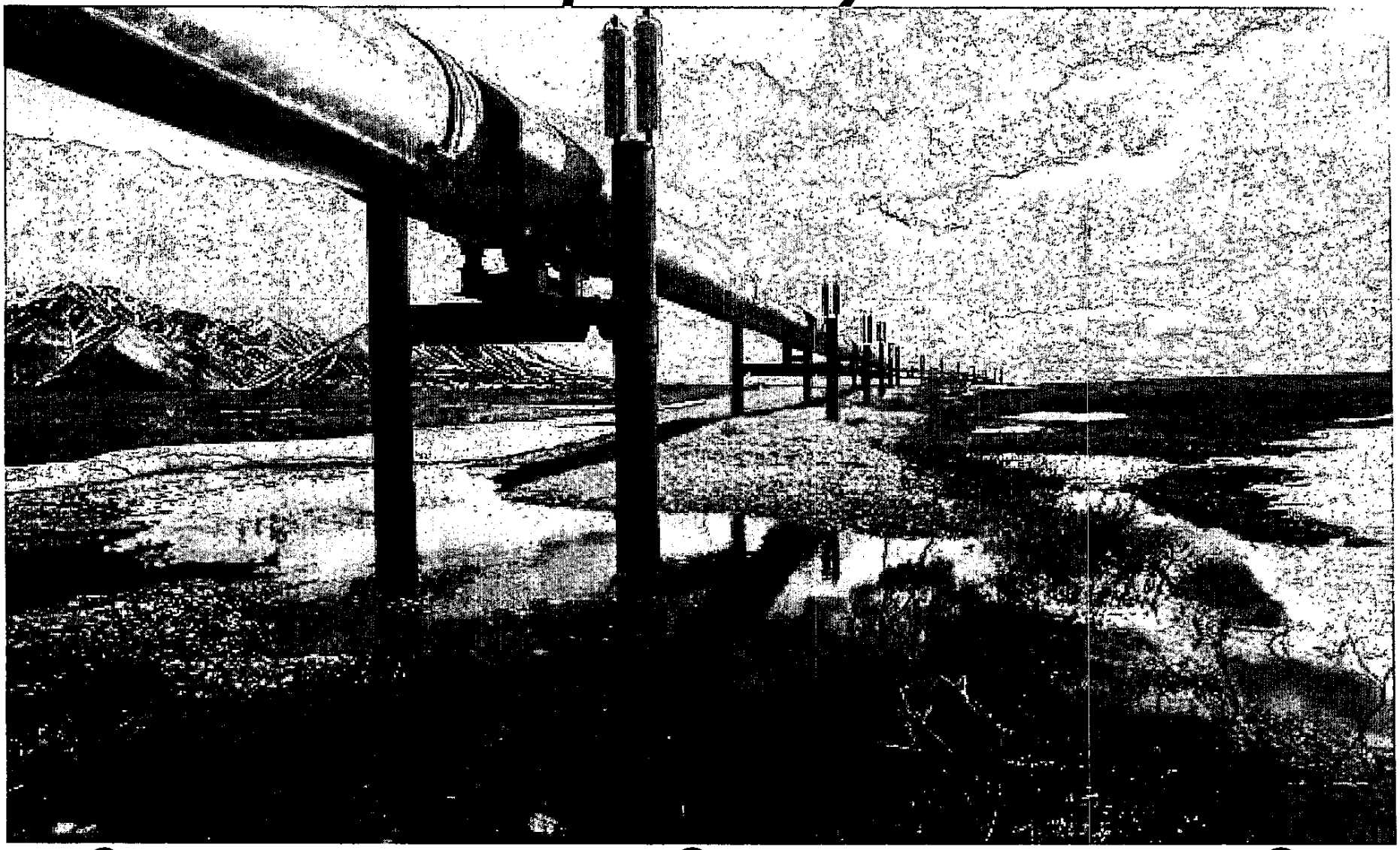


Source: Alaska Map Co. based on the results of this study, 2009.

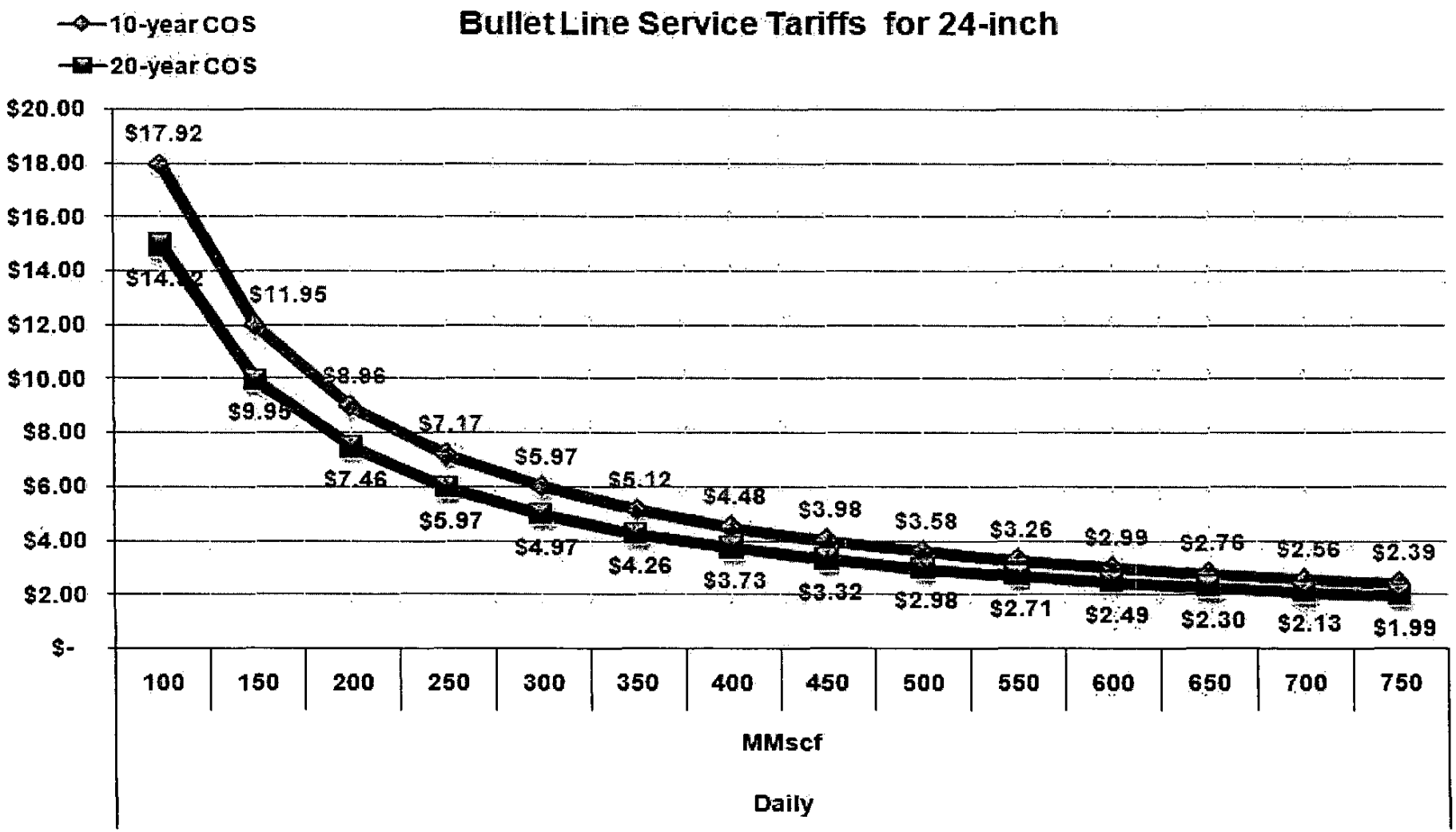
North Slope Gas Pipeline to Lower '48



Spur Line: Beluga to Fairbanks Natural Gas Pipeline System



Bullet Line


10-year COS
20-year COS
Bullet Line Service Tariffs for 24-inch
$20.00
$18.00
$16.00
$14.00
$12.00
$10.00
$8.00
$6.00
$4.00
$2.00
$-
$17.92
$14.32
$11.95
$9.95
$8.96
$7.46
$7.17
$5.97
$5.97
$5.12
$4.97
$4.48
$4.26
$3.98
$3.73
$3.58
$3.32
$3.26
$2.98
$2.99
$2.71
$2.76
$2.49
$2.56
$2.30
$2.39
$2.13
$1.99
100
150
200
250
300
350
400
450
500
550
600
650
700
750
MMscf
Daily

Hydroelectric Energy
Bradley Lake Dam

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Recommendations

Alaska is rich in natural energy sources and yet many Alaskans struggle to meet rising energy costs. Commonwealth North commissioned this study to evaluate solutions and facilitate dialogue relevant to energy policy throughout Alaska and develop guidelines and recommendations for a secure energy future. After extensive discussion and debate with involved and knowledgeable citizens, Commonwealth North formulated the following findings and actions items as a means for addressing the current energy issues along the Railbelt.

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Recommendation 1

Assess the potential of a gas deliverability disruption in the near future due to the extreme load on the system coupled with potential deliverability constraints.

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Recommendation 2

Address immediate deliverability and cost issues in both Railbelt and rural areas by leading implementation of stop-gap measures to encourage conservation, alternative energy and efficiency.

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Recommendation 3

Make gas storage available as soon as possible to help utilities meet deliverability challenges.

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Recommendation 4

Establish a clear regulatory standard for review of gas supply contracts.

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Recommendation 5

Implement a policy of fuel diversification with the long term goal of reduced dependence on diesel for much of rural Alaska.

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Recommendation 6

Adopt a strategy to diversify Alaska's energy portfolio within the next 15 years to include other viable energy alternatives including hydro, coal, propane, wind, geo-thermal, and other renewable energy projects.

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Recommendation 7

Encourage development of oil and natural gas potential and the construction of a natural gas pipeline.

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What Can be Done Now

Continue the energy dialogue and establish a pro-active approach and reasoned policy action on energy issues in Alaska.

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Energy for a Sustainable Alaska

A Commonwealth North Energy Study

Alaska State Legislature

Please enter into the record my testimony to the House Energy committee name committee on HB 306 bill/subject . dated 1-29-01 .

Proposed Cook Inlet AND natural gas storage Project update

Signed: Jerry McCutcheon
Testifier

Representing (Optional)

Box 101839 Anchorage 99510
Address

Susitna Hydro xoxo@yahoo.com
Phone No.

RCA
RCA.mail@Alaska.gov [from RCA file]

The RCA's request for a determination if the RCA has the authority to regulate gas storage.

First, On Monday the 11th I made a request to see or hear the testimony in this case, which was heard the 8th and have received nothing, not so much as an acknowledgment of my request.

The hearing was set on Christmas Eve and heard a week after New Years. Truly, the hearing was a very hastily contrived hearing for exclusive benefit of Enstar/ TransCanada / Conoco / Chevron/ Marathon. There was no finding of facts by the RCA on which an informed public could comment or time to comment.

Second. It appears the RCA is being compliant to the requests of Enstar/ TransCanada/ Conoco/ Marathon/Chevron/etal. and not acting in the public interest or public trust. The RCA would foist on the Cook Inlet gas consumers an unnecessary gas storage scam, which would allow the continued the fleecing of the Cook Inlet gas consumers by Conoco/ Marathon/ Chevron /Enstar. As former Governor Murkowski's Attorney General pointed out the charges for gas were "excessive", "unjustified" and "unwarranted". Those problems have not been addressed.

Third. There has been no showing that there is need for unregulated gas storage let alone regulated. Is there a possibility gas storage competition? Would the RCA be an unnecessary burden if there were to be several gas storage facilities? Why would RCA's regulation of gas storage be in the public interest in view of the fact that RCA's regulation of the Cook Inlet gas market certainly has not been in the public interest? Why would RCA act differently as a gas storage regulator than the RCA has in the past? The RCA had the obligation to make those determinations before the RCA made the request for authority to regulate or allow gas storage. The RCA did not make the above determinations.

Fourth. There has been no showing of RCA's fitness to regulate gas storage. If gas storage is regulated by the RCA the way the RCA has regulated Cook Inlet gas, the gas storage market will become the collusively property of Conoco/ Marathon/Chevron/ Enstar. See Governor Murkowski's Attorney Generals investigation into Cook Inlet gas pricing.

Fifth. Just recently a formal study on Cook Inlet proven gas has been released. That study demonstrates that there are ample supplies of proven Cook Inlet gas, 1.15 tcf, which I believe is understated, closer to 1.5 tcf. The knowledge of ample Cook Inlet gas has been kept from the public and it appears the RCA never formally inquired although the RCA informally knew there were ample supplies of Cook Inlet gas available for the development of sufficient gas supplies for the Cook Inlet Gas Consumer. The RCA failed to act on behalf on the Cook Inlet gas consumer.

It appears that the RCA never raised question of ample Cook Inlet gas or the question of access to market but deliberately acted to aide and abet the collusive behavior of Conoco/ Marathon / Chevron/Enstar allowing them to control the market to the exclusion of others.

Sixth. Apparently the RCA has never made an inquiry as to the amount of gas and gas pressure that could be made available from the existing reservoirs with infill drilling and horizontal drilling from existing wells all of which the RCA had and still has obligation to do before pursuing gas storage authority.

Seventh. The cost construction of a gas storage facility with its injection infrastructure and additional wells will cost more than the simple infill drilling of existing gas reservoirs which must be done in any event to obtain the necessary gas. Then there is the cost of the purchase of gas; the cost of the transportation of the gas to the storage reservoir; the cost of injection of the gas into the storage reservoir; the cost of the gas storage; the cost of the gas necessary build up and provide the gas storage reservoir minimum working pressure, that gas will be lost and not available to be marketed for life of the gas storage reservoir and the gas consumer will pay over and over again for the life of the gas storage reservoir for gas the gas consumer can not use, the cost gas production and the cost gas transportation to market; all of which the gas consumer must bear. Compared the to simple infill drilling for and production of gas.

With gas storage most of the current producers hope to escape having to do what they are required to do by their lease agreements, Alaska 's Constitution and the "Public Trust Doctrine".

Eight. I request the RCA withdraw the RCA's request for storage determination and do what the RCA should have done years ago, make determination of the costs of infill drilling and horizontal drilling from existing wells in producing reservoirs as well as the pressures and volumes to be had.

Nine. Since it is already known that there are ample supplies of Cook Inlet gas available for the infill and horizontal drilling, it was incumbent upon the RCA to notify the Governor and DNR, requesting that the State leases, Alaska's Constitution and the Public Trust Doctrine requirements be enforced so that those supplies of gas were and are made available to the Cook Inlet gas consumer.

Further, the RCA had an obligation to inform the public when the public was and is being stampeded into accepting the fact that there was no alternative but to accept the dictates of Conoco/Marathon/Chevron/ TransCanada/Enstar that there were not ample supplies of Cook Inlet gas and the public must accept "excessive", "unwarranted" and "unjustified" cost of gas when in fact that were much less costly alternatives. The RCA did not act in the public interest or trust!

Tenth. There is little doubt in my mind that the RCA commissioners not only knew of the ample supplies of Cook Inlet gas for the infill drilling but also did not make a request for compliance with the leases, Alaska's Constitution and the Public Trust Doctrine so that Conoco/ Marathon/ Chevron/Enstar could continue to act collusively to determent of the Cook Inlet gas consumer.

Jerry McCutcheon susitnahydronow@yahoo.com Draft 01/15/10

Cook Inlet Natural Gas Use
Chugach Electric Association

The Alaska State Legislature
House Special Committee on Energy
Co-Chairs
Bryce Edgmon & Charissee Millett
Representatives, Dahlstrom, Johansen, Ramras, Peterson and Tuck
March 17, 2009

Bradley Evans, CEO
Chugach Electric Association, Inc.

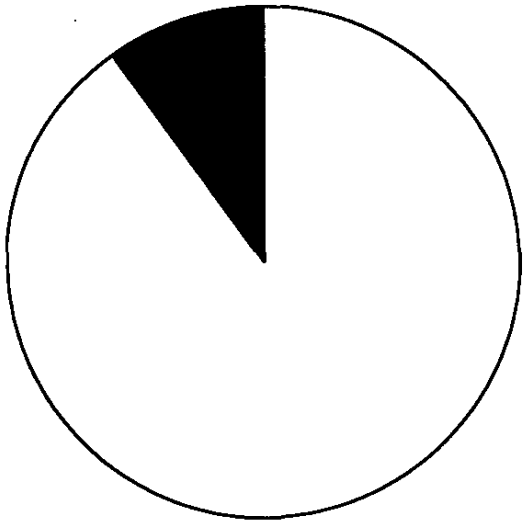
1633

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

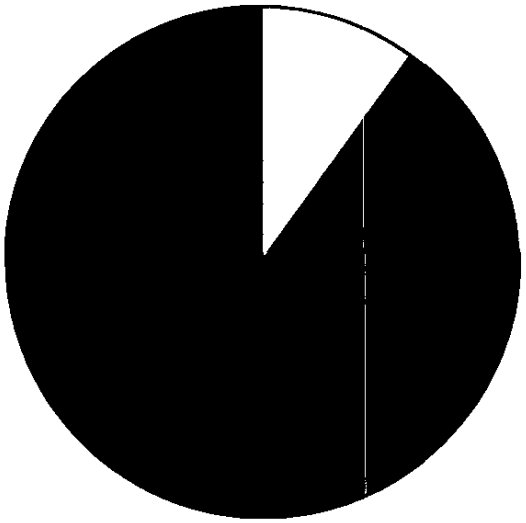
Chugach's fuel mix

Today – 90/10



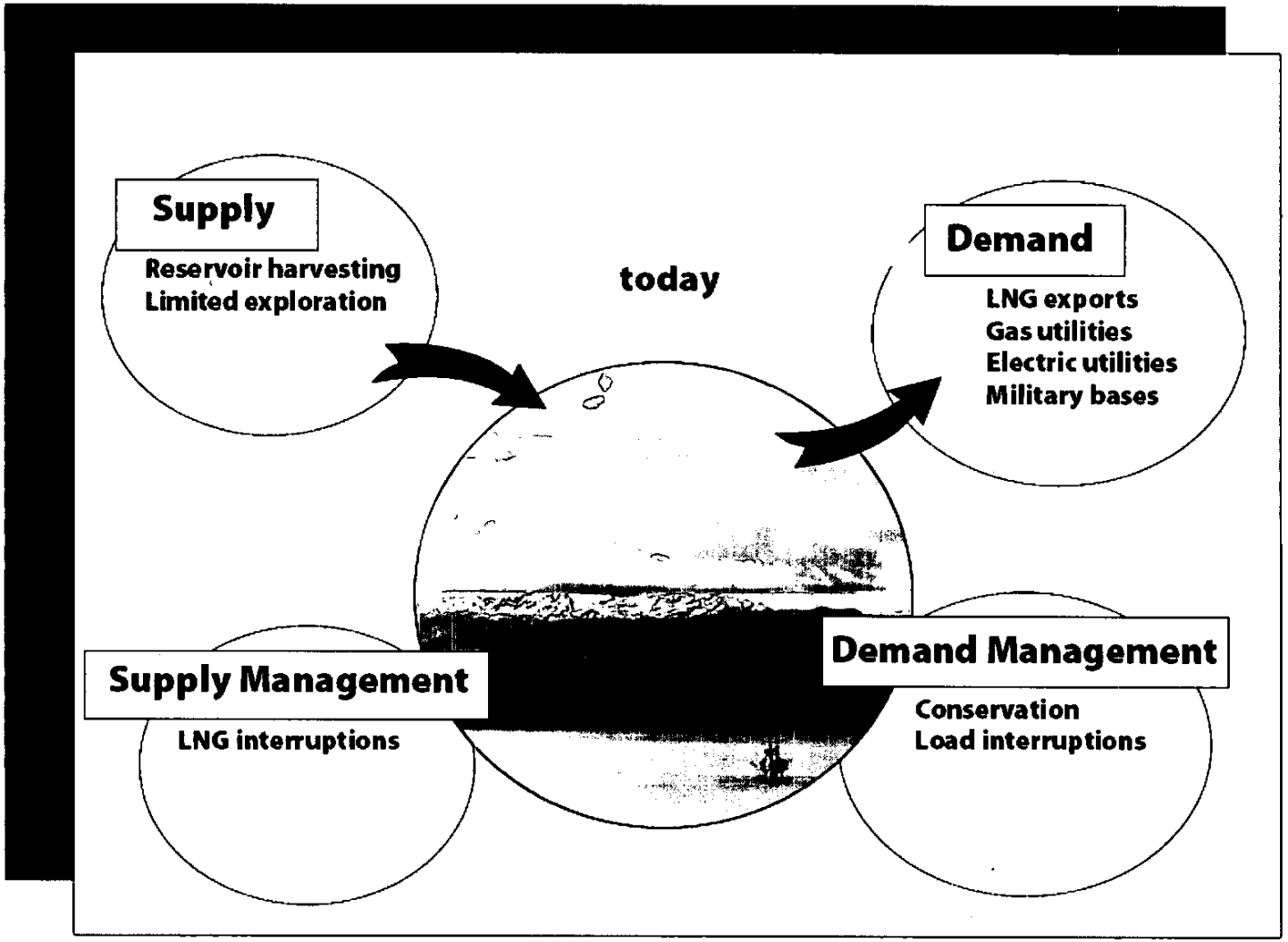
□ Gas ■ Hydro

Future – 10/90

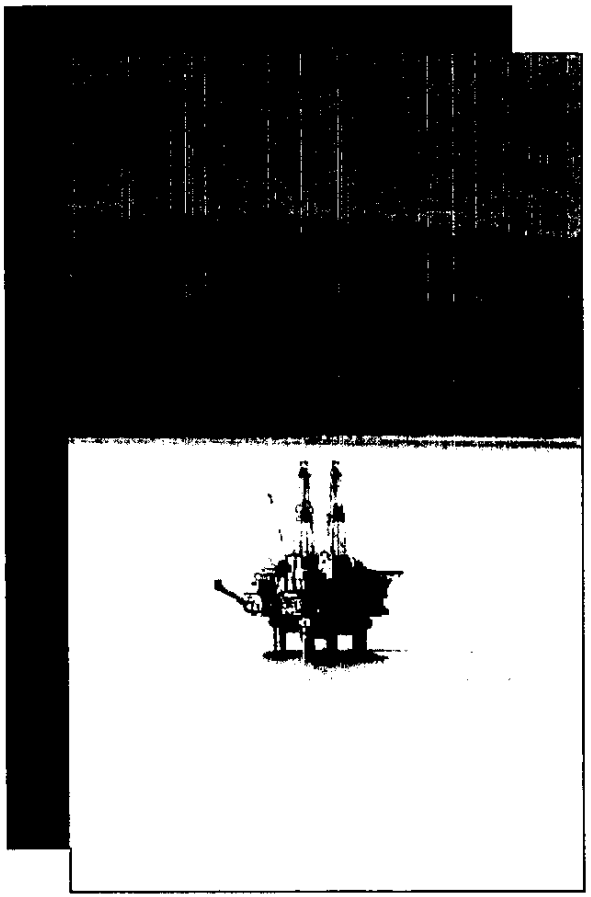


□ Gas ■ Renewable

Cook Inlet Supply Demand Situation Today

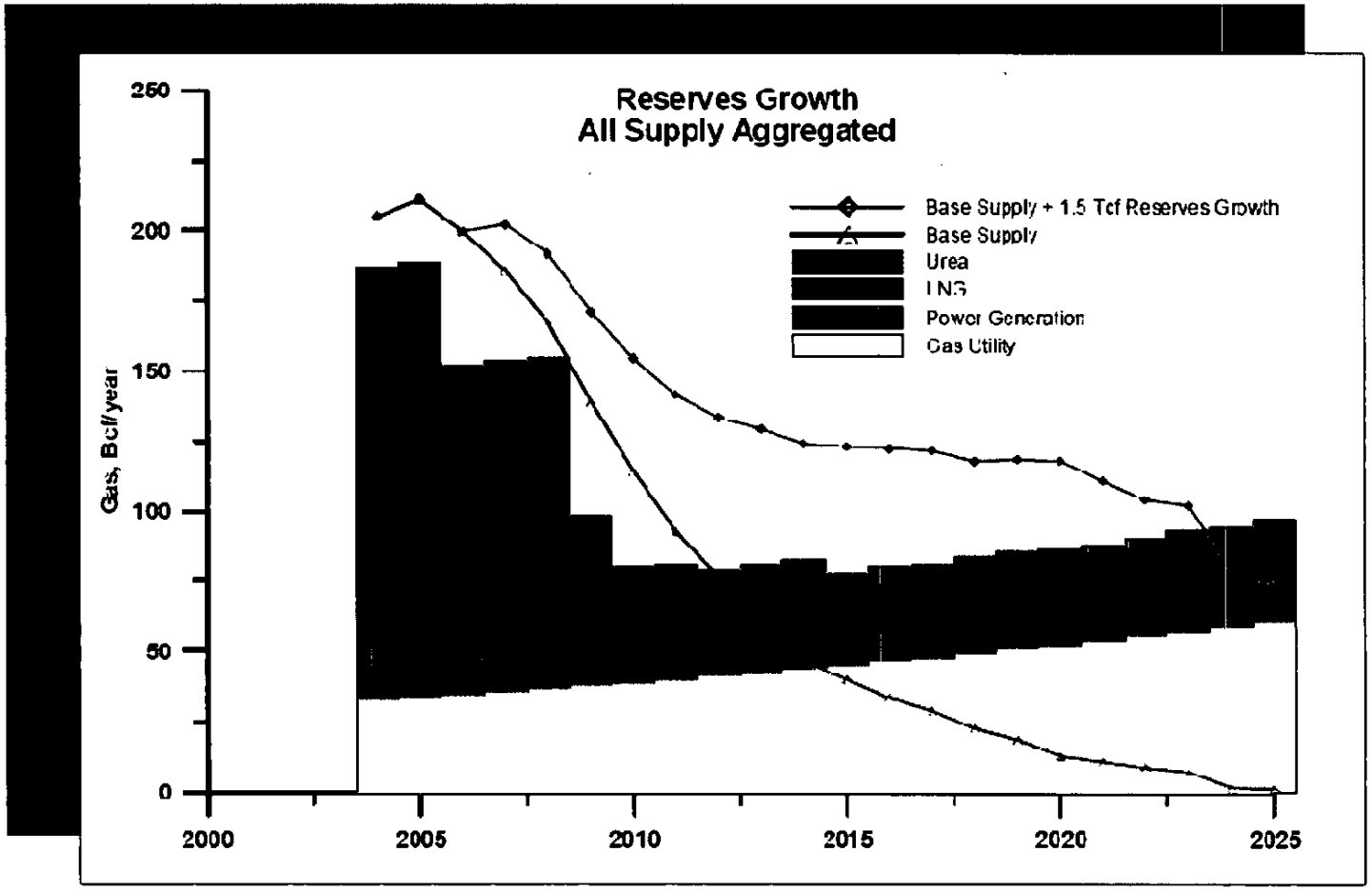


Where will future gas supply come from?



- Cook Inlet Exploration?
- Spur Line?
- Bullet Line?
- LNG Import?
- Alternative fuels?

Without reserves growth, supply will not meet gas demand for utility needs



Slide courtesy of ANGDA

Recommendations

- Cook Inlet Resource Management Plan
- Cook Inlet Public Gas Authority

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

Next Steps

- **Administration taking lead**
- **Detailed scoping of the plan by stakeholders**
  - DOR, ANGDA, DNR, Utilities, other
- **Development of a steering committee**
- **Funding support from legislature**
- **Report due to legislature by date certain**

Cook Inlet Public Gas Authority

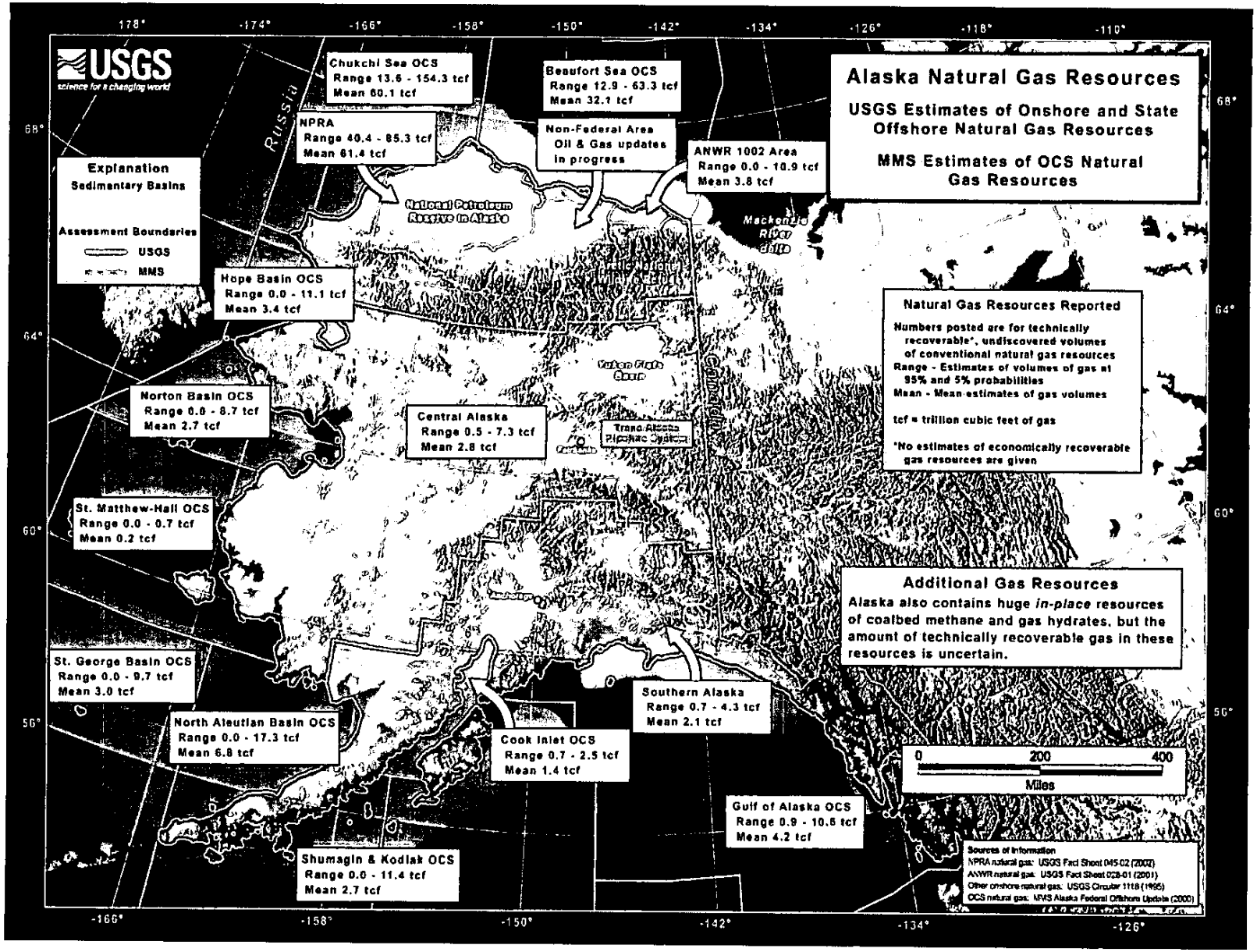
- A non-profit gas agency
- Secure economical, long-term wholesale natural gas for all end-users
- Stabilize and reduce the cost of natural gas for the benefit of all customers
- Members to include electric and gas utilities

Summary

- Utilities are dependent on Cook Inlet natural gas for electric supply
- Affordable electric rates sustain economy
- Gas demand is outpacing supply
- Renewable energy & conservation will help
- Alternatives need to be identified
- Time is of the essence

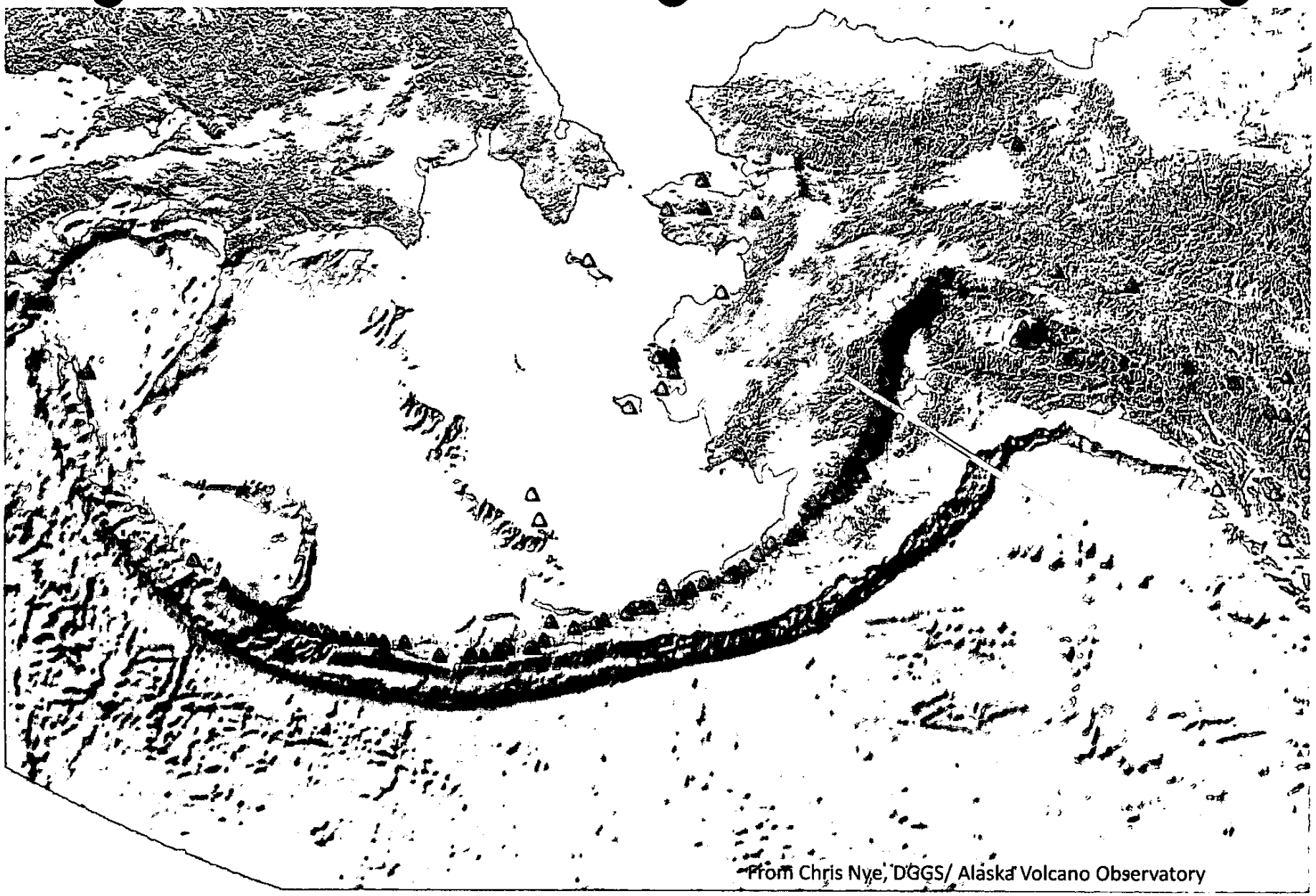
Division of Oil and Gas
House Energy Committee
Cook Inlet Oil & Gas

Kevin R. Banks
Director
March 2009


USGS
science for a changing world
Alaska Natural Gas Resources
USGS Estimates of Onshore and State Offshore Natural Gas Resources
MMS Estimates of OCS Natural Gas Resources
Explanation
Sedimentary Basins
Assessment Boundaries
USGS
MMS
Chukchi Sea OCS
Range 13.6 - 154.3 tcf
Mean 80.1 tcf
Beaufort Sea OCS
Range 12.9 - 63.3 tcf
Mean 32.1 tcf
NPRA
Range 40.4 - 85.3 tcf
Mean 61.4 tcf
Non-Federal Area
Oil & Gas updates
in progress
ANWR 1002 Area
Range 0.0 - 10.9 tcf
Mean 3.8 tcf
National Petroleum Reserve in Alaska
Mackenzie River Delta
Hope Basin OCS
Range 0.0 - 11.1 tcf
Mean 3.4 tcf
Natural Gas Resources Reported
Numbers posted are for technically recoverable*, undiscovered volumes of conventional natural gas resources
Range - Estimates of volumes of gas at 95% and 5% probabilities
Mean - Mean estimates of gas volumes
tcf = trillion cubic feet of gas
*No estimates of economically recoverable gas resources are given
Norton Basin OCS
Range 0.0 - 8.7 tcf
Mean 2.7 tcf
Central Alaska
Range 0.5 - 7.3 tcf
Mean 2.8 tcf
Trans-Alaska Pipeline System
St. Matthew-Hall OCS
Range 0.0 - 0.7 tcf
Mean 0.2 tcf
Additional Gas Resources
Alaska also contains huge in-place resources of coalbed methane and gas hydrates, but the amount of technically recoverable gas in these resources is uncertain.
St. George Basin OCS
Range 0.0 - 9.7 tcf
Mean 3.0 tcf
Southern Alaska
Range 0.7 - 4.3 tcf
Mean 2.1 tcf
North Aleutian Basin OCS
Range 0.0 - 17.3 tcf
Mean 6.8 tcf
Cook Inlet OCS
Range 0.7 - 2.5 tcf
Mean 1.4 tcf
0 200 400
Miles
Gulf of Alaska OCS
Range 0.9 - 10.6 tcf
Mean 4.2 tcf
Shumagin & Kodiak OCS
Range 0.0 - 11.4 tcf
Mean 2.7 tcf
Sources of Information
NPRA natural gas: USGS Fact Sheet 045-02 (2002)
ANWR natural gas: USGS Fact Sheet 028-01 (2001)
Other onshore natural gas: USGS Circular 1118 (1995)
OCS natural gas: MMS Alaska Federal Offshore Update (2000)
178° -174° -166° -158° -150° -142° -134° -126° -118° -110°
68° 64° 60° 56°

Cook Inlet Geology

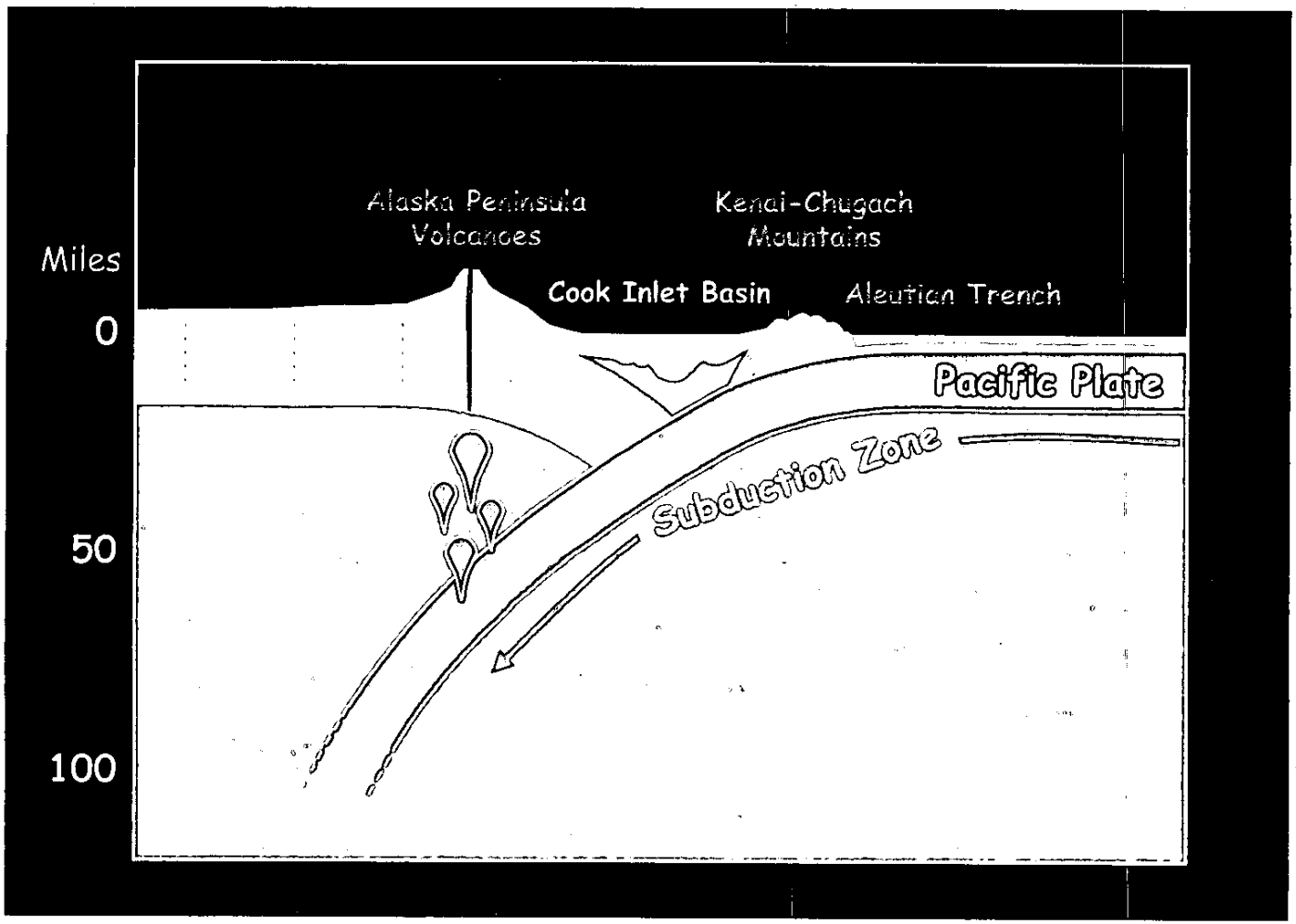
1646



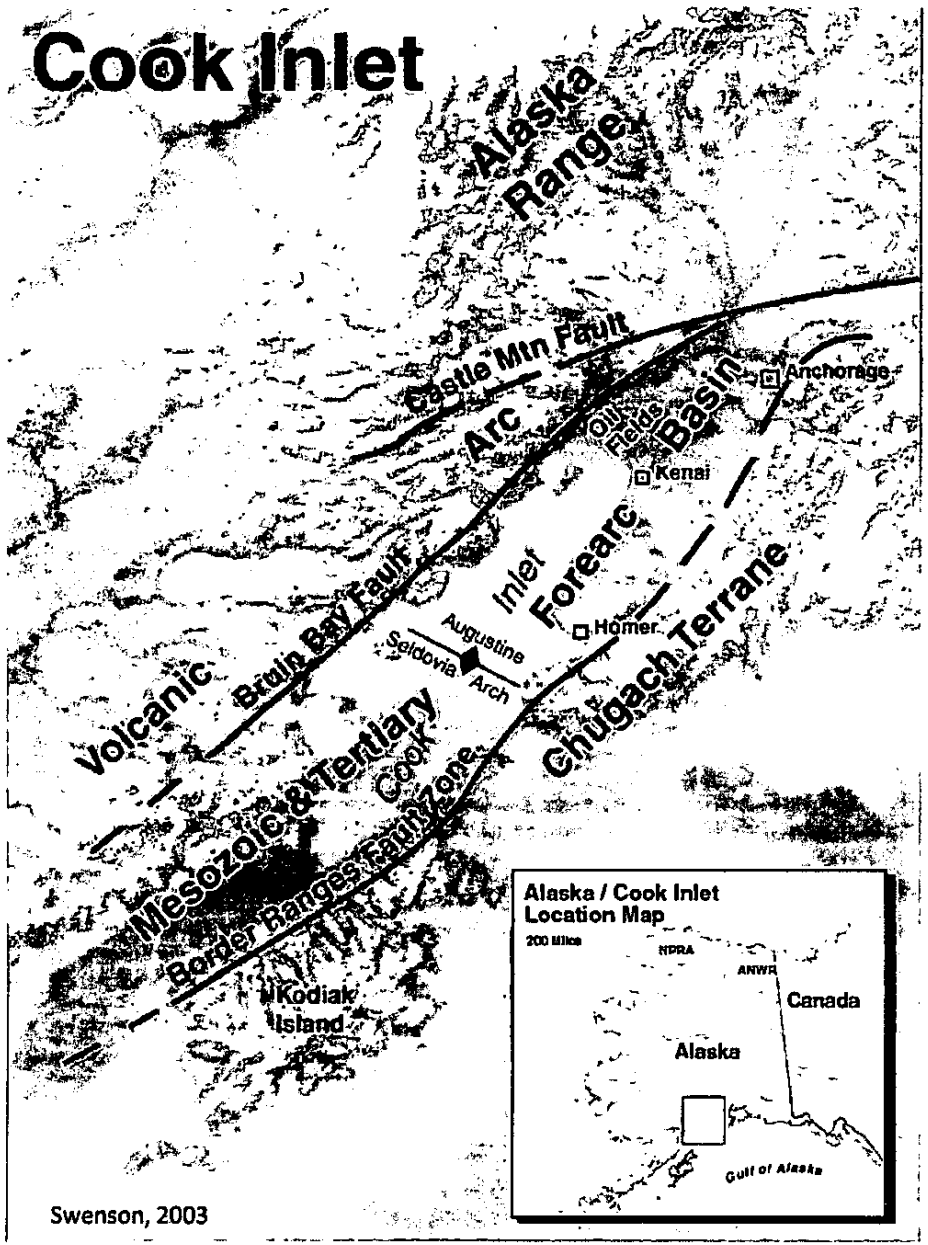
From Chris Nye, DGGS/ Alaska Volcano Observatory

UPPER COOK INLET BASIN
Basin / Reservoir Origins

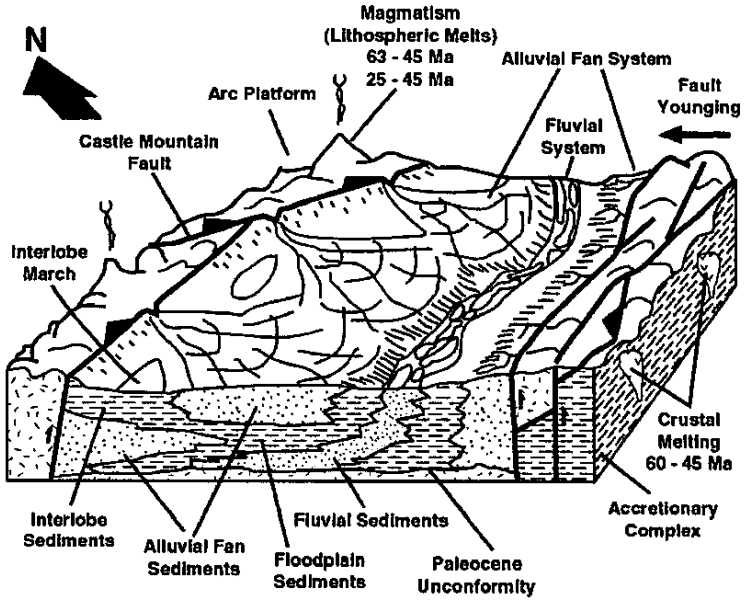
NW SE

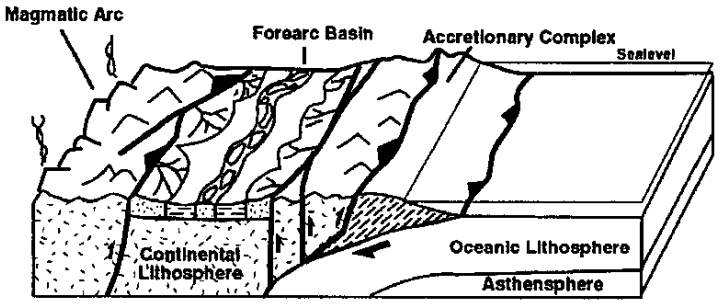


Modified from:
Tornqvist, T., 2005, Principles of Sedimentology and Stratigraphy, University of Chicago, http://www.uic.edu/classes/geol/eaes350/



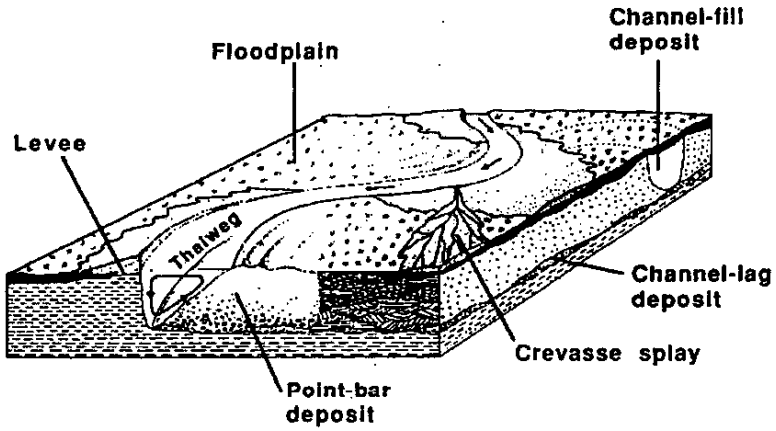
Importance of Provenance

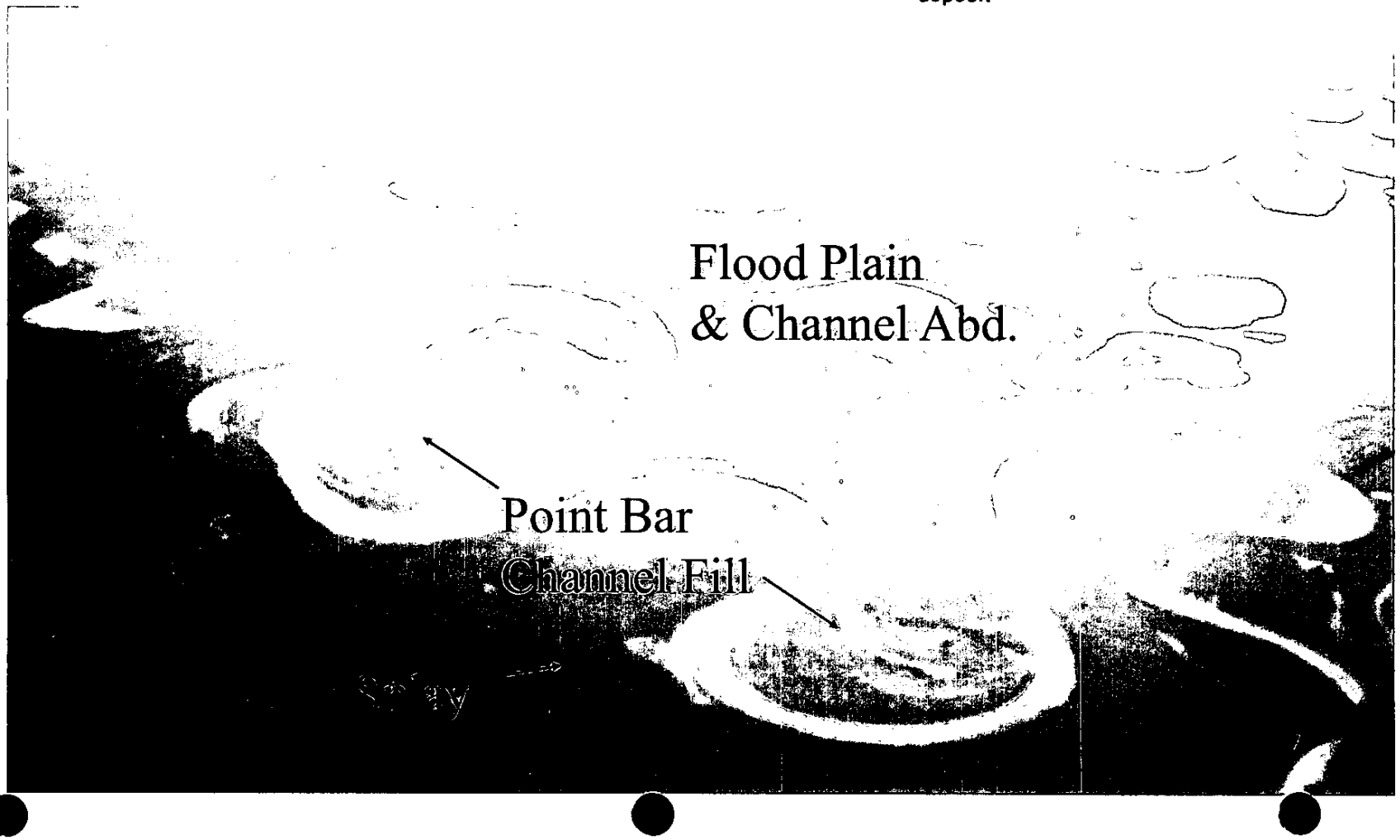




McGowen, et. al., 1994

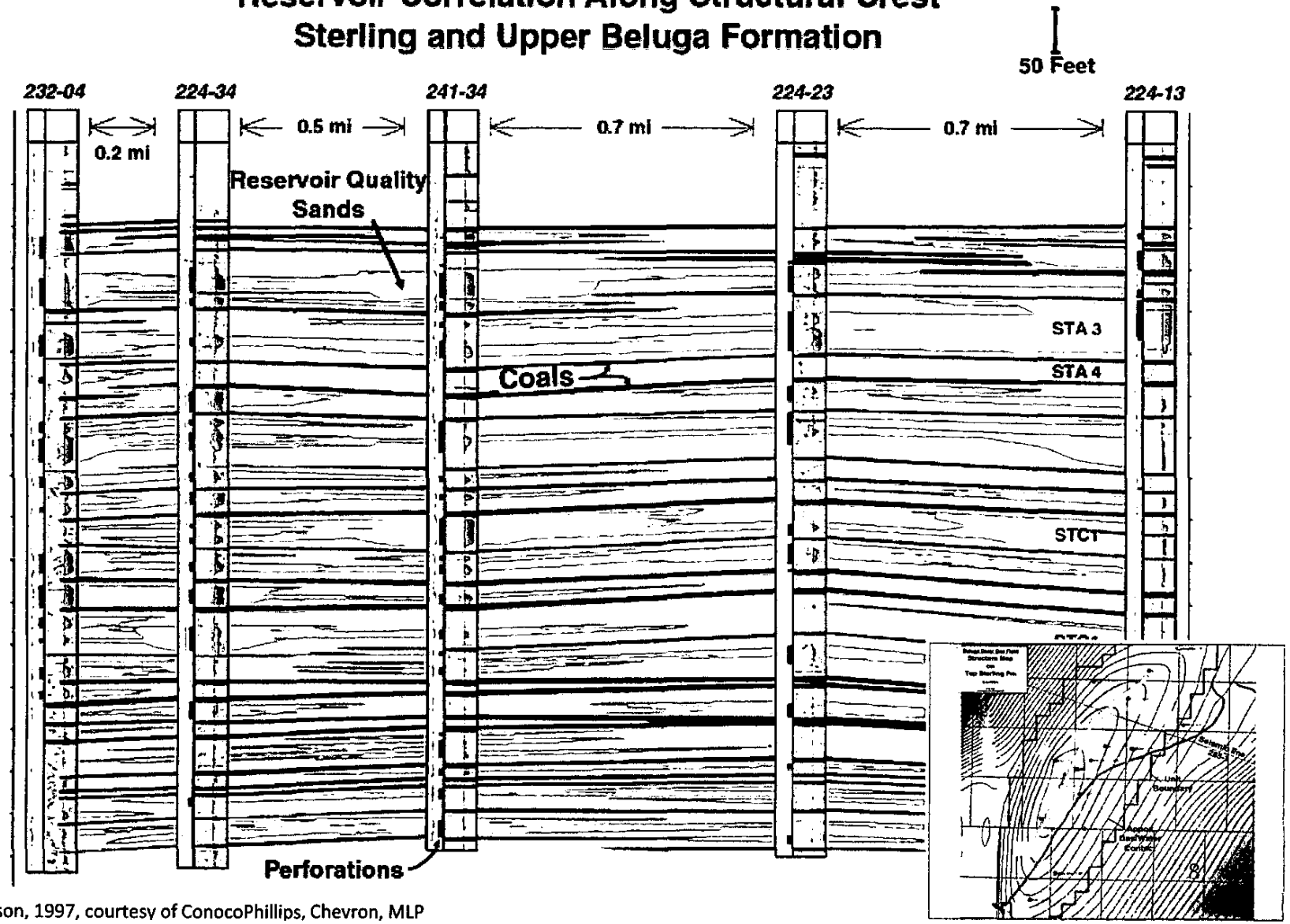
Tertiary Basin Depositional Systems





Sand Distribution in a Fluvial System

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

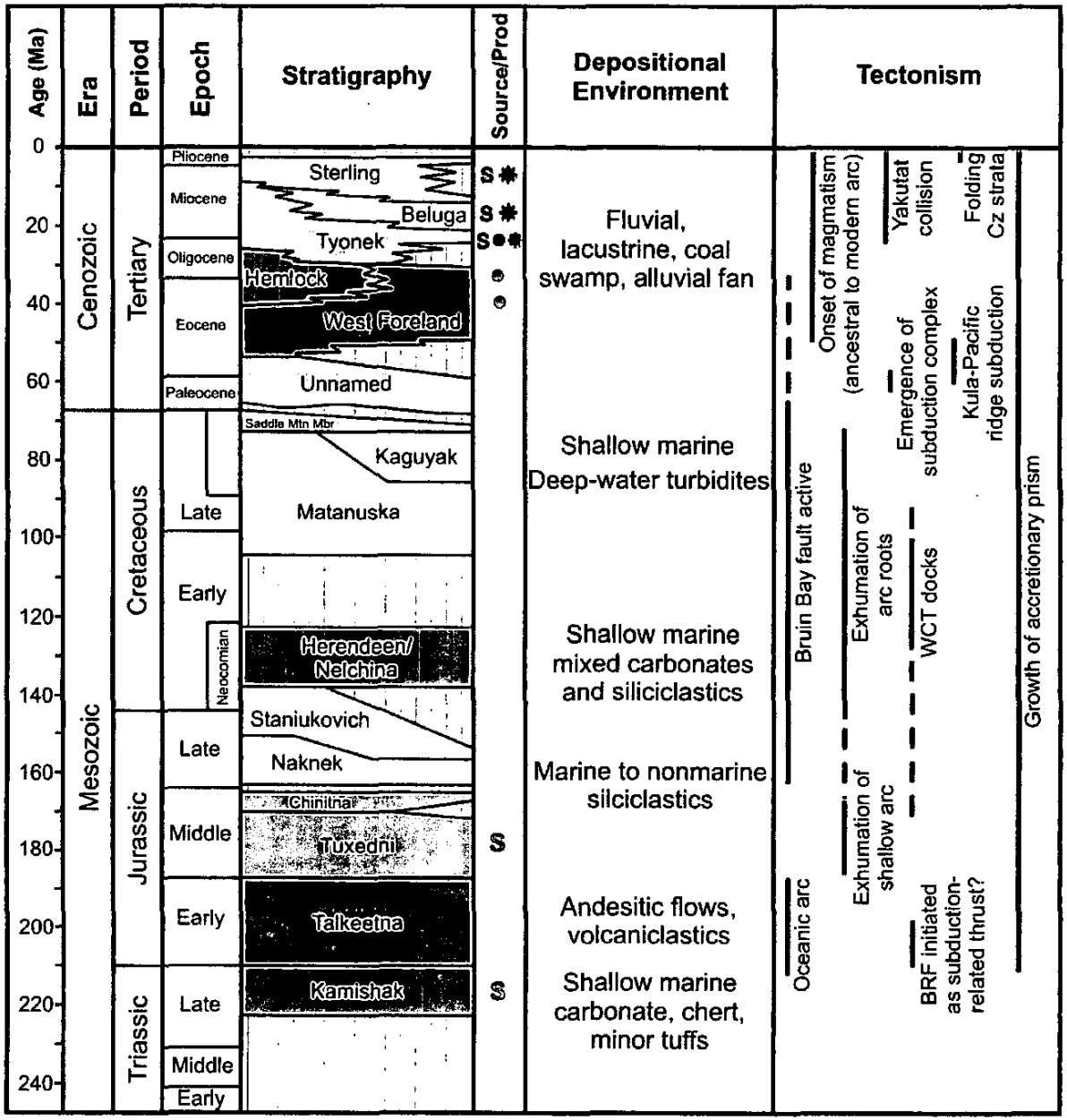


From Swenson, 1997, courtesy of ConocoPhillips, Chevron, MLP

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

Up to 25,000 feet of Tertiary age nonmarine strata

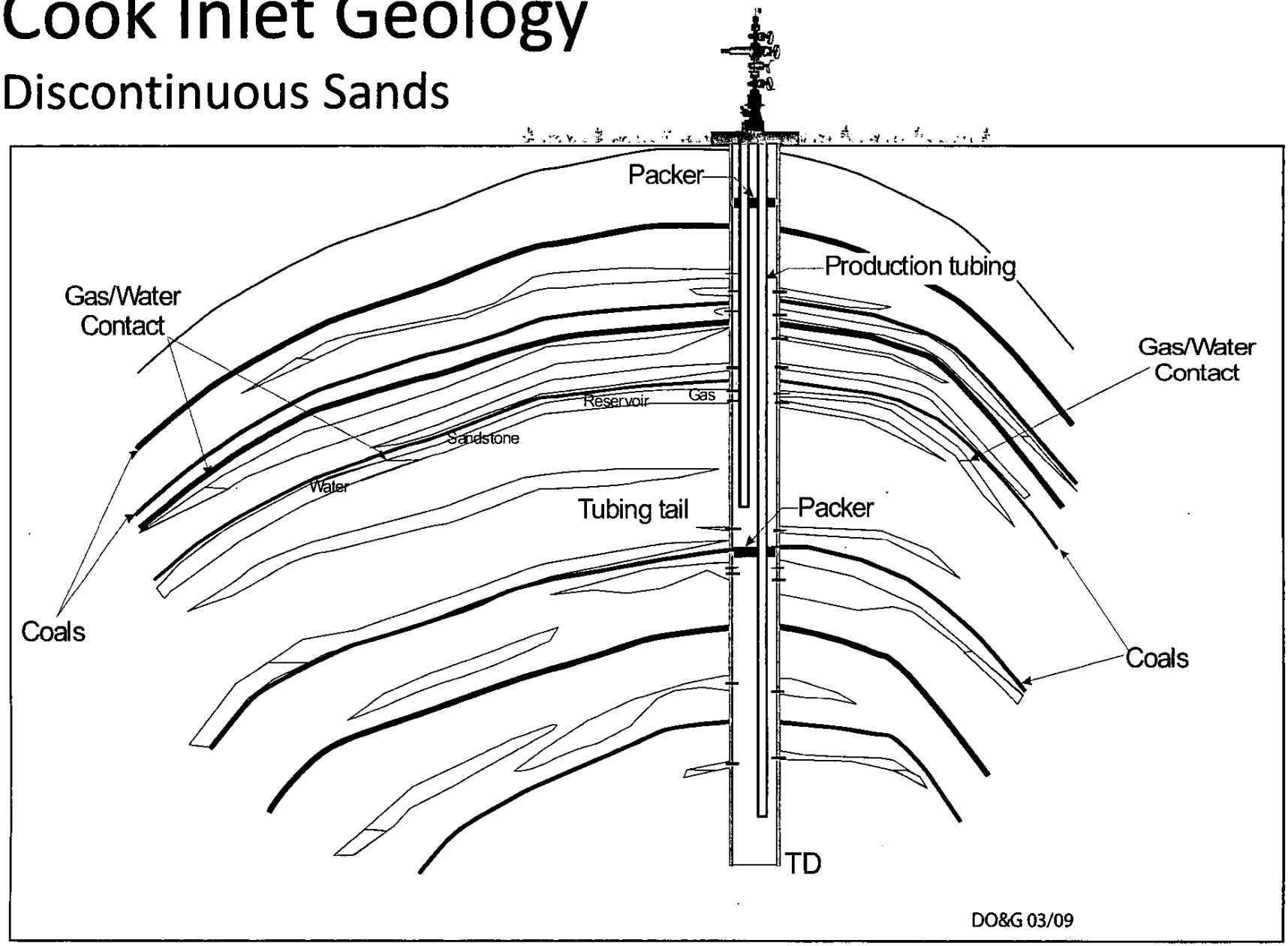
Basin fill modified by folding and faulting



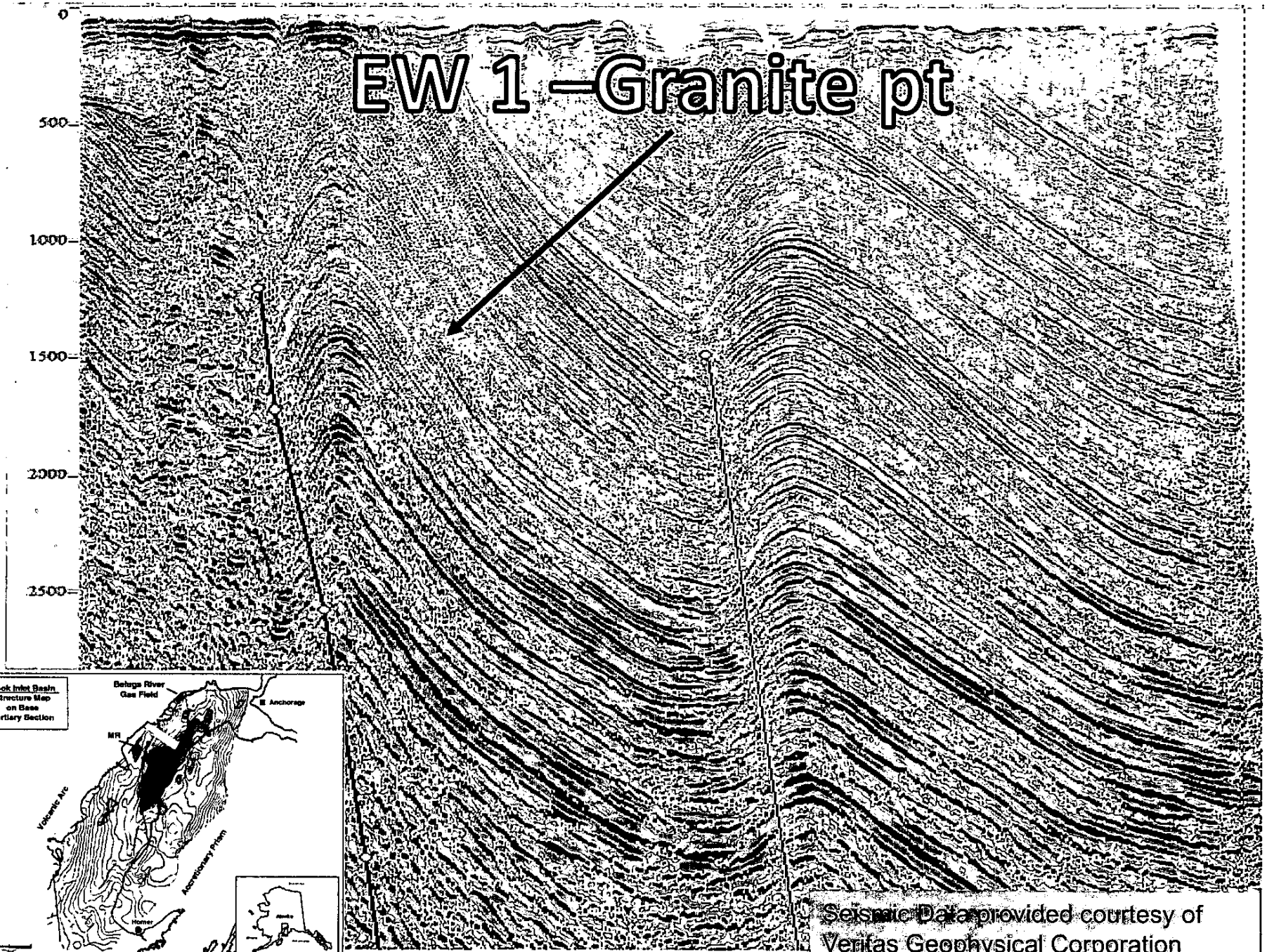
Modified from Curry and others (1993) and Swenson (2002)

Cook Inlet Geology

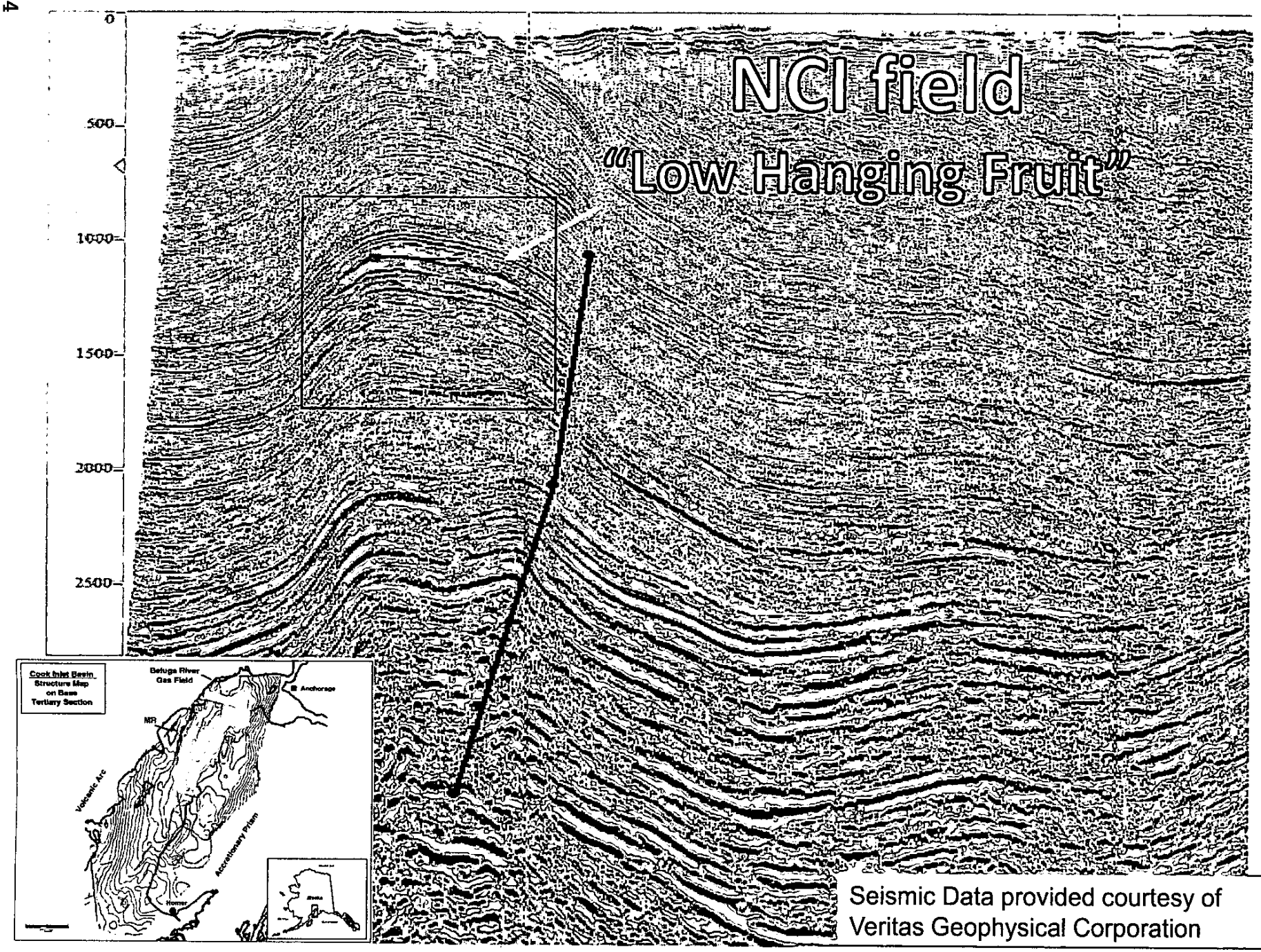
Discontinuous Sands



EW 1 – Granite pt

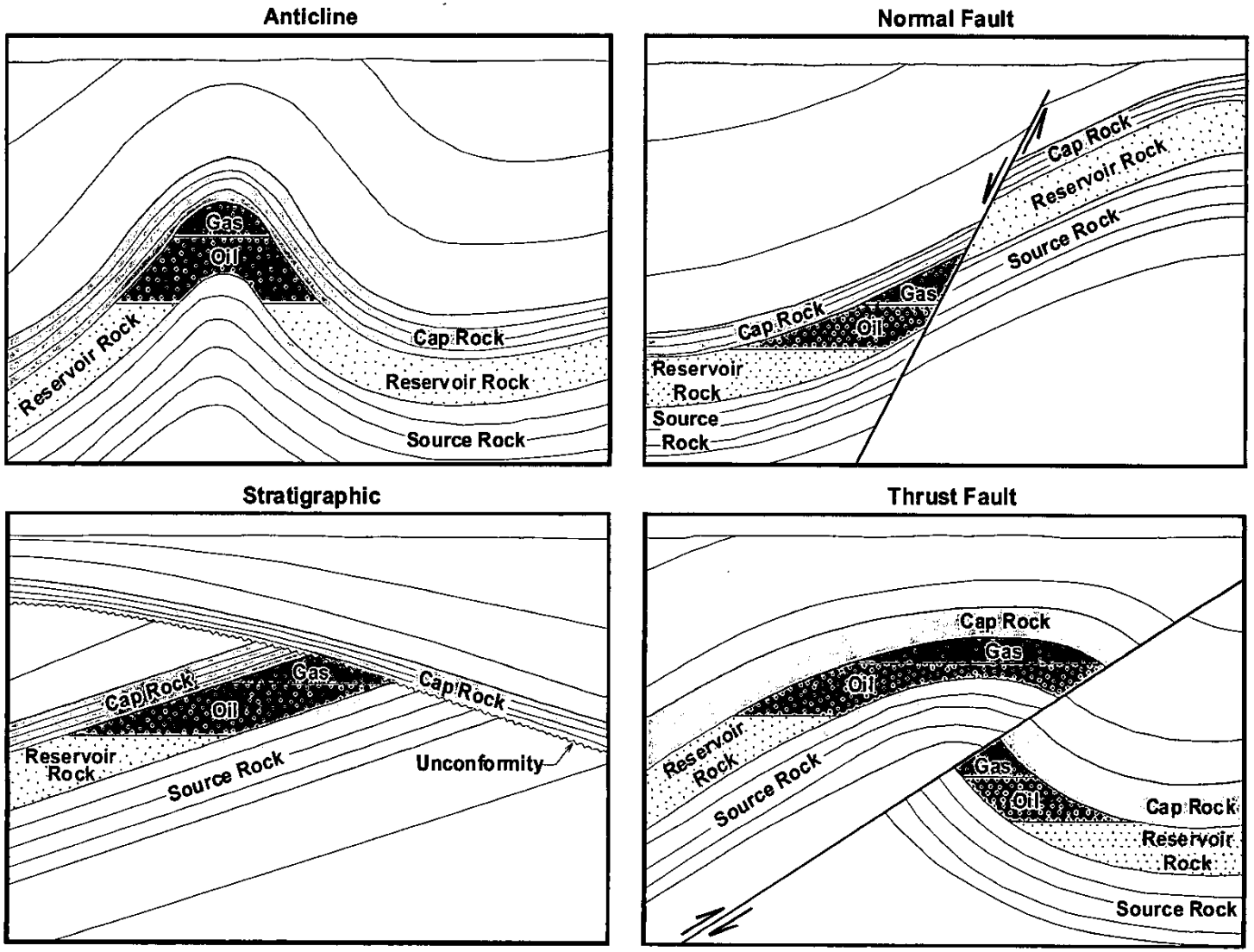


Seismic Data provided courtesy of
Veritas Geophysical Corporation

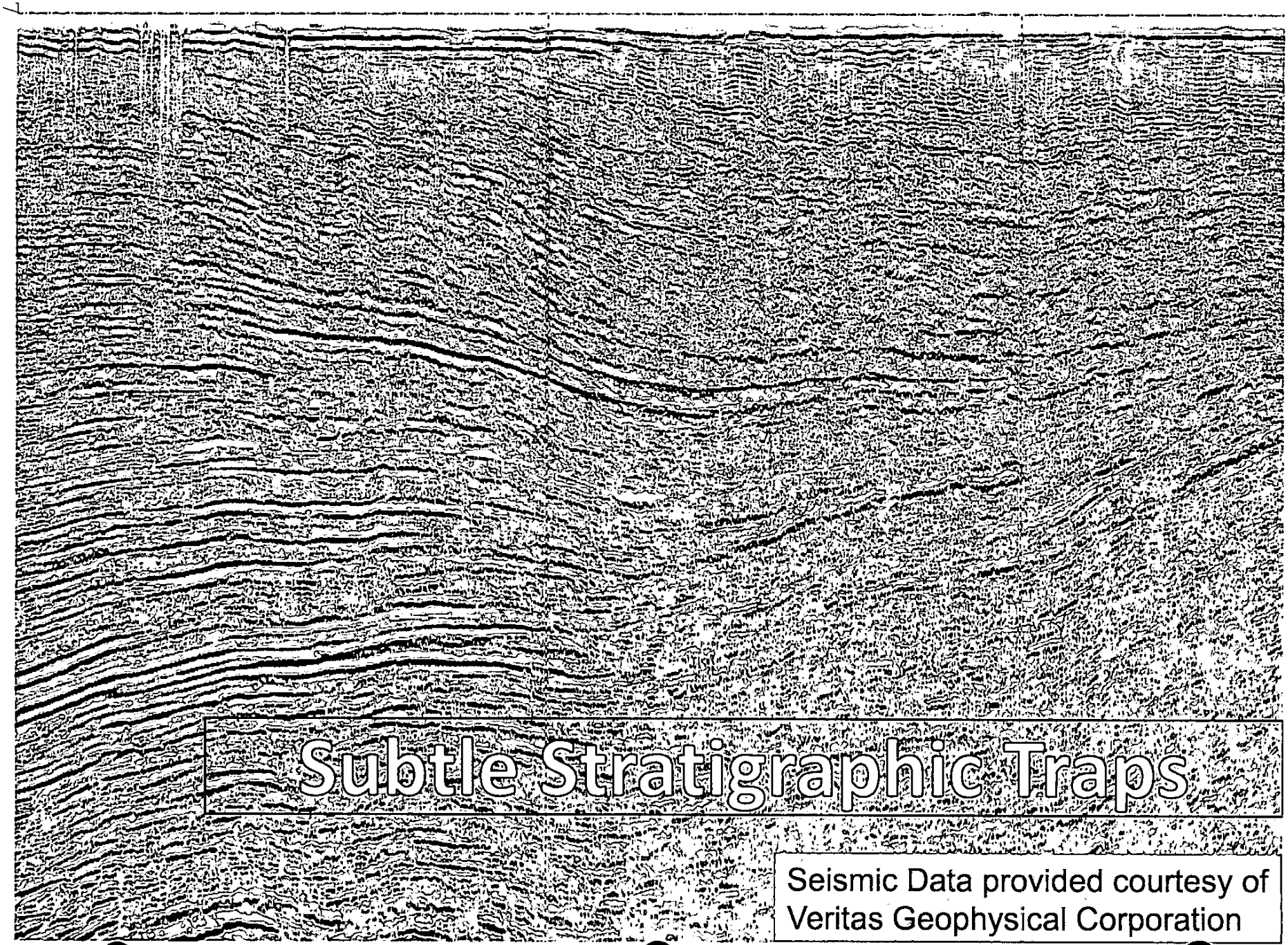

NCI field
"Low Hanging Fruit"
0
500
1000
1500
2000
2500
Cook Inlet Basin
Structure Map
on Base
Tertiary Section
Beluga River
Gas Field
Anchorage
MP
Volcanic Arc
Accretionary Prism
Hawaii
Alaska
Seismic Data provided courtesy of
Veritas Geophysical Corporation

NC field
"Flat-Spots"
Seismic Data provided courtesy of
Veritas Geophysical Corporation

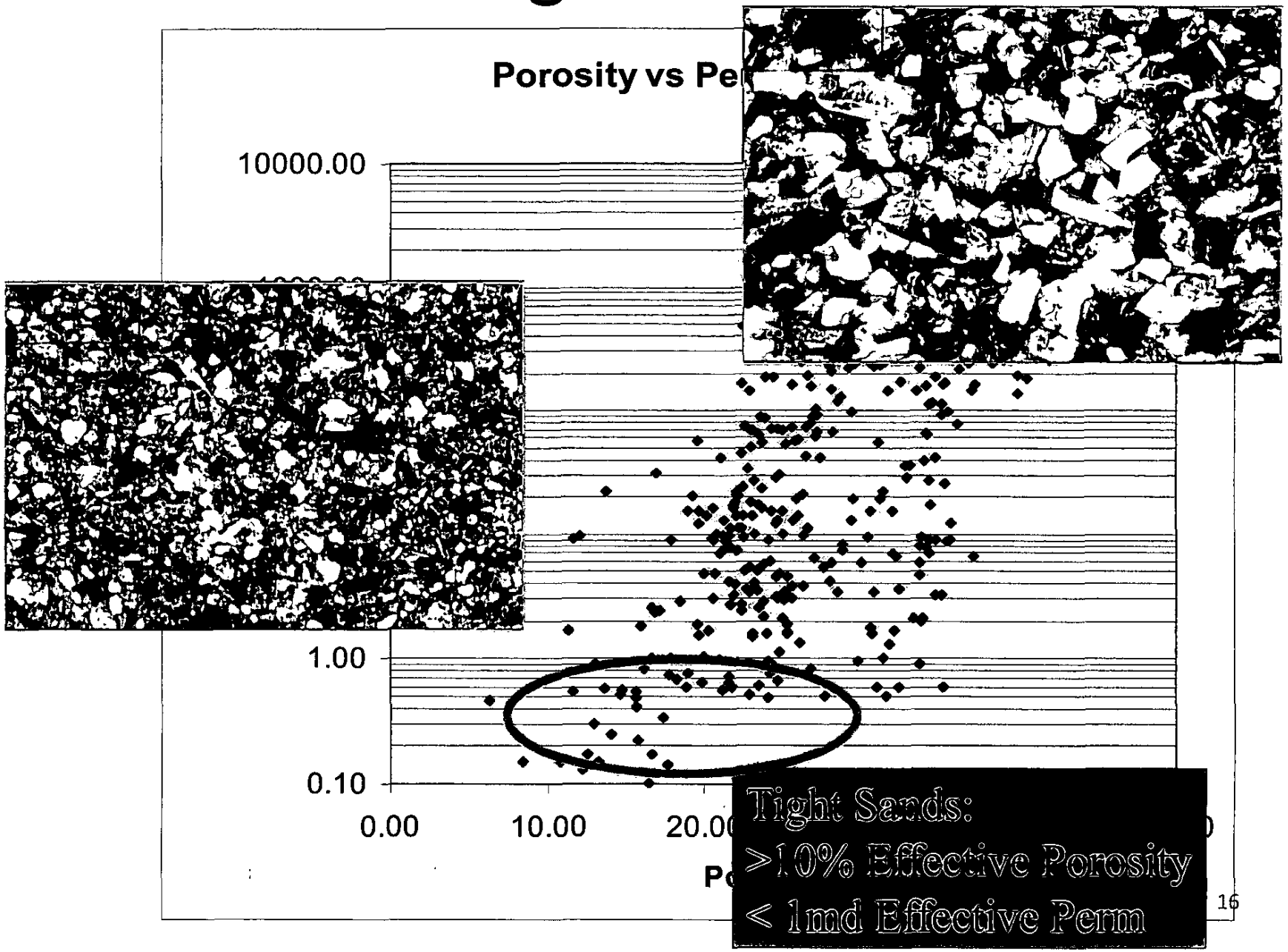
New Gas from New Exploration Play Types



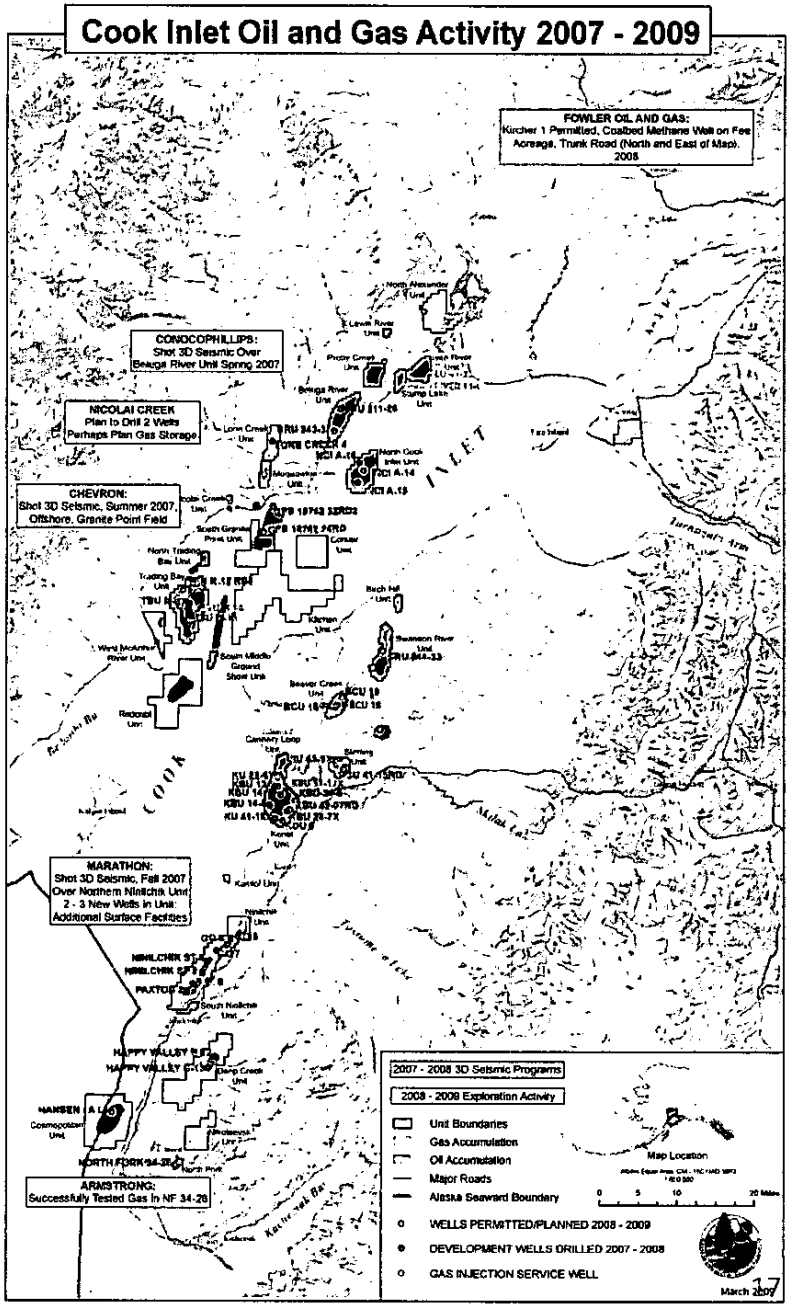
Oil and Gas Trapping Mechanisms


Subtle Stratigraphic Traps
Seismic Data provided courtesy of
Veritas Geophysical Corporation

Tight Gas Sands

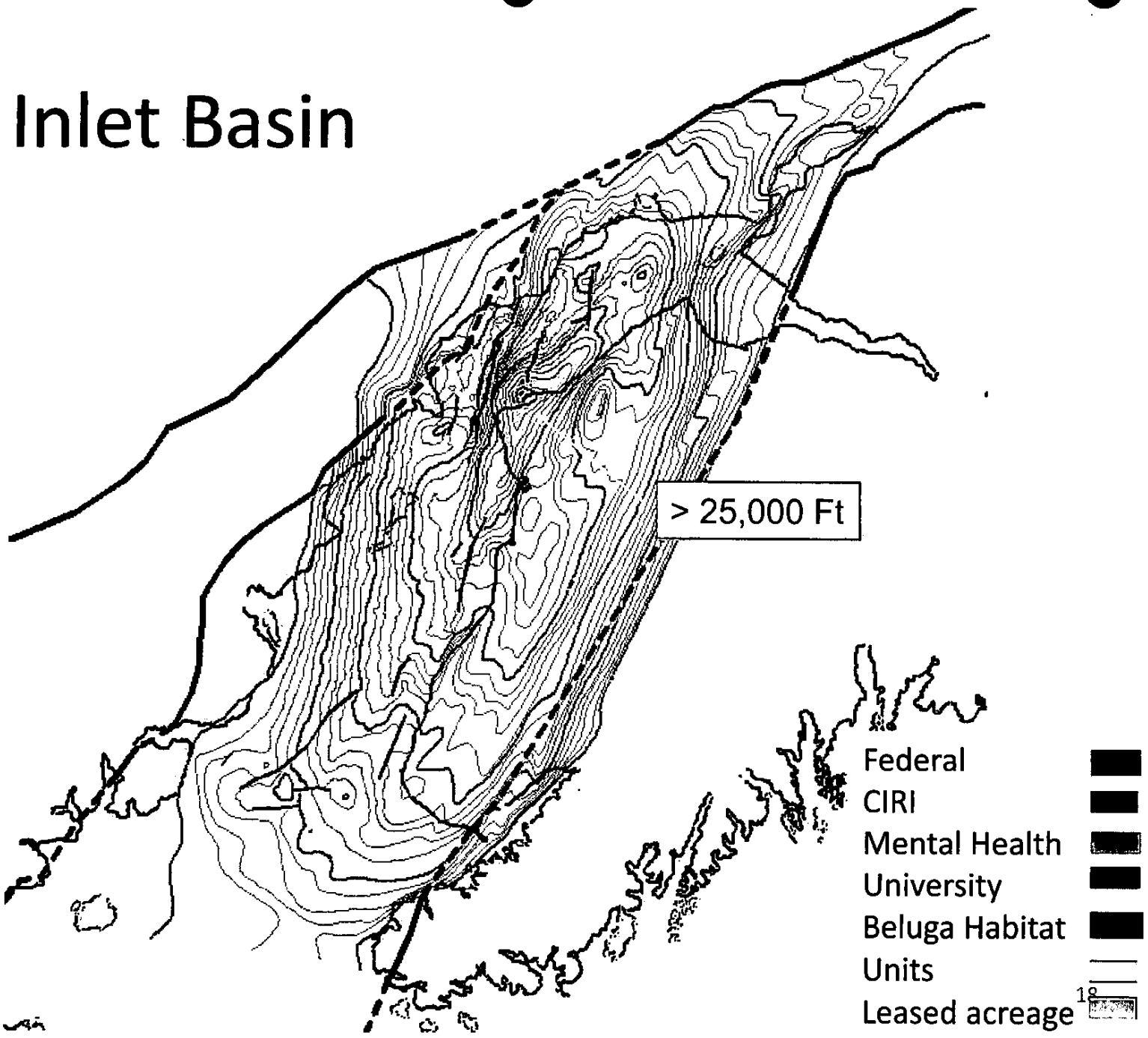


Cook Inlet Industry Activity



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

Cook Inlet Basin



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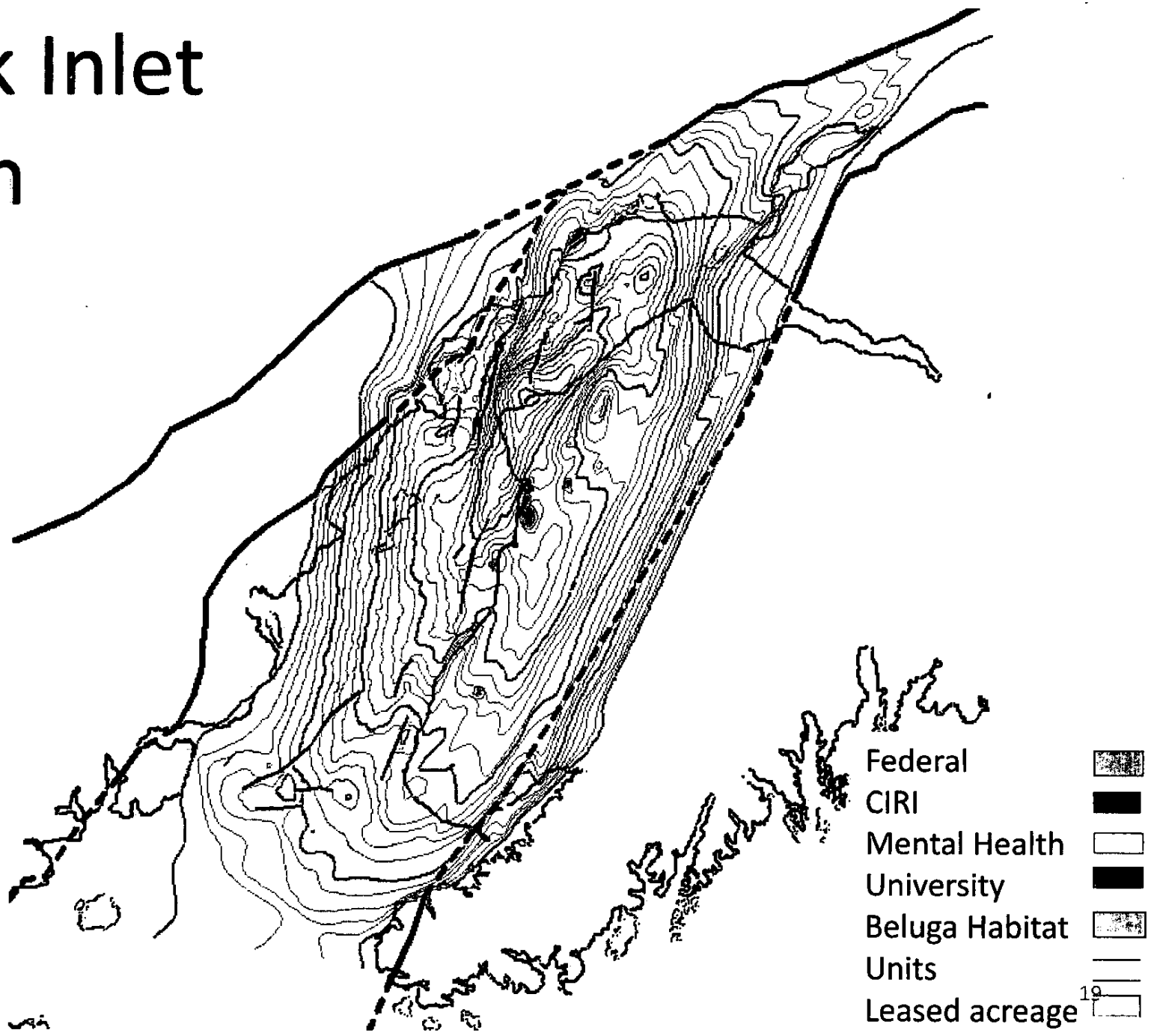
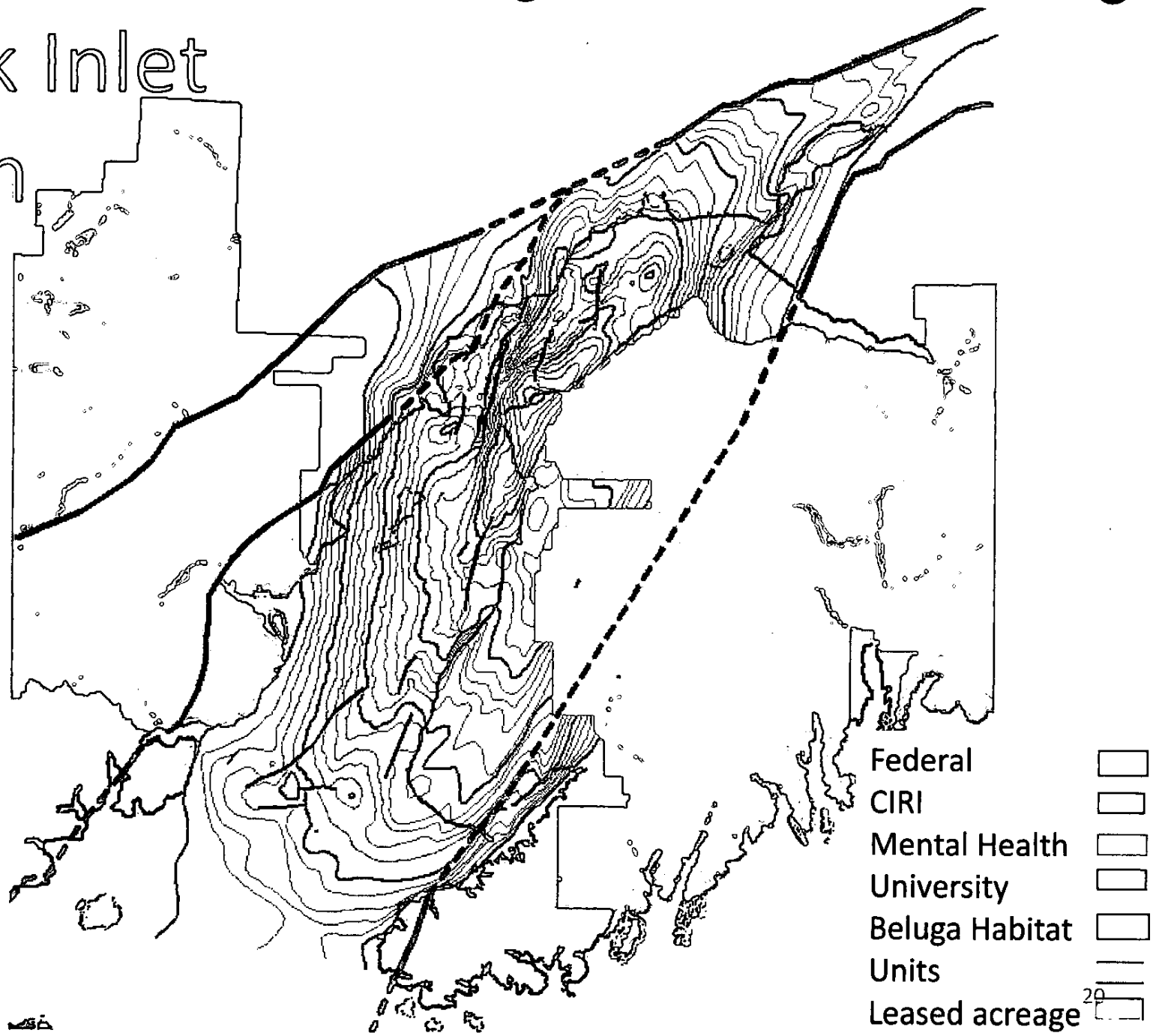
Cook Inlet Basin

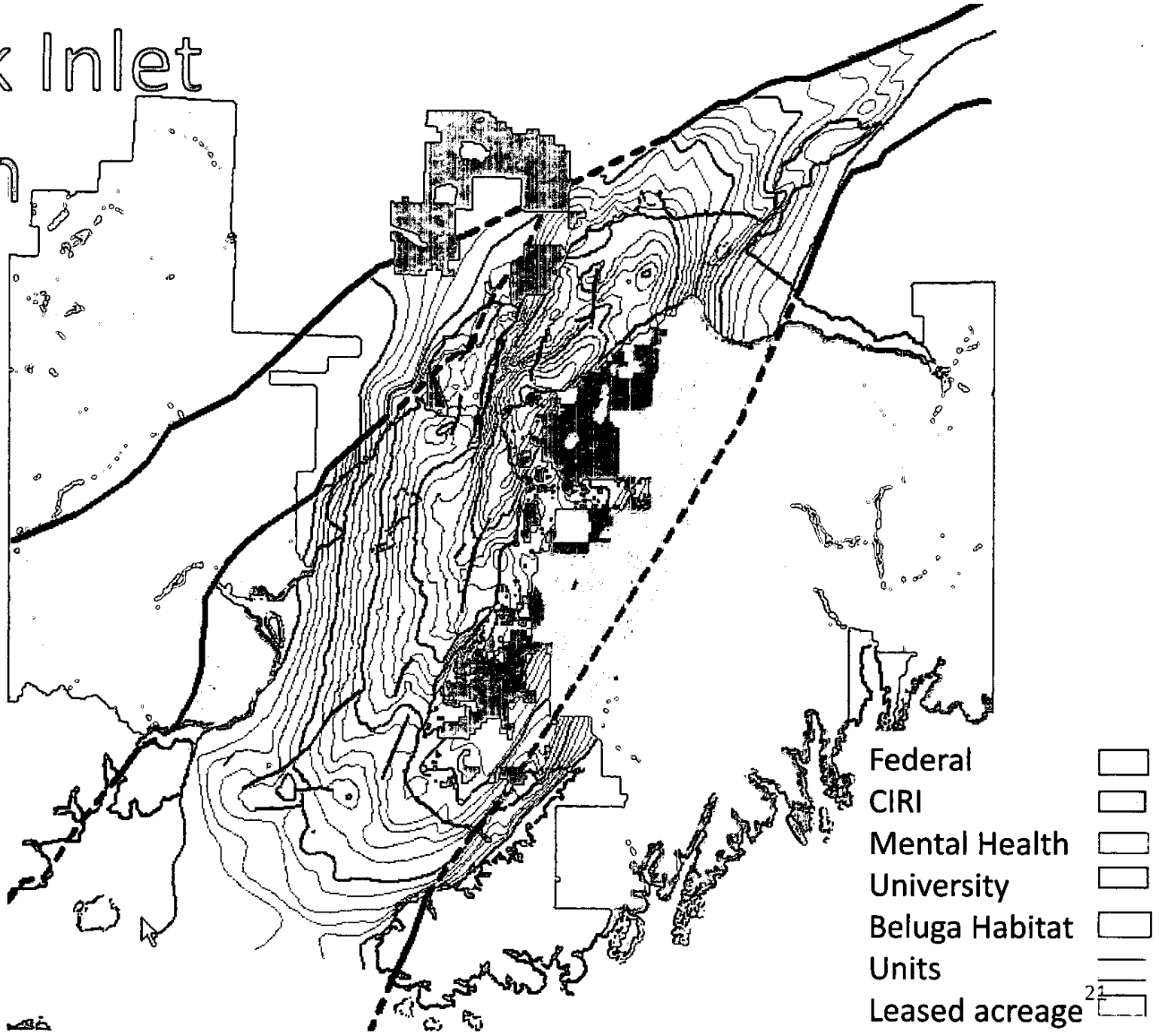


Cook Inlet Basin

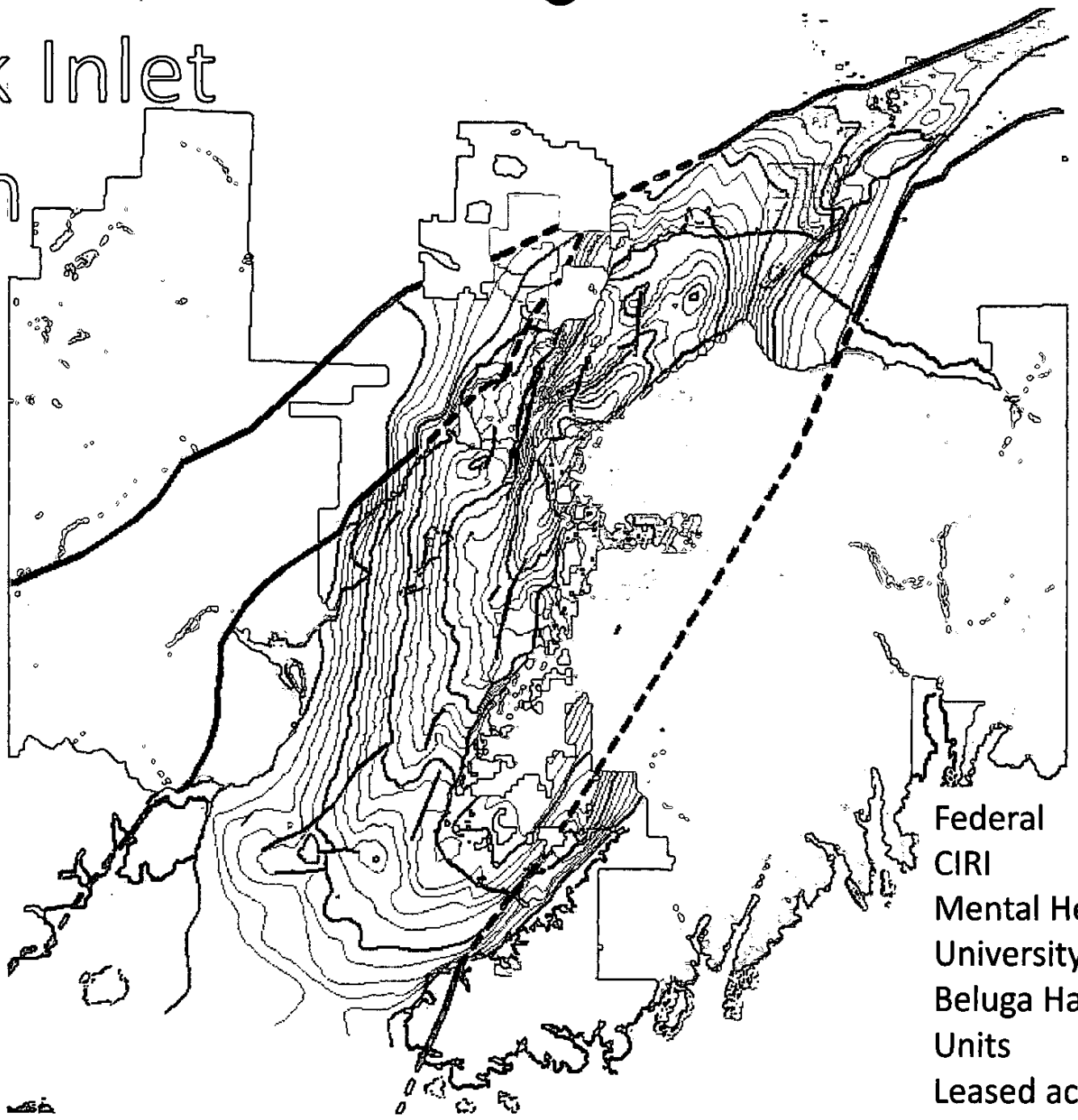


1663

Cook Inlet Basin



Cook Inlet Basin



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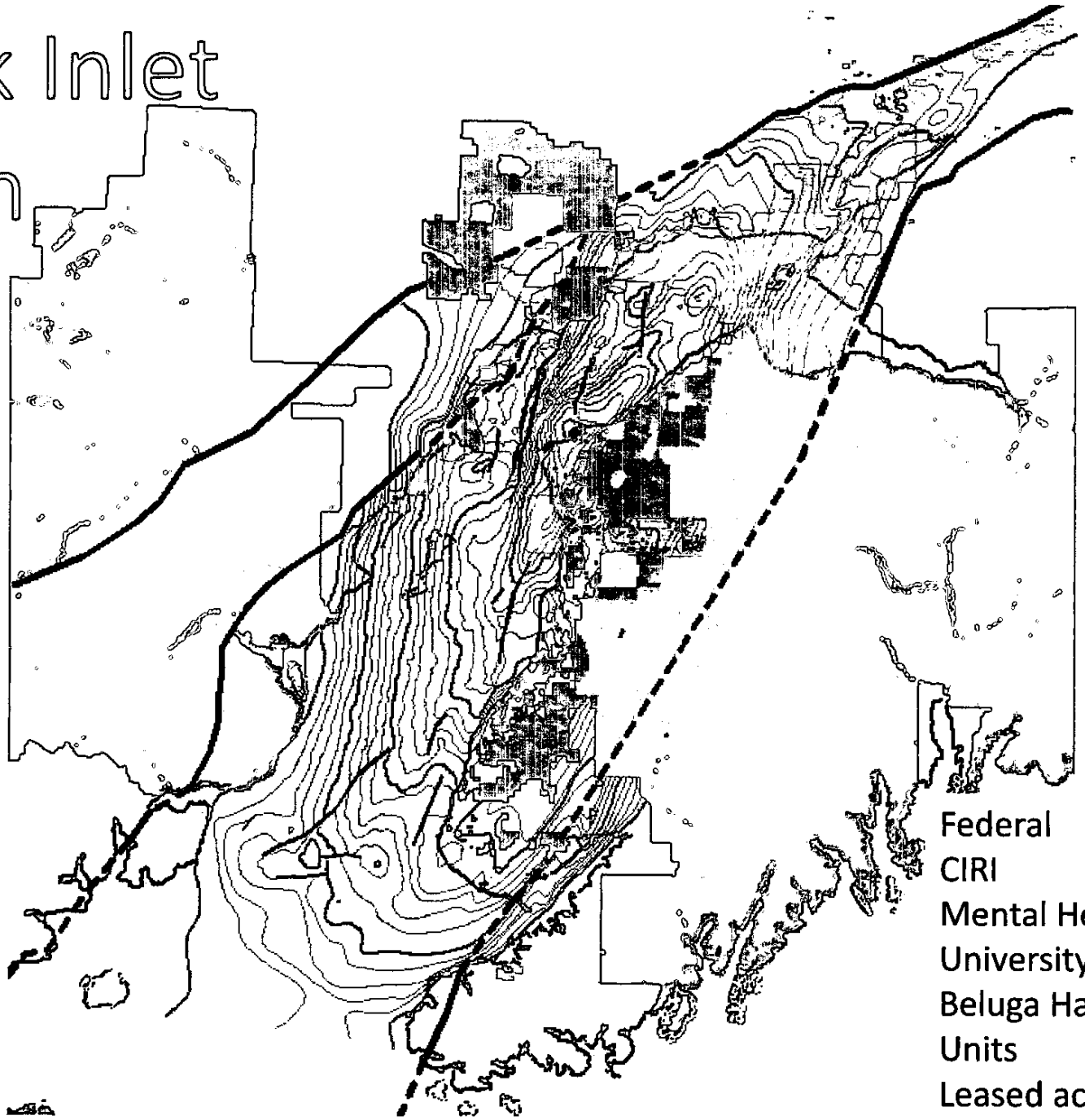
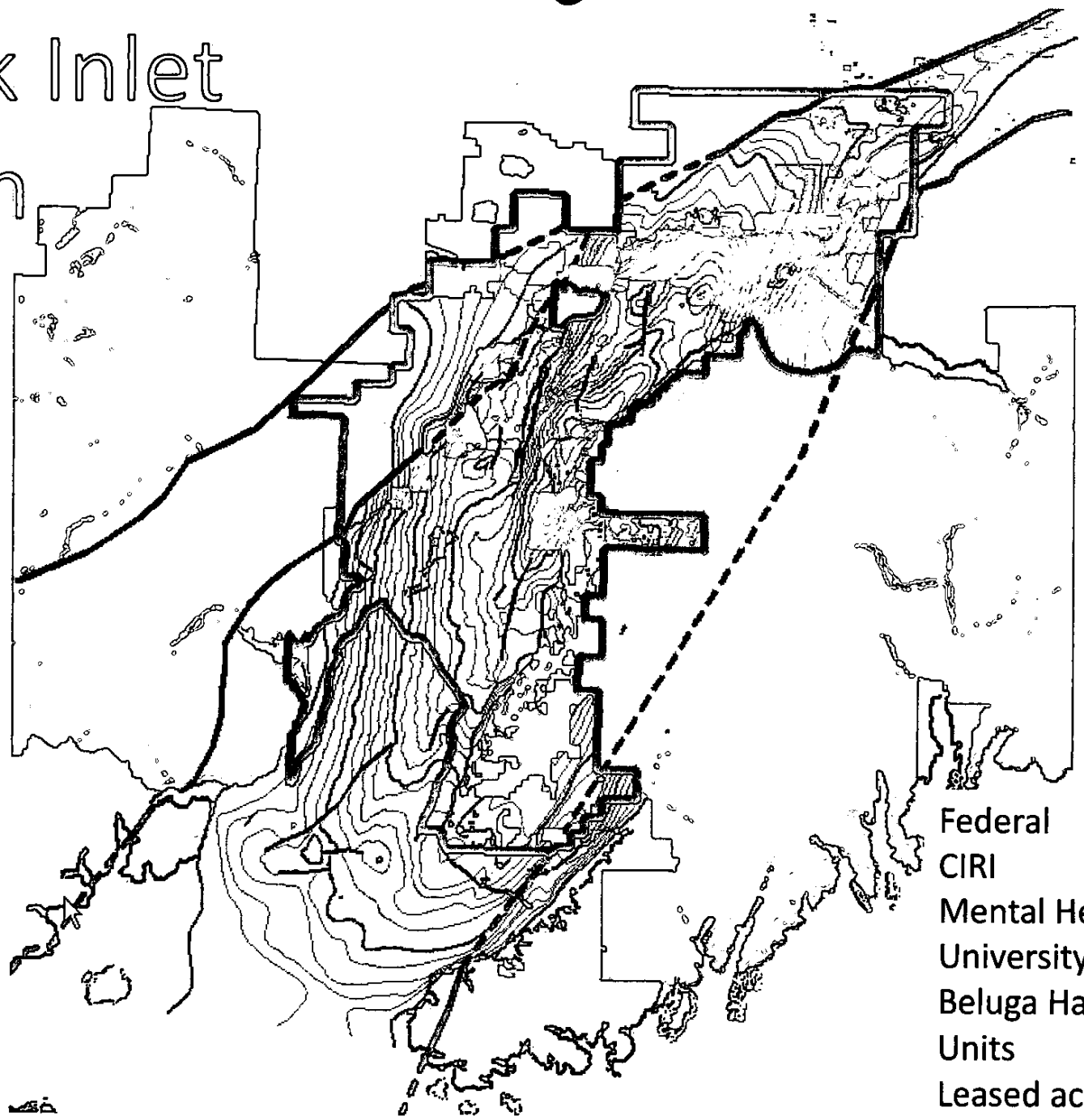
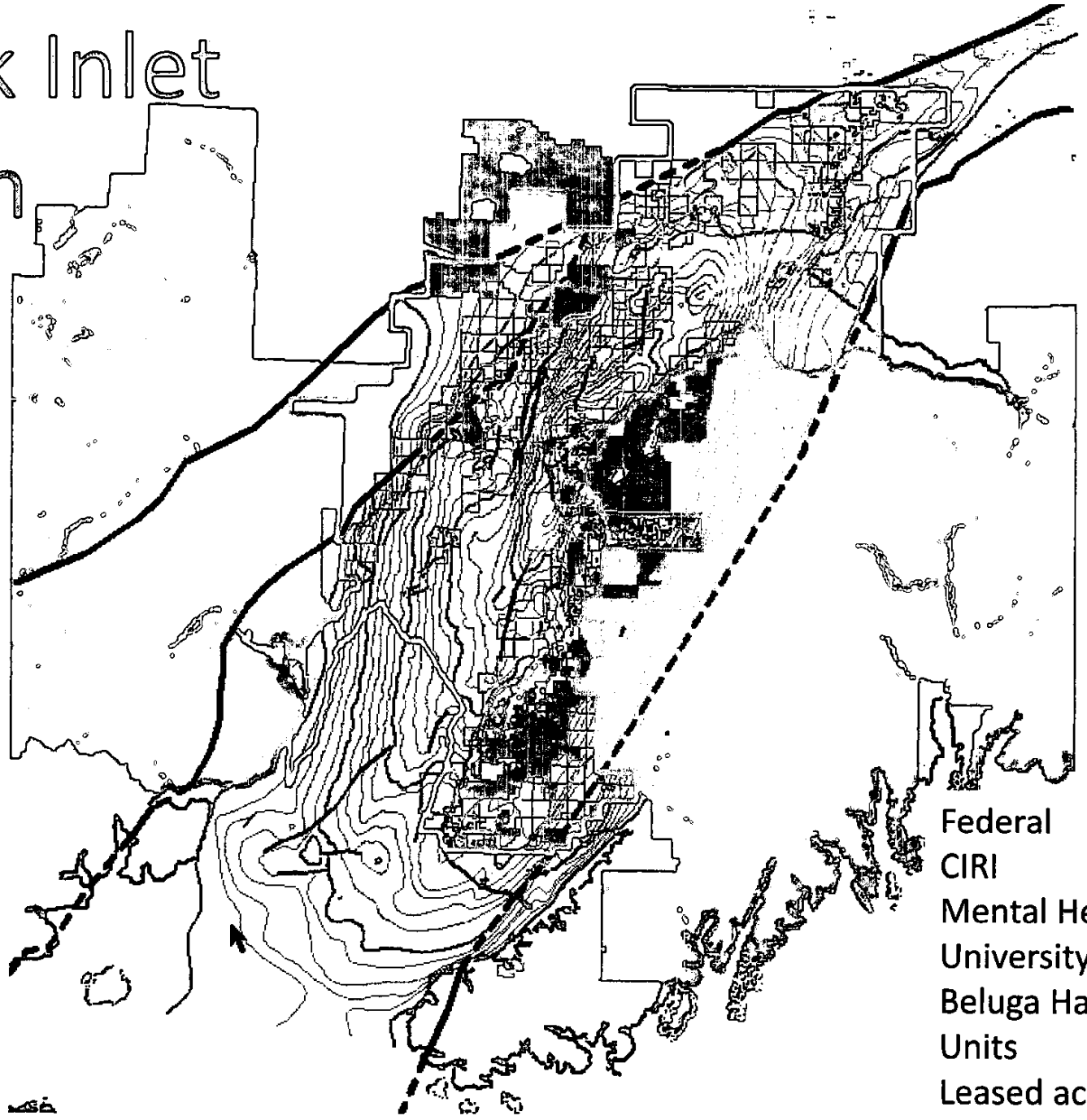
Cook Inlet Basin



Cook Inlet Basin



Cook Inlet Basin



History of Oil and Gas in Cook Inlet

Oil & Gas Cook Inlet Milestones: 1800s-1940s

1800s: Oil seeps documented along Gulf of Alaska

Early to Mid-1900s: The search for oil continues

1890s
- Oil claims staked on Iniskin Peninsula at Oil Bay

1896
- Oil claims staked at Katalla

1890s

1902
- Oil discovered Katalla
- Wells drilled on Iniskin Peninsula at Dry Bay

1902

1910
- Alaska lands withdrawn from leasing due to oil glut

1910

1920
- Shallow well drilled Anchorage
- Alaska lands reopened for leasing

1928
- Shallow well drilled Chickaloon

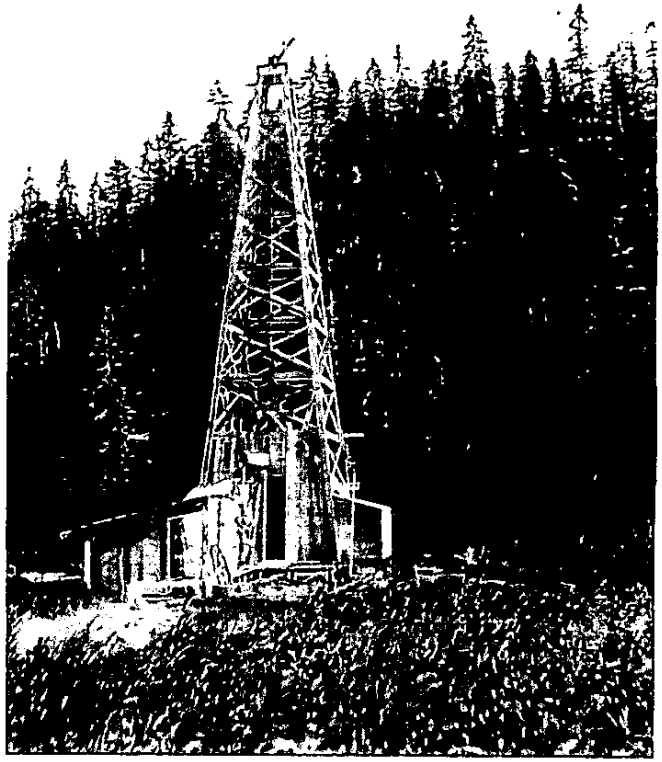
1920

1920s-1940s
- Further exploration on Alaska Peninsula, Iniskin Peninsula, Gulf of Alaska, with no commercial success

1930-1949

1670

Katalla



The Early Years

APRIL-INISKIN WELL -1941
FLOWING 47 GR OIL-1800 #

Oil & Gas Cook Inlet Milestones: 1950-1959

Early 50s: Federal acreage limit per company changes from 15,360 to 100,000 acres

Focus shifts to the Kenai Peninsula

1951
•Sterling Highway completed

1950

Mid-50s: Promoting and brokering leases in Cook Inlet takes off

1953-54
•Richfield & Marathon file for Swanson River leases (71,000 acres) & Unocal files for leases north of Kenai (200,000 acres)

1955
•AK Gulf Oil #1 near Knik & Rosetta #1 near Houston drilled
•Richfield, Marathon & Unocal combine leases to form Swanson River

1953-1955

Late 50s: Leasing rush in southern Alaska, 100 companies active & 18MM acres under lease

1955
•Oil discovered Swanson River

1957
•Chevron buys 50% of ARCO's interest in Cook Inlet for $30MM

1958
Swanson Oil Field production begins

1958
•Gas discovered Deep Creek

1959
•Gas discovered Kenai Gas Field
•Alaska Statehood
•First offshore lease sale Cook Inlet

1956-1959

Oil & Gas Cook Inlet Milestones: 1960-1969

Early 60s: Exploratory drilling activity explodes

1960
- Gas discovered West Fork
- Kenai Gas Field production begins

1961
- Gas discovered Sterling & Falls Creek (Ninilchik)
- 1962
- Gas discovered Beluga River & North CI
- Gas discovered Lone Creek & West Foreland
- Oil discovered Middle Ground Shoal

1960-1962

Mid-60s: Placement of offshore production platforms begins
Exploratory drilling peak: 1966
Development drilling peak: 1968

1964
- Gas discovered Kasilof & Cannery Loop
- Oil discovered Tyonek Deep

1965
- Gas discovered Birch Hill
- Oil & Gas discovered Granite Point & Trading Bay
- Oil discovered McArthur River

1966
- Gas discovered Ivan River & Nicolai Creek

1967
- Gas discovered Beaver Creek
- Gas discovered Moquawkie & North Fork
- Gas discovered 3 Mile Creek 1967
- Oil discovered North Trading Bay
- Oil discovered Starichkof (Cosmopolitan)

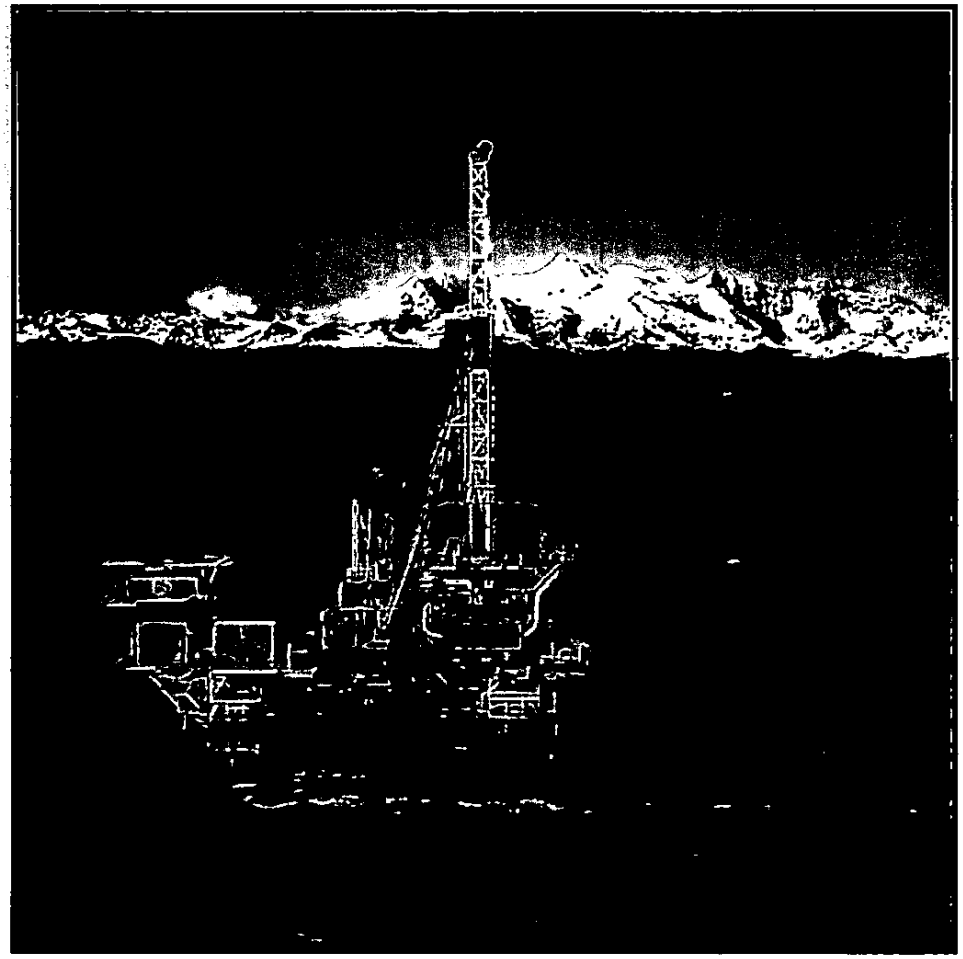
1964-1967

1968
- Oil discovered Prudhoe Bay
- Oil discovered Redoubt Shoal
- Gas discovered Albert Kaloa, Lewis River
- Unocal fertilizer plant starts operation

1969
- Moon Landing
- Gas discovered Pretty Creek
- Nikiski LNG begins exporting to Japan
- Tesoro Refinery begins operation

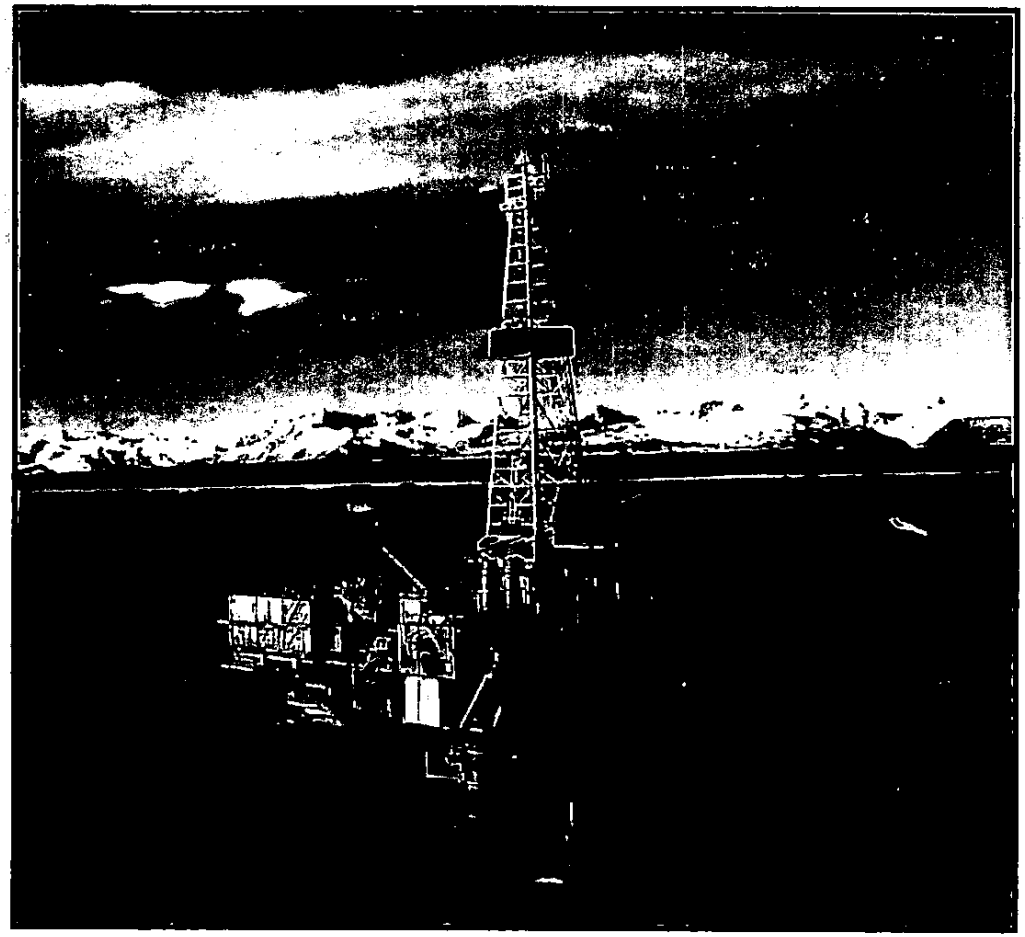
1968-1969

Baker Platform, Cook Inlet



CIRCAC

Monopod Platform, Cook Inlet



CIRCAC

Cook Inlet Oil & Gas Milestones: 1970 - 1989

Early 70s: Exploration in Gulf of Alaska, federal OCS

1970
- CI Oil peaks at 225,000 b/d
- Gas discovered Nikolaevsk

1971
- ANCSA gives AK Natives 44MM acres and $962MM in cash

1976
- Tesoro pipeline from Nikiski refinery to Anchorage airport & port
- Permanent Fund established

1970-1976

Late 70s: Gas exploration increases as new LNG and iron ore reduction projects are considered

1977
- TAPS completed

1978
- Gas discovered Stump Lake
- Unocal fertilizer plant at Nikiski expanded 1978

1977-1979

Early 80s: Exploration in lower C.I., federal OCS, Upper C.I. at Kalgin Island, Fire Island, and S.R.S.

1981
- Legislature decrees state to receive all seismic data shot on its lands

1983
- Gas discovered Wolf Lake

1985
- Marathon installs Steelhead platform

1989
- Valdez oil spill in Prince William Sound 1989
- Natural gas prices deregulated 1989

1980-1984

Mid to Late 80s: Recession – oil price crash and state spending cut; 1 in 10 jobs disappear from Alaska workforce

1985-1989

Cook Inlet Oil & Gas Milestones: 1990 - 1999

1990s: Anadarko partners with ARCO
Union Texas partners with CIRI
Forcenergy partners with Stewart, DANCO, Marathon and Unocal

1990
•Ocean Energy succeeds Unocal as operator of Pioneer Unit in MatSu Coalbed Methane project

1991
•Oil discovered West McArthur River

1992
•Petro Star builds Valdez refinery

1993
•ARCO continues SCI and Sunfish drilling campaign (science driven)

1990-1993

1994
•Union Texas explores CIRI land

1994

1996
•Cook Inlet gas peaks at 223 bcf/year
•State starts areawide leasing

1998
•Cross Timbers (XTO) purchases Shell's interest in Middle Ground Shoal Field

1999
•Nikiski LNG plant export license extended 10 years

1995-1999

Cook Inlet Oil & Gas Milestones: 2000-2006

Focus shifts to Lesser Known Players: Armstrong, Aurora, Stormcat, Pelican, Escopeta, Rutter & Wilbanks, Benchmark, Geopetro enter CI

2000
- Osprey platform set at Redoubt Shoal
- Agrium buys Unocal fertilizer plant at Nikiski

2001
- Seven natural gas exploration wells drilled in CI
- Evergreen succeeds Ocean
- BP's Gas to Liquids plant begins operating in Kenai

2000-2001

2002
- Production begins Redoubt Shoal
- Dillion & Baker platforms shut in
- Aurora buys last of Anadarko's CI Assets
- Swanson River gas storage

2003
- Alaska Stranded Gas Development Act reauthorized

2005
Pretty Creek Gas Storage project

2006
- RCA rejects APL-5 (Henry Hub)
- Kenai (2006) Gas Storage project

2002-2006

Cook Inlet Oil & Gas Milestones: 2007-2009

Focus shifts to Lesser Known Players: Armstrong, Aurora, Stormcat, Pelican, Escopeta, Rutter & Wilbanks, Benchmark, Geopetro enter CI

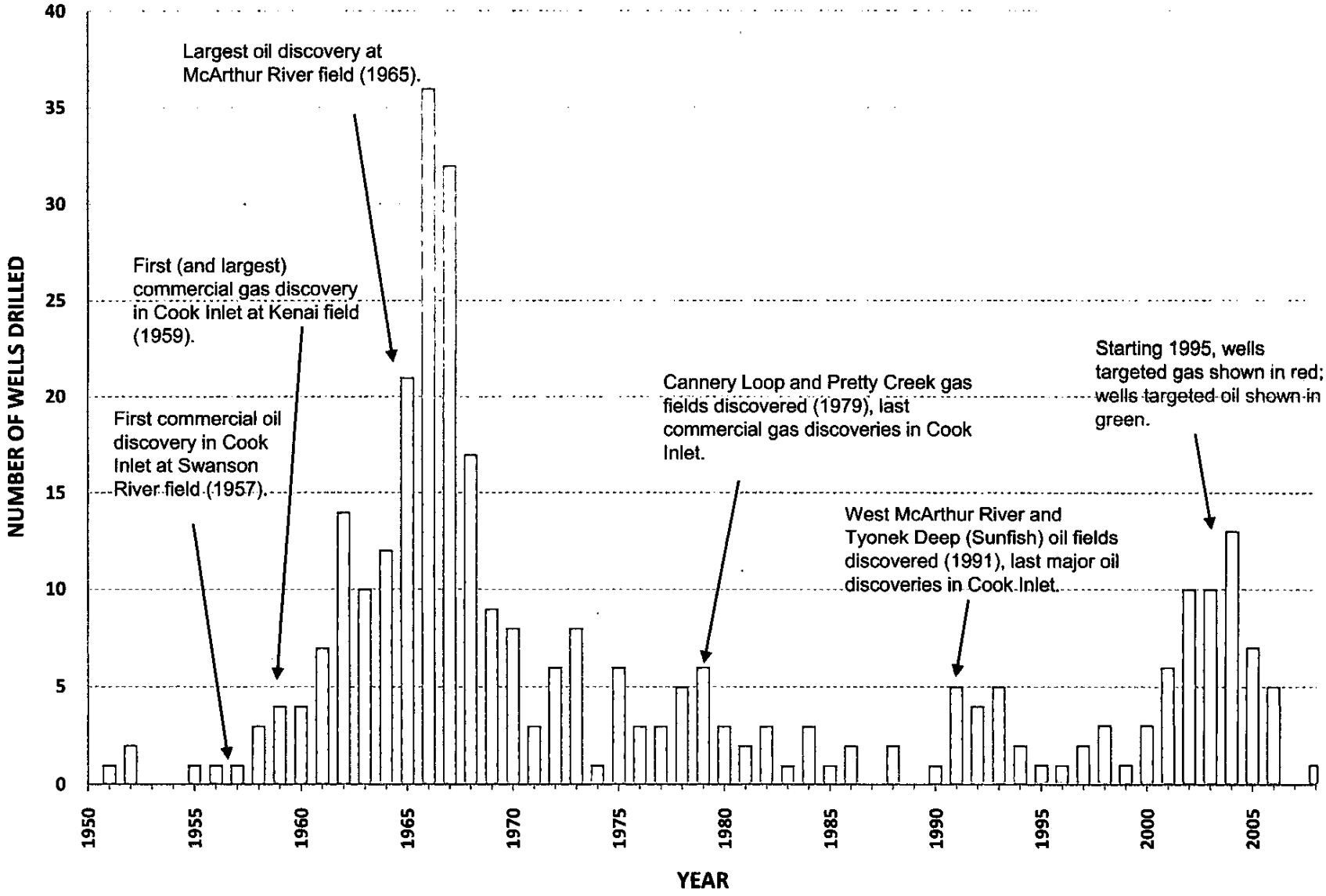
2007
- Pacific buys Forest assets
- Agrium closes fertilizer plant
- Corsair, Kitchen Units formed first offshore units in CI since Redoubt in 1997
- Pioneer at Cosmopolitan Hansen well sidetrack
- Chevron & Marathon continue to drill for/develop gas at Ninilchik, Kenai & Cannery Loop (ongoing)

2008
- Armstrong, North Fork Unit drills 2nd well – first well drilled 40 years ago, needs pipeline extension from Happy Valley to monetize gas
- RCA accepts APL-6 with stipulations
- Enstar rejects RCA stipulations
- Weighted Average Cost of Gas (WACOG) in effect
- Redevelopment work in Beluga, 2 wells drilled & NCI, 3 wells drilled (2008)
- LNG plant extension through 3/2011

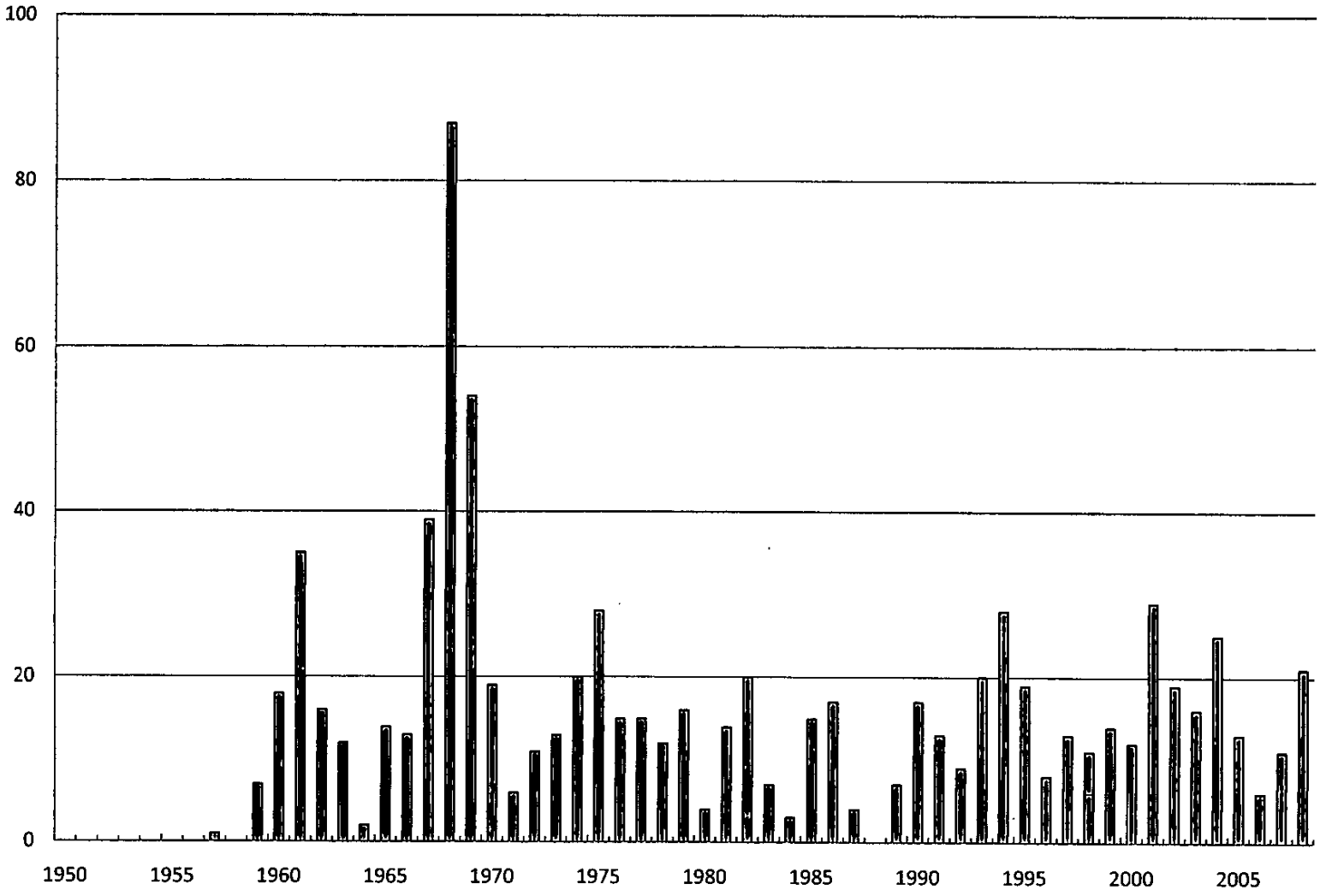
2009
- Pacific files for bankruptcy

2007-2009

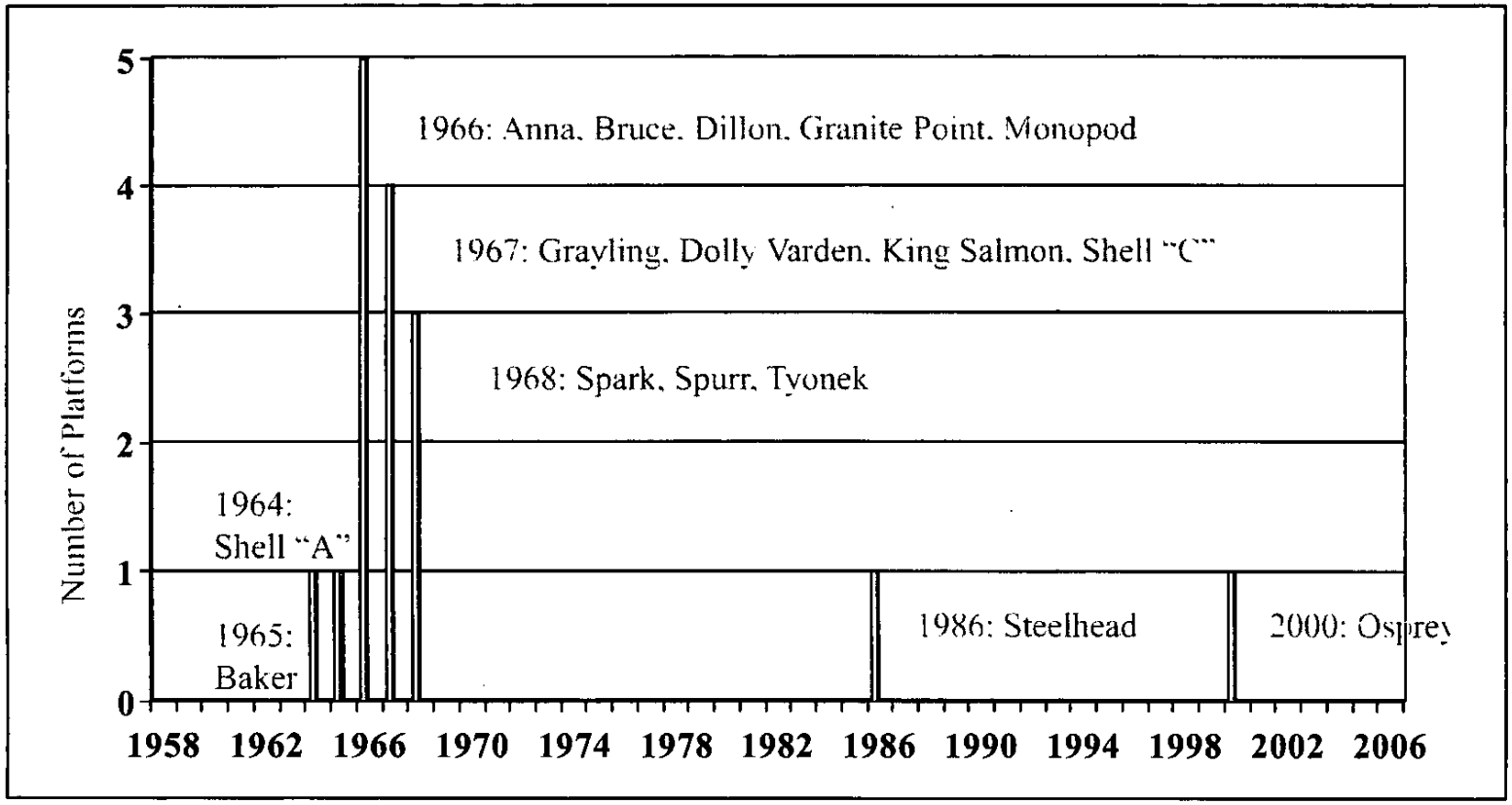
Cook Inlet Exploration Wells Drilled, 1950 - 2008



Cook Inlet Development Wells

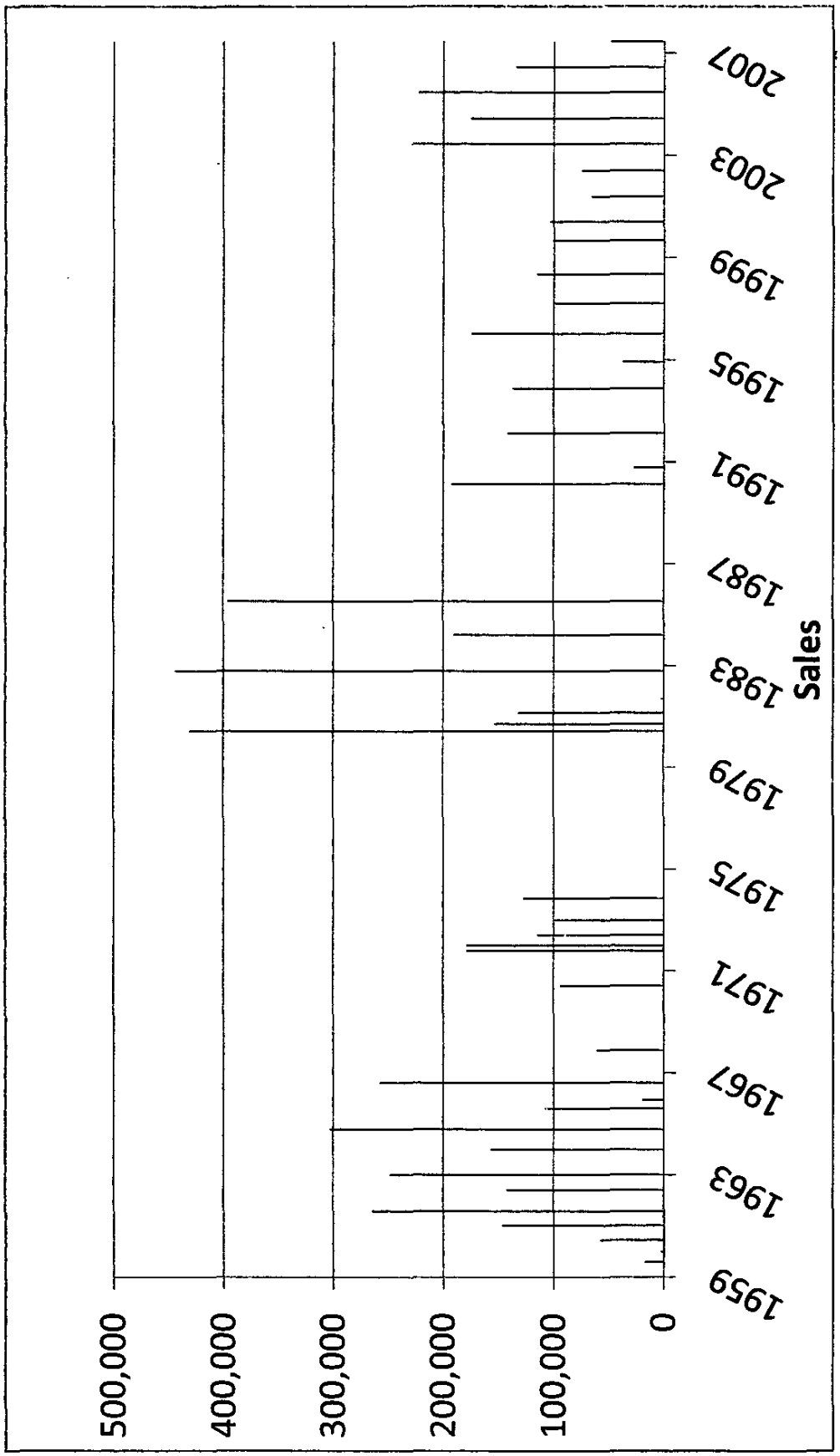


Cook Inlet Oil & Gas Platforms



LS 03/09

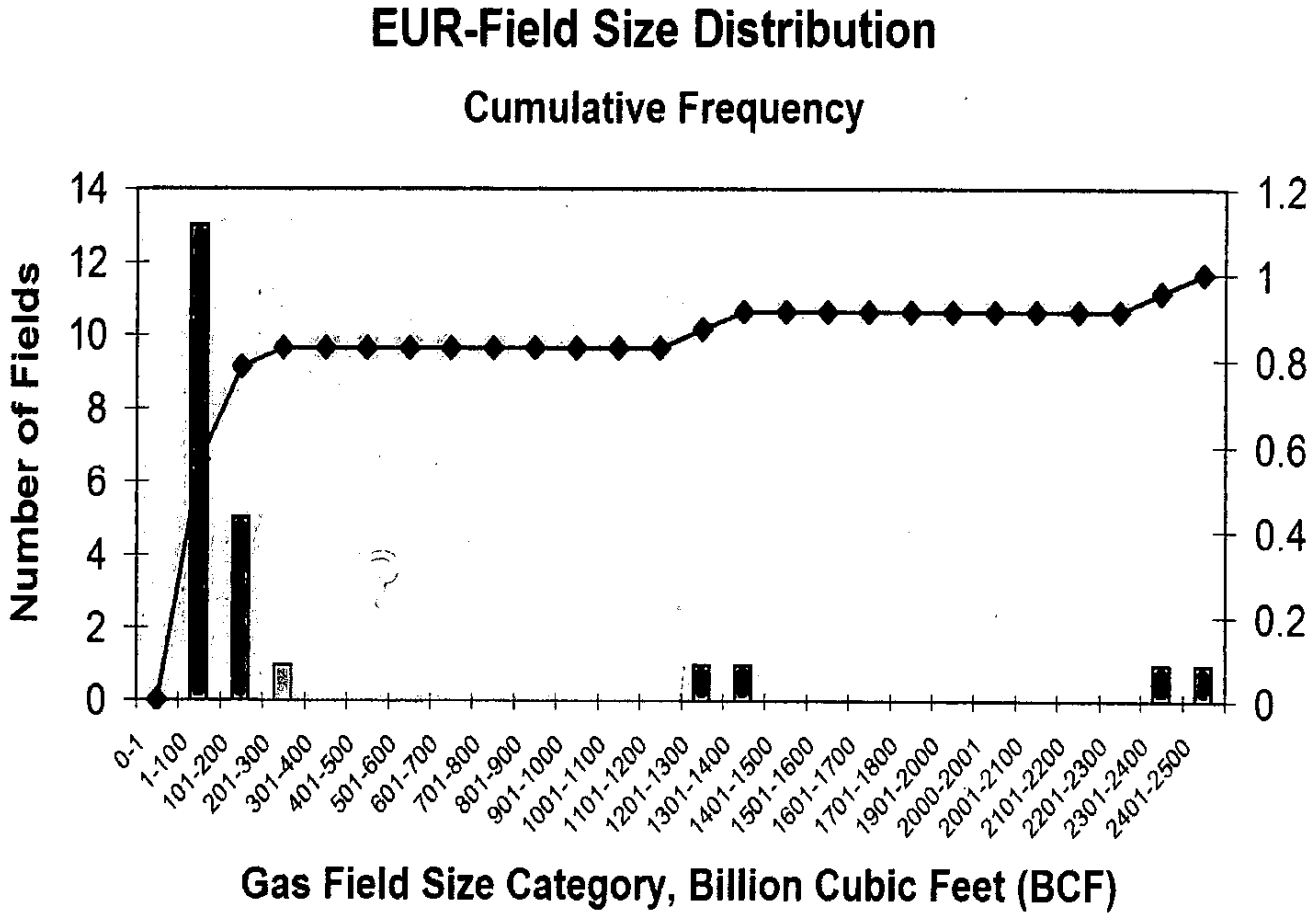
Cook Inlet - State Acres Leased



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 — stratigraphic 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
McAurther River	1384
NCI	2328
Kenai	2425

TOTAL= 8576 bcf

Mean = 373 tcf

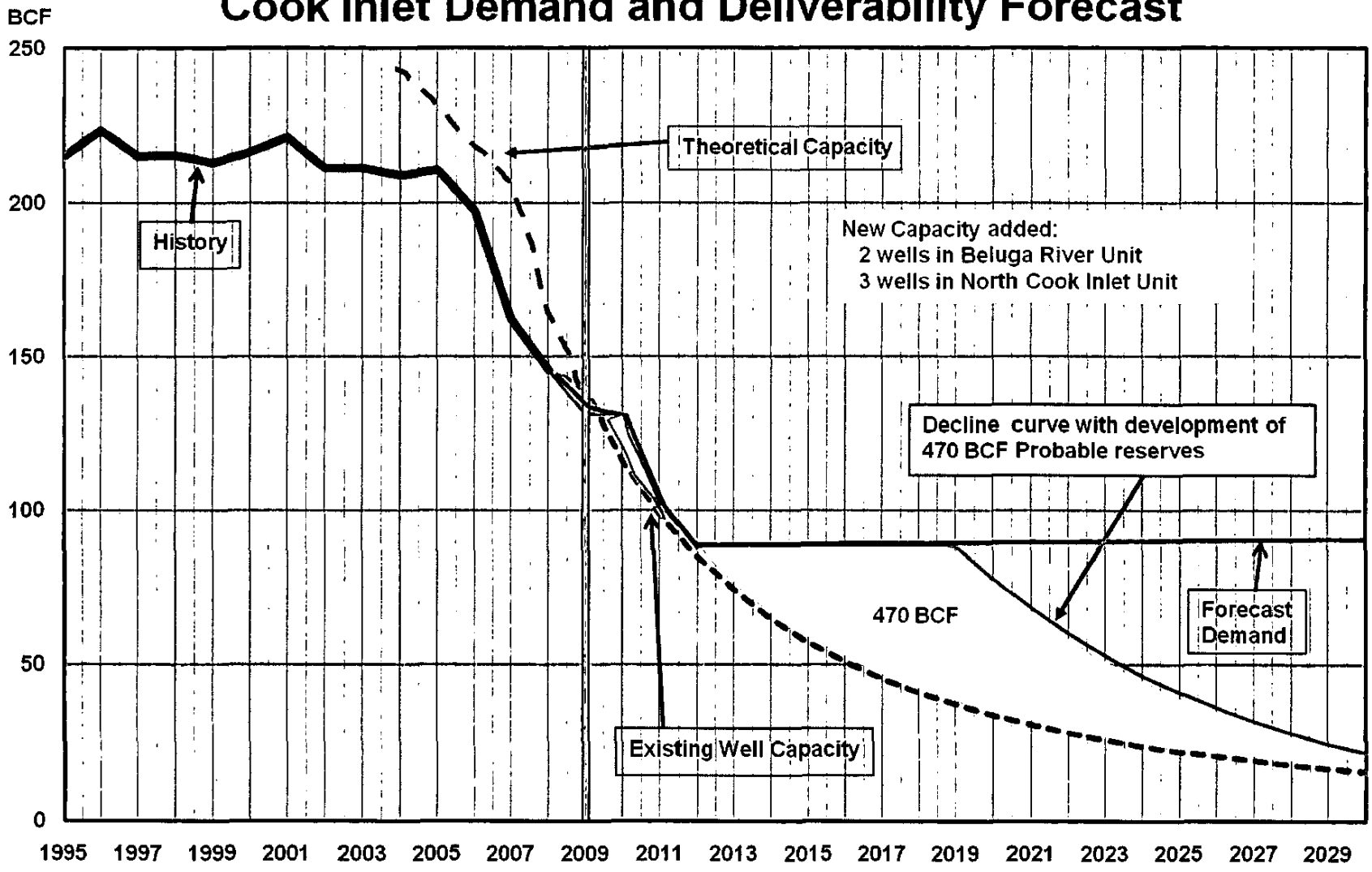
Cook Inlet Oil & Gas Exploration

- 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

What does the future hold?

- 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

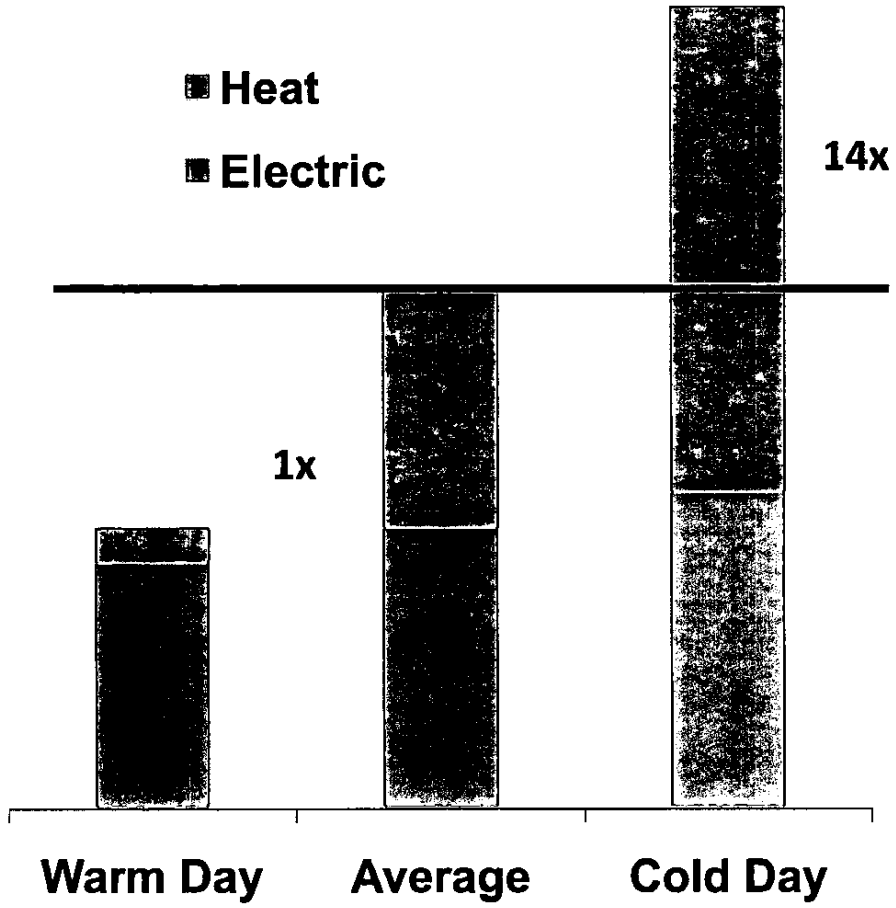
Cook Inlet Demand and Deliverability Forecast



Historic Deliverability

	2/3/1999	1/9/2007	1/3/2009
Average Temperature	-19^0 F	-10^0 F	-11^0 F
On Enstar System	272	292	314
CEA Beluga	83	83	60
CEA/HEA Nikiski	14	12	12
LNG	224	150	40
Agrium	157	0	0
Other Industrials	13	6	14
Total Deliverability	763	543	440
less Storage Volumes	0	~43	~60
Well Supply	763	500	380

Cook Inlet Daily Gas Demand

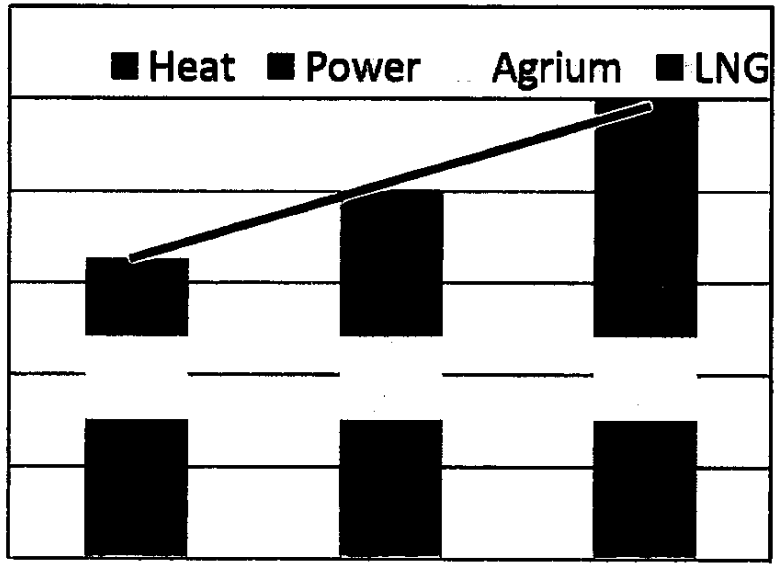


Deliverability

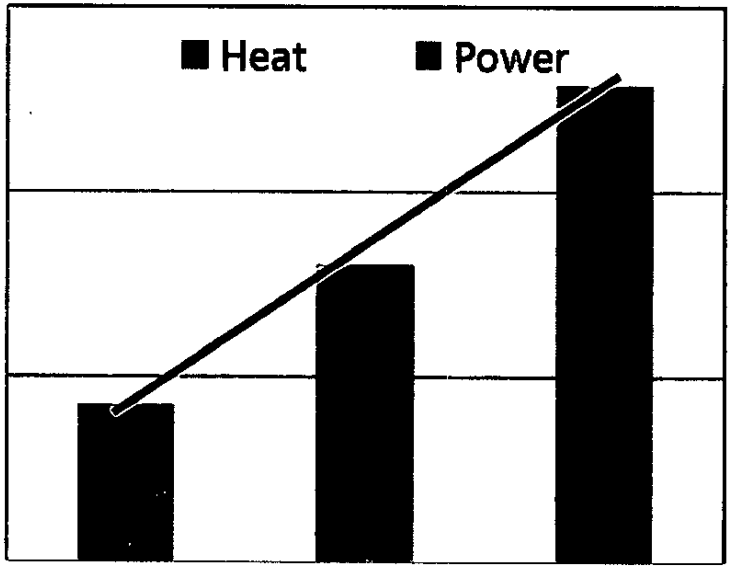
Seasonal
Needle Peek
Intra-day

Wells
Pipelines
Compression
Connectivity
LNG, Agrium
Gas Storage
Line Pack

Industrial Base Load



Peak Swing 50%



Peak Swing 200%

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

Projects for 2009

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

Gas Storage Expansion Plans

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

Lease Sales

- Final Best Interest Finding for Cook Inlet issued January 20, 2009
- Areawide Sale tentatively scheduled for May 2009

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).

Oil and Gas Fields of Cook Inlet as of February 2009

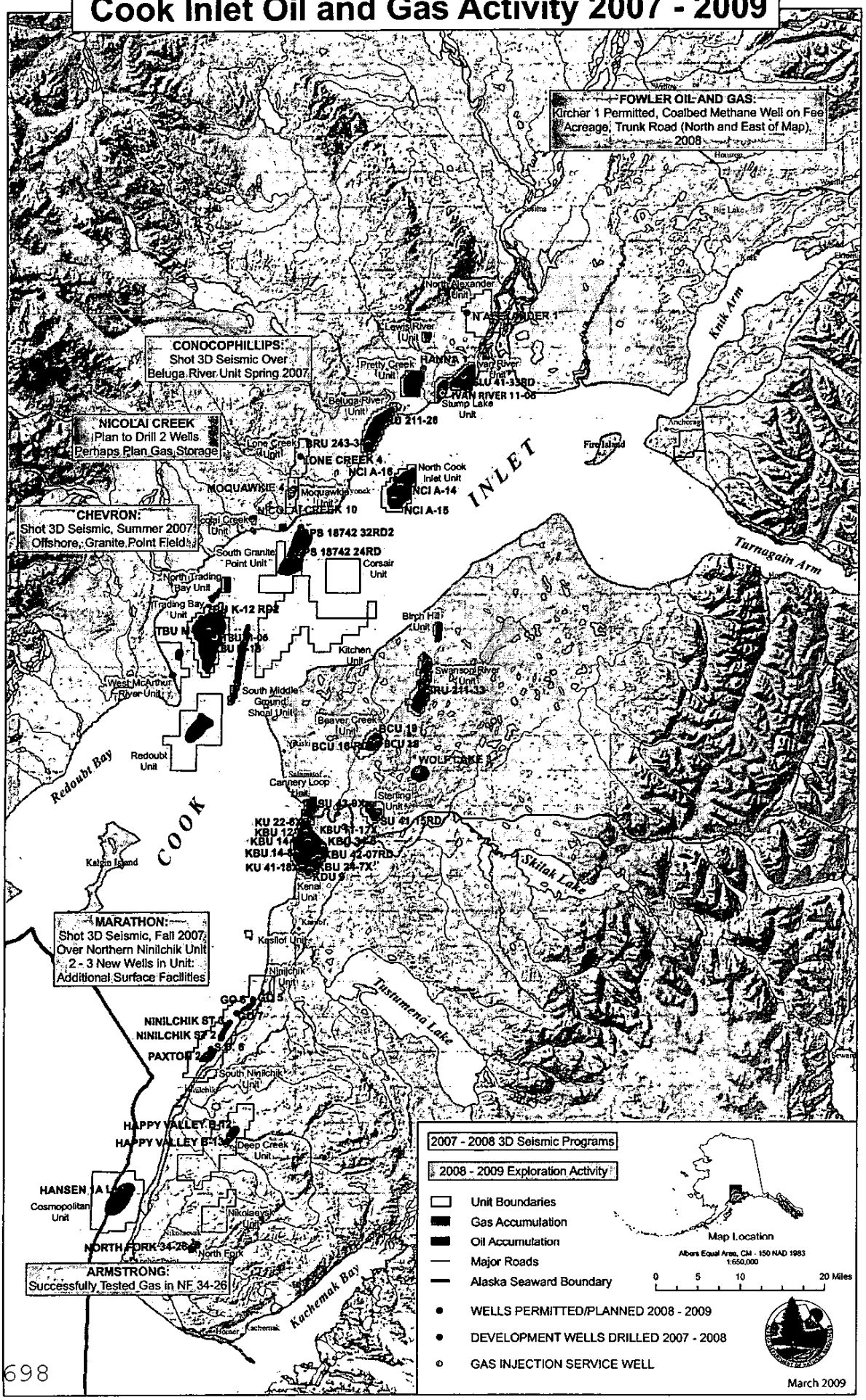
COOK INLET FIELD NAME	DISCOVERY DATE	DISCOVERY OPERATOR WELL NAME	ORIGINAL OPERATOR	DATE OF PRODUCTION	CURRENT OPERATOR
Swanson River	1957	Richfield SRU 34-10	**SOCAL (Chevron)	oil and gas 1958	Chevron
Deep Creek	1958	SOCAL Deep Cr 1RD	UNOCAL	gas 2004	Chevron
Kenai	1959	UNOCAL KU 14-06	UNOCAL	gas 1960	Marathon
West Fork	1960	Halbouty W Fork 1B	Halbouty Alaska Oil	gas 1978	Marathon
Falls Creek (Ninilchik Unit)	1961	SOCAL Falls Cr Unit 1	SOCAL (Chevron)	gas 2003	Marathon
Sterling	1961	UNOCAL SU 23-15	UNOCAL	gas 1962	Marathon
Middle Ground Shoal	1962	Pan Am GS ST 17595 1	Pan Am/Shell	oil and gas 1965	XTO/Chevron
North Cook Inlet	1962	Pan Am Cook Inlet ST 17589 1	Pan Am	gas 1969	ConocoPhillips
Beluga River	1962	SOCAL BRU 212-35	SOCAL (Chevron)	gas 1963	ConocoPhillips
Lone Creek	1962	Superior Chuit ST 1	Aurora	gas 2003	Aurora
West Foreland	1962	Pan Am W Foreland 1	Forest	gas 2001	Pacific Energy
Kasilof	1964	UNOCAL Kasilof ST 1	Marathon	gas 2006	Marathon
Tyonek Deep (NCI Unit)	1964	Phillips Cook Inlet ST 17589 1A	Phillips	undeveloped	ConocoPhillips
Cannery Loop	1964	UNOCAL KU 13-08	UNOCAL	gas 1988	Marathon
Birch Hill	1965	SOCAL Birch Hill Unit 22-25	SOCAL (Chevron)	undeveloped	Chevron
Trading Bay	1965	UNOCAL Trading Bay 1A	UNOCAL	gas -1965 oil -1967	Chevron
Granite Point	1965	Mobil Granite Point 1	Mobil/Pan Am	gas and oil 1967	Chevron
McArthur River	1965	UNOCAL Grayling 1A	UNOCAL	gas -1967 oil -1965	Chevron
Moquawkie	1965	Mobil Moquawkie 1	Mobil	gas 1967	Aurora
North Fork	1965	SOCAL N Fork Unit 41-35	SOCAL (Chevron)	undeveloped	Armstrong
Nicolai Creek	1966	Texaco Nicolai Cr ST 1	Texaco	gas 1968	Aurora
Ivan River	1966	SOCAL IRU 44-01	SOCAL (Chevron)	gas 1990	Chevron
Starichkof (Cosmopolitan)	1967	Pennzoil Starichkof ST 1	Pennzoil	undeveloped	Pioneer
Beaver Creek	1967	Marathon Beaver Cr Unit 1	Marathon	oil 1972	Marathon
North Trading Bay	1967	ARCO Trading Bay ST 1	ARCO	oil 1968	Marathon
Three Mile Creek	1967	Superior TMC ST 1	Aurora	gas 2005	Aurora
Albert Kaloa	1968	Pan AM Albert Kaloa 1	Pan Am	gas 1970 & 2004	Aurora
Lewis River	1968	SOCAL Lewis River 13-02	Cities Service	gas 1984	Chevron
Redoubt Shoal	1968	Pan Am RSU 2	Forcenergy	oil 2002	Pacific Energy
Pretty Creek	1969	Halbouty Theodore River 1	UNOCAL	gas 1986	Chevron
Nikolaevsk	1970	SOCAL N Fork Unit 11-04	SOCAL (Chevron)	undeveloped	Chevron
Stump Lake	1978	UNOCAL Stump Lake Unit 41-33	SOCAL (Chevron)	gas 1990	Chevron
Wolf Lake	1983	ARCO Wolf Lk ARCO CIRI 1	Marathon	gas 2001	Marathon
West McArthur River	1991	Stewart WMRU Stewart 1	Stewart	gas and oil 1993	Pacific Energy
Kustatan	2005	Forest Kustatan Field 1	Forest	gas 2005	Pacific Energy

DOG G February 2009

* Original Operator is the operator at the time of initial development. If field is undeveloped, the original operator is the discovering operator.

** Chevron was originally known as Standard Oil of California (SOCAL). SOCAL changed its name to Chevron in 1984.

Cook Inlet Oil and Gas Activity 2007 - 2009



9-16-09 Statewide Energy Policy, Haines Public Testimony, HB 218, HB 219

<target><bill>HB 218</bill><subject>9-16-09 Statewide Energy Policy, Haines Public Testimony, HB 218, HB 219</subject><comm>HENE26</comm></target>

1700

AK/BC Intertie:

Southeast Alaska's contribution to the green energy solution.

With 27 miles of line, Alaska and Canada can create a pipeline through which excess power can reach the North American power grid. Power sales through the intertie will benefit local, state, and federal economies, create jobs, and provide a source of renewable green energy to a continually-growing, power-hungry market.

Southeast Alaska has the potential to out-produce Hoover Dam.

Alaska-Canada Energy Coalition

Alaska-Canada Energy Coalition
c/o City & Borough of Wrangell
PO Box 531
Wrangell, AK 99929

Phone: 907-874-2381
Fax: 907-874-3952

Alaska Canada Energy Coalition (ACEC)

Our Mission:

To provide a credible catalyst to the construction of the AK-BC Energy portion of the Southeast Alaska Intertie grid.

Tel: (907)874-2381

Alaska-Canada Energy Coalition

Objectives:

1. Affordable energy for all of Southeast Alaska
2. Stimulus for economic development
3. "Green" energy for North America

Affordable Energy for Alaska

- Hydroelectric power is the least expensive form of power in Alaska by 15% and the least expensive form of heat by a factor of 3.5-to-1. (Alaska Energy Authority)
- 2007 Energy reports states, "Thomas Bay/Swan Lake-Tyee are believed to be able to provide energy for all of Southeast's needs as well as export excess energy." (alaskapower.org)

Economic Development

- The 2009 economic stimulus package included $6.5 billion for renewable energy and $11 billion for energy transmission.
- $150 billion for clean energy over 10 years.
- Administration goals include 10% of U.S. energy from renewable sources within 3 years, 25% within 15 years.

Alaskan administrative goals include 50% of state power from renewable energy by 2050.

The Alaska-Canada Intertie is vital to ensure the economic feasibility of the development of over 3000 Megawatts of possible power at 80+ developable sites in Southeast Alaska alone.

Bradfield Canal, near the planned Alaska-Canada Intertie route

Green Energy

- National energy demand will increase 30%-50% over the next 20 years. *
- National renewable energy will grow by 50% over the next 20 years. *
- Oil is projected to reach $189 per barrel by 2030. *
- International energy demand will increase 50% in the same period. *

*US Department of Energy

The Alaska-Canada Intertie is an integral part of the future of energy and of the new Alaskan energy economy, The Intertie has support at the international, national, state, and local levels, and is the foundation for feasible energy development in Southeast Alaska.

Alaska-Canada Intertie Coalition

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1701

Alaska Legislature
House and Senate Special Committees on Energy

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AGENDA

Wednesday, September 16, 2009
1:30 p.m.
Haines High School, Karl Ward Gymnasium
698 Old Haines Highway, Haines, Alaska
Rep. Charisse Millett, Chair

1) Opening remarks by Mayor Jan Hill, Haines, Alaska

2) Presentation on Southeast Energy Issues by Robert Venables, Energy Coordinator, Southeast Conference

3) Public testimony on HB 218, HB 219, statewide energy plan

Office of the
Prime Minister

Cabinet du
Premier ministre

Ottawa, Canada K1A 0A2

Release

Date: September 16, 2009
For immediate release

PRIME MINISTER STEPHEN HARPER ANNOUNCES CANADA'S INVESTMENT IN NORTHWEST TRANSMISSION LINE

Expected to Increase Renewable Energy Potential of Northern British Columbia

WASHINGTON, D.C. – Prime Minister Stephen Harper today announced funding for the construction of the Northwest Transmission Line in northern British Columbia, which could eventually connect with Alaska, reflecting Canada's commitment to clean energy.

"Our government is supporting environmentally sound infrastructure and initiatives that promote cleaner, greener energy," said the Prime Minister. "The Northwest Transmission Line will facilitate the development of green energy and help provide British Columbia's northern and remote communities with more sustainable and affordable power."

The project could advance a potential connection between southeast Alaska and the North American transmission grid via British Columbia.

In February 2009, Prime Minister Harper and President Obama launched the *Clean Energy Dialogue*. Today, they discussed a progress report on the *Dialogue* focusing on clean energy research and development, a more efficient energy grid, and carbon capture and storage. The Prime Minister also highlighted a number of new projects that demonstrate progress on these discussions.

"Our government is pursuing joint projects with President Obama and his Administration. Our government is taking action to promote cleaner energy use," said the Prime Minister. "The British Columbia Northwest Transmission Line will build a more efficient electricity grid, increasing our use of clean and renewable sources of energy generation in the years to come."

To learn more about Canada's Economic Action Plan, visit www.actionplan.gc.ca. For more information on Government of Canada investments in infrastructure, visit www.creatingjobs.gc.ca.

- 30 -

PMO Press Office: 613-957-5555
This document is also available at http://pm.gc.ca

Canada

Office of the
Prime Minister

Cabinet du
Premier ministre

Ottawa, Canada K1A 0A2

Backgrounder

NORTHWEST TRANSMISSION LINE IN BRITISH COLUMBIA

The Government of Canada is supporting a green infrastructure project in northern British Columbia involving the construction of a 335-kilometre transmission line that will contribute to the development and use of green energy in the area. This project has been selected as a priority for funding under the new federal Green Infrastructure Fund.

The Northwest Transmission Line will extend British Columbia's high voltage transmission grid into the Northwest portion of the province. The transmission line will benefit local communities by providing them with the potential to access clean electricity in the future, thereby reducing their reliance on diesel generation, resulting in more reliable energy service for the communities and a reduction in greenhouse gas emissions.

The area surrounding the project has a significant potential to generate green power. There is currently an estimated 2000 megawatts of renewable energy in the area from small hydro, geothermal, wind and biomass sources. A number of potential generation projects in the area are already being considered under British Columbia's current Clean Power Call, representing almost 500 megawatts of renewable energy that would be immediately served by the Northwest Transmission Line project. These projects depend on access to robust transmission infrastructure for their development.

The project is also a key step in a potential interconnection between southeast Alaska and the North American transmission grid via British Columbia.

This project, estimated at $404 million, and is expected to be ready for construction in the spring of 2010.

The Government of Canada will set aside funding of up to a maximum of $130 million for this project.

Federal financial support for this green infrastructure project is conditional on the signing of a contribution agreement with the British Columbia government under the Green Infrastructure Fund.

ABOUT THE GREEN INFRASTRUCTURE FUND

Through Canada's Economic Action Plan, the federal government is providing $1 billion over five years for a Green Infrastructure Fund (GIF). The Fund supports sustainable energy generation and transmission, along with municipal wastewater and solid waste management infrastructure. Targeted investments in green infrastructure can improve the quality of the environment and will lead to a more sustainable economy over the longer term.

About the Program

The fund focuses on green priorities including clean energy generation and transmission infrastructure, building and upgrading wastewater treatment systems, and improving solid waste management. Sustainable energy infrastructure, such as modern energy transmission lines, contributes to improved air quality and lower carbon emissions.

Eligible projects are those that promote cleaner air, reduced greenhouse gas emissions, and cleaner water and fall within any of the following categories: wastewater infrastructure; green energy generation infrastructure; green energy transmission infrastructure and solid waste infrastructure, and carbon transmission and storage infrastructure.

How it Works

The new $1 billion Green Infrastructure Fund will be allocated based on merit to support green infrastructure projects on a cost-shared basis. The fund will focus on a few, large scale, strategic infrastructure projects. The merit of the projects will be based on assessment criteria such as eligibility, leveraging financial investments and project benefits.

Proponents can summarize their project in a letter. If there is interest, proponents will be invited to submit a more detailed proposal that describes the project and its components, cost estimates, expected results and benefits. For all projects selected for funding, eligible recipients will enter into contribution agreements with Canada. These agreements will outline eligible and ineligible costs as well as federal cost sharing and limits.

Who is Eligible?

Eligible recipients include provinces, territories, local or regional governments; public sector bodies, non-profit organizations and private companies, either alone or in partnership with a province, territory or a government.

Thomas Bay Energy Development

Cascade Creek Hydroelectric Project

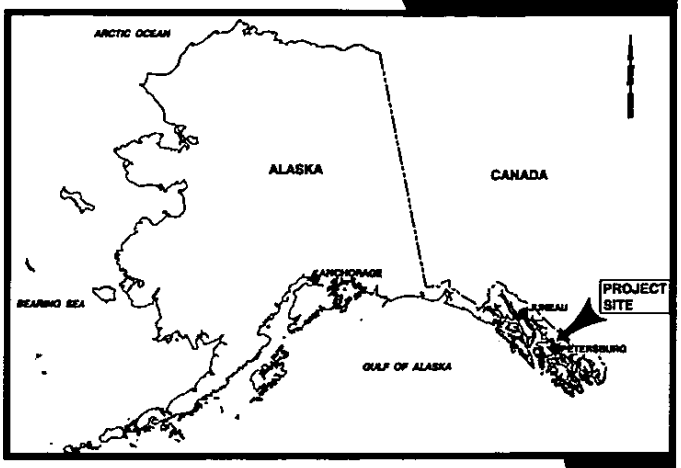
Southeast Alaska

1706

Last updated: September 2008

Project Description

FERC No. 12495-002



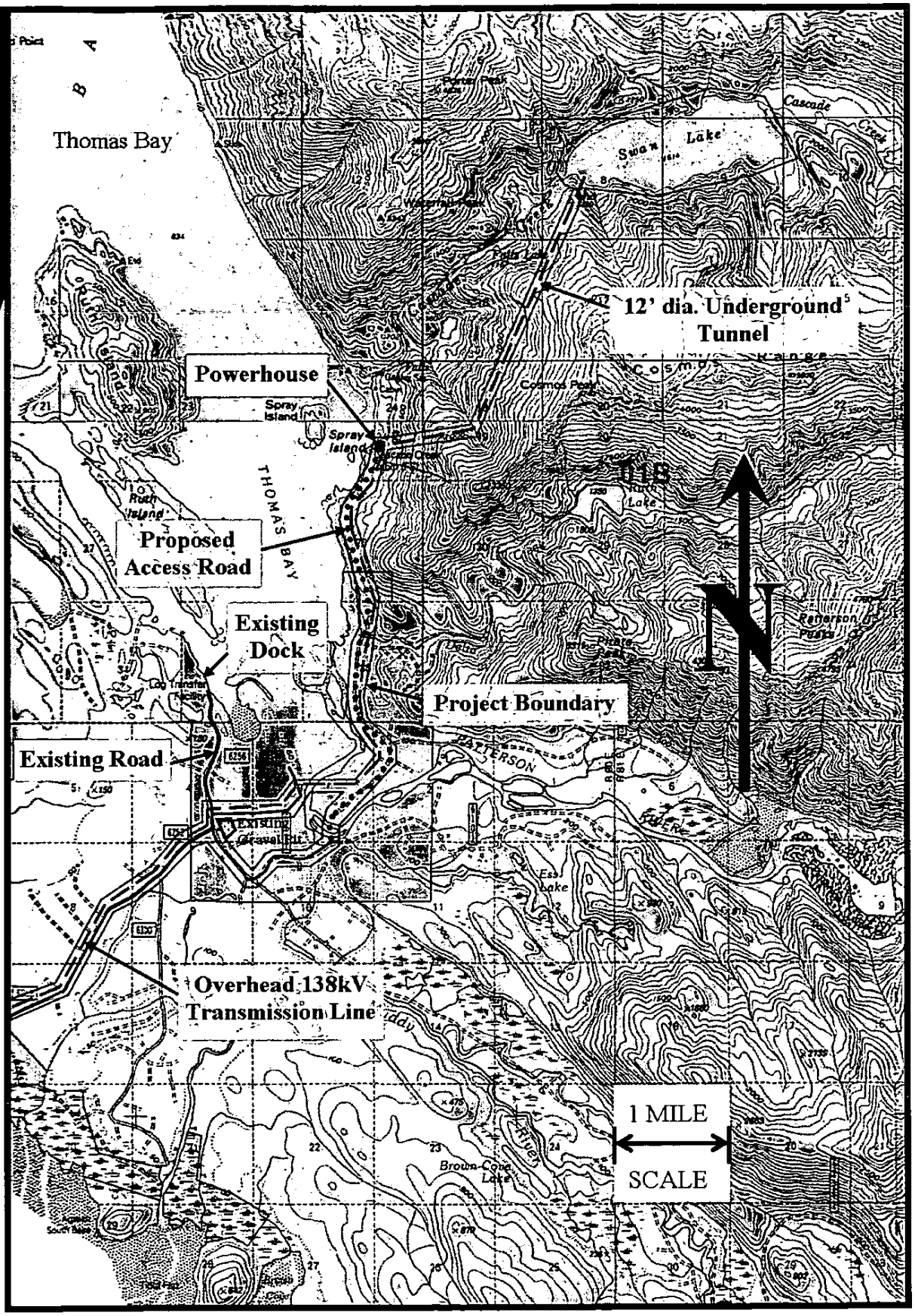
The Cascade Creek Project would be located approximately 15 miles north of Petersburg, Alaska, on Swan Lake and Cascade Creek. The Project would utilize the natural impoundment of Swan Lake with a surface area of approximately 579 acres and usable stored capacity of 5,790 acre-feet (af), assuming a 10 ft operational draw-down. A **lake siphon** would be used to draw water from below existing minimum Swan Lake low-water level to the power conduit. The power conduit would consist of an approximately 16,000 ft long, 12 ft diameter tunnel bored portal to portal from the intake siphon to the powerhouse. The last 2,200 ft of tunnel before the powerhouse would be lined with steel. Tunnel gradient would be approximately 9 percent.

The **powerhouse** would be located approximately 1/4 mile south of the mouth of Cascade Creek on Thomas Bay at approximately E1 20. The powerhouse would be a building approximately 120 ft by 80 ft. It would house four impulse-type turbines, each with a total rated head of 1,500 ft and a flow capacity of 300-600 cubic feet per second (cfs). The installed capacity would be 70 MW. Discharge from these units would be directed by a short tailrace into Thomas Bay.

The primary **transmission line** would be roughly 13 miles long, consisting of an overhead/submarine 138 kilovolt (kV) segment running south from the Cascade Creek Project powerhouse to the existing Petersburg substation southwest of Petersburg. This substation is the terminus of an existing 138 kV transmission line connecting the Tyee Lake Hydro Project to Wrangell and Petersburg.

Generation Features

Usable Stored Capacity	5,790 af
Operational Draw-down	10 ft
Elevation Drop	1,500 ft
Average Annual Flow	220 cfs
Power Conduit (diameter/length)	12-ft / 16.000-ft
Installed Capacity	70 MW
Turbine Type/Number	Impulse/4
Estimated Average Annual Energy	200,000 MWh



Cascade Creek Project Boundary & Facilities Map

Project Benefits

- **Southeast Alaska Regional Energy Security.**
  The Cascade Creek Project will produce enough energy to 100% back-up the current and proposed Southeast Alaska Intertie grid system. Real energy security means that ratepayers have insurance against expensive diesel as back-up generation...forever.

- **Low Cost Power for Rural Southeast Alaska.**
  The Project will provide competitive and long-term, low cost electricity to rural Southeast Alaskan communities through their local utilities, removing the disadvantage for communities dependent on diesel generation.

- **Good for the Environment.**
  The Company has spent thousands of dollars designing the Cascade Creek Project to mitigate environmental intrusion on the local environment and ecosystems. The Project will displace 14,285,700 gallons of diesel and will reduce the nation's carbon footprint by displacing 178,626 metric tons of carbon dioxide annually.

- **Good for Southeast Alaska.**
  The Project will provide a direct $170 million dollar investment, creating economic development and year-round economic growth from the emerging clean power industry in Southeast Alaska. Cascade Creek, LLC will create real family wage jobs for high unemployment communities in Southeast Alaska with strong local and Native hire policies.

- **Good for Alaska.**
  The Project will bring the economic justification to connect Alaska to the North American grid, allowing Alaskan utilities to import low cost, competitive power when it is needed, during winter months. This will also allow Alaska to develop the wind, tidal, and hydropower industries to service local and non-local energy needs, creating hundreds of high-paying jobs in Southeast Alaska in the next few years.

- **Good for America.**
  The Cascade Creek Project will reduce our nations need for imported oil. The Project will contribute to our nation's effort to become energy self-sufficient with reliable and proven renewable hydropower.

For additional information please contact:

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Alaska House Senate and Energy Committee Members September 15, 2009

Senators McGuire, Hoffman, Kookesh, Stedman, Wielechowski
Representatives Edgmon, Millet, Dahlstom, Johansen, Ramras, Peterson, Tuck

Dear Alaska State Legislature Energy Committee Members and other interested parties:

I am speaking here today as a Haines resident and small business owner.

I understand the legislature is considering setting up new energy authorities and funding mechanisms in order to support and provide incentives for renewable energy in Alaska.

Fifty years ago, when Alaska's constitution was written and we became a state, Alaska's leaders had the vision and sensibility to provide to the people of Alaska ownership of Alaska's resources. At that time and today, one of these primary resources was and is Alaska's wild fish stocks.

So my request to you today is to remember the people of Alaska and Alaska's wild fish stocks as you further deliberate actions within the state regarding the siting of and funding support for new hydro-electric projects in Alaska. I urge you to not provide blind support and open-ended funding to any and all projects, bad or good, cost-effective or not, in the name of renewable energy without consideration to Alaska's wild fish stocks. Politics should not be used to force unhealthy decisions on Alaska's economy and resources.

In the upper Lynn Canal and in Southeast Alaska, we have abundant choices for hydro-power sites.

The current site for which funding is being heavily lobbied by certain politicians and by Alaska Power and Telephone (AP&T) is for the Connelly Lake hydro-project, located in the sensitive salmon spawning grounds of the upper Chilkoot Watershed above Chilkoot Lake. Many people in our community are strongly opposed to a hydro-power project in this location. AP&T's application to FERC for this project in June received opposition filings from numerous organizations, including the Alaska Department of Fish and Game and the National Marine Fisheries Service.

Recent studies by AP&T have indicated that a more cost-effective option for the next hydro-project in the upper Lynn Canal to be Schubee Lake near Skagway. Here no road and dam have to built. Here there is not the issue of impact to salmon. Therefore, I urge you to proceed with care and caution delegating authority for funding and decision-making regarding renewable energy projects in Alaska.

Sincerely,

Kathleen Menke

More information about this issue can be found on the Chilkoot Watershed Coalition website: **www.akmk.com/chilkoot** and in the copy of a recent Chilkat Valley News article attached to this letter.

1710

STATE OF ALASKA

SEAN PARNELL, GOVERNOR

DEPARTMENT OF FISH AND GAME

DIVISION OF SPORT FISH

P.O Box 115525
Juneau, Alaska 99881-5526
Phone: (907) 465-6184
Fax: (907) 465-2772

September 22, 2009

The Honorable Representative Bill Thomas
219 Main Street
Haines, AK 99827

Dear Representative Thomas:

Thank you for contacting staff regarding the State of Alaska Joint Committee Meeting on Energy held on September 16, 2009 in Haines. You inquired about the Alaska Department and Fish and Game's (ADF&G) past correspondence and concerns regarding the proposed Connelly Lake hydropower project with specific reference to a comment heard from a member of the public.

As explained to you by staff, the proposed project is currently in a FERC preliminary licensing phase, which means FERC is gathering preliminary information to determine whether this proposed project should be subject to a FERC license. As part of our responsibilities for managing fish and wildlife and our role in this process, ADF&G provided written concerns and issues that should be addressed to avoid and minimize negative impacts to fish and wildlife resources. This process is still ongoing and there are insufficient data available to evaluate and perform a comprehensive assessment regarding project merits at this time. Therefore, I can only conclude the member of the public, who stated the department opposed this project proposal, misrepresented us.

We appreciate you bringing this issue to our attention.

We look forward to working with the project applicant on this proposal to provide a project in the best interest of the state. We believe FERC's expertise and licensing process provides the best opportunity to achieve this outcome.

Please call me at 465-6184 if you have any further questions.

Sincerely,

Charles O. Swanton
Division of Sport Fish, Director

1711

Cc: K. Howard, ADF&G
R. Bentz, ADF&G
J. Klein, ADF&G
C. Estes, ADF&G
J. Yuhas, ADF&G
R. Clark, ADF&G
S. Maclean, ADF&G
J. Ferguson, ADF&G
B. Frenette, ADF&G
J. Timothy, ADF&G
R. Bachman, ADF&G
R. Chapell, ADF&G

AP&T takes closer look at Schubee Lake hydro potential

QVN 9/10/09

By Matt Hawthorne

Alaska Power and Telephone is researching a potential hydroelectric source on the east side of upper Lynn Canal, but representatives say the company continues to pursue a project at Connelly Lake in the upper Chilkoot River valley.

AP&T regional manager Stan Selmer said the utility is currently seeking cost estimates for a hydroelecric development at Schubee Lake.

"It's being looked at as a potential project," Selmer said. "We have interest in it. There is a lot of energy in the lake."

Schubee Lake is located at an elevation of 3,300 feet on the east side of Lynn Canal. It covers 260 acres with an average depth of 300 feet, and its outflow was measured at 80 cubic feet per second on the day the lake was surveyed this summer.

The utility reconnoitered the lake in July. The research was spurred by the request of Haines resident Rob Goldberg.

Goldberg, who suggested the utility look into the lake at a meeting last winter, said he is encouraged by what AP&T found. He hopes Schubee Lake can provide an alternative to the Connelly Lake project.

"I think it's a project the whole community could get behind."

The lake could generate up to 13 megawatts of power, Selmer said. "There's a significant amount of water in the lake."

Power in that quantity could bridge peaking diesel demand in Haines and Skagway in winter months, Selmer said. Demand at peak times in the winter months exceeds the utility's available hydroelectric capacity and requires it to fire up diesel generators.

Viable plans to harness the potential power in Schubee Lake would necessitate boring a tunnel through a ridge to divert the water into the Kasidaya drainage to the north. There, the water could be directed through the existing Kasidaya Creek powerhouse, or an additional powerhouse could be built at 1,100 feet in order to use the water twice.

The utilty has dismissed the concept of building a penstock downhill from the lake to a sea-level powerhouse has been eliminated economically unfeasible and an inefficient use of the water.

Boring a tunnel to the lake from sea-level isn't being considered because the tunnel through the mountain to Kasidaya drainage "is superior."

AP&T is attempting to get cost estimates for the mile-long tunnel to Kasidaya next month.

Selmer said the cost could be as high as $15 million. "I think we'll find the cost to build this tunnel puts this project well into the future."

But Goldberg said he's encouraged thus far. "It looks like the cost will be a lot less (than Connelly Lake) ...and there's no habitat issues."

Opponents to Connelly Lake, a 12-megawatt project estimated to cost $33 million, have argued that the project would endanger fish and wildlife habitat in the Chilkoot River drainage.

Selmer said Connelly Lake remains the highest priority for the company, but will continue to investigate options at Schubee Lake.

In addition to researching the cost of a tunnel, the utility needs to factor in permitting in the Tongass National Forest, helicopter-only access to the lake, lake thaw limited to mid-summer, and continued reliance on an underwater cable from Skagway to Haines.

The company will choose "a superior project for a superior price," he said.

Even if Schubee Lake doesn't prove a viable option in the immediate future, Selmer said, "It is encouraging to know that there is a hydro source that could be utilized."

For now it is "full steam ahead with Connelly."

Return to the regular page.

PM announces Canada's investment in Northwest Transmission Line

Expected to Increase Renewable Energy Potential of Northern British Columbia

16 September 2009
Washington, D.C.

Prime Minister Stephen Harper today announced funding for the construction of the Northwest Transmission Line in northern British Columbia, which could eventually connect with Alaska, reflecting Canada's commitment to clean energy.

"Our government is supporting environmentally sound infrastructure and initiatives that promote cleaner, greener energy," said the Prime Minister. "The Northwest Transmission Line will facilitate the development of green energy and help provide British Columbia's northern and remote communities with more sustainable and affordable power."

The project could advance a potential connection between southeast Alaska and the North American transmission grid via British Columbia.

In February 2009, Prime Minister Harper and President Obama launched the Clean Energy Dialogue. Today, they discussed a progress report on the Dialogue focusing on clean energy research and development, a more efficient energy grid, and carbon capture and storage. The Prime Minister also highlighted a number of new projects that demonstrate progress on these discussions.

"Our government is pursuing joint projects with President Obama and his Administration. Our government is taking action to promote cleaner energy use," said the Prime Minister. "The British Columbia Northwest Transmission Line will build a more efficient electricity grid, increasing our use of clean and renewable sources of energy generation in the years to come."

To learn more about Canada's Economic Action Plan, visit www.actionplan.gc.ca. ; For more information on Government of Canada investments in infrastructure, visit www.creatingjobs.gc.ca

Return to the regular page.

Southeast Alaska Power Agency

An Interconnected Region

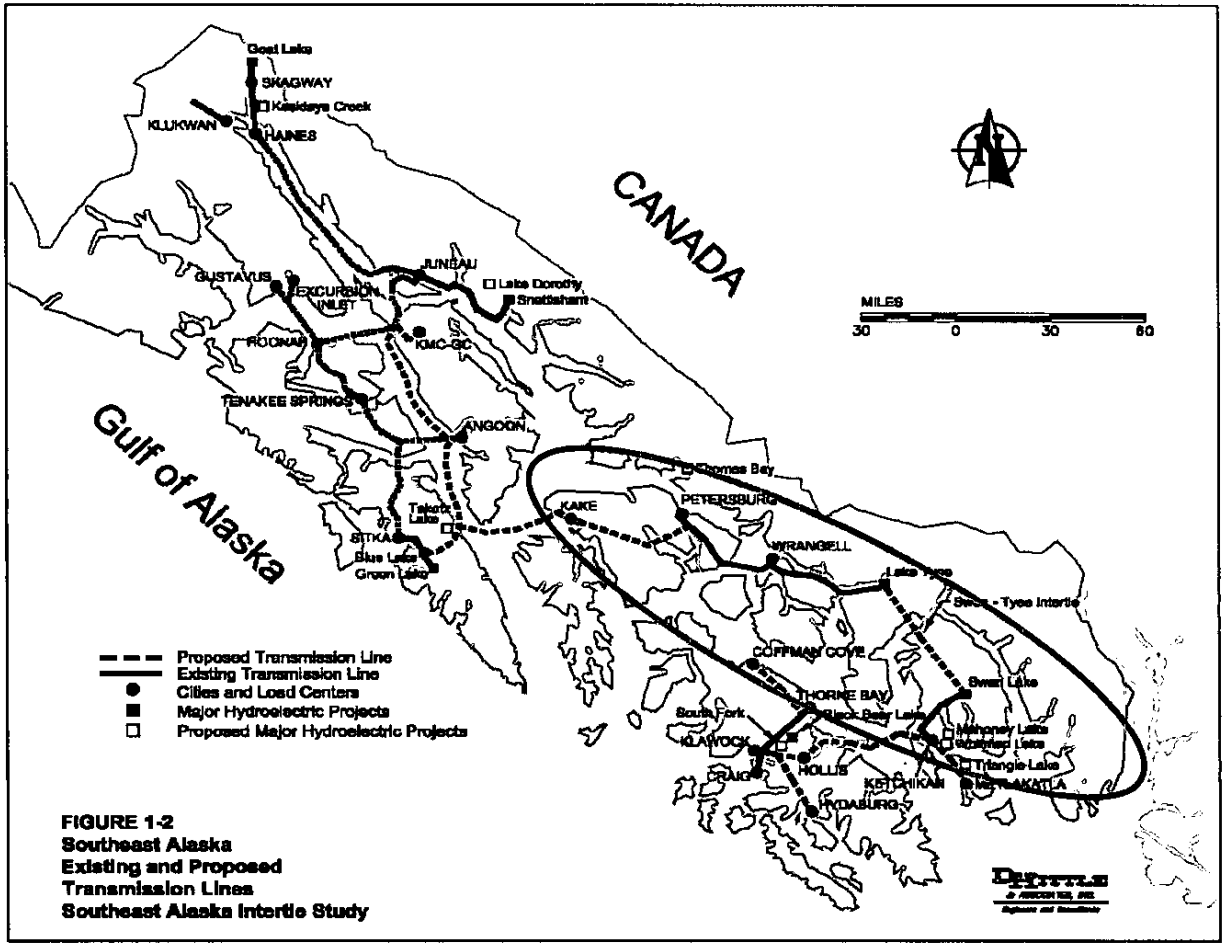
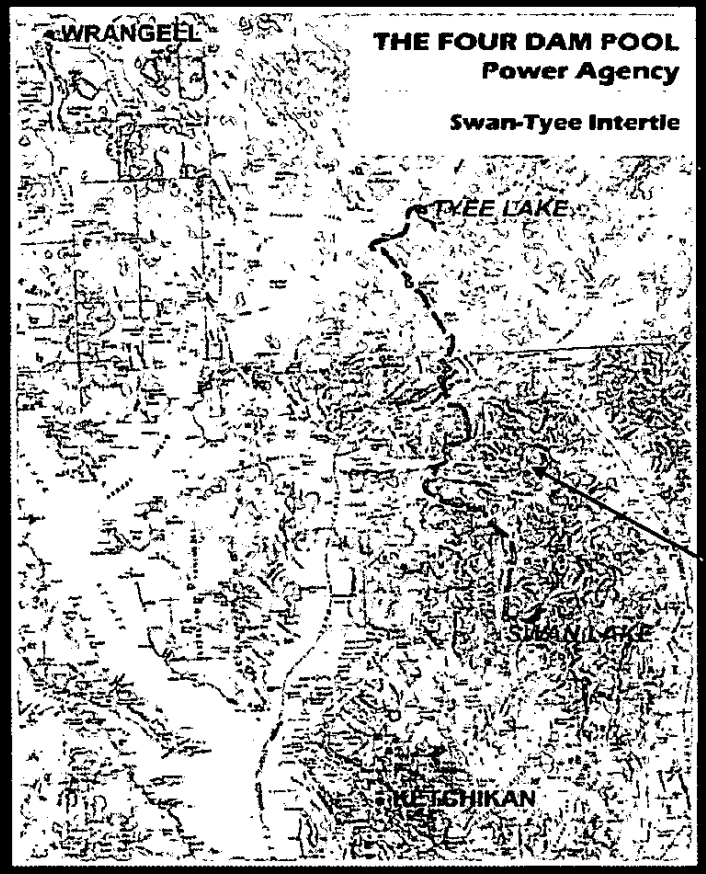


FIGURE 1-2
Southeast Alaska
Existing and Proposed
Transmission Lines
Southeast Alaska Intertie Study

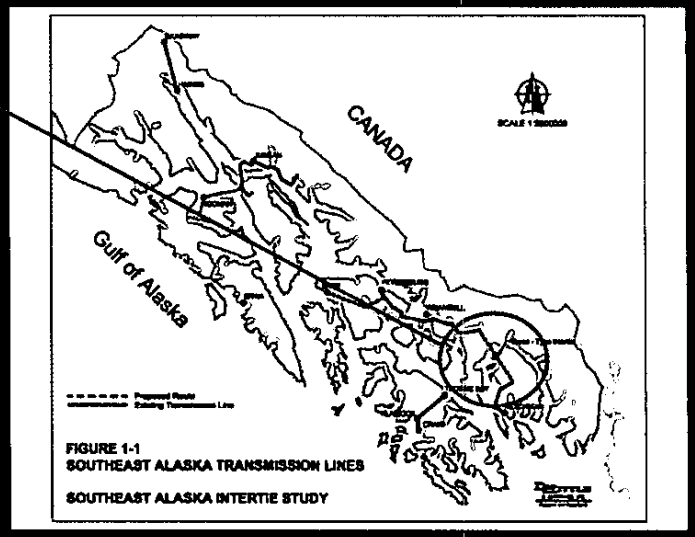
Southeast Alaska Power Agency

- Four Dam Pool Power Agency was 'restructured' on February 24, 2009
  - Sold the Terror Lake project to KEA and Solomon Gulch project to CVEA
- Agency renamed Southeast Alaska Power Agency (SEAPA)
  - Owns the Tyee Lake and Swan Lake Hydro Projects
  - Owns ~150 transmission lines connecting Ketchikan, Wrangell & Petersburg
  - Sells wholesale power to the local utilities

Swan-Tyee Intertie

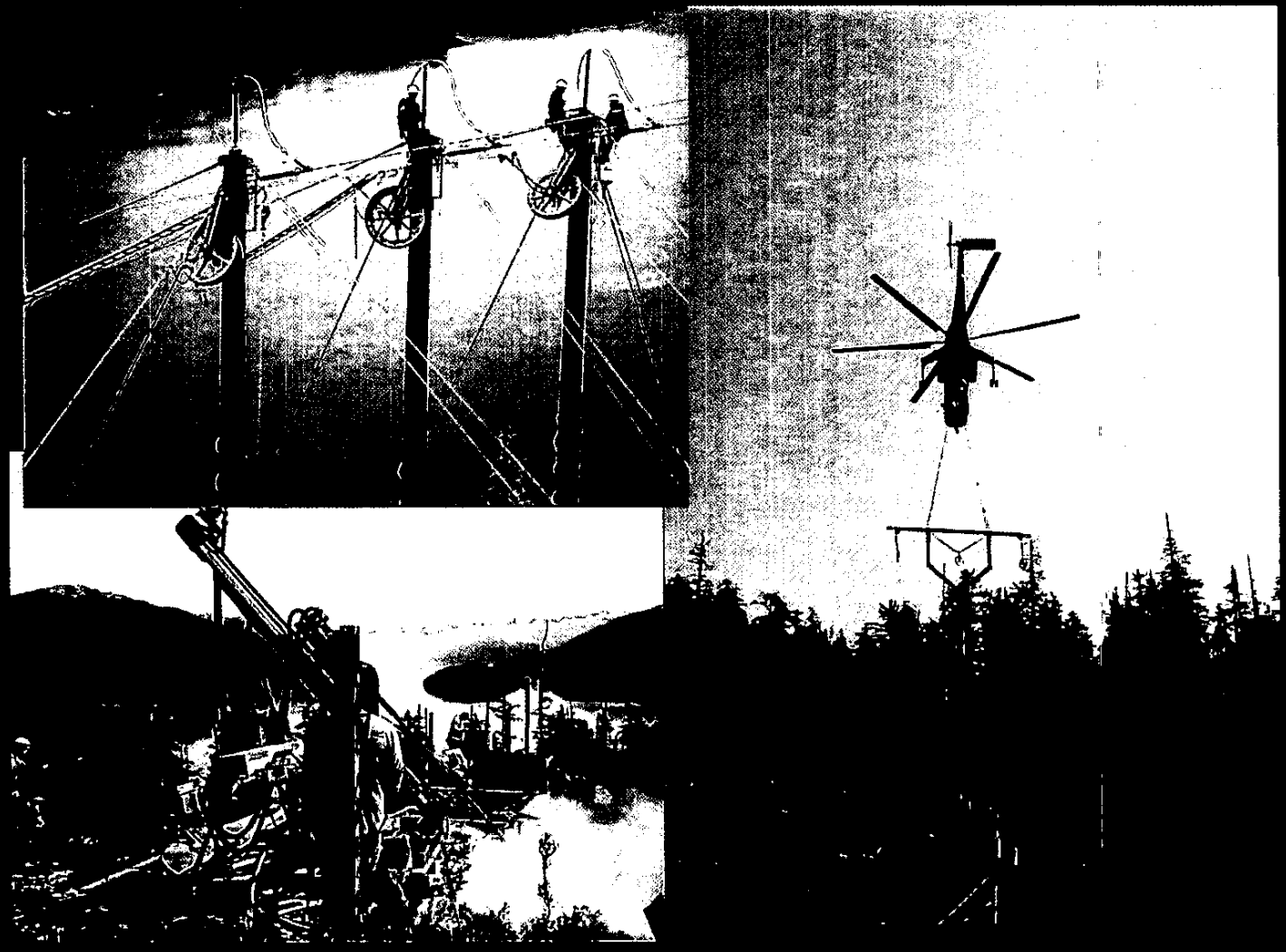


- 57 miles in length
- Construction is complete.
- Line will be energized in Oct/Nov.
- The Swan-Tyee Intertie will deliver renewable hydroelectric power to Ketchikan and displace fossil fuel generation.



- Alaska State Legislature approved $46.2 million dollar appropriation for the project in May, 2007

Swan-Tyee Intertie



Rob Goldberg
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September 16, 2009

A Comparison of Two Hydropower Sites in the Upper Lynn Canal Area: Connolly Lake and Schubee Lake

Introduction

In the early 1980's, Alaska Power & Telephone (AP&T) commissioned a study of potential hydropower sites in the Upper Lynn Canal area. Thirteen sites are detailed in a document titled "Table 17". Two of those sites, Goat Lake and Kasidaya Creek have been developed. Connolly Lake, then called Upper Chilkoot Lake, was the next obvious choice for development. This alpine lake is located in the upper Chilkoot Valley, about twenty miles northwest of Haines.

Schubee Lake is not listed in Table 17. Schubee Lake is located 3315 feet above the east side of Taiya Inlet about three miles south of AP&T's Kasidaya Creek project. On the USGS maps from the 1970's that were probably used when Table 17 was put together, a small lake appears at the foot of the Schubee Glacier. It isn't even named. While searching for potential hydro sites on a USGS map from the 1990's, I noticed a mile-long lake where there hadn't been one previously. A more recent Google Earth image shows a 260-acre lake at the foot of the glacier – Schubee Lake. Apparently a lot of ice has gone over the falls in the last thirty years.

The Need For Power

AP&T's Kasidaya Creek project is a run of the river site that is capable of providing power to Skagway and Haines from May until early winter when freezing temperatures slow water flow. Goat Lake is s storage site that can run all winter. The problem is that when the weather gets very cold, the power demand of the two communities exceeds the output capacity of Goat Lake and AP&T must resort to burning diesel. Another storage type hydro site would easily meet this demand.

A Connolly Lake – Schubee Lake Comparison

Methodology: Hydropower is calculated by multiplying the volume of flowing water (measured in cubic feet per second – CFS) by the drop, or head. The result is a measure of electrical power, measured in kilowatts or megawatts.
The website was used to calculate hydropower potential. The site operates in Metric, but the conversions are easy.

Calculating Flow – Using a USGS topographic map and following contour lines carefully it is possible to determine the collection area of a drainage in square miles. One square mile has 27, 878,400 square feet. Weather Service data from the Haines airport shows that we get about 48 inches, or 4 feet of precipitation annually. Of course, this amount varies for different areas of the Upper Lynn Canal, but there is a lack of data for areas beyond the airport. Multiplying 27, 878,400 square feet by 4 feet gives us 111,500,000 cubic feet of water per square mile per year. There are 31,536,000 seconds in a year. Divide and you get 3.5 cubic feet per second (CFS) per square mile. This means that, theoretically, every square mile in our area should be able to deliver a constant flow of 3.5 CFS. In reality, some water will be lost to evaporation, vegetation and flow into the bedrock. The flow also varies seasonally, with peak flows in the June and July runoff and almost no flow in the winter.

Stored water is measured in acre-feet. With four feet of annual precipitation, each square mile in our area has the potential to capture 2560 acre feet of water (4 x 640 acres/square mile).

Glacial Effect on Water Flow – Connolly Lake and Schubee Lake both have glaciers in the upper reaches of their drainages. Glaciers can either add to, or diminish, the annual flow in a drainage. In warm years, when the glaciers are shrinking, melting ice can augment the annual precipitation, perhaps considerably. Conversely, in cold years more of that year's precipitation will be stored as snow in the upper reaches of the glacier than will be released as melting ice farther below. In 2008, after a snowy winter and a cool summer, local glaciers actually gained mass, bucking the trend of the past decades. Because of its variability, I have not included the annual net gain or loss by the glaciers to either system's estimate of annual flow. If climate trends continue, and the glaciers continue to shrink, this additional flow will increase the power potential of each system, at least until the ice is gone.

Collection Area
Connolly Lake - ~ 4.4 square miles.
Schubee Lake - ~ 2.7 square miles.

Total Annual Precipitation Falling on the Drainage
Connolly Lake - ~ 11,264 acre-feet.
Schubee Lake - ~ 6,912 acre-feet.

Theoretical Constant Flow
Connolly Lake - ~ 15.4 CFS
Schubee Lake - ~ 9.45 CFS

Head
Connolly Lake – 2070 feet
Schubee Lake – 3315 feet

Power Potential
Connolly Lake and Schubee Lake have nearly identical power potential. Entering the head and the flow into the hydropower calculator at baipatra.com shows that either system should be able to produce about 2.7 megawatts (MW) continuously (12 month flow). AP&T's plan calls for their Kasidaya Creek generator, a run of the river project, to provide power for Haines and Skagway most of the year. This allows their storage project at Goat Lake to recharge. Goat Lake operates during the winter months when the Kasidaya project cannot. If Connolly Lake or Schubee Lake were run on a 6-month flow regime they could generate 5.4 MW. On a 4-month flow regime they could produce 8.1 MW. On a 3-month flow regime they could produce 10.8 MW.

AP&T is calling for a 12 MW capacity on the Connolly Lake project. To generate this much power with a head of 2070 feet requires about 70 CFS. This means that the generators could only operate at that rate for less than three months before using an entire year's water. Perhaps they are counting on the shrinking glacier adding water to the system.

Lake Surface Area
Connolly Lake - ~ 85 acres
Schubee Lake - ~ 260 acres

Lake Capacity
Connolly Lake – 9000 acre-feet (with dam). This is the "largest practical reservoir" as noted in AP&T's application to the AEA. Earlier estimates indicated 3500 acre-feet (Table 17) and 4700 acre-feet. None of these estimates exceed the 11,264 acre-feet that the drainage collects annually, meaning the lake cannot store an entire year's water.
Schubee Lake – Research done by AP&T in August, 2009 has shown an average depth of 300 feet. This means that Schubee Lake holds approximately 78,000 acre-feet of water. Utilizing the top 50 feet for hydro power would yield about 13,000 acre feet. This far exceeds the 6900 acre-feet that the drainage probably collects annually.

Penstock
Connolly Lake - ~ 6200 feet
Schubee Lake - ~ 7400 feet if run directly to tidewater below the lake's outfall. Another option is to divert the water over to the Kasidaya Creek drainage through a two foot diameter bore hole 1 mile long. The water could be run through a powerhouse at 1100' elevation and then collected by the existing Kasidaya penstock and powerhouse and used to make power again.

Transmission Line
Connelly Lake – 14 miles of buried cable.
Schubee Lake – Approximately 1 mile to tie in with the existing submarine cable, or no new cable if the water is diverted to the Kasidaya Creek powerhouse.

Road

Connolly Lake – 14 miles, plus bridges. AP&T's application states that the former logging road, RS 2477, "can still be used after some repairs and tree trimming". This is not true. The road beyond Chilkoot Lake is largely gone, consumed by the river. AP&T's estimated cost for rebuilding this road, $1 million is far too low. The cost is likely to be $10 million or more.

Schubee Lake - No road.

Dam

Connolly Lake - 48' high x 575' long concrete and rock dam built two thousand feet up a steep mountainside. Constructing this dam would be a monumental undertaking, and very expensive.

Schubee Lake – No dam. The penstock would siphon water from deep in the lake, as is the case with Goat Lake.

Impacts

Connolly Lake - The value of the Chilkoot watershed to the community of Haines is enormous. Subsistence, commercial and sport fishers rely on the watershed's productivity. The Chilkoot is also important for tourism and recreation, and for its cultural and historic value.

Approximately half of the sockeye salmon used by subsistence and commercial fishers originate and return to the Chilkoot. Many of our tourism businesses depend on the Chilkoot as a destination, both for the bears and the salmon they feed on. It is in the community's best interest to make sure that the Chilkoot's salmon runs are not diminished by any development. In our conversations with biologists who have worked in the upper Chilkoot, three areas of concern have emerged: the road and bridge to the powerhouse, the dam, and the resulting turbidity of Chilkoot Lake.

The Chilkoot River above the lake is very dynamic, that is, it frequently changes course across the width of the valley. Parts of the old logging road that AP&T plans to use to access the powerhouse site have become river channels. Restoring this logging road will involve a lot more than just clearing away alders from the former road bed. It would be a major undertaking requiring huge amounts of fill, with culverts and bridges designed to allow fish to pass unimpeded. Sediments created by the construction of the road and the burying of the power line would have to be contained. The new portion of the road that crosses the valley and then bridges the river to the powerhouse site would be the most problematic. This portion of the road would be perpendicular to the flow of the river. With the river as changeable as it is, the road would have to be designed to allow for water to pass in different places. Restricting the flow to one channel would put the roadbed at risk of erosion. It is possible that there is a suitable bridge site in place where the river is naturally constricted by the topography of the valley. It is difficult to imagine that this road could be built without some loss of habitat. There are two other factors that could impact the salmon: the risk of spills from vehicles and the impacts of increased human activity. There are also access issues, as the old road crosses private property.

AP&T's plan calls for a dam approximately 48 feet high and 575 feet long at the outlet of Connolly Lake. Presumably, the on-site equipment needed to construct this dam will have to be flown in by helicopter. Material to construct the dam (concrete and rock) would have to be trucked in and lifted to the site. What will the impact to the valley be from the thousands of truckloads of material being brought in, and the staging of those materials?

The engineering and construction of the dam would have to be flawless. If it were to fail for any reason, such as an earthquake, the resulting flood caused by the sudden release of 9000 acre-feet of water (~ 3 billion gallons) and the thousands of cubic yards of dam material would likely scour the Chilkoot Valley down to bedrock and fill Chilkoot Lake and River with sediment. This would be the end of the fishery for hundreds, if not thousands, of years. There is also a campground downstream, as well as residences. Although the incidence of dam failure is rare, the engineers who created Table 17 acknowledged the possibility. They stated that, for several hydropower sites located above Skagway, "seismically induced structure failure could cause risk to life and property."

Turbidity created by all the construction would end up in Chilkoot Lake. Studies have shown a direct correlation between turbidity and zooplankton survival in the lake. As turbidity increases, the zooplankton diminish. Low zooplankton levels have been suspected in the decline of the Chilkoot sockeye runs in recent years.

.Schubee Lake – There would be no impact to fish, as water exiting the powerhouse would run directly to the sea. The only impact that some people may be concerned about would be visual. The long, thin waterfall coming from Schubee Lake would likely disappear or be greatly diminished. In my opinion, the need for hydropower outweighs the visual value of one waterfall. There are others nearby. The penstock, if run directly to tidewater, would also be visible to boaters.

Community
Connolly Lake – There is already a community battle brewing over the Connolly Lake project. The Chilkoot Valley is important to a wide spectrum of people. Conservationists aren't the only ones who are concerned. Opposition is likely to delay the project.
Schubee Lake – Full community support.

Project Cost
Connolly Lake – Estimated $34 million. I suspect this figure is low because AP&T's estimate to restore forest road RS 2477 and to build bridges is unrealistic.
Schubee Lake – Cost is unknown, but this project is very similar to AP&T's Goat Lake project, which cost $7.8 million. Even if the option to bring the water to the Kasidaya Creek drainage through a borehole were implemented, the cost would be substantially less than Connolly Lake because there would be no dam, no road, no transmission line, no environmental problems and no community opposition.

Rob Goldberg
Box 1154
Haines, AK 99827
(907) 766-2707

September 16. 2009

To: Alaska Senate and House Energy Committee members,

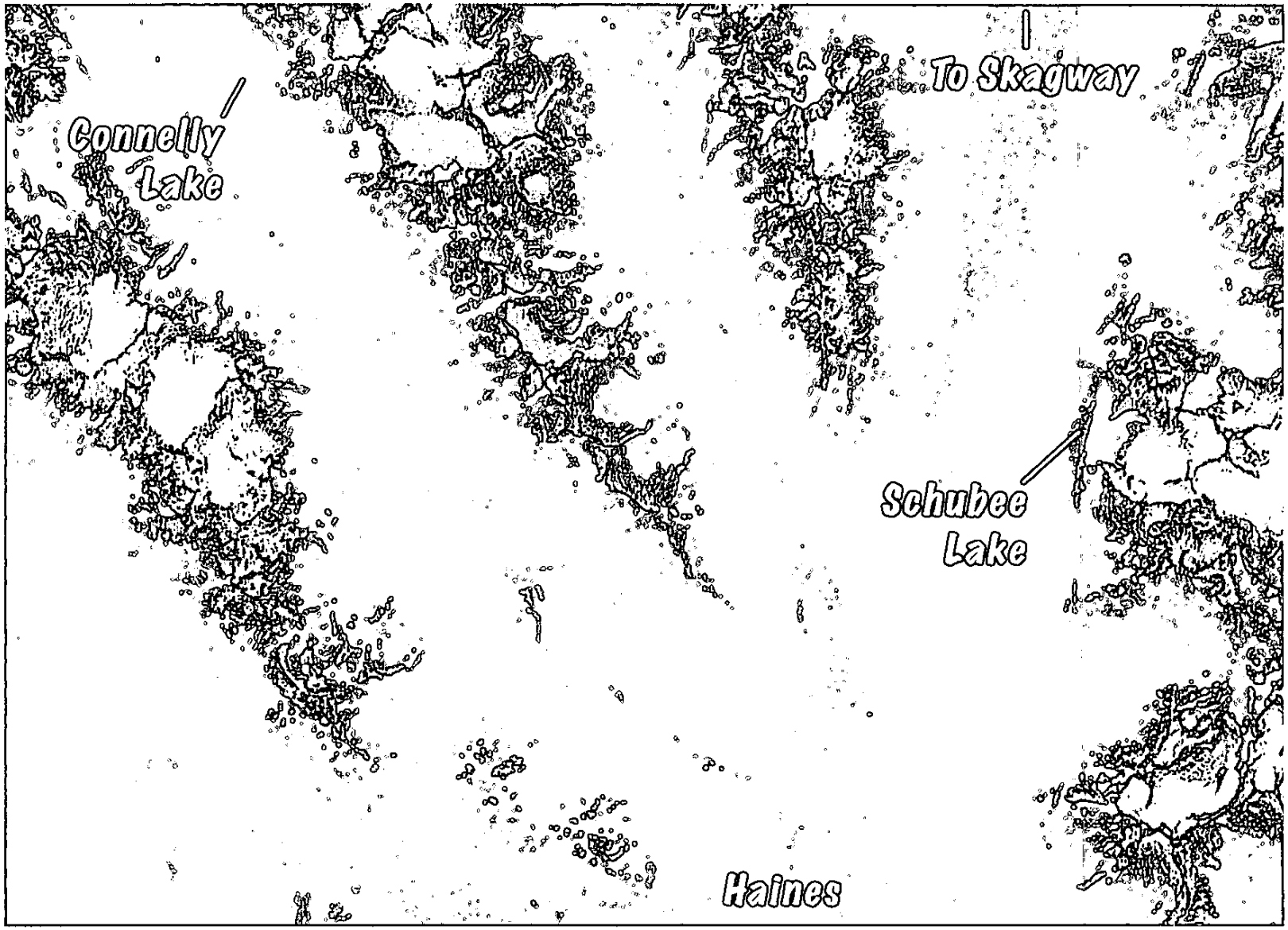
As you consider criteria for state funding of renewable energy projects, attention must be paid to the impacts to the environment and to neighboring communities. Judging a project solely on its ability to produce power is not enough.

I've been a planning commissioner here in Haines for the past seven years. My job is to find creative solutions to problems facing the community. Ideally, these solutions should promote community harmony and provide a long-term benefit. Recently I was faced with such a problem: How can we provide additional renewable energy to Haines and Skagway in the winter months without damaging salmon habitat and incurring community conflict?

The proposed Connolly Lake project is loaded with potential habitat and social issues. The Chilkoot Valley is some of the most productive salmon habitat in Southeast Alaska. I do not think that ten miles of road and a dam containing approximately 60,000 cubic yards of fill material can be built on top of salmon spawning and rearing habitat without ultimately reducing the number of salmon. Studies have shown that increased turbidity in sockeye spawning lakes reduces the survivability of juvenile salmon. There is also considerable community opposition to the Connolly Lake project, and not just from conservationists. People are sensitive to threats to their food supply.

I set out to see if I could find another source of power for the community. I analyzed six run of the river and one storage hydro sites on the west side of Lynn Canal. None of them have the potential for power generation that Connolly Lake has. I also looked at wind power generation, but wind doesn't have the consistency of hydro. I then obtained the latest USGS map of the east side of Lynn Canal and discovered a mile long lake perched 3300 feet above tidewater about three miles south of AP&T's Kasidaya Creek

Upper Lynn Canal: Connelly Lake and Schubee Lake hydro sites



September 16, 2009

Alaska Legislature Energy Committee Members

Senators McGuire, Hoffman, Kookesh, Stedman, Wielechowski
Representatives Edgmon, Millet, Dahlstom, Johansen, Ramras, Peterson, Tuck

Dear Alaska Legislature Energy Committee Members:

My name is Ray Staska. I served as ADFG Haines Area Management Biologist from 1980-97. During 1981-83 I conducted salmon inventory and resource studies in the Haines watersheds in response to the controversy over the proposed Bald Eagle Preserve.
One important area of study was the upper Chilkoot River and lake. Previously, little data was available from this area.
Irv Boeker, National Audubon Society, conducted concurrent studies of Bald Eagle numbers and activities in the upper Chilkoot valley as well as the Chilkat watershed. As a result of Mr. Boeker's research combined with the data gathered by my salmon investigations, the upper Chilkoot River and lake shoreline was included in the final passage of the Alaska Chilkat Bald Eagle Preserve.
I would like to stress to you that the Chilkoot portion of the ACBEP remains a unique and critical habitat area.. Within this area as well as the section of the watershed above the preserve, Bald Eagles, Sockeye and Coho salmon, Brown Bears and pristine water remain highly valued resources which continue to support annual multi-million dollar commercial salmon and tourism industries.
I support Schubee Lake proposed hydro-energy project on the east side of Lynn Canal. It appears to be a feasible, viable alternative to the Connelly Lake proposal with greatly reduced concerns for the environment and salmon resources.

Sincerely Yours,

Ray Staska

Ray Staska
POBox 486, Haines Ak 99827

cc. ADFG-Haines; USFWS-Juneau; NAS-Fairbanks; T.Bolen-HnsBoroMngr

1727

Southeast Conference Presentation to the Joint Committees of: House Energy, Senate Energy and Senate Resources

September 16, 2009

Haines, AK

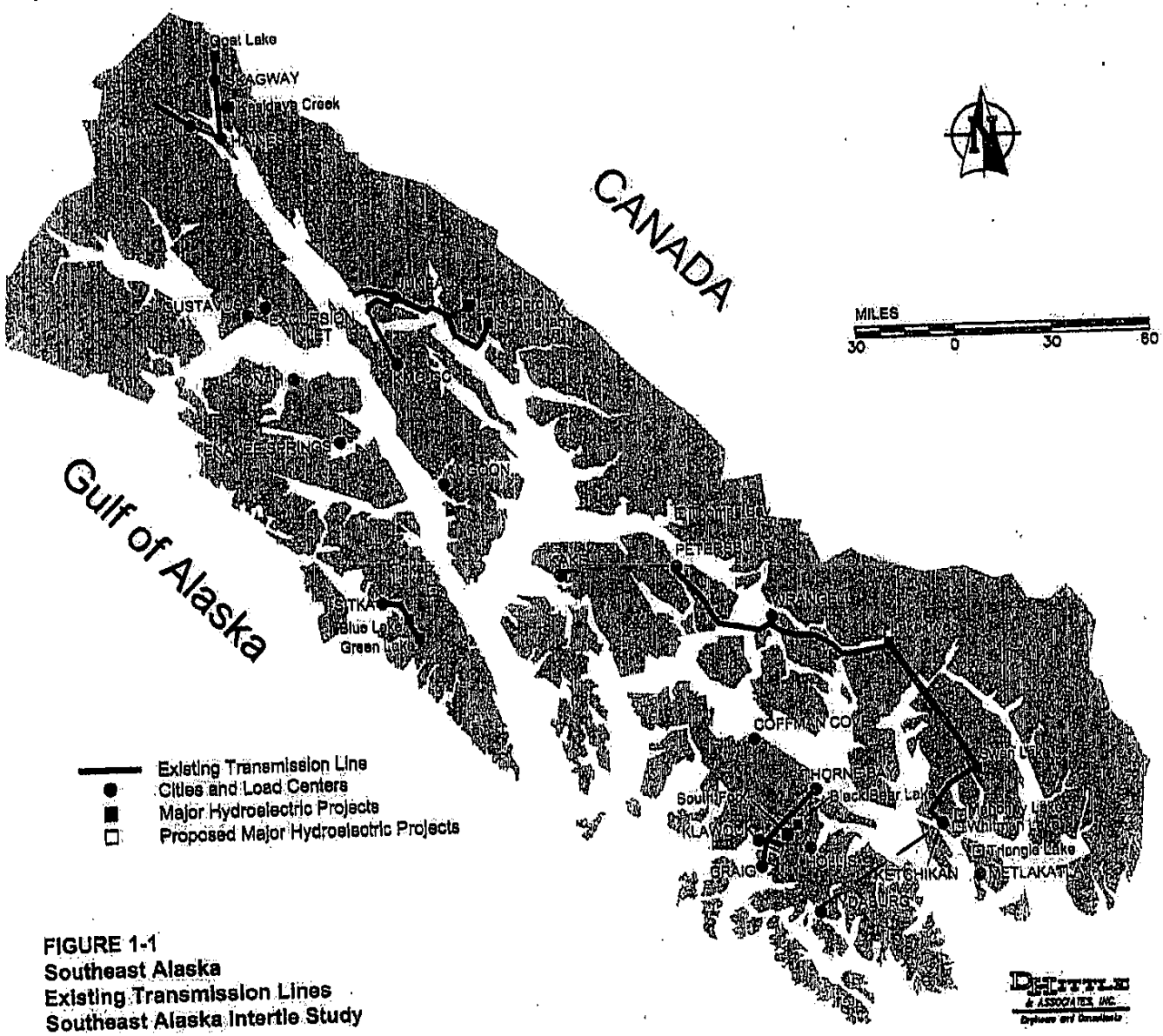


FIGURE 1-1
Southeast Alaska
Existing Transmission Lines
Southeast Alaska Intertie Study

Good afternoon and thank you Madam Chair(s) and committee members for this opportunity to discuss the ongoing activities that Southeast Conference, its member communities and utilities are engaged in that is making a difference throughout the region. My name is Robert Venables and I am the Energy Coordinator for Southeast Conference.

Southeast Conference is the State of Alaska's Regional Development Organization (ARDOR), the Federal Economic Development District (EDD) and the USDA Resource Conservation and Development (RC&D) Council for Southeast Alaska. Our mission is to help develop strong economies, healthy communities and a quality environment in Southeast Alaska.

Southeast Conference was formed over 50 years ago in response to the region's need for improved transportation and an advocate for the ferry system. Since then, our member communities have worked through Southeast Conference on issues ranging from transportation, economic development, timber, fisheries, mining, environment, health care, tourism and energy. Our energy committee first gathered in 1997 as the Intertie Committee and produced the study in 1998 called the Southeast Alaska Electrical Intertie System Plan. That study has been the guiding document for the concept of a region-wide interconnected intertie system that would (in a perfect world) provide energy security and electrical redundancy for the communities of Southeast.

However, as construction costs continue to escalate and time passes, our focus is turned toward the resources at hand and the extreme need that still exists in many communities such as: Kake, Angoon and Hoonah. Many of our more urban communities are facing shortages in the near and foreseeable future as the demand for energy exceeds the capacity of current renewable resources.

But, Southeast Alaska has a plan. Each of our communities has short-term and long-term objectives that, if constructed, will meet the needs of our region. We have had significant achievements this past year due, in large part, to the work of the Legislature and the guidance of the Alaska Energy Authority. The Southeast Conference Energy Committee will be meeting directly after this hearing, and will have more in-depth reports to share on the current status and projected plans for each utility.

The most significant achievement in the region this year is the completion of SEAPA's Swan-Tyee Intertie. You will hear more on this from Mr. Dave Carlson, but this project has been long advocated by Southeast Conference. What we are seeing emerge is a stable supply of renewable resources and a network that can extend from Metlakatla, where there is already surplus power generated and additional resources along the intertie route, to the community of Kake where there are no significant renewable resources to develop in a community that is economically devastated. Southeast Conference is working with SEAPA, IPEC and the local governments and making significant progress on the Kake-Petersburg Intertie that will allow Kake to displace its diesel-generated power and enable Kake to be revitalized, both socially and economically.

Other significant milestones for the region are the completion of 3 new hydroelectric facilities. AEL&P's Lake Dorothy Hydro in Juneau, AP&T's Kasidaya Creek Hydro in Upper Lynn Canal and the Falls Creek Hydro Electric facility in Gustavus.

We are particularly grateful for the state's investment of nearly $17 million into renewable energy projects in Southeast Alaska. This will allow many of the most critically needed projects to advance, such as the interties from Petersburg to Kake and Metlakatla to Ketchikan (construction funds are still needed) and the intertie to Coffman Cove and Naukati (which should be completed next season), as well as generation projects such as the Reynolds Creek Hydro, Whitman Lake Hydro and a feasibility study for the Takatz Lake Hydro.

We are also appreciative of the important legislation that has passed (HJR25, especially HB 152) and those still under consideration such as SB 132 (S.E. Energy Fund), SB 31 (renewable energy production tax credits), and HB 218 and HB 219 which are being discussed today.

Southeast Conference is extremely grateful for the support and guidance given by the Alaska Energy Authority. Their expertise has helped the region to make more informed decisions and build better projects. We are currently working with AEA and our local municipalities and utilities to update energy plans that have been in existence for many years and have, in some cases, become obsolete. Having a current up-to-date Integrated Resource Plan (IRP) is key to understanding which projects truly need to be constructed and brought on line first. This will be a top priority as we develop an energy plan for the region and state.

Another important project needing immediate funding is the development of a comprehensive energy plan for Hoonah and Chichagof Island. Each of the 4 communities on the island have energy projects underway to address short-term needs. Southeast Conference facilitated an island-wide joint meeting in Hoonah this summer that discussed the untapped potential that may exist around the communities of Hoonah, Pelican, Tenakee Springs and Elfin Cove.

One of the obsolete energy plans that has been abandoned is the intertie from Juneau to Hoonah. While technically feasible, a recent analysis of the proposed intertie showed the construction costs ranging between $40-50 million. This coupled with the future costs for operations, maintenance and eventual line replacement made constructing this intertie (in one of the world's deepest channels) uneconomical.

As you can see by the attached FY 2010 Work Plan established by the Southeast Conference Energy Committee, there is much work yet to be done. But progress is being made and we hope that with your support we can continue to work toward continued success in implementing our shared vision to utilize Southeast's plentiful hydroelectric potential and reduce, to the maximum extent possible, the use of diesel as a primary fuel source for the generation of electricity.

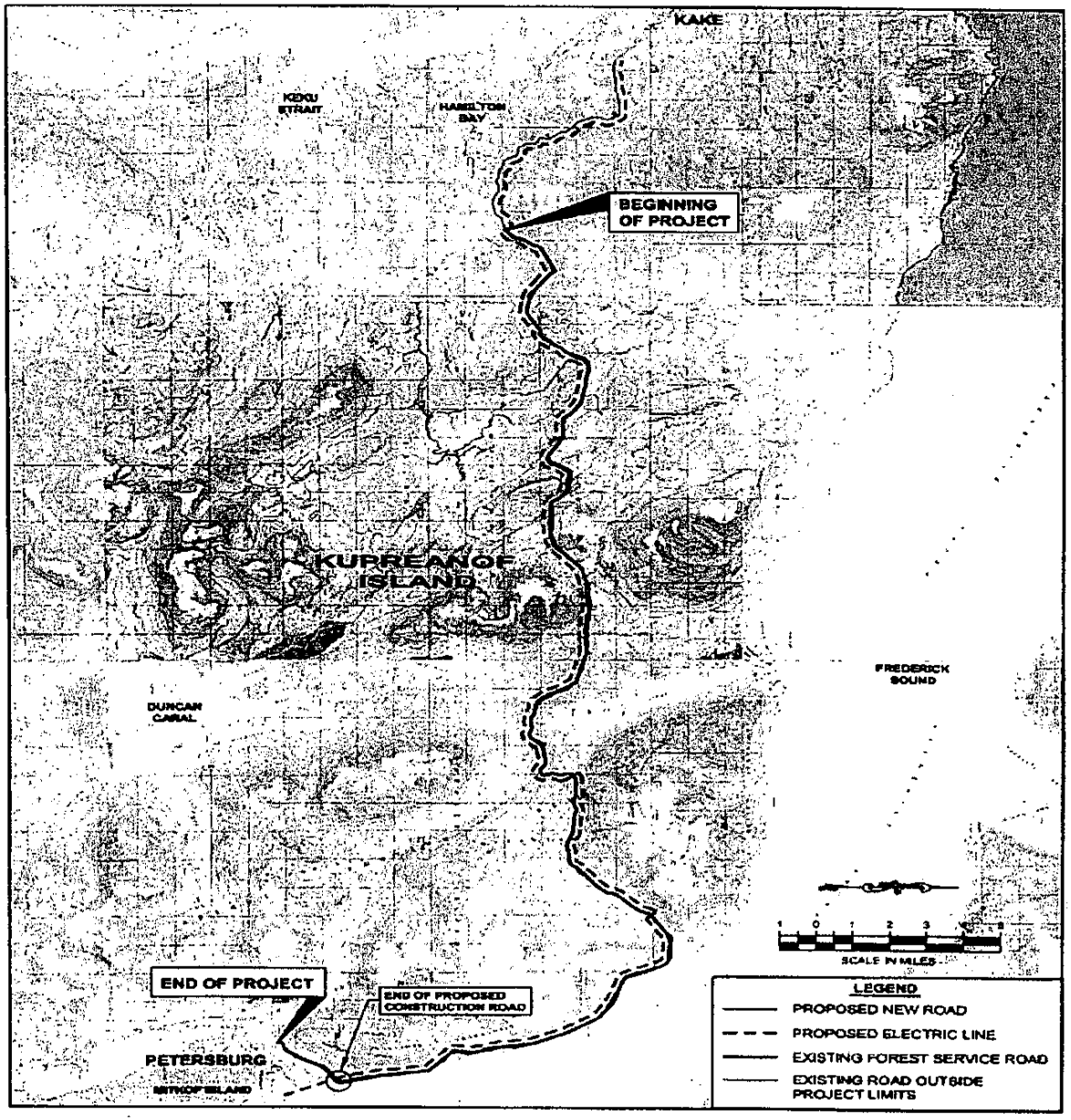
Thank you.

Energy Committee's Work Plan

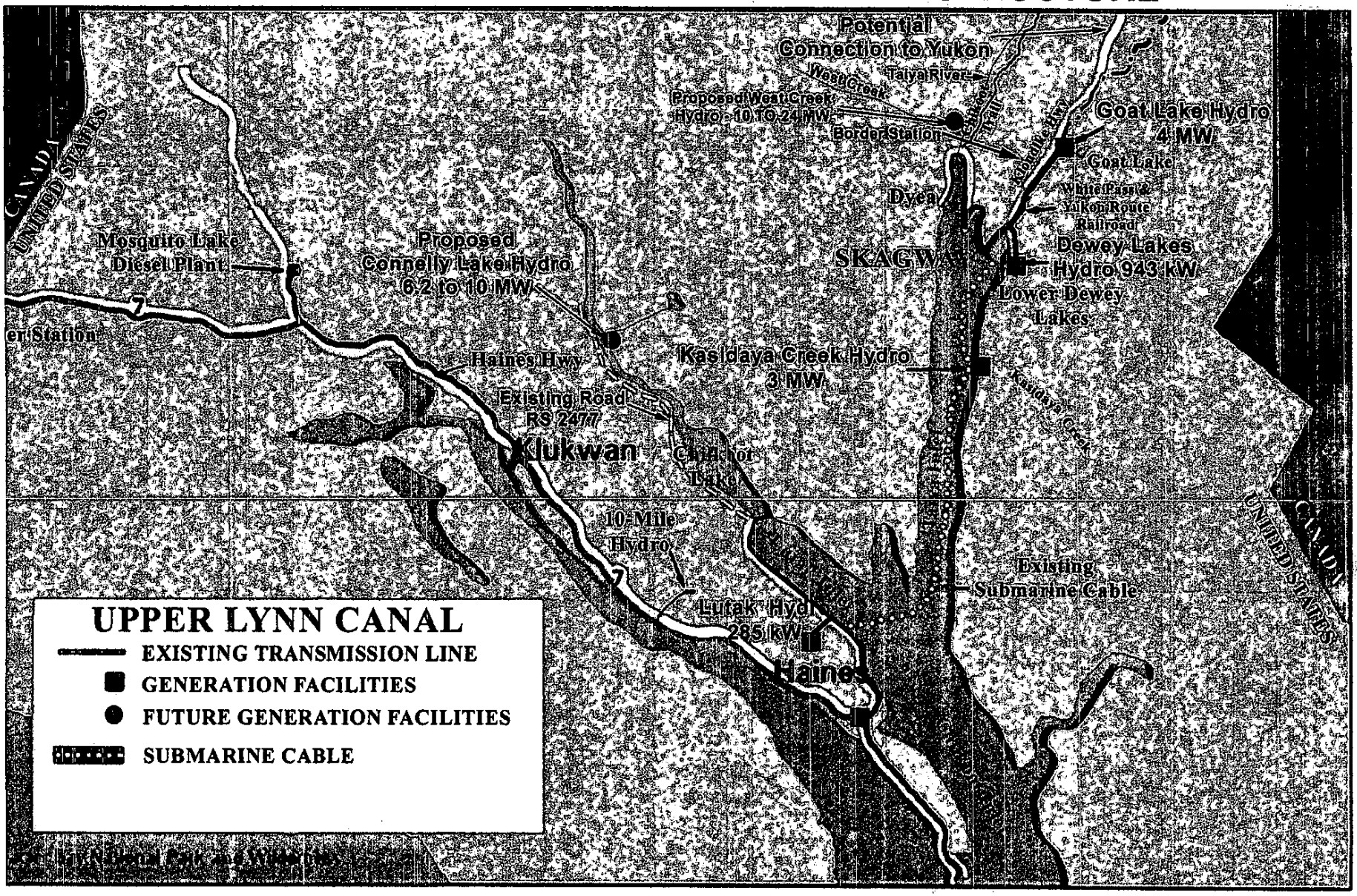
- **PROGRAM GOALS**
- Reduce dependence of fossil fuels. This is critical in light of the recent price increases in oil.
- Bring affordable hydro power to communities where this is technically and economically feasible.
- Develop a regional electrical grid interconnecting Southeast communities and utilities with hydroelectric generation.
- Work with member communities/utilities to develop adequate energy infrastructure including alternative energy sources (geo-thermal, biomass, wind, tidal, hydrogen) to meet future needs.
- Reduce and stabilize costs to rate payers and communities and increase economic development opportunities.
- **FY10 Energy Tasks and Work Plan**
- Coordinate inter-agency and community efforts to design and permit Kake-Petersburg Intertie.
- Work with Haida Corp. and AP&T to advance the Reynolds Creek Hydro to completion.
- Work with federal, state funding agencies to construct Kake-Petersburg Intertie.
- Support and assist IPEC's efforts to develop alternative energy resources for Hoonah and Angoon.
- Work with member communities and utilities to secure permits and funding for hydro and other alternative energy project development.
- Assist geo-thermal development efforts on Chichagof Island (Tenakee Springs and near Hoonah).
- Build a database inventory of regional energy projects.
- Develop Southeast energy plan that includes both short-term "band-aids" (PCE to businesses, schools) and long-term solutions (hydro, interties),
- Facilitate AEA activities, as needed, in implementing the Southeast Energy Plan and develop a regional governance model.
- Serve as a resource of information for the membership, public, Legislature and Administration.

Southeast's Hydros = "Bullet Line"

Hydroelectric Site	Location	Planned Capacity	Community/Utility
Anita-Kunk Lakes	Wrangell	8.0 MW	Wrangell
Cascade Creek	Thomas Bay	80.0 MW	Cascade Creek, LLC
Connelly Lake	Haines Borough	10.0 MW	Alaska Power and Telephone
Connel Lake	Ketchikan	2.0 MW	Ketchikan Public Utilities
Elephant Falls	Hoonah	6 MW	IPEC
Gartina Creek	Hoonah	6 MW	IPEC
Kasidaya Creek	Skagway	2.0 MW	Alaska Power and Telephone
Katlian River	Sitka	7.0 MW	
Lake 3160	Lace River	4.0 MW	Alaska Power and Telephone
Lake Dorothy	Juneau	15.0 MW	Alaska Electric Light and Power
Lake Dorothy	Juneau	32.0 MW	Alaska Electric Light and Power
Mahoney Lake	Ketchikan	10.5 MW	Ketchikan & Saxman
Neck Lake	Whale Pass	3 MW	Alaska Power and Telephone
Reynolds Creek	Prince of Wales Island	5.0 MW	Haida Corp.
Ruth Lake	Thomas Bay	20.0 MW	Multiple pending FERC applications
Scenery Creek	Thomas Bay	40.0 MW	Pending FERC application
Solie River	Hyder	42.0 MW	Alaska Power and Telephone
Sunrise Lake	Wrangell	4.0 MW	
Takatz Lake	Sitka	28.0 MW	City and Borough of Sitka
Thayer Creek	Angoon	1.0 MW	Kootznoowoo, Inc.
Thoms Lake	Wrangell	7.5 MW	
Triangle Lake	Metlakatla	4.0 MW	Metlakatla Power and Light
Tyee Lake expansion	Wrangell	11.5 MW	Southeast Alaska Power Agency
Water Supply Creek	Hoonah	6 MW	IPEC
Whitman Lake	Ketchikan	4.6 MW	Ketchikan Public Utilities
TOTAL		*330 MW*	


KAKE
KEKU STRAIT
HAMILTON BAY
BEGINNING OF PROJECT
KUPREANOF ISLAND
DUNCAN CANAL
FREDERICK SOUND
SCALE IN MILES
END OF PROJECT
END OF PROPOSED CONSTRUCTION ROAD
PETERSBURG
LEGEND
PROPOSED NEW ROAD
PROPOSED ELECTRIC LINE
EXISTING FOREST SERVICE ROAD
EXISTING ROAD OUTSIDE PROJECT LIMITS

UPPER LYNN CANAL REGIONAL ENERGY INFRASTRUCTURE



UAA - Training system

BC intertie
Alaska-Canada
Coalition

Habitat Consideration

electric Cord

Noatak
Nome
Kotz
Dillingham - Alegena
Bethel - Kasigluk
Kenai
Ditch Harbor
Haines
Anchorage
Juneau

12th
community

1737

Thank You!

Southeast Conference

Robert Venables
Energy Coordinator

Shelly Wright
Executive Director

JC Conley, Chair
Energy Committee

Mike Korsmo
President

Southeast Conference Annual Meeting, September 16, 2009 in Haines, AK

46.2 Mill
Swan Tyee
Completion

BC Intertie Report
AFA

- PCE to Fund Projects

400 people Kake
(New hydro tie in)

Connely lake - Above Chilkoot lake vs Schube lake
APT - FERC

Chilkat Lake - Habitat - Salmon beds
spawning area

Statewide energy plan Short Mid long term
(Billions to accomplish it!)

Wind Resource - Solar Power
Fund Energy Solutions
~~Norway~~ example! - 89% gross

Tax Credit - home credits
Power rebate

Arrangements for Rattle School

Alaska Native Sisterhood Camp #5
Resources Committee
PO Box 781, Haines AK 99827

Representative Charisse Millett
Chair, Energy Committee
716 W. 4th Ave., Suite 630
Anchorage AK 99501

Dear Representative Millett:

Thank you for coming to Haines, Alaska, and listening to public concerns regarding energy issues in our area.

And thank you for your letter in the Chilkat Valley News this week inviting further comment from others.

Attached is a resolution passed this week by the Alaska Native Sister Camp #5 of Haines by a vote of 12-0 of the general membership.

We urge the Alaska Legislature to acknowledge the value of Alaska's wild fish stocks when making funding decisions regarding hydro-electric projects.

As you can see from the enclosed resolution, ANS Camp #5 opposes any state or federal funding for further studies or development of a hydro-electric project in the Chilkoot Watershed (Connelly Lake Project).

At the same time we fully support state and federal funding to pursue studies and development of a hydro-electric project in the Upper Lynn Canal at Schubee Lake.

Please share this letter and the attached resolution with the other members of the Joint House and Senate Energy Committees.

Regards,

Kathleen Menke, Chair and Marilyn Wilson, Co-Chair, ANS Camp #5
Resources Committee

Alaska Native Sisterhood Camp #5

Resolution #09-02

TITLE: SUPPORT FOR PROTECTION OF THE CHILKOOT WATERSHED AND OPPOSITION TO THE CONNELLY LAKE HYDRO-POWER PROJECT

WHEREAS, the Haines ANS Camp #5 is a fully authorized adjunct to the ANB & ANS Grand Camp, and its members reside within the boundaries of the Chilkat Valley, as a result are charged with protecting and preserving the environment for generations to come;

WHEREAS, historically the Tlingit clans and Tribes have been stewards of the water and lands of Chilkoot Lake area that they have used and occupied since time immemorial;

WHEREAS, the late Tlingit elder and clan leader of Chilkoot, Austin Hammond, and other clan elders spoke against the development of the hydro-electric project at Chilkoot Lake area, as they knew the sensitivity of this most important spawning area;

WHEREAS, the tributary streams feeding into Chilkoot Lake and River are spawning streams for sockeye and coho salmon and are part of the Chilkat Bald Eagle Preserve because they are sensitive salmon spawning grounds;

WHEREAS, the Chilkoot River is a small (less than twenty-mile long) river lying within a steep glacial valley, yet is so productive that it supports four runs of salmon (sockeye, pink, chum, and coho), Dolly Varden trout, and a significant run of hooligan (eulachon) as well as a diversity of wildlife including bald eagles, bears, and otters;

WHEREAS, the Chilkoot Lake and River is a vital renewable resource for the traditional and cultural uses in the Lynn Canal area, as well as an important resource for sport and commercial fishermen in Lynn Canal and most of Southeast Alaska;

WHEREAS, the Haines Borough, the State of Alaska and the United States should honor the value of native wild fish stocks;

WHEREAS, the proposed Connelly Lake project is likely to cause irreparable negative impacts to important fish stocks within Chilkoot Lake and River area due to road and dam construction, soil erosion, increased turbidity due to construction and extra winter outflows, change in temperature and flow patterns from their natural temperature and flow patterns, and further development at the sensitive spawning grounds above Chilkoot Lake that would likely follow road and power lines;

WHEREAS, the mitigation of the Chilkoot Lake and River area, which is so highly sensitive, can never make up for the possible long-term loss of an important resource; and

WHEREAS, recent Alaska Power and Telephone studies have shown that Schubee Lake across the Lynn Canal is a viable alternative to the Connelly Lake project, likely more cost effective, and would not negatively impact any sensitive salmon spawning areas:

NOW THEREFORE BE IT RESOLVED, that the Alaska Native Sisterhood Camp #5 be on record as opposed to the Alaska Power and Telephone hydro-electric project in the upper Chilkoot watershed known as the Connelly Lake Project, as well as being opposed to any state or federal funding to pursue further studies or development of the Connelly Lake Project.

BE IT FURTHER RESOLVED, that the Alaska Native Sisterhood Camp #5 be on record as supporting an alternative hydro-electric project, such as Schubee Lake across the Lynn Canal, as well as being in full support of state or federal funding to pursue studies and the development of the hydro-electric project at Schubee Lake.

Georgiana Hotch
(ANS Camp #5 President)

ATTEST: I certify that this resolution was adopted by the Alaska Native Sisterhood Camp #5 meeting in Haines, Alaska, at their general meeting on September 26, 2009 by a vote of 12-0.

Carol L. Duis
(ANS Camp #5 Secretary)

10-23-09 Testimony: Rural Alaska Energy Concerns

<target><bill></bill><subject>10-23-09 Testimony Rural Alaska Energy Concerns</subject><comm>HENE26</comm></target>

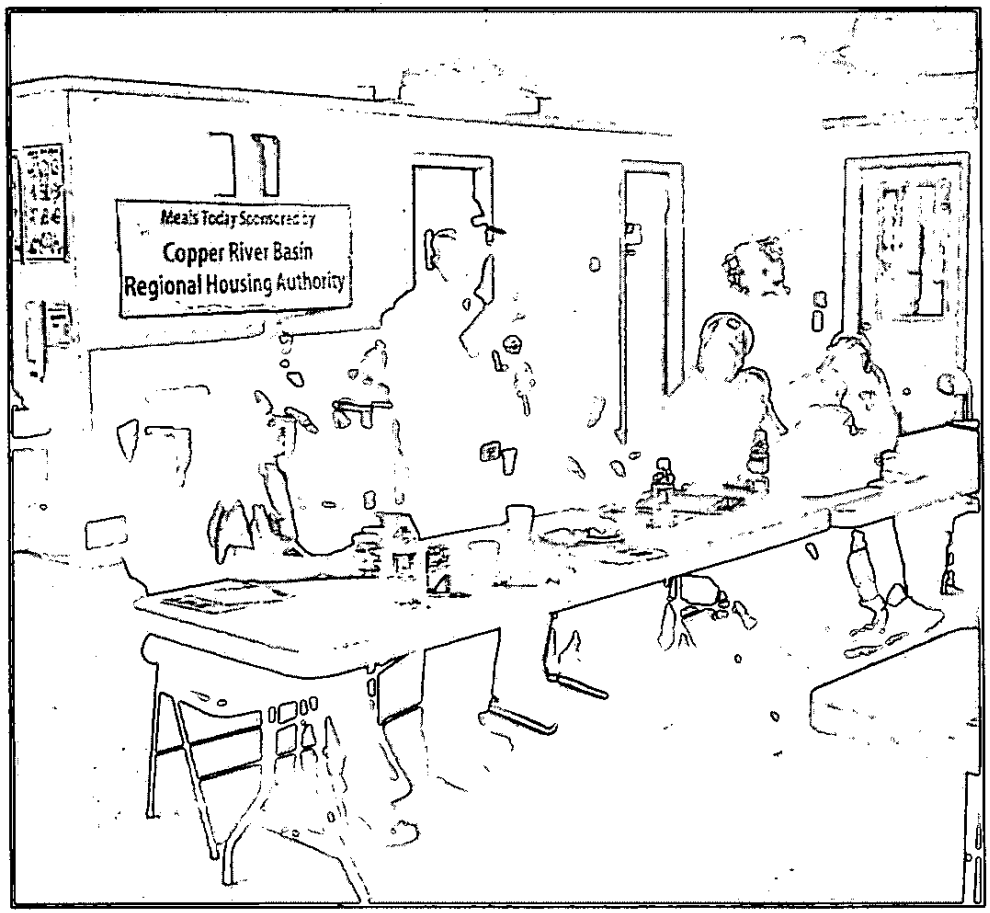
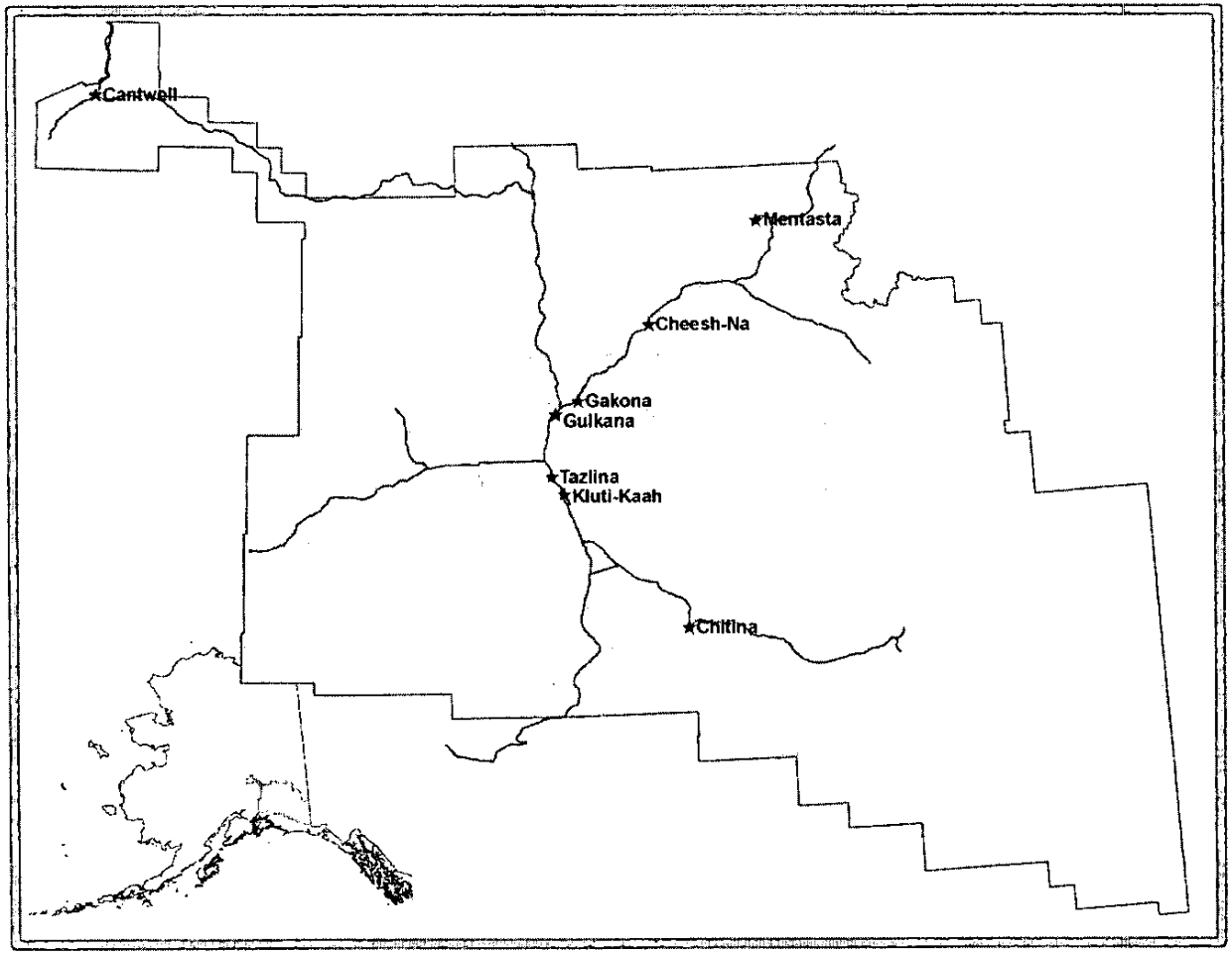


Photo: **Ahtna Traditional Chief Ben Neeley addressing participants at recent Ahtna Regional Tribal Energy Summit,** Gulkana Community Village Hall, October 13, 2009

TESTIMONY OF AHTNA, INCORPORATED FOR THE JOINT HOUSE & SENATE ENERGY/ RESOURCES COMMITTEES OCTOBER 23, 2009

Map of Ahtna Region



Background on Ahtna Region

- Part of Unorganized Borough
- Ahtna Athabascan
- Ahtna's land conveyance totals 1.77 million acres of land
- 7 of 8 Villages merged with Ahtna, Inc.
  - Ahtna provides Land and Resource Management
- Ahtna Region bordered by National Parks
  - Wrangell St. Elias and Denali National Park
- All 8 Villages on Road System
  - Blessing and Curse
- Power Cost Equalization Program (PCE) Recipients
  - Chitina, Cheesh'Na, and Mentasta Lake

Ahtna Regional Leadership

- Regional Corporation
  - Ahtna, Incorporated
- Regional Non-Profits
  - Copper River Native Association
  - Mt. Sanford Tribal Consortium
- Housing Authority
  - Copper River Basin Regional Housing Authority
- One Village Corporation
  - Chitina Native Corporation
  - Owner, Chitina Electric

Ahtna Tribes

Mentasta

Cheesh'Na (Chistochina)

Cantwell

Gakona

Gulkana

Tazlina

Kluti-Kaah (Copper Center)

Chitina

Utility and Fuel Providers

UTILITY SERVICE PROVIDERS

- **Golden Valley Electric Association**
  - Cantwell - $0.16494/kwh
- **Copper Valley Electric Association**
  - Gakona, Gulkana, Tazlina, Kluti-Kaah, and Chitina
  - Price today for Glennallen is $0.21/kwh. Valdez pays a different rate.
  - Summer (Hydro)/Winter (Diesel) – seasonal fluctuation
- **AP&T**
  - Mentasta Lake - $0.3068/kwh
  - Cheesh'Na - $0.2975/kwh

FUEL PROVIDERS

- **Fisher Fuels**
  - $3.31 (No. 1) per Gallon of Diesel
- **Crowley**
  - $3.61 (No. 1) per Gallon of Diesel – will be going up next Monday 10/26/09
  - **All information regarding Utility rates and Fuel prices come from their websites or from telephone conversations made in preparation of this presentation.**

AHTNA REGIONAL GOAL: ENERGY SELF-SUFFICIENCY

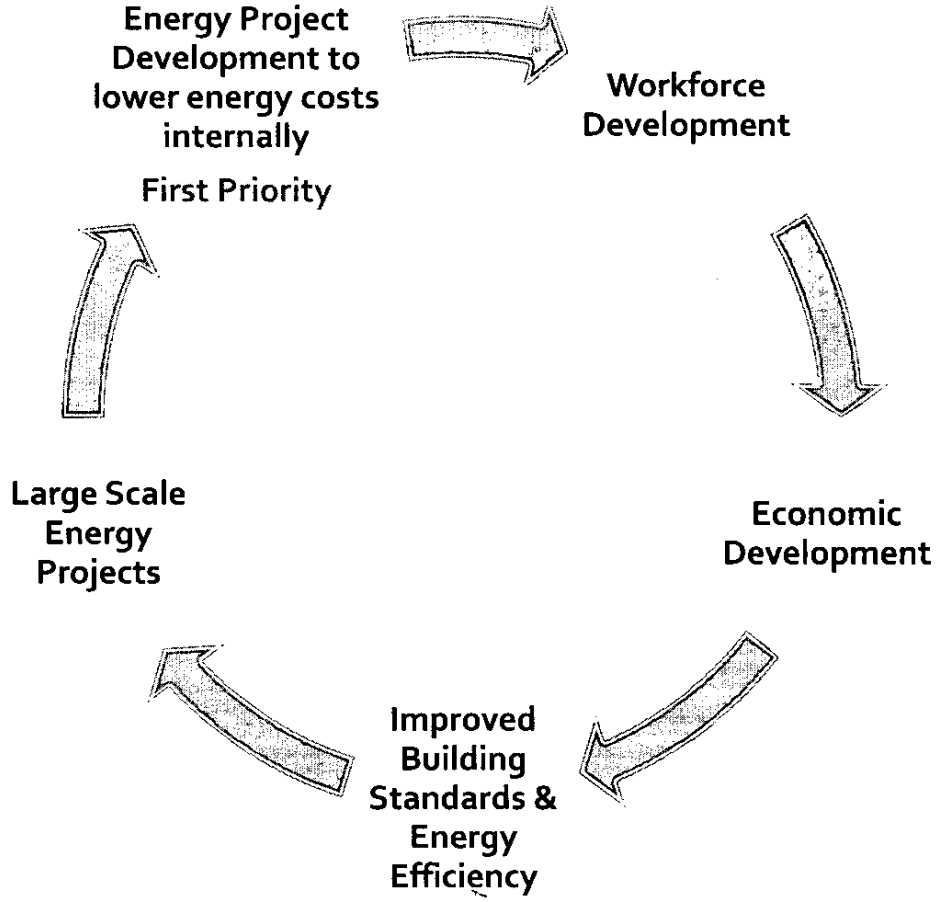
Ahtna Regional Leadership and Ahtna Tribes working on regional energy strategy for contribution to AEA's Statewide Energy Plan.

- Target Completion Date November 2009

Preliminary Focus Areas of Regional Energy Strategy

1. Development
   - Wind Energy, Biomass, Geothermal, Oil and Gas, & Hydro
   - Regional Energy Project - Collaboration between Ahtna, the Housing Authority and tribes.
2. Conservation
   - Weatherization
   - Energy Efficient Building Standards
3. Environmental Responsibility
   - Forest Stewardship Plan to manage Biomass Development
   - Comprehensive Land Management Plan

Energy Self-Suffiency Cycle



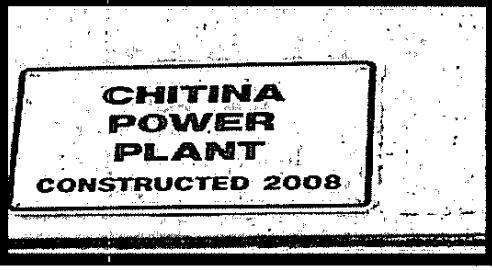
Ahtna Tribal Energy Initiatives

- **Mentasta**
  - Wind Energy Demonstration Project at Carlson Creek (AP&T)
- **Cheesh'Na**
  - Biomass Project – Secondary Heat Source for tribal infrastructure (*new*)
- **Gulkana**
  - Successfully built a community wood pellet plant; adding a boiler system which is planned to heat all village facilities, including homes. Also looking at co-generation with the possibility of selling excess power back to local utility.
- **Cantwell**
  - Seeking funding for Jack River Hydro Power Study
- **Chitina**
  - Funded for Preliminary Hydro Power Study

Regional Energy Initiatives

- **Complete Ahtna Regional Energy Resource Map and Regional Strategy**
  - Map potential & known energy resources to use as a development tool.
- **Address Transmission Gaps**
  - Multiple isolated grids prevent effective use of stranded resources. If Grids were connected market access could be facilitated.
- **Continue Ahtna Oil and Gas Exploration**
  - Update existing seismic reports.
- **Encourage Weatherization and Energy Efficient Construction Design**
- **Partnerships**

Ahtna Region Success Story
Chitina Electric



Chitina Electric recently cut the ribbon on a new power plant that provides electric power to the village.

The Power Plant is owned by Chitina Native Corporation.

Chitina is conducting a hydro feasibility study and exploring partnering with a utility that has hydro experience.

Pictured from L to R: Martin Finnesand, 1st Traditional Chief Ben Neeley, 2nd Traditional Chief Fred Ewan, and Ahtna Elder Robert Marshall.

Project funded by Alaska Energy Authority.

Ahtna Testimony to Joint House and Senate Energy Resources Committee | AFN 2009

Recommendations from Ahtna Region to Committee

- **Support Regional Strategies that include <u>all</u> stakeholders – Native and Non-Native.**
  - Insure Tribes and small communities receive their fair share of energy funding. (Equitable funding distribution)
  - Pay closer attention to regions within the Unorganized Borough.
  - Encourage utilities to include tribes in their planning processes.
- **Fund Regional Energy Coordinators**

  Responsibilities would include -
  - Monitoring progress on Regional Strategies requested by AEA.
  - Providing technical support for regional & local energy projects.
  - Facilitate regional collaboration and partnering on energy projects.
  - Be a liaison between regions, state and federal energy agencies.
- **Net Metering**
  - Make more producer-friendly.

In Summary

- **Short Term Plan for Ahtna Region**
  - Support and assist Villages with Tribal Energy Projects
  - Complete Ahtna Regional Tribal Energy Strategy (11/2009)

- **Long Term Plan for Ahtna Region**
  - Develop and support projects that address local energy demands.
  - Continue efforts to assess larger energy development opportunities that would benefit other regions of the state.
  - Regarding Natural Gas Development - Encourage the State to re-evaluate natural gas potential in the Ahtna region and promote exploration.

Thank you for this opportunity to share information from the Ahtna Region.

Contact Information

- For additional information regarding this presentation, please contact:

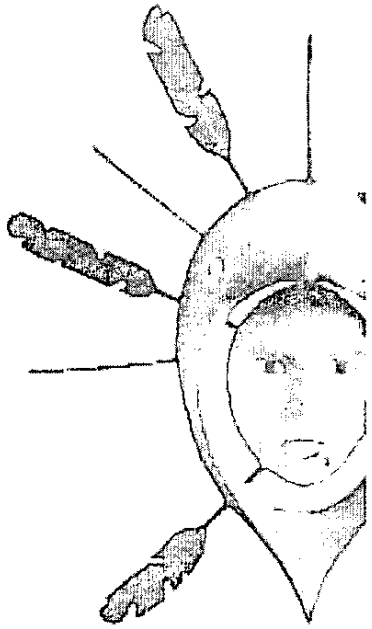
Michelle Anderson, President

Ahtna Development Corporation (907) 360-5210

manderson@ahtna.net

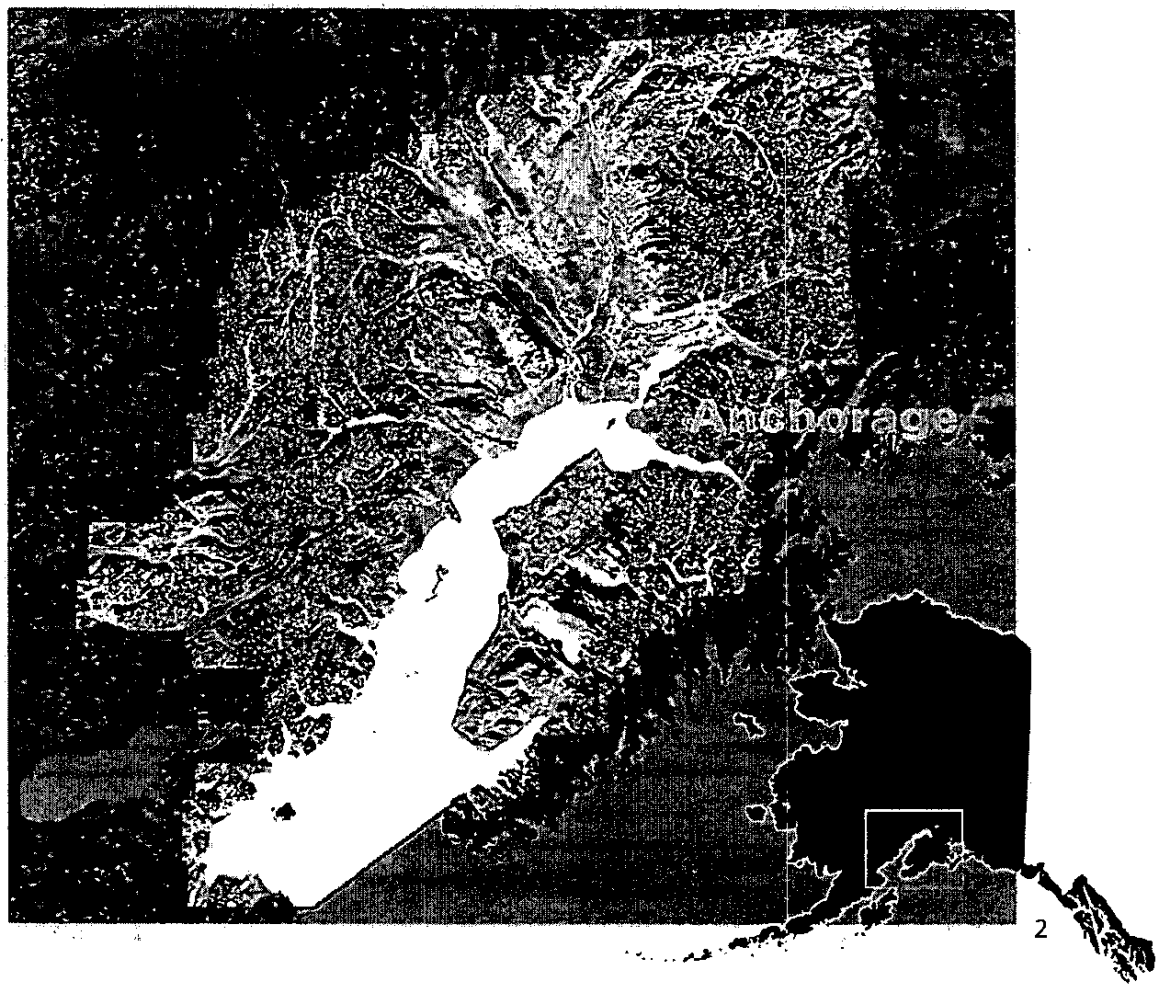
CIRI

An **Alaska Native** corporation



Need for new energy

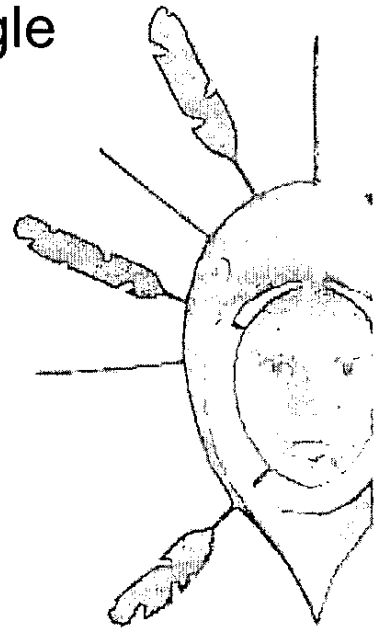
Southcentral Alaska faces imminent shortages of local natural gas for heat and electricity



Key questions

How do we meet region's near-term energy needs?

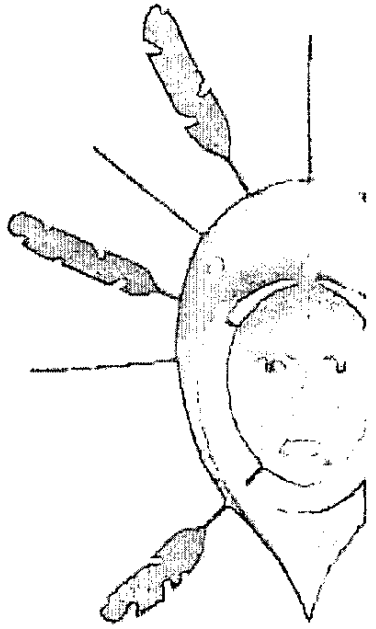
How do we avoid over-dependence on any single energy resource?



Answer

Southcentral Alaska needs a diversified energy portfolio that provides timely, reliable, economical and clean energy.

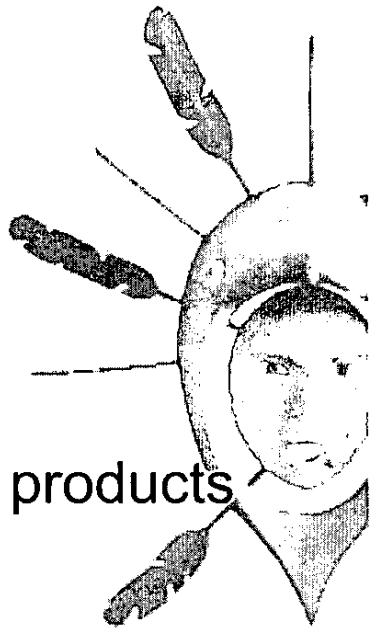
- Infrastructure and efficiency improvements
- New Cook Inlet gas exploration
- Other fossil fuel development
- Renewable energy resource development



State and regional energy policy

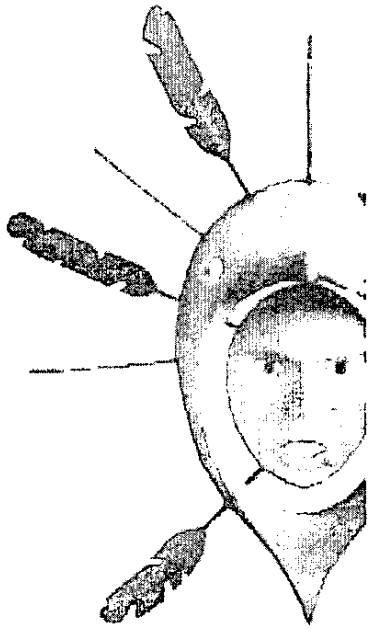
Favor or incentivize:

- Development of local resources over imported resources
- Competition between multiple developers
- Increased energy security, reliability
- Increased price stability
- Technology and efficiency improvements
- Public investment that supports diverse projects
- Encourage development of value-added energy products



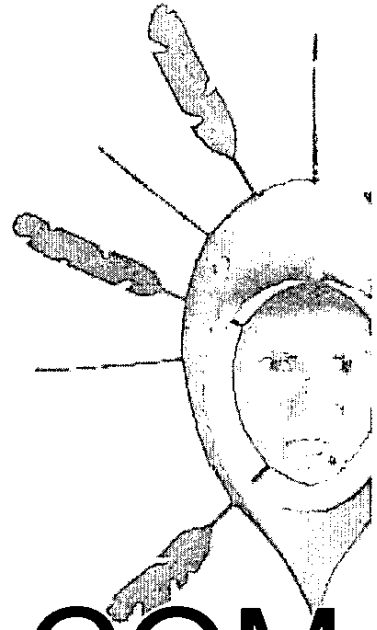
CIRI's energy investments

- Cook Inlet oil and gas basin exploration
- Underground coal gasification
- Fire Island wind
- Other renewable energy projects
- Regional energy infrastructure investment
- Outside energy technology investment
- Energy efficiency



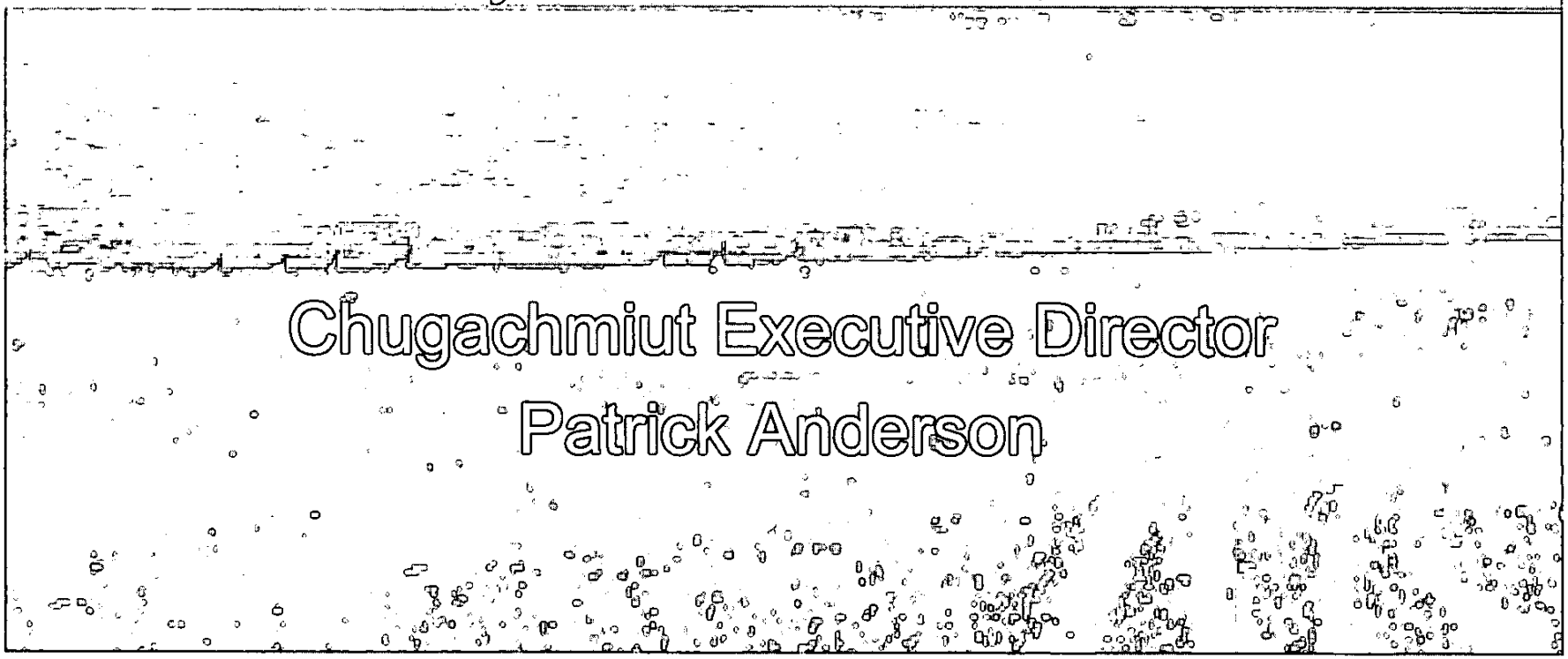
CIRI

diverse,
economical,
responsible
energy for Alaska



CIRI.COM

AFN 2009 House Energy Committee Testimony for Chugach Region Friday October 23, 2009



Chugachmiut Executive Director

Patrick Anderson

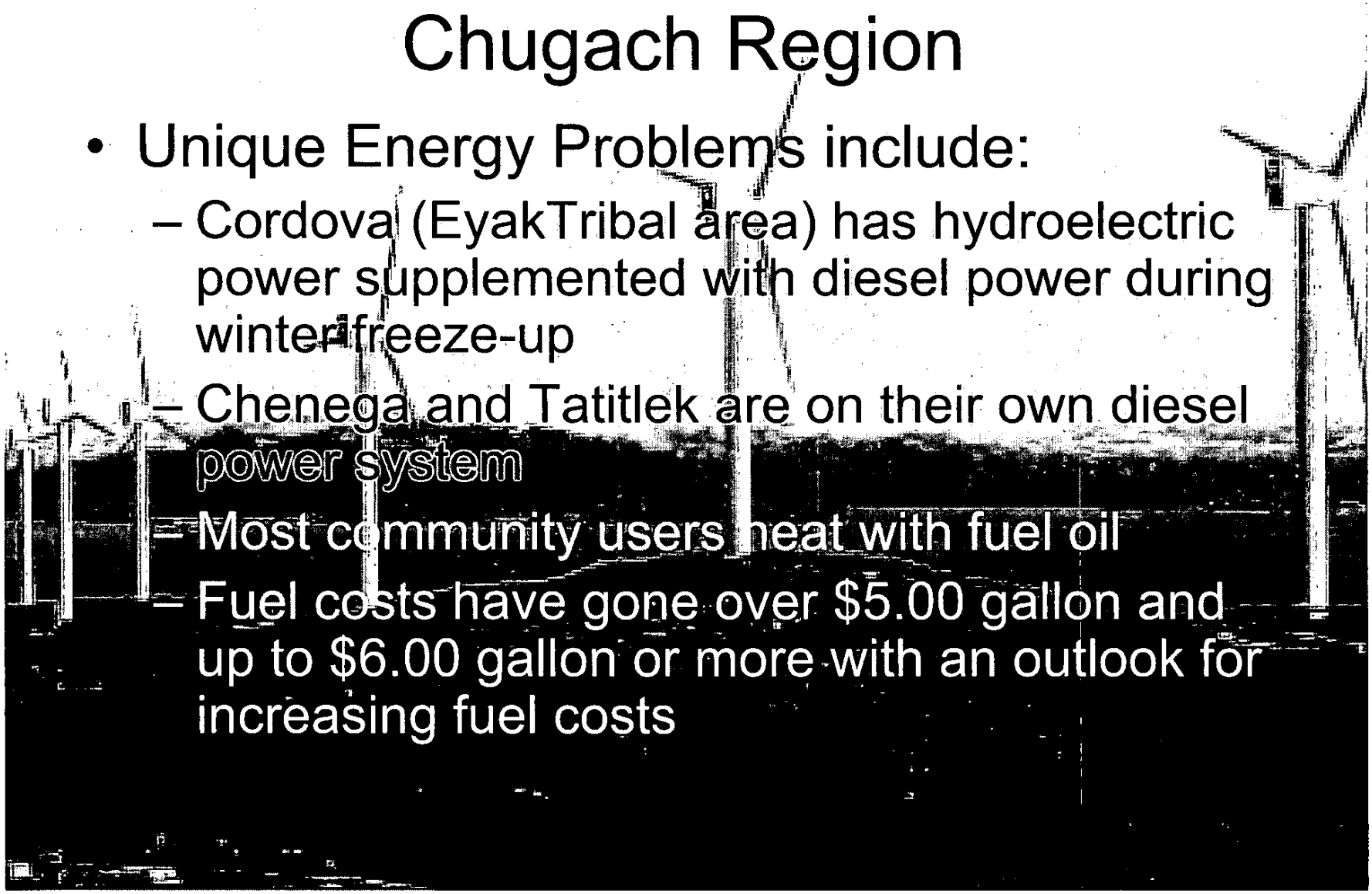
Unique Energy Problems in the Chugach Region

- There are 7 Tribal Communities in the region
  - Seward is on the Railbelt electrical grid system as well as Port Graham and Nanwalek
  - Valdez is on the Copper Valley Electric Association electrical grid
  - Cordova is a municipal utility powered by hydroelectric power and diesel supplemental power in winter
  - Chenega and Tatitlek are on their own diesel power system
  - Most of these communities use fuel oil for heat

Unique Energy Problems in the Chugach Region

- Unique Energy Problems include:
  - Cook Inlet natural gas power is experiencing decreasing supply and high capital energy replacement costs that will affect Railbelt power consumers
  - This winter, Railbelt customers will experience brown outs
  - Port Graham and Nanwalek have single-phase 220-volt power supplied by Homer Electric Association
  - Port Graham Cannery, Port Graham Hatchery Project, Nanwalek Hatchery Project, and potential Nanwalek area material rock source project all require three-phase 220-volt power

Unique Energy Problems in the Chugach Region



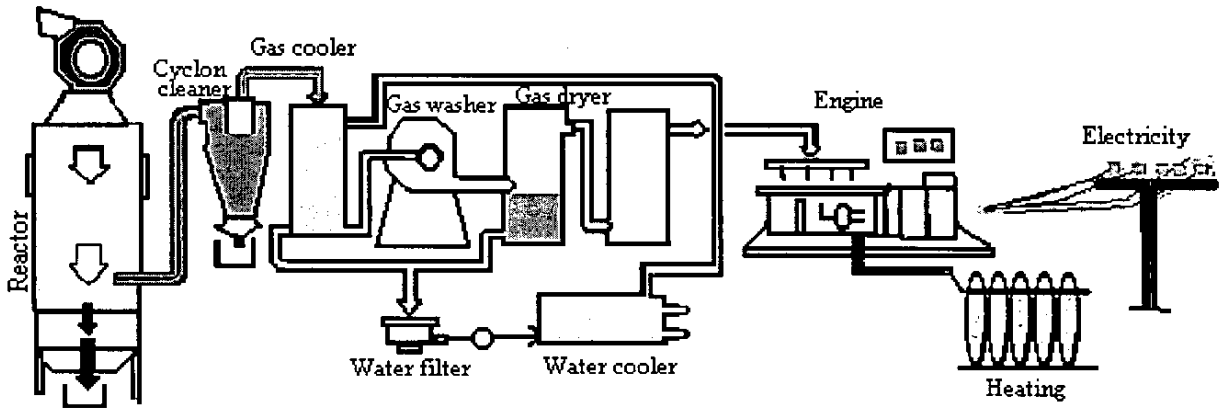
- Unique Energy Problems include:
  - Cordova (EyakTribal area) has hydroelectric power supplemented with diesel power during winter freeze-up
  - Chenega and Tatitlek are on their own diesel power system
  - Most community users heat with fuel oil
  - Fuel costs have gone over $5.00 gallon and up to $6.00 gallon or more with an outlook for increasing fuel costs

Local Solutions and Results

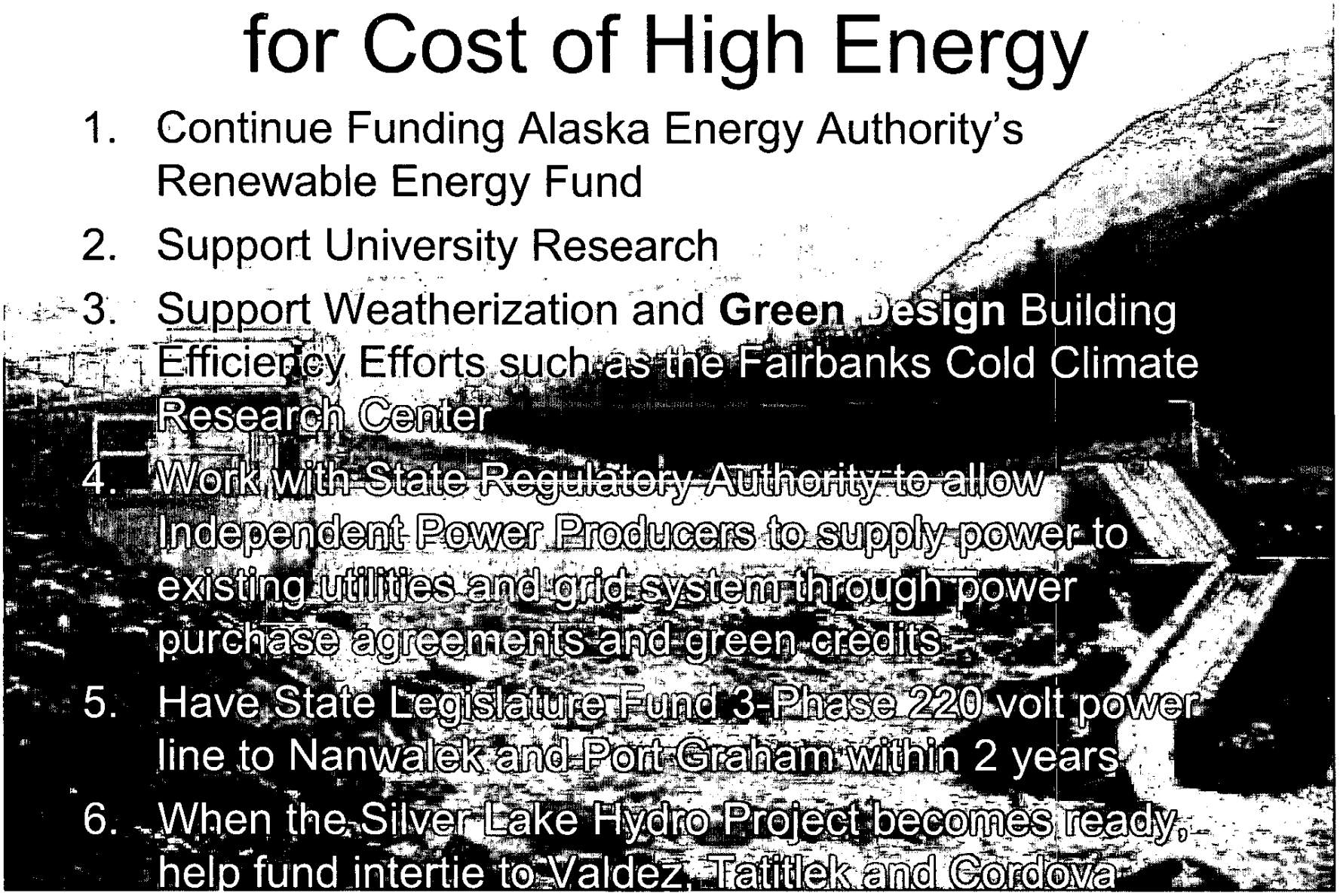
Chenega Small Hydroelectric Power Project (250 kW) Revitalization	Turbine replacement of existing old cannery small hydropower project	Alaska Energy Grant Phase II awarded for project development
Eyak Tribal Council in Cordova Biomass/Refuse Gasifer Heat and Power Project—size not determined yet	Unknown	Alaska Energy Grant Phase II awarded for project development Power to burn municipal waste and biomass to supplement power loads
Eyak Tribal Council Wind Power Study Project	2-year Wind Tower Data Study completed	Seeking data on other sites before apply for funding To supplement power loads
Tatitlek Wind Power Study Project	Desire to conduct Wind Tower Data Study	To displace diesel fuel heat consumption and cost
Silver Lake Hydroelectric Project near Tatitlek and Valdez, could include Cordova intertie	Interest in region renewed since studies done 1988-92 by U.S. Department of Agriculture and others	Feasibility study may be applied for and project could produce up to 15 megawatts of power to Copper Valley grid system

Local Solutions and Results

Nanwalek Community Heat Project	May apply for feasibility study for community heating	To displace diesel fuel heat consumption and cost
Port Graham Biomass Community Heat and Power Project (1.5 megawatts), excess power to Nanwalek and Seldovia and to Homer Electric Association grid	Department of Energy Grant completed July 2007 by Energy and Environment Research Center out of the University of North Dakota	Applying for Alaska Energy Authority Grant Phase III and/ or Department of Energy Tribal Energy Program Grant And BIA or DoE 80/20 loan



What State of Alaska Could Do for Cost of High Energy



1. Continue Funding Alaska Energy Authority's Renewable Energy Fund
2. Support University Research
3. Support Weatherization and **Green Design** Building Efficiency Efforts such as the Fairbanks Cold Climate Research Center
4. Work with State Regulatory Authority to allow Independent Power Producers to supply power to existing utilities and grid system through power purchase agreements and green credits
5. Have State Legislature Fund 3-Phase 220 volt power line to Nanwalek and Port Graham within 2 years
6. When the Silver Lake Hydro Project becomes ready, help fund intertie to Valdez, Tatitlek and Cordova

Testimony of
Gordon L. Pullar
Vice President of Community Development
Kodiak Area Native Association
to
House Energy Committee, Senate Resources/Energy Committees and
the Bush Caucus

Hearing on Rural Alaska Energy Concerns

October 23, 2009
Anchorage, Alaska

Thank you for the opportunity to report on energy issues for the Koniag Native region. I am speaking today on behalf of the Kodiak Area Native Association (KANA), the regional non-profit corporation for our region, at the request of its president Andy Teuber. Our regional ANCSA corporation is Koniag, Inc. led by president Will Anderson.

The region that KANA serves is the Kodiak Archipelago, a group of islands separated from the mainland by the Shelikof Strait. The archipelago is about 177 miles long and includes nearly 5,000 square miles. Kodiak Island, the largest island of the group, is the second largest island in the United States behind only the island of Hawaii. The City of Kodiak (*Sun'aq*) is located 252 air miles southwest of Anchorage and is the population center of the region. There are six outlying Alutiiq (or Sugpiaq) villages, Akhiok (*Kasukuak*), Karluk (*Kal'ut*), Larsen Bay (*Uyaqsaq*), Old Harbor (*Nuniaq*), Ouzinkie (*Uusenkaaq*), and Port Lions (*Masiqsiraq*). The villages range in population from 24 to 256 and their distances from the City of Kodiak range from 11 miles to 90 miles. All villages are accessible only by air or sea. As with many places in rural Alaska, this is at the core of the high price of meeting energy needs.

Travel to and from Kodiak Island villages is particularly influenced by the weather. The climate of the Kodiak archipelago is dominated by a strong marine influence which often brings severe storms with strong winds, heavy cloud cover and frequent fog. Together these conditions can make travel, including fuel delivery, difficult at best. While storms can hit at any time of the year they are most frequent in the winter. Two of the villages have no docking facilities making wintertime fuel delivery nearly impossible by sea and a third village's dock is not suitable for fuel delivery. The only alternative is air delivery when weather permits and it is prohibitively expensive.

The villages of Kodiak Island have historically depended on the fishing industry as the basis for their livelihood. With the downturn in the fishing industry many people have been forced to leave the industry, often without ready alternatives for making a living. With this change, the high cost of fuel becomes a particularly difficult burden and creates significant roadblocks to viable economic development.

In the area of energy needs in the form of electricity there have been, and continue to be, efforts to install viable alternatives. The village of Larsen Bay installed a small hydroelectric facility in 1991. Over the years, however, there have been significant operating issues to deal with making the system unreliable. The City of Larsen Bay has received a Community Development Block Grant to do a complete upgrade of the hydro facility, a project that is scheduled for completion this year. The result will be the displacement of a majority of the city's diesel fuel used for electrical generation.

The Kodiak Archipelago Rural Regional Leadership Forum is an island-wide grass roots group that addresses issues brought forth from the communities. It operates with funding and in-kind support from the Kodiak Island Housing Authority and Kodiak College of the University of Alaska Anchorage. A work session of the group that was held on October 1, of this year included the Alaska Energy Authority (AEA). The Forum looked at a variety of potential renewable energy projects including wind generation, hydro power, and tidal energy. Two villages, Ouzinkie and Old Harbor, have installed wind-metering towers to determine wind potential. Ouzinkie's tower was destroyed and a new one is planned. Old Harbor's wind study revealed that the wind is not consistent enough to justify continuation.

Old Harbor is, however, investigating another energy approach. The Old Harbor Native Corporation, the ANCSA village corporation representing the village of Old Harbor, has recently announced its plans to develop a new hydro electric project. If no serious concerns are revealed during scoping meetings scheduled for this week, funding for the project will be pursued. The project will be a collaborative effort among the Old Harbor Native Corporation, City of Old Harbor, Alaska Village Electric Cooperative (AVEC), and the U.S. Fish and Wildlife Service.

The villages of the Kodiak archipelago have been well aware of the challenges they face in meeting their energy needs. They have been and continue to investigate partnership opportunities with private enterprise. Because of the small scale of the villages it is crucial that they identify opportunities to partner with both private enterprise and government agencies. They are aware of the need to expand and improve solid transportation infrastructure with docks that have the capability to support fuel off-loading as well as serve economic development opportunities.

Within the past five years community plans funded by the Kodiak Island Housing Authority have been developed for four of the six Kodiak Island villages. This planning was done outside the Kodiak Island Borough planning process which, due to its small staff size, primarily focuses on land use planning and not economic development or energy planning.

The State of Alaska's involvement should focus first on short-term relief, sustainable energy planning, and long-term capital support. The state should support energy efficiency education programs and community energy audits to identify areas where individual households and community buildings can conserve energy, such as are currently being supported by the Alaska Energy Authority. Where appropriate, direct financial support to defray the high cost of fuel will be needed until less expensive projects can be implemented. State agencies should increase collaboration with local governments and regional agencies in support of community and regional energy plans that identify viable sustainable energy alternatives. Support for feasibility studies may also be needed. To support these planning efforts, the state should consider expanding the ability of the Alaska Energy Authority to offer planning assistance to rural communities. There is a need for statewide support of inter-agency cooperation in funding identified capital projects.

When new alternative energy projects are implemented there will be a crucial need for training and education on how to effectively manage them for success. Without this training there is a much higher probability of failure. This critical need will best be met by state supported programs.

It is always a challenge when small rural villages express their needs for the basic amenities that many urban dwellers take for granted. There will always be those who claim that if Alaska Natives can't afford to live in rural Alaska they should move to a city. This position does not deserve serious consideration as it is a basic human right for indigenous people to live in their homelands where they have resided for thousands of years. Culture change brought on them from the outside has shifted the requirements for survival but it has not changed who they are or changed their strong connection to their traditional land. The challenges surrounding energy issues for the Native villages of the Koniag region may seem daunting at times but they are not insurmountable. The Alutiiq villages of Kodiak Island have overcome many adversities in the past and with help they will overcome these adversities as well. The solutions to energy issues in Kodiak Island villages will take strong efforts from all those involved from the State of Alaska, relevant federal agencies, regional organizations, and the villages themselves. With all of these entities working together there is nothing that can't be accomplished.

Quyanaasinaq! Thank you very much.

House Energy Committee Testimony—Patrick Anderson, Executive Director Chugachmiut

A) Chugach Region Unique Energy Problems
   a. Port Graham and Nanwalek, Alaska have single-phase 220-volt power supplied by Homer Electric Association.
   b. Port Graham Cannery needs three-phase 220-volt power that currently could use diesel three-phase power.
   c. Other business projects will need three-phase power such as a hatchery project in Port Graham and one in Nanwalek.
   d. Heating fuel oil costs in Port Graham and Nanwalek are $5.40 per gallon.
   e. Chenega and Tatitlek use diesel power.
   f. Cordova uses hydropower in the summer but has to supplement with diesel power in the winter when the creeks freeze and water flow decreases.
   g. Valdez is on the Copper River Electric Association power grid yet has a need for additional power.
   h. Seward is on the Railbelt power grid and is supplied power by Homer Electric Association.

B) What local solutions have been attempted and what are the results?
   a. We are working on placing a woody biomass community heat and power system (CHP) into Port Graham and Nanwalek.
   b. A U. S. Department of Energy grant was obtained that funded a feasibility study that was completed July 2007 by Energy and Environment Research Center out of University of North Dakota.
   c. We are currently applying for grant funding for a downpayment to purchase and install a woody biomass plant.
   d. Chenerga Village Council received funding from Alaska Energy Authority to revitalize a small hydroelectric plant that previously was used by San Juan Cannery located in Sawmill Bay across from Chenega. Plant size is approximately 250kW and is still in development.
   e. Eyak Village Council and Eyak Corporation have been working with Municipality of Cordova to supplement their power needs by adding a biomass gasifier that would burn both refuse and woody biomass. They recently received funding from Alaska Energy Authority.
   f. Eyak Corporation wishes to assess their biomass supply sustainability and has asked Chugachmiut foresters for assistance. An assessment of Port Graham biomass supply was done during their feasibility study.
   g. Eyak Council and Corporation have also conduct 2-years of wind tower studies, finding a suitable location for one wind tower and are seeking other site locations. They have yet to seek funding for purchase of wind tower systems.
   h. Tatitlek's diesel costs have risen considerably and they are looking to wind technology to help defray use of diesel and its cost.
   i. Recently, it has come to the attention of Chugachmiut and other stakeholders in the region of studies done by U. S. Department of

Agriculture and others about hydroelectric power development at Silver Lake approximately 10 miles northeast of Tatitlek and 15 miles south of Valdez. Project size is estimated at 15 megawatts of power that could be produced. Enough to supply power for the Copper River power grid that includes Valdez and could intertie to Tatitlek and Cordova. Chugach Alaska Corporation owns the land and Municipality of Valdez is very interested in seeing in this project could be developed. One of us could seek feasibility funding to gather past work completed and assess the current regulatory and market conditions.

C) What State of Alaska Could do with the High Cost of Energy
   a. Continue funding Alaska Energy Authorities Renewable Energy Fund.
      i. State funding provides critical amounts for down payment on loans and or coupled with other funding sources to bring energy projects to fruition.
      ii. Federal funding generally requires certain match funding that many small communities could not normally afford that state funding could be used as that match.
   b. Provide direction to the State of Alaska Regulatory Commission to allow self-power generation entities to enter power purchase agreements with local power utility cooperatives when they provide greater than 50 kilowatts of power that is accorded individual homeowners being credited for power production for their use. If a self-power generation entity develops a project that provides more power than could be used privately or locally and is near enough to supply power to an electric grid, then excess and off-peak power production could be sold at a wholesale price and make such projects more economical and affordable.
   c. Continue support of University of Alaska Fairbanks' Cold Climate Center on Research. Weatherization and development of "Green" housing is the new norm for housing. Efficient housing development and weatherization are key due to the fact that buildings in the U. S. consume approximately 80% of energy used. State support of such innovation and implementation of techniques and technologies is important to all of us. Support for university research for alternative energy programs for small Alaska communities is as important as solving large Alaska communities energy needs.
   d.

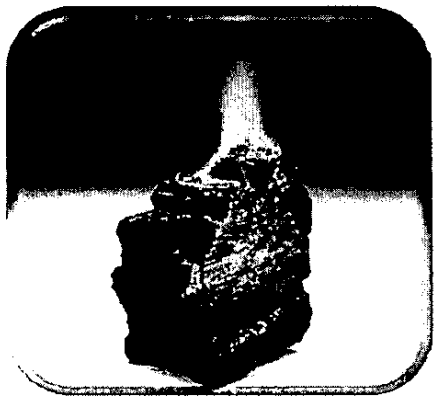
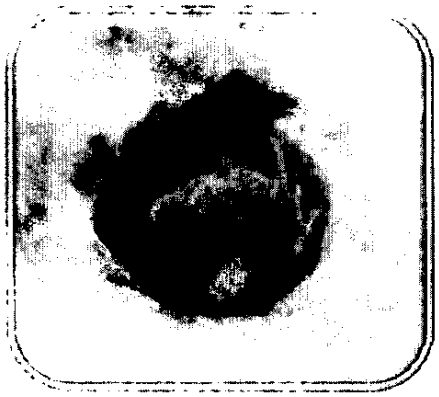
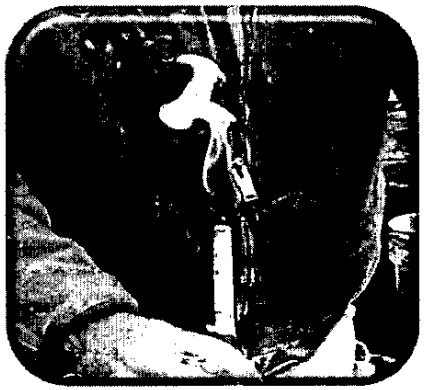
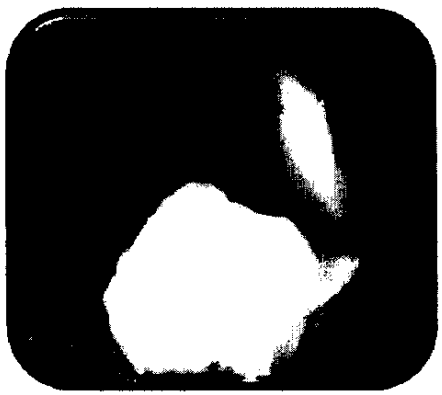
1775

North Slope Borough
Department of Public Works

October 23, 2007

AFN Convention
House and Senate Energy and Senate Resources Committees
Rural Energy Issues

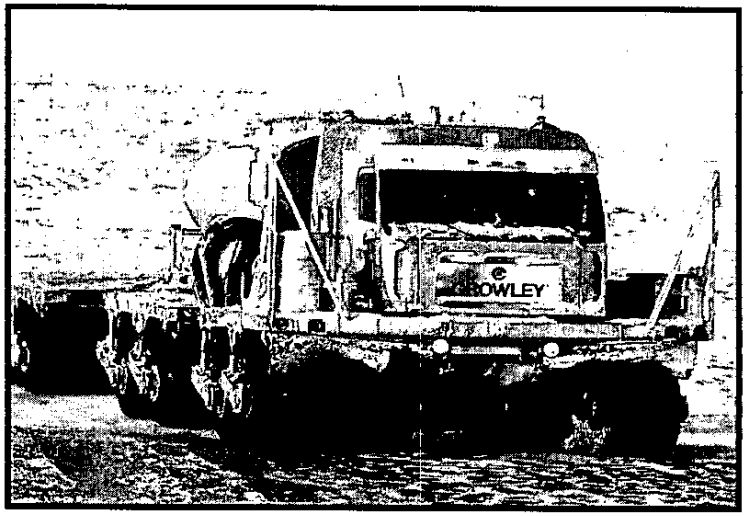
Local Energy Resource Use

North Slope Borough
Local Energy Resource Use

NSB Energy Problem

- ✓ **Imported Oil**
- ✓ **Transportation of Oil**
- ✓ **Oil Regulations**



Not only are the prices unstable and climbing, new and upcoming federal and state regulations will also drive up the cost of using fuel oil.

North Slope Borough
Local Energy Resource Use

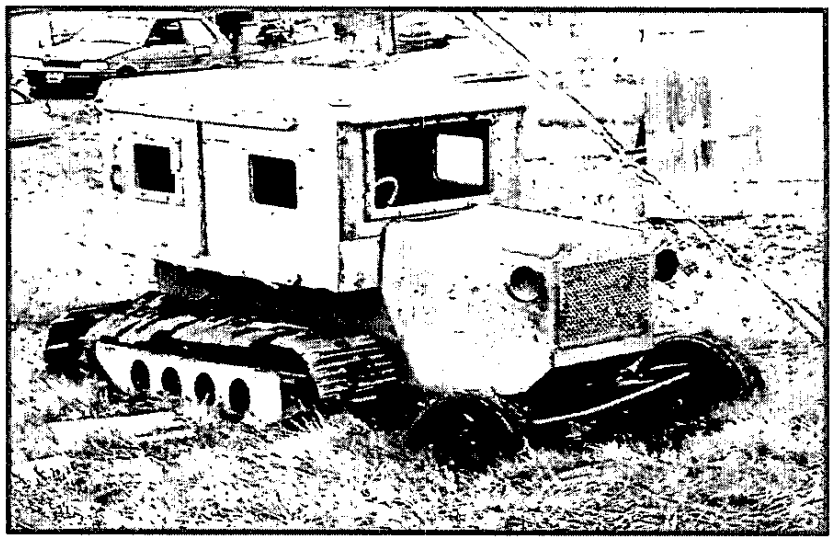
Recent Regulation Changes

- ✓DEC Regulation C-Plan Amendments 2006 - 2008
- ✓DEC Air Permit Emissions Fee Rate doubled in 2007
- ✓EPA STI,(small tank inspections) – July 1, 2009
- ✓EPA – Rural Alaska is required to use Ultra Low Sulfur Diesel in diesel engines by October 2010
- ✓EPA New Source Performance Standards Tier III & IV–lower air emission levels of new diesel gensets, 2007 to 2012

North Slope Borough
Local Energy Resource Use

IMPACT of ULTRA LOW SULFUR DIESEL REGULATIONS

EPA requires all diesel fueled vehicles in rural Alaska to transition to ULSD by October 2010.



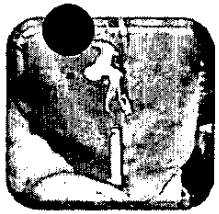
ISSUES:

- **$0.10 to 0.30 per gallon increase in product cost.**
- **unknown additional costs to transport ULSD in dedicated barges and aircraft.**
- **Only one supplier of Arctic Grade ULSD #1in 2010.**
- **ULSD cannot be mixed with any other fuels. Additional storage tankage, supply and distribution pipelines are required in the Villages.**

How do we do this?

North Slope Borough

Local Energy Resource Use



Energy Cost Reduction Measures

Since the 70's the NSB has completed many conservation projects and used several fuel purchasing strategies :

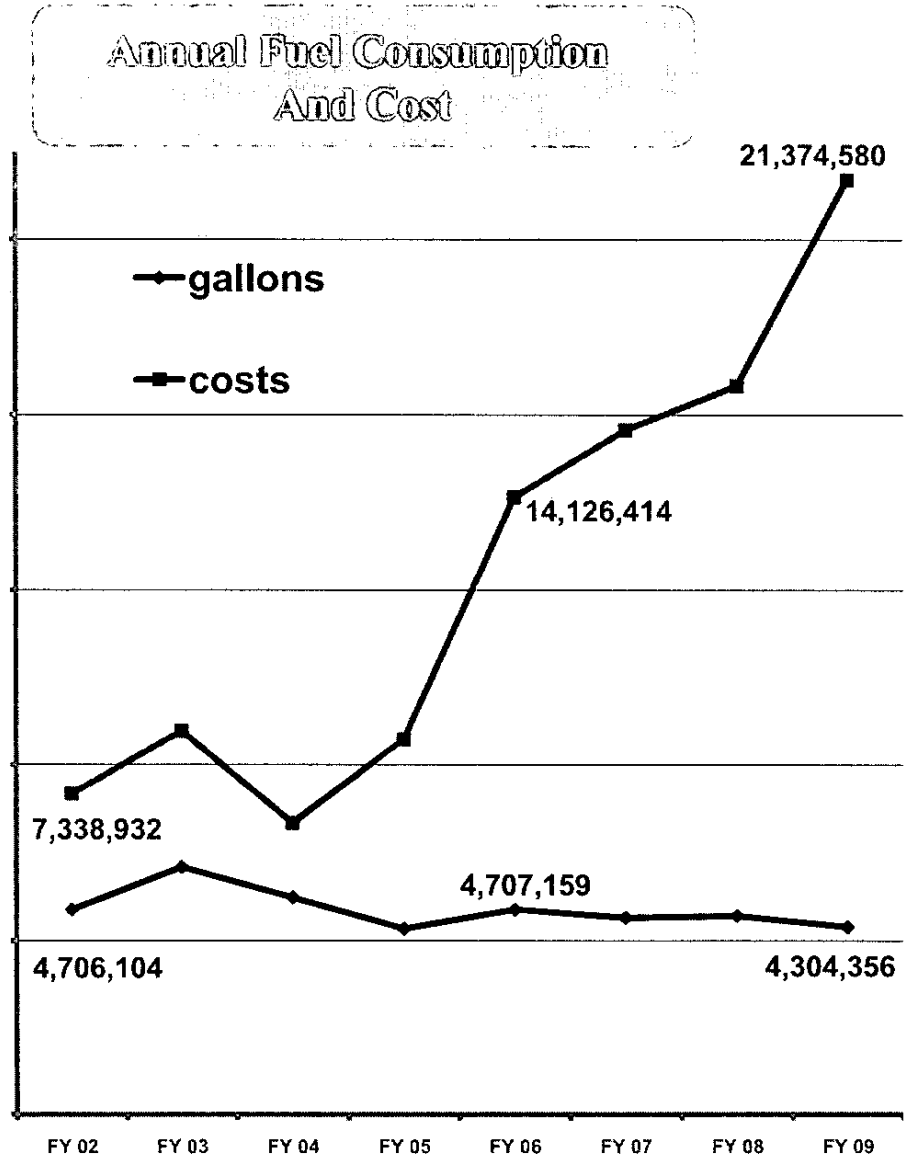
- Weatherization and End-use Efficiency Technology Projects
  - Home Energy-Saving Practices Education Programs
- Electric Power Plant & Distribution Efficiency and Upgrade Projects
  - Waste Heat Utilization Projects
- Building Lighting, HVAC and Motion Sensor Projects
  - Consolidated Fuel Purchases
- Use of Fuel Pricing Options

North Slope Borough
Local Energy Resource Use

Conclusion:

- **Energy conservation, efficiency and purchasing strategy efforts are not enough.**

- **As long as our energy source is tied into the forces of the global oil market we are subject to high and unstable energy costs**



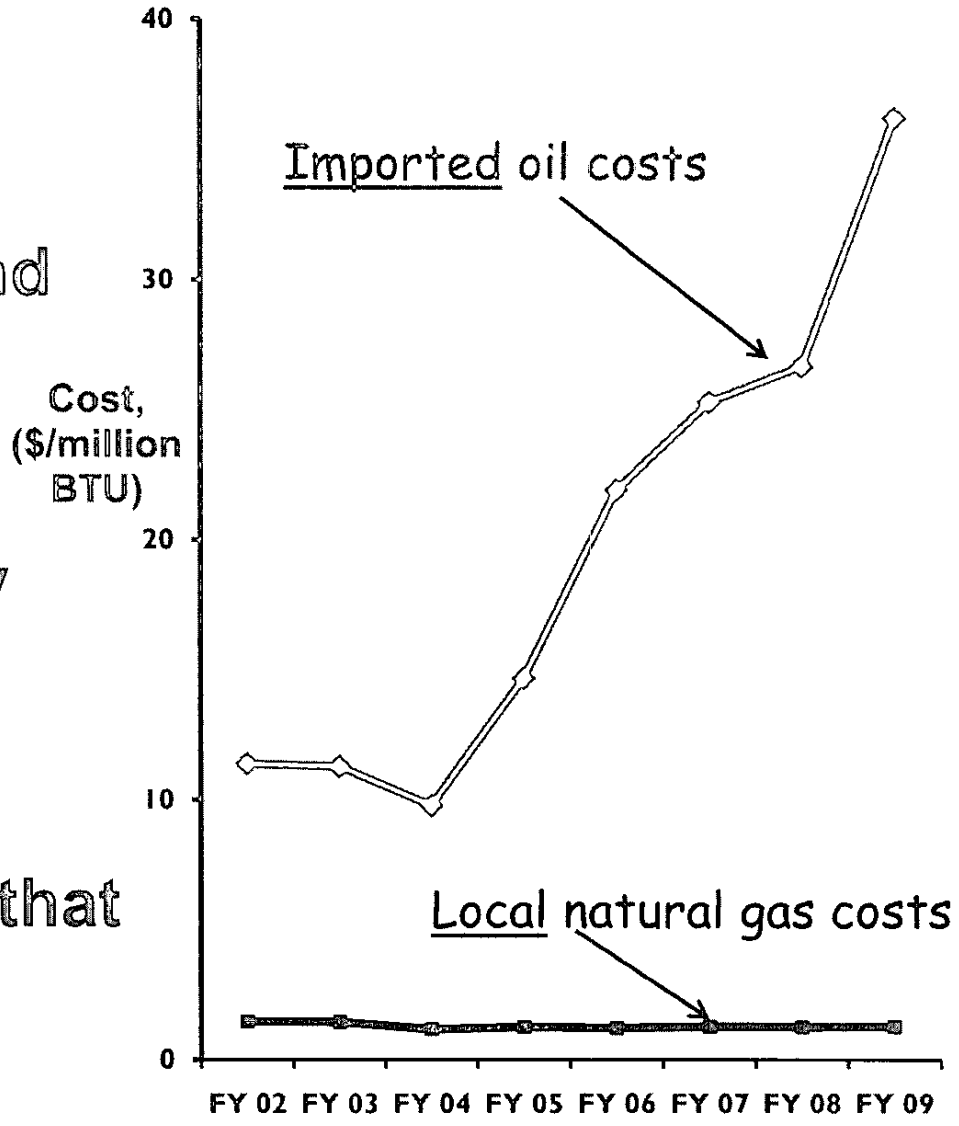
North Slope Borough
Local Energy Resource Use

Solution:

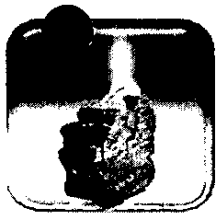
1. Partnership with government, private and academic entities

2. Develop both non and renewable local energy sources

3. Develop an electrical transmission highway that connects communities



North Slope Borough
Local Energy Resource Use



NSB Projects:

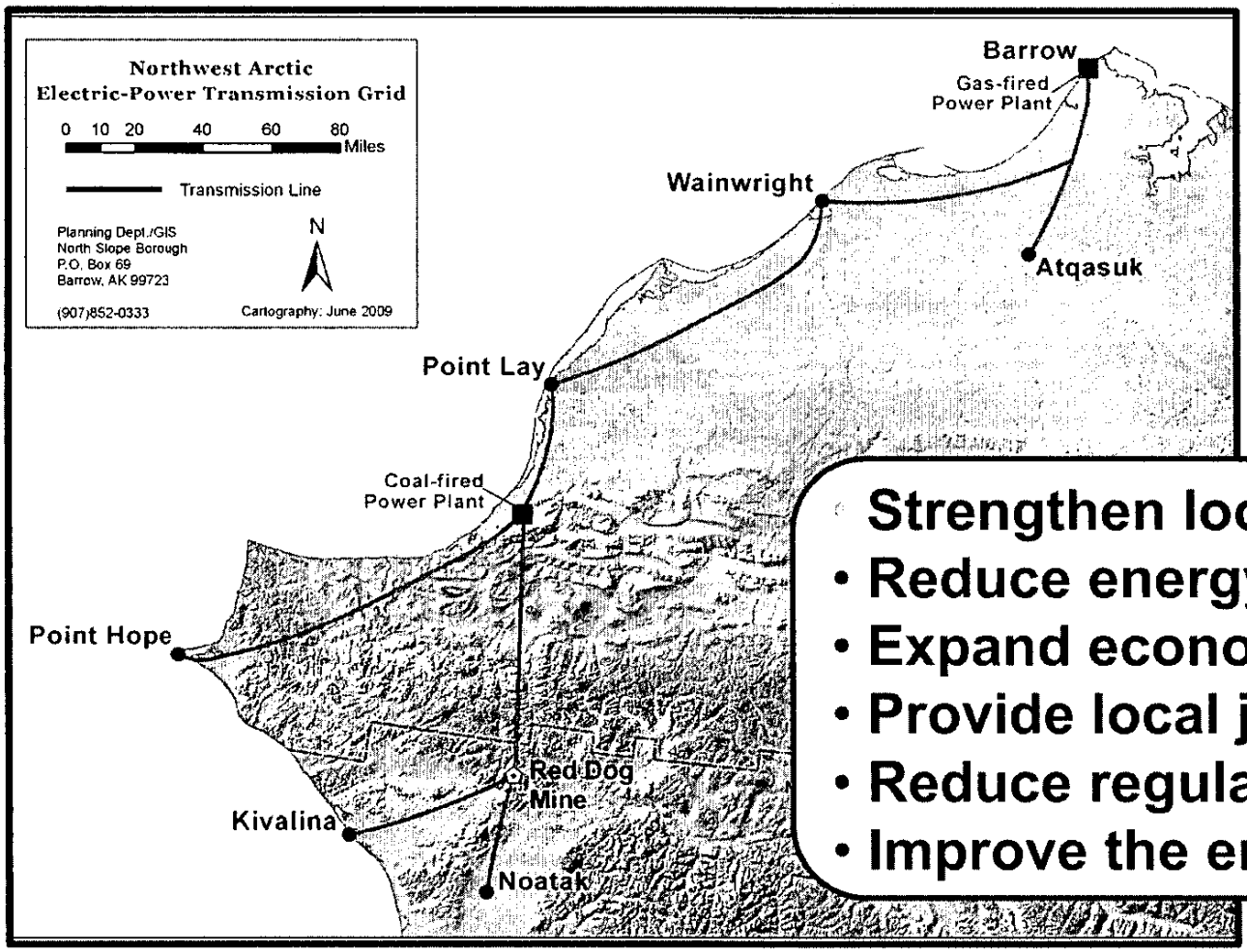
Project	*Agencys*	*Status*	*Annual Savings*
Nuiqsut Conversion to Natural Gas	NSB, NPRA Grants	Phase I near completion	$2 million
Borough Wide Waste Heat Recovery	NSB	Phase II upgrades starting	$2 million
Borough Wide Wind Assessment	NSB	RFP issued for installation	N/A
Atqasuk Energy Assessment	NPRA Grant	Study Draft Report Complete	N/A
AKP NSB Buildings Energy Audit	NSB	Construction start up	$300,000
Methane Hydrates Characterization	NSB, NETL	Phase I near completion	N/A
AIN Coal Bed Methane	NSB, BLM, ASRC	Phase I completed	N/A

North Slope Borough

Local Energy Resource Use

Future Consideration

Development of a Northwest Arctic Power Grid

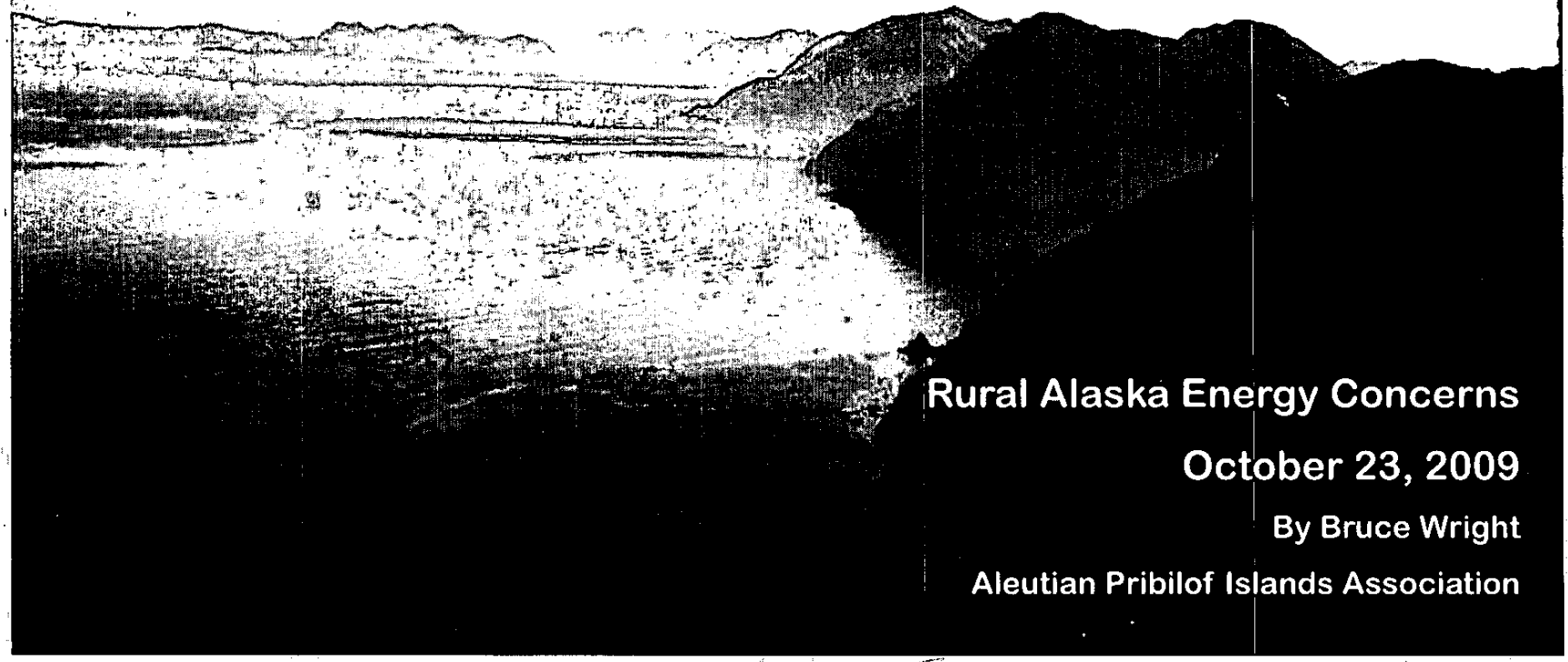


Goals:

- Strengthen local economy
- Reduce energy cost to residence
- Expand economic opportunities.
- Provide local jobs
- Reduce regulatory influence
- Improve the environment

Energy

In the Aleutian Pribilof Islands

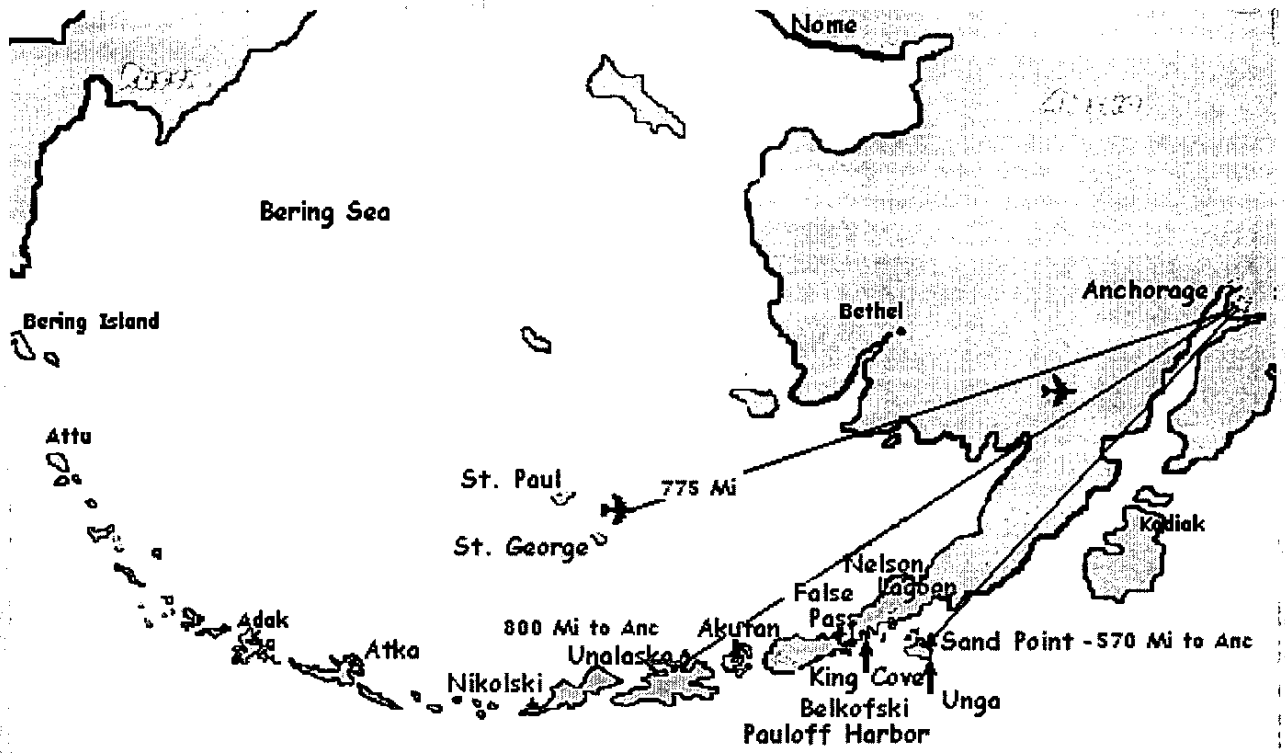


Rural Alaska Energy Concerns

October 23, 2009

By Bruce Wright

Aleutian Pribilof Islands Association



LOGISTICS

- Adak is the only community with jet service.
- During the fishing season a refundable ticket to Nikolski costs $2,648 rt.
- Last winter in St. Paul the fuel barge delay resulted in rationing gas to 5 gal./week at a cost of $11/gallon.
- Weather Rules.

Aleutian Pribilof Energy Partners

AHFC

USFWS

USDA/RUS

Aleut Corporation

Denali Commission

Department of Interior

Aleutians East Borough

US Department of Energy

Aleutian Housing Authority

State of Alaska Energy Authority

Aleutian Pribilof Islands Association

Tanadgusix Corporation / TDX Power

State of Alaska Renewable Energy Grant Fund

Aleutian Pribilof Islands Community Development Association

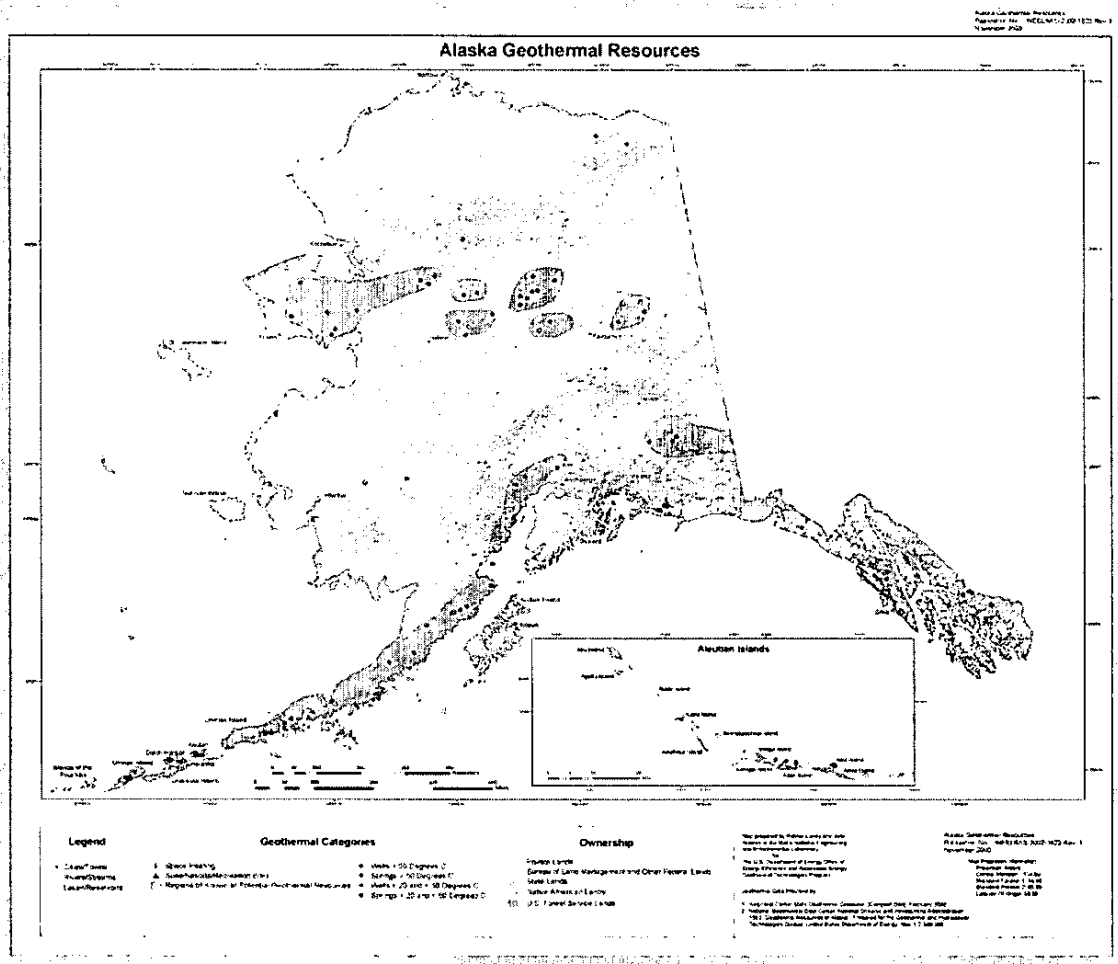
Native Village of False Pass, Native Village of Nikolski, Qagan Tayagungin Tribe of Sand Point, Native Village of Nelson Lagoon, Native Village of Atka, Aleut Community of St. Paul, Native Village of Akutan, Native Village of Belkofski, Native Village of Unga, Agdaagux Tribe of King Cove, Aleut Community of St. George Qawalangin Tribe of Unalaska, Pauloff Harbor Tribe

SWAMC Energy Task Force,

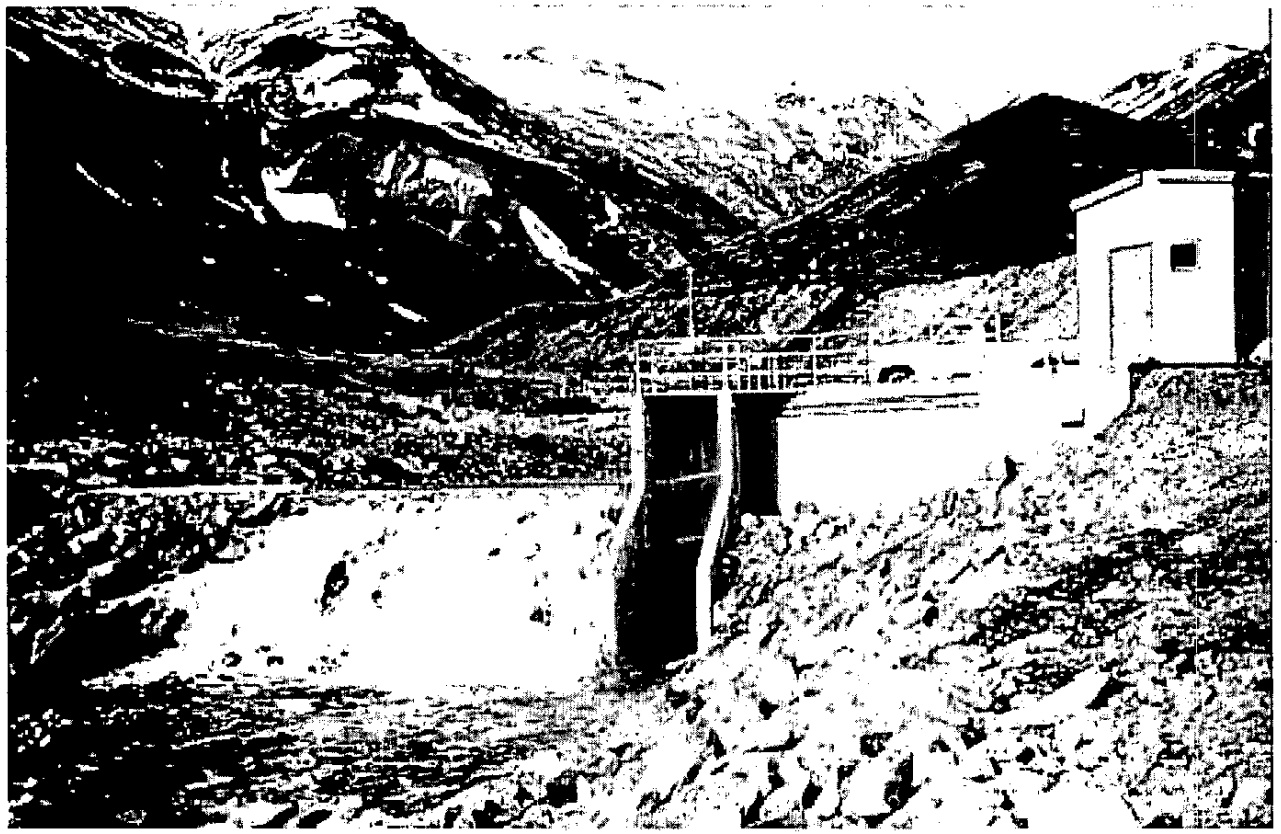
REAP

Okmok Caldera on Umnak Island is considered North America's largest geothermal resource.

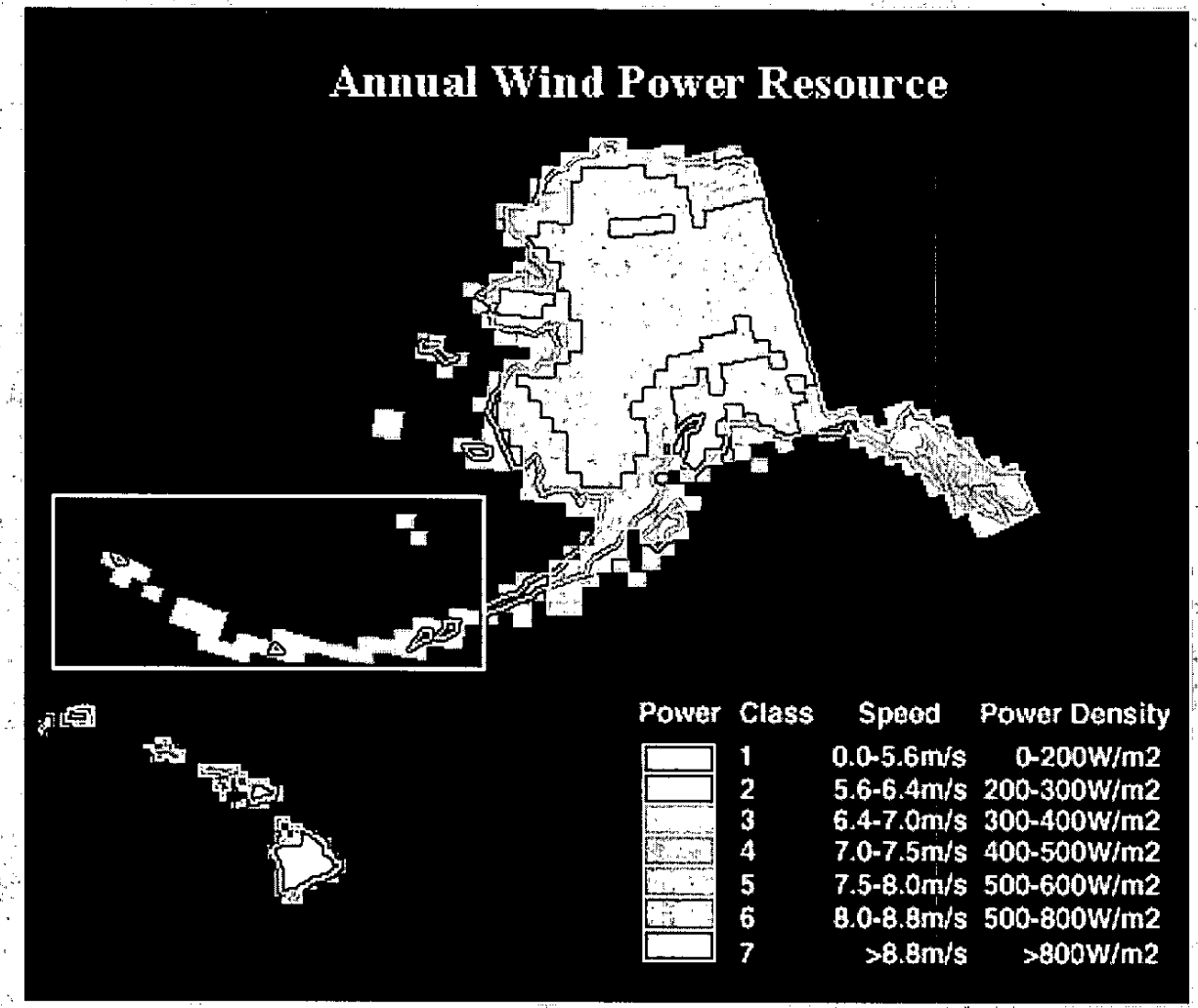
Geothermal Unalaska and Akutan



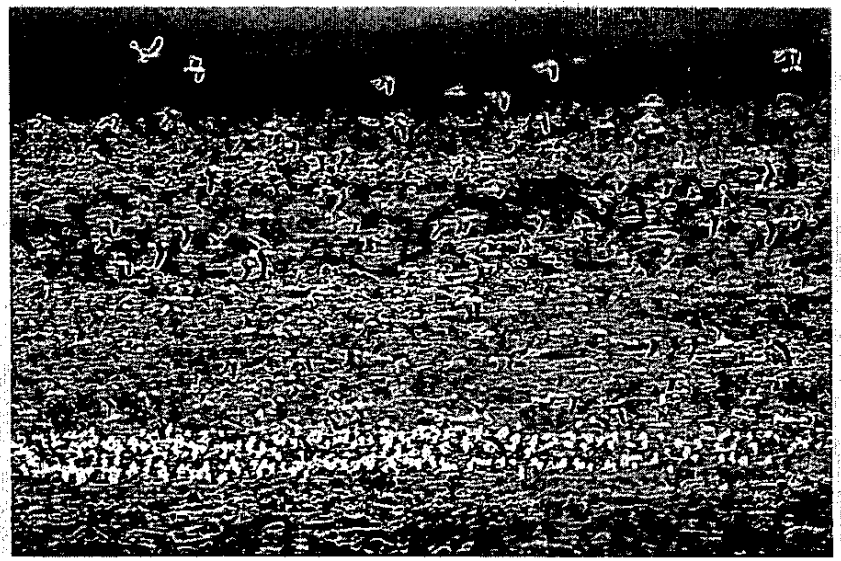
Hydropower in Akutan, Atka, and King Cove



World Class Wind: A Mixed Blessing



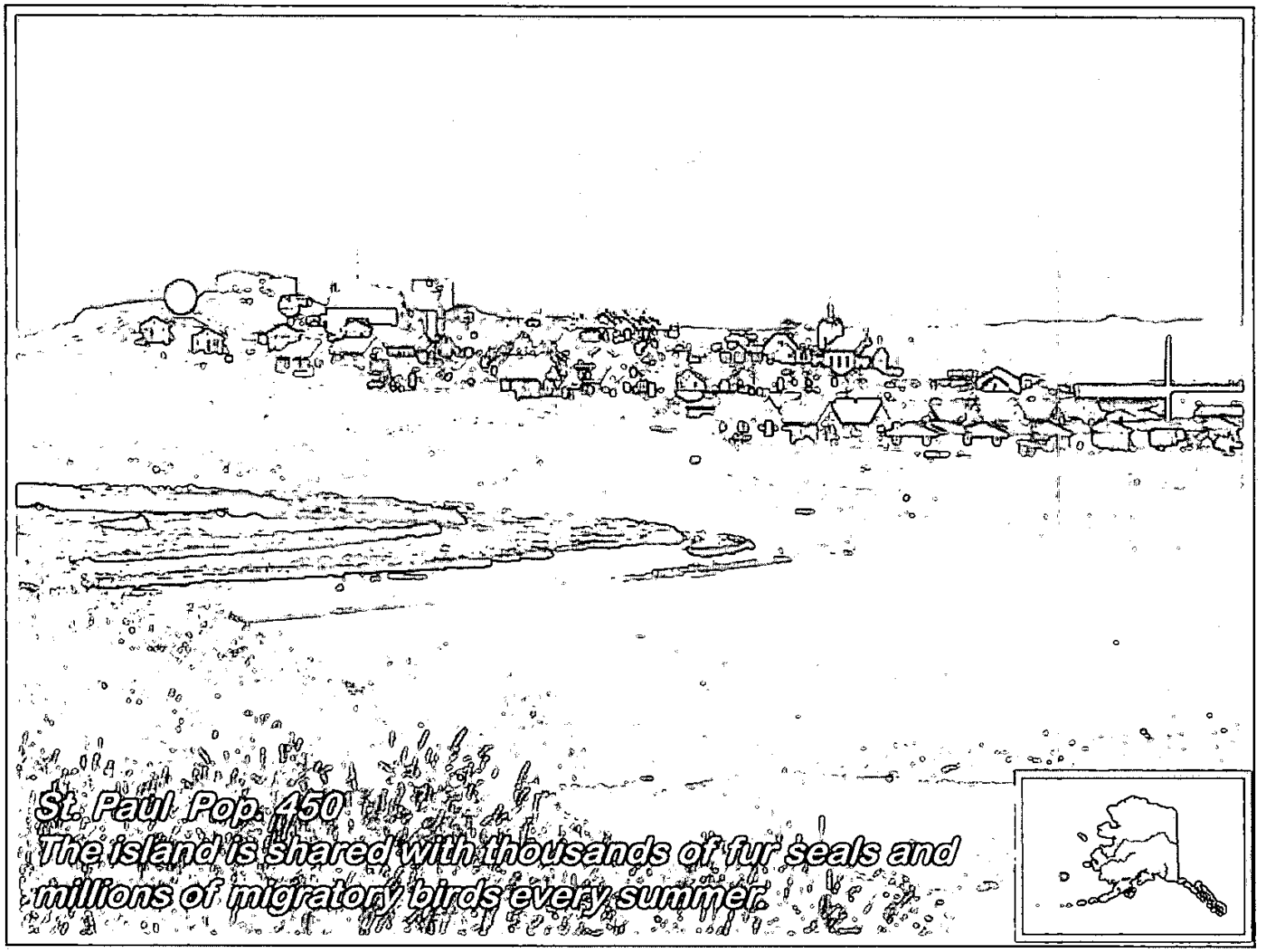
- 150 mph gusts
- Extreme Turbulence
- Stranded Resources



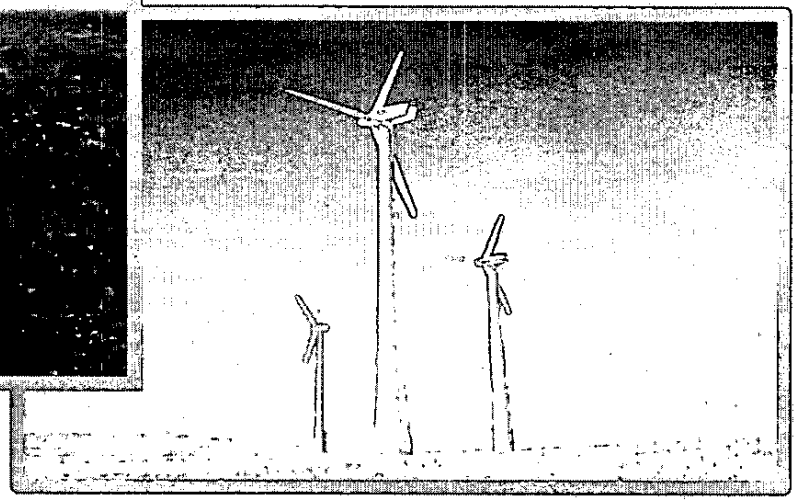
Millions of Migratory Birds live in the Region.

The World's Largest Breeding Colony of Red-legged Kittiwakes - St. George Island

APIA works with local hunters, bird watchers, students, USFWS and power plant operators to prevent and monitor avian interaction.


St. Paul Pop. 450
The island is shared with thousands of fur seals and millions of migratory birds every summer.

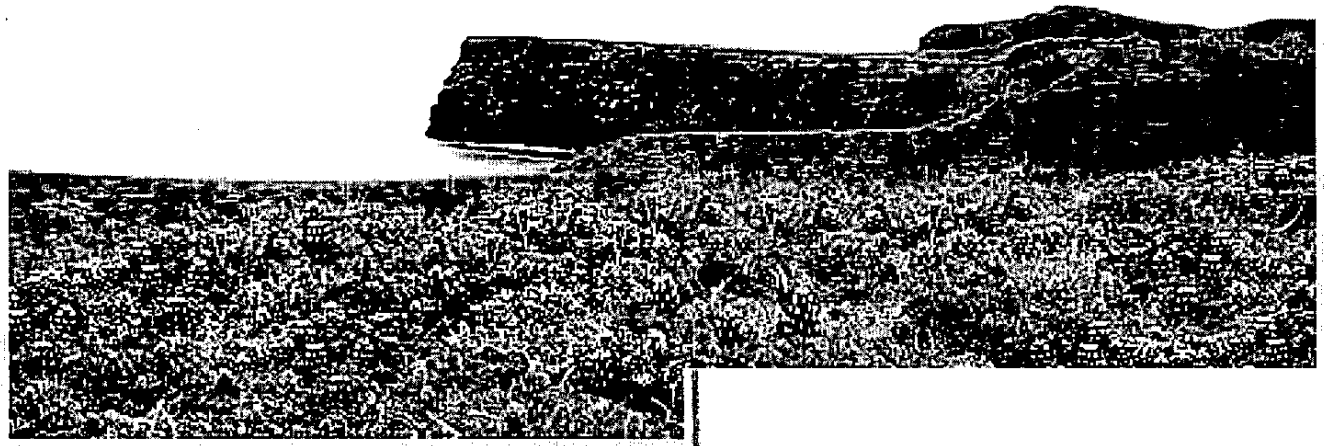
A charging station for electric vehicles is in the planning stages.

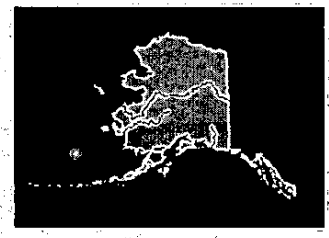


Barefoot Motors Electric ATV 9-12-09

Two refurbished Vestas V27-225 kW wind turbines were added in 2007, to be integrated as funds become available. Excess electricity will be used for additional heat and charging a fleet of electric vehicles.

ST. GEORGE ISLAND

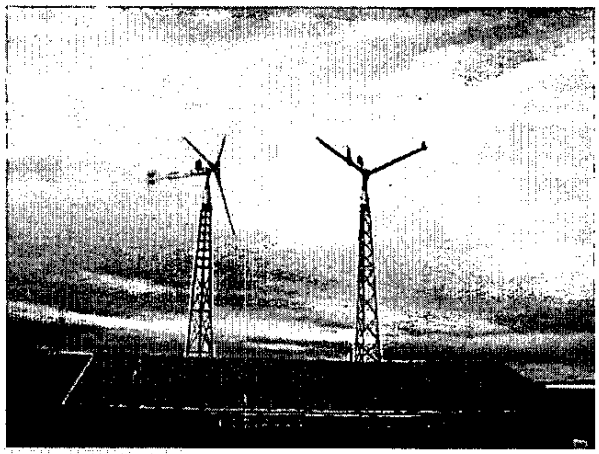




- A refurbished Vestas Vestas V27225kW wind turbine to be installed summer 2010
- Excess electricity wll go to hot water tanks in the school and clinic.

SAND POINT
Population 958

Projected fuel savings 152,000 gal/yr.

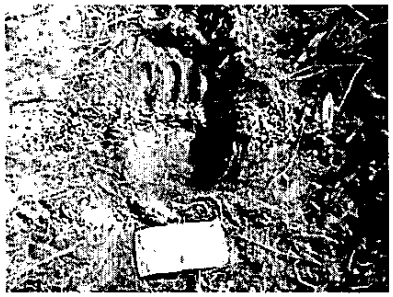


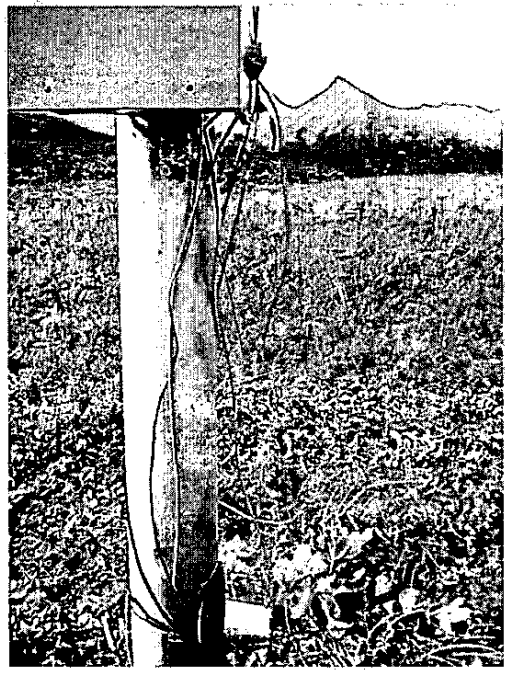
A DOE required eagle study held up this project for 3 years. These 2 old turbines/eagle perches will be dismantled as a mitigating effort.

- **2 refurbished Vestas V39-500 kW wind turbines to be installed summer 2010.**
- **Excess electricity will go to hot water tanks in the school and clinic.**
- **Waste Heat Recovery System already supplements heat to the utility offices and apartments above.**

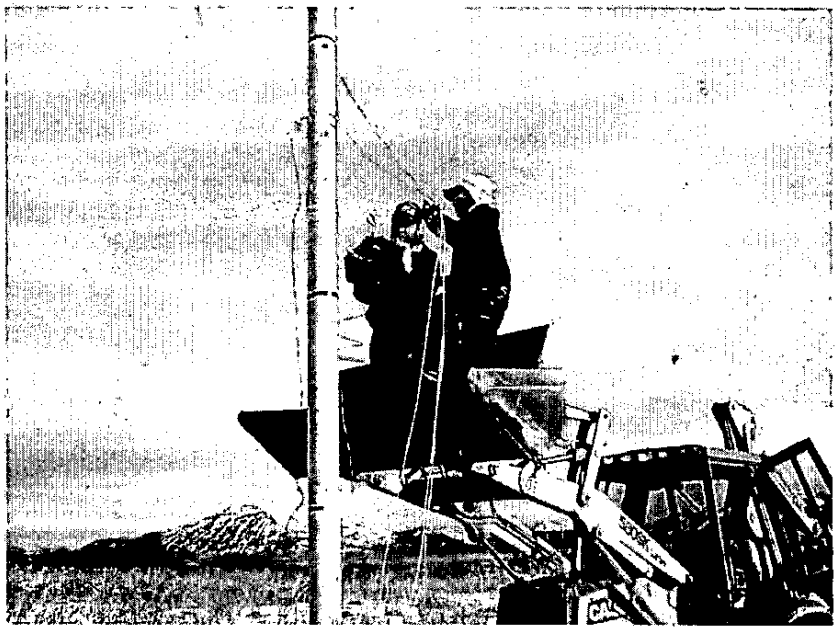
FALSE PASS

A bear chewed through wiring in July 2005, delaying data collection.



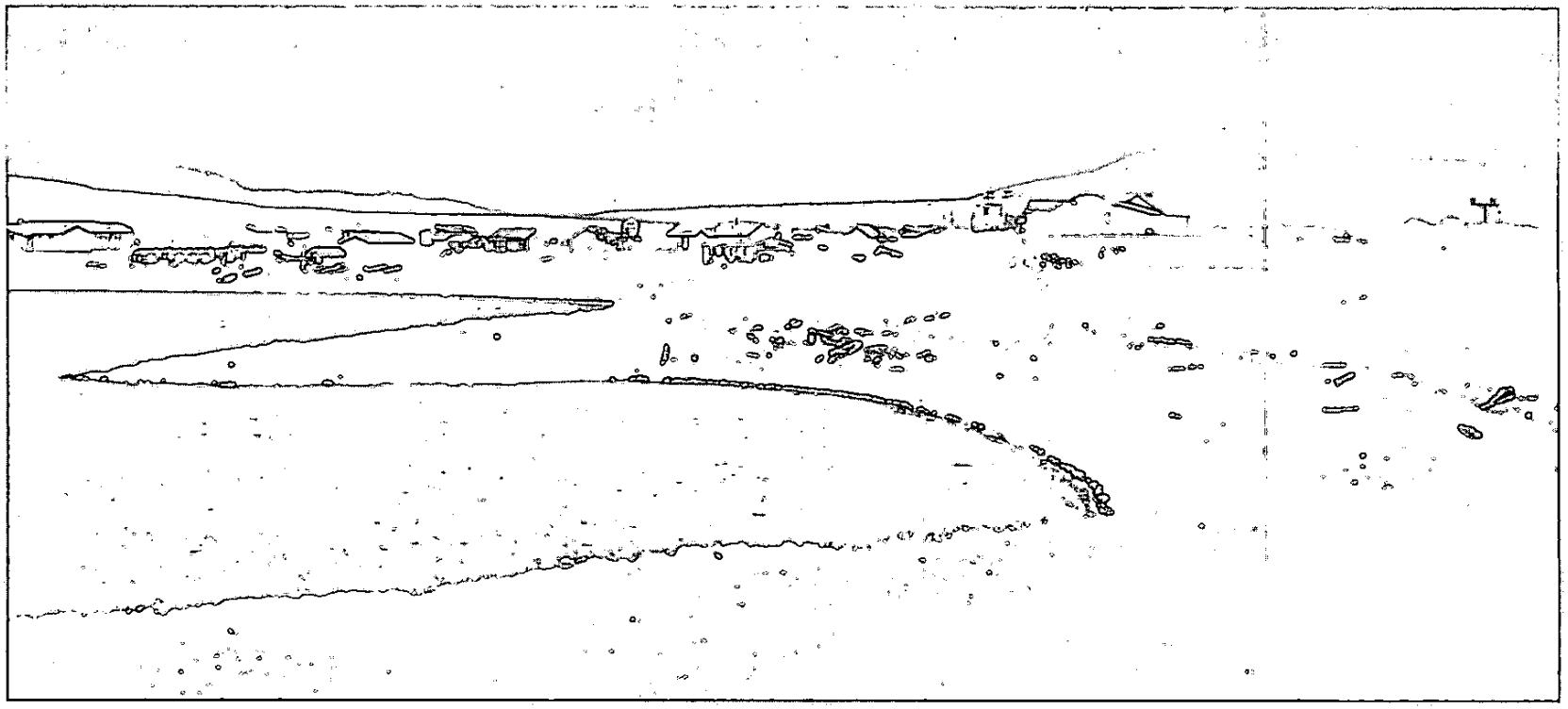


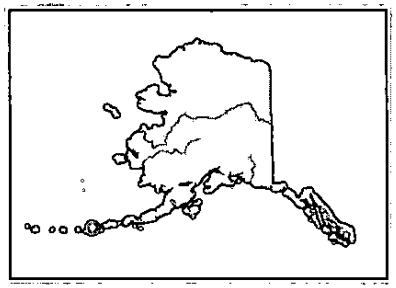
Mia Devine and George Jackson raise the data logger.



Raising the data logger to 25' in November 2005 prevented repeat damage. But attempts to install the predator proof fence around the tower (required by USFWS) were abandoned after persistent bear "intervention".

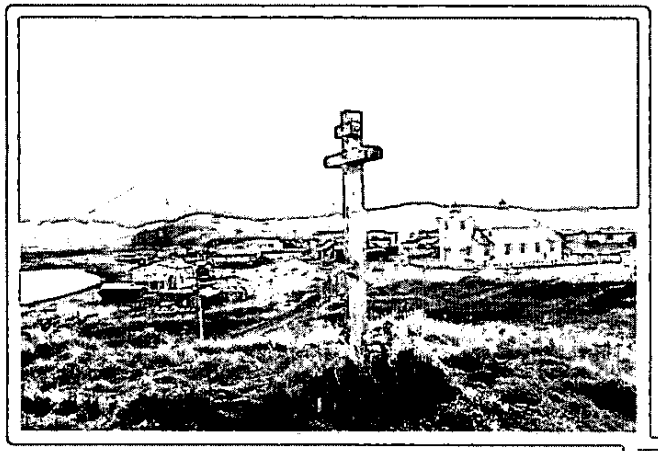
1797





Nikolski, Umnak Island

Continuously inhabited for over 10,000 years

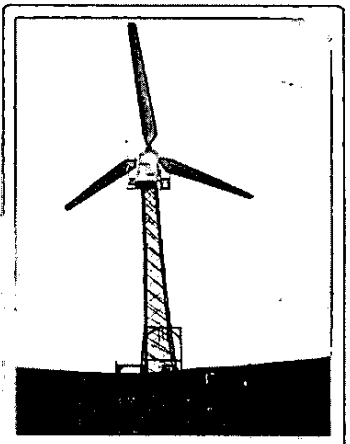


Nikolski Wind-Diesel Project

Pop. 27

Projected fuel savings: 15,500 gal./yr.

Sometimes fuel is not available at any price when the barge doesn't deliver.



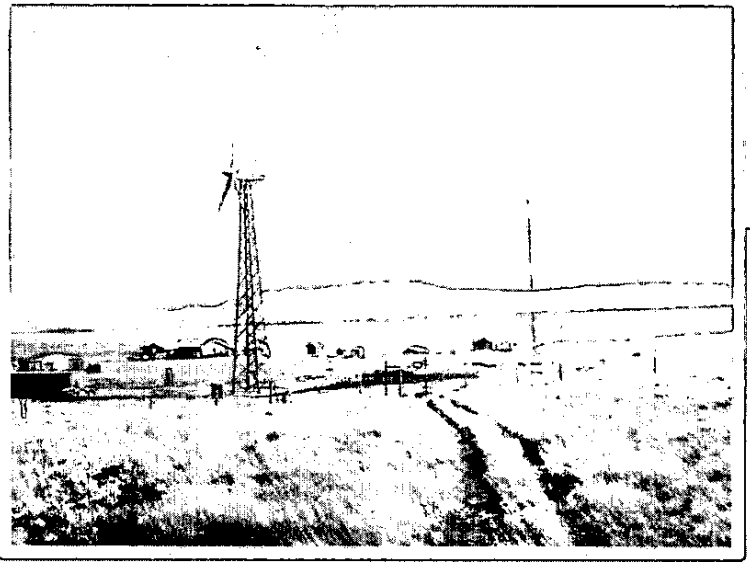
By the end of 2009 TDX will:

Integrate the wind turbine with the 179 kW diesel plant

Install hot water "dump loads" in the Lodge and School

Install Waste Heat Recovery System to Community Center

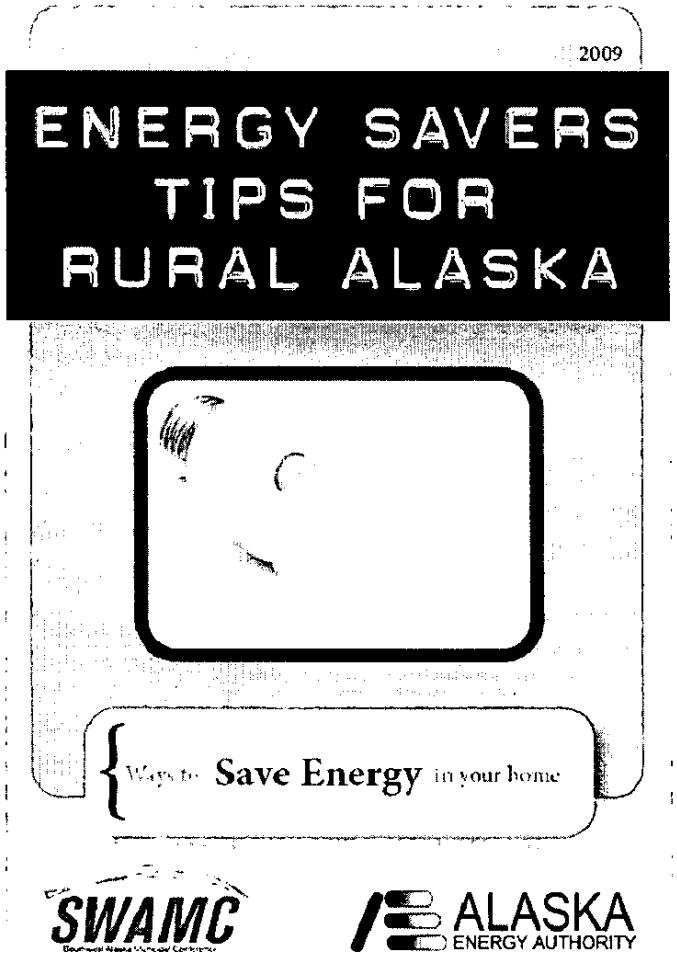
Train operator(s) to safely climb and maintain the wind turbine



This specially designed tilt up tower eliminated the need for a crane.

A refurbished Vestas V17-65 kW wind turbine was installed July 28, 2007.

Energy Conservation, Education, Weatherization and Planning



Energy Project Funding Comes from Multiple Sources:

AHFC

USFWS

USDA/RUS

Aleut Corporation

Denali Commission

Department of Interior

Aleutians East Borough

US Department of Energy

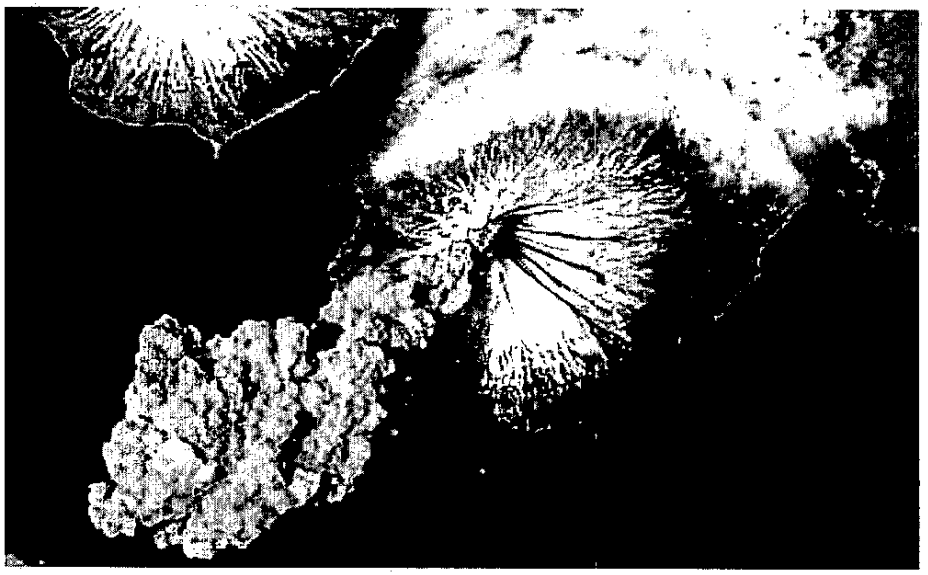
Aleutian Housing Authority

State of Alaska Energy Authority

Tanadgusix Corporation / TDX Power

State of Alaska Renewable Energy Grant Fund

Aleutian Pribilof Islands Community Development Association



Concerns and Suggestions

- Bulk Fuel Loans – Flexibility and Multi-year loans.
- AK Renewable Energy Fund – expedite award and reimbursement process.
- Investigate assistance for commercial ratepayers.
- Ensure PCE rules are not a disincentive to developing renewable energy resources.
- Recognize the value of pre-pay electric meters as conservation tools – and fund accordingly.

AVCP Calista Regional Energy

Calista

NORTHSTAR GAS
Native Owned Petroleum Retailer

YKHC

AVEC
ALASKA VILLAGE ELECTRIC COOPERATIVE

Middle Kuskokwim Electric Cooperative

Chaninik Wind Group

Kwethluk Power House

Introduction

- The AVCP CALISTA Regional Biennial Energy Plan is the work and the progress of the AVCP Calista Regional Leadership to:
  - develop and adopt a long term energy policy for sustainable energy
  - work collectively and combine our resources
  - identifying conventional and non-conventional renewable energy development
  - identify strategies for funding and deployments methods

Regional Leadership

- Executive officers, board members, staff of the major regional organizations, local governments, utilities and the business community.
- The Leadership is using the Nuvista Light and Electric Cooperative on the Biennial Energy Plan.
- The Nuvista Light and Electric Cooperative, Inc. a regional wholesale utility formed by Calista Corporation and currently administered by the Association of Village Council Presidents.

Energy Planning Participants

- Sven Paukan, Nuvista Chairman, AVCP Board, Algaaciq Tribe
- Paul George Guy, Nuvista Vice-Chairman, Calista Board, Kwethluk Power Company and Kwethluk Inc.
- Arthur S. Heckman Sr., Nuvista Secretary, Calista Board, Pilot Station Village Corporation
- Daniel Waska, Nuvista Treasurer, AVCP Board, Atmautluak Tribe
- Moses Owen, Nuvista Board, AVCP Board, Akiak Tribe
- Willie Kasayulie, Nuvista Board, Calista Board
- Myron Naneng, AVCP President
- Ron Hoffman, AVCP Regional Housing Authority CEO
- Robert Nick, AVCP Regional Housing Authority Board Chairman
- Martin B. Moore, City of Emmonak
- William Igkurak, Chaninik Wind Group Chairman
- Matthew Nicolai, Calista Corp., President & CEO
- Andrew Guy, Calista Corp., General Counsel
- Doug Nicholson, Donlin Creek, LLC, General Manager
- Brent Petrie, Alaska Village Electric Cooperative, VP
- Ernie Baumgartner, Middle Kuskokwim Electric Cooperative, CEO
- Gene Peltola, Yukon Kuskokwim Health Corporation, CEO

Task Force and Committees

Regional CEO's

- *Ron Hoffman, AVCP Regional Housing*
- *Myron Naneng, AVCP*
- *Matt Nicolai, Calista*
- *Gene Peltola, YKHC*
- *Meera Kohler, AVEC*
- *Elaine Brown, NorthStar Gas*
- *Deborah Vo, YDFDA*

Western Alaska Fuel Task Force

- *Chair - Meera Kohler, AVEC*
- *Elaine Brown, Northstar Gas*
- *Greg McIntyre, YKHC*
- *Ivan M. Ivan, Akiak TC*
- *Willie Kasayulie, Calista Corporation*
- *Deborah Vo, Yukon Delta Fisheries Development Association*
- *Allen Joseph, AVCP Regional Housing*

Legislative Committee

- *Chair- Michelle Sparck, AVCP*
- *Elaine Brown, North Star Gas*
- *Rep. Bob Herron*
- *Allen Joseph, AVCP Regional Housing Authority*
- *Meera Kohler, AVEC*
- *Mary Nelson, Donlin Creek LLC Biennial Energy Plan*

Renewable Energy Committee

- *Chair - John Sargent, City of Bethel*
- *William Igkurak, Chaninik Wind Group*
- *Brent Petrie, AVEC*

Goals and Deployment Objectives

Energy Security and Economic Stability

- Develop integrated energy solutions that meet local energy requirements and economic development needs

Energy Parity and Stability

- Establish statewide energy cost parity to make home heating affordable and equitable

Energy Generation and Transmission

- Pursue an All Alaskan Generation and Transmission Utility to save energy dollars and reduce electricity rates across All Alaska

Goals and Deployment Objectives

Integrated Renewable Energy Solutions

- Expand Wind Energy Projects along the eastern Bering Sea Coast and the Bethel area
  - determine feasibility for integrated wind/diesel/solar/biomass heating and electric systems with community heat storage system.
- Determine feasibility of Regional Hydroelectric Project (Lake Chikuminuk) to provide region-wide electricity and heat.
- Develop and install Biomass projects: including wood fired boilers, heaters and wood chippers for community facilities and buildings.

Goals and Deployment Objectives

All Alaskan G&T Utility

- Takes ownership of G&T Assets across Alaska
- Power costs are pooled and power bought back at postage-stamp rate or a 2 tier rate (utilities then add their costs and sell it to customers)
  - Costs range from 5¢ to 50¢ kWh
  - Distribution costs range from 3¢ to 20¢ kWh
  - PCE currently costs $30 million per year
  - Rural school electricity costs $20 million per year
  - Other state rural offices pay $20 million per year

Goals and Deployment Objectives

- By going to All Alaska G&T the state saves energy money to pay for a significant portion of major project investments thereby driving generation costs down to stabilize rates.
- Rural utilities can work together to reduce their delivered costs via shared services and other methods.
- End results are rates costing about 25¢ kWh and making PCE unnecessary.
- Regions and communities no longer have to compete for investment grants as the AAG&T would build the projects to benefit all Alaskans.
- Rural villages will no longer have to struggle with O&M.

Goals and Deployment Objectives

- Consolidate local individual utilities into Regional Cooperative Utilities
  - Bethel and nearby 12 villages
  - Coastal and Tundra villages

- Pursue sub-regional inter-ties and distribution systems beginning with an inter-tie to connect the villages of Alakanuk and Emmonak; and the villages of St. Mary's, Mountain Village and Pilot Station.

Goals and Deployment Objectives

Bulk Fuel – Western Alaska Fuel Task Force

- 1. Reduce fuel consumption in 2009 by 10%
  - a. Determine fuel users, consumption, and storage capacity of each community (utility, schools, village corporations, local organizations, tribal council)
  - b. Link villages/users together under cooperative purchase agreements
- 2. Seek changes to State and Federal Fuel Programs
- 3. Conduct Education Outreach

Goals and Deployment Objectives

Statewide heating fuel price parity capped at $3 per gallon (Sept. 1 through March 31) to reduce the cost of heating for all Alaska residents

- ***Formula (delivered fuel cost above $3.00 X total gallons for number of households served) not including O&M, overhead cost, etc.***

- ***Fuel Price Parity set only when price of oil per barrel results in delivered cost of fuel above $3.00 per gallon (note: in 2009 most communities delivered costs are under $3.00 per gallon)***

Alaska State Legislative Priorities for 2010

- Statewide G&T utility to include Rural, Southeast and Railbelt
- Introduce statewide heating fuel price parity legislation to cap at $3 per gallon (September 1 through March 31) for all Alaska residents
  - ★ Formula (delivered cost above $3.00 X total gallons for number of households served) not including O&M, overhead cost, etc.

NORTHSTAR GAS
Native Owned Petroleum Retailer

	Coast		L Kusko		M Kusko		U Kusko		Yukon	
	HF Spring	HF Fall	HF Spring	HF Fall	HF Spring	HF Fall	HF Spring	HF Fall	HF Spring	HF Fall
2004	2.0076	1.9455	2.0076	1.9455	2.0876	2.0255	2.1476	2.0855	2.0076	1.9455
2005	2.4000	2.6700	2.4000	2.6700	2.4800	2.7500	2.5400	2.8100	2.4000	2.6700
2006	3.1150	3.2930	3.1150	3.2930	3.1950	3.3730	3.2550	3.4330	3.1150	3.2930
2007	2.9070	2.9210	2.9070	2.9210	2.9890	3.0030	3.0510	3.0650	2.9080	2.9220
2008	4.8920	3.8960	4.8920	3.9860	4.9740	4.0680	5.0350	4.1290	4.8920	3.9860
2009	$2.7122	3.1984	$2.6997	3.1859	$2.6722	3.0792	3.4226	3.9088	3.0726	2.9992

NORTHSTAR GAS
Native Owned Petroleum Retailer

	Coast		L Kusko		M Kusko		U Kusko		Yukon	
	UL Spring	UL Fall	UL Spring	UL Fall	UL Spring	UL Fall	UL Spring	UL Fall	UL Spring	UL Fall
2004	2.4260	2.2090	2.4260	2.2090	2.5060	2.2890	2.5660	2.3490	2.4260	2.2090
2005	2.5770	2.8670	2.5770	2.8670	2.6570	2.9470	2.7170	3.0070	2.5770	2.8670
2006	3.3650	3.1430	3.3650	3.1430	3.4450	3.2230	3.6320	3.4100	3.3650	3.1430
2007	3.4600	2.9460	3.4600	2.9460	3.5420	3.0280	3.6040	3.0900	3.4600	2.9460
2008	4.2400	4.1200	4.2400	4.1200	4.3220	4.2020	4.3830	4.2640	4.2400	4.1200
2009	3.2636	3.3069	3.2513	3.2944	3.2738	3.4943	3.7242	4.0173	3.6242	3.4514

Alaska Energy Authority Renewable Energy Grants Round I

	Cost	Grant
Bethel Wind Power x 4	$3,197,986	$2,598,320
Hooper Bay Wind Farm	$2,220,141	$2,220,141
Kongiganak Wind Farm	$3,200,000	$1,700,000
Kwigillingok Wind Farm	$3,200,000	$1,700,000
Mekoryuk Wind Farm	$3,506,406	$3,155,765
Quinhagak Wind Farm	$4,313,603	$3,882,243
Toksook Bay Wind Farm	$1,153,056	$1,037,750
TOTALS	$20,791,192	$16,294,219

AEA Grants Round II - pending

	Cost	Grant
Akiachak Wind ANCEC	$600,000	$4,500,000
Akiak Wind	$200,000	
Emmonak Wind & Transmission AVEC	$1,062,818	$10,733,179
Scammon Bay Wind Analysis AVEC	$6,190	$4,436,800
St. Mary's Wind Analysis AVEC	$5,500	$6,310,000
Mountain Village Wind City and Tribe	$11,155	$133,255
Chikuminuk Lake Hydro AVCP	$150,000	$400,000
Bethel Wind Power x4	$599,666	$3,197,986
Crooked Creek Hydro Kinetic		$368,000
Kipnuk Wind Diesel Heat	$1,600,000	$10,188,000
Kotlik Pellet Stove KYE	$50,000	$626,400
Orutsaramiut Native Council	$771,900	$70,200
Tuntutuliak Wind Diesel	$1,600,000	$3,360,000

American Recovery & Reinvestment Act

- DoE Energy Efficiency and Conservation Block Grant: tribes receive 2% set-aside of $2.8 billion.
- Clean Renewable Energy Bonds: One-third of the authorized amount is available to tribes.
- Qualified Energy Conservation Bonds: allocations to tribes as local governments.
- DoE support for tribal Smart Grid Demonstration projects.
- $18,142,580 Alaska Weatherization Assistance Program and $28,232,000 for the State Energy Program (declined by Governor Palin)

DoE Energy Efficiency and Conservation Block Grants

- The amount of funding for each Tribe based on a formula published in the Federal Register.

  In addition to the $56 million EECBG tribal set-aside funds, tribes were eligible to receive awards on a competitive basis for $400,000,000 made available under the Act. These funding amounts include administrative, training, and technical assistance costs that will reduce available funding for grants by 1-2%.
- General program information is available at http://apps1.eere.energy.gov/wip/block_grants.cfm

2009 Omnibus Appropriation Act

Appropriations Act Provides Nearly $2 Billion in New Funding to DoE Energy Efficiency & Renewable Energy

- $217 million for biomass energy;
- $175 million for solar energy
- $30 million for concentrating solar power
- $55 million for wind energy
- $40 million for "water power," which includes both conventional hydropower and tidal and marine technologies.
- Infrastructure development activities, and other supporting activities also received funding increases under the appropriations act.

Quyana Cakneq

Mr. Chairman, Members of the Committee I am Percy Frisby, Director of Energy for the Central Council Tlingit & Haida Indians Tribes of Alaska. I was invited to testify before you on Rural Alaska Energy Concerns in the Southeast Region. I was asked to cover three areas of energy development.

A) **Unique Energy Problems:**

In many ways, it seems that the primary problem is not unique for the villages of all the regions. The demand for electricity is small for each utility, but the energy per individual or home is quite expensive. Most of the small communities in Southeast Alaska are powered with diesel fuel - exception being Metlakatla and most of Prince of Wales Island.

However, the most unique aspect of Southeast Alaska is that there is an abundance of renewable energy available with most of the resources being developed by the larger communities - but very little of these resources are shared with the smaller communities. And the cost for smaller communities to develop these resources is greater than the costs for diesel-generated energy.

The biggest problem that small communities face is the economies of scale. Their populations are too small to justify the expense of developing and constructing a complete power system. Southeast Alaska is in a unique position because we can bus surplus power to a retail market when British Columbia completes its Northwest BC Transmission Line to Bob Quinn Lake. All that we in Southeast have to do is build the AK/BC section from Wrangell to the border. By having this transmission line built it would change the economies of scale throughout the region. Small communities then can afford to build adjacent power systems because they will have a market for surplus power.

B) **Local Solutions Attempted:**

- Many of the smaller communities are pursuing hydro facilities, but costs are excessive and permitting is arduous. Not much progress to date.
- Yakutat: Is looking at wind and wave technology
- Hoonah: Is looking at Gartina and Elephant Creek hydro plants; biomass gasification project at Pt Sophia; and an Intertie with AEL&P in Juneau.
- Angoon: Is looking at developing Thayer Creek hydro
- Kake: Is looking at an Intertie with Petersburg
- Tenakee Springs: Is looking at developing Indian River
- Hydaburg: Is developing Reynolds Creek Hydro

nected to the now set for completion Swan Lake - Tyee Transmission Line) - but they need an intertie to bus their surplus power.

C) **State Assistance:**

The state could help lay the ground work for development of renewable resources. There is so much preliminary work that needs to be completed before engineering and construction is even planned.

- Continued analysis, evaluation, and definition of potential renewable resources. This includes alpine lake tap generation potential, hydrokinetics, wind, wave, tidal, biomass, and geothermal.
- Hydro potential near the communities is well determined - the potential in the more remote areas is not.
- Wind is known to exist, but the quality as an area source is not known, sites are poorly defined.
- EPRI (Roger Bedard) published a good & promising report about tidal energy in SE - but it is very broad brushed with no correlation with current technology or application to specific sites.
- The state published a report and map illustrating potential geothermal sites in SE, but the real capacities of these sites is unknown. And the data does not address all known potential.
- Wave energy is a very new technology with a very positive outlook along the west coast - significant research and development is occurring in Oregon and British Columbia.

Strategic planning:

Example - Oregon is taking a very progressive position with the development of Wave Energy. They are quite involved with developing a Territorial Sea Plan - this plan defines allowable areas for Wave Energy development as well as allowable extent of generation. This type of planning should occur to some extent for all types of energy development to protect other stakeholders of the resources and uses of the land or sea.

Facilitate more research and development:

The best resources available to the communities, involves development of new technology. Our state now has the opportunity to take a greater leadership role in the application of new technology.

This is pretty much a shotgun approach with a wide distribution of ideas. I think that the two areas the state should address is the need for strategic planning and a much more progressive commitment to developing new technology and resources.

Thank you for allowing me to testify

Testimony to the House Energy Committee, Senate Resources/ Energy Committees and to the Bush Caucus

Myron P. Naneng, Sr. President

Association of Village Council President

October 23, 2009

Good Afternoon respected members of the Panel, Thank you for allowing me the opportunity to address the panel on an issue that is important to every single household in our communities.

My Name is Ciisaaq; Myron Naneng, I grew up in Hooper Bay in South West Alaska.

I am currently the President of the Association of Village Council Presidents that represents 56 communities of the Yukon Kuskokwim Delta.

I want to address issues that my communities experienced during the dreadful winter of 2009, something I feel will be experienced again in a matter of weeks.

Life has always been hard in our remote part of the State, but the people are hardier. The winter of 2009 started out like any other winter. During the summer, the families put away meat and fish despite the restrictions and the scarcity of game and finances.

The village of Akiachak had the highest price per gallon of Heating Fuel and Gasoline at $5.30 gallon. In a matter of weeks, the same village, had the lowest price in the YK delta at $5.30 a gallon.

Kim Murphy from the Los Angeles Times noted in her article printed on January 25, 2009 that Bush residents:

> ... Nearly every one ...is performing a perilous balancing act between food and fuel -- the building blocks of survival in a frigid winter that still has months to go. Life in rural Alaska always has been treacherous. But last year's dramatic escalation in fuel prices, combined with a disastrous fishing season, plunged the ramshackle villages of America's frontier into one of the worst crises in decades, prompting calls for humanitarian aid and demands for pricing reform.
>
> "Holy Jiminy Christmas, what we're going through," said Dora Napoka, 49, the librarian at the village school. "It's like we have to choose between six gallons of stove oil or six gallons of gas to go out and get the firewood -- or does my baby need infant milk? Which one is more important?"
>
> At the moment, villagers ... say their greatest hope is that Venezuelan President Hugo Chavez will come through again on his pledge to deliver free fuel to Native Americans -- a promise that could mean 100 gallons for many families.

"What most people do not realize is that what our country as a whole has been seeing for the past year or so is nothing compared to the economic conditions that have been prevailing in many of our Native communities for over 100 years," Senator Lisa Murkowski (R-Alaska) told the Senate Committee on Indian Affairs on January 15.

"It is truly tragic," she said, "that Alaska Native villages must depend on Venezuela for their safety net."

Here we are, a year later, we still depend on bulk fuel purchases for essential needs and practices. From heating our homes, running our generators to light our homes, running our boats, ATVs or snowmobiles. Our infrastructure does not yet host alternatives, though we are catching up with renewable energy projects – but prices that are shaping up this year for fuel, groceries, air transportation and the like are also predicting another massive need for humanitarian aid, and demand for price reform.

The average price of heating fuel is $6.95 a gallon, gasoline is at the average price of $6.85. The lowest vendor prices is at the village of $5.45 in Platnium with a population of only 41. The highest price for heating fuel is in the village of Kwethluk, population 716 at $8.10 gallon.

The reason for the high fuel prices stem from several different reasons; among them, the Bulk Fuel Vendors would not extend credit to our local fuel vendors because of the peak fuel prices from last year.

Without the option to extend credit, local fuel vendors had to scramble to obtain grants and/or bulk fuel loans from the State of Alaska and other financial institutions. This is not an easy or simplified process despite similar hurdles and challenges for over thirty years – the State does not have a process in place to ensure its communities are equipped to deal with energy needs for its citizens.

While this process flounders in the State's archaic bureaucracy, the window for fuel deliveries via fuel barges become narrower and narrower. With a no-fault clause, villages bulk fuel purchases often end up getting iced out in the Kuskokwim and the Yukon Rivers, preventing fuel deliveries and requiring an extra costly emergency air or ice-road delivery. Airlifting or driving in the fuel at this exorbitant cost directly affects the cost of living, from the price of groceries to the price of utilities.

Even with the price of oil fluctuating to more affordable levels, the high cost of fuel is still prevalent in our region and more remote parts of the State because the fuel stock bought with last year's exorbitant prices have not been sold.

Adding insult to injury, last year's (and this year's) commercial salmon fishing season was severely restricted if not completely shut down. This source of revenue for village fishermen is conventionally used to pay for other Subsistence activities to gather more foods for winter. Native foods greatly make up the bulk of our nutrition with costly processed / commercial products only supplementing our diet; there is no way that our households can survive without Subsistence.

The poorer (than usual) economy in tandem with the high fuel costs added pressure to AVCP's social services. Food donations were up and festivities for holidays and special events were disappointing.

For the State's part, the Governor included a $1,200 fuel subsidy to all recipients of the Permanent Fund Dividend. Not a lot of people make the PFD application deadline, which effectively ruled out a lot of needy households for this unexpected and unprecedented attempt at addressing the energy costs. Had the State gone with the Legislature's plan to apply subsidies directly to the vendor's, it would have more effectively dealt with homes having trouble keeping their homes lit and warm.

People living on the energy grid enjoyed a financial windfall, whereas the average price of stove oil in our region was around $7.00 a gallon which equates to buying 3.1 drums of heating fuel. It is perhaps comparable to the Venezuelan program.

For our part, AVCP and its regional counterparts are proactively advocating and promoting alternative energy, with wind, solar and hydro power products; but these are costly long term projects and our area does not have the time to wait for these developments.

Senator Lyman Hoffman, a seasoned veteran of the Alaska Legislature, proposed legislation in SB 4002 that more than adequately addressed energy challenges in rural and remote areas in the State in the form of a fuel price cap on all heating fuel sales, a State subsidy, amending the bulk fuel bridge loan fund and the bulk fuel revolving loan fund; amending the power cost equalization program, repealing the exclusion from eligibility for Power Cost Equalization (PCE) for certain power projects that take their power from hydroelectric facilities, and amending the definition of 'eligible electric utility' as it applies to the PCE program and the grant program for small power projects for utility improvements; relating to establishing a gas pipeline development fund in the Department of Revenue; and establishing the Alaska resource rebate program. These measures mean to equalize or lower the cost of energy costs for Rural and Remote parts of the State of Alaska.

Alaska is an oil rich state, we have a high profile personality and continuing Administration touting energy expertise and plans to help make free this country's dependency on foreign fuel. I think that is fine, but it would be imperative that we deal with it in Alaska first before taking on the world.

Wednesday, October 21, 2009

Kawerak Management:

The House Energy Committee, Senate Resources / Energy Committees and the Bush Caucus are holding a hearing on AFN's ***main stage on Friday, October 23, from 2 to 5 PM***. The subject of the hearing is "Rural Alaska Energy Concerns." They have decided to invite testimony from each of the 12 ANCSA regions and have allotted the **first two hours to invited testimony** (committee members might have questions after your presentation). They are hoping to hold each region to approximately 10 min.

Below please find my input on the three questions they would like answered which I hope you will find of assistance in preparing your presentation:

A) What kind of unique energy problems exist in our area of the state?

- **SKILLS AND ABILITIES**
  - **Skills and abilities necessary to operate and maintain electrical generation equipment and renewable energy assets not present.**
  - **Renewable energy projects currently at too small a scale to justify hiring a full time employee. (Banner is a notable exception)**
- **ACCESS**
  - **Renewable energy resources are not readily accessible via existing road system. Promising resource development projects can be rendered financially impractical by anticipated transmission line and road construction costs (Pilgrim – problem with transmission line cost).**
  - **Heavy equipment necessary to construct larger more efficient wind turbines is not available in the region.**
  - **None of the Villages are connected to the State utility grid.**
  - **Fuel can only be delivered in bulk by barge during summer months. Each village must store enough to last the winter.**

Walter H Rose – Energy Specialist – Kawerak Inc
Phone: 443-4366 – Fax: 443-4449 – email: wrose@kawerak.org

- **EROSION**: A number of Villages are threatened by erosion, in Golovin, a non-AVEC Village, flooding has shut the power plant down a number of times.
- **TUNDRA HEAVE**: Unstable ground makes building reliable foundations for wind turbines much more costly and challenging than in other regions.
- **HARSH CLIMATE**: Technologies considered "proven" in milder climates often fail in this region; there is a steep learning curve associated with new technologies.

B) What local solutions have been attempted and what are the results;

The Alaska Renewable Energy Fund administered by the Alaska Energy Authority has, to date, provided $11.4 million in funding for renewable energy projects in our region.

This summer AVEC installed:

- Six (6) one hundred (100) kilowatt wind turbines in Unalakleet.
- Three (3) one hundred (100) kilowatt turbines in Gambell.

This summer AVEC initiated wind studies in:

- Stebbins
- Teller

Last summer AVEC installed:

- Two (2) one hundred (100) kilowatt turbines in Savoonga. One of the turbines experienced some down during last winter; both are back in operation now.

Last summer BSNC and Sitnasauk installed:

- eighteen (18) fifty (50) kilowatt turbines on top of Banner Peak in Nome. The wind farm was shut down all summer due to technical problems but should be coming back on line shortly.

SIDE NOTE: If you mention Banner everybody is going to want to know exactly what went wrong. The way it was explained to me last:

- The device the wind farm uses to measure the wind speed froze up and started spinning much more slowly than it should have (registering a wind much slower than it actually was). The

Walter H Rose – Energy Specialist – Kawerak Inc
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turbines, which should have shut down automatically when the wind reached a certain speed, kept operating; this put a lot of wear and tear on the gearboxes. Additionally, the air in Nome turned out to be much heavier (denser) than expected. The angle (pitch) of the propellers (rotors) was set wrong and they were spinning too fast; they are fixing both these things.

- They have been up on the hill with parts, equipment, and good help for nearly a month now; while I'm not directly involved, the feeling I get is that we'll see the wind farm producing electricity shortly.

REGIONAL ENERGY SPECIALIST

Kawerak hired a regional energy specialist in Mid-March 2009 to assist Native Villages with energy related issues.

REGIONAL MEETINGS FOCUSING ON ENERGY

Representatives from the IRA Councils of more than two thirds of the Villages in the region recently met in Nome and reached a consensus regarding renewable energy priorities for the region:

1) Research, Education, and Planning - in order to gain a good understanding of emerging technologies, to address the need for local energy related skills and abilities, and to efficiently arrive at an optimal solution.
2) "Multipower" Energy Resources - Multipower is defined as any technology which tends to offset but not completely replace diesel generated electricity including wind, solar, and tidal.
3) Regional Geothermal Cooperation & development - two areas of our region, the Pilgraim/Mary's Igloo/ Teller area and the Elim/ Koyuk/White Mountain/Golovin area both need further geothermal investigation.

A separate survey of energy priorities at the village level reveals that both Wind/Diesel hybrid system development and Continued Weatherization are equally high priorities. While solar heating technology, better wood stoves, and more efficient wood gathering and chopping techniques were of considerably lesser interest.

C) What do we think the State of Alaska should be doing to help with the high cost of energy?

Walter H Rose – Energy Specialist – Kawerak Inc
Phone: 443-4366 – Fax: 443-4449 – email: wrose@kawerak.org

- Encouraging and enabling the sustainable, fiscally and environmentally responsible development of local and renewable energy resources is the most sensible long run strategy because:
  - It promises to permanently reduce the size of PCE and other energy related transfer payments by reducing rural energy costs.
  - It is consistent with this region's values of self sufficiency and independence.
- So far we have mostly gone after electricity. I recommend they tailor incentives including the PCE to encourage high penetration renewable projects (projects that produce more electricity than the village needs) and use the extra electricity to reduce heating fuel requirements (like Toksook Bay).

WALT'S STATISTICS:

- According to the Alaska Energy Authority, as of March 23, 2009, the weighted average cost per kilowatt hour of electricity in the Bering Strait Region was forty two cents per kilowatt hour ($0.42/kWh); the second highest of any region in Alaska.

[redacted]

NOTE: The above figures are for full time (not seasonal) residents (registered PFD recipients) who are not self employed or working for the federal government or military.

NOTE: I used 2008 wage totals from labor.alaska.gov, DCCED 2008 Certified Municipal Populations data for FY 10 Programs, and energy expenses information from the Alaska Energy Authority's Wednesday, January 14, 2009 village by village survey pages 121 to 188 to arrive at the above figures. I am entirely confident they are not overstated. (I have actually understated them because I find them so hard to believe)

If you have any questions or require any clarifications I am at your disposal.

Walter H Rose – Energy Specialist – Kawerak Inc
Phone: 443-4366 – Fax: 443-4449 – email: wrose@kawerak.org

Good afternoon. My name is Ralph Andersen. I'm the CEO of the Bristol Bay Native Association. I'm also the Chairman of the Bristol Bay Partnership; our leadership group composed of the chief executives of our regional organizations.

The summer of 2008 was painful for us in rural Alaska. That's when we first felt the pinch of high fuel costs. The price of crude oil went to nearly 200 dollars a barrel and the prices we pay for gas, diesel and heating fuel doubled. The high crude prices added millions to the state's revenues, but emptied the bank accounts of us living in rural Alaska.

In the summer of 2008, a study by the Institute of Social and Economic Research showed that rural Alaskans pay 41 percent of our monthly incomes on energy, and Anchorage residents pay only 4 percent.

Last winter our hearts went out to our village people who were having to choose between paying the oil or electricity bill or buying food for their families.

Some could not afford the gas for their BOATS OR snow machines for subsistence hunting. We saw emergency food deliveries made in villages across the State to keep families and children from going hungry.

During the past 2 years, we've seen more friends, more families and more neighbors move out of our villages and out of our region because of the high cost of living. The high price of fuel is the biggest factor raising our cost of living and affects every part of our lives.

The price of groceries, fresh milk, a dozen eggs, airline tickets, toothpaste, medicine, diapers, clothing, lumber and building materials, car and truck parts – *everything* – have gone up.

When the price of crude was cut in half this past summer to about $70 a barrel, we expected to see at least an equal cut in fuel prices. Our hopes were dashed when we saw prices drop just a few dollars.

Not only do we continue to pay high prices, but the prices are all over the board, up and down the west coast, and even between villages in our region.

Why are prices in South Naknek, for example, a dollar more than the prices at Naknek only 300 yards away? And why is it that fish processors can sell diesel for $2 a gallon to their fleet from a barge like they did this past summer, when we were paying more than $6.00 a gallon at the fuel pump?

We know that we will depend on oil for many years to come. Our commercial fishing boats, fish tenders and processors, outboard motors, chainsaws, snow-machines, cars, and trucks all run on diesel or gas.

The airlines, cargo planes, air taxi's, and tugs and barges that deliver our supplies all run on diesel or gas. And our village generators still run on diesel.

We all want cheaper fuel to heat our homes and generate electricity, and we need it now. The problem is there is no control over how fuel prices are set.

Unless a new state law is made or price controls are put in place, the prices we rural residents pay for fuel will continue to be at the mercy of Delta Western and Crowley.

Some of our residents have installed wood-fired stoves, heating systems and hot water heaters. Some of our villages have installed or are planning to install wind generators to lower energy costs and reduce consumption of diesel fuel.

But until the transition to another power source is total or complete, diesel will continue to power our village generators and we will need fuel to heat our homes.

It takes years and millions of dollars to develop renewable or alternative power sources, and we need electricity now for our homes, schools, clinics, fire stations, stores, and community buildings.

We encourage the State to adopt an energy policy--one that covers every region of the State with the goal of lowering or equalizing energy costs for all Alaskans.

The policy should address energy needed for electricity, heating and transportation. It should require or be supplemented with an energy plan for every region in Alaska with specific milestones to measure progress and for accountability.

We support establishing an Energy Department and a commitment of sufficient funds for the department to carry out the policy. We also support funding to develop the potential alternative and renewable energy sources that were identified last year by the Alaska Energy Authority.

In Bristol Bay, we have geo-thermal, solar, wood, wind, tidal, and hydro resources that can be developed. Some of our residents and villages have taken the initiative to develop some of them to reduce their energy costs, and our utility companies are trying to secure funds to develop other energy sources on a larger scale.

At BBNA, we will operate the LIHEAP program under contract with the State this year. We want to make sure that every eligible resident in Bristol Bay gets the help they need and qualify for under the program.

It was disturbing to learn that only 15 percent of eligible families in our region were served last year. We can do better than that.

Our tribal TANF Program educates, assists and encourages clients to incorporate energy efficiency measures into their homes, such as installing CFL light bulbs, as a way to help clients meet their household budgets.

We also coordinate delivery of 100 gallons of free heating fuel to those in Bristol Bay who want to participate in the CITGO program. While some may choose not to participate, the free fuel program offers relief to the majority of our elders and village residents and we hope CITGO continues its fuel program again this year.

Last Fall, our Board established a new Tribal Energy Program. Generally, the program is charged assisting

and providing information to tribes on energy projects, initiatives and opportunities. The funds to operate the program are limited by our BIA compact but we are now seeking additional funds for full program operation on a regional basis.

BBNA is united in partnership with other Bristol Bay organizations to address the energy issue in a coordinated way.

In April 2008, a few months before the fuel crisis hit us, the Bristol Bay Partners adopted our first Energy Policy and Crisis Recovery Plan. The Recovery Plan is focused on ways of reducing the costs of electricity.

Our Plan recommends building interties between our villages. Economies of scale tell us that it's cheaper to have one power plant generating enough electricity for 2 or 3 villages than it is to have smaller power plants in each of those villages.

Finally, I have 4½ recommendations that I hope you will consider:

1. Adopt a State Energy Policy and establish an Energy Department to carry it out.

2. Hold a hearing about the pricing of the transportation and delivery of fuel products to western Alaska. ~~As I understand it, Enstar buys natural gas from producers then transports and delivers it to Anchorage consumers at a cost regulated by the RCA. How is that any different than Delta Western and Crowley buying gasoline, diesel, and heating fuel from producers and transporting and delivering them to rural consumers?~~

3. TAKE ACTION ON SENATOR HOFFMAN'S BILL TO CAP FUEL PRICES FOR RURAL ALASKANS.

I appreciate this opportunity to testify. Thank you.

4. TAKE ACTION ON THE 4 REMAINING AFN ENERGY PRIORITIES.

Good afternoon - Thank you for this opportunity to testify on Energy issues in Rural Alaska. My name is Robert Keith. I am President of the Native Village of Elim and Chairman of Kawerak Inc., the tribally authorized non-profit regional consortium serving the Bering Straits region of Alaska.

Like the rest of rural Alaska, our region has experienced ever-escalating costs for fuel and energy production. Over the past five years, we estimate energy costs have doubled, if not tripled, in most of our villages. Currently fuel prices in the Bering Straits Region range from $5-$8 a gallon. Over the long term, we see fuel prices only going up. We need to develop other, low cost means of generating energy in Rural Alaska. In light of this, we recommend the State of Alaska undertake the following:

1) Expand and continue the P.C.E. Program to offset the high cost of electricity until such time as alternative energy is developed ~~to offset the cost~~ in Rural Alaska;

2) explore and set in place means to assist rural communities to purchase fuel when the price is low, as opposed to the summer high;

3) explore and set in place means to ~~maximize~~ reduce the cost of transporting fuel to rural Alaska;

4) should the State of Alaska make additional resources available to homeowners for energy assistance, we recommend that the state issue energy vouchers similar to the CITGO model as opposed to checks;

5) establish a state office to provide technical expertise in planning, installing, implementing and managing alternative energy technology - we can't afford to constantly recreate the wheel - or make mistakes along the way;

6) ~~[illegible]~~ create a state clearinghouse on alternative energy approaches and technology in terms of what works in the arctic, ease of operation, cost of equipment, maintenance and upkeep;

7) develop plans, material lists and provide low interest loans to enable rural Alaskans to install proven alternative Energy technology in their homes;

8) Develop a long term alternative energy plan ~~[illegible]~~ for the State of Alaska to lessen our dependence on fossil fuels; and

9) Appropriate dedicated alternative energy funds such that we can implement and achieve all of the above!

Qwianna!

INSIDE PASSAGE ELECTRIC COOPERATIVE, INC.
Testimony before the House Energy Committee
October 23, 2009

IPEC has actively pursued reduced and stable priced electric rates on behalf of its member owners for many years. The high and volatile price of diesel has and will continue to be a detriment to the villages we serve by limiting their economic development opportunities and sustainability enjoyed by the urban areas. In 2008, IPEC spent a total of $2,492,881 on fuel for electrical generation which consumed 687,854 gallons of fossil fuel. One of our biggest challenges is the fact we maintain four different power plants that run independently from each other and are not connected to a power grid.

IPEC has adopted an Energy Plan to become diesel independent by 2015. In order to accomplish this goal we have outlined the following plan for each of our service areas:

Angoon

IPEC, Southeast Conference, the Alaska Energy Authority, the City of Angoon, Representative Bill Thomas, Senator Albert Kookesh, and residents of Angoon are seeking common ground to work together to build the Thayer Creek Hydro Project. Kootznoowoo has the rights to develop the project, and IPEC is the certificated and regulated electric provider for Angoon. It is conceived that IPEC will buy power from Kootznoowoo when the project is built as long as it is cheaper than diesel-generated power. This project would eliminate approximately 143,108 gallons of fossil fuel on a yearly basis.

Hoonah

IPEC had no choice but to abandon its decade long effort to secure funding for the Hoonah-Juneau intertie after the price of submarine cable construction put the project at up to $45 million. Submarine cable is expensive and risky, and the section of Chatham Strait we would need to cross was very deep, the deepest the cable manufacturer had ever attempted.

The new direction for lower cost renewable power for Hoonah is two-fold. First, we are working with AEA to develop two small hydro projects for Hoonah which would displace up to 70% of Hoonah's diesel-generation which is approximately 348,704 gallons annually. Second, IPEC and Sealaska, with the help of AEA, have submitted a grant to study the geothermal generation potential of a site at the head of Tenakee Inlet, known as site SE-3. Grant awards

are expected to be announced in November, and exploration activities will begin next spring if the grant proposal bears fruit.

IPEC is also hoping to work with the other communities of Chichagof Island to build roads and a communication/electric transmission grid to serve all communities. This idea is in its infant stages, but would solve many problems for the island residents, including access to healthcare facilities, an airstrip, better and more transportation options, and improved communication services.

Kake

IPEC is working with the Alaska Energy Authority, Southeast Conference, the City of Kake, the State DOT, and SEAPA to build a road/intertie project between Kake and Petersburg. The intertie would allow IPEC to buy hydro power from the SEAPA, which is the only existing power purchase vendor for Kake today. Although progress seems slow, we were able to secure grant funding from the State Renewable Energy Fund to conduct the environmental review and final design work. This project will eliminate approximately 196,042 gallons of fossil fuel annually.

Chilkat Valley/Klukwan

IPEC is working with legal counsel to pursue purchase of the 10 Mile Hydro Project. These negotiations are preliminary and confidential. This service area also has approximately $6.7 million of debt associated with underground services that were installed at the time of electrification.

IPEC has pursued debt relief in the past but has been unsuccessful. An advantage of relieving this debt is immediate rate reductions for all IPEC customers and relatively low cost compared to construction costs.

IPEC's Rates

According to the State's Power Cost Equalization Statistical Report, IPEC's average residential rate for the period 7/1/2007 – 6/30/2008 was $.5196 per kWh. According to IPEC's calendar year statistics for the year ended 12/31/2008 IPEC's average cost to produce and sell a kWh was $.5351. In 2008, IPEC's fuel component climbed to $.2618/kWh, up from $.2039 in 2007 and $.1998 in 2006. This number would have been higher, but we buy hydro power from two vendors for Chilkat Valley and Klukwan.

Last year was an especially tough year for IPEC's members, but the PCE program paid about $.3252/kWh up to 500 kWh for residential accounts, with a net cost per kWh of $.1944/kWh. The PCE program is a big help to residential customers, but does not help schools, businesses, or government entities. Only about 30% of IPEC kWh sales receive the PCE subsidy, with non-residential entities subject to the full rate. Business planning is especially difficult when fuel price volatility leads to high and increasing electric rates. This underscores the need to bring lower cost, stable-priced power to rural Southeast Alaska. Many residents and businesses have already left, leaving more of a rate burden on those who remain.

How can the State of Alaska help?

1) Fully fund and consider expanding the Power Cost Equalization program. While rural residents are extremely appreciative of the PCE program, it encourages extreme conservation and limits the utility's economies of scale. Indeed, many residents use only one light in the house during the dark winter months in order to stay under the 500 kWh limit – this is considered by some to be a quality of life issue.

   The PCE program does not help businesses, schools, churches, or other non-residential services. These types of customers exist within stringent budget constraints, and when fuel prices increase electric rates must also increase. In the case of a business, they must increase retail prices in order to cover increasing electric costs, which makes business planning very difficult, and rural costs of living less affordable. In the case of a school, student programs or staff positions must be cut in order to cover increasing electric costs. It is easy to see how increasing costs of diesel-generated electricity due to volatile fuel prices directly impact the lives and costs of living in rural areas dependent on diesel. The fuel price volatility of 2008 was a lesson in vulnerability for diesel-dependent communities and the utilities that serve them.
2) Provide a grant program for debt relief. IPEC sought debt relief for about 10 years from both the State and Federal appropriation. We were finally successful in receiving $2 million through a State appropriation in 2006, but it would have saved a lot of time and utility resources if a State grant program for debt relief was available.
3) Provide additional funding for the Renewable Energy Fund Grant program. Most rural construction projects are very expensive. The REF is a great program, but it currently has dollar caps on projects. Many projects will require additional grant funds above the caps to be economic.
4) In Southeast, fund power projects for the benefit of regional residents and businesses. Excess renewable energy can be used to attract new industry to create jobs for our residents. Southeast needs jobs to boost local economies. Alaskans first!
5) Support Sealaska's land bill currently before Congress. Many of our rural communities have suffered due to lost jobs in the timber industry, and many residents have moved to urban areas in search of employment. Fewer residents in a community make per unit electric costs higher due to negative economies of scale. It is our hope that the passing of Sealaska's land bill will revive Southeast's timber industry, thereby boosting local economies and bringing people back to rural communities.

Alaska Legislature
House Special Committee on Energy

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AGENDA

Tuesday, November 17, 2009
3:00 – 5:00 p.m.
Rep. Charisse Millett, Chair

1) Presentation on the House Energy Committee Stakeholders Draft Legislation. Bill Popp, President & CEO, Anchorage Economic Development Corporation and Chris Rose, Executive Director, REAP

2) Testimony on a statewide energy plan by members of the Alaska Conference of Mayors.

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Energy Policy for Alaska

Presented by:
Chris Rose, Renewable Energy Alaska Project
Bill Popp, Anchorage Economic Development Corporation
The House Energy Committee
November 17, 2009

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 Anderson, 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

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!

PROPOSED ENERGY POLICY DRAFT WITH LANGUAGE CHANGES

"An Act declaring a state energy policy."

Section 1. As 44.99 is amended by adding a new section to read:

Section 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, heat and transportation needs. The state also recognizes that worldwide supply and demand for fossil fuels and concerns about global climate change will likely increase the price of fossil fuels consumed by Alaskans and exported from the state to other markets. The state also recognizes the immense diversity of the state's geography, cultures, and resource availability in establishing this A ct. 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 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 offer incentives for 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;
   B) Promoting the development, transport, and efficient use of nonrenewable enrgy 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, innovative, long-term sources of energy for regions and communities statewide;
   D) Creating and maintaining incentives that provide long-term certainty and encourage private sector development of the state's energy resources;

3) Support energy research, education, and workforce development by

A) Investing in training and education programs that address energy conservation, efficiency and availability, including programs addressing workforce development and workforce transition;
B) Investing in applied energy research and development of emerging technologies, including university programs, to achieve reductions in energy costs and stimulate industry investment in the state;

4) Coordinate governmental functions by

A) Reviewing and streamlining guiding regulatory processes and balancing the economic costs of review with the level of review necessary to protect the public interest;
B) Coordinating the state's energy-related functions through designated Statea Energy Office to avoid fragmenting and duplication, and to increase effectiveness;
C) Actively collaborating with federal agencies to achieve the state's energy goals and to meet national emission and renewable energy and production targets.

Alaska Legislature
House Special Committee on Energy

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AGENDA

Friday, December 11, 2009
10:00 a.m. – 2:00 p.m.
Rep. Charisse Millett, Chair

1) Presentation on the State Energy Policy Bill by Bill Popp and Caitlin Higgins

2) Presentation on the House Energy Committee's Omnibus Energy Bill by Ron Miller

3) Public Testimony

###

26-LS1223\A
Kane
12/7/09

HOUSE BILL NO.

IN THE LEGISLATURE OF THE STATE OF ALASKA

TWENTY-SIXTH LEGISLATURE - SECOND SESSION

BY

Introduced:
Referred:

A BILL

FOR AN ACT ENTITLED

"An Act relating to energy; relating to the board of directors of the Alaska Energy Authority; amending the size and composition of the board of directors of the Alaska Energy Authority by removing the members of the Alaska Industrial Development and Export Authority as directors of the Alaska Energy Authority and providing for designation or appointment of other members; amending the quorum requirement for the board of directors of the Alaska Energy Authority; and relating to nuclear waste material."

BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF ALASKA:

*** Section 1.** AS 14.07.020(a) is amended to read:

(a) The department shall

(1) exercise general supervision over the public schools of the state except the University of Alaska;

(2) study the conditions and needs of the public schools of the state,

adopt or recommend plans, administer and evaluate grants to improve school performance awarded under AS 14.03.125, and adopt regulations for the improvement of the public schools;

(3) provide advisory and consultative services to all public school governing bodies and personnel;

(4) prescribe by regulation a minimum course of study for the public schools; the regulations must provide that, if a course in American Sign Language is given, the course shall be given credit as a course in a foreign language;

(5) establish, in coordination with the Department of Health and Social Services, a program for the continuing education of children who are held in detention facilities in the state during the period of detention;

(6) accredit those public schools that meet accreditation standards prescribed by regulation by the department; these regulations shall be adopted by the department and presented to the legislature during the first 10 days of any regular session, and become effective 45 days after presentation or at the end of the session, whichever is earlier, unless disapproved by a resolution concurred in by a majority of the members of each house;

(7) prescribe by regulation, after consultation with the state fire marshal and the state sanitarian, standards that will assure healthful**, energy efficient,** and safe conditions in the public and private schools of the state, including a requirement of physical examinations and immunizations in pre-elementary schools; the standards for private schools may not be more stringent than those for public schools; **energy use standards established under this paragraph shall meet or exceed the requirements of the most recently published version of the ANSI/ASHRAE/IESNA Standard 90.1, Energy Standard for Buildings Except Low-Rise Residential Buildings, as published by the American Society of Heating, Refrigerating, and Air-Conditioning Engineers;**

(8) exercise general supervision over pre-elementary schools that receive direct state or federal funding;

(9) exercise general supervision over elementary and secondary correspondence study programs offered by municipal school districts or regional

educational attendance areas; the department may also offer and make available to any Alaskan through a centralized office a correspondence study program;

(10) accredit private schools that request accreditation and that meet accreditation standards prescribed by regulation by the department; nothing in this paragraph authorizes the department to require religious or other private schools to be licensed;

(11) review plans for construction of new public elementary and secondary schools and for additions to and major rehabilitation of existing public elementary and secondary schools and, in accordance with regulations adopted by the department, determine and approve the extent of eligibility for state aid of a school construction or major maintenance project; for the purposes of this paragraph, "plans" include educational specifications, schematic designs, and final contract documents;

(12) provide educational opportunities in the areas of vocational education and training, and basic education to individuals over 16 years of age who are no longer attending school;

(13) administer the grants awarded under AS 14.11;

(14) establish, in coordination with the Department of Public Safety, a school bus driver training course;

(15) require the reporting of information relating to school disciplinary and safety programs under AS 14.33.120 and of incidents of disruptive or violent behavior;

(16) establish by regulation criteria, based on low student performance, under which the department may intervene in a school district to improve instructional practices, as described in AS 14.07.030(14) or (15); the regulations must include

(A) a notice provision that alerts the district to the deficiencies and the instructional practice changes proposed by the department;

(B) an end date for departmental intervention, as described in AS 14.07.030(14)(A) and (B) and (15), after the district demonstrates three consecutive years of improvement consisting of not less than two percent increases in student proficiency on standards-based assessments in math, reading, and writing as provided in AS 14.03.123(f)(2)(A); and

(C) a process for districts to petition the department for continuing or discontinuing the department's intervention;

(17) notify the legislative committees having jurisdiction over education before intervening in a school district under AS 14.07.030(14) or redirecting public school funding under AS 14.07.030(15).

* **Sec. 2.** AS 14.07.020 is amended by adding a new subsection to read:

(d) In reviewing plans under (a)(11) of this section, the department shall review

(1) the construction, rehabilitation, and siting plans to ensure that the proposed construction or rehabilitation achieves the maximum efficiency in energy use by the subject school; and

(2) the siting plans for new school construction to determine the potential use of cogeneration capabilities of local power plants to provide heat to the newly constructed school.

* **Sec. 3.** 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 **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. 4.** AS 18.45.025 is amended to read:

Sec. 18.45.025. Facilities siting permit required. (a) A person may not construct a nuclear fuel production facility, **nuclear utilization or** 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.

(b) The legislature shall designate by law the land in the state on which a nuclear fuel production **facility**, nuclear 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.

(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

(1) REPEALED

(2) THE MUNICIPALITY WITH JURISDICTION OVER THE PROPOSED FACILITY SITE HAS APPROVED THE PERMIT; AND

(3) REPEALED

(4) THE GOVERNOR HAS APPROVED THE PERMIT.]

* **Sec. 5.** AS 18.56.090(c) is amended to read:

(c) The corporation may not provide money or another form of housing assistance authorized by (b) of this section unless the board identifies in the corporation's proposed operating budget the money available to the corporation, including the corporation's own assets, for the proposed housing assistance. The provisions of this subsection apply to

(1) subsidies authorized by the home ownership assistance program under AS 18.56.091;

(2) mortgage subsidies authorized by the graduated payment mortgage loan program under AS 18.56.098(c);

(3) interest rate deductions authorized in the housing development fund under AS 18.56.100(b)(1) and (*l*);

(4) money or another form of housing assistance payable from corporate earnings or assets of the corporation, other than money appropriated to the corporation for the specific purpose, for a program set out in **AS 18.56.400 - 18.56.810**

[AS 18.56.400 - 18.56.850].

*** Sec. 6.** AS 18.65.340(f)(1) is amended to read:

(1) "department" means a department of state government listed in **AS 44.17.005(2) - (16)** [AS 44.17.005(2) - (15)];

*** Sec. 7.** AS 22.05.025(a) is amended to read:

(a) The supreme court has authority over

(1) all matters relating to the

(A) maintenance, occupancy, and operation of all court facilities;

(B) rent or lease of facilities for court system purposes, subject to AS 36.30.080(c); and

(C) acquisition of facilities for court system purposes by lease-purchase or lease-financing agreements, subject to AS 36.30.085; and

(2) the planning, design, and construction of court facilities but, in the exercise of its authority under this paragraph, the supreme court shall cooperate and coordinate with the Department of Transportation and Public Facilities so that court facility construction projects are carried out in accordance with the statutes and regulations applicable to state public works projects **and comply with the state energy use reduction plan under AS 44.42.067**.

*** Sec. 8.** 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.

* **Sec. 9.** AS 37.07.062 is amended by adding a new subsection to read:

(d) In addition to the requirements of (a) of this section, if an agency is requesting an appropriation of $1,000,000 or more for capital improvements to an existing public facility, the agency must submit with the request for review by the legislature

(1) the most recent energy audit report as described in AS 44.42.065 for the public facility;

(2) a proposal for energy efficiency improvements for the public facility; and

(3) a cost-savings analysis for the proposed energy efficiency improvements for the public facility.

* **Sec. 10.** AS 39.50.200(b) is amended by adding a new paragraph to read:

(64) the board of directors of the Alaska Energy Authority (AS 44.83.030).

* **Sec. 11.** AS 41.41.010(b) is amended to read:

(b) The authority is a public corporation and an instrumentality of the state within the Department of **Energy** [REVENUE].

* **Sec. 12.** 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 **has verified to the authority that are**

[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. 13.** AS 42.45.045 is amended by adding a new subsection to read:

(m) The authority shall enter into a contract or agreement with an economist or financial analyst with experience in the area of renewable energy for the economist to prepare a written evaluation for each project the authority recommends under (e) of this section and submit a report to the legislature detailing the results of the evaluation.

*** Sec. 14.** AS 42.45 is amended by adding a new section to read:

Article 7A. Emerging Energy Technology.

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 and loans 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 interdisciplinary research unit of the arm of the College of Engineering and Mines of the University of Alaska known as the Alaska Center for Energy and Power, whose mission is to research energy sources and the way in which energy fits into the state's economic development. The annual costs of administering the fund for a given year may not exceed 20 percent of the total annual disbursements from the fund for grants and loans during that year. The Alaska Center for Energy and Power may contract for the investment of money appropriated

to the fund but not disbursed for a grant or loan. The Alaska Center for Energy and Power, in consultation with the advisory committee established under (f) of this section, may make grants or loans 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 and loans under this section, the Alaska Center for Energy and Power, 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) If the University of Alaska alters the status of the Alaska Center for Energy and Power, the president of the University of Alaska shall promptly notify the revisor of statutes and the presiding officer of each house of the state legislature of that change.

(f) An advisory committee is established and consists of five members. Each member of the committee shall have a degree in science or engineering 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) a department or agency of the state.

(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) A member of the advisory committee or a business or organization to which the advisory member belongs may not receive a loan or grant from the fund during that member's term on the advisory committee or for a period of one year after the termination of the member's service on the advisory committee.

(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. 15.** 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. 16.** 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. 17.** 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 1, 2010; or

(2) to expand production of renewable energy if the investment for production expansion is made on or after July 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. 18.** AS 44.17.005 is amended to read:

Sec. 44.17.005. Offices and departments. There are in the state government the following principal offices and departments:

(1) Office of the Governor

(2) Department of Administration

(3) Department of Law

(4) Department of Revenue

(5) Department of Education and Early Development

(6) Department of Health and Social Services

(7) Department of Labor and Workforce Development

(8) Department of Commerce, Community, and Economic Development

(9) Department of Military and Veterans' Affairs

(10) Department of Natural Resources

(11) Department of Fish and Game

(12) Department of Public Safety

(13) Department of Transportation and Public Facilities

(14) Department of Environmental Conservation

(15) Department of Corrections

(16) Department of Energy.

* **Sec. 19.** AS 44 is amended by adding a new chapter to read:

Chapter 38. Department of Energy.

Sec. 44.38.010. Commissioner of energy. The principal executive officer of the Department of Energy is the commissioner of energy.

Sec. 44.38.020. Duties. The Department of Energy shall

(1) develop and administer a comprehensive energy plan for the state, addressing energy production, distribution, conservation, and consumption statewide;

(2) promote cost-effective energy efficiencies in construction, renovation, and maintenance of public buildings and commercial and residential structures, including the adoption and management of energy-efficiency standards;

(3) encourage the development of new technologies and alternative energy sources to reduce energy use and costs to consumers;

(4) lead the implementation of statewide energy strategies to ensure reliable, stable supplies of electricity, heating fuels, renewable and alternative energy, and other energy resources at reasonable costs to consumers;

(5) serve as the state's designated energy office for all United States Department of Energy funds.

Sec. 44.38.030. Home energy conservation and weatherization program. (a) The Department of Energy shall plan, study, implement, and assist programs for home energy conservation and weatherization, including, without limitation,

(1) a home energy loan program;

(2) a rural capital retrofit program; and

(3) an energy efficiency and weatherization program.

(b) In the development of a home energy conservation or weatherization

program under (a) of this section, the department may not consider the value of Alaska longevity bonus payments under AS 47.45 or permanent fund dividends under AS 43.23 in determining whether a person meets income guidelines established in regulation by the department for a state conservation or weatherization program or, to the extent permitted by federal law, a federal energy conservation or weatherization program.

* **Sec. 20.** 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 not later than December 31 of each year; 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 **renewable** [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. 21.** AS 44.42.065 is amended by adding new subsections to read:

(d) The department shall submit to the legislature a report summarizing the energy audits conducted under this section not later than one year after the completion of an energy audit required under this section.

(e) In this section, "public facility" has the meaning given in AS 44.83.955.

* **Sec. 22.** AS 44.42 is amended by adding a new section to read:

Sec. 44.42.067. State energy use reduction plan and energy efficiency improvements. (a) The department shall prepare and adopt a state energy use reduction plan that will allow the state to achieve a reduction of energy consumption for state facilities, starting one year after the effective date of this section.

(b) The state energy use reduction plan prepared under (a) of this section must contain

(1) a plan to improve, to the extent feasible, the energy efficiency of all state facilities managed by the department;

(2) a requirement that new public facilities managed by the department be designed and constructed in accordance with applicable standards listed in the most recent addition of the International Energy Conservation Code; and

(3) a plan for recovery of costs of efficiency improvements to state facilities managed by the department, including lighting projects, that start after the effective date of this Act through energy cost savings over the 15-year period following completion of the project.

(c) In implementing the plan, the department may waive a requirement listed in (b)(2) of this section if the department makes a determination that a requirement is ineffective or inappropriate due to the climate conditions of the state.

(d) In implementing the plan, the department shall, if cost-effective, consider entering into performance energy contracts. In this subsection, "performance energy contract" means a contract for which payment is conditional on achieving contractually specified energy savings.

* **Sec. 23.** AS 44.83.020 is amended to read:

Sec. 44.83.020. Creation of authority. There is created the Alaska Energy Authority. The authority is a public corporation of the state in the Department of **Energy** [COMMERCE, COMMUNITY, AND ECONOMIC DEVELOPMENT] but with separate and independent legal existence.

* **Sec. 24.** AS 44.83.030 is amended to read:

Sec. 44.83.030. Membership of the authority. The directors of the **authority** [ALASKA ENERGY AUTHORITY] are

(1) the **commissioner of revenue to serve as an ex officio member;**

(2) the commissioner of energy to serve as an ex officio member;

(3) one other person appointed by the governor who serves as the head of a principal department of the executive branch to serve as an ex officio member; and

(4) four public members appointed by the governor to serve overlapping terms of two years [MEMBERS OF THE ALASKA INDUSTRIAL DEVELOPMENT AND EXPORT AUTHORITY].

* **Sec. 25.** AS 44.83.040(a) is amended to read:

(a) The chair and vice-chair of the **authority shall be elected by the directors of the authority** [ALASKA INDUSTRIAL DEVELOPMENT AND EXPORT AUTHORITY SHALL SERVE AS OFFICERS OF THE ALASKA ENERGY AUTHORITY]. The powers of the **authority** [ALASKA ENERGY AUTHORITY] are vested in the directors, and **four** [THREE] directors of the authority constitute a quorum. Action may be taken and motions and resolutions adopted by the **authority** [ALASKA ENERGY AUTHORITY] at a meeting by the affirmative vote of a majority of the directors. The directors of the **authority** [ALASKA ENERGY AUTHORITY] serve without compensation, but they shall receive the same travel pay and per diem as provided by law for board members under AS 39.20.180.

* **Sec. 26.** AS 44.83 is amended by adding a new section to read:

Sec. 44.83.955. Energy use index. (a) The authority shall

(1) develop an energy use index for public facilities to measure

baseline energy consumption;

(2) establish an energy use index database to include baseline energy use data for all public facilities evaluated in (1) of this subsection; 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. 27.** 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. 28.** AS 45.88.010 is amended by adding a new subsection to read:

(e) The fund consists of

(1) money appropriated to the fund by the legislature;

(2) gifts, bequests, or contributions from other sources; and

(3) principal and interest payments or other income earned on loans or investments in the fund and appropriated to the fund.

*** Sec. 29.** AS 45.88.020(a) is amended to read:

(a) The department may

(1) make loans for the purchase, construction, and installation of alternative energy systems **that are located in the state**;

(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. 30.** AS 45.88.030 is amended by adding new subsections to read:

(f) A loan must be secured by a mortgage or other security instrument in the real property to be improved, and a lien on the improvements financed under AS 45.88.010.

(g) The interest rate

(1) may not exceed the maximum rate of eight percent a year and may not be less than five percent a year;

(2) shall be established by the department based on the bank prime rate listed in the Wall Street Journal or its successor during the previous quarter plus one percentage point, set to the nearest one-half point for loans made; and

(3) set for a quarter remains in effect until the department changes the rate.

* **Sec. 31.** AS 45.88.090(a) is amended to read:

(a) In AS 45.88.010 - 45.88.090, "alternative energy system"

(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;

(2) includes

(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);

(B) a method of architectural design and construction which provides for the collection, storage, and use of direct radiation from the sun;

(C) a woodstove with a catalytic converter or a catalytic converter for a wood stove; [AND]

(D) a steam, hot water, or ducted hot air central heating system that uses wood or coal for fuel; **and**

(E) a high efficiency wood pellet stove;

(3) does not include

(A) a stove that uses only [WOOD,] coal, [OR] oil, **or**

unprocessed wood for fuel; or

(B) a fireplace or fireplace insert.

* **Sec. 32.** AS 46.11.900(1) is amended to read:

(1) "alternative energy system"

(A) means a source of thermal, mechanical, or electrical energy that **may be** [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. 33.** AS 18.45.027; AS 18.56.850; AS 45.88.010(c), 45.88.030(e), and 45.88.040(a) are repealed.

* **Sec. 34.** AS 43.20.046 is repealed January 1, 2025.

* **Sec. 35.** 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. 34 of this Act, an unused portion of a tax credit acquired under AS 43.20.046(a) or (e), enacted by sec. 17 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. 36.** 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. 26 of this Act, not later than six months after the effective date of this Act.

* **Sec. 37.** The uncodified law of the State of Alaska is amended by adding a new section to read:

ENERGY AUDIT REPORT. Not later than January 31, 2011, the Department of Transportation and Public Facilities shall submit to the legislature a report summarizing the information gathered and recommendations made by the department related to the department's most recent energy audit conducted under AS 44.42.065, as amended by secs. 20 and 21 of this Act.

*** Sec. 38.** The uncodified law of the State of Alaska is amended by adding a new section to read:

INITIAL APPOINTMENT OF DIRECTORS. Notwithstanding the terms set in AS 44.83.030(4), enacted by sec. 24 of this Act, the governor shall make initial appointments so that two public directors of the Alaska Energy Authority shall be appointed to one-year terms and two shall be appointed to two-year terms.

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Kane
11/24/09

HOUSE BILL NO.

IN THE LEGISLATURE OF THE STATE OF ALASKA

TWENTY-SIXTH LEGISLATURE - SECOND SESSION

BY

Introduced:
Referred:

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.

*** 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

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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) establishing 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;

(B) promoting the development, transport, and efficient use of nonrenewable 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;

(3) support energy research, education, and workforce development by

investing in

(A) training and education programs 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 review 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.

Energy Policy for Alaska

Presented by:
Chris Rose, Renewable Energy Alaska Project
Bill Popp, Anchorage Economic Development Corporation
The House Energy Committee
November 17, 2009

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 Anderson, 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

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 POWER ASSOCIATION
R E S O L U T I O N

A Resolution Issuing an Urgent Legislative and Administrative Call to Action for an Energy Policy

The entire state of Alaska is facing an energy crisis. Alaska's economy was built on affordable energy. Communities statewide are faced with aging generation and transmission facilities. The unstable price and supply of fuel is increasingly impacting Alaskans everywhere.

Without leadership from policy makers Alaska's entire economy will crumble. Policy makers must adopt and implement a statewide energy policy that focuses on regional priorities, provides commitments to short-, mid-, and long-term generation and transmission facilities, and facilitates fuel development and storage infrastructure projects with financial commitments from the State.

A large hydro electric project, developed similar to the Bradley Lake hydro project, should be the primary long-term generation priority of the State of Alaska, since it will meet the needs of 75% of Alaska's population well into the future. Additionally, the State should develop and implement viable long-term generation options for Alaskans not served by the Railbelt system, such that affordable, reliable electricity is available to every Alaskan, regardless of where they might reside.

Finally, the State of Alaska must ensure that reliable and affordable fuel is available for power generation across the state. The State of Alaska must do more to encourage natural gas exploration in Cook Inlet; and should financially participate in building natural gas storage and pipeline infrastructure. The State should ensure that generation fuel for non-interconnected utilities is available at a cost per BTU comparable to the cost of Railbelt fuel sources.

Alaska Power Association urges the Legislature and Administration to make energy policy development the highest priority for the 2010 legislative session.

(Adopted Dec. 2009)

Members

Alaska Electric and Energy Co-op
Alaska Electric Light & Power
Alaska Power & Telephone
Alaska Railbelt Energy Authority JAA
Alaska Village Electric Cooperative
Anchorage Municipal Light & Power
Aurora Energy
Barrow Utilities & Electric Co-op
Chugach Electric Association
Copper Valley Electric Association
Copper Valley Telephone Co-op
Cordova Electric Cooperative
Doyon Utilities
City of Galena
Golden Valley Electric Association
Homer Electric Association
INN Electric Cooperative
Inside Passage Electric Co-op
Kodiak Electric Association
Nzebue Electric Association
Naan Electric Transmission Intertie Cooperative
Matanuska Electric Association
McGrath Light and Power
Metlakatla Power & Light
Middle Kuskokwim Electric Co-op
Naknek Electric Association
Nome Joint Utility System
North Slope Borough
Nushagak Cooperative
OTZ Telephone Cooperative
City of Seward
Southeast Alaska Power Agency
Tanalian Electric Cooperative
Tanana Power Company
TDX Power
Thomas Bay Power Authority
Unalakleet Valley Electric Co-op
City of Unalaska
Yakutat Power

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99503
907-771-5700
1-877-992-7322

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302C Assembly
Building
1 Fourth Street
Juneau, Alaska 99801
907-463-3636

alaskapower.org

1-28-10 Presentation: Net Metering Regulations; Cook Inlet Gas Storage

<target><bill></bill><subject>1-28-10 Presentation Net Metering Regulations; Cook Inlet Gas Storage</subject><comm>HENE26</comm></target>

RCA Net Metering Regulations; Cook Inlet Gas Storage

House Special Committee on Energy

January 28, 2010

Regulatory Commission of Alaska

Robert M. Pickett, Chairman

RCA Net Metering Background

- In 2006, the RCA opened Docket R-06- to consider federal PURPA standards adopted by the Energy Policy Act of 2005 (EPAct).

- Net metering was one of the five proposed federal standards.

RCA Net Metering Background

- After a series of technical workshops and comments at several RCA Public Meetings, the RCA declined to adopt the federal net metering standard, noting the confining and undefined nature of that federal standard.

RCA Docket R-09-1

- Docket R-09-1 was opened in February 2009 to consider regulations implementing an Alaska-specific net metering standard.

- The RCA issued a "straw man" proposal to generate comments on elements of a net metering requirement.

R-09-1 Technical Conference and Draft Regulations

- The RCA conducted a technical conference on March 4, 2009 to discuss the net metering proposal.

- On June 12, 2009, proposed net metering regulations were issued for public comment. The RCA received 45 comments. An opportunity was provided for initial and reply comments.

RCA Adoption of Net Metering Regulations

- After reviewing the public comments and agreeing on revisions, the Regulatory Commission of Alaska voted to adopt net metering regulations at its October 14, 2009 public meeting.

Net Metering Basics

- Net metering allows a consumer to reduce his or her load requirement by interconnecting on-site generation facilities to electric utility facilities.
- The amount of customer-generated power is compared to the customer's electric consumption for the applicable billing period, with the customer either billed for net consumption, or credited for excess generation over consumption.

Net Metering Provisions

Electric utilities subject to the net metering regulations are the economically regulated utilities (3 AAC 50.900(a)), with the following two exemptions:

1) Utilities generating 100% of its power from an eligible facility (3 AAC 50.900(b)(2))
2) Economically regulated utilities with annual retail sales under 5,000,000 kWh. (3 AAC 50.900(b)(3))

Net Metering and System Reliability

- A utility may limit net metering installations by showing system constraints or other operations issues. (3 AAC 50.900 (b)(3))

Net Metering and System Capacity

- A utility may refuse net metering if capacity of participating net metering systems exceed 1.5% of utility's average retail demand. (3 AAC 50.910(b))

- A utility may request an increase in the 1.5% capacity limit. (3 AAC 50.910 (e))

Net Metering Generation Limits

- The eligibility criteria for consumer generation facilities includes a generation capacity limit of 25 kilowatts. (3 AAC 50.920 (2)(A))

Permissible Generation Sources

- Solar photovoltaic and solar thermal energy
- Wind energy
- Biomass energy
- Hydroelectric energy
- Geothermal energy
- Hydrokinetic energy
- Ocean thermal energy
- Landfill gas or biomass gas produced from organic matter

Permissible Generation Sources (cont.)

- Wastewater, anaerobic digesters or municipal solid waste
- Other sources as approved by the RCA that generally have similar environmental impact (3 AAC 50.900(b)(1), 3 AAC50.949(9))

Compensation for Excess Generation

- kWh bill is based on utility's non-firm purchase power rate (3 AAC 50.930(a)(2))
- Carry-forward kWh credits do not expire (3 AAC 50.390(b)(2))

Interconnection Standards

- The RCA may adopt regulations addressing safety, power quality, and interconnection standards (3 AAC 50.940)
- RCA Docket R-09-2 is considering adopting regulations implementing an interconnection standard.
- Development of an Alaskan appropriate version of IEEE 1547 (Interconnecting Distributed Resources With Electric Power Systems) is the goal of R-09-2.

Cook Inlet Gas Storage

- *Natural gas deliverability issues have become a great concern during South-central Alaskan winters.*
- *Third-party gas storage is one key strategy to address this issue.*
- *Gas injected into storage during the warmer summer months would help meet the huge seasonal swing during the coldest winter demand periods.*

Recent Developments in Cook Inlet Natural Gas Storage

- *ANR Pipeline Company, a subsidiary of TransCanada, created Cook Inlet Natural Gas Storage, LLC ("CINGS")*
- *CINGS proposes to develop, construct, own, operate, manage and control an independent, third-party natural gas storage facility in a nearly depleted natural gas reservoir in the Cannery Loop Unit near Kenai, Alaska.*

CINGS Project Description

- *CINGS is designed and intended to provide its storage customers with the ability to inject gas during low usage periods and withdraw that gas during peak usage periods.*
- *The planned CINGS facilities will include injection/withdrawal wells, pressure regulators, separation, dehydration and compression units, gas withdrawal heating elements, and measurement equipment.*
- *Five proposed injection/withdrawal wells will be connected to the rest of the facilities via individual well lines.*

Key Regulatory Issues

- *On December 21, 2009, CINGS filed with the RCA a "Petition for Declaratory Judgment Regarding the Regulatory Commission of Alaska's Jurisdiction Over the Natural Gas Storage Project Proposed by Cook Inlet Natural Gas Storage LLC." (U-09-124/P-09-16)*

CINGS Petition

- *"CINGS respectfully requests a declaratory ruling on the threshold issue of Commission jurisdiction in order to determine how to best move forward with the Project in the most expeditious manner."*

CINGS Petition (cont.)

- *CINGS does not want to presume it is unregulated only to find out later that it needs to apply for a certificate of public convenience and necessity.*
- *Nor does CINGS want to apply for a certificate of public convenience and necessity only to have it dismissed for lack of Commission jurisdiction.*

CINGS Petition Timeline

- December 21, 2009---CINGS files petition
- December 24, 2009---RCA opens Dockets U-09-124/P-09-016.
- December 31, 2009---CINGS is ordered to file concise statement of material facts.
- January 8, 2010---Close of comment period
- January 15, 2010---Legal briefings were due

Alaska Legislature
House Special Committee on Energy

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AGENDA

Tuesday, February 24, 2009
3:00 p.m. – 5:00 p.m.

1) Overview of the Regulatory Commission of Alaska, Chairman Bob Pickett

###

RCA Role in Regulating Existing and New Sources of Energy in Alaska

House Special Committee on Energy
February 24, 2009

Regulatory Commission of Alaska

Robert M. Pickett, Chairman

RCA Statutory Authority

- The Alaska Legislature created the Regulatory Commission of Alaska in 1999, giving it broad authority to regulate public utilities and pipeline carriers throughout the State.

- AS 42.05.141(a) The Regulatory Commission of Alaska may do all things necessary or proper to…regulate every public utility engaged or proposing to in a utility business inside the state, ….

Definition of Public Utility

- AS 42.05.990(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, manages, or controls any plant, pipeline or system for
  - (A) furnishing, by generation, transmission, or distribution, electrical service to the public for compensation;
  - ....

Definition of Public Utility (continued)

(C) furnishing water, steam, or sewer service to the public for compensation;

(D) furnishing by transmission or distribution of natural or manufactures 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 a comparable product at an equal or lesser price;

Definition of Public or General Public

- AS 42.05.990(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

Definition of Public or General Public

(C) a utility purchasing the product or service or paying for the transmission of electrical 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;

Certificate of Public Convenience and Necessity (CPCN)

- Alaska Statutes 42.05 (Public Utilities) and 42.06 (Pipeline Act) authorize the RCA to regulate public utilities and pipeline carriers by certifying qualified providers of public utility and pipeline services.
- A certificate may not be issued unless the RCA finds that the applicant is fit, willing, and able to provide the utility services applied for and that the services are required for the convenience and necessity of the public.

Fit – adm. managerial fitness to provide service, financial fitness

Statutory Exemptions - Electric

- Exemptions from Certification
  - Any utility making less than $50,000 unless their customer(s) petition for regulation *(AS 42.05.711(e))*
  - Any Joint Action Agency established by AS 42.45.310 *(AS 42.05.711(o))*
  - Possibly utilities that receiving a Qualifying Facility (QF) designation from FERC *(Federal Regulation: 18 C.F.R 292.602(c))*
- Exemptions from Economic Regulation
  - Utilities owned by a political subdivision, with exception of a utility competing with a regulated utility *(AS 42.05.711(b))*
  - Utilities making between $50,000 and $500,000 that have a deregulation election *(AS 42.05.711(f))*
  - Cooperatives that have a deregulation election *(AS 42.05.711(h))*
  - Utilities that receive a QF designation from FERC *(Federal Regulation: 18 C.F.R 292.602(c))*

RCA Regulates:

- Utilities
  - Natural gas distribution
  - Natural gas pipelines
  - Electric power generation, transmission, and distribution
  - Water and sewer
  - Telephone
  - Solid waste
- Pipelines
  - Crude oil pipelines
  - Petroleum product pipelines
  - Natural gas pipelines

RCA's Role in Current Energy Supply Issues

- Three areas of existing energy issues the RCA is currently involved with will be discussed in the slides that follow. These areas include:
  - (A) Cook Inlet natural gas supplies;
  - (B) Electric utilities current infrastructure needs;
  - (C) Power Cost Equalization (PCE) program.

RCA Role in Cook Inlet Gas

- RCA does not regulate the producers of natural gas in Cook Inlet.
- RCA does evaluate Gas Sale Agreements (GSA) between the utilities and the producers.
- RCA standard of review considers whether the utility acted in a prudent manner, whether the terms of the GSA are reasonable, and whether the GSA ensures reliable and reasonably priced-utility service.

RCA Standard of Review

- The RCA is guided by AS 42.05.431(a).
- Under this subsection, the RCA is required to determine whether a Gas Sale Agreement, or particular terms within such an agreement, are unjust, unreasonable, unduly discriminatory, or preferential.
- This determination must be viewed in the context of the Cook Inlet which is unique among regional natural gas markets in the United States.

Enstar 228 - product of Legacy gas contracts

Weighted Average Cost of Gas = ~~COGS~~ WACOG
Energy supply provision Contract ~~SEC~~ submitted by

Cook Inlet Gas Market

- Reserves-to-production ratio for Cook Inlet is approximately 10:1. This is in the same range as is typical for Lower 48 production areas.

- Cook Inlet is unique as the home of the only plant in the United States that liquefies natural gas and ships it out of the immediate area as LNG.

- The RCA has found that Cook Inlet is a natural gas production basin.

Cook Inlet Market Power

- ConocoPhillips, Marathon, and Union Oil of California, a division of Chevron (Union), control the vast majority of natural gas supplied in Cook Inlet.
- Of these three, ConocoPhillips and Marathon are the two largest.
- ConocoPhillips and Marathon own the Kenai LNG export facility.
- The Cook Inlet market is vertically integrated with the two largest producers being their own best customers through the medium of sales to the LNG export facility.

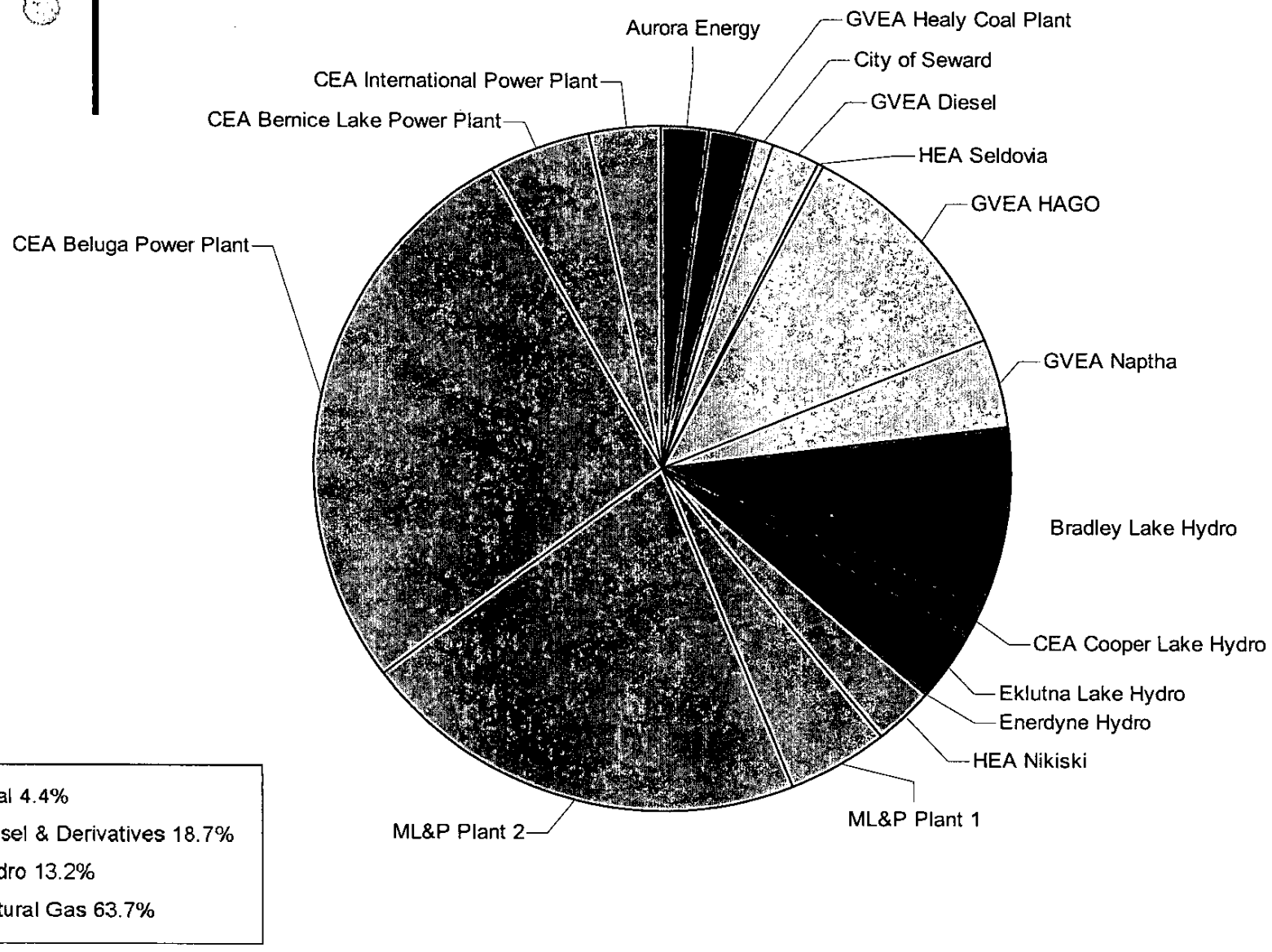
Pricing Cook Inlet Gas

- Cook Inlet is not an open and transparent natural gas market.
- No commonly accepted natural gas pricing mechanism exists in Cook Inlet.
- Since the 2001 RCA "Henry Hub" order, a variety of pricing proxies have been considered by the utilities, producers, the AG, and the RCA.
- None of these pricing proxies have resulted in an RCA approved GSA that currently delivers gas to utility customers.

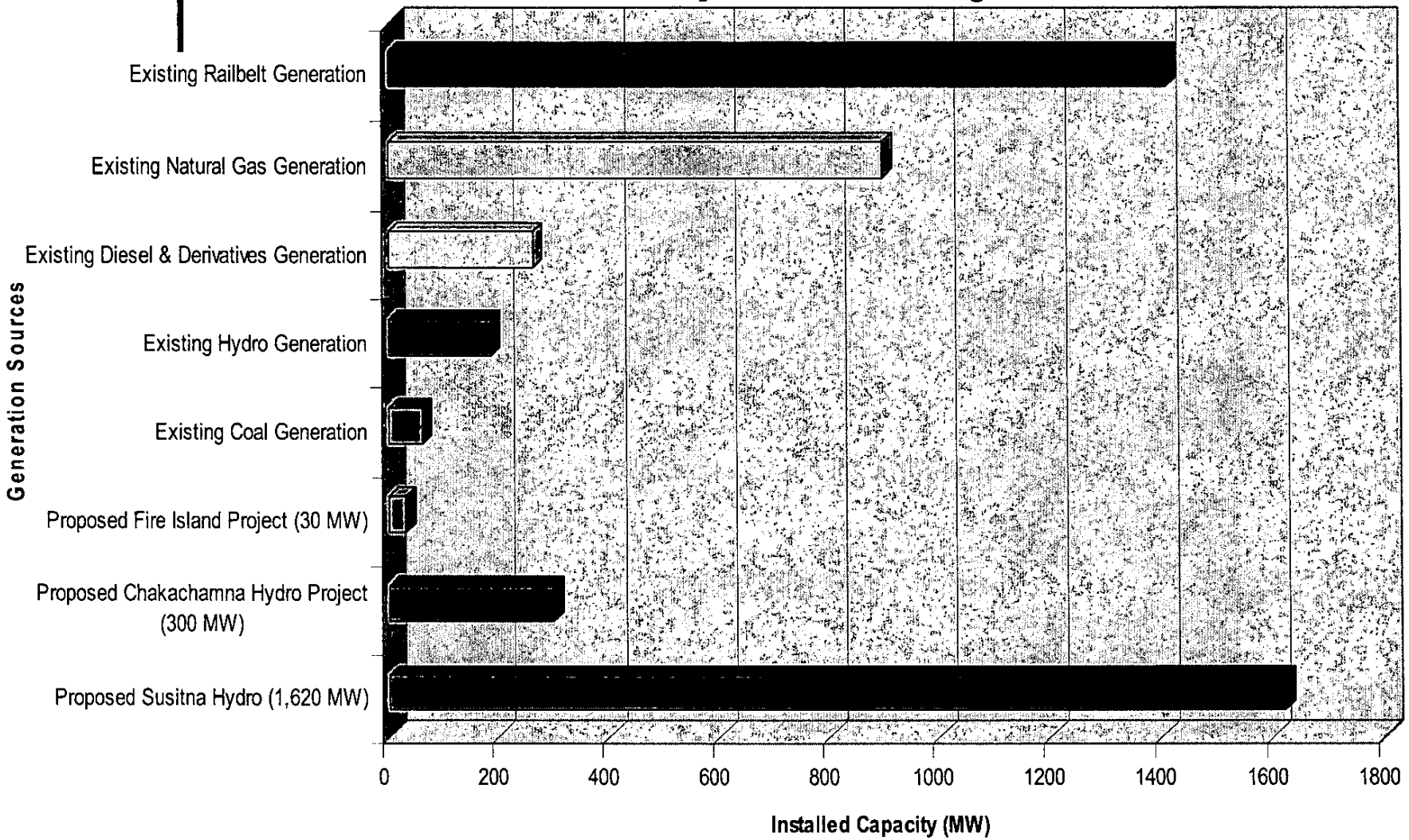
Electric Utilities Infrastructure Needs

- The Alaska Railbelt Electrical Grid Authority (REGA) Study issued September 2008 estimated cumulative capital investment requirements ranging from $2.5 to $8.1 billion over the next 30 years.
- These investments are for generation and transmission expansion and replacement needs of the railbelt utilities.

Installed Railbelt Generation



Existing Railbelt Generation & Proposed Projects



Regulatory Issues

- **Firm vs. Non-Firm Power Supplies**
  - Firm power – a predictable source of power that can be scheduled by a utility and that offsets both fuel and generation capacity expenses (i.e., some hydro, co-generation, geothermal)
  - Non-firm power – an unpredictable source of power that cannot be scheduled by a utility. The provision of non-firm power only offsets the use of fuel by the utility. Generation capacity must be maintained to provide power when the non-firm power is unavailable. (i.e., wind, solar, some hydro, tidal)

Power Cost Equalization (PCE) Program

- Under the Power Cost Equalization Program, the State of Alaska pays a portion of the electric bills for consumers served by utilities participating in the program.
- The RCA establishes the PCE rate (cents/KWh) applicable to each utility participant's billings, regardless if the utility is otherwise subject to RCA's economic regulation.
- More than 150 communities participate in the PCE program.

PCE Program

- AS 42.45.110(c)(2) provides that the Commission will , during each fiscal year, adjust the power costs for which PCE may be paid to an electric utility based on the weighted average retail residential rate in Anchorage, Fairbanks, and Juneau, and subject to the statutory ceiling.
- The PCE program is administered by the Alaska Energy Authority (AEA).

RCA Role in Renewable and Alternative Energy

- The RCA opened dockets (R-09-1 and R-09-2) to consider net metering and interconnection standards.
- The RCA goal in R-09-1 (Net Metering) is to create an Alaskan rule that will encourage the development of distributed small-scale renewable generation, while maintaining system integrity and fairly apportioning costs among consumers and consumer/producers.

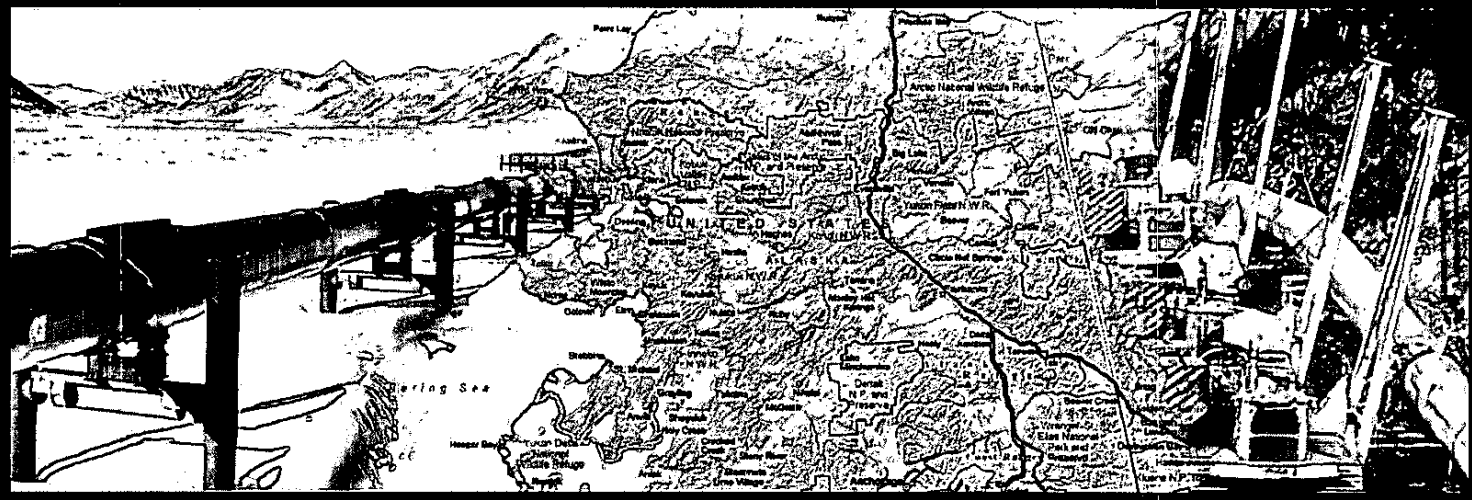
RCA Role (continued)

- The RCA goal in R-09-2 is to create an interconnection standard that recognizes Alaskan conditions, provides uniformity in the interconnection requirements of Alaskan electric utilities, and simplifies the interconnection process for small distributed resources.
- The AEA is requiring that all Independent Power Producers receiving renewable energy grants obtain a Certificate of Public Convenience and Necessity (CPCN) from the Regulatory Commission of Alaska.

2-04-10 Federal Update: Alaska Natural Gas Pipeline Projects

<target><bill></bill><subject>2-04-10 Federal Update Alaska Natural Gas Pipeline Projects</subject><comm>HENE26</comm></target>

Federal Update: Briefing for Alaska House Special Committee on Energy



Admiral Tom Barrett
Deputy Federal Coordinator
Office of the Federal Coordinator for
Alaska Natural Gas Transportation Projects
February 4, 2010

ALASKA NATURAL GAS TRANSPORTATION PROJECTS
OFFICE OF THE FEDERAL COORDINATOR

OFC Roles and Responsibilities

- Coordination
- Compliance
- Information Source

Coordination

- Federal Agencies and the Administration
  - Regular Interagency Meetings
  - Summer Visits and Briefings
- State of Alaska
  - Weekly Meetings with AGIA and Denali Permitting Staff
  - Surveillance and Monitoring Agreement
- Canada
  - Meetings with Canadian Ministers and Senior Staff
  - Meetings with U.S. and Canadian Ambassadors
- Applicants
  - Level playing field

U.S. Federal Agencies

- Office of Federal Coordinator
- Council on Environmental Quality
- Federal Energy Regulatory Commission
- Department of Interior
  - BLM
  - BIA
  - FWS
  - MMS
  - NPS
  - USGS
- Department of Energy
- Department of Transportation
  - FHWA
  - PHMSA
  - FAA
- Department of Treasury
- Department of State
- Department of Defense
  - USACE
- Department of Commerce
  - NOAA
  - NMFS
- Department of Homeland Security
  - CBP
  - TSA
  - USCG
- Department of Labor
- Environmental Protection Agency
- Department of Agriculture
- Advisory Council on Historic Preservation
- Department of Justice
- Federal Communications Commission

Compliance/Information Source

- Compliance
  - Ensure agencies meet timelines
  - Ensure unnecessary conditions are not imposed that would delay the project
- Information
  - Source of timely, reliable, comprehensive project information

OFC Work

- Gap Analysis
- Consolidated Implementation Plans
- GIS Prototype Collaborative Effort
- Permit Matrix
- Technical Team

Current Developments

- Applicants
  - FERC Open Seasons in 2010
  - Engagement with federal agencies, State of Alaska, Alaska Natives and First Nations, Canada, stakeholders and communities
- Congressional Activity
  - Do No Harm: energy, climate and other legislation
  - Federal Coordinator confirmation hearing
- National Project Support
  - AFL-CIO
  - Industry and Utilities (ANGA, AGA, NGSA, INGAA)
  - NGOs

What's Known

- Competition to build this project
- Economic benefits huge for America, especially Alaska
  - Thousands of jobs on the table
  - State revenue source
  - Financing
- Long term market for all domestic natural gas
- Multiple environmental benefits
- Infrastructure Analysis
  - Leverage what you have
  - Upgrade or construct what is needed
- Achievable project

Optics

- Washington, D.C.
  - We passed legislation in 2004, why hasn't the project been built?
  - What more can we do?
  - Increasing Focus on Arctic
- Alaska
  - Competing visions and projects
  - Statewide energy needs and policy
- Canada
  - Mackenzie Gasline Project, Oilsands, and First Nations

Thanks!

- Appreciate your time and interest
- How can we help you?

Office of the Federal Coordinator
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ALASKA NATURAL GAS
TRANSPORTATION PROJECTS
OFFICE OF THE FEDERAL COORDINATOR

2-18-10 Alaska Heating Assistance Programs

<target><bill></bill><subject>2-18-10 Alaska Heating Assistance Programs</subject><comm>HENE26</comm></target>

1946

ALASKA HEATING ASSISTANCE PROGRAMS

PROGRAMS

- **LIHEAP** – Low Income Home Energy Assistance Program
  - SOA served 10,983 households in FY 2009
  - Tribal Organizations served 6,833 households in FY 2009
  - For households with income up to 150% of poverty

- **AKHAP** – Alaska Heating Assistance Program
  - SOA served 2,047 households in FY 2009
  - Tribal Organizations served 339 households in FY 2009
  - For households with income 151% to 225% of poverty
  - FY 2009 was the first year of this program

- **A total of 20,191 households received assistance in FY 2009 through HAP and tribal organizations. This includes LIHEAP or AKHAP recipients.**

PROGRAMS

- Both are statewide programs
- The Division's Heating Assistance Program (HAP) office in Juneau serves 163 communities.
- Tribal organizations serve 120 communities.

TRIBAL LIHEAP

- Eleven tribal organizations administer heating assistance programs in Alaska in their respective service areas. All administer LIHEAP.
  - Aleutian/Pribilof Island Association (APIA)
  - Association of Village Council Presidents (AVCP)
  - Bristol Bay Native Association (BBNA)
  - Kenaitze Indian Tribe (KIT)
  - Kodiak Area Native Association (KANA)
  - Kuskokwim Native Association (KNA)
  - Orutsararmiut Native Council (ONC)
  - Seldovia Village Tribe (SVT)
  - Tanana Chiefs Conference (TCC)
  - Tlingit-Haida Regional Housing Authority (THRHA)
  - Yakutat Tlingit Tribe (YTT)
- Tribal LIHEAP accounts for about 36% of the total block grant.

TRIBAL AKHAP

- Eight of the eleven tribal organizations administer a regional AKHAP.
- The state serves AKHAP eligible households living in the service areas of the Seldovia Village Tribe, Yakutat Tlingit Tribe and Kodiak Area Native Association.
- Tribal organizations receive their funding through a state grant.
- Tribes administer approximately 31% of the AKHAP funding.

ELIGIBILITY

- Must be residing in AK in the community listed in the address on the application.
- Must be living in the home for which you are applying for assistance.
- Available to renters and homeowners.
- Gross income must be less than $41,352 for a family of four to qualify under LIHEAP.
- Gross income must be less than $62,028 for a family of four to qualify under AKHAP.
- Must have heating costs of $200 a year or more.
- Some (not all) residents living in subsidized housing may qualify.

AWARD DETERMINATIONS

- Payments are based upon information provided by the client on their application and the Community Heating Points calculated for applicant's community.
- Contributing factors include heating degree days, fuel type used by the household, type of dwelling the household resides in, and family size and income.
- One extra point is given if an elderly, disabled, or child under 6 years of age live in the household. Only one point total (not one for each).
- The total number of points awarded to the household is multiplied by the price per point to determine the monetary award.
- In FY 2009 the State paid $316 per point. FY 2010 are based on $115 per point.

OUTREACH ACTIVITIES

- Radio spots ran across the state on the Alaska Public Radio Network and the Alaska Broadcast System. Ads ran in October, November and January
- Display ads ran in *Senior Voice* in October, November, January and March
- A two-sided informational flyer explaining the program and income guidelines was mailed to all households who receive any type of public assistance through the state. A list of the tribal organizations and their service areas is on the back side of the flyer.
- Seasonal start-up packets including applications, posters and informational materials were sent 700 entities including vendors, fee agents, concerned agencies, DPA offices, and legal services.
- Applications were pre-mailed to applicants from the previous year in August and September.

PROGRAM YEAR TIMELINE

- August & September - Applications are pre-mailed to award recipients from the previous season including elderly and disabled households.
- October 1 - Program opens to the general public.
- November 1 - First benefit checks issued
- April 30 – Last day to submit an application.
- November 1 through April 30 - Expedite/Emergency Processing Requests accepted.
- May or June – Supplements issued if there is sufficient funding to do so.

2010 Stats YTD

SOA HAP Only

- 12,260 applications received to date more are received every day. The last day to apply is April 30.
- 5,921 LIHEAP households were eligible for awards totaling the $5,040,431 for an average benefit of $851.
- 1,126 AKHAP households were eligible for 514,130 for an average benefit of $457.
- Prevented disconnects and/or enabled reconnects for 677 households since November 2.

Community List

"*" Indicates the tribe serves Alaska Native/American Indians only
"0" Indicates the tribe serves all residents
"+" Indicates the State serves for AKHAP & tribes serve for LIHEAP
All remaining communities served by the state of Alaska

Zip Code	Community Name	Served By	Points Oil / N Gas
99502	Adak (Station)	/	06/00/
99615	Akhiok	*+/KANA	08/00/
99551	Akiachak	0/AVCP	21/00/
99552	Akiak	0/AVCP	21/00/
99553	Akutan	*/APIA	11/00/
99554	Alakanuk	0/AVCP	21/00/
99790	Alatna	0/TCC	27/00/
99555	Aleknagik	0/BBNA	13/00/
99695	Alexander Creek	/	07/00/
99720	Allakaket	0/TCC	27/00/
99786	Ambler	/	35/00/
99721	Anaktuvuk Pass	/	16/00/
99556	Anchor Point	/	06/00/
99501	Anchorage	/	08/05/
99744	Anderson	*/TCC	11/00/
99820	Angoon	*/THRHA	08/00/
99557	Aniak	0/KNA	21/00/
99920	Annette	/	06/00/
99558	Anvik	0/TCC	19/00/
99722	Arctic Village	0/TCC	32/00/
99547	Atka	*/APIA	06/00/
99559	Atmautluak	0/AVCP	19/00/
99791	Atqasuk	/	24/00/
99821	Auke Bay	*/THRHA	05/00/
99723	Barrow	/	21/06/
99724	Beaver	0/TCC	24/00/
99695	Beluga	/	07/00/
99559	Bethel	0/ONC	16/00/
99790	Bettles	0/TCC	29/00/
99652	Big Lake	/	07/05/
99790	Birch Creek	0/TCC	27/00/
99790	Boundary	0/TCC	
99785	Brevig Mission	/	23/00/
99727	Buckland	/	33/00/
99729	Cantwell	/	11/00/
99790	Canyon Village	0/TCC	
99730	Central	0/TCC	23/00/
99788	Chalkyitsik	0/TCC	28/00/
99790	Chandalar	0/TCC	
99695	Chaniliut	0/AVCP	
99695	Chase	/	08/00/
99561	Chefornak	0/AVCP	20/00/
99790	Chena Hot Springs	/	11/00/
99574	Chenega Bay	/	08/00/
99563	Chevak	0/AVCP	25/00/

FY 2010 HAP Awards
Gallons of Fuel Covered By Award

Community	Av. CHP[1]	Fuel Oil $/Gal.[2]	Est. Avg. HH Award[3]	Est. # Gal.
Anchorage	6	$2.95	$ 690	234
Fairbanks	9	$3.07	$1,035	337
Juneau[4]	5	$3.18	$575	181
Noorvik	23	$5.28	$2,645	501
Chitina	6	$3.99	$690	173
Nome	13	$4.38	$1,495	341
Shishmaref	24	$5.25	$2,760	526
Homer	5	$2.88	$575	200
Ouzinkie	5	$3.49	$575	165

Price per CHP is $115[4]

[1]Average CHP - Based on 2010 ytd approved Heating Assistance Applications (through 2-15-10)

[2]Fuel Oil Price from CDRA "Current Community Conditions: Fuel Prices Across Alaska January 2010 Update" all communities except Anchorage and Nome. Anchorage price is from Crowley Petroleum and Nome price is from Bonanza Fuel in Nome - quoted on 2-17-10

[3]Est. Avg. HH Award - Estimated award for average household based on the average number of Adjusted CommunityHeating Points for the community multiplied by calculated dollar value per CHP

[4]Price per point based upon an estimated statewide average CHP of (9), the projected number of eligible households (13,000) and the amount of appropriation available for the HAP Unit's portion of FY 2010 LIHEAP block grant ($16.3 M)

House Energy Committee
February 18, 2010

1. **Strengths and weaknesses of delivering energy-related services to rural Alaska.**

Energy related services are two-fold – electricity and liquid fuels. Nowhere in the modern world are residents of hundreds of communities as economically and situationally disadvantaged as are rural Alaskans. Communities are extremely small (from less than 40 to a few thousand, with more than 200 being smaller than 500) and spread out geographically over a vast and inhospitable terrain.

The generation and distribution of electricity is a complex system, yet such systems are operated on an isolated basis in virtually every location. The state attempts to provide a modest level of technical support for stand-alone communities but such services fall dismally short as a stand-in for competent local operations.

Per capita electricity consumption in rural Alaska is about 50% of that in urban Alaska, reflecting classic price elasticity. The high cost of electricity is compensated for through conservation, leaving little for additional conservation measures.

Petroleum fuels represent 2/3 to ¾ of the energy consumed by Alaskans and drive the enormous cost that energy represents in the average rural Alaskan budget. Again, the miniscule local market necessarily results in very high local fuel costs. There is currently much confusion about implementation of ULSD rules in rural Alaska.

I see very few strengths in the rural Alaska energy situation, however one of those would be virtual immunity to terrorism/cyber-attacks.

The weaknesses are:

- Extremely small markets
- Very high investment per consumer for electric systems
- Modest human capacity for highly technical generation systems – especially alternative/renewable energy systems

4831 EAGLE STREET * ANCHORAGE, ALASKA * PHONE (907) 561-1818 * FAX (907) 562-4086

- Market isolation resulting in vulnerability to extended outages due to storm and other conditions
- Conservation and efficiency efforts resulting in further compression of already marginal economies of scale
- Oppressed economic development due to high energy costs
- Limited local job opportunities resulting in out-migration of the most talented and capable workforce towards better opportunities

2. **Tools the legislature could provide to help in delivering that service.**

The legislature needs to adopt and fund an aggressive plan to connect Alaskan communities to a common grid – in some cases physical, in many cases virtual. Consolidation of power generation systems will deliver:

- Lower operating costs as numbers of generation units decrease
- Higher efficiencies as larger generators are typically more efficient
- Better economies of scale to spread fix costs over
- Ability to pay more to attract higher caliber staff
- Higher capacity to incorporate renewable technologies as transmission lines make more prospects viable

The legislature, working with private industry, needs to aggressively assure broadband Internet access across rural Alaska. The lack of true commercial grade service has severely hampered operation of management and control capability for extremely sophisticated control systems necessary to properly integrate renewable/alternative energy technologies in rural Alaska.

The legislature needs to ensure that a comprehensive communication plan is developed to assist rural Alaska in complying with EPA rules regarding conversion to ULSD.

4831 EAGLE STREET * ANCHORAGE, ALASKA * PHONE (907) 561-1818 * FAX (907) 562-4086

3-11-10 Overview: Comprehensive Energy Plan for the Alaska Railbelt

<target><bill></bill><subject>3-11-10 Overview Comprehensive Energy Plan for the Alaska Railbelt</subject><comm>HENE26</comm></target>

Alaska Legislature
House Special Committee on Energy

Rep. Charisse Millett
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Juneau, AK 99801
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AGENDA

Thursday, March 11, 2010
3:00 – 7:00 p.m.
House Finance Committee Room (#519)

Overviews
on
Comparative TELECONFERENCED
Railbelt
Energy

Project Analysis:
Railbelt Integrated Resource Plan, by
Alaska Energy Authority;
Susitna Hydro Project, by Alaska Energy
Authority;
Mount Spurr Geothermal Project, by Ormat;
In-State Natural Gas Pipeline, by Bob
Swenson, In-State Natural Gas Pipeline
Coordinator, CIRI;
Chakachamna Hydro Project, by TDX Power;
Coal Gasification and Fire Island Wind
Farm Projects, by CIRI

\+ Bills Previously Heard/Scheduled

###

Alaska Legislature
House Special Committee on Energy

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Seven Questions for Proposed Railbelt Energy Projects

1) Project timeline –completion date and the date power will be turned on:

2) Total cost of project and funding request (state revenue):

3) Transmission needs to grid -who pays?:

4) Cost of power to consumer (KWH):

5) Amount of power supplied to railbelt:

6) Likelihood of completion:

7) Permitting roadblocks- Environmental challenges:

Additional Notes:

A Comprehensive Plan for the Alaska Railbelt

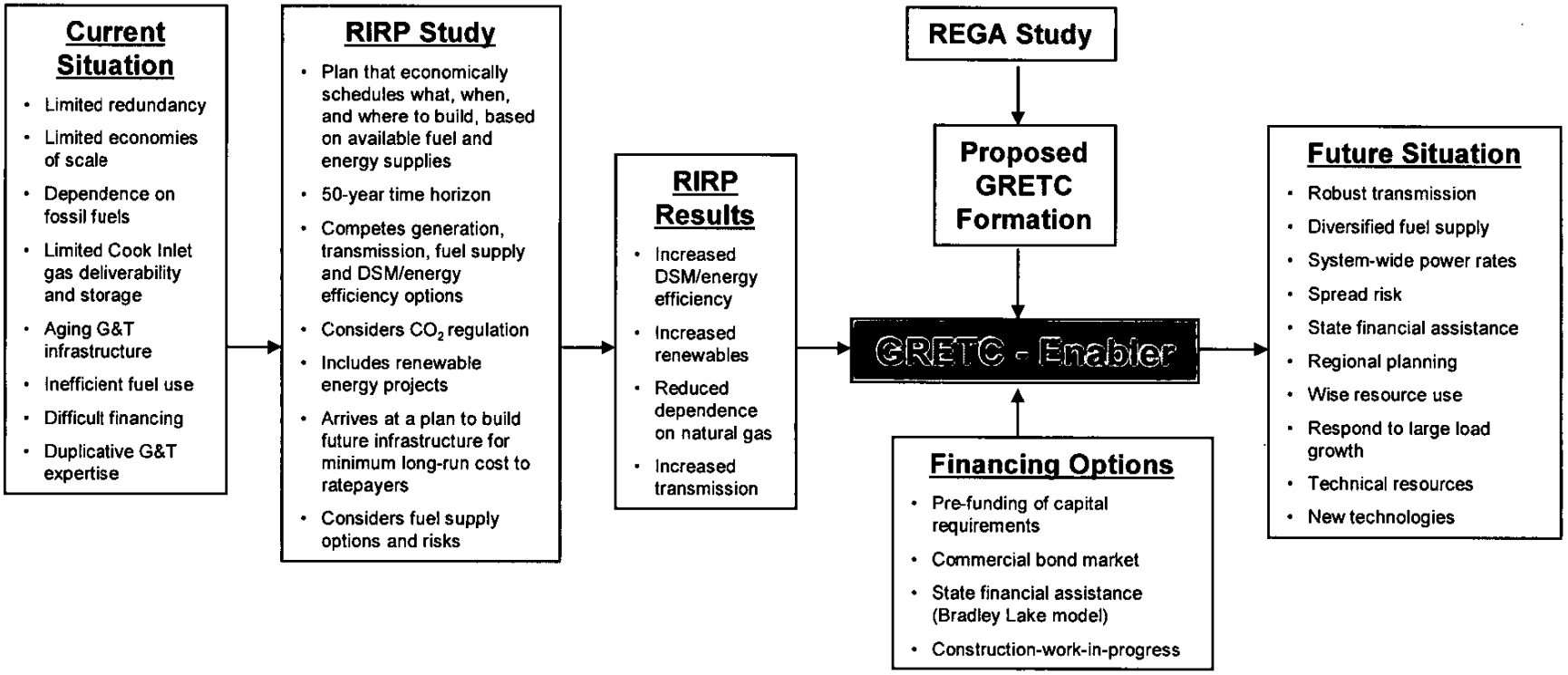
Results of the Railbelt IRP

House Energy Committee

March 11, 2010

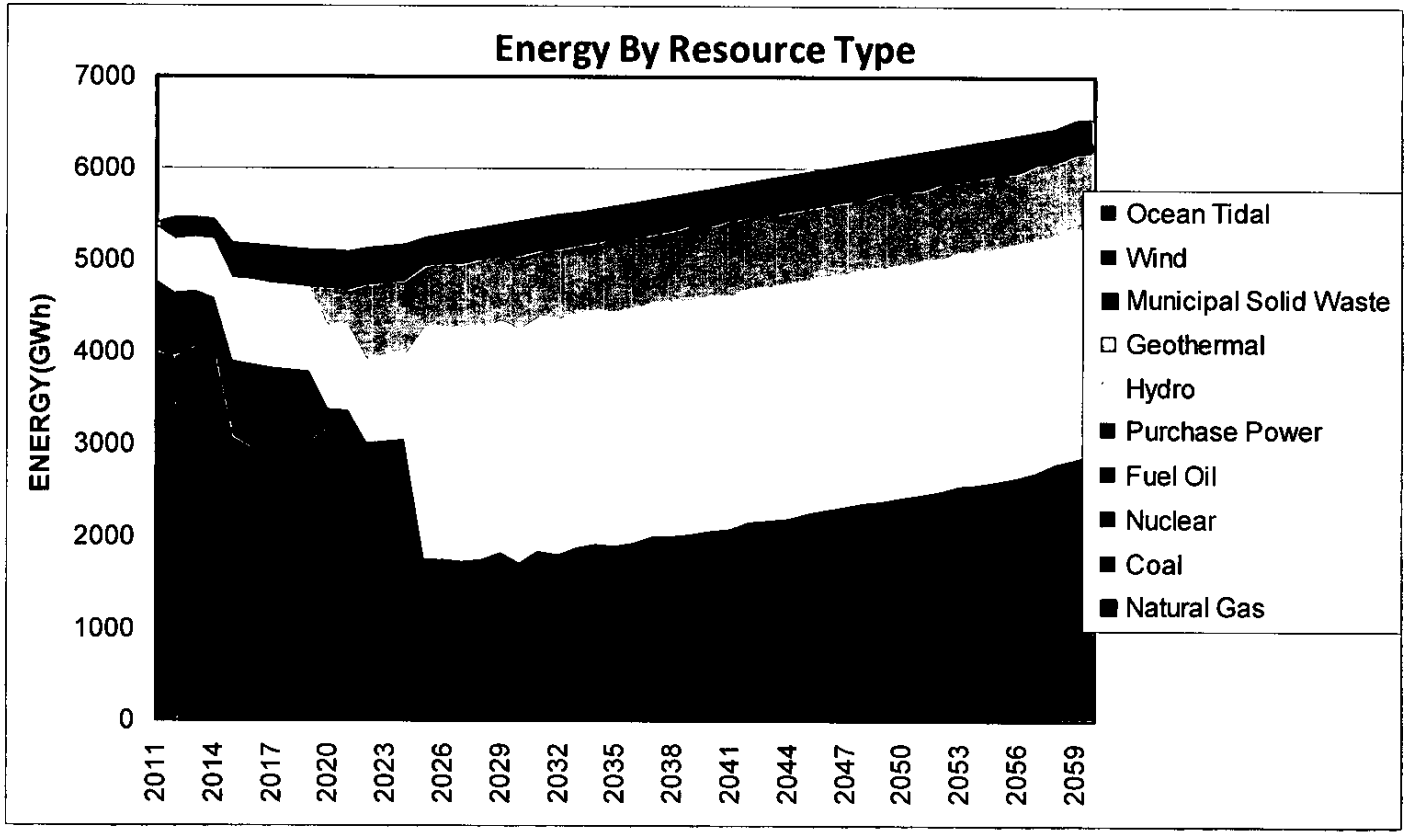
ALASKA ENERGY AUTHORITY

A COMPREHENSIVE PLAN FOR THE RAILBELT



ALASKA ENERGY AUTHORITY

A Comprehensive Plan for the Alaska Railbelt



Scenario 1A/1B

ALASKA ENERGY AUTHORITY

The Railbelt 50-year power portfolio, presented graphically

Source: B&V RIRP Final Report

A Comprehensive Plan for the Alaska Railbelt

CONCLUSIONS – PREFERRED RESOURCE PLAN

- DSM/EE Programs (2011)
- Nikiski Wind (2011)
- HCCP (2011)
- Fire Island Wind (2012)
- Southcentral Power Plant (2013)
- Glacier Fork Hydro (2014)
- Anchorage and GVEA MSW (2015/2017)
- GVEA North Pole Retrofit (2018)
- Mt. Spurr Geothermal (2020)
- Parallel pursuit of Chakachamna/Susitna/Glacier Fork
- Multiple transmission projects

ALASKA ENERGY AUTHORITY

A Comprehensive Plan for the Alaska Railbelt

CONCLUSIONS – PREFERRED RESOURCE PLAN

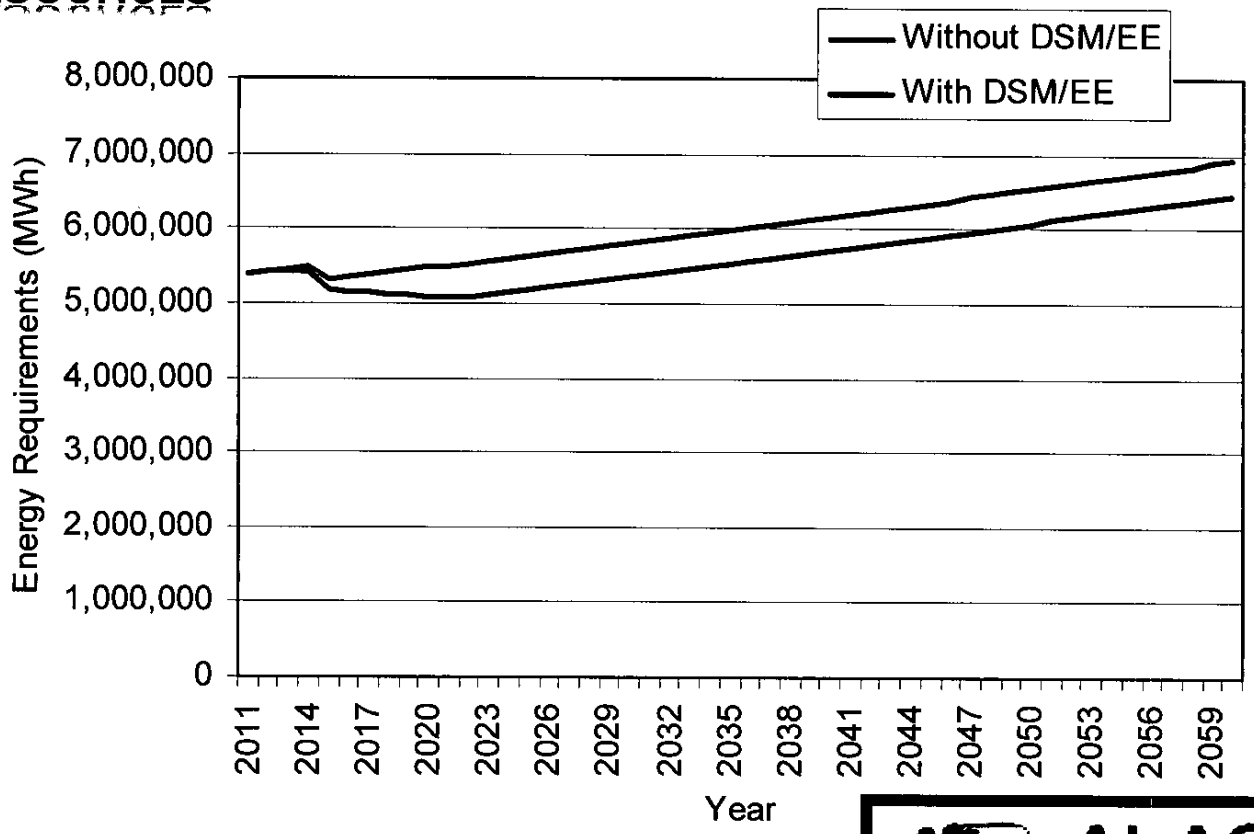
- Near-Term Transmission Projects
  - Soldotna-Quartz Creek transmission line ($126MM)
  - Quartz Creek-University transmission line ($165MM)
  - Douglas-Teeland transmission line ($63MM)
  - Lake Lorraine-Douglas transmission line ($80MM)
  - SVCs ($25MM)
  - Southern Intertie study ($1MM)
  - BESS – frequency regulation ($50MM)

ALASKA ENERGY AUTHORITY

A Comprehensive Plan for the Alaska Railbelt

RESULTS – DSM/EE RESOURCES

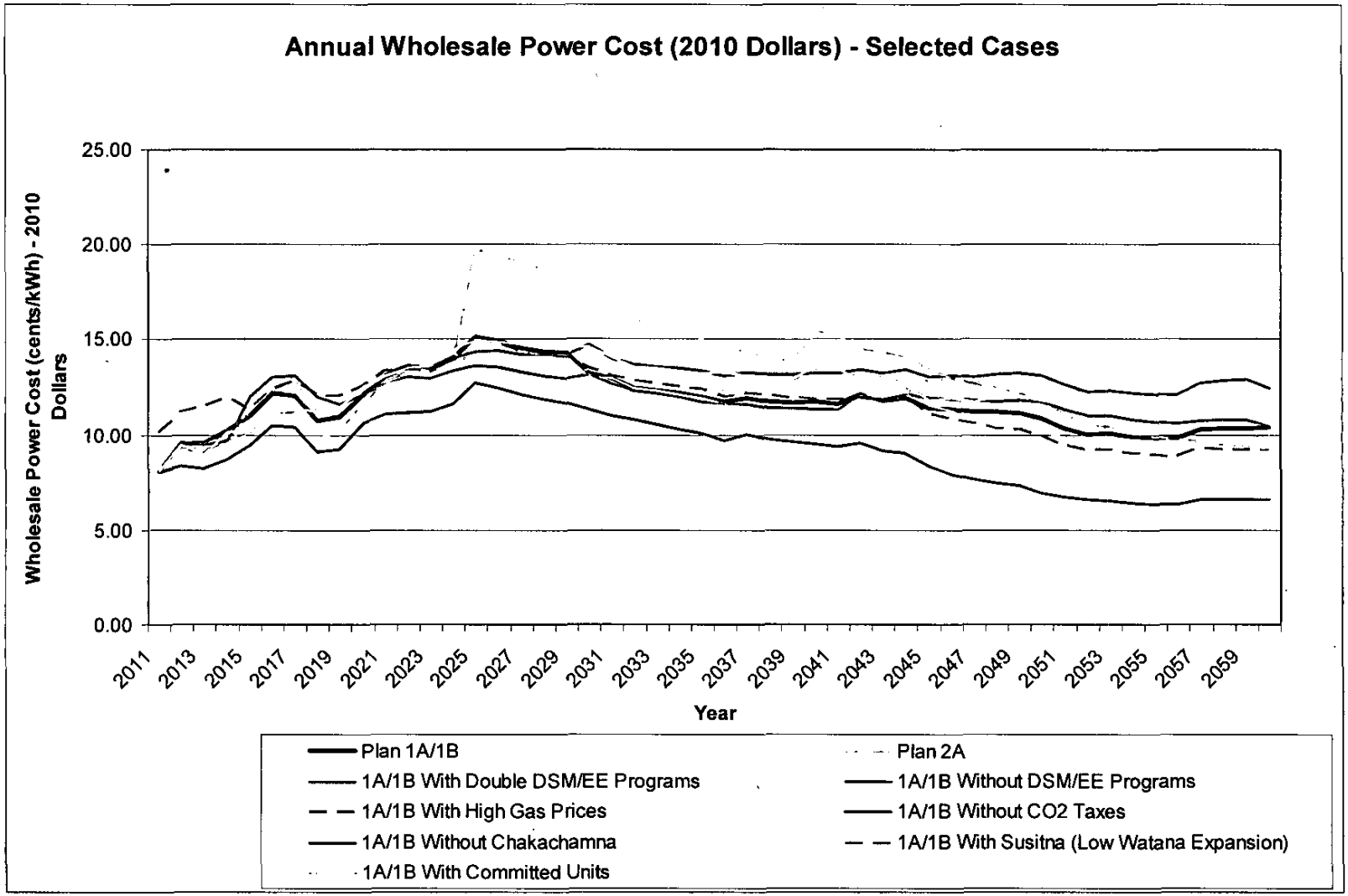
Energy Requirements (MWh)



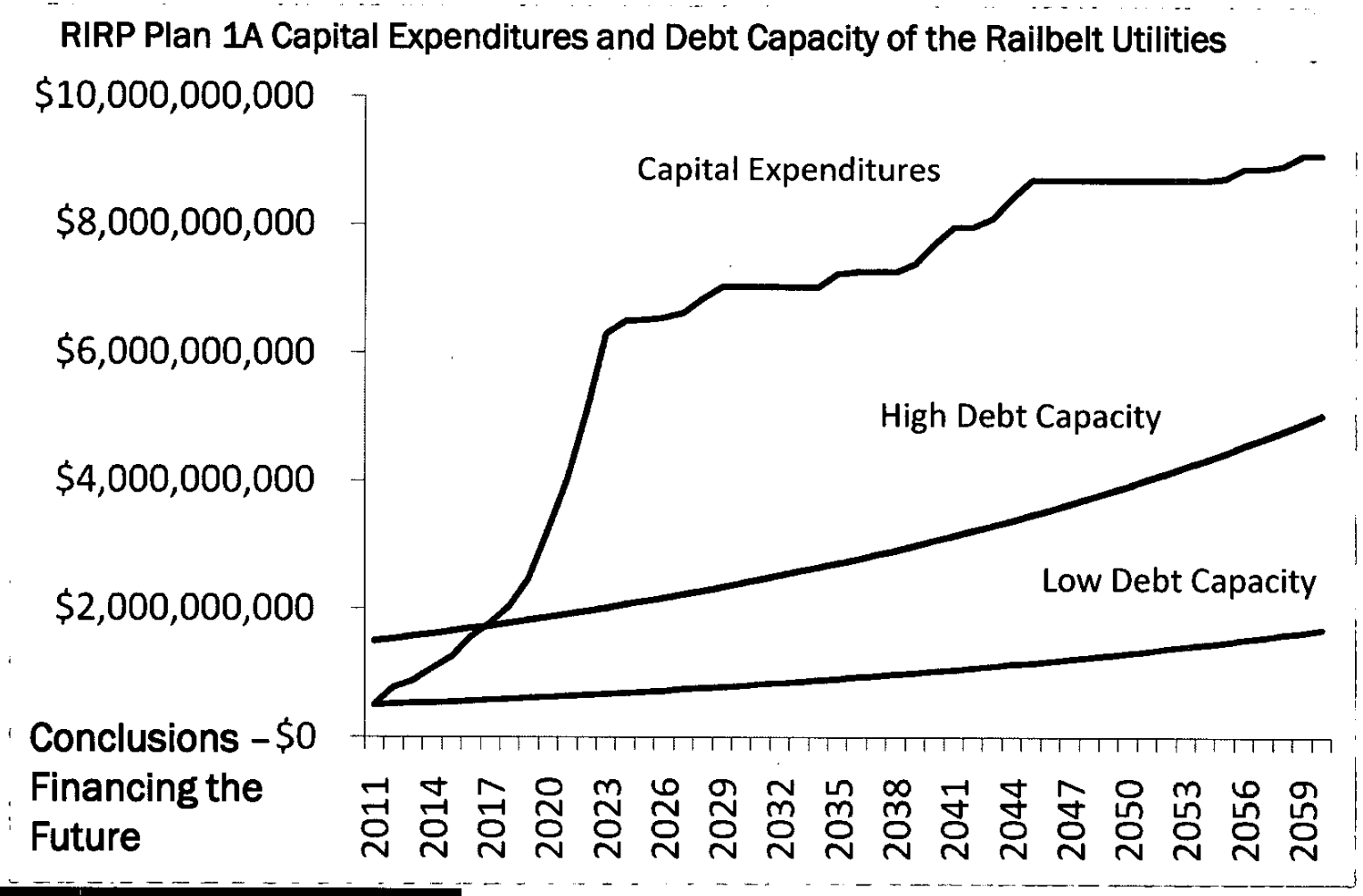
Source: B&V RIRP report

ALASKA ENERGY AUTHORITY

A Comprehensive Plan for the Alaska Railbelt



A Comprehensive Plan for the Alaska Railbelt



Conclusions – Financing the Future

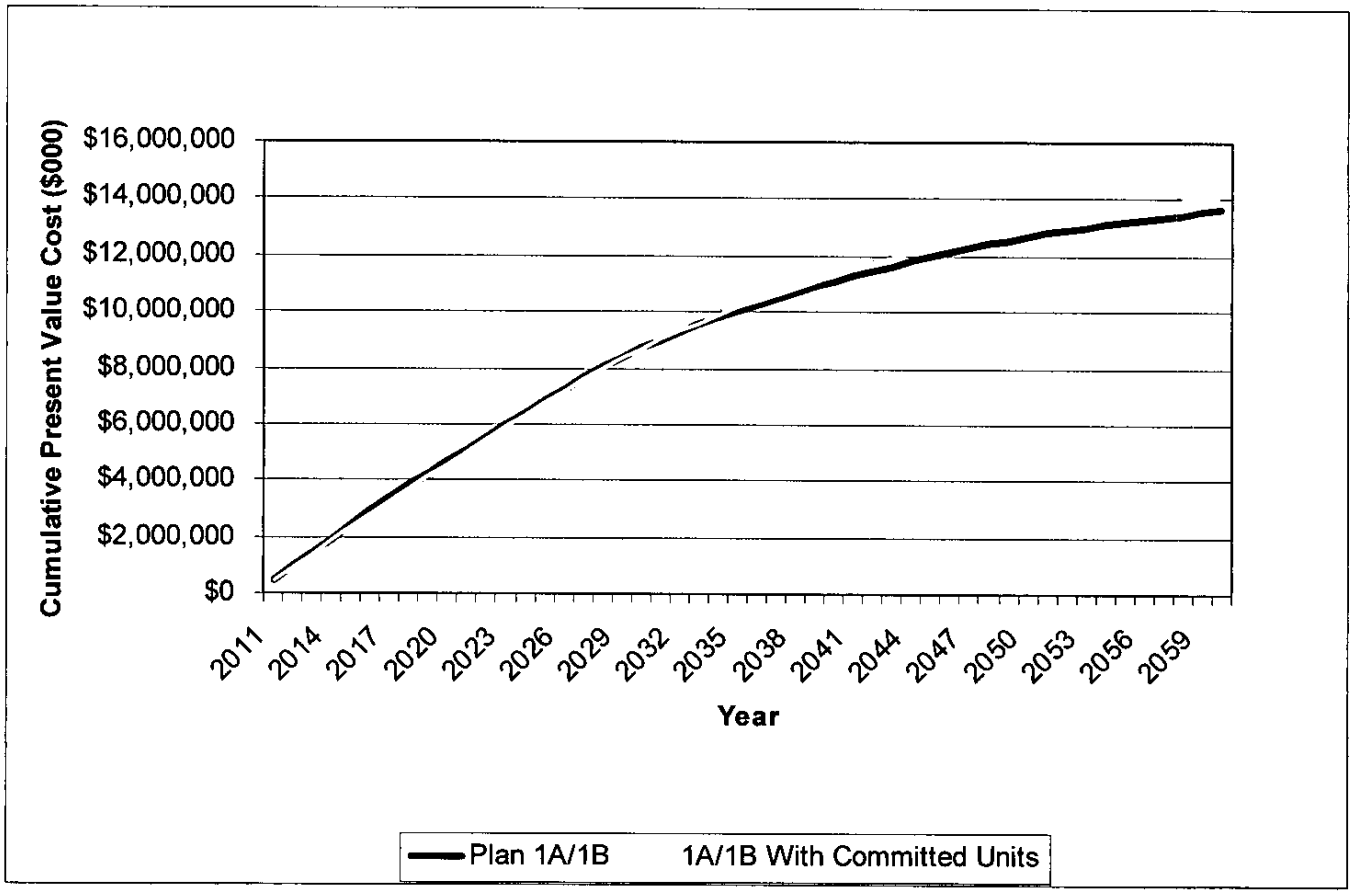
Source: B&V RIRP report, Seattle Northwest Securities

ALASKA ENERGY AUTHORITY

A Comprehensive Plan for the Alaska Railbelt

ALASKA ENERGY AUTHORITY

CONCLUSIONS – REGIONAL OR INDIVIDUAL UTILITY FUTURE



Source: B&V RIRP report

A Comprehensive Plan for the Alaska Railbelt

CONCLUSIONS – PREFERRED RESOURCE PLAN

Results of Financial Analysis

Techniques Considered

- Ratepayer benefit surcharge
- "Pay-go" financing
- CWIP
- State financial assistance
  - 2.4 billion zero-interest loan
  - Bradley Lake model

	Maximum Rate	Average Rate
Base Case	$0.13/kWh	$0.07/kWh
Alternative Case	$0.08/kWh	$0.06/kWh

ALASKA ENERGY AUTHORITY

SUSITNA HYDROELECTRIC PROJECT

PROJECT SUMMARY

House Energy Committee

March 11, 2010

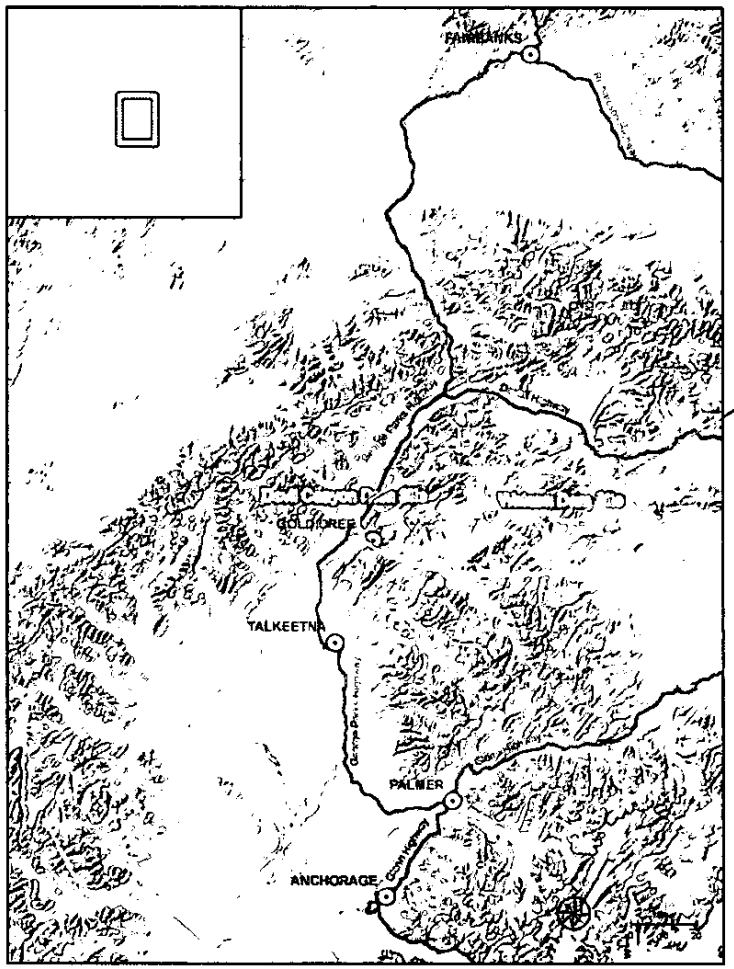
ALASKA ENERGY AUTHORITY

MAJOR POWER GENERATION PROJECTS RECOMMENDED BY THE RAILBELT INTEGRATED RESOURCE PLAN (RIRP)

- DSM/EE Programs (2011)
- Nikiski Wind (2011)
- HCCP (2011)
- Fire Island Wind (2012)
- Southcentral Power Plant (2013)
- Glacier Fork Hydro (2014)
- Anchorage and GVEA MSW (2015/2017)
- GVEA North Pole GT Addition(2018)
- Mt. Spurr Geothermal (2020)
- Parallel pursuit of Chakachamna/Susitna/Glacier Fork
- Multiple transmission projects

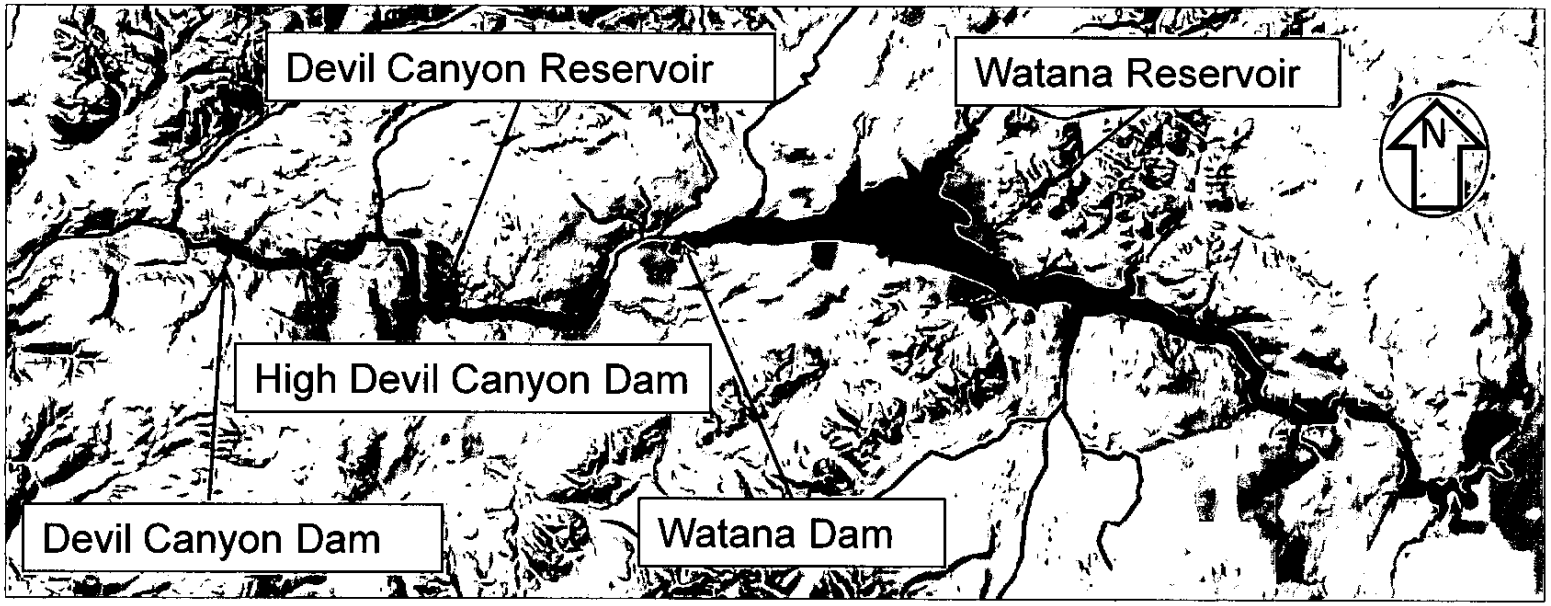
ALASKA ENERGY AUTHORITY

SUSITNA PROJECT LOCATION



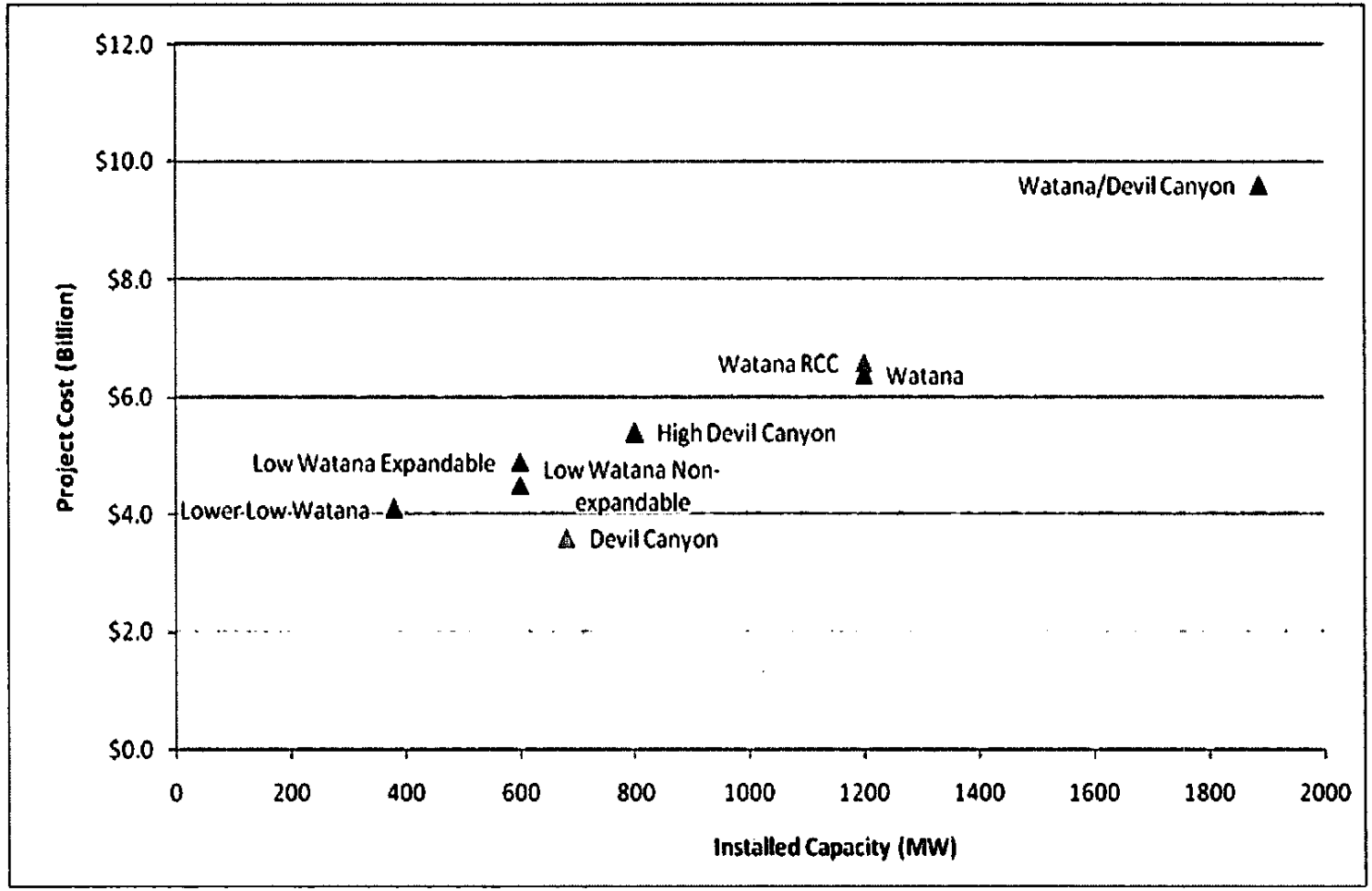
Susitna Hydro project area

Potential Project Sites



RIRP Project Susitna Evaluation

- Identify a range of single dam alternatives
  - Estimate energy & cost

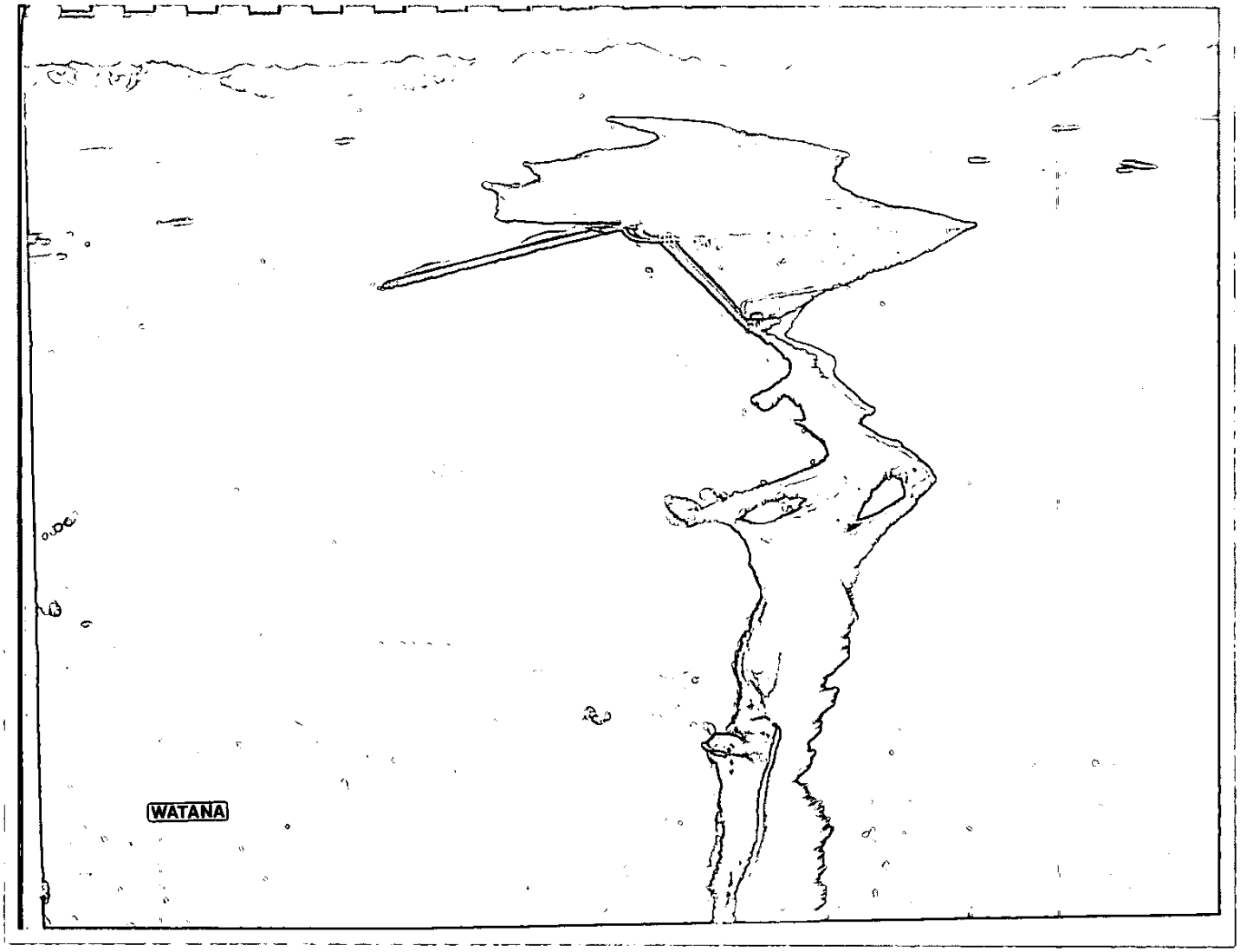


Study Results

Alternative	Dam Type	Ultimate Capacity (MW)	Construction Cost ($ Billion)	Energy GWh/yr)	Schedule (years from start of Licensing)
Lower Low Watana	Rockfill	380	$4.1	2,100	13-14
Low Watana Non-expandable	Rockfill	600	$4.5	2,600	14-15
Low Watana Expandable	**Rockfill**	**600**	**$4.9**	**2,600**	**14-15**
Watana	Rockfill	1,200	$6.4	3,600	15-16
Watana RCC	RCC	1,200	$6.6	3,600	14-15
Devil Canyon	Concrete Arch	680	$3.6	2,700	14-15
High Devil Canyon	RCC	800	$5.4	3,900	13-14
Watana/Devil Canyon	Rockfill/Concrete Arch	1,880	$9.6	7,200	15 - 20
Staged Watana/Devil Canyon	Rockfill/Concrete Arch	1,880	$10.0	7,200	15 - 24

Option selected by RIRP model

ROCK-FILLED EMBANKMENT DAMS



FOCUSED QUESTIONS

- Project Timeline – 15 years from start of licensing
- Total Cost of Project – $4.9 B
- Project Cost includes Transmission to Grid
- Cost of Power to Consumers
  - Levelized cost of power for 100 years (2010 dollars) - $0.15/kwh
- Amount of Power Supplied to Railbelt - 2600 Gwh/year
- Likelihood of Completion – High, majority of technical and environmental issues resolved in 1980's
- Licensing Roadblocks – Next step for project is to engage stakeholders to explore project issues and concerns.

CONCLUSIONS

- Of the renewable resources in the railbelt region, the Susitna project is the most studied and best understood.
- Project is considered to be technically feasible.
- Project has potential to expand to meet future loads.
- Large hydro provides dispatchable energy and stabilizes the grid.
- Environmental and seismic risk is considered manageable.
- Long term stable cost of power.

1984

Chakachamna Status Report.

TDX Power
Nicholas Goodman
Eric Yould

House Special Committee on Energy
March 11, 2010

1985

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

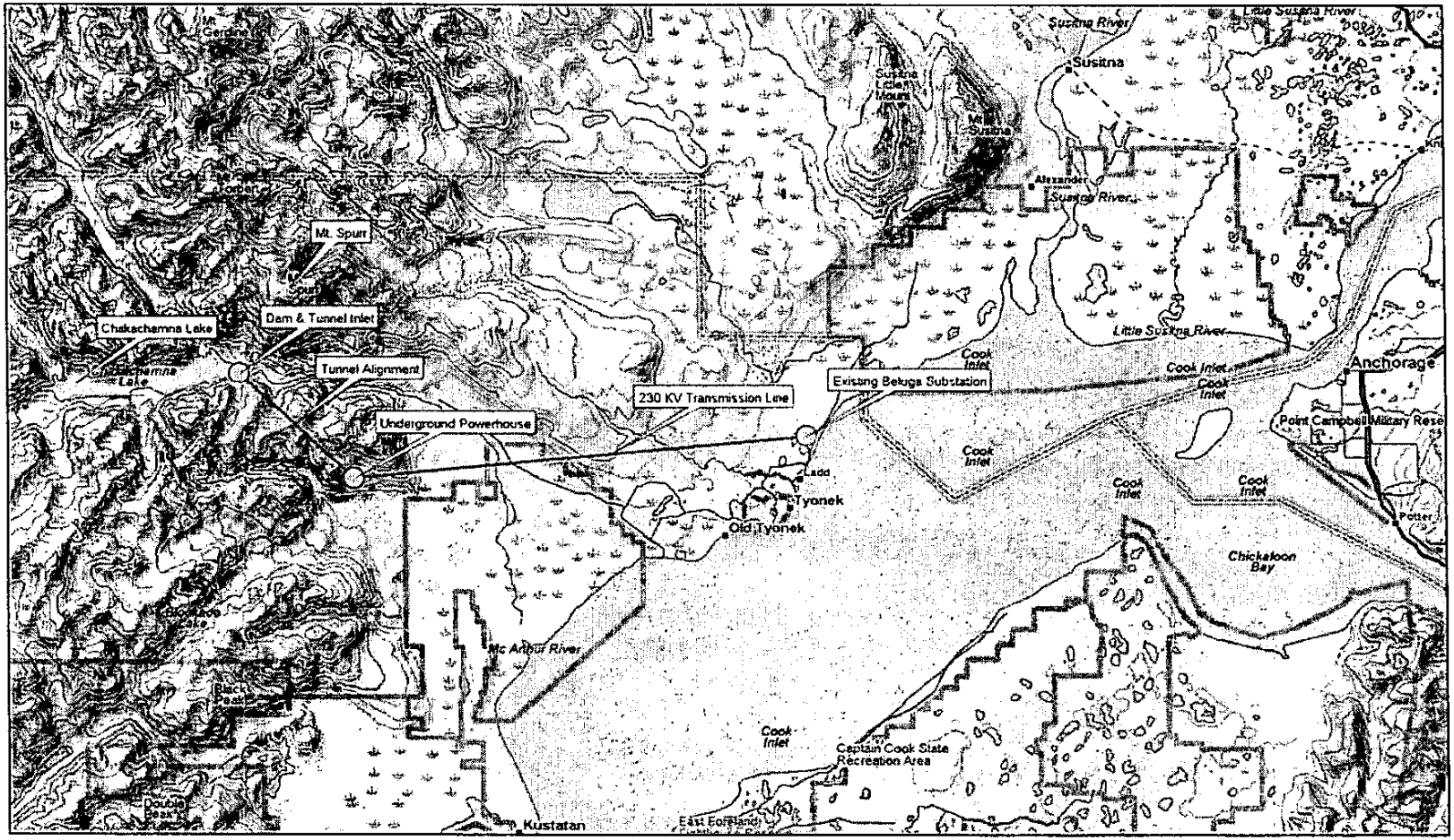
1986

Chakachamna Hydro Power

- 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

1987

Chakachamna Project Location



1988

Chakachamna Aerial View

1989

Chakachamna Lake

1990

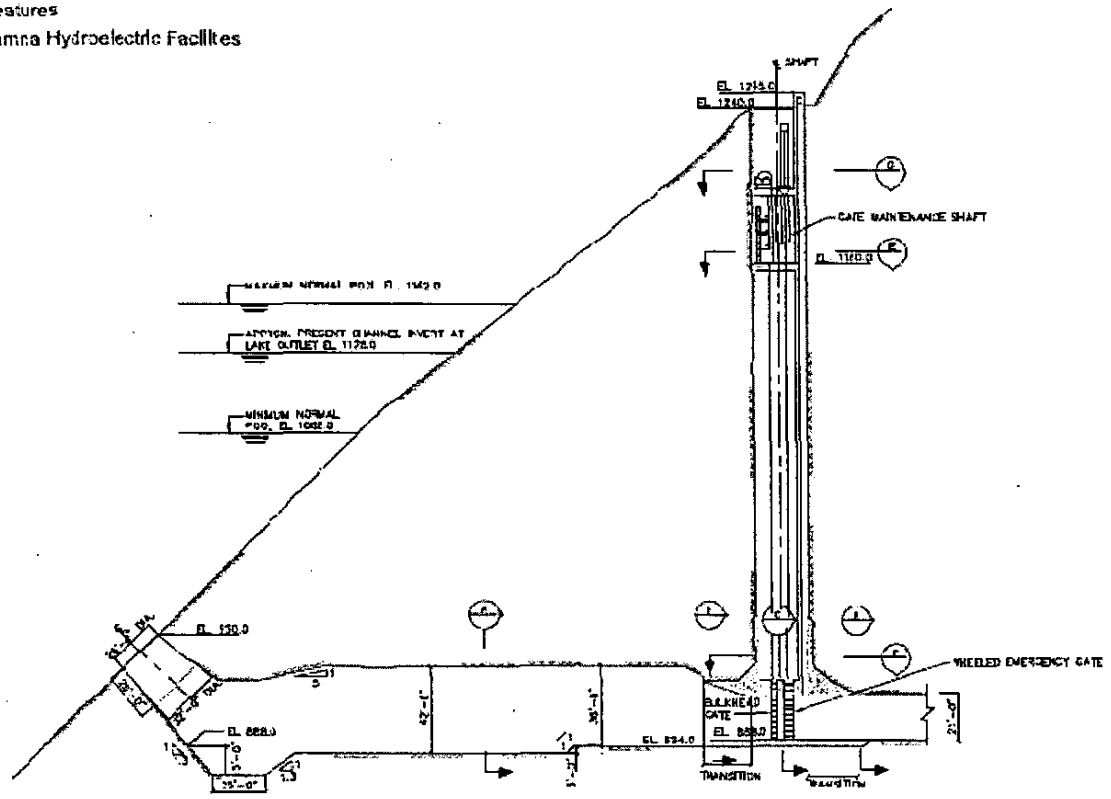
McArthur River Valley Power Plant Site

1991

TEX power

Project Features
Chakachamna Hydroelectric Facilites

Figure 3.3-2
Intake and Gate Shaft Section



INTAKE AND GATE SHAFT SECTION
NTS

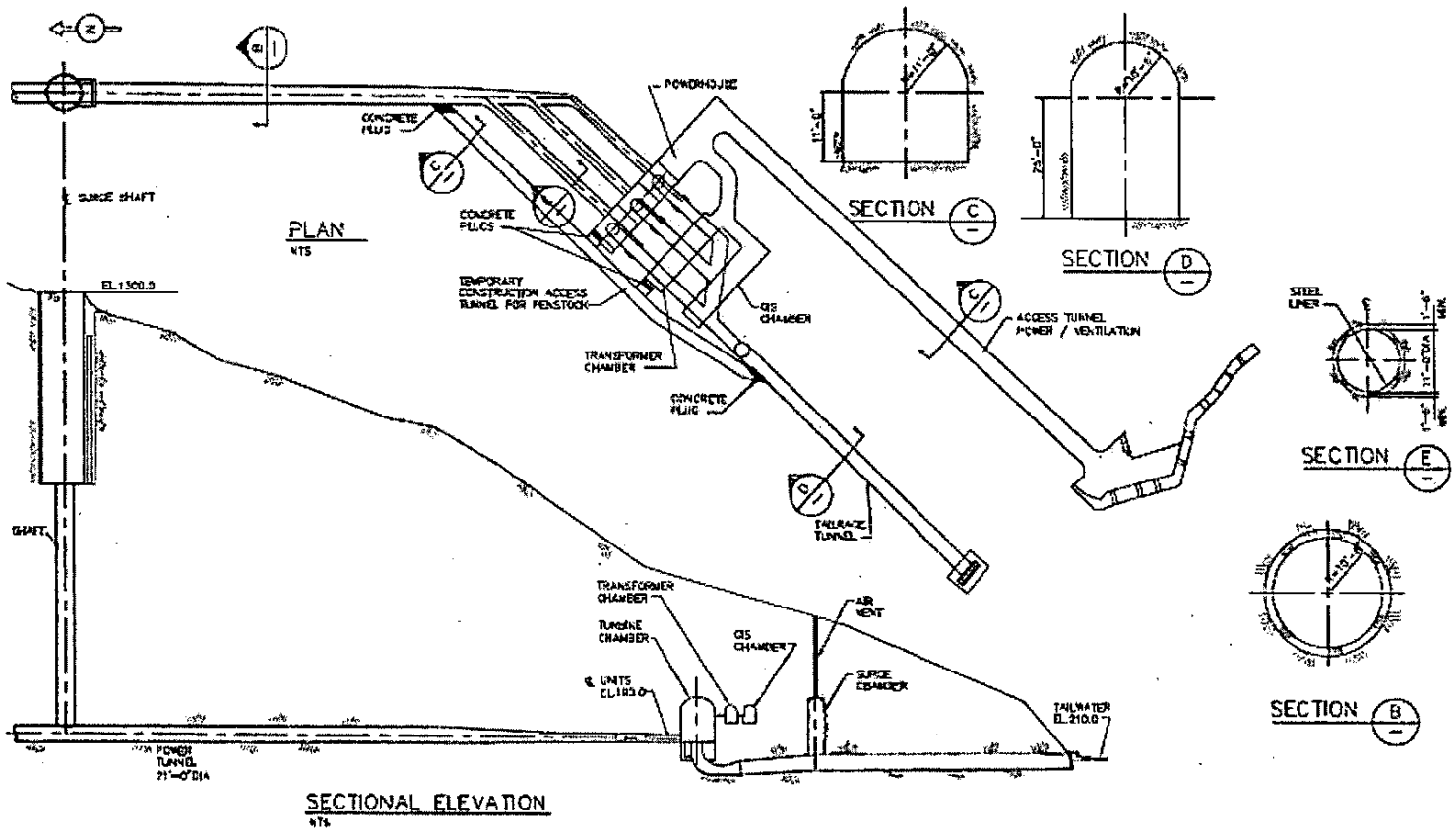
MWH

1992

TDX power

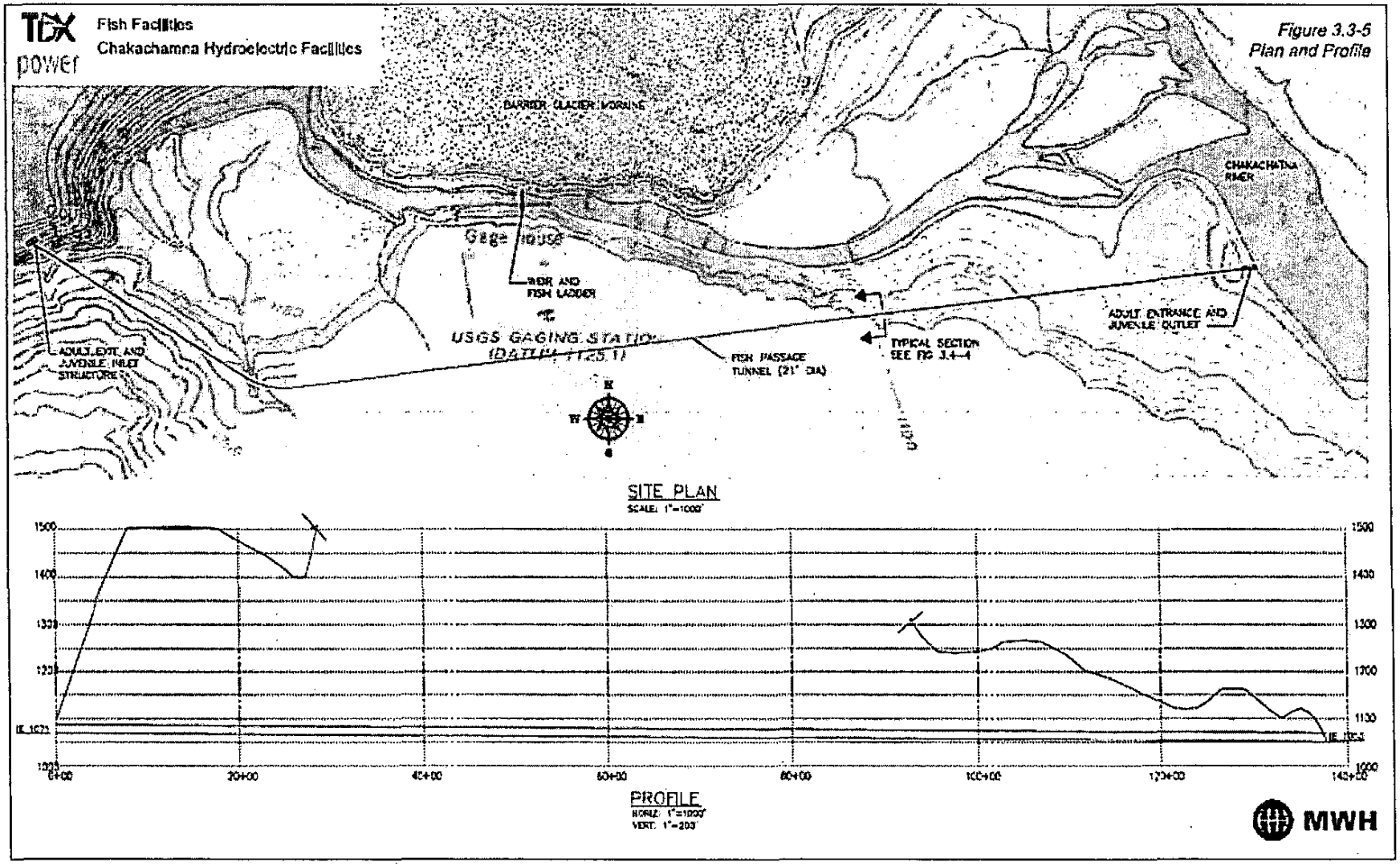
Project Features
Chakachamna Hydroelectric Facilities

Figure 3.3-4
Powerhouse Plan and Sections



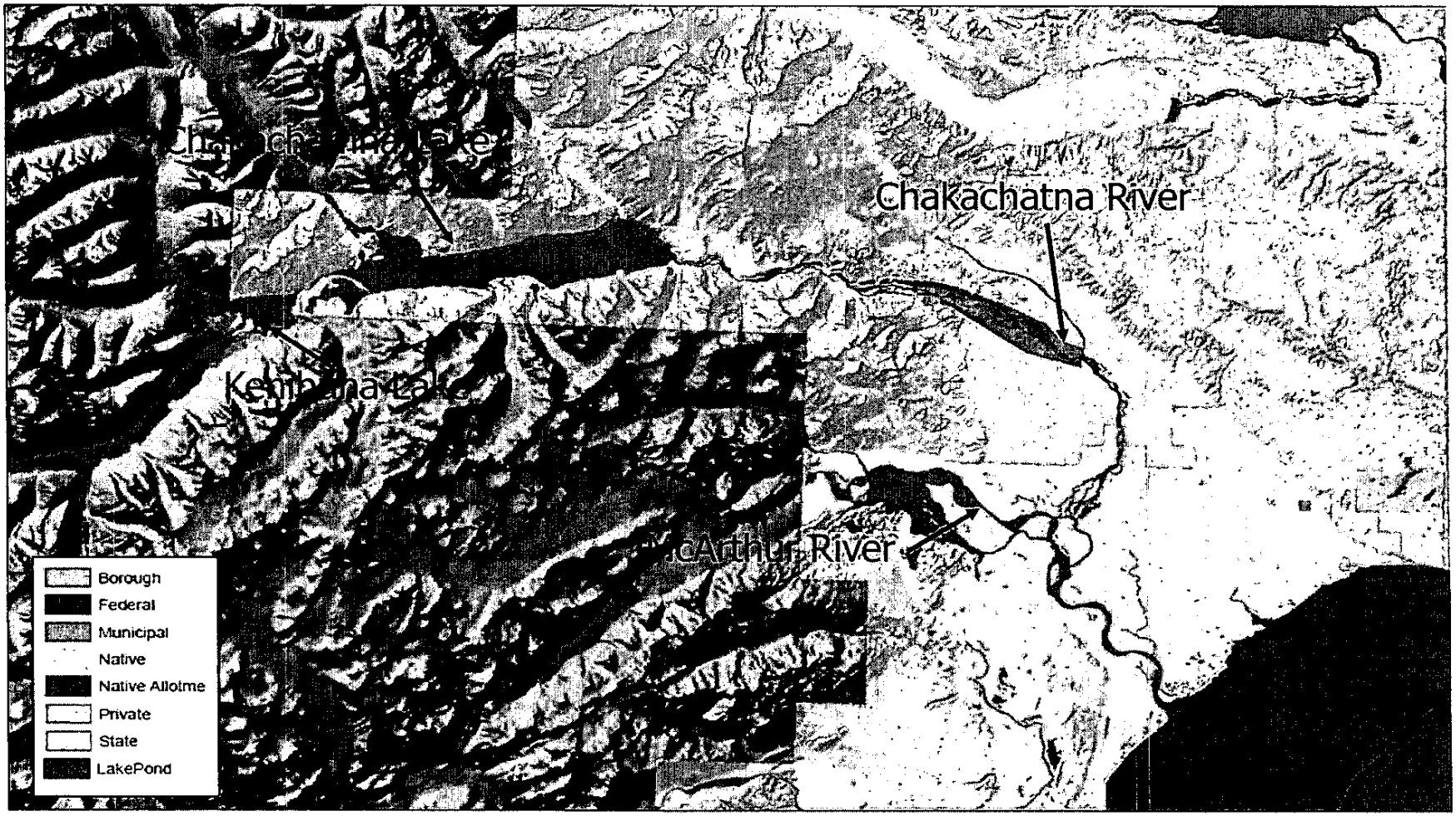
MWH

1993


TDX power
Fish Facilities
Chakachamna Hydroelectric Facilities
Figure 3.3-6
Plan and Profile
BARRIER GLACIER MORAINE
CHAKACHATNA RIVER
Gage House
WEIR AND FISH LADDER
USGS GAGING STATION
(DATUM +1251)
ADULT EXIT AND JUVENILE INLET STRUCTURE
FISH PASSAGE TUNNEL (21' DIA)
TYPICAL SECTION SEE FIG 3.4-4
ADULT ENTRANCE AND JUVENILE OUTLET
SITE PLAN
SCALE: 1"=1000'
1500
1400
1300
1200
1100
1000
0+00
20+00
40+00
60+00
80+00
100+00
120+00
140+00
PROFILE
HORIZ: 1"=1000'
VERT: 1"=200'
MWH

1994

Project Area Landownership



1995

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

1996

Cook Inlet Sockeye 2007 Fish Runs

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	

1997

CHAKACHAMNA WILDLIFE

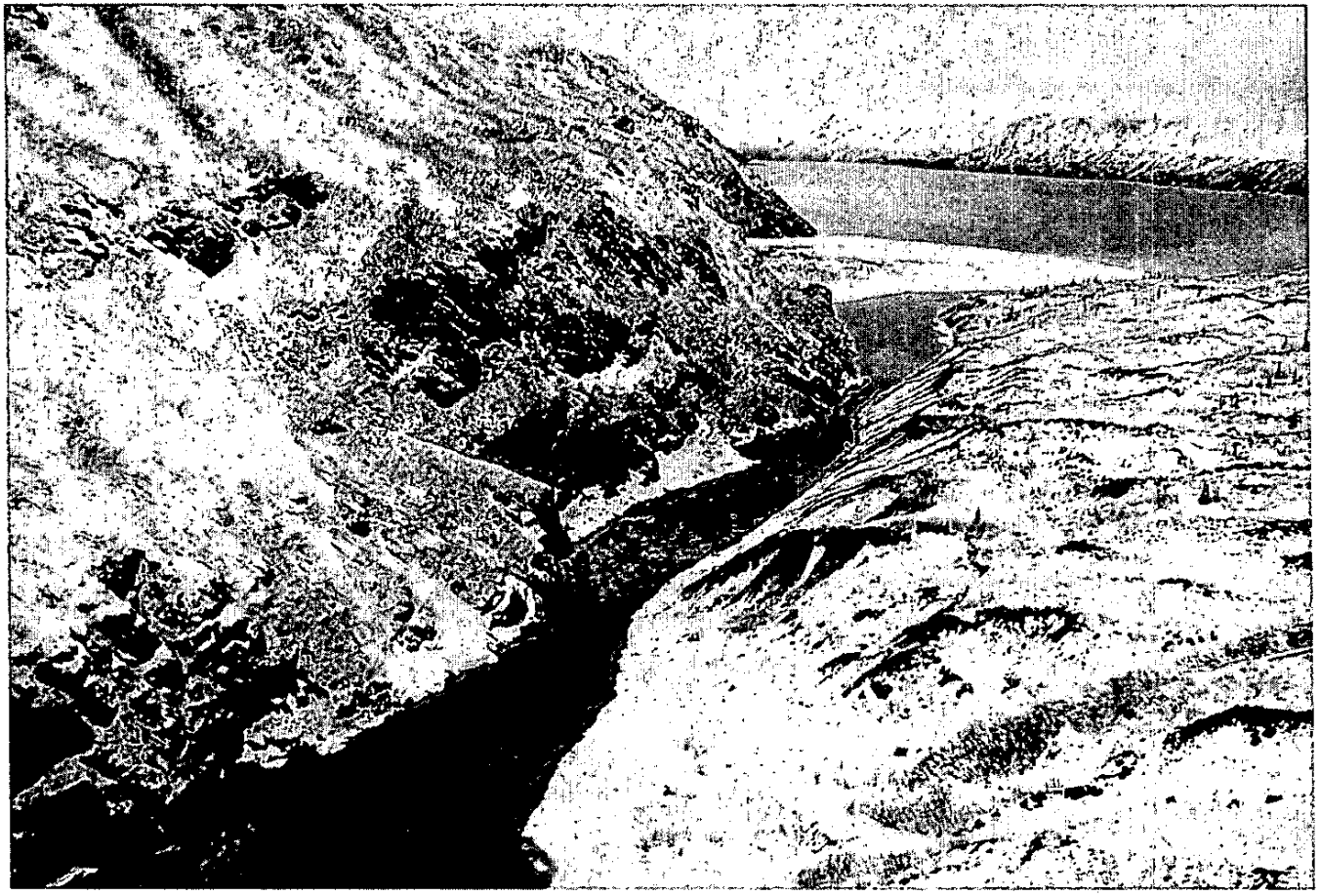
- 56 species of birds
- 16 species of mammals
- Moose, wolves, lynx, bear, wolverine, other fur bearers
- None on the endangered species list
- Less impact than other hydro projects of similar size

Geotechnical Considerations

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

1999

CHAKACHAMNA LAKE OUTLET



2000

McARTHUR RIVER POWERHOUSE SITE

Development Costs

- 2010 Field Season -- $5 million
- 5 year permitting -- $30 million
- Construction (2008$) -- $1.7 Billion

2002

Cost of Power

- TDX Power financial model = 9 cents/kwh

  (assumes 100% debt at 5% interest rate, $10 million annual O&M, insurance, debt coverage etc.)

- AEA model for large hydro = 6-8 cents/kwh

  (some differences from TDX Power model include lower O&M, lower debt coverage, no inflation etc.)

2003

Schedule

■ Preliminary permit investigations	36 months
■ FERC licensing	18-36 months
■ Project construction	54 months
■ Power on line	2019

2004

2010 Field Season

- Sockeye spawning in drawdown zone
- Adult salmon access to Chakachamna Lake
- Timing of juvenile salmon outmigration
- Maintenance of downstream groundwater dependent habitats
- Flow maintenance in tributaries south of Noaukta
- Maintenance of vegetation and wildlife habitats
- Geotechnical investigations
- Project optimization & cost estimate

2005

The Mount Spurr Geothermal Project

House Special Committee on Energy Hearing
March 11, 2010
Juneau, Alaska

Paul Thomsen
Director of Policy & Business Development
Ormat Technologies, Inc.
www.ormat.com

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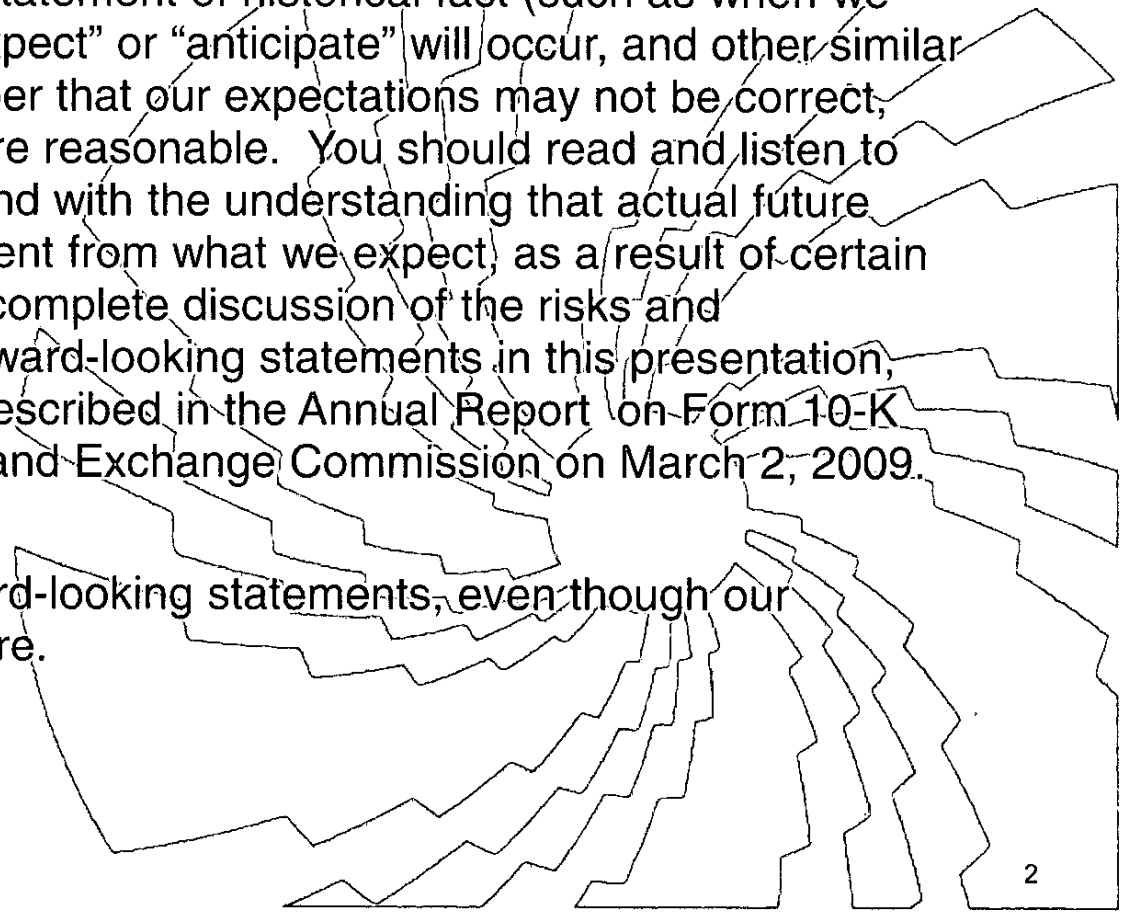
Disclaimer

Statements in this presentation as well as oral statements made by the officers or directors of Ormat Technologies, Inc., its advisors, affiliates or subsidiaries often will contain "forward-looking statements." Whenever you read or hear a statement that is not simply a statement of historical fact (such as when we describe what we "believe", "expect" or "anticipate" will occur, and other similar statements), you must remember that our expectations may not be correct, even though we believe they are reasonable. You should read and listen to these statements completely and with the understanding that actual future results may be materially different from what we expect, as a result of certain risks and uncertainties. For a complete discussion of the risks and uncertainties relating to the forward-looking statements in this presentation, please see "Risk Factors" as described in the Annual Report on Form 10-K report filed with the Securities and Exchange Commission on March 2, 2009.

We will not update these forward-looking statements, even though our situation will change in the future.

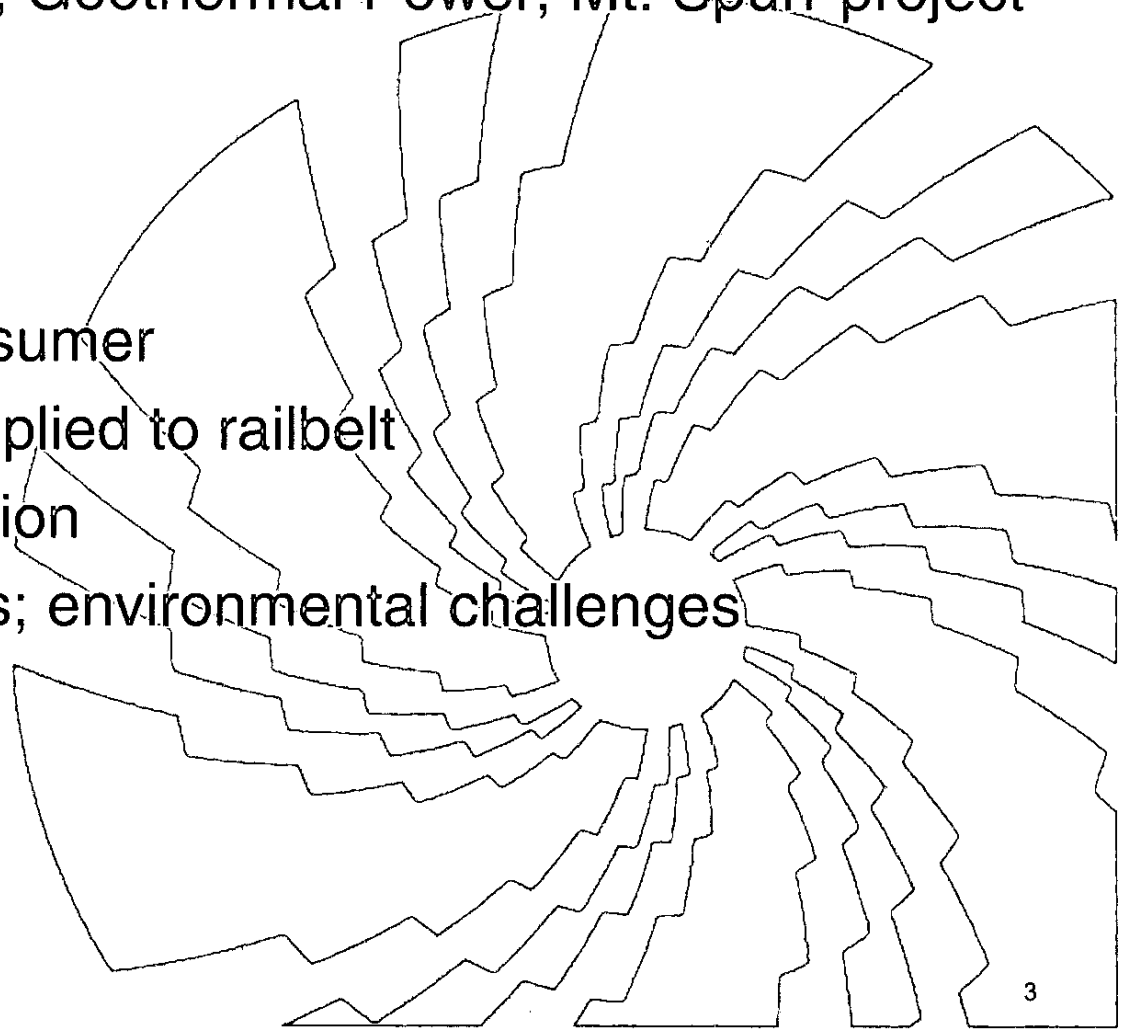


2007

Outline

0. Introduction to Ormat; Geothermal Power; Mt. Spurr project
1. Project timeline
2. Total cost of project
3. Transmission needs
4. Cost of power to consumer
5. Amount of power supplied to railbelt
6. Likelihood of completion
7. Permitting roadblocks; environmental challenges

+. Community Support



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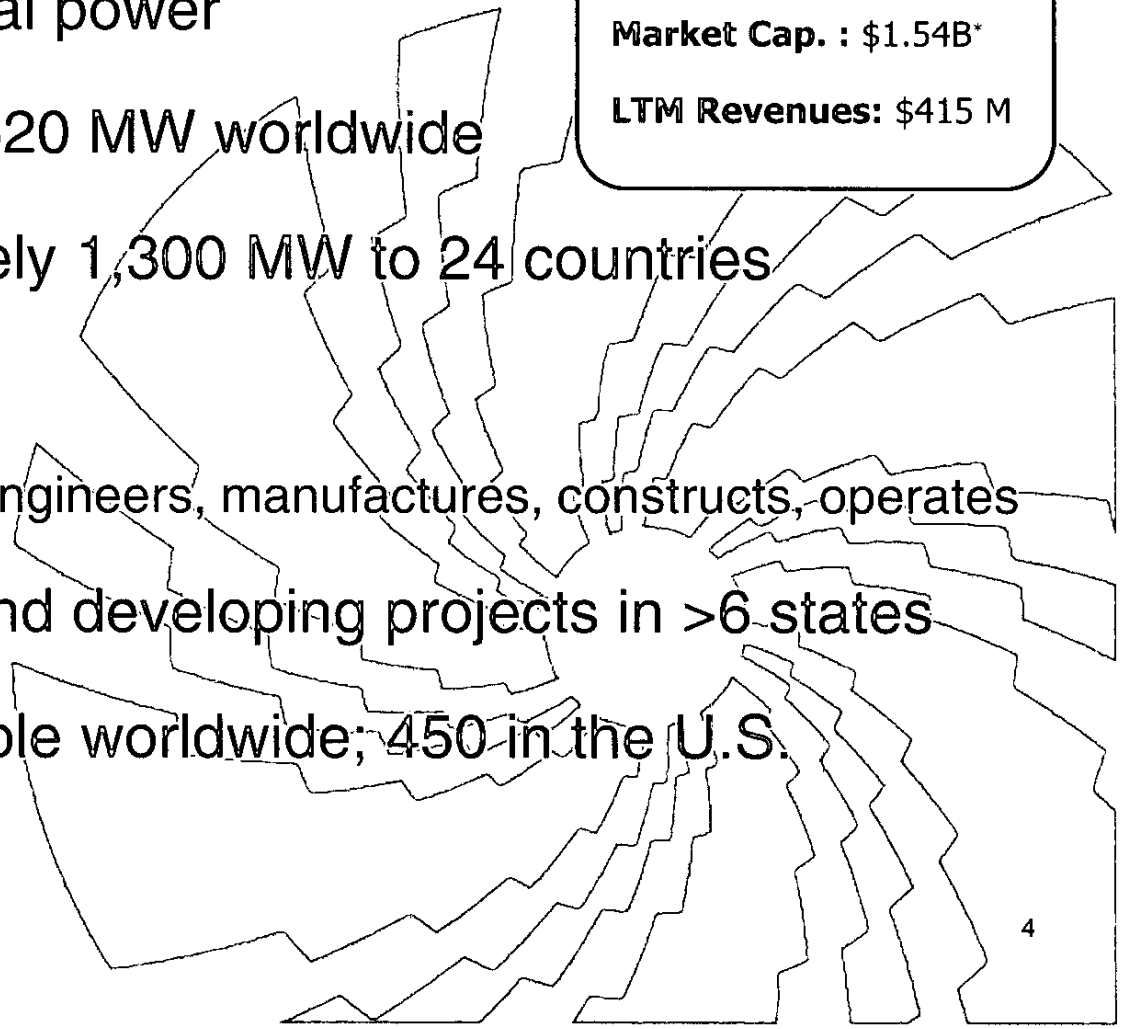
Introduction to Ormat

NYSE: "ORA"

Market Cap. : $1.54B*

LTM Revenues: $415 M

- A leader in geothermal power
- Owns and operates 520 MW worldwide
- Supplied approximately 1,300 MW to 24 countries
- Vertically integrated:
  - Explores, develops, engineers, manufactures, constructs, operates
- Currently exploring and developing projects in >6 states
- Employs >1,000 people worldwide; 450 in the U.S.



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*As of February 5 , 2010

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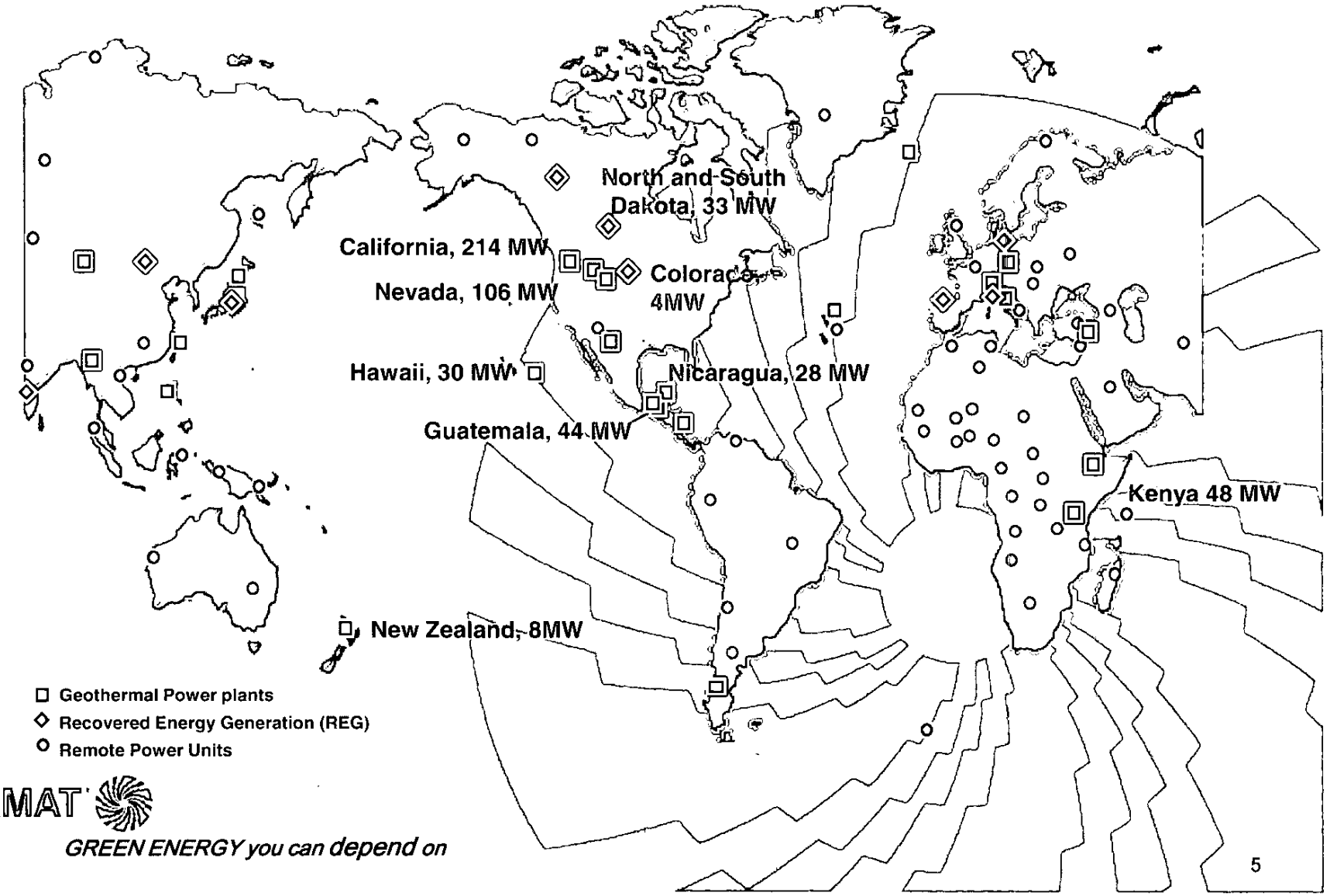
2009

Global Presence; 71 Countries



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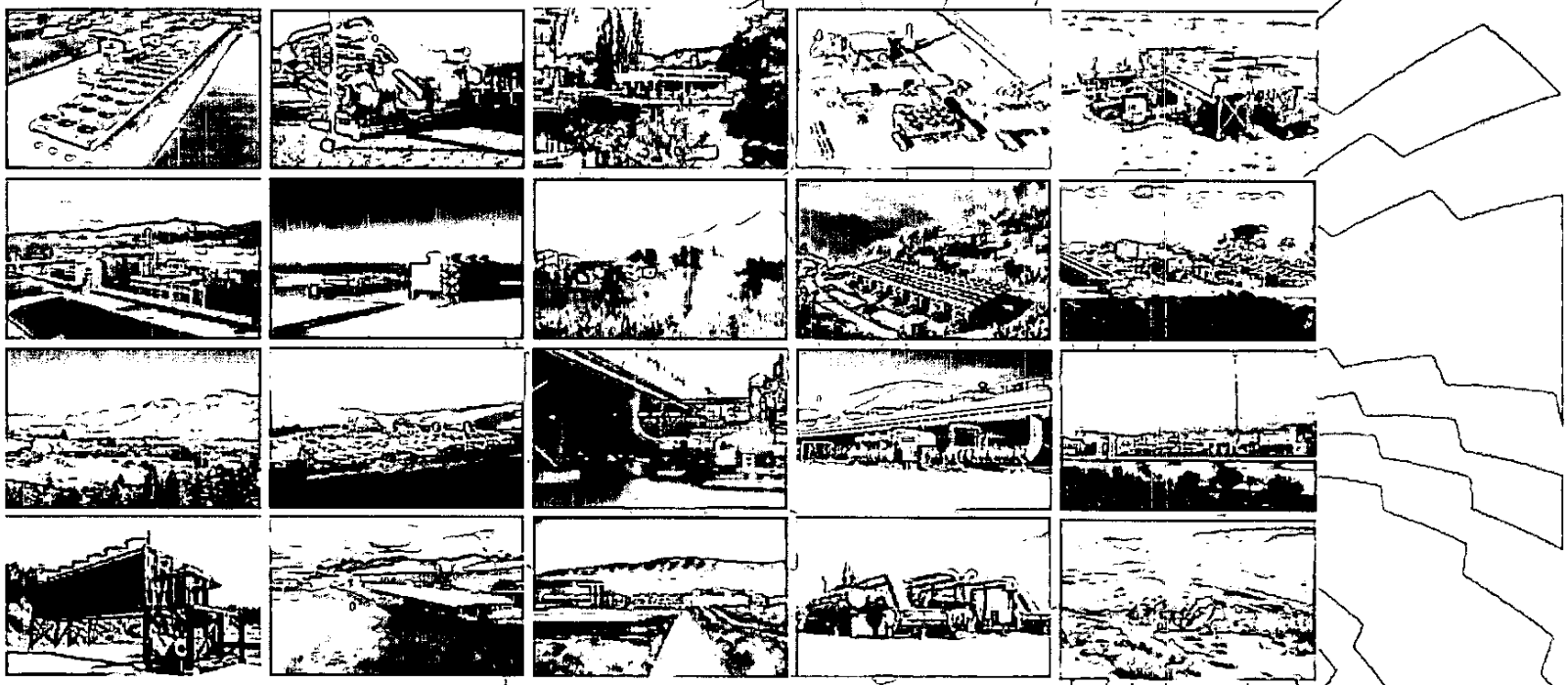
The Power of Experience

1300 MW of field proven power plants, including in:
remote locations; volcanic areas;
arctic environment; un-manned facilities



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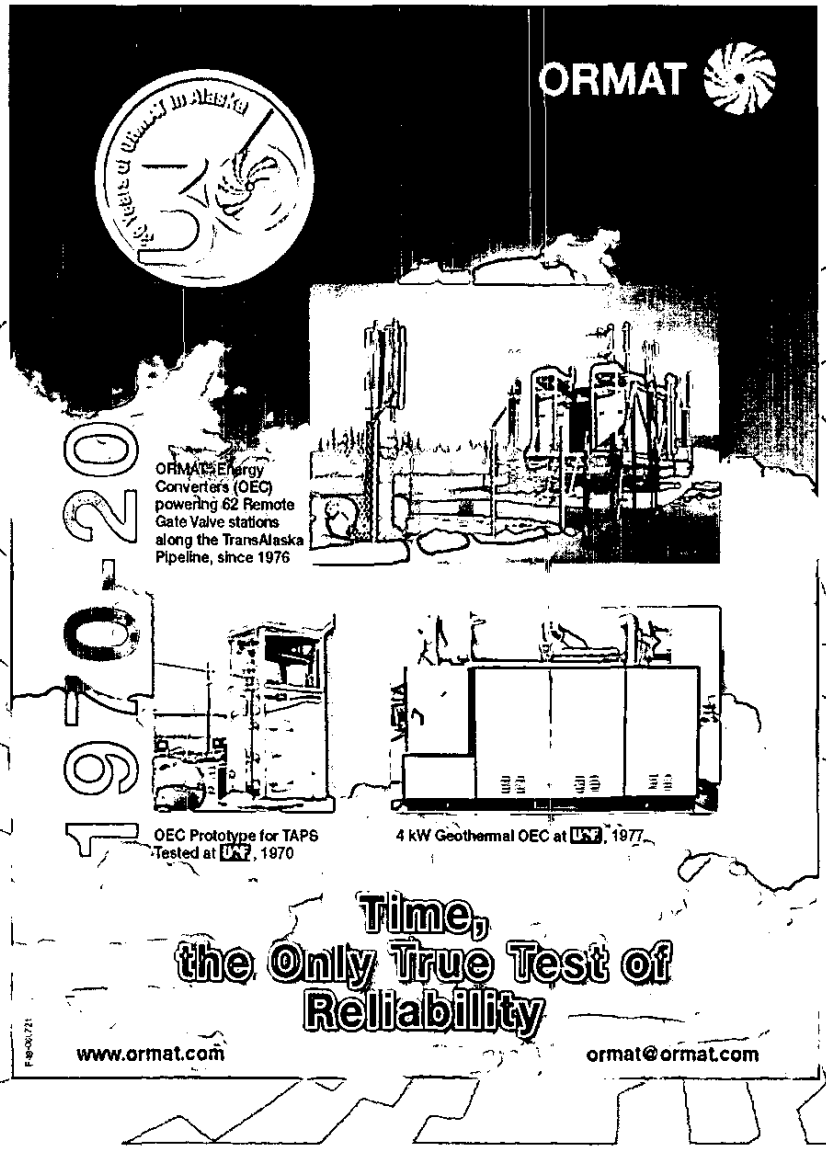
Nearly 40 Years of Ormat in Alaska

- >100 Remote Power Units
  - Serving remote gate valves
  - TransAlaska Pipeline
  - Since 1975
- First geothermal unit
  - Tested in 1979
  - University of Alaska Fairbanks
  - At Manley hot springs



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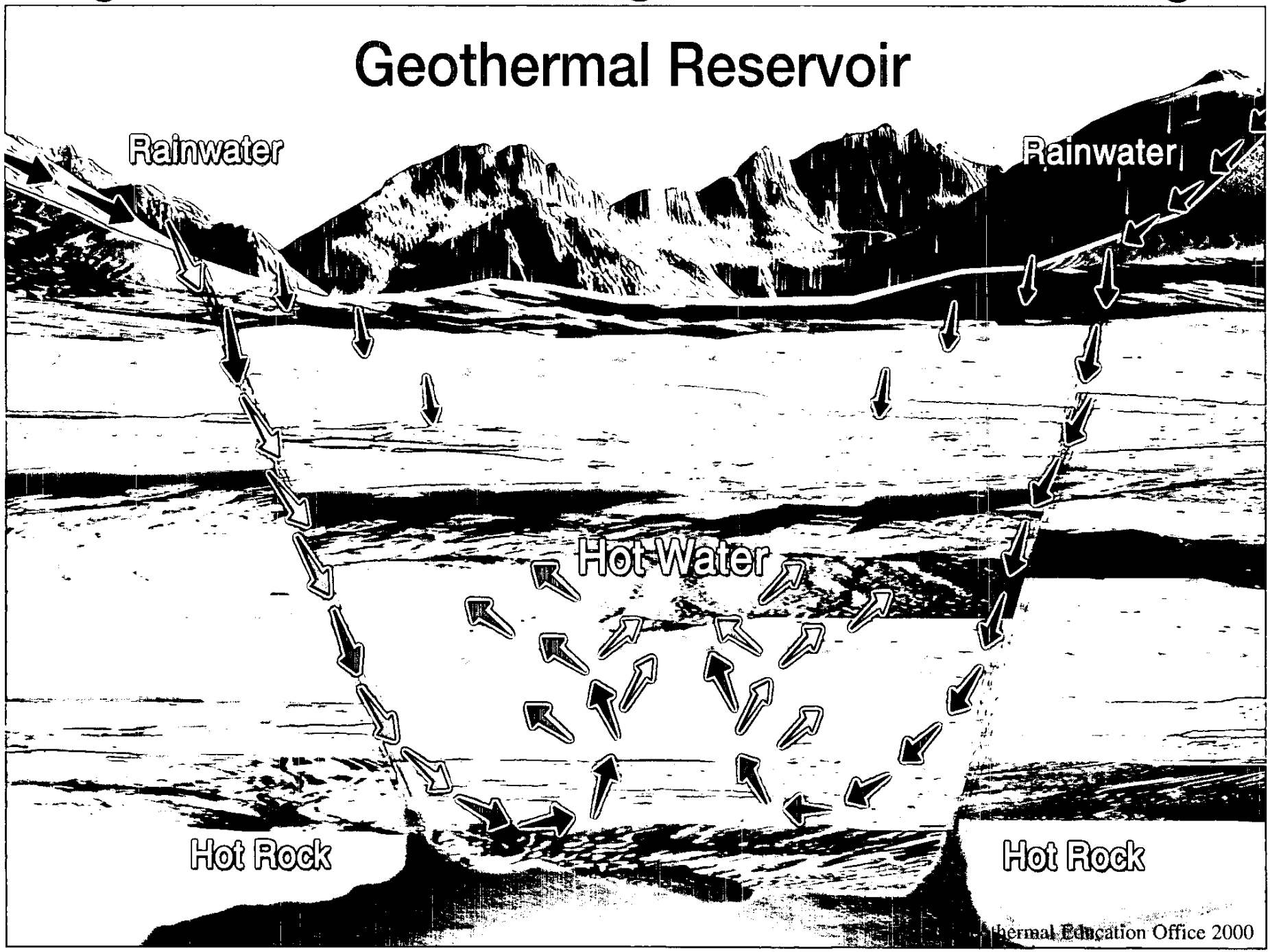
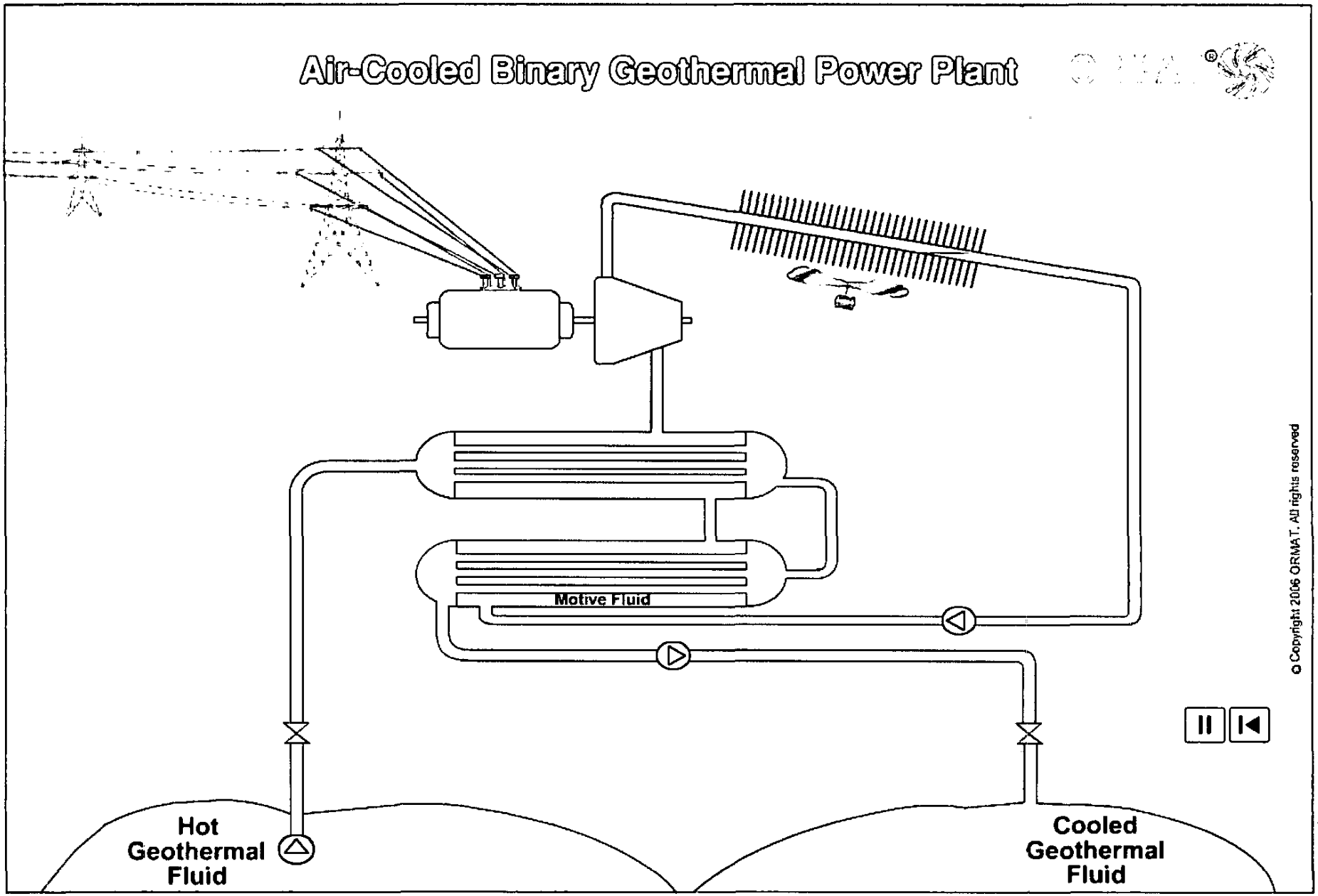
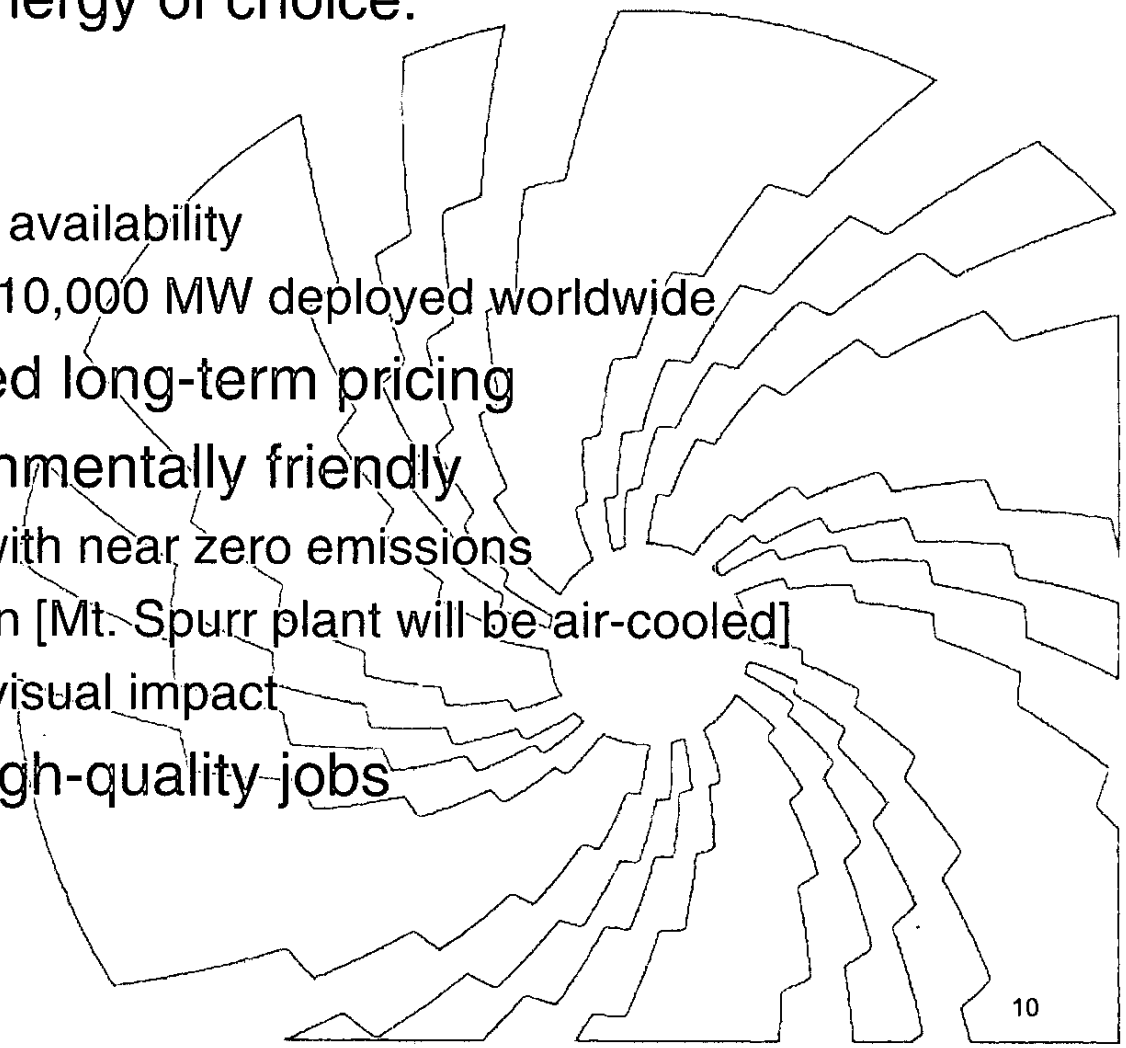

Geothermal Reservoir
Rainwater
Rainwater
Hot Water
Hot Rock
Hot Rock
Thermal Education Office 2000


Air-Cooled Binary Geothermal Power Plant
Motive Fluid
Hot Geothermal Fluid
Cooled Geothermal Fluid
© Copyright 2006 ORMAT. All rights reserved

Geothermal – Key Attributes

- Utilities' renewable energy of choice:
  - Base-load generation
  - Cost-competitive
  - Highly reliable; >95% availability
  - Proven technology: ~10,000 MW deployed worldwide
- No fuel cost risk; Fixed long-term pricing
- Sustainable & environmentally friendly
  - Closed loop system with near zero emissions
  - No water consumption [Mt. Spurr plant will be air-cooled]
  - Minimal surface and visual impact
- Creates long-term, high-quality jobs



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Mt. Spurr Geothermal Project

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Location

West Cook Inlet

~75 miles west of Anchorage

Source: GoogleEarth

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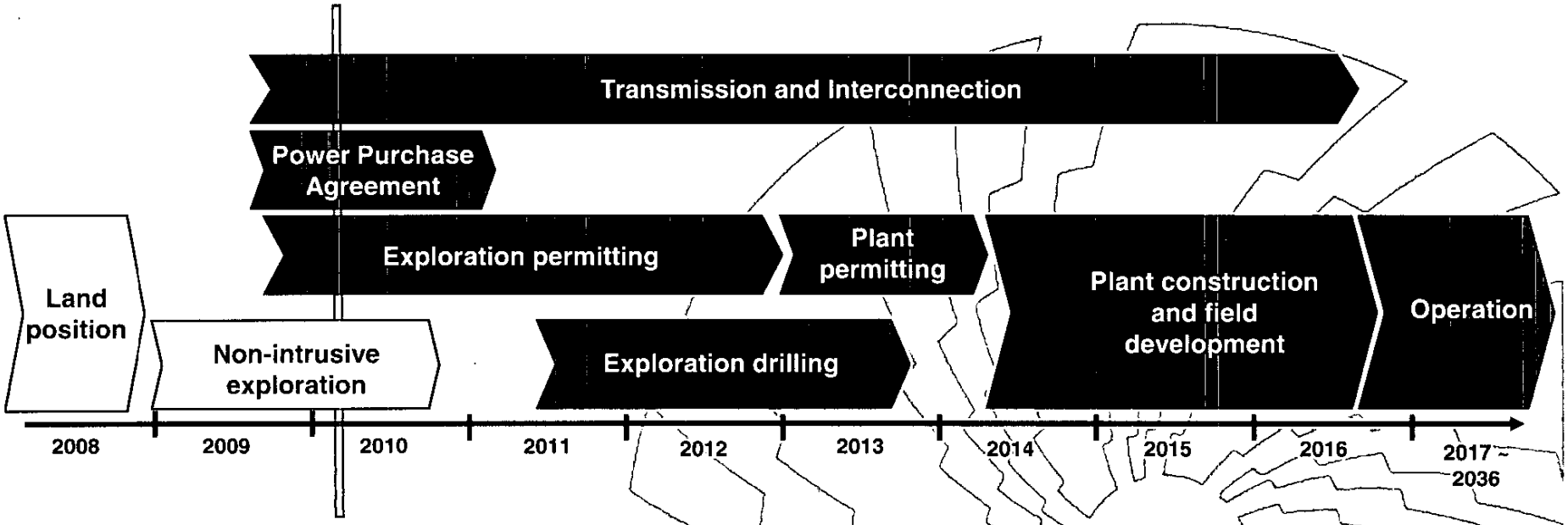
1. Mt. Spurr – Estimated Timeline



- 36,000 acres of state lands leased in October, 2008
- Geophysical exploration began in summer of 2009
- Plan of exploration for 2010-2011 approved by DNR on January 2010

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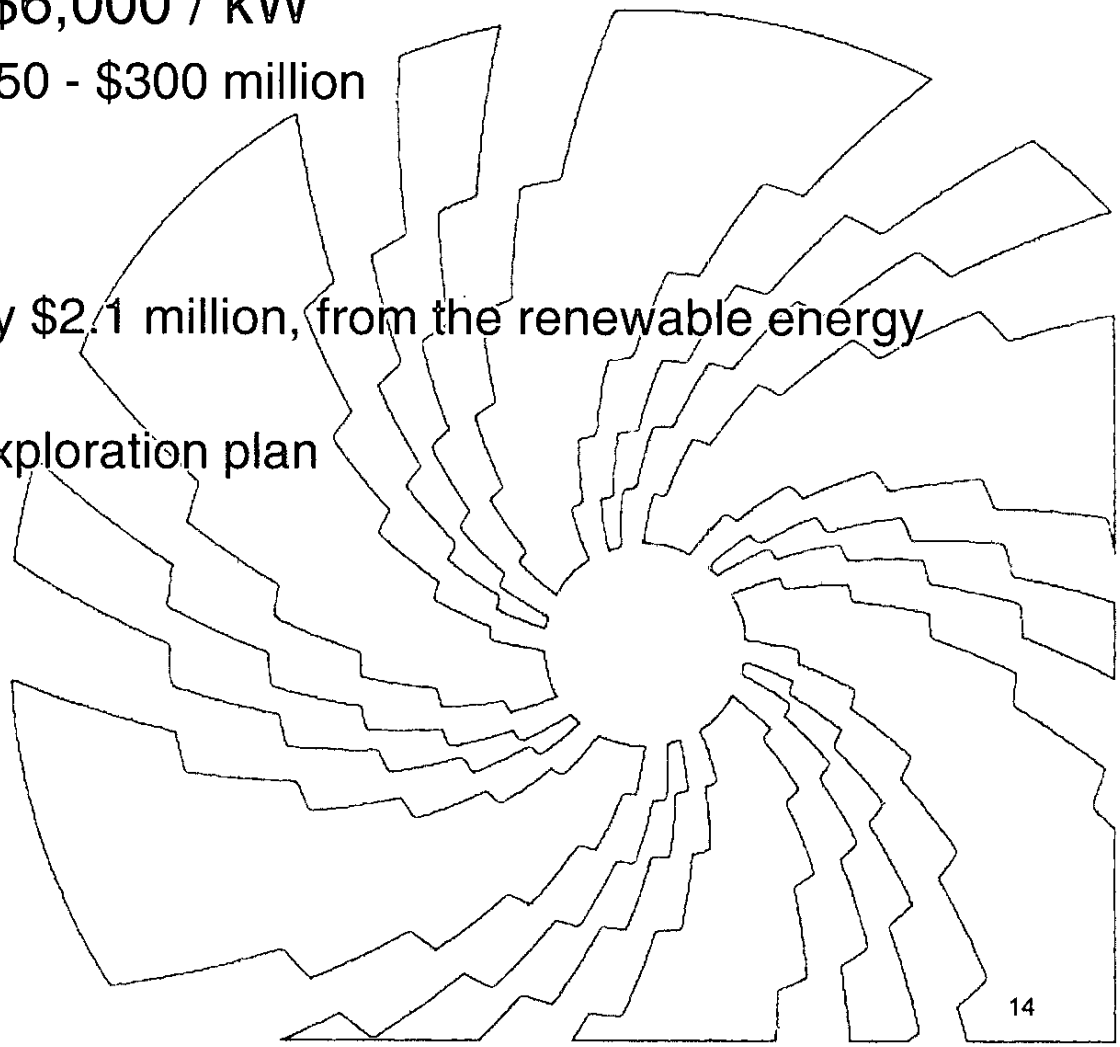
2. Total Cost of Project

- Estimated at $5,000-$6,000 / kW
  - Assuming 50 MW: $250 - $300 million
- Requested funding:
  - $2 million, matched by $2.1 million, from the renewable energy grant program
  - Support 2010-2011 exploration plan



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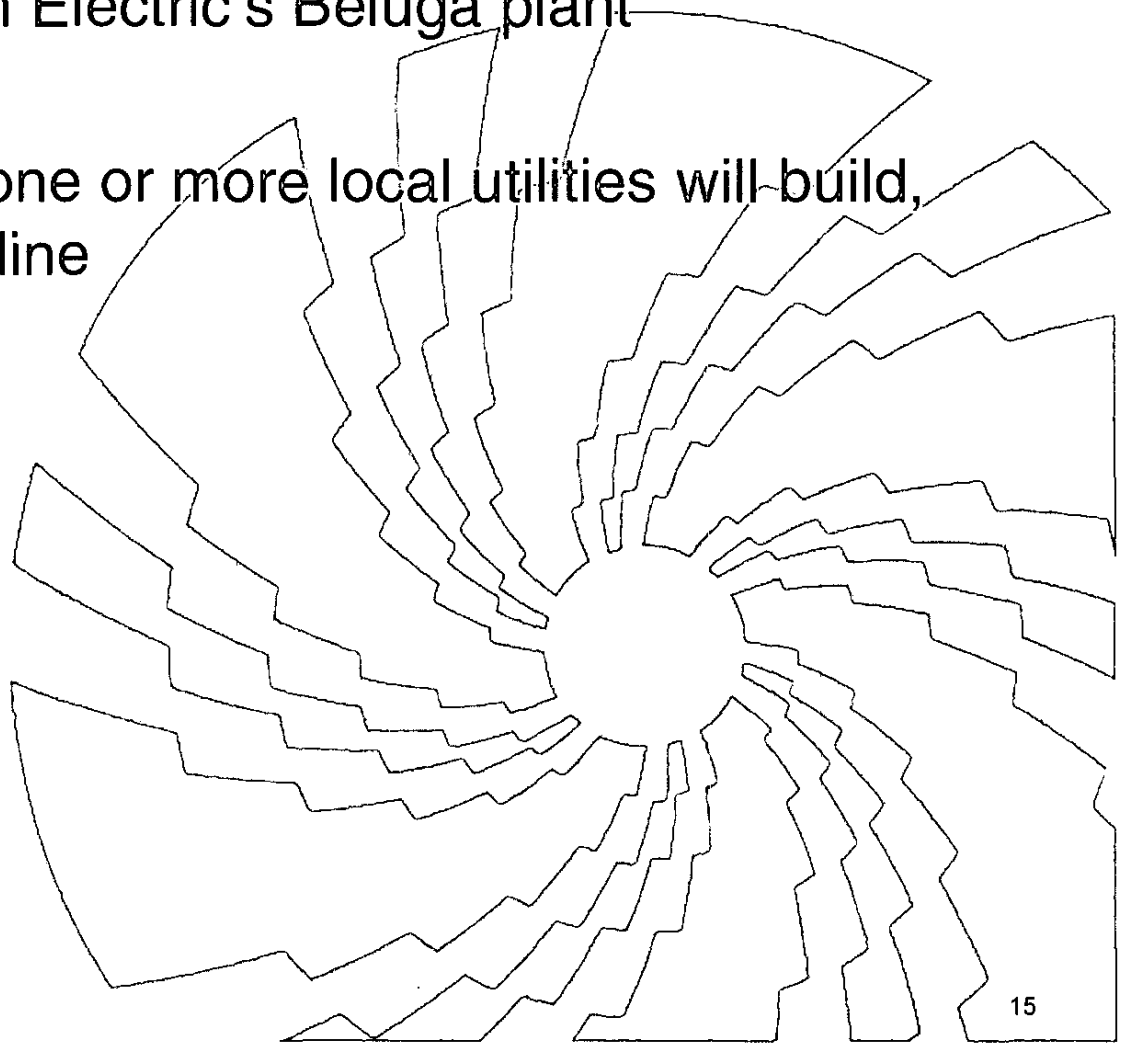
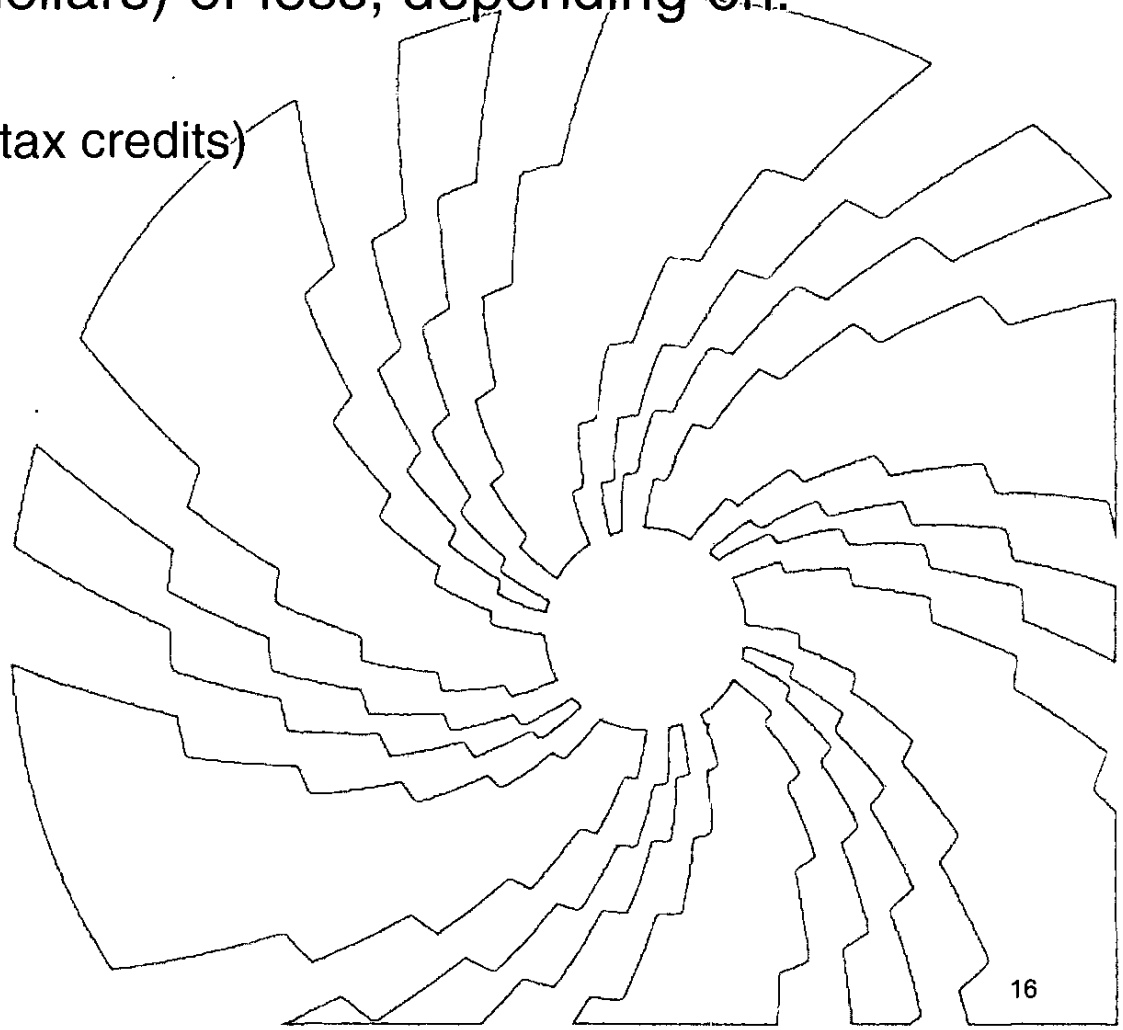
3. Transmission Needs

- ~40 miles to Chugach Electric's Beluga plant
- Assume the state or one or more local utilities will build, own and operate the line



4. Cost of Power to Utility

- 11~14 c/kWh (2009 dollars) or less, depending on:
  - Royalty rate
  - State incentives (e.g. tax credits)



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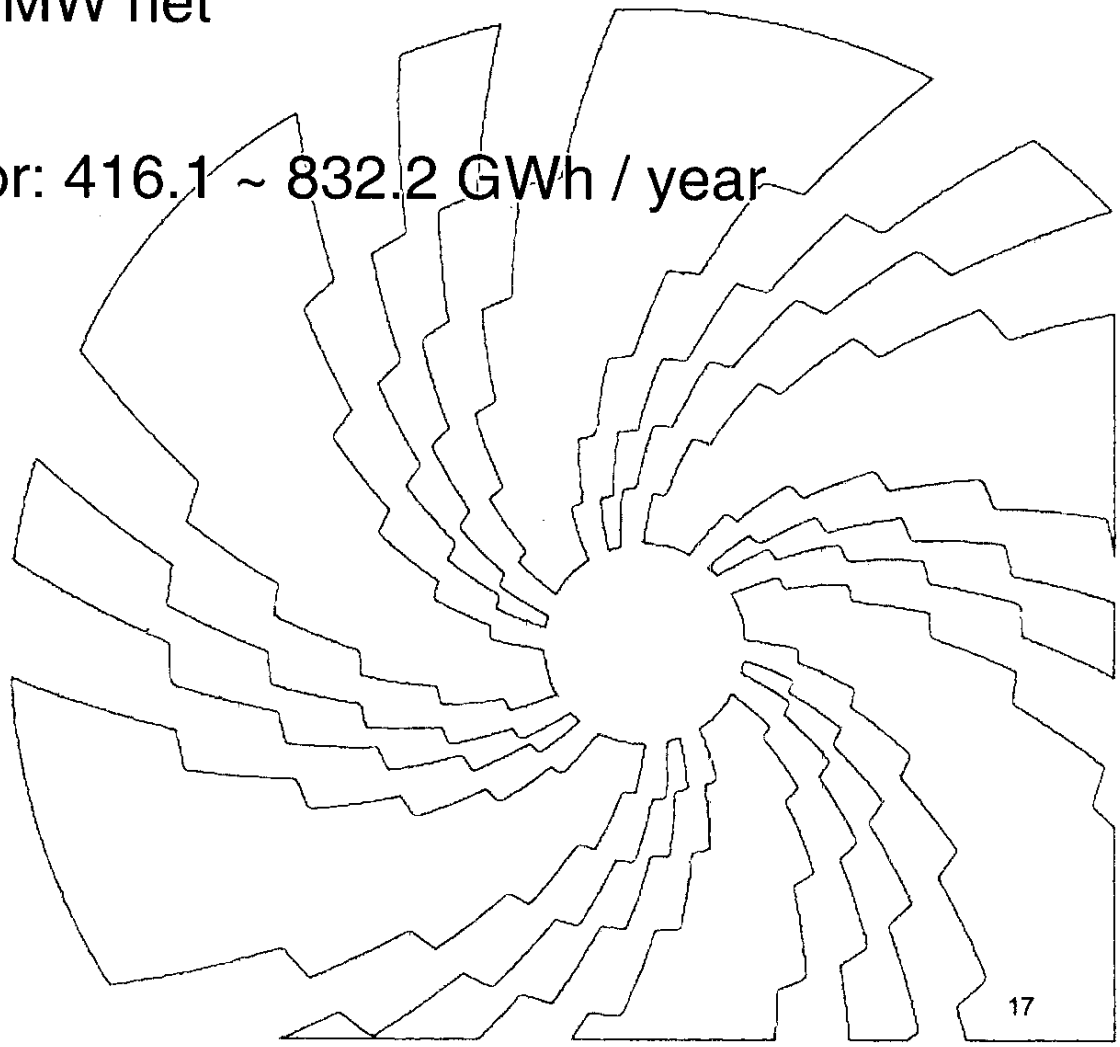
5. Amount of Power to Railbelt

- Estimated at 50~100 MW net
- At 95% capacity factor: 416.1 ~ 832.2 GWh / year



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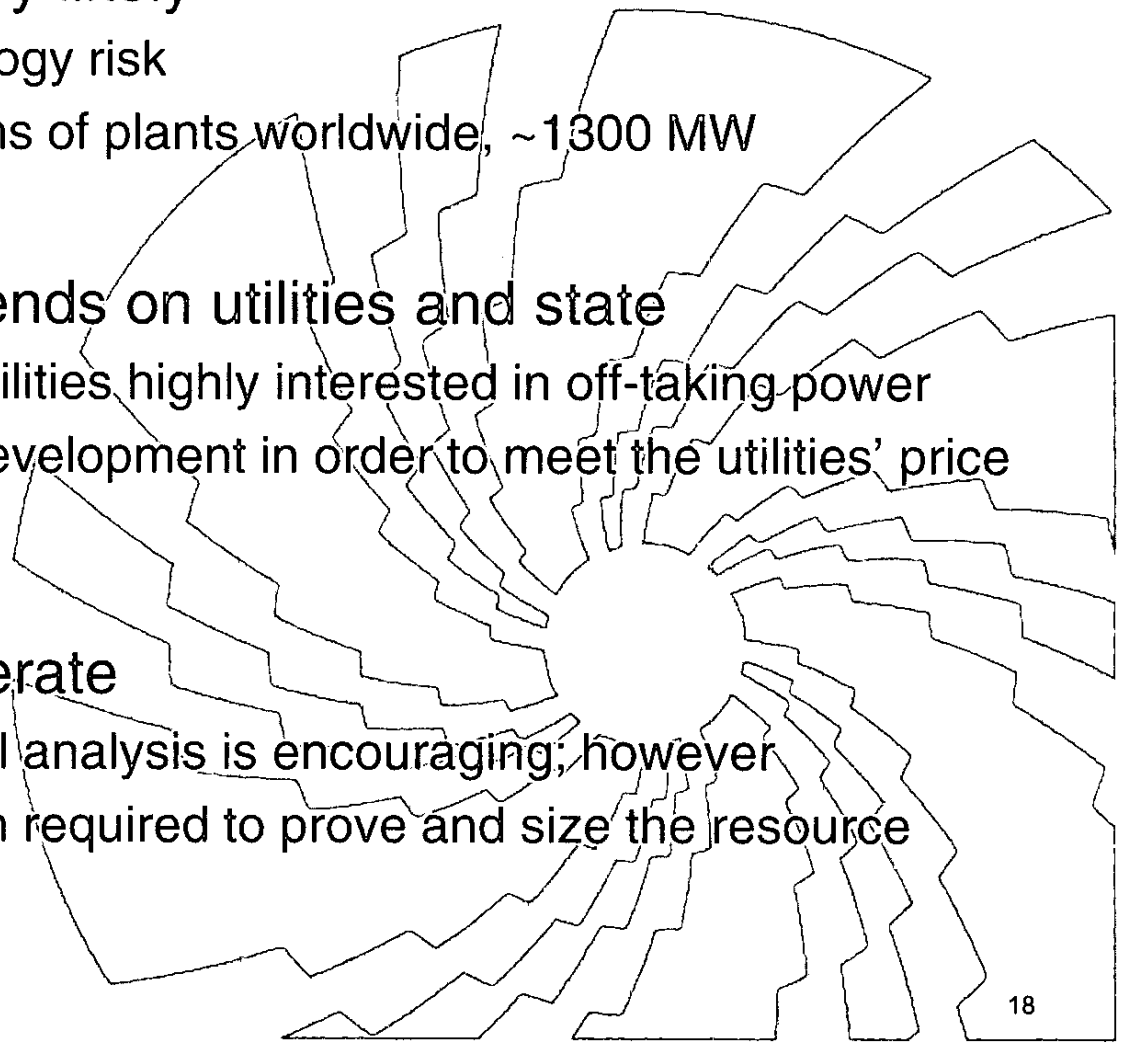
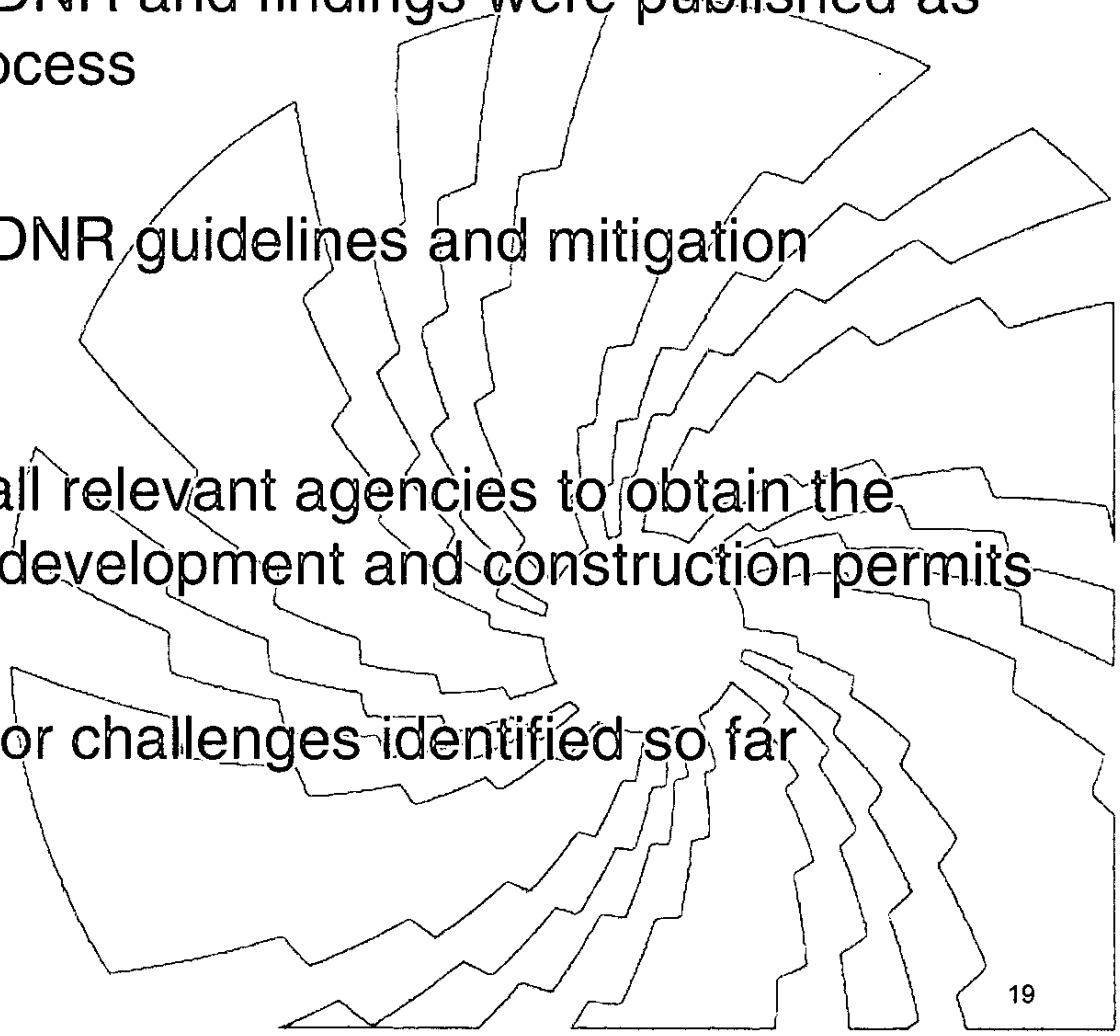
6. Likelihood to Completion

- Technology-wise: Very likely
  - Practically no technology risk
  - Ormat has built dozens of plants worldwide, ~1300 MW
- Business-wise: Depends on utilities and state
  - Chugach and other utilities highly interested in off-taking power
  - Need to incentivize development in order to meet the utilities' price expectations
- Resource-wise: Moderate
  - Preliminary geological analysis is encouraging; however
  - Significant exploration required to prove and size the resource



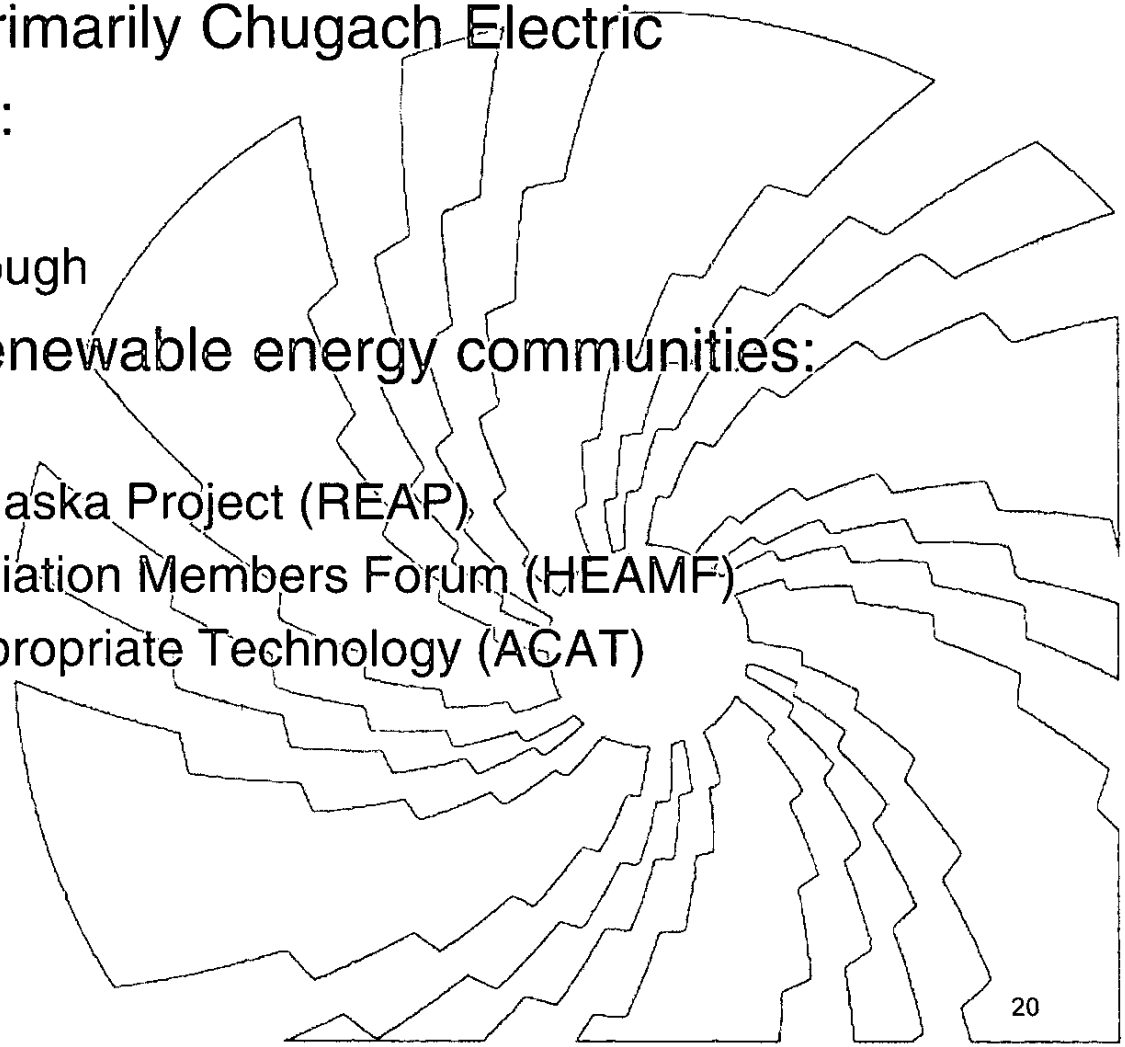
7. Permitting Roadblocks

- Area was studied by DNR and findings were published as part of the leasing process
- Ormat will adhere to DNR guidelines and mitigation measures
- Ormat will work with all relevant agencies to obtain the required exploration, development and construction permits
- No roadblocks or major challenges identified so far



Project Endorsed by:

- Future ratepayers, e.g. Mayor of Anchorage
- All Railbelt utilities, primarily Chugach Electric
- Nearest communities:
  - Tyonek
  - Kenai Peninsula Borough
- Environmental and renewable energy communities:
  - Cook Inletkeeper
  - Renewable Energy Alaska Project (REAP)
  - Homer Electric Association Members Forum (HEAMF)
  - Alaska Center for Appropriate Technology (ACAT)



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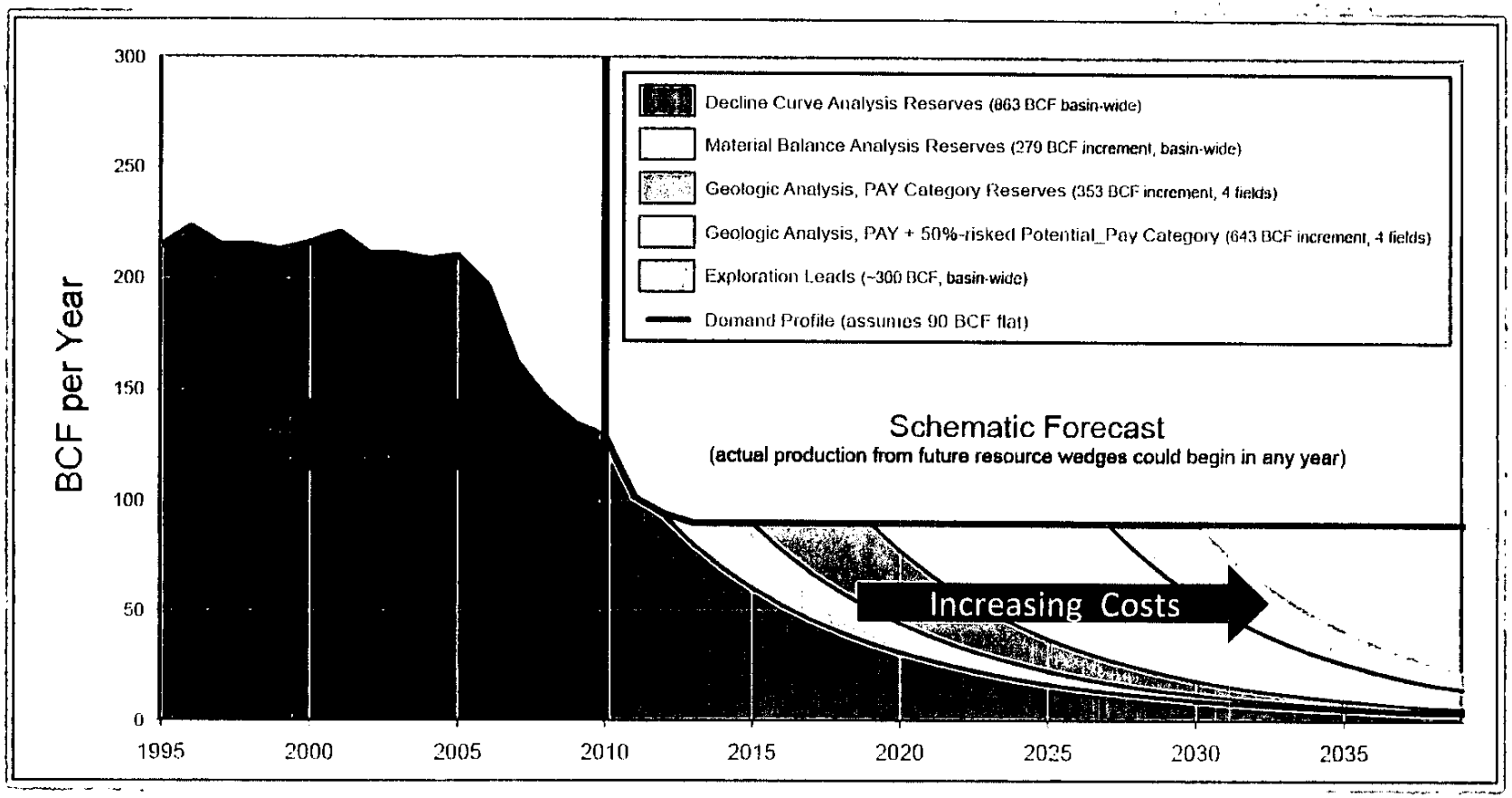
2025

IN-STATE GAS PIPELINE PROJECT UPDATE

March 11, 2010

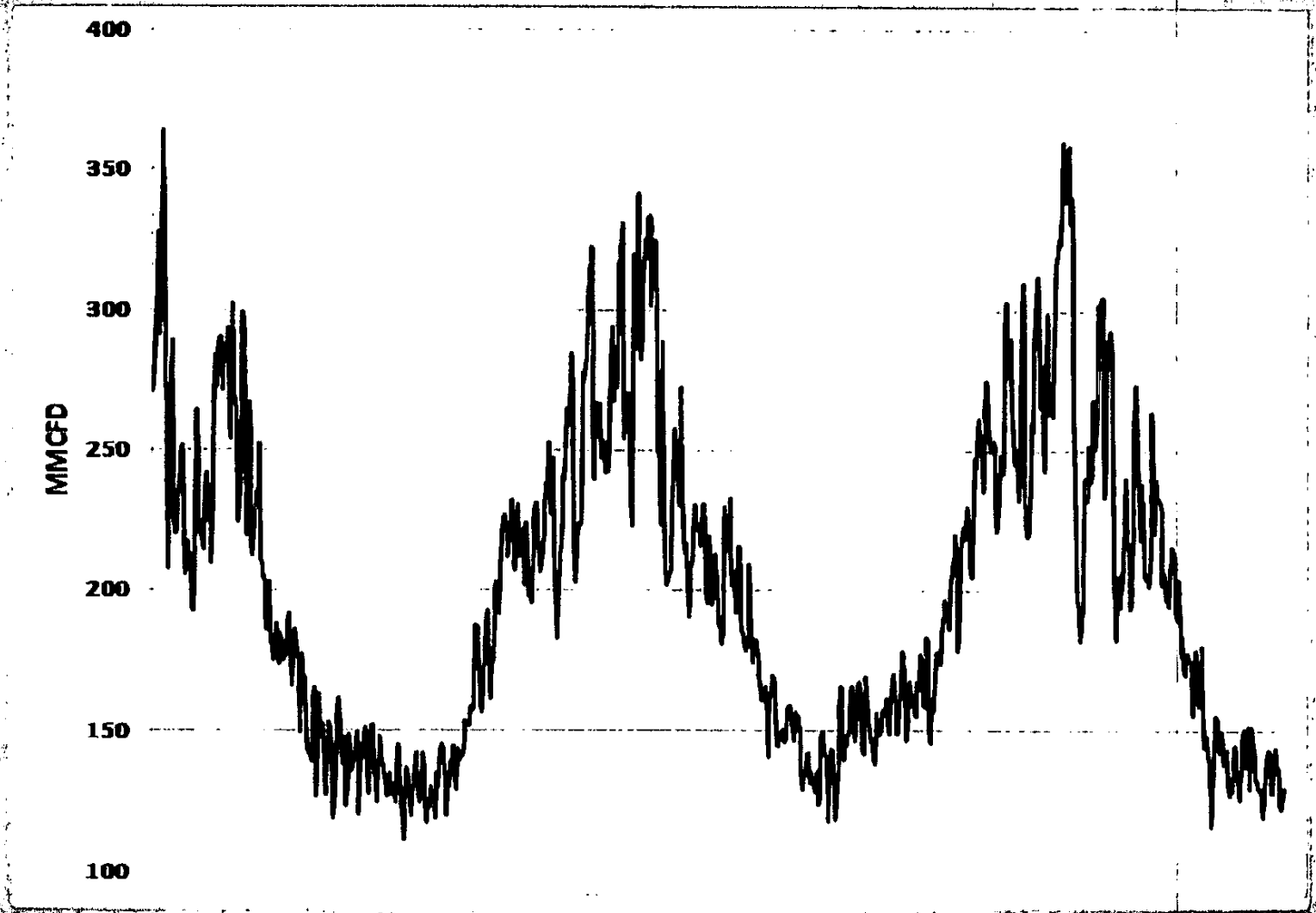
House Special Committee on Energy

The Problem: Cook Inlet Production Forecast



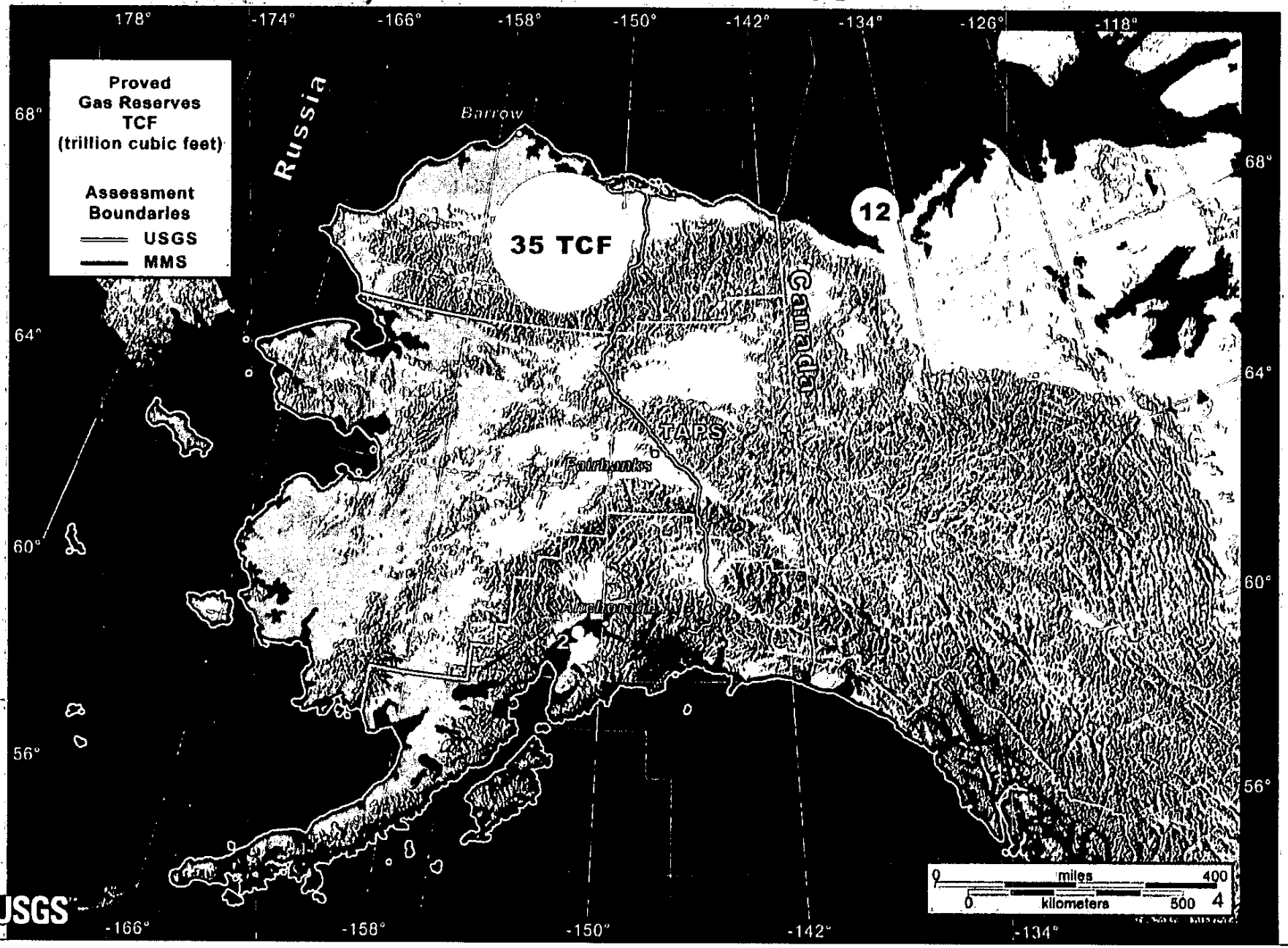
Division of Oil & Gas, Dec. 2009

Historical Daily Gas Usage for Power and Heating in Southcentral Alaska

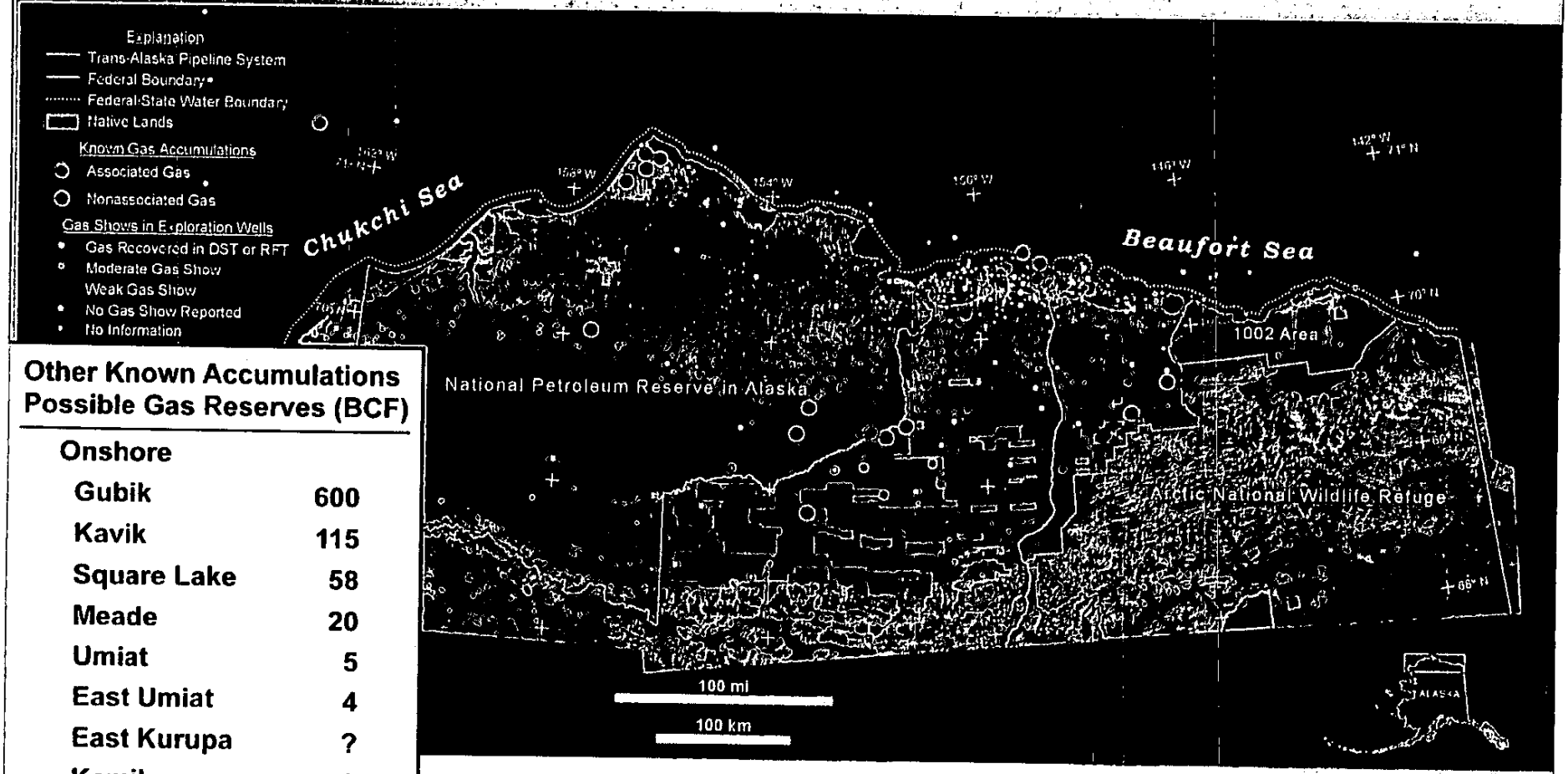


ADNR, 2009

Potential Solution; Proved Gas Reserves



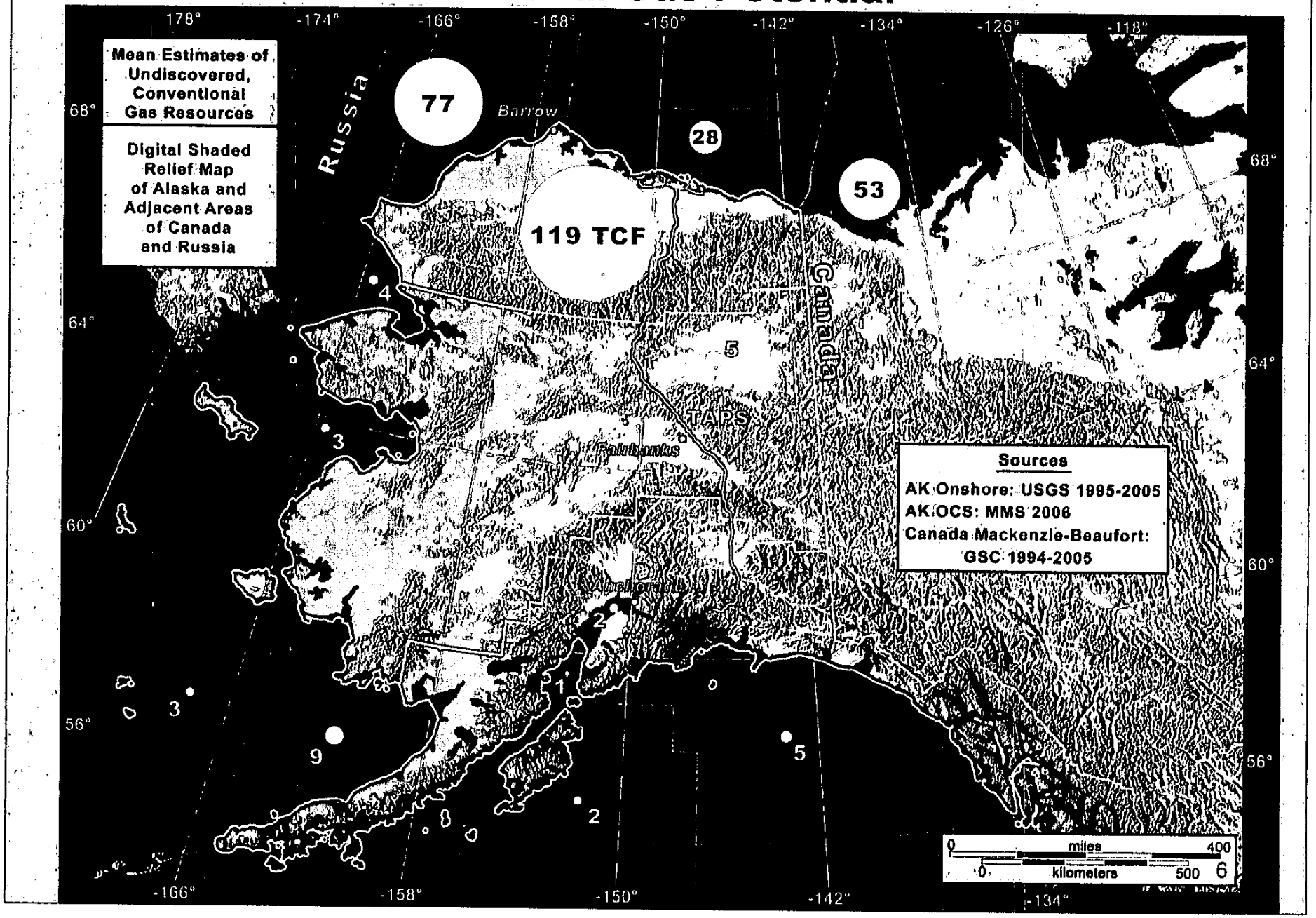
Known Gas Accumulations in Arctic Alaska



Other Known Accumulations Possible Gas Reserves (BCF)	
Onshore	
Gubik	600
Kavik	115
Square Lake	58
Meade	20
Umiat	5
East Umiat	4
East Kurupa	?
Kemik	?
Wolf Creek	?
Offshore - OCS	
Burger	14,000
Sandpiper	?

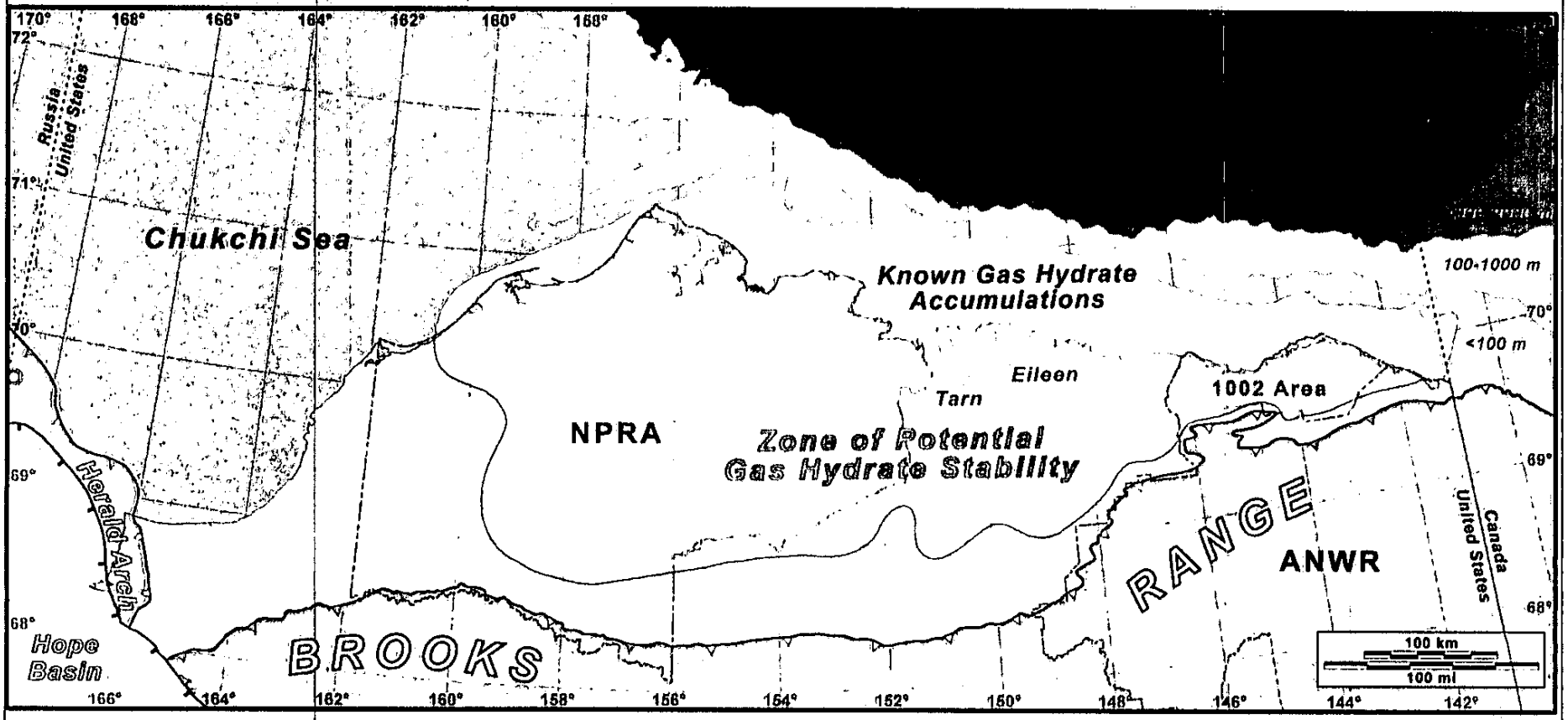
Data from Thomas et al., 1996 (DOE)
Craig & Sherwood, 2004 (MMS)
Bird, pers. comm., 2008 (USGS)

Undiscovered Conventional Gas Potential



Gas Hydrates

Northern Alaska Zone of Potential Hydrate Stability

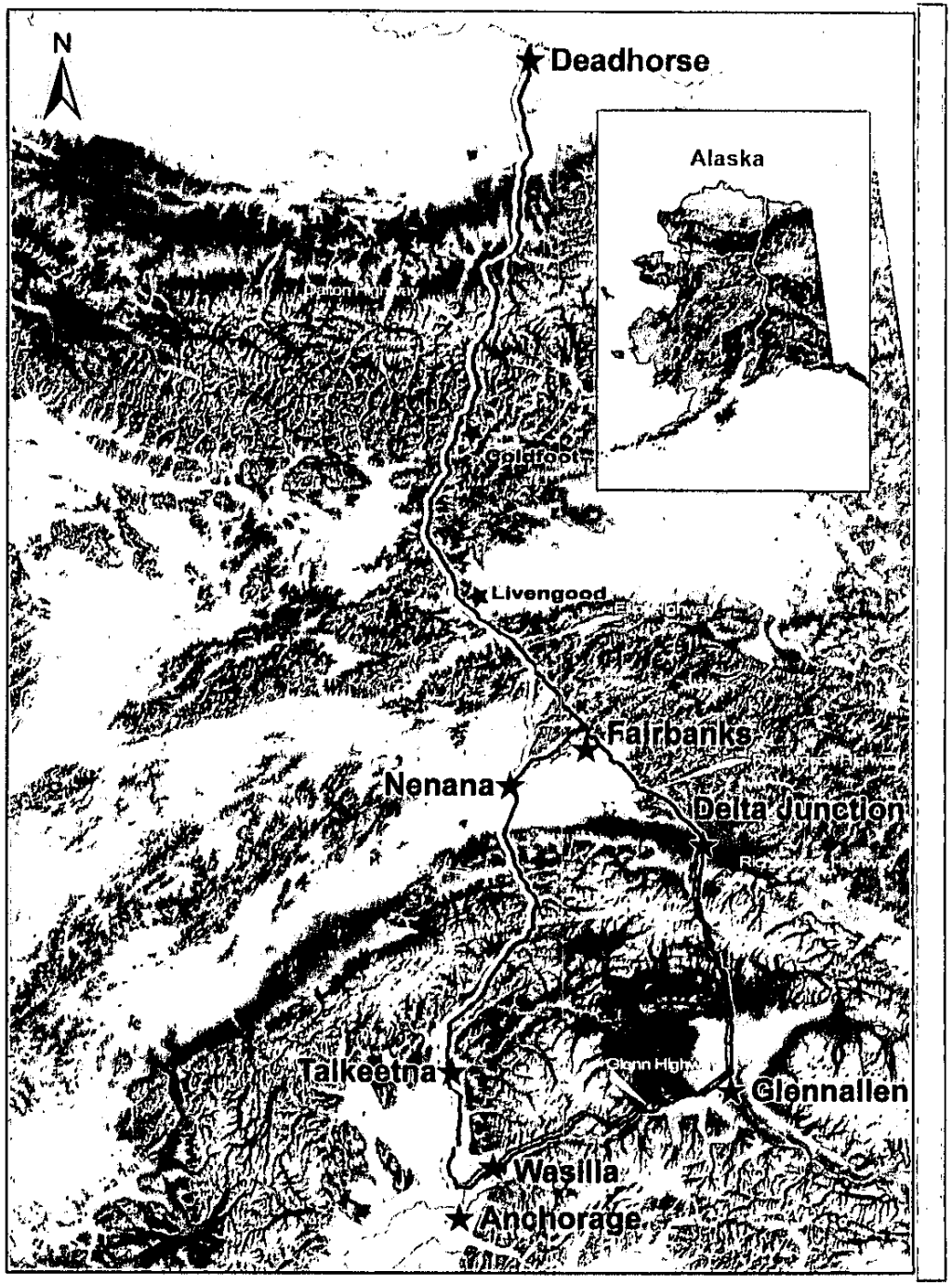


Information from Tim Collett (USGS)

Potential Infrastructure; Small Diameter In-State Pipeline

Alternate Routes Evaluated

- Spur Routes
  - •Richardson
  - •Parks
- Stand Alone
  - •Richardson
  - •Parks
- Pre- Build
  - •Richardson
  - •Parks



Purpose of the State's effort

- Evaluate a Stand-Alone gas pipeline project that transports gas from the North Slope to tidewater at Cook Inlet
- Provide back-up plan for Large diameter gas line with spur lines to southcentral for in-state use
- Reduce risk to potential project by acquiring major permits, determining cost of transport, and economic feasibility
- Prepare permit and project data package to transfer project to pipeline developer

Methodology

The Program was set-up to Reduce Risk by:

- Defining Costs
- Acquiring Major Permits
- Acquiring Letters of Intent
  - Bring Buyer/Sellers together
  - Let the market place decide scope and timing

Work Completed

- Route Alternative Analysis - Parks and Richardson Highway routes:
  - Associated comparative pipeline cost estimates
  - Environmental Surveys
- Initial Project Description (for permitting)
- Commercial Group Scoping Document
- Initial Review of ENSTAR Capital Cost Estimate – Pipeline
- Major permits applied for

Work Underway

- Updating pipeline cost estimates
- Developing cost of facilities
- Cost of transport analysis
- Preparing detailed project description
- Continued engineering support for EIS and ROW process
- Identify commercial entities to finalize costing and permitting for construction sanction
- Developing data package for full economic analysis
- Work with producer group and identify new market potential.

Facilities Scenarios Identified

- CGF Residue Gas only, North Slope Gas Conditioning, Cook Inlet NGL Extraction
- CGF Residue Gas only, Cook Inlet Gas Conditioning and NGL Extraction
- CGF Residue Gas Only, North Slope Gas Conditioning, North Slope NGL Extraction
- CGF Residue Gas spiked with CGF Stabilizer Overhead Gas, North Slope Gas Conditioning, Cook Inlet NGL Extraction
- Each scenario evaluated at 250, 500, 750 and 1000 MMscfd

Cost of Transport Analysis

- 16 Material Balances
  - 4 Scenarios
  - 4 Flow Rates per scenario (250mmscfd each)
- Match Facility Component Cost to Each Balance
- Generate Annual Schedules for Capital Outlays, Revenues and Expenses
- Feeds Data To Economic Analysis

Permit Status

- U.S. Army Corps of Engineers Section 404/10
  - Filed November 16, 2009
  - Expect 404/10 permits shortly after NEPA Record of Decision
- State of Alaska Title 38 Right-of-Way
  - Filed November 25, 2009
  - Review timeline undefined
- Bureau of Land Management Right-of-Way
  - Filed November 25, 2009
  - Expect ROW approval shortly after NEPA Record of Decision

State's share of Project Costs

- FY10 -- $8.3 mm (projected)
- FY 11 -- $ 6.5 mm (requested)
- Negotiated use of ENSTAR data
- Expenses reimbursed upon transfer to commercial entity

Time Line Ranges

Stand Alone Gas Pipeline Project

Fast Track Schedule* DRAFT

SCHEDULE	2009				2010				2011				2012				2013				2014				2015				2016			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Engineering Support																																
Design Basis	=>																															
Contractor Selection	=>																															
Conceptual Design	=>	====	==========	=																												
Alternatives Analysis		==																														
Project Description (Map)	=>	===																														
Final Project Description					======																											
Cost Estimate & Logistics	=>				=======																											
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Permitting																																
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Federal and State ROW		=	==========																													
Draft EIS			X																													
Final EIS				X																												
Additional Permits and NTP's			=========		==========				==========				==========				==========				==========				==========							
Project Review & Sanction																																
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Install & Testing																										==	=====					
Compressor Stations																																
Order Equipment													X																			
Fabricate Skids																	=====	==========							==							
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Construction & Testing																										=======	=====					
Start-up																																
Start-up & Operations																																X

* Assumes timely availability of fabrication facilities, equipment and craftsman for GCP

Time Line Ranges

Stand Alone Gas Pipeline Project

Alternative Schedule* DRAFT

SCHEDULE	2009				2010				2011				2012				2013				2014				2015				2016				2017			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
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Start-up & Operations																																				X

* Assumes timely availability of fabrication facilities, equipment and craftsman for GCP

Time Line Ranges

Stand Alone Gas Pipeline Project

Extended Schedule* DRAFT

SCHEDULE	2009				2010				2011				2012				2013				2014				2015				2016				2017				2018			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
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Pipeline Project Description			========																																					
Cost Estimate & Update	=>		==========																																					
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Permitting																																								
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Start-up & Operations***																																								X

* Assumes limited availability of fabrication facilities, equipment and craftsman for GCP due to competition with other world projects

** Assumes longer time frame for private industry decision to proceed with project

*** Assumes start up delays of GCP and NGL Plant

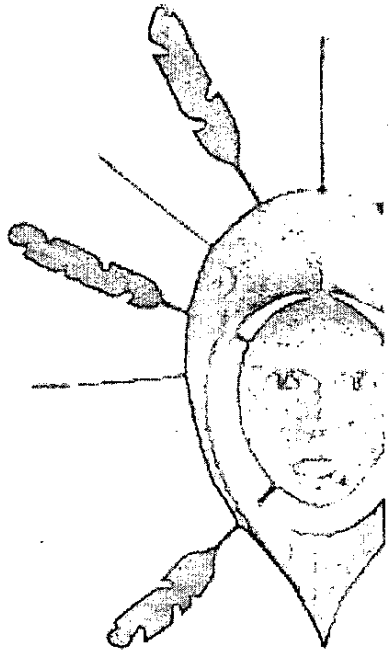
Questions / Comments

State House Special Committee on Energy
Briefing

COOK INLET REGION INC.

An **Alaska Native** corporation

March 11, 2010



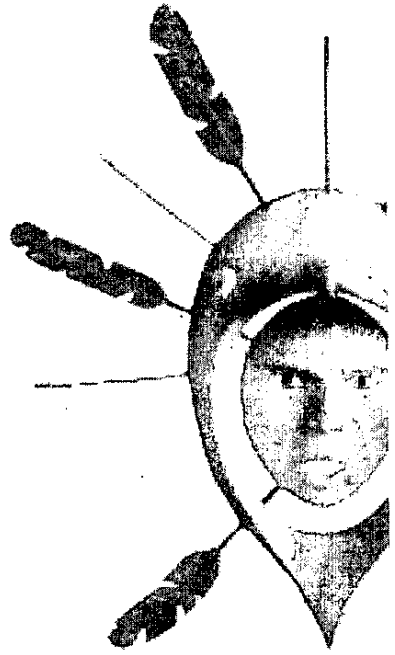
State House Special Committee on Energy
Briefing

COOK INLET REGION INC.

An **Alaska Native** corporation

March 11, 2010

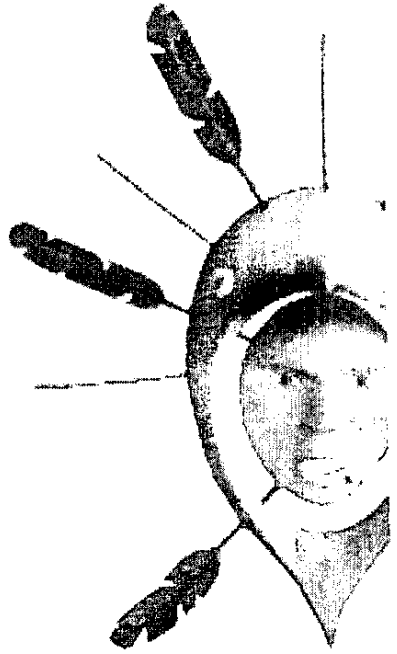
FIRE ISLAND WIND

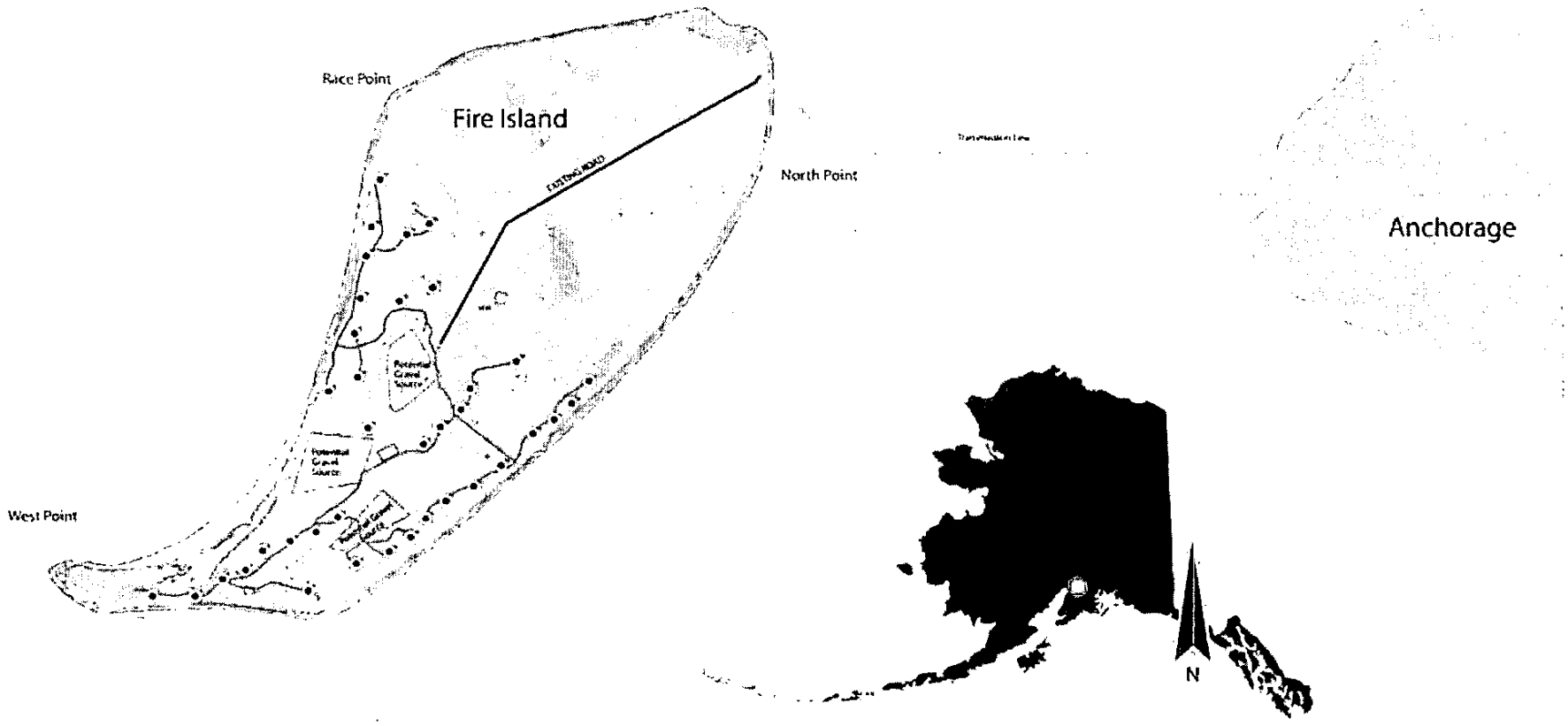


Fire Island Wind Project

Alaska's first commercial-scale wind project

- Located on Fire Island, 3 miles west of Anchorage
- 36 1.5 megawatt GE wind turbine generators with a total nameplate capacity of 54 MWs
- 33% capacity factor
- Parallel 34.5kV subsea transmission line to RSS
- 50,000 MW per year
- Displaces1.5 Bcf of natural gas annually
- Meet demand for 18,000 Alaskan households




Rice Point
Fire Island
North Point
Anchorage
West Point
N

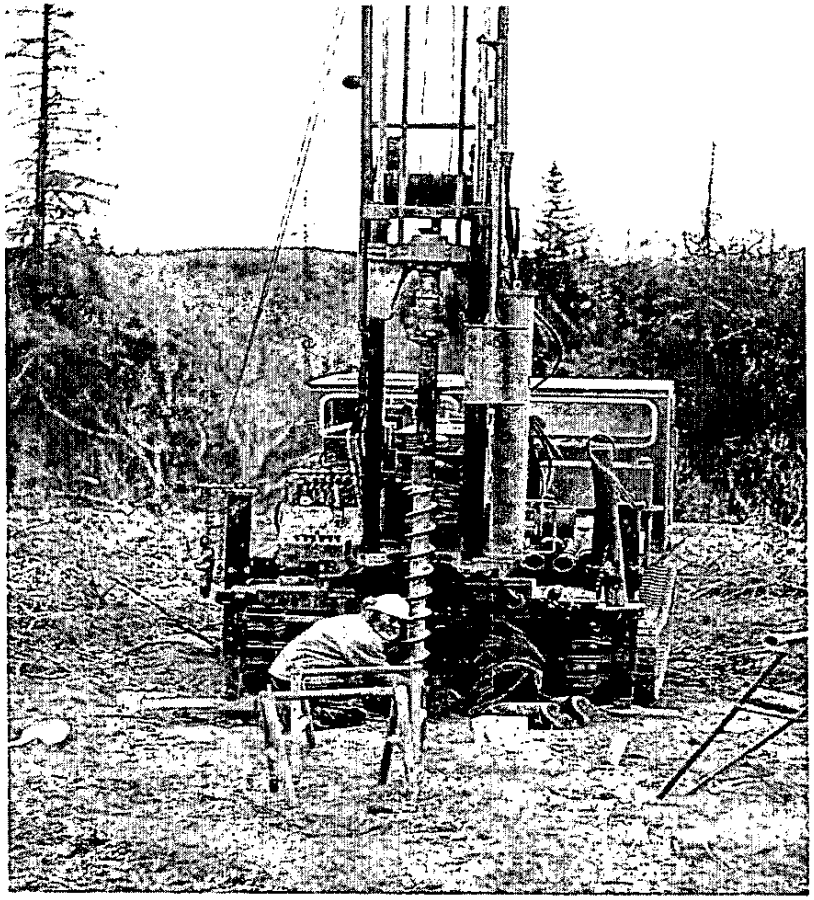
2050

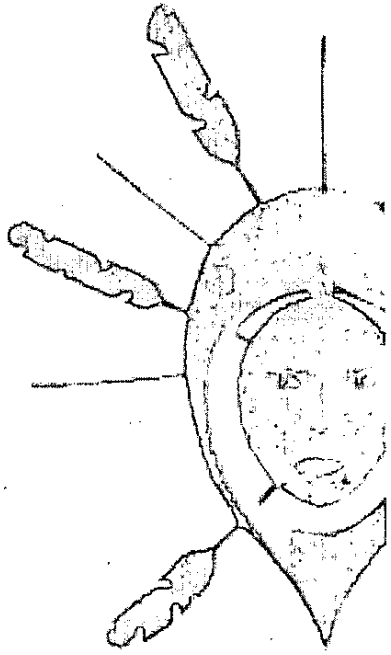
The Time Is Now

- Southcentral Alaska faces imminent shortages of local natural gas for heat and electricity
- Federal financial incentives in the Recovery Act signed into law by President Obama in February 2009
- CIRI will apply for cash grant in lieu of claiming federal production or investment tax credits
- 100% of federal dollars will be credited to cost of the project and will result in a lower cost of power to utilities
- Available for projects under construction by December 31, 2010 and commercially operational by December 31, 2012

2009 Milestones

- Wind resource assessment – 33 percent capacity factor
- Micrositing
- Clearing
- Geotech





2052

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Critical Path Timeline

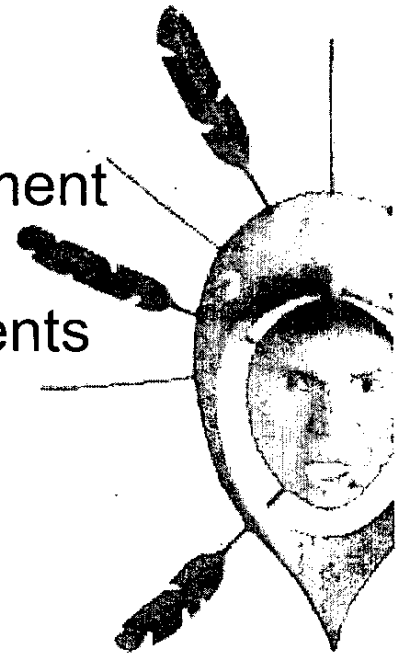
NOV 2009: Fieldwork completed

DEC 2009: Geotech results

MAR 2010: 35 percent design completion

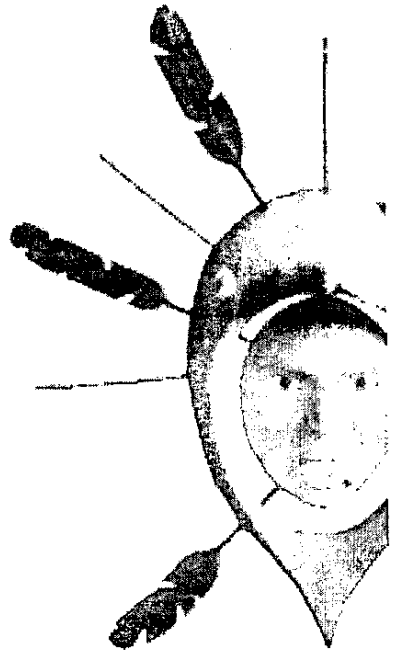
MAY 2010: Integration/interconnection agreement

JUNE 2010: Execute power purchase agreements

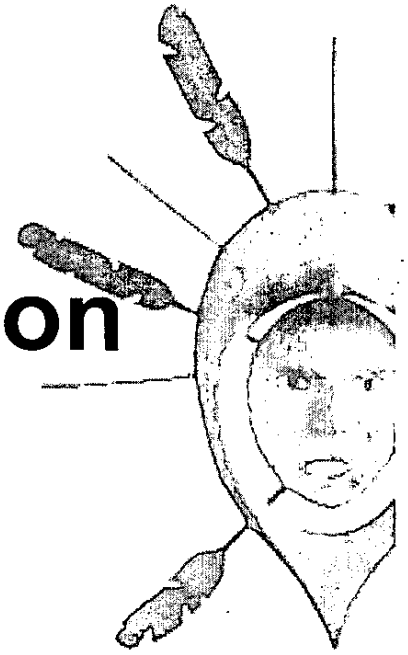


Project Timeline

- Authorize/mobilize contractors to achieve >5 percent spend in 2010 to qualify for Safe Harbor provision
- Secure Federal Cash Grant for up to 30 percent eligible cost of project
- Construct roads, prepare pad sites, electrical collection system, DVOR construction at AIA
- Tower erection, transmission line, commercial operation Q4 2011

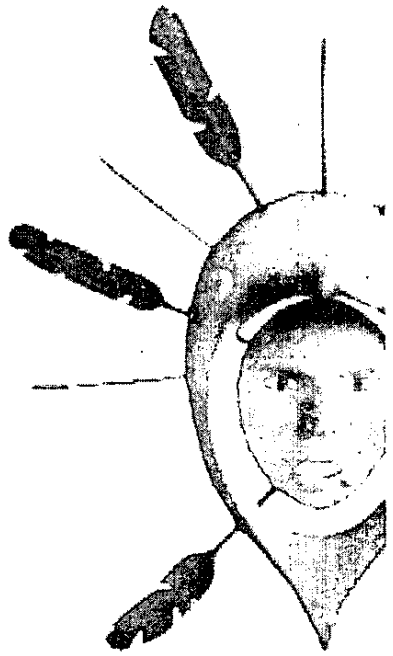


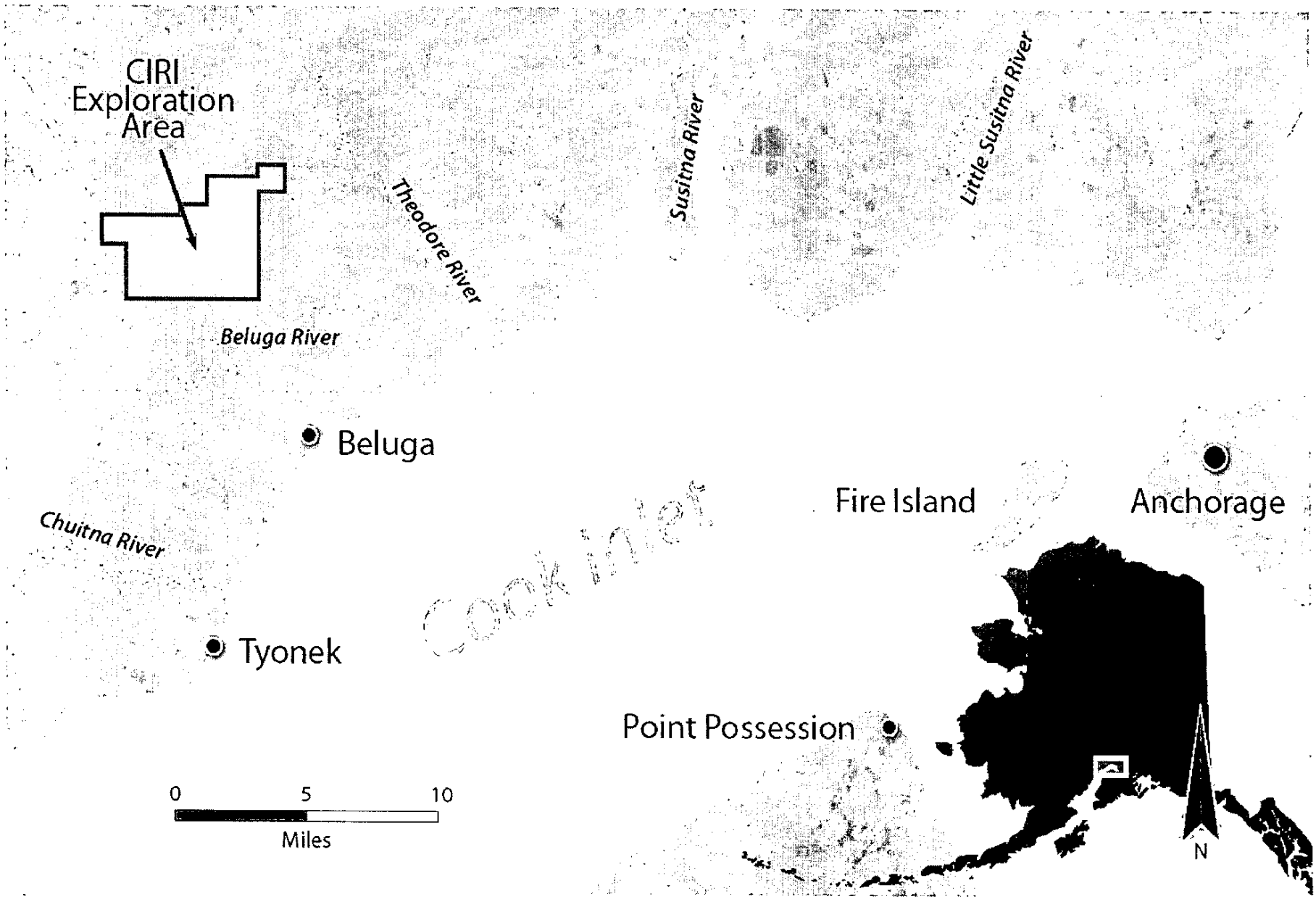
Underground Coal Gasification



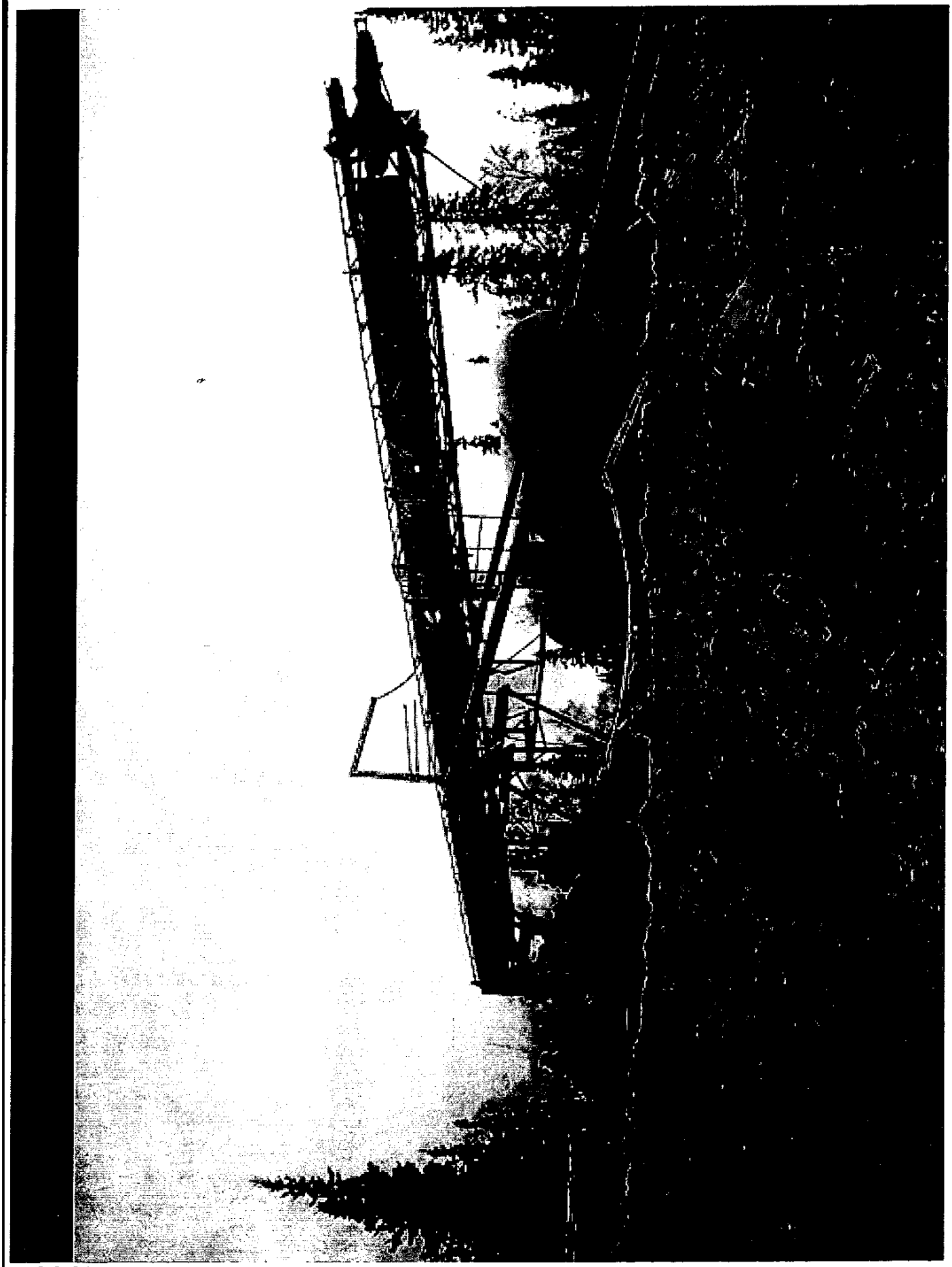
CIRI's UCG project

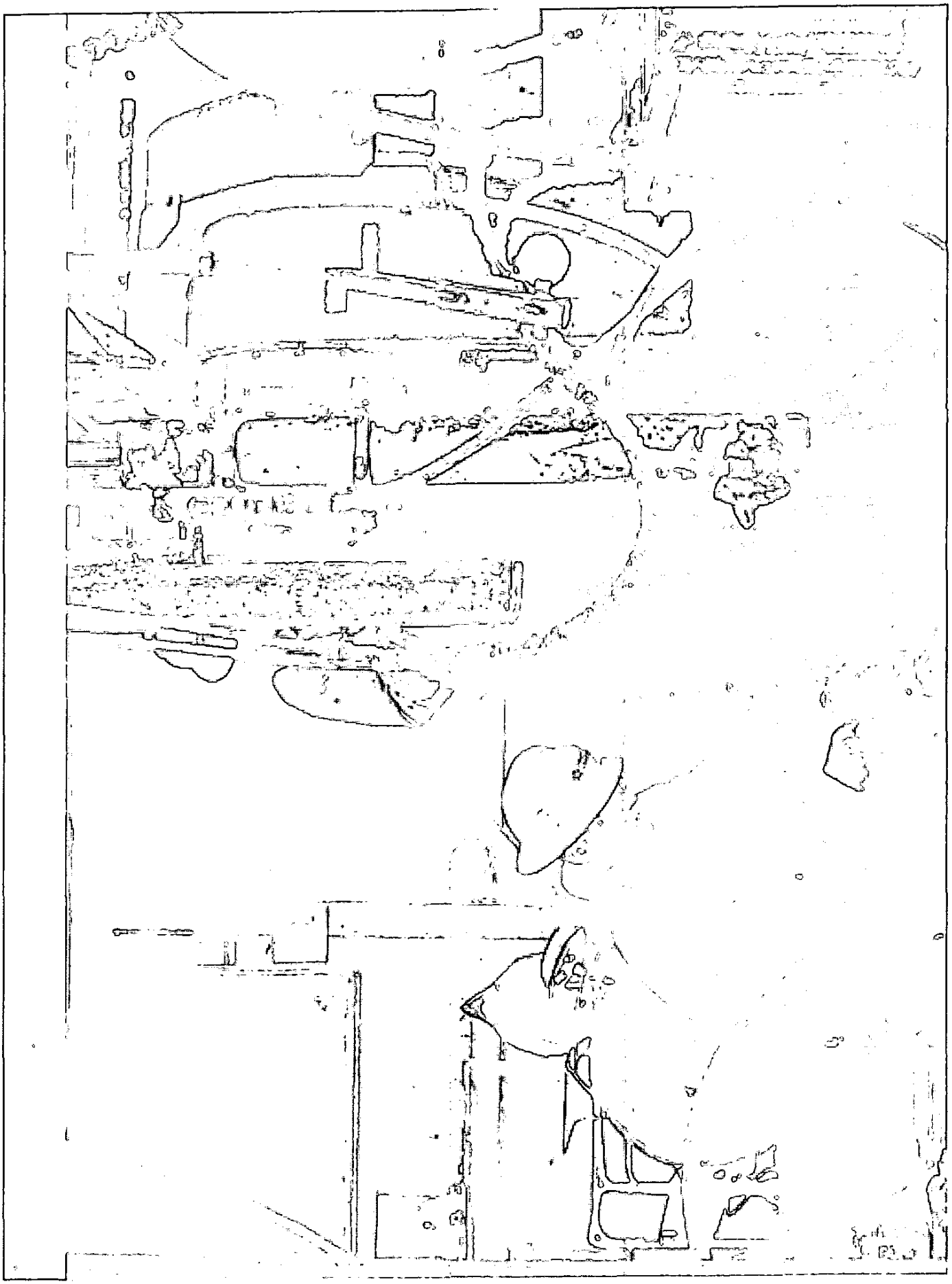
- Designed to produce alternative power source by 2014 that meets demand for reliable energy
- Underground coal gasification (UCG + CCS) project sized to fuel a new 100-MW combined-cycle power plant
- Create syngas (also know as a synthesis gas), which can be used to generate electricity or upgraded to synthetic natural gas or clean liquid fuels




CIRI
Exploration
Area
Theodore River
Susitna River
Little Susitna River
Beluga River
Beluga
Chuitna River
Cook Inlet
Fire Island
Anchorage
Tyonek
Point Possession
0
5
10
Miles
N

2060





Why CIRI & UCG

- Company committed to energy leadership and responsible environmental stewardship in addition to ownership of significant favorable coal resources
- Diversified portfolio of successful investments and developments
- Safe, reliable, proven technology that responsibly harnesses an abundant domestic energy resource
- Strong business investment that supports corporate goals and community needs

Current timeline

Feb. 2009: Resource Assessment drilling begins

Apr. 2010: Preliminary Resource Assessment results; Preliminary site selection

May 2010: Pre-feasibility drilling begins

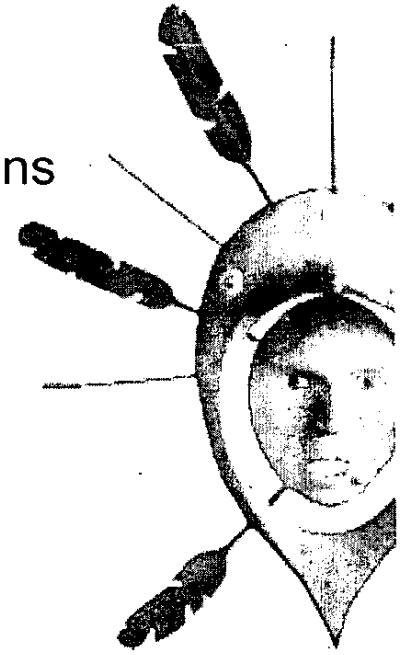
Oct. 2010: Site characterization drilling begins

Dec. 2010: Project permit application preparation begins

Dec. 2012: Project permits received

Jan. 2013: Above-ground project construction begins

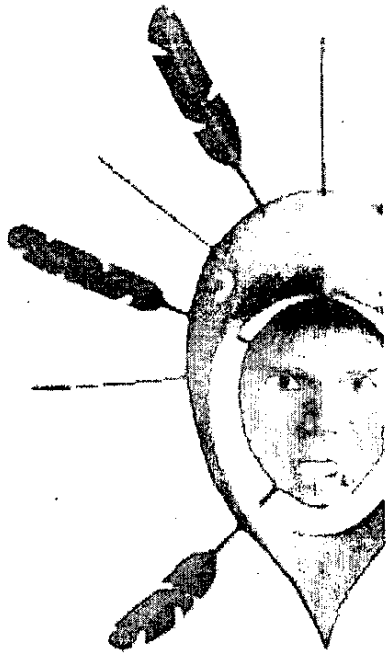
Jan. 2014: Commercial operations begin



2066

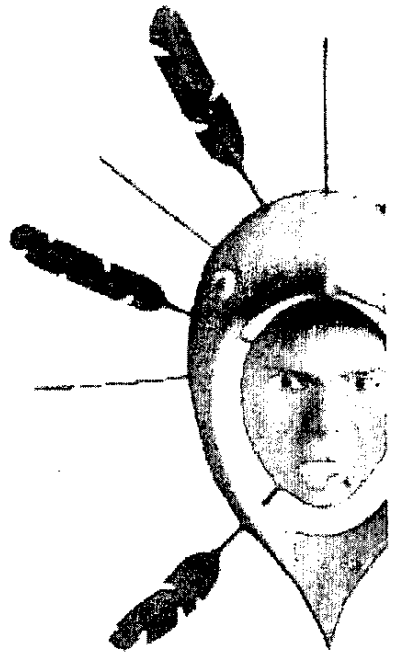
Development challenges

- Carbon management – compatible commercial scale carbon capture technology in exploratory stage
- Undefined regulatory regime – no precedent exists for permitting UCG as a commercial project at federal or state levels
- Alternative financing structures – early stage UCG technology requires investment capital, not traditional project finance

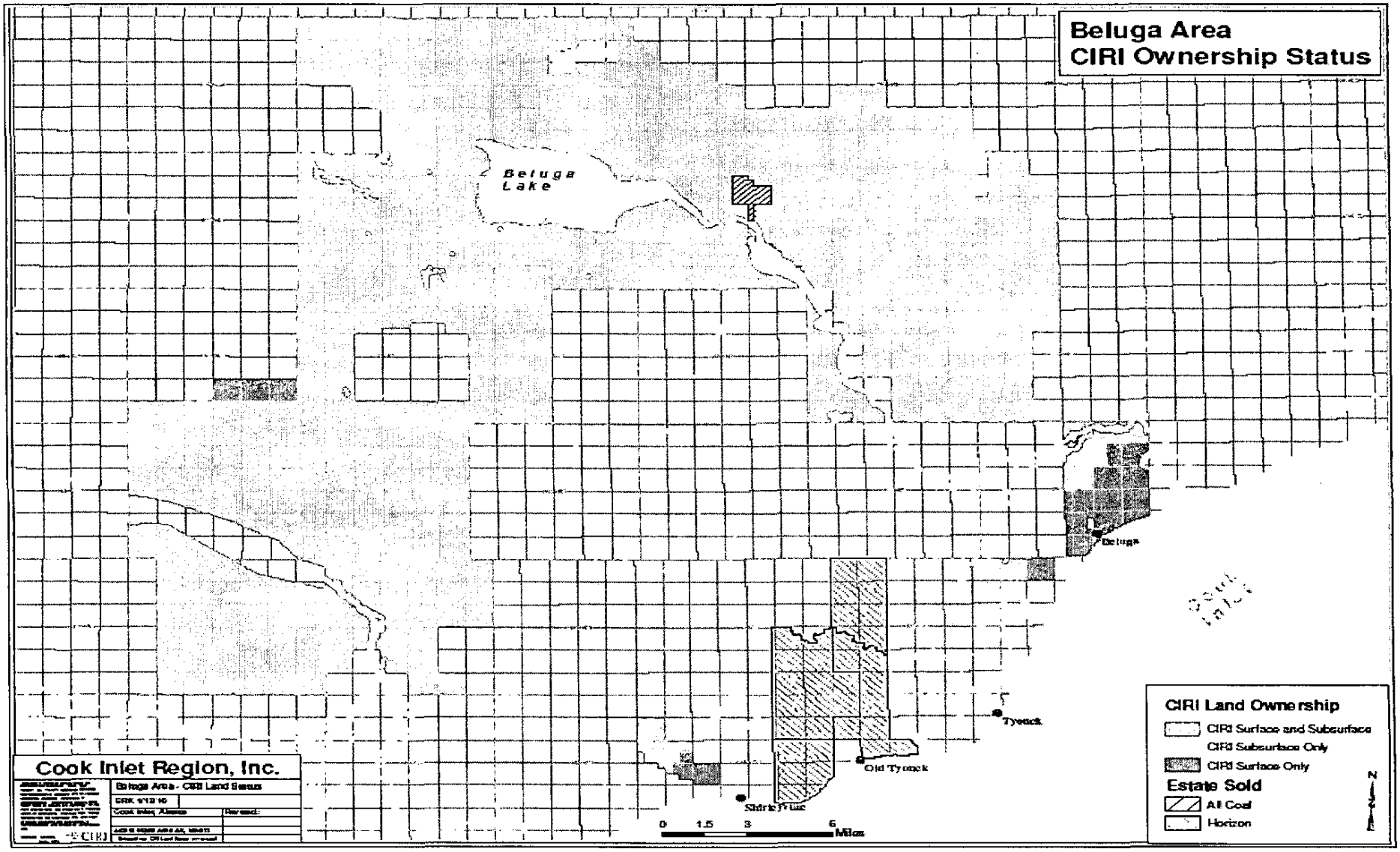


Opportunities

- Previously inaccessible resources converted to productive energy sources with existing, proven technology
- UCG with carbon capture results in lower emissions than combined-cycle natural gas power plant
- Potential increase 300-400 percent in recoverable coal reserves; CIRI owns significant coal reserves suitable for UCG development
- Scalable operations with value-added upgrade for export



CIRI Ownership



3-25-10 Overview: Biomass Energy in Alaska

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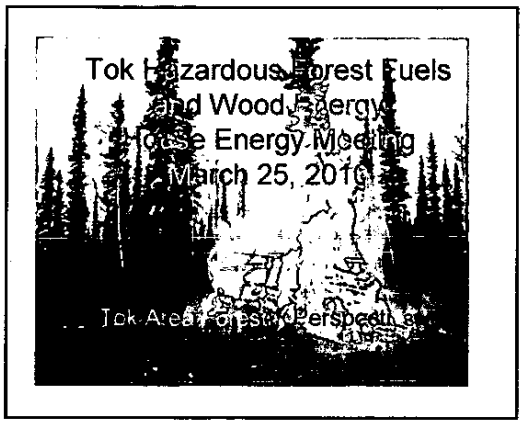
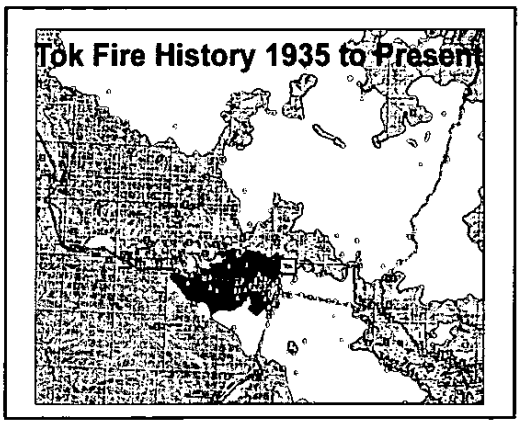
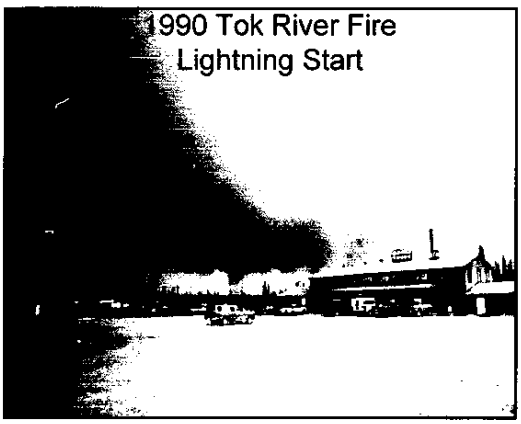
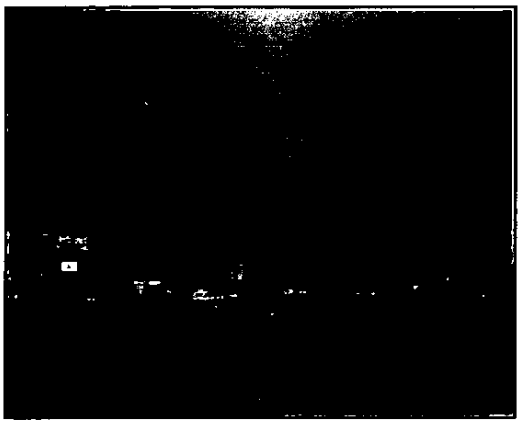

Tok Hazardous Forest Fuels
and Wood Energy
House Energy Meeting
March 25, 2010
Tok Area Forest Perspective

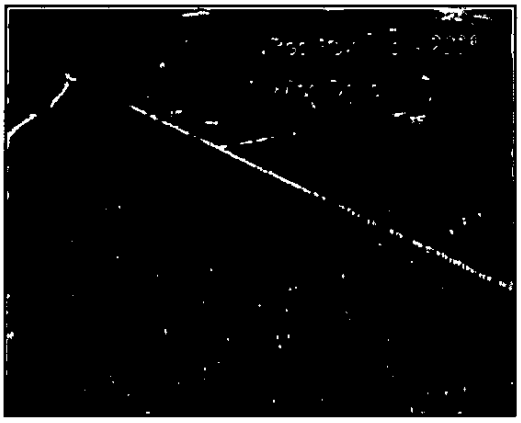

Tok Fire History 1935 to Present

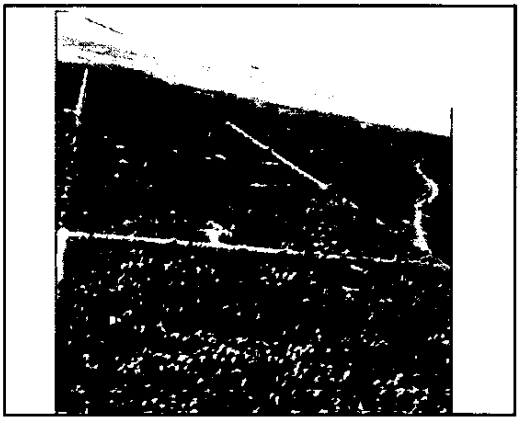

1990 Tok River Fire
Lightning Start

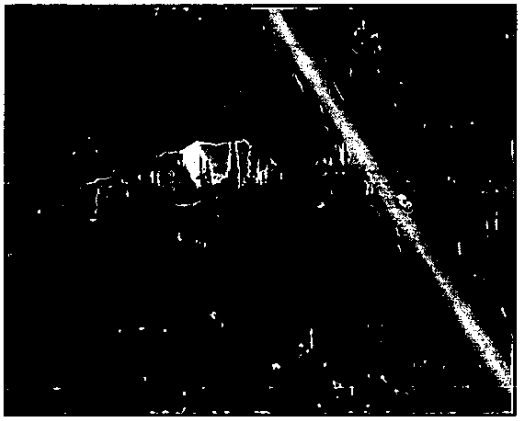
TOK RV

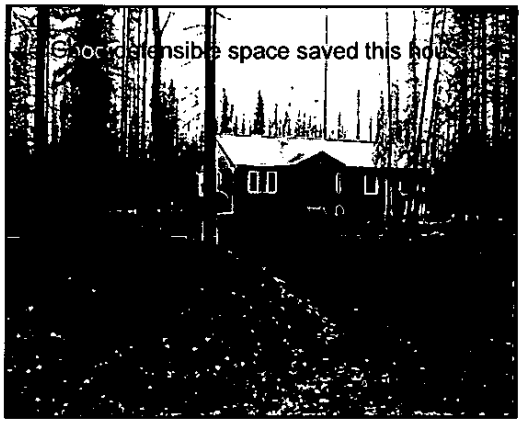


2001 Red Fox Fire
Human Caused



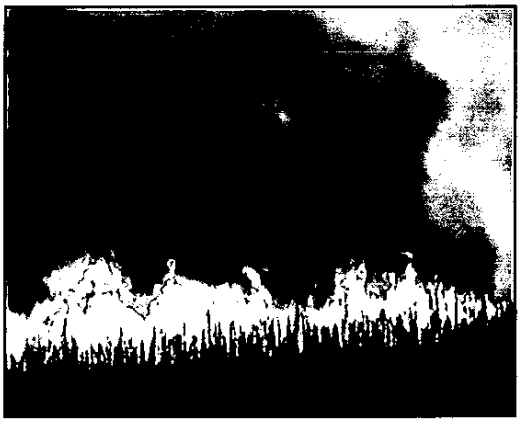






Cost of Fires in the Tok Area

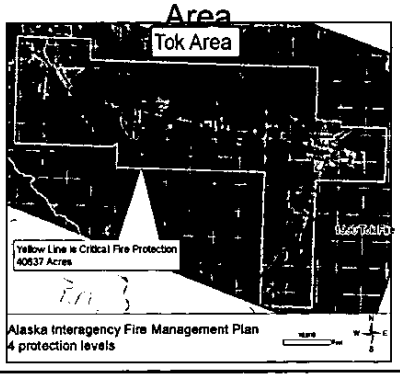
- 50 Million Dollars in State money over the last 25 years!!



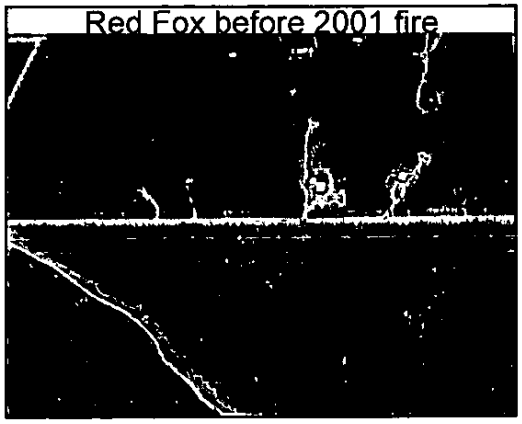
What has changed in 20 years

- We are nearly as dangerous as we were in 1990.
- Contiguous dense high volume hazardous fuels
- No breaks or anchor points except the incomplete Red Fox fuel breaks
- More people living within the Tok Area.
- 20 years of lands sales by the state.

Tok Critical Fire Protection Area

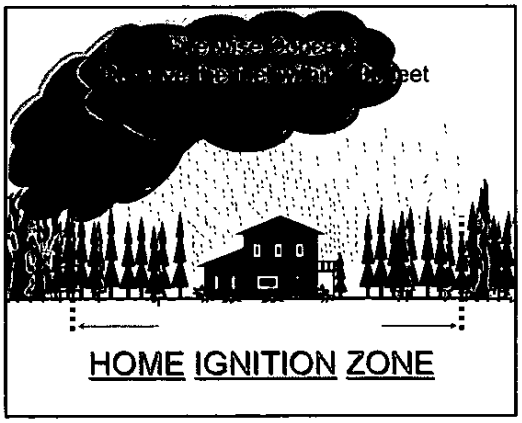


Tok Community Wildfire Protection Plan Meeting (CWPP)

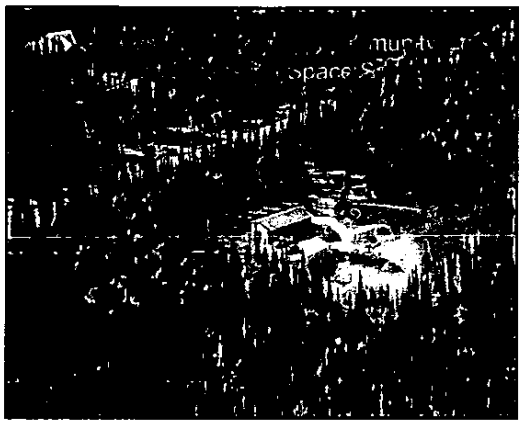


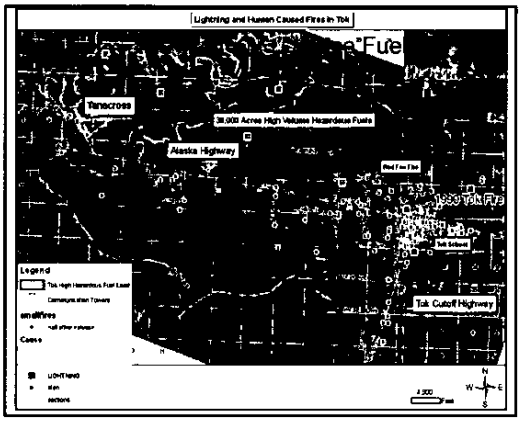
Red Fox before 2001 fire

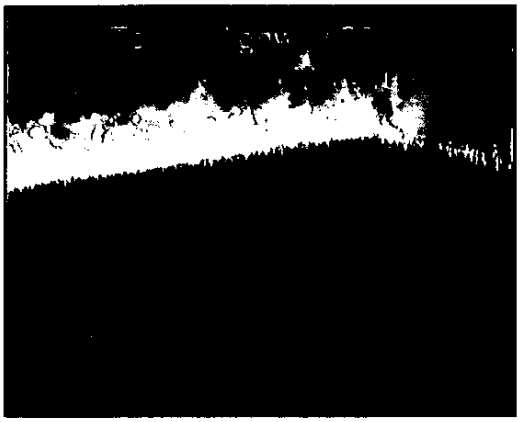
Typical Drive way in Tok



HOME IGNITION ZONE





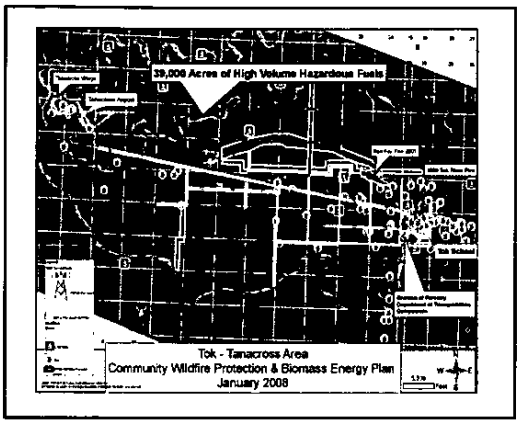


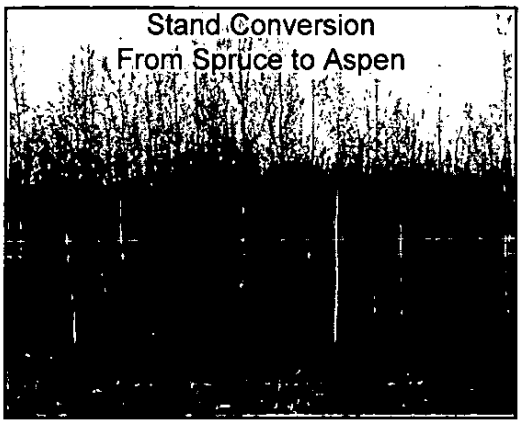
CWPP Principles

- Work from the inside out – remove the fuels closest to the values at risk – Fire wise Basics
- Use Fuel Reduction moneys effectively – treating the most acres.
- Don't be cute
- Use solid science
- Don't pull any punches with the public
- Educate the public on what must be done.
- Create a value for the fuel removed

Failures of Fire wise

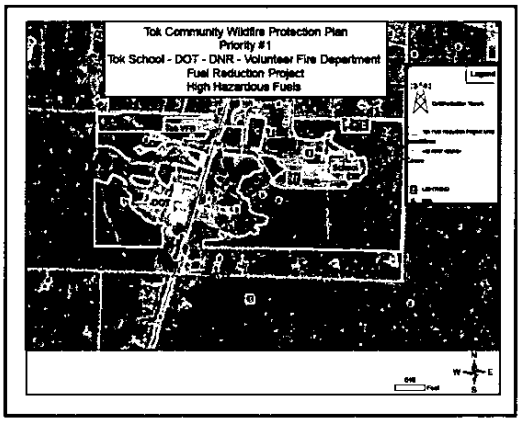
- Why don't people remove the fuels when they know how dangerous it is?
  1. They cannot physically remove the fuels themselves. 2000 to 10000 stems per acre of spruce fuels.
  2. They cannot afford to remove the fuels. From $1500 to $5000 dollars an acre.

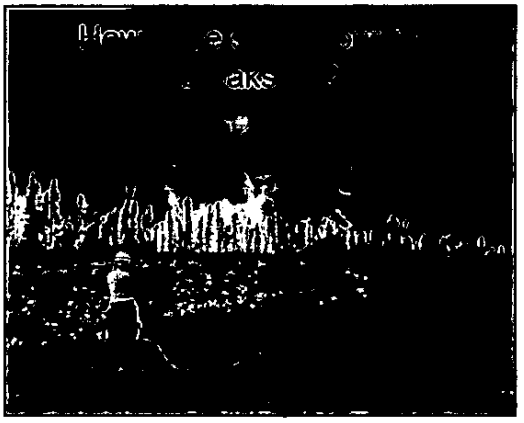




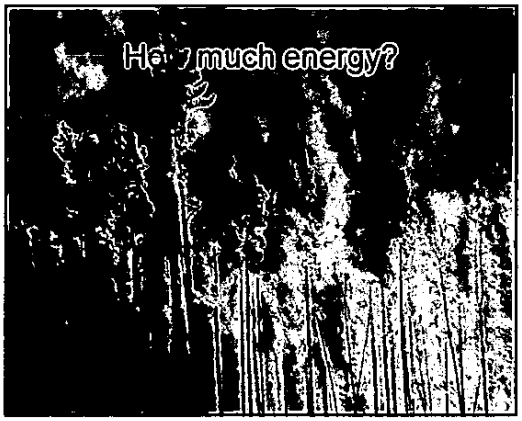
Tok CWPP Priorities

1. Remove fuels from - Tok School - DOT and Forestry / State Communication tower.
2. Safe evacuation routes and road ROWs.
3. Senior Citizens Defensible Space
4. Create effective fuel breaks and anchors for our firefighters.



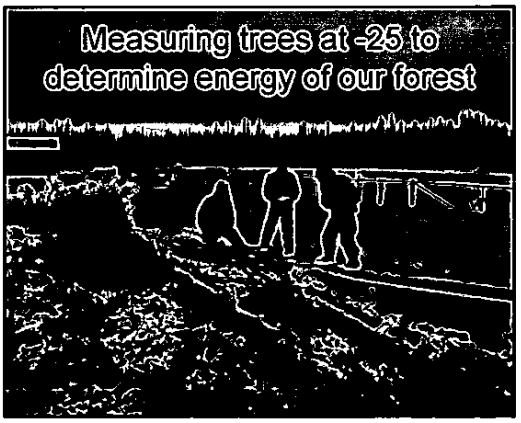


How Dangerous is Tok?
How much energy is there?



How Much Biomass is there per acre?

Biomass Inventory Work At -28 below zero!!



Chipping the Trees

Weighing each tree on Digital Scales

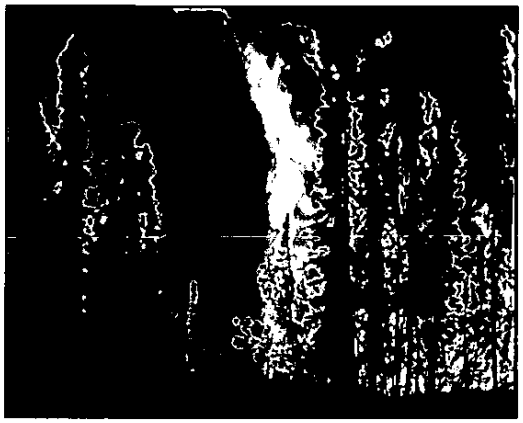
Forest Techs on Summer Plots

What did we find out?

- There was far more energy per acres than we had previously thought.
- 100th acre plots with up to 64 trees representing 6400 per acre
- From 33 to 187 Tons per acre

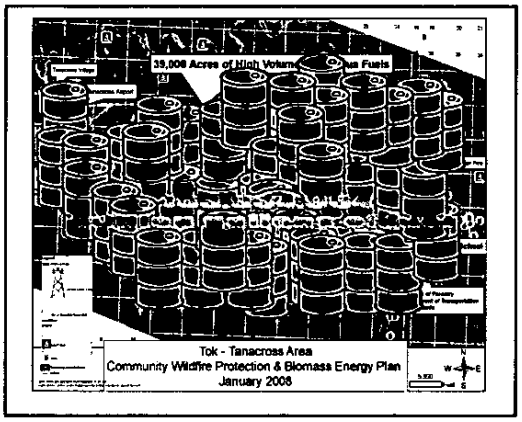
Computed Energy - BTU totals

- 60 tons x 2000 lbs x 4,572 BTUs per lb = 548,640,000 BTU per acre of green 50% moisture Hazardous Fuels
- 548,640,000 BTU per acre x 39,000 acres of highly volatile hazardous spruce fuel =
- 21,396,960,000,000 BTU
- That is a lot of energy!!



Fuel Oil Equivalent

- 1gallon of fuel oil has 139,000 BTU
- 1 acre of hazardous fuel / Biomass 548,640,000 BTU / divided by 139,000 BTU per gallon of fuel oil = 3947 gallons of fuel oil per acre
- 39,000 acres x 3947 gallons per acre = 153,934,964 million gallons
- 153,934,964 Gallons / 3,665,118 barrels of fuel oil (BTU equivalent of the hazardous fuels biomass equivalent) that we are surrounded by.



Dollar value of forest fuels

153,934,964 gallons of fuel oil @ $2.00 per gallon = $307,869,928
Fuel oil BTU value equivalent

39,000 acres x 60 tons per acre x $60 per ton = $140,400,000
Value of hazardous Fuels / energy

How many acres of hazardous fuels need to be removed right now?

- 500 acres – private property (defensible space) current estimate
- 39,000 acres – total # of acres of hazardous fuels
- 2,800 acres – transportation routes, state facilities and fuel breaks
- 3,300 acres total requiring removal out of 39,000 acres equals only 8% of the total fuel load.

What Does Hazardous Fuel Removal Cost?

- Past manual projects (by hand with chainsaw) have cost from $3,500 to $5,500 per acre.
- Past mechanized projects (with feller buncher and skidder) have cost $1,100 to $2,000 per acre.

Cost to remove current identified hazardous fuel priorities

- 500 acres on private property x $3,000 per acre = $1,500,000 (combination of mostly manual removal with some mechanized)
- 2800 acres on state lands x $1,500 per acre = $4,200,000 (combination of mostly mechanized removal with some manual)
- **Total $5,700,000 million dollars**

Funding received since the 1990 Tok River Fire

- Tok has received $320,000 federal funding for fuel reduction from the US Fish and Wildlife.
- The State of Alaska has not funded *any* fuel reduction in the entire state.
- The outlook for fuel reduction funding is not bright. Alaska does not do well competing with California for these federal funds.

We want to harvest 50 acres of forest around the Tok School!

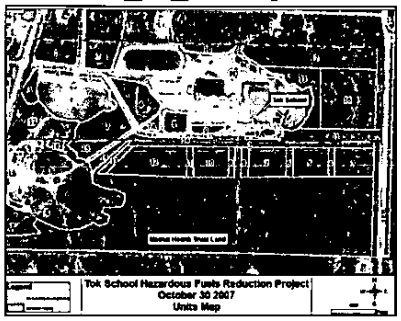
- Presented the concern expressed through the Community Wildfire Protection Plan to the School Principle, Superintendant, School Board and Tok Public

One of several Field Trips

Getting the Funding Fuel Reduction Project

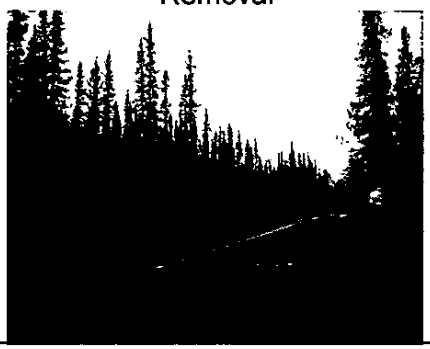
- $50,000 Dollars from the USF&W for Hazardous Fuels Reduction
- Agreement – Remove 50 Acres of Fuel
- Safely Harvest while kids attending school.
- Meet the Schools criteria for land use and aesthetics
- Have useable bio-fuels decked ready for processing.

Tok School Hazardous Fuels Project 50 acres – 1200 Tons



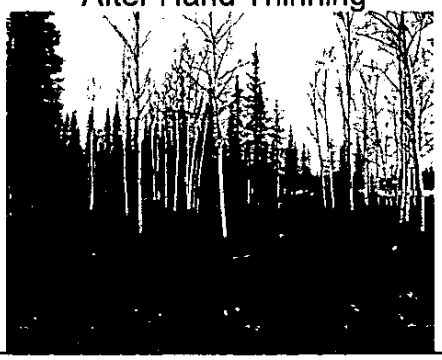
Red Fox Fire Field Trip

Road into School Before Fuel Removal

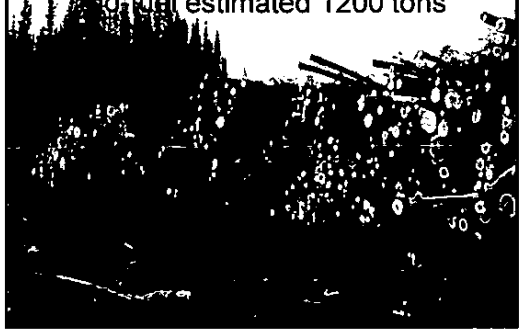


Conventional Timber Harvest Equipment

After Hand Thinning



Hazardous Fuels ready for Processing into Wood Energy / Bio fuel estimated 1200 tons



Contractor directional tree length hand felled – skid with grapple log skidder

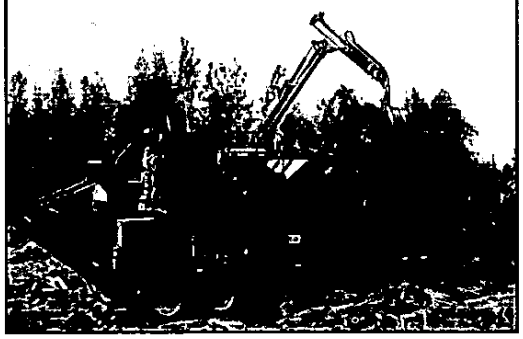
Public Approval

- We did not receive a single phone call complaining about the harvest activities.
- We did get many phones asking if they could cut firewood out the decks.
- We did get many compliments.

Where will the money come from to remove the hazardous fuel?

- What if we could create a value for the hazardous fuel that needs to be removed?
- If instead of being only a liability to the community it became an asset.

Wood Energy - Bio-fuel

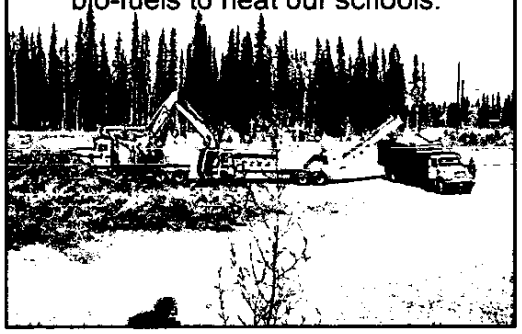


What we have done with the Hazardous fuels in past projects

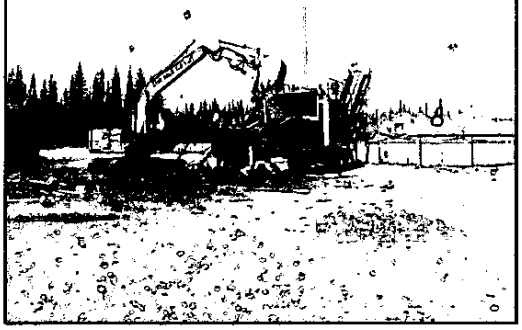
What is the difference between hazardous fuels and bio-fuels?

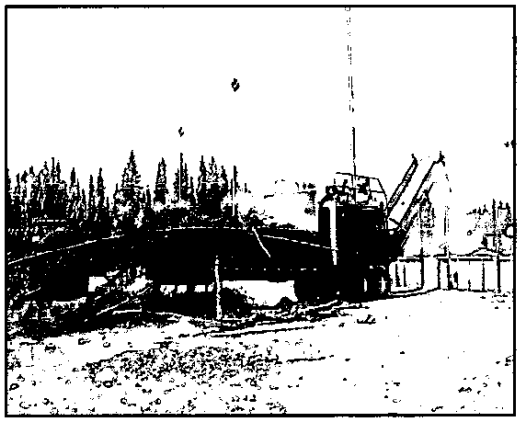
- Absolutely nothing
- Hazardous fuel is the material before it is processed into bio-fuels.
- We can cut the hazardous fuels, grind it into a usable form of bio-fuel, transport it to a school and burn it in a high efficient boiler to generate heat.
- This is a better alternative to cutting hazardous fuel and setting a match to it –

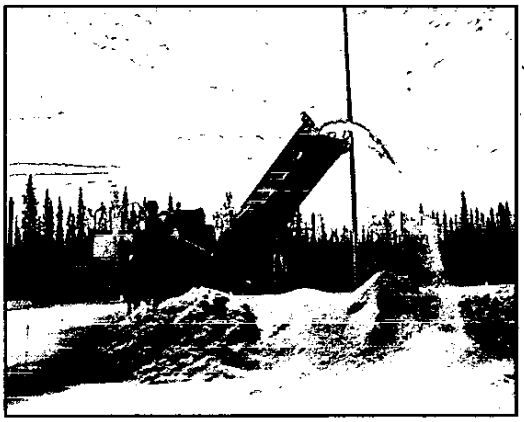
What we plan to do with all future hazardous fuel – process it into bio-fuels to heat our schools.



Tok Community Received a $500,000 state CIP To purchase the equipment to process Hazardous fuels into bio- fuels







What's the difference?

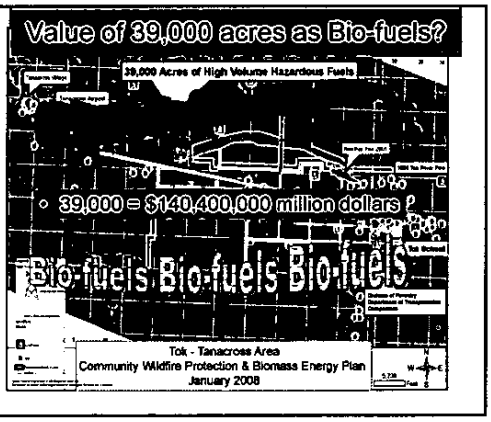
- Remember?
- 2800 acres on state property x $1,500 per acre = $4,200,000 (combination of mostly mechanized removal with some manual)
- 500 acres on private property x $3,000 per acre = $1,500,000 (combination of mostly manual removal with some mechanized)
- **Total $5,700,000 million dollars**

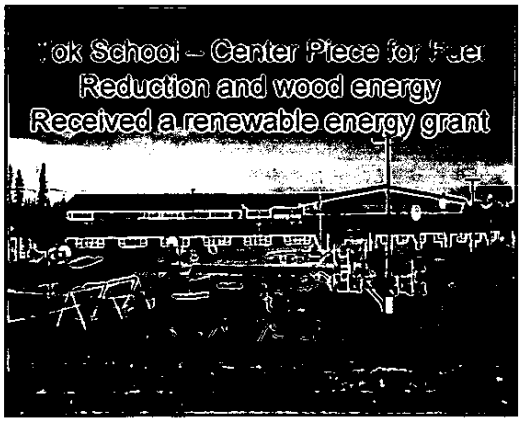
Hazardous Fuel processed into biofuels has real value

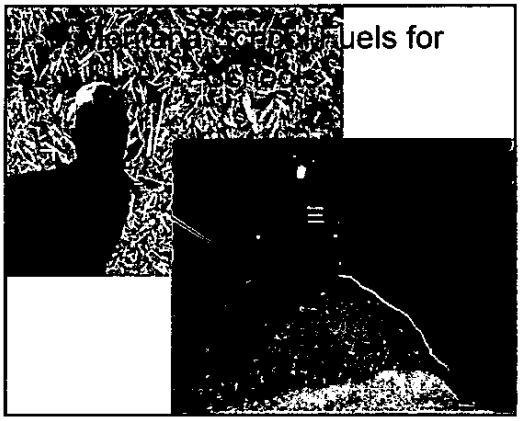
- Biomass delivered to the School will have a value up to $60 a ton or more.
- Our 3,300 acres of hazardous fuels have an estimated average of 60 tons per acre.
- That is 30 - 90 years of fuel for the Tok School.
- 3,300 acres x 60 tons per acre x $60 per ton of biomass = **$11,880,000**

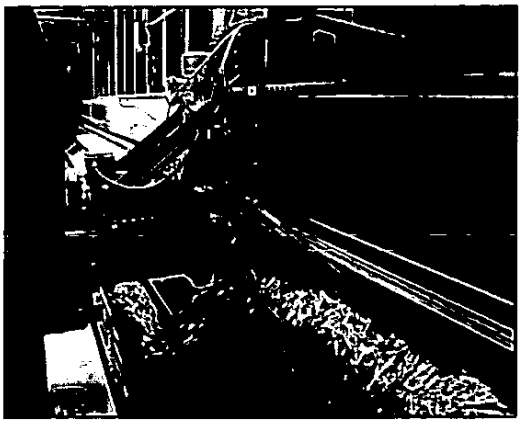
What's the difference?

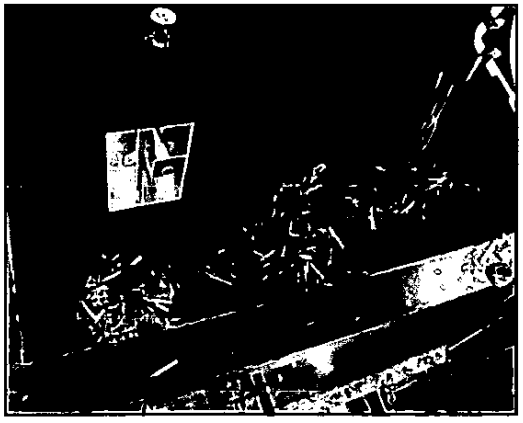
- How about going from spending $5,700,000 to remove the hazardous fuels to a potential positive value of $11,880,000 as delivered biofuels.
- **That is $17,580,000 difference.**

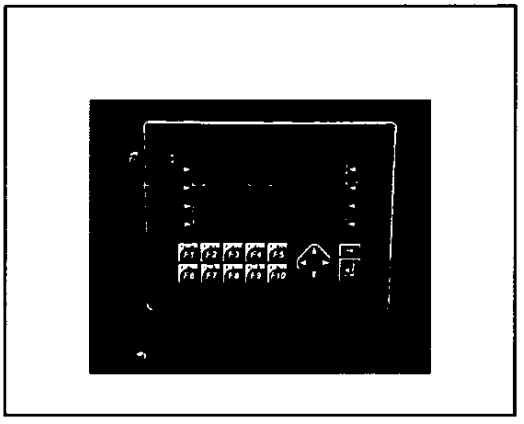


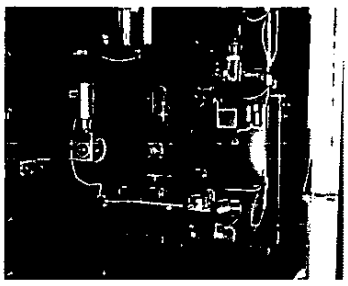


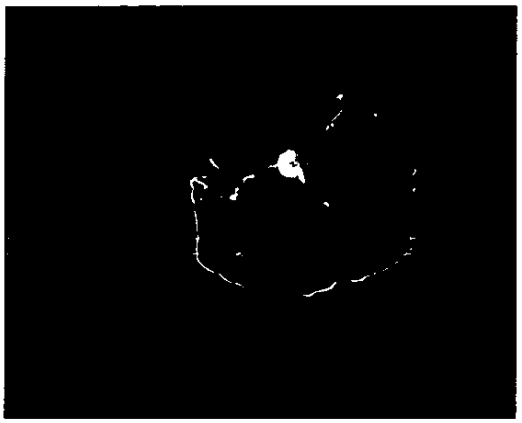


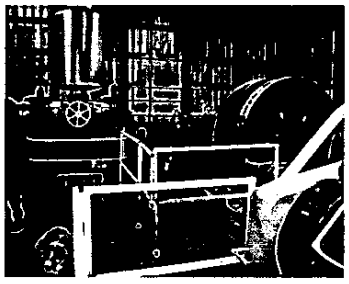


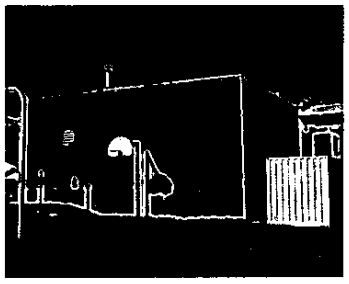












What is the value in savings to the School?

- $100,000 annual savings in heating cost
- $160,000 additional savings in electricity
- $2,600,000 in ten year savings
- $7,800,000 in thirty years

Value of Tok School – Project

- The Tok School will require 1200 tons of wood energy a year.
- At $60 per ton - $72,000 annually
- That is 30 acres of hazardous fuel removed annually.
- That is 900 acres over 30 year life of project.
- At $1200 per acre for fuel reduction this worth $36,000 annually.
- $1,080,000 over 30 year life of project!!

Direct Cost of Urban Interface Fires

- The cost of an urban interface fire is at least $10,000 per acre.
- This is 3 to 10 times the cost of fuel reduction and or harvest of wood energy per acre.
- This is 2 to 10 times the cost of land DNR Lands is selling in Tok.

Conclusion

- We need the State of Alaska to declare that fuel reduction is in the best interest of the state.
- We need annual state funding for fuel reduction work.
- We need develop wood energy projects to use the hazardous forest fuels.
- We need the state committed to using renewable wood energy in state facilities to help create the stable market demand.

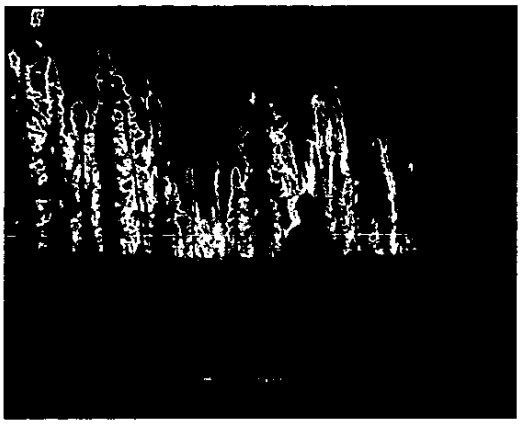
- We need a detailed statewide inventory of our forest resources.
- We need 25 year detailed forest harvest plans to show where the harvest would occur and develop the cost for harvesting.
- We need to commit to long term contracts for supply of forest fuels.
- We need trained people to plan and do the field work to implement these projects.
- Educate the public about the incredible energy in our forest.
- Educate the public on the benefits of renewable wood energy products and

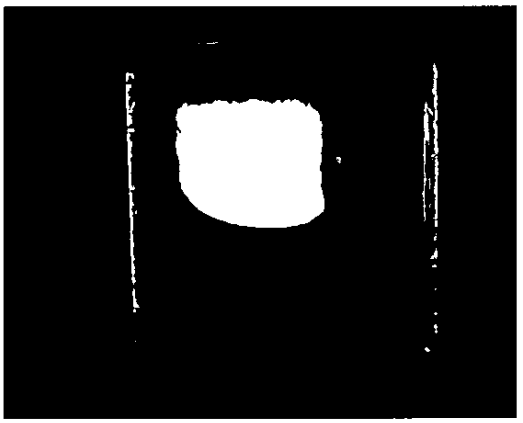
Has that crazy Tok Area Forester gone positively Mad?

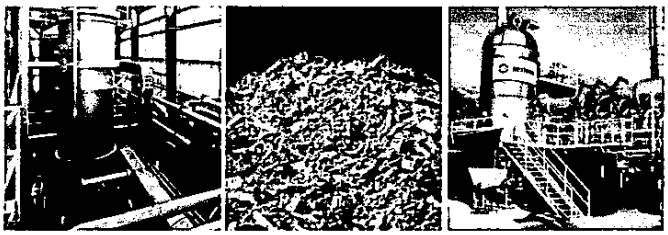
NO

We not going to clear-cut Tok and grind all the trees into bio-fuels.

We just want people to start looking at our dangerous situation and our incredible renewable forest resources with a new perspective!!







TOK Advanced Power Biomass Gasification Project

Project Update - 1 March 2010

Alaska Power & Telephone (AP&T), in collaboration with Nexterra and GE Energy, the communities of Tok, Tetlin, Tanacross and Dot Lake, and with assistance from Dalson Energy, propose to deploy a "State of the Technology" community-scale 2MW Biomass CHP (combined heat and power) system to offset diesel power generation. The system will use locally-sourced woody biomass as fuel.

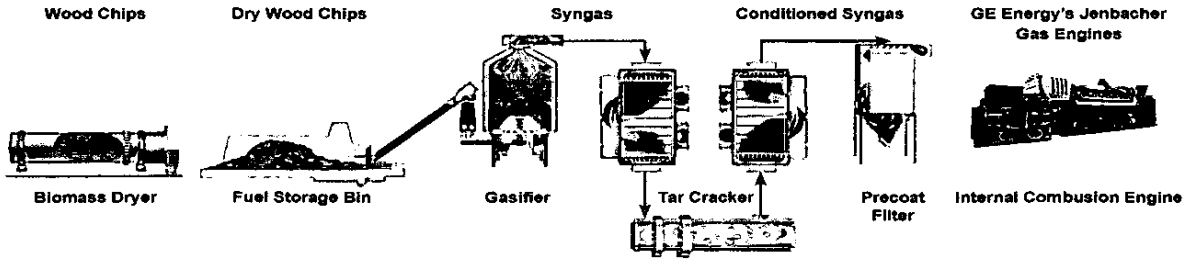
This biomass gasification system has the highest conversion efficiency of viable renewable energy systems, provides demand power, and is a new standard for renewable community-scale (2-10MWe) heat and power generation in rural communities, and in industrial and institutional facilities, while demonstrating sustainable forest practices using small volumes of local woody biomass as fuel.

The thermal output (heat) will be available for a community district heat loop, and could integrate with the (pending) Tok school biomass heat project. Heat can also be sold to the proposed biomass pellet and briquette manufacturing facility.

Benefits include:

- ⇒ *Local fuel source alternative to imported diesel*
- ⇒ *Carbon emission reductions using carbon-neutral woody biomass*
- ⇒ *Improved local air quality using clean gasification technology*
- ⇒ *Creating valuable use for overstocked local scrub-Spruce forests*
- ⇒ *Reducing wildfire risks around communities*
- ⇒ *Creating local jobs for harvesting and processing of feedstock*

□ BIOMASS-TO-POWER SOLUTION



Fuel Supply

The Project Coordinator is continuing negotiations with Alaska State Department of Natural Resources, Department of Forestry (DNR) on a 25-year sustained yield biomass fuel harvest contract. A draft contract has been created by DNR, and input was gathered from local forest contractors and other to respond.

The harvest contract, when fully developed and executed, may serve as a model for biomass fuel contracts in Alaska. Historically, harvest contracts have been focused on merchantable sawlogs for lumber mills.

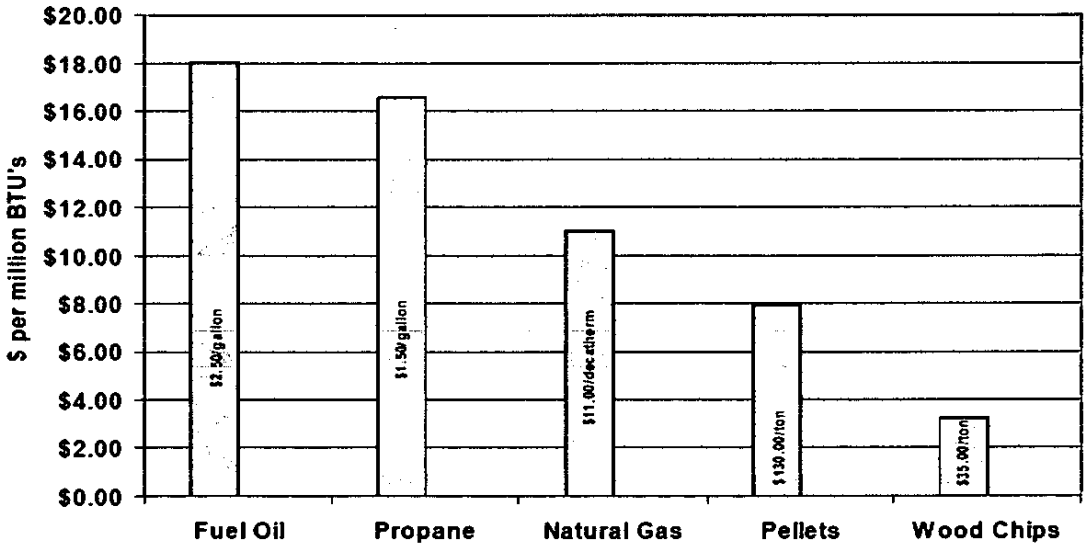
The decline in milling operations has resulted in DNR not meeting its own "allowable cut" goals for several years. The wildfire risk is high in the areas identified for harvest around communities, especially Tok. There is much more available acreage than is necessary to meet this scale of biomass energy system feedstock requirements.

Harvest for biomass fuel will serve several purposes: reduce wildfire risk, create local jobs, enhance wildlife habitat, especially Moose who prefer new growth, and create a valuable use for this otherwise unusable fuel source.

The diesel fuel cost for the existing generators was over $4M in 2008, most of which will be offset by less expensive local biomass fuel. The O&M costs for the biomass system are projected to be comparable to the existing diesel generators.

The benefit of keeping most of the fuel money in the local economy will be very significant. Additionally, industrial capacity will be enhanced by availability of heat from the plant, especially in the summer when it is not needed for district heat.

DNR estimates that over 90% of the forest in the Tok area designated for wildfire risk reduction is non-merchantable trees. They estimate that resource inventory will take several months of DNR staff time. DNR has indicated that they are willing to allocate their staff resources to this task when the CHP Project is funded.



Support for Project

The ongoing delay in decision announcement by DOE NETL has resulted in some general erosion in awareness and confidence. All will be forgiven upon positive announcement.

Local Support
The Tok Umbrella Corporation (TCUC), Tok Chamber of Commerce and many area community members have all expressed support for the project. No opposition has been identified.

From the TCUC support letter:

"The project will help to accomplish several goals of the Tok Community: Electric generation is currently dependent on expensive diesel fuel. Switching to local wood biomass will reduce electrical costs for all of us; reduce carbon emissions by using a carbon-neutral fuel; and improve local air quality during temperature inversions.

Money spent for fuel will remain in the community rather than going out to multinational oil companies, and several additional jobs will be created, to the benefit of the local economy. We'd have a safer community and a healthier local economy"

Funding
The Department of Energy National Energy technology Lab Grant request for $10M is still pending. DOE NETL recently issued a revised estimate of announcement by end of Q1, 2010. Another funding option, in case of failure by NETL, is to seek funding through the pending 2010 Biomass Energy programs at DOE.

State Support
Alaska Energy Authority has expressed support for the project, and will likely provide match funding after DOE funding is committed. State legislators and the Alaska Governor's office have also expressed interest and support. We have done no lobbying for the project to date, simply made them aware of it.

Federal Support
Senior researchers at NREL and DOE have been monitoring Nexterra for several years. Dr, Richard Bain, NREL and John Scahill, DOE, long-time bio-energy researchers, have both expressed knowledgeable confidence in the Nexterra/GE Jenbacher system.

FOR MORE INFORMATION:

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Dalson Energy

Office of the Commissioner and Division of Forestry

Alaska Department of NATURAL RESOURCES

BRIEFING PAPER

Alaska Wood Energy Development Task Group

May 20, 2008

ISSUE

With national heating and electricity costs increasing yearly, Alaskan communities are experiencing drastic fiscal impacts. In some communities, utilization of excess woody biomass from Alaska's forests has risen from being a prominent issue to a necessity for survival. Economic and environmental stressors promote developing markets for alternative biomass energy. In both the short and long term, alternative energy will save money; however, the fiscal resources required to cover the up front costs for transitioning from fossil fuels to wood/ wood-chip/wood-pellet burning appliances and support infrastructure are limited. The Alaska Wood Energy Development Task Group was formed in 2004 to provide funding and expertise for selected projects that promote the use of biomass over fossil fuels.

BACKGROUND

Biomass comes from two primary activities: treatments to reduce hazardous fuels, and forest management to accomplish other objectives. Alaska woody biomass sources include:

- Trees thinned from the wildland urban interface (WUI) to reduce risk to communities from wildland fires
- Trees from hazard fuel clearings in fire-prone, spruce bark beetle-killed forests
- Logging and sawmilling by-products (including woodchips, sawdust and planer shavings from sawmill operations)
- Low quality sawlogs and smaller diameter trees in commercial stands that currently have low or no market value and thus are under-utilized

Alaska's forests provide an abundance of locally-grown, sustainable wood products. Broader utilization of forest resources creates economic opportunity, beyond traditional sawmill uses, through a wood-based bioenergy industry. Renewable wood energy products are also considered "carbon neutral" from a climate change perspective. Additional benefits from a more wholistic forest resource usage include: habitat improvements for a wide range of wildlife that depend on a mosaic of forest age classes, and fuels management in the wildland urban interface from a wildland fire risk management perspective.

ALASKA WOOD ENERGY DEVELOPMENT TASK GROUP (AWEDTG)

The Alaska Wood Energy Development Task Group is a coalition that is exploring opportunities to increase the use of wood for energy in Alaska. From 2005 to present, the task group has solicited statements of interest for thermal wood heat projects in Alaska. From 2005 to present, the task group has received and reviewed 79 statements of interest; selected 42 projects for further study; completed 34 site inspections and field reports; completed 21 feasibility assessments; 2 projects are in the design stage; and 3 projects are installed and operational.

The USDA Forest Service and Alaska Energy Authority have been the lead agencies, providing expertise and the bulk of the funding. Juneau Economic Development Council provides the primary "point of contact," resource information, technical assistance, site reconnaissance, and pre-feasibility assessments.

AWEDTG Members

- Alaska Energy Authority
- Alaska Village Initiatives
- Alaska DNR Division of Forestry
- Denali Commission
- Juneau Economic Development Council
- USDA Farm Services Agency
- USDA Forest Service Alaska Region
- USDA Natural Resources Conservation Service
- USDA Pacific Northwest Research Station
- USDA Rural Development
- USDI Bureau of Indian Affairs
- USDI Bureau of Land Management Alaska Office
- USDOE National Renewable Energy Lab
- UAF Cooperative Extension Service

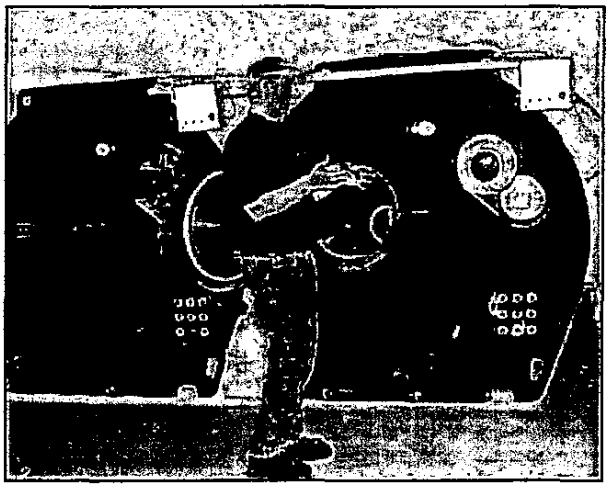
Alaska Department of NATURAL RESOURCES

PROJECTS THAT ARE NOW OPERATIONAL

o **Craig** - The boiler was operational at the beginning of May. The City of Craig constructed a wood-fired boiler heating system to supplement propane and oil heating systems for the municipal pool water, pool building, and elementary and middle school buildings. The new facility uses wood shavings, chips, and dried planer shavings, collectively known as hog fuel, from local mills as fuel. The system is maintained by the Craig City School District. Installation of this system will result in cost savings of $40,000 - $60,000 per year between the municipal pool and the school buildings. The project will also reduce the reliance on fossil fuels for heating and will also help local mill owners by purchasing and utilizing wood waste generated by their manufacturing process. Funding was provided by the USDA Forest Service, USDA National Resource Conservation Service, Alaska Energy Authority, the Denali Commission, and the City of Craig.

o **Kasilof** - A community of about 10 families in Kasilof has installed two GARN wood-fired boilers, located in an outbuilding, to supplement masonry heaters used to heat their community center. The GARN units provide roughly one-third of the community center's heat. Hot water provides warmth through radiant tubing in the floor and wall baseboard heaters. The boilers also provide all of the hot water that is used for the village's community kitchen and hand laundry. Their wood source comes from beetle-killed spruce found on their 200 acres of land off of North Cohoe Loop Road. The community already has plans to install another GARN unit in their barn, which stores crops. Funding for the project came from the Alaska Department of Health and Human Services, and the USDA Forest Service Jump-Start Wood Energy Program grant through the Division of Forestry and managed by the Juneau Economic Development Council (JEDC).

o **Tanana** - Two GARN Boilers are in place in the community of Tanana and are used to heat a washeteria and city water system. Not only do the boilers cost less than importing fuel oil, they create jobs within the community as the source of fuel is driftwood harvested from the Yukon River. The boilers were transferred from the city to the nonprofit water and sewer utility Too'gha Inc. Funding for the project came from the USDA Forest Service Jump-Start Wood Energy Program grant through the Division of Forestry (managed by JEDC), the Alaska Department of Commerce Community and Economic Development, and Too'gha Inc.



Above Left: *Dave Frederick of Alaskan Heat Technologies explains the operation of GARN wood-fired boilers in Tanana, AK. Photo by Daniel Parrent*

Above Right: *Ted Eller loads wood into a Garn wood-fired boiler at the Ionia community in Kasilof. The boiler is heating a large community center and much of the hot water the group consumes. Photo by M. Scott Moon*

INFORMATION SOURCES

- City of Craig Website: http://www.craigak.com/index_files/wood.htm
- Peninsula Clarion Article: "Ionia Revisits Wood as Fuel" by Phil Hermanek, 3/20/08
- Daily News-Miner Article: "Building a Better Wood Stove in Tanana" by Stefan Milkowski, 11/14/07
- AWEDTG Wood Energy Conference Materials: http://www.tananachiefs.org/natural/AWEC2007.shtml

CONTACT

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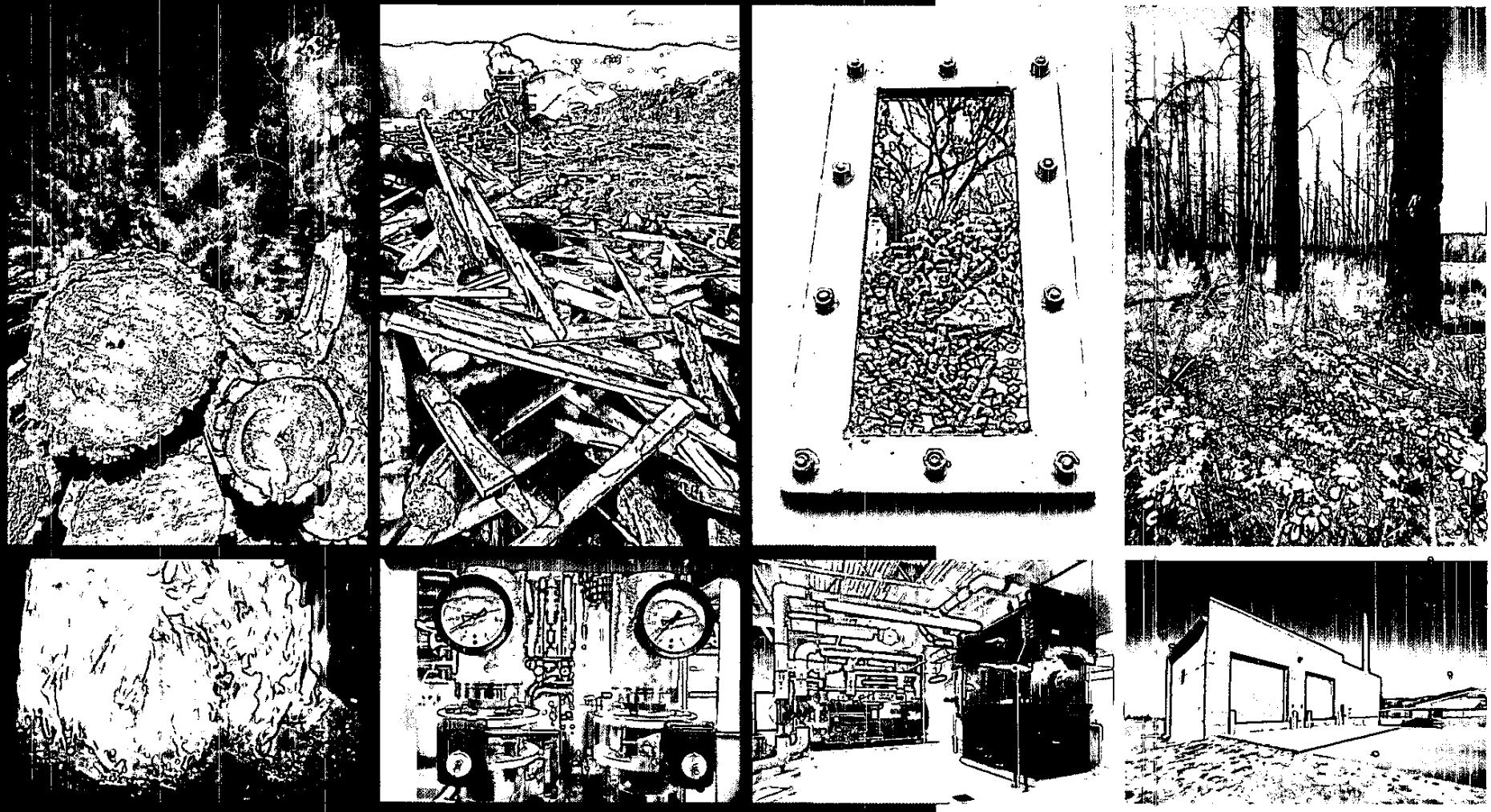


Where Wood Works

Strategies for Heating with Woody Biomass

Welcome

National Leadership

"We are on the brink of a new healthy forest economy that will sustain large-scale forest restoration in the long run. The rapid growth of a young bioenergy industry holds the promise of a reliable and expanding market to use the small trees supplied by forest restoration projects for cleaner and cheaper energy sources."

Rick Cables
Rocky Mountain Regional Forester
Forest Service, USDA

"Technology is taking wood use to new levels. BLM is committed to providing biomass to help meet future needs for energy and value-added products, while reducing the risk of catastrophic wildfire."

Gregg Nelson
National Biomass Coordinator
Bureau of Land Management

"Matching the bioenergy technology to the available forest resource is extremely important. Sometimes, smaller scale applications such as heating a community building makes the most sense."

Marcia Patton-Mallory, PhD
Biomass and Bioenergy Coordinator
Office of the Chief
Forest Service, USDA

Colorado Leadership

"Renewable energy resources such as biomass are key components of the New Energy Economy. Through effective use of biomass resources we can reduce our dependence on fossil fuels, improve forest health, protect our environment and stimulate local economies."

Tom Plant
Director,
Colorado Governor's Energy Office

"Wood is the environmentally friendly fuel source of the future because it is carbon neutral and renewable. When we begin actively including wood in the energy equation we also contribute to improved forest health, safer watersheds, and reduced fire risks."

Jeff Jahnke
Colorado State Forester

"To create a truly environmental and sustainable energy source we must look to biomass utilization as our answer for the future."

Jeff Kitchens
Colorado Forest Program
BLM

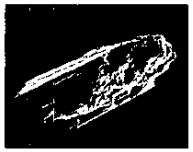
2094

2095

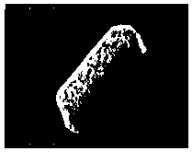
Wood Can Work for Your Community

If your community is looking for ways to reduce heating bills and you are near a forest, you have probably considered using wood for heat. Yes, it can work! It can reduce your heating bills, address regional forest health issues, and help keep more of your energy dollar in your community. But it could also be a disaster. The wrong technology for the wrong application with wrong expectations is a recipe for getting burnt on wood. This article shines light on the pitfalls and potential of wood-fuel applications.

The Basic Technologies



CHIP SYSTEMS are well-suited for large buildings and campuses. Successful projects get their chips locally, usually within 30 miles or so. Chip-handling systems are complex and expensive to build and operate. This is offset by the low cost of the fuel itself.



PELLET SYSTEMS work very well at the residential scale and are beginning to be used in commercial buildings. In Europe, pellets are delivered in bulk to heat entire towns and they are even used as a zero-carbon substitute for coal in large electric power plants.

CORDWOOD SYSTEMS heat large mountain homes, winter lodges and camps, and even swimming pools. In the right location, the fuel (basically firewood) is free or nearly so. These systems must be manually loaded once or twice a day with up to 100 pounds of wood. Great exercise!

COMBINED HEAT AND POWER (CHP or cogeneration)—the production of heat and electricity from wood—is very promising. Today, it works very well in large lumber mills, paper mills, and furniture factories. In the future, it may even work for smaller applications.

EMERGING TECHNOLOGIES are being developed by governments and industries looking for low-carbon, low-cost energy sources. Wood can be ***gasified.*** The gas can be used to fire a boiler, drive an engine or turbine, and even run a fuel cell. Wood can be ***liquefied*** into liquid biofuels for transportation. These technologies are being prototyped today and should be commercially viable within the next decade.

THE BOTTOM LINE
Is your building...

More than 100,000 square feet?

If you have more than 100,000 square feet to heat in a moderately cold climate and you're located near a stable supply of wood chips, you may have a winner. If the building is a hospital, prison, or dormitory, even smaller buildings might make sense since these buildings use lots of hot water year round.

Less than 10,000 square feet?

If you have a building less than 10,000 square feet to heat and you live in a moderately cold climate, a wood pellet solution might work for you even if you're far from the nearest tree. And if you don't have access to natural gas, things look even better.

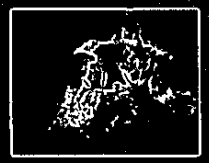
The Messy Middle!

Buildings in the 10,000–100,000 square feet range are the most likely building you'll be planning and, unfortunately the least likely for a simple off-the-shelf wood-fueled solution. But, please read on. There are some very exciting systems heading your way—and you really should consider designing your building to take advantage of them when they arrive. Flexible Energy Communities Initiative can help!

Some Key Opportunities and Issues...

AIR QUALITY should always be a concern. Wood-fueled systems can be made to meet any air quality standard, but there are cost trade-offs. The good news is that burning wood in a properly designed and maintained system is ***much*** cleaner than burning it in a slash pile or wildfire. In some situations, a wood-fueled system can actually improve local air quality.

WILDFIRE MITIGATION



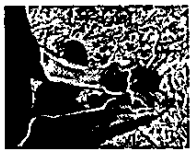
ALTERNATIVE TO SLASH PILE BURNS

ALTERNATIVE TO PRESCRIBED BURNS

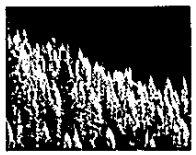
Fuel-reduction and restoration activities are key components of forest management policies.

- ◇ *Land treatment projects are expensive and funds are not always available.*
- ◇ *Slash burning and prescribed burns can adversely impact local air quality.*
- ◇ *In situations where outdoor burning is prohibited, local landfills are often the only alternative.*

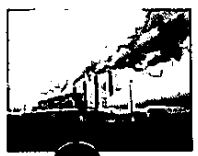
Developing local wood-fuel markets can help offset treatment and disposal costs. This also creates local jobs, which keeps more money in your community.



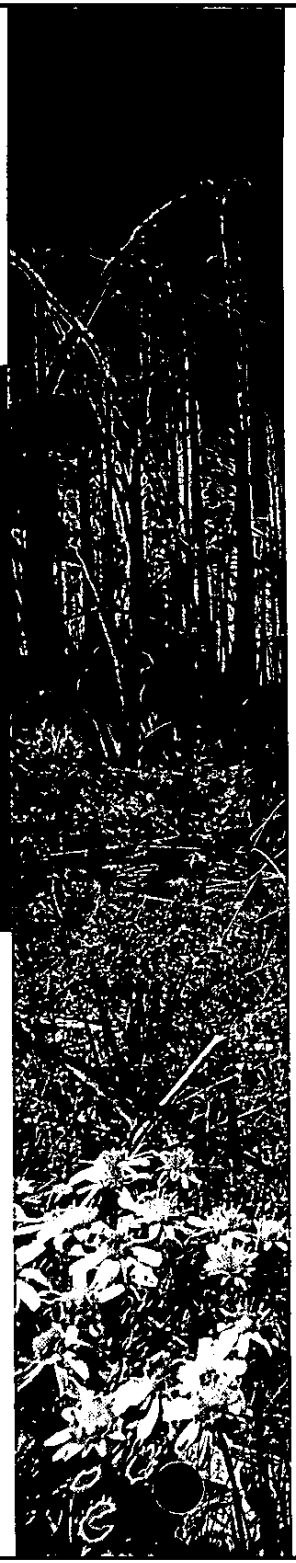
SUPPLY QUALITY. If you use wood pellets, the quality is very high and very uniform. However, wood-chip quality varies a great deal, depending on how the material is handled. "Treat it like fuel and it is fuel; treat it like trash and it is trash." Training, awareness, and long-term business relationships are the keys to success for a dependable, quality wood chip supply.



SUPPLY AVAILABILITY. For wood-fuel systems to work, you will need a reliable, long-term supply. The weight and bulk of wood-fuel will keep your supply geographically nearby. A forest might burn, or environmental regulations may reduce access to some areas, forcing you to travel further for your wood supply. This could incur significant transportation costs—making wood the high-priced fuel.



CARBON-NEUTRAL. Wood-fuel is considered carbon-neutral. While carbon dioxide is emitted when wood is burned, the very same amount of carbon dioxide is absorbed when the tree grows. When wood-fuel is used to offset fossil fuels such as propane and natural gas, the net effect is lower carbon emissions, allowing carbon credits to be sold.



Wood is Working for Other Communities

Wood as fuel is making a comeback around the country as the cost of other energy sources continues to rise. In many areas, forest management activities produce potential fuel. Clean wood technology is becoming available and affordable—and the word is getting out. Wood works, and your community can learn from communities where it does!

Successful Projects Almost Always Have...

1. A GOOD LOCAL WOOD SOURCE. You won't find many wood-fueled systems too far from a forest. Wood is bulky and often full of moisture, two things that make transporting this fuel long distances impractical. However, wood pellets are routinely shipped from Canada to higher-priced markets in Europe.

2. THE RIGHT TEAM—THE RIGHT TECHNOLOGY. To make wood-fueled systems work for your community, you need to choose the right technology that matches your building's needs. The best way is to take advantage of the experience of others, especially at the early design stages. Fortunately there are people to help!

3. POLITICAL WILL AND LONG-TERM COMMITMENT. The economics and logistics of wood-fuel systems can work, but it is seldom a slam-dunk. Wood systems typically cost two to three times more than conventional systems and can take 10 years for the lower cost of wood-fuel to pay back the investment.

4. A CHAMPION. The daily and yearly operations, maintenance, and fuel supply management are not for everyone. The most successful projects have one person who is committed to making things work and to figuring things out when they don't. Don't have a champion? Don't expect success.

5. A HIGH ENERGY BILL. The potential savings wood-fueled systems promise can only be met if your need for energy is significant. Facilities with year-round need for heat like swimming pools, health facilities, and prisons are ideal!

FLEXIBLE ENERGY Communities

A community that prepares their new and existing buildings for an uncertain energy future by:

- ◇ *Planning and designing so that new energy systems can be easily added when those systems become economically attractive.*
- ◇ *Purchasing and installing new energy equipment when the time is right for your community.*
- ◇ *Minimizing energy use while maximizing comfort and utility.*

The Flexible Energy Communities Initiative (FLECI) is a design-assistance program sponsored by the U.S. Forest Service, the Bureau of Land Management (BLM), and the Colorado Wood Utilization and Marketing Program (CO-Wood) to help your community prepare for emerging new energy technologies including wood-fuel, solar energy, geoexchange (geothermal), biogas, and fuel cells.

This funded design-assistance program can help you make your building "woody biomass ready", often at no increase to your construction costs!

visit: www.fleci.org

Wood Chips

Ed Hoffman describes the Chadron wood-chip boiler, which consumes approximately 7,000 tons each year, equivalent to one 20-ton truck delivery just about every day of the year.

Chadron State College, Nebraska

For more than 15 years, Chadron State College in Nebraska has been heating its campus of 2,800 students with wood chips from local forests. Keys to success include: a solid design, proven technology, reliable local supply of wood chips, and the personal commitment of Ed Hoffman, now a vice chancellor for the Nebraska State College System.

A local, family-run business supplies chips for the campus, and their kids now attend the very college they help heat. The moisture content of the chips varies over the year, so the contract is based on the energy content, not weight.

Ed says it took about four years before the operation ran smoothly. Now, it works so well that they recently added an absorption chiller to cool their buildings in the summer using the steam from the wood-chip boilers. The more they run the boiler, the more money they save, and the less carbon they emit.

The Numbers

- *24 buildings*
- *1,100,000 square feet*
- *9-MMBTU/hr wood-chip boiler system.*
- *Including operations and maintenance, estimated savings are more than 30% over natural gas at $10/MMBTU.*

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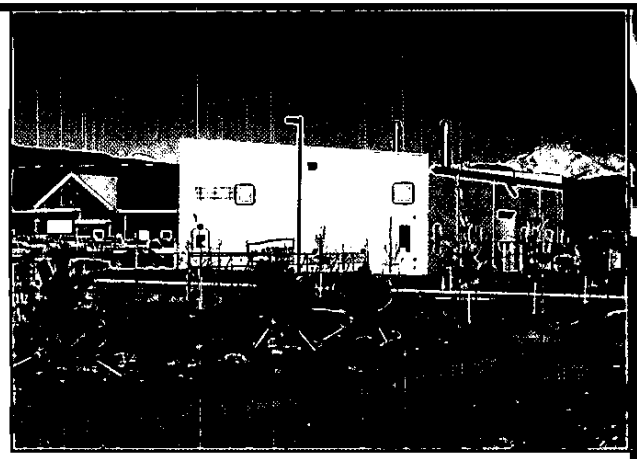
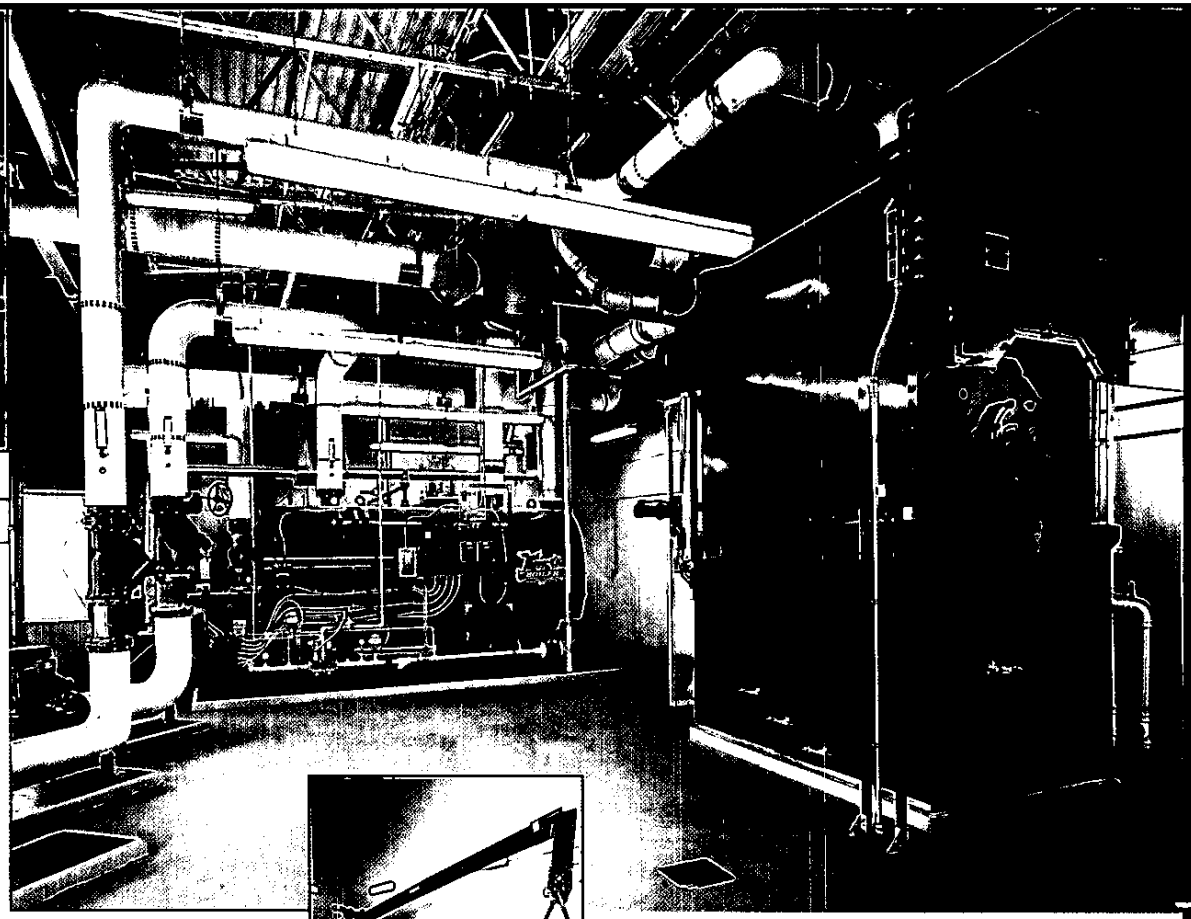




Boulder County, Colorado

Boulder County's new 120,000-square-foot Parks and Open Space complex in Longmont, Colorado, is an excellent example of where wood really works. All the right conditions for success existed:

- ◇ The county manages more than 18,000 acres of forested land. Their ongoing fuel-reduction and restoration efforts are capable of easily meeting their fuel needs.
- ◇ They designed from the ground up.
- ◇ The county and community strongly value environmental stewardship and appreciate the zero-carbon impact of wood-fuel.
- ◇ A project champion (or two, or three) who wanted to make it happen.
- ◇ The team started the design just as natural gas prices began rising.

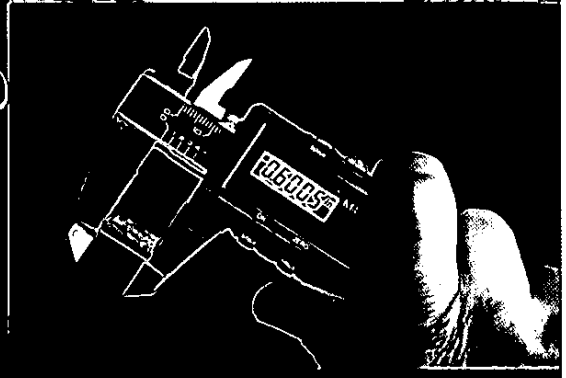
Starting with a blank slate, the design team chose to implement a centralized district energy system using hot water distribution. This gives the site the most flexibility to adapt to a changing energy future. All the changes can be done in one location, taking advantage of scale for both equipment costs and operation and maintenance.

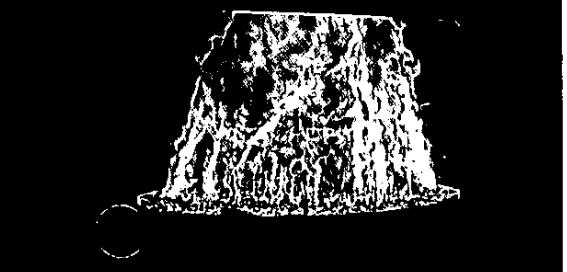
Depending on natural gas prices and the variable costs of chips, the project is estimated to have a simple payback of less than 10 years.

The Numbers

- ◇ *Six buildings*
- ◇ *120,000 square feet*
- ◇ *3.3 million BTU/hr wood-chip boiler*
- ◇ *650 tons/year of dry chips (20% moisture equivalent)*
- ◇ *Depending on natural gas prices, a simple payback of 8 to 20 years is expected*
- ◇ *Video and brochure can be found at Colorado Governor's Energy Office: www.colorado.gov/energy/renewables/Biomass.asp*

Using Wood Pellets





Our Friend the Wood Pellet

Wood pellets are the ideal fuel for small to medium applications—the most promising wood-fuel for buildings in the "messy middle."

Pellets are sometimes referred to as a ***refined wood-fuel***—much as gasoline is a refined fuel from crude oil. Size, shape, moisture, and ash content are very consistent between vendors and bags (and, increasingly, truck loads). This uniformity allows reliable, affordable automatic fuel handling from an outdoor bin or silo to the indoor boiler or furnace.

This uniformity also allows combustion systems to be highly tuned, making pellet systems very clean and efficient.

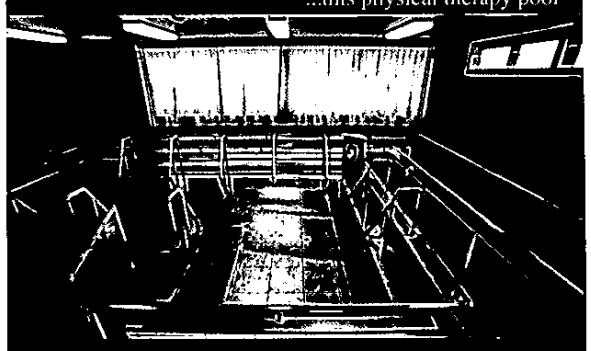
Wood pellets are also known as a ***densified biomass***, where most of the water and air have been squeezed out, leaving just wood energy. Pellets have nearly twice the energy per pound as typical cordwood, and occupy only about one-third the volume. This makes long-distance transportation affordable. In fact, North American pellets are routinely shipped to Europe.

While manufactured wood pellets can be used in simpler systems, this naturally comes at a cost. Wood pellets cost about twice as much as wood chips for the same amount of energy. For medium and small systems, this is a good trade-off.

Wood pellet manufacturing plants are a significant investment. An entry-level factory costs approximately $3 million, and upwards of $10 million is not unusual.

This pellet boiler heats...

...this physical therapy pool



U.S. Representative John Salazar opens the first bag of 100% Colorado wood pellets in October 2006.

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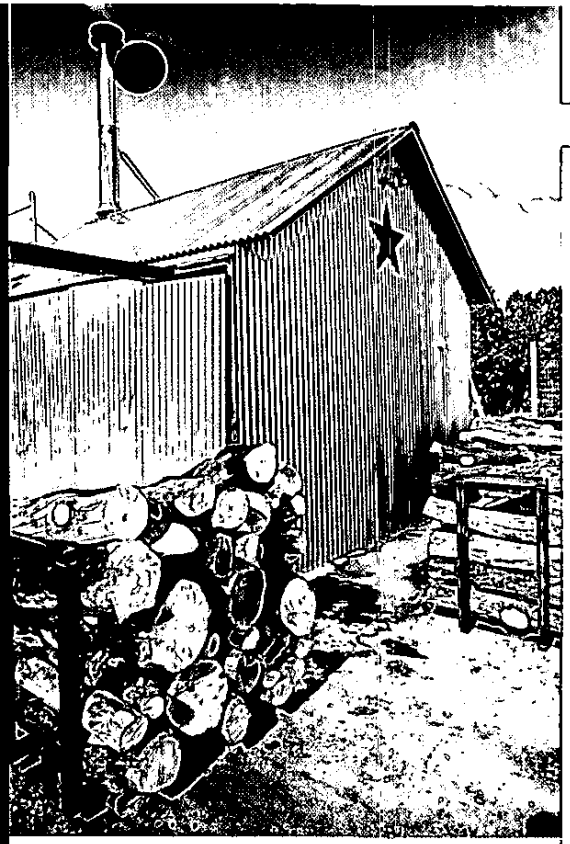
Cordwood Boilers



The Numbers

- *Cost: $20K to $60K*
- *Heat output: 100,000 to 900,000 BTU/hr*
- *Fueling cycle: Stoke one to three times a day*
- *Payback: 3-5 years against propane and heating oil*
- *Air quality: very clean to very dirty.*

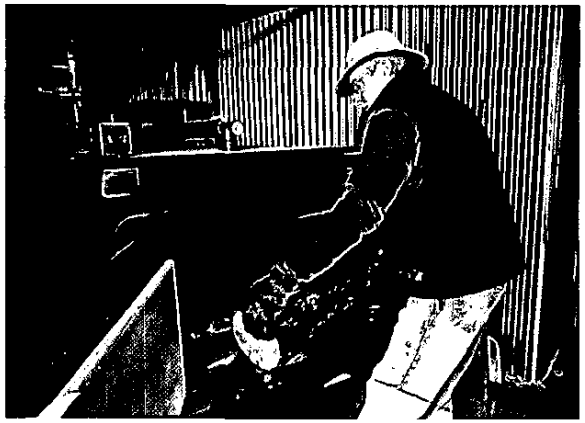
Cordwood

Simplicity and great economics make cordwood boilers increasingly popular around the country. Cordwood—firewood size or a bit bigger—from on-site or local forest management projects is often free!

If you have a home or small building to heat and live near a forest that needs thinning, these systems have very good economics. If you have a hot water (hydronic) heating system, the economics are even better.

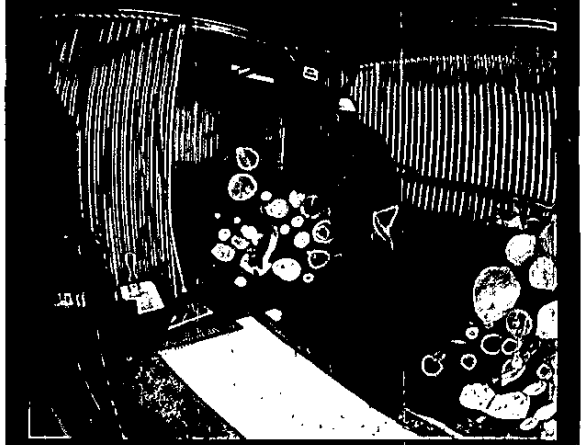
Buyer beware! There is a huge difference between clean units and dirty units. The EPA has recently released voluntary guidelines, but they have a ways to go.

If you follow the manufacturer's recommendation, these units can be very low emitters of smoke—much cleaner than the cleanest of fireplaces. But, if they are mishandled, these units can be very dirty. Some irresponsible owners have used their boilers as an incinerator, burning household garbage, and even tires!



Wood-heating pioneer Dick Cook designed and built the boiler shed and very convenient wood handling system for his 300,000 BTU/hr boiler. Dick has been testing a variety of wood drynesses and species.

The smoke coming out of the chimney is from excessively dry wood not recommended by the manufacturer (or Dick). But even with the wrong wood, the system is virtually smokeless after the initial 5-15 minute start-up cycle.



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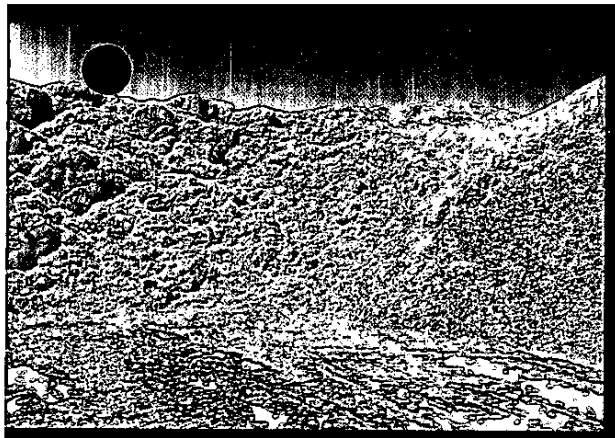
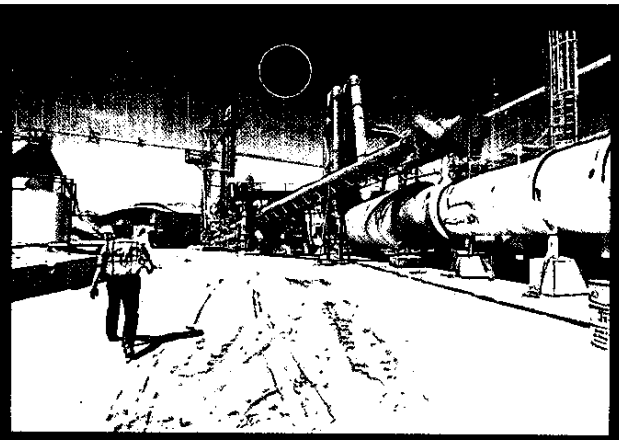
Making Wood Pellets



Wood chips await drying

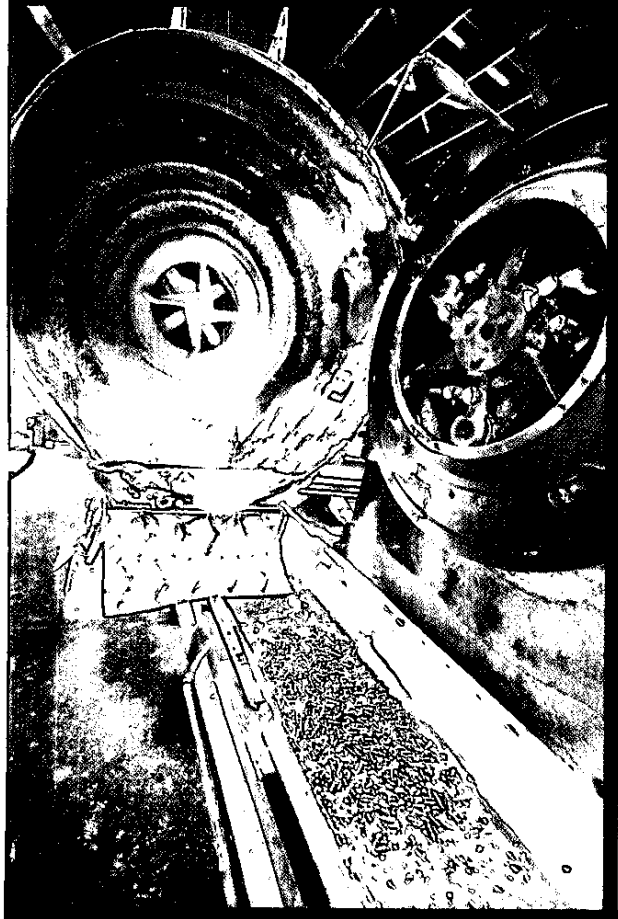


Dryer is fueled with scraps and defective pellets

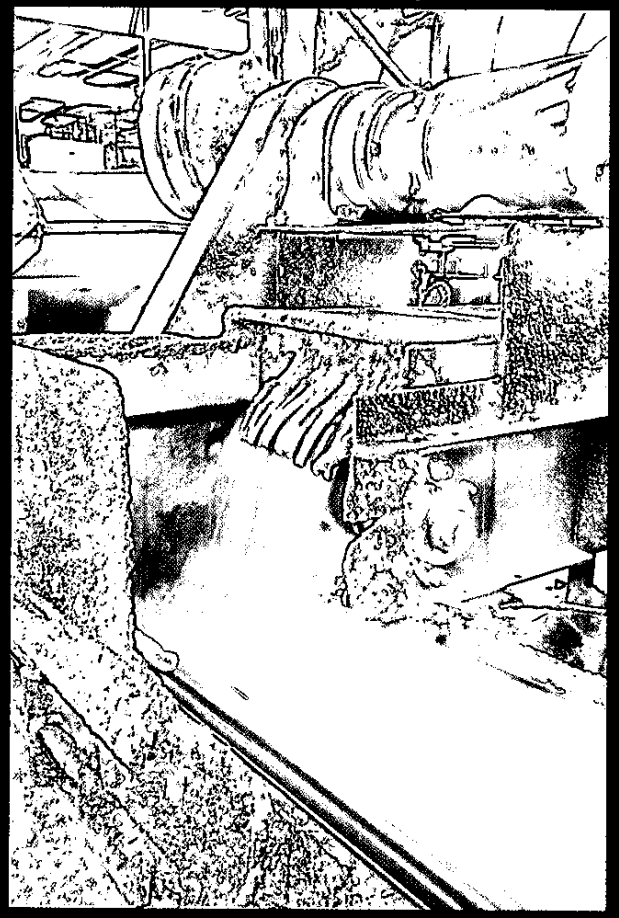
Key Points

- *Uniform size, moisture, ash content, and energy content*
- *Simplified fuel handling*
- *Tuned for clean combustion*
- *About twice the cost of wood chips*
- *Small pellet mills make 4 tons per hour and cost several million dollars.*

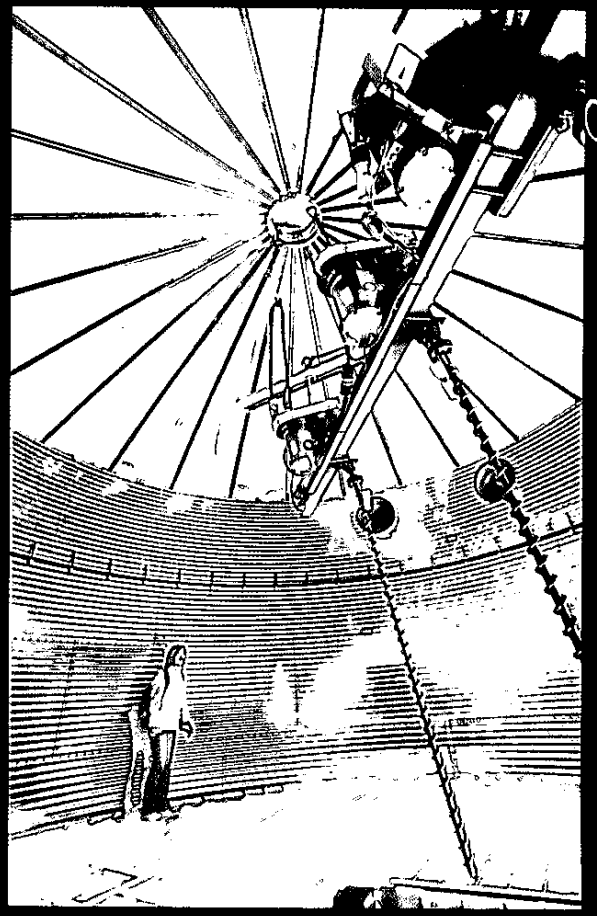
Pellet mill open for cleaning



Pellet mill open for business at 4 tons per hour



Grain silo ready for first batch of wood pellets



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Colorado Wood Utilization & Marketing Program

Governor's Energy Office

NREL National Renewable Energy Laboratory

Innovation for Our Future

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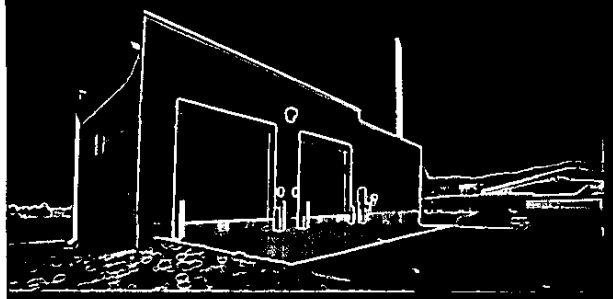


Wood-chip boiler building that heats the Darby School, the first Fuels for Schools project in Montana.

Rick Scheele – Darby Mayor, School Maintenance Supervisor, and local biomass "champion" – inspects a bad load of wood chips and explains how to avoid this problem.

The Team...

It's not what you know, but who you know...

There is no need to travel this road alone. Many communities have successfully installed wood-fueled systems and are willing to share what they have learned. But, perhaps the most important thing they will tell you is, *get yourself an experienced guide.*

COLORADO GOVERNOR'S ENERGY OFFICE, GEO, through its Woody Biomass Program and coordination of the Colorado Biomass Working Group, can assist with facility heating projects throughout the state. GEO staff and Working Group partners can help with overall project design, supply issues and possible funding mechanisms.

www.colorado.gov/energy

BIOMASS ENERGY RESOURCE CENTER has been on the team of nearly every public wood-fueled heating project in the country. You can immediately tap into their expertise through their publications and Web site. And when your team is ready for the heavy lifting, they can provide first-rate and affordable consultation.

www.biomasscenter.org

FUELS FOR SCHOOLS concept is simple: reduce heating bills at schools by utilizing low- or no-value forest waste. Their mission: help make your wood-fueled project a success. Their experience, candor, and successful examples will help guide your first wood-fuel project. As of October 2006, six wood-fueled systems have been installed, with 11 more on the way!

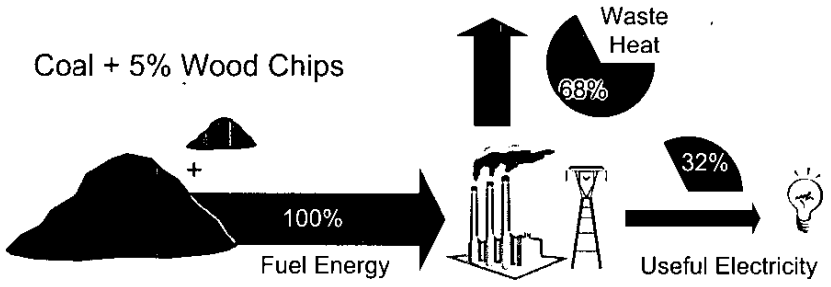
And, they are not just for schools anymore. They have expanded their program to include all public buildings that can benefit by using wood-fuels. Check out their Web site, then give them a call.

www.fuelsforschools.org

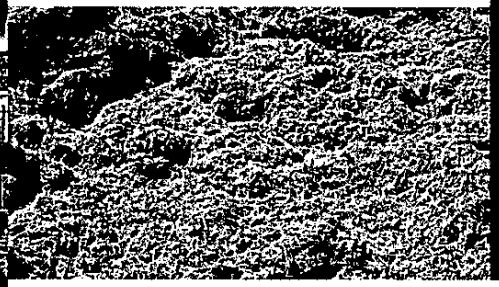
Co-firing with wood chips...

Co-firing usually means mixing a small percentage of wood chips with coal. Technically, this is typically straightforward, but the wood must be very cheap. Why?

- ◊ Coal is generally the cheapest fuel available.
- ◊ Coal supply contracts routinely exceed 15 years. This is difficult for wood to compete with.
- ◊ For a given mine, coal is very uniform in energy and chemistry. Wood is not.



Co-fired, coal-fired 38.5 MW power plant in Cañon City, Colorado. This is the first in the country to qualify the biomass for Renewable Energy Credits (RECs).



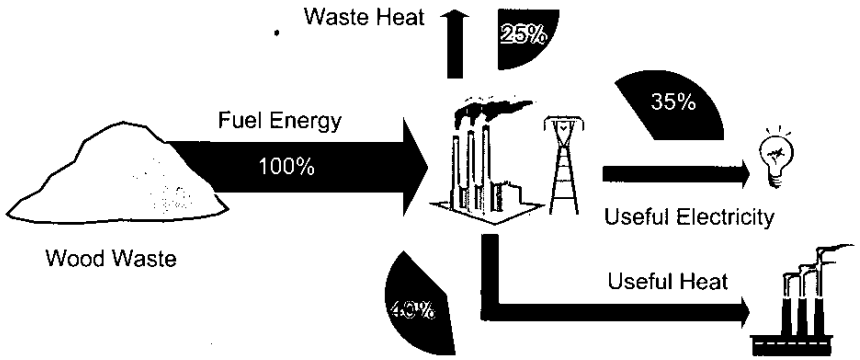
Large-scale, wood-waste-fired cogeneration mill on the Olympic Peninsula, Washington.

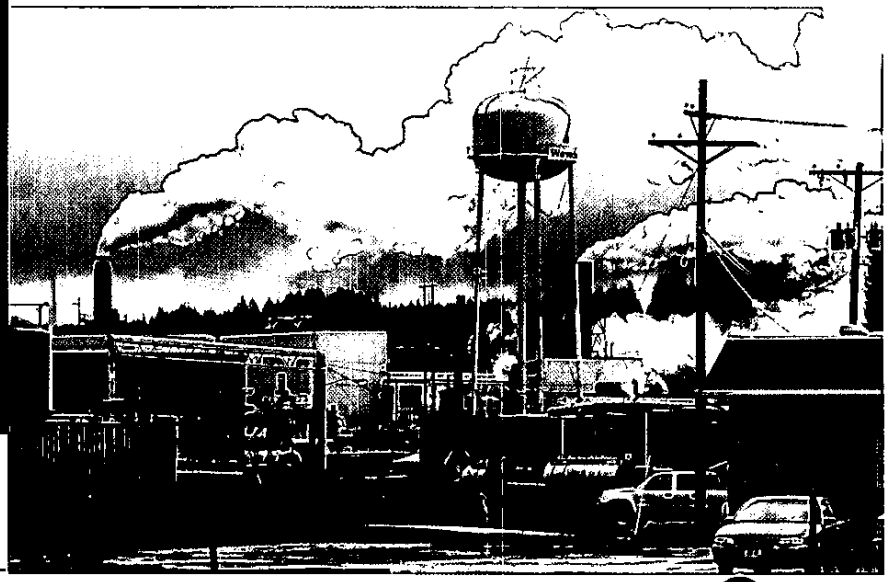
Cogenerating with wood chips...

Cogeneration, cogen, or Combined Heat and Power (CHP), means using the energy released from burning the fuel to simultaneously generate electricity ***and*** heat. While conventional coal plants only utilize a third of the fuel's energy, CHP systems can easily exceed 70%. To make these systems work economically, you generally need:

- ◊ A large heat load (industrial customer or district heating)
- ◊ Very cheap fuel (waste material on-site)

Paper mills are excellent examples of cogeneration, meeting both of these conditions.





If you are buying wood for its energy content, you will want to know the equivalent bone-dry weight. In fact, many good supply contracts are written in terms of the amount of energy, not the physical weight or volume. However, if you're hauling freshly cut wood out of the forest, your costs will be determined by the actual, or green tonnage weight.

Finally, when burning green wood, much of the wood's energy will be used for evaporating the moisture. Most systems cannot recover this heat; it just goes up the chimney as steam.

Electrical energy is measured in kilowatt-hours (kWh). One kWh is the amount of energy a 100-watt light bulb uses every 10 hours a or 1,500-watt blow-dryer uses in 40 minutes. A typical house uses around 700 kWh in a month. A 1-megawatt (MW) power plant can power about 1000 homes.

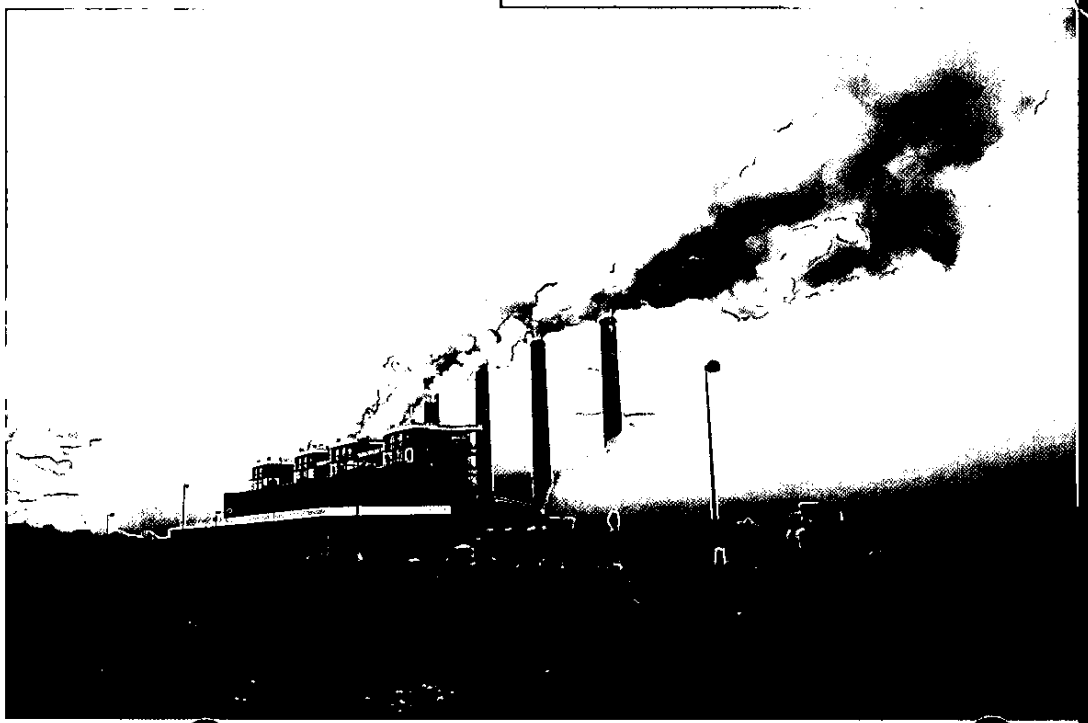
You can mathematically convert between heat energy and electrical energy. One kWh is about the same amount of energy as 1/2 pound of bone-dry wood. However, the most common technology used to convert heat energy to electrical energy—the steam turbine—is only about 35% efficient. So, to get 1 kWh worth of electricity, you need about 1 1/2 pounds of wood!

There are several key issues that often make it difficult for wood to be used as the primary fuel for electrical generation.

- **Scale.** Most power plants in the U.S. are between 100 MW and 2,500 MW. This is mostly because the cost of operating a power plant doesn't change very much between a small plant and a large plant. You still need a 24 X 7 trained/ skilled workforce.
- **Fuel costs.** About 50% of U.S. power plants use coal. Low cost, long-term contracts at about $1.20/MMBTU are not uncommon. This is equivalent to wood at $20 per bone-dry ton delivered and guaranteed for many years.
- **Fuel uniformity.** Coal plants are typically designed to be maximally efficient when using coal from a particular mine. The properties of the coal are very consistent. Wood, on the other hand...

How Much Can a Forest Sustainably Yield?

There is no single answer to this question. You will need to contact your local forest experts. However, as a rough estimate, forest restoration projects in the Intermountain West use 10 bone-dry tons per acre as a rule-of-thumb. In an area where ongoing management is planned, a 20-year re-entry cycle of vegetation treatment is common. Therefore, on average, one-half of a bone-dry ton per acre can be sustainably removed from the forest.



A 2,100 MW coal-fired (not co-fired) power plant in Sweetwater, Wyoming, generates enough energy for about 2,000,000 homes!

Let the Burner Beware...

$30 per ton? Is that a green ton, a bone-dry ton, or something in between?

30% moisture content? Is that dry basis or wet basis?

Moisture Content Formulas (important!)

Wood from a freshly cut live tree is "green wood." Its energy content varies dramatically. Wood that has been placed in an oven until all the moisture is removed is called "bone-dry" or "oven-dry" wood. Its energy content is very consistent.

$$\text{Dry Basis Moisture Content} = \frac{\text{Initial Weight} - \text{"Bone-Dry" Weight}}{\text{"Bone-Dry" Weight}} \times 100\%$$

$$\text{Wet Basis Moisture Content} = \frac{\text{Initial Weight} - \text{"Bone-Dry" Weight}}{\text{Initial Weight}} \times 100\%$$

The word "energy" in normal conversation is used fairly loosely with a variety of meanings. But in engineering and science, energy has a very precise, specific meaning: "the capability of doing work; different forms of energy can be converted to other forms, but the total amount of energy remains the same."

In the case of wood, that work could be warming your home or boiling water to make steam that spins a turbine that, in turn, runs a generator that produces electricity. These two forms of energy—heat energy to warm your home and electrical energy to light a light bulb—can be numerically measured and compared.

In the United States, heat energy is typically measured in BTUs, or British Thermal Units (today, the British use the metric counterpart, the Joule). One BTU is defined as the amount of heat energy needed to raise 1 pound of water 1 degree Fahrenheit. One BTU is about the amount of energy released by a single kitchen match, so it takes a lot of BTUs to do anything useful. Heating your home takes about 1 million BTUs each day in winter in many parts of the country.

How much energy is in a ton of wood?

It depends. Wood with all water removed (called "bone-dry" or "oven-dry") contains about 8,000 BTUs per pound—or 16 MMBTUs (MMBTU means 1 million BTUs) per bone-dry ton. This is nearly the same for all wood species. Wood, however, usually contains water, often a lot of it. And how much water the wood contains is referred to as its moisture content. Moisture content is very important in determining the amount of energy and economic value in a ton of raw material.

The moisture content depends on many things: the tree species; the length of time since the tree was felled, and the humidity of the climate where the wood is stored. Moisture content is measured in percentage (%), but there are two very different definitions—dry basis and wet basis (see calculations on sidebar). Dry basis is the most common method, but this needs to be clearly stated.

When felled, more than half the weight of the green wood can be water. Using the common dry-basis definition, the moisture content can actually be higher than 100%.

Energy Content of Some Common Fuels

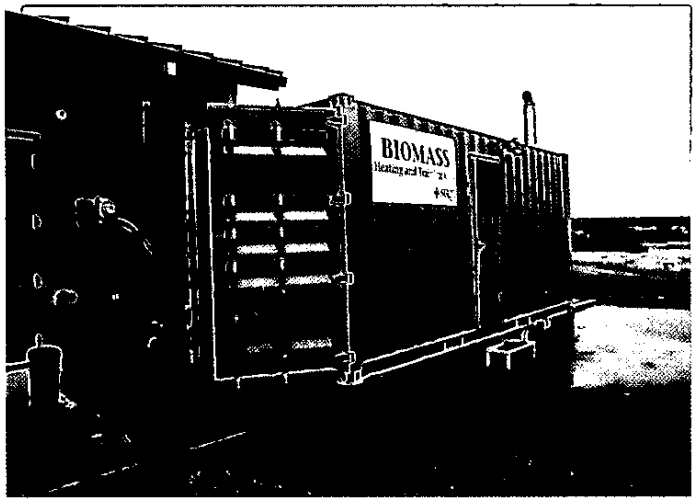
Fuel	Energy Content		Cost per Unit		Cost per MMBTU
Wood Chips	about 8,000 BTU	per bone-dry pound	$0 to $100	per bone-dry ton	$0 to $6.40
Wood Pellets	8,000 BTU	per pound	$140 to $250	per ton	$8 to $15
Electricity	3,413 BTU	per kWh	$0.05 to $0.15	per kWh	$14 to $44
Natural Gas	1,000,000 BTU	per MMBTU	$5 to $15	per MMBTU	$5 to $15
Heating Oil	139,000 BTU	per gallon	$2.00 to 2.60	per gallon	$14 to $19
Propane	91,000 BTU	per gallon	$2.00 to $2.90	per gallon	$22 to $32
Coal	8,800 - 13,000 BTU	per pound	$12.00 to $70.00	per delivered ton	$0.70 to $2.40

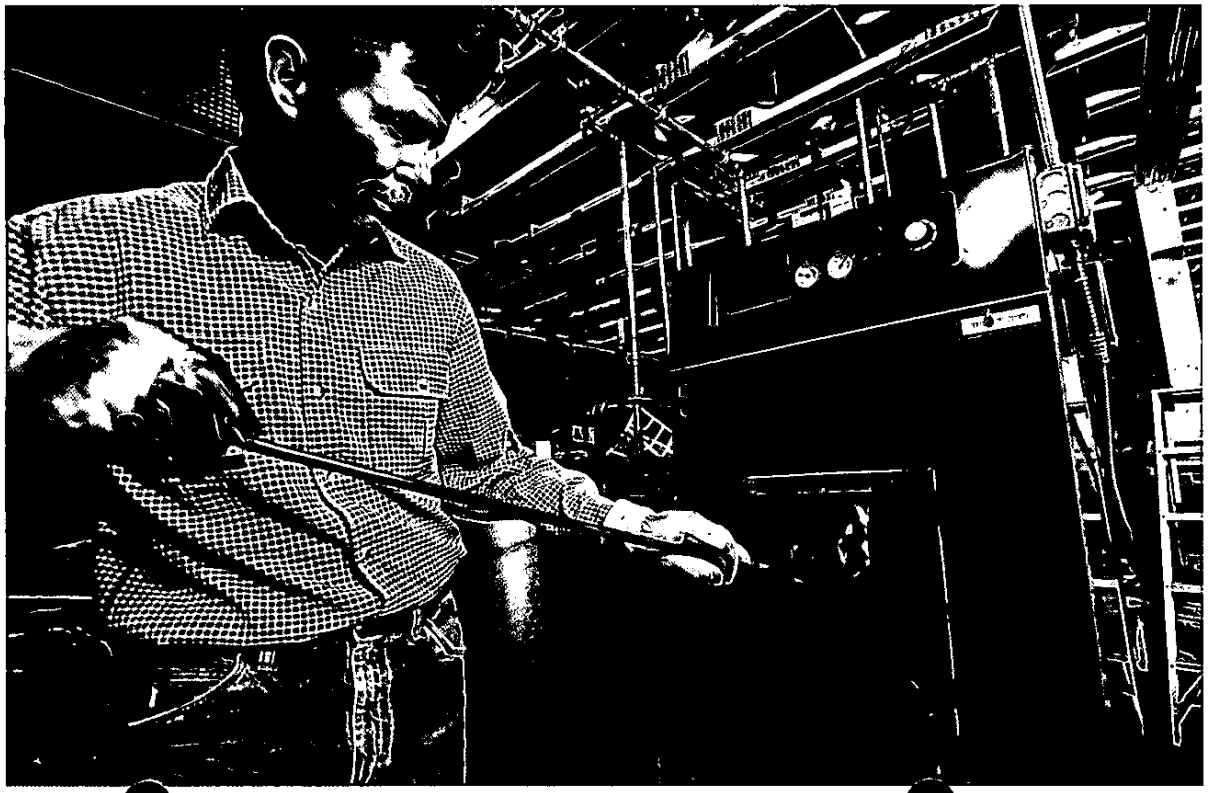
These numbers are derived from U.S. Department of Energy statistics for 2005-2006, your mileage may vary.
MMBTU = 1 million BTUs.

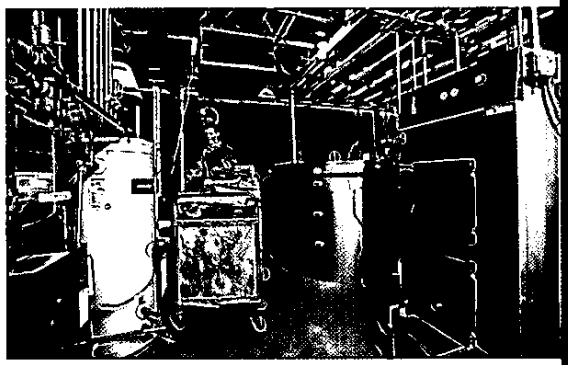
Cordwood Boilers

As part of their hands-on Sustainable Energy Certificate program and the college's efforts to manage rising energy costs, Santa Fe Community College installed this 300,000 BTU/hr boiler and housed it in a shipping container.

The boiler features an integrated 1,500 gallon water jacket to store heat. This allows the wood to be burned rapidly and cleanly at an optimum rate, independent of how much heat is needed. Need more heat? Load the fire box more frequently. Less heat? Less often. No smoldering fires here!



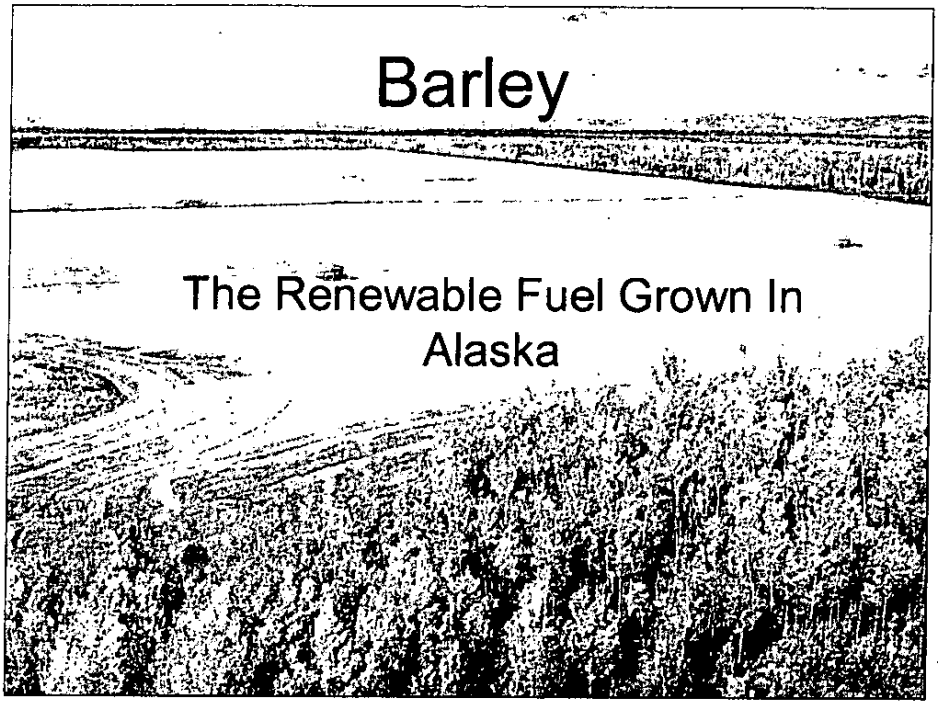




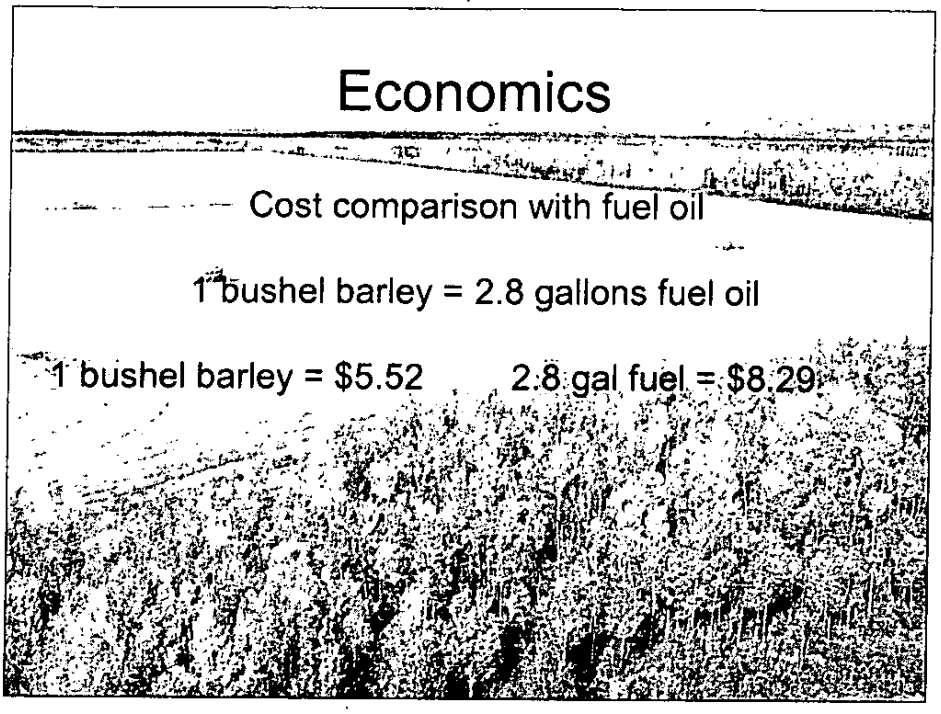
While the larger units really need their own shed or outbuilding, smaller European boilers, like this 130,000 BTU/hr unit, can fit nicely in your basement. Of course, not all basements are set up to haul in firewood.

A 650 gallon hot water tank (silver tank) is the recommended way to store several days' worth of energy.

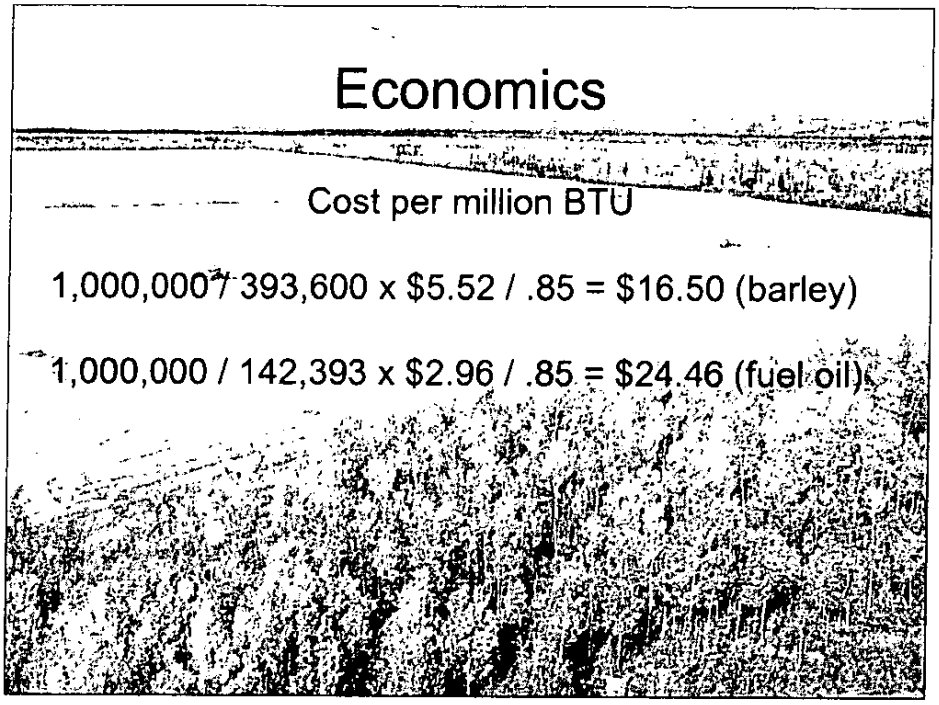
Dave Followill can fire his boiler once a week in the summer to provide his home with domestic hot water.



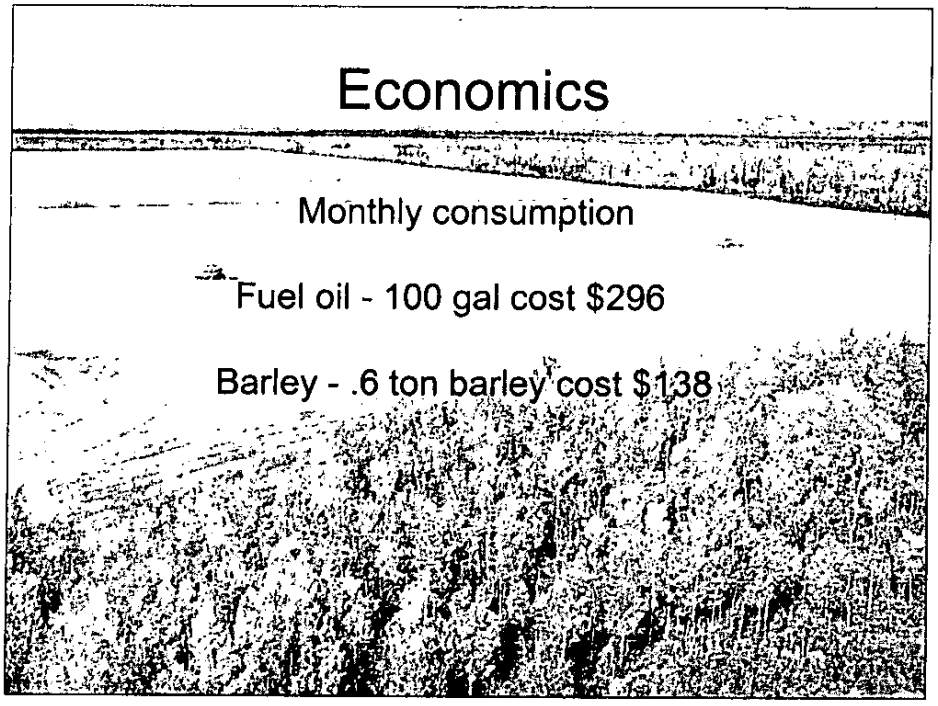
Burning grain for heat is relatively new in the United States. In Europe however, it has been going on for many years. Resource scarcity there has encouraged innovation in renewable resources that we are just beginning to consider here. In spite of our abundant resources, it is incumbent for us as responsible stewards of the land to learn from others so that we do not waste time reinventing the wheel. Barley is a resource easily grown in Alaska. Developing its use as a fuel enables us to utilize other resources the state has – its agricultural land and its citizens.



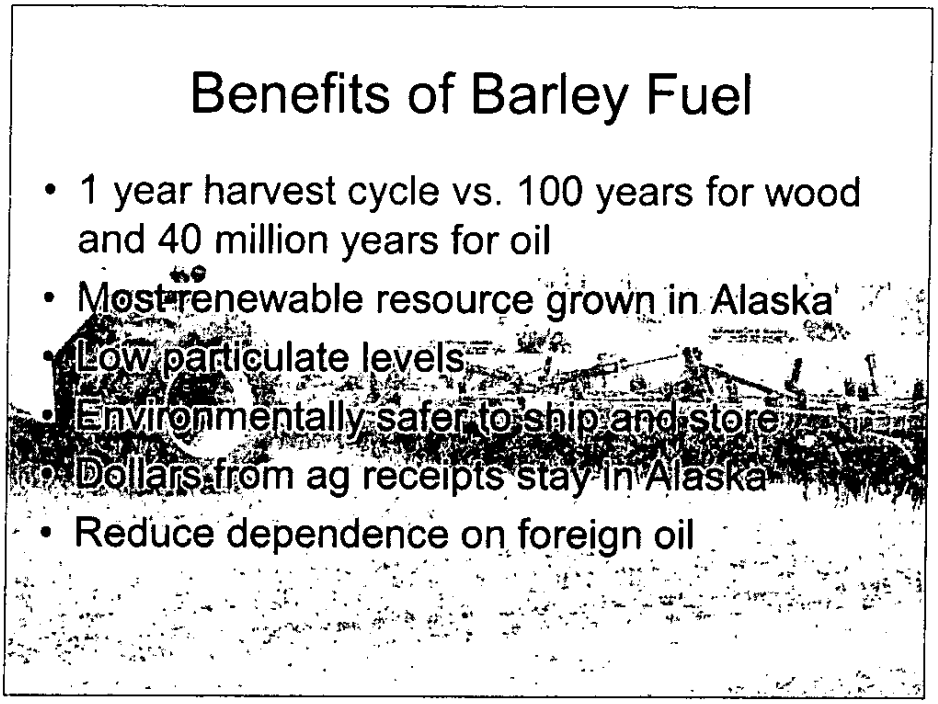
A bushel of barley has the equivalent BTU output as 2.8 gallons of fuel oil. It is challenging to determine what prices to use in order to make a comparison for heating costs. For this presentation, I am using a barley cost of $5.52 per bushel in 50# bags, which is the most expensive packaging. For fuel oil I am using $2.96, the cost I paid for fuel oil this winter in Delta. Right now fuel is less expensive, but the trend is higher again, a trend which is expected to continue.



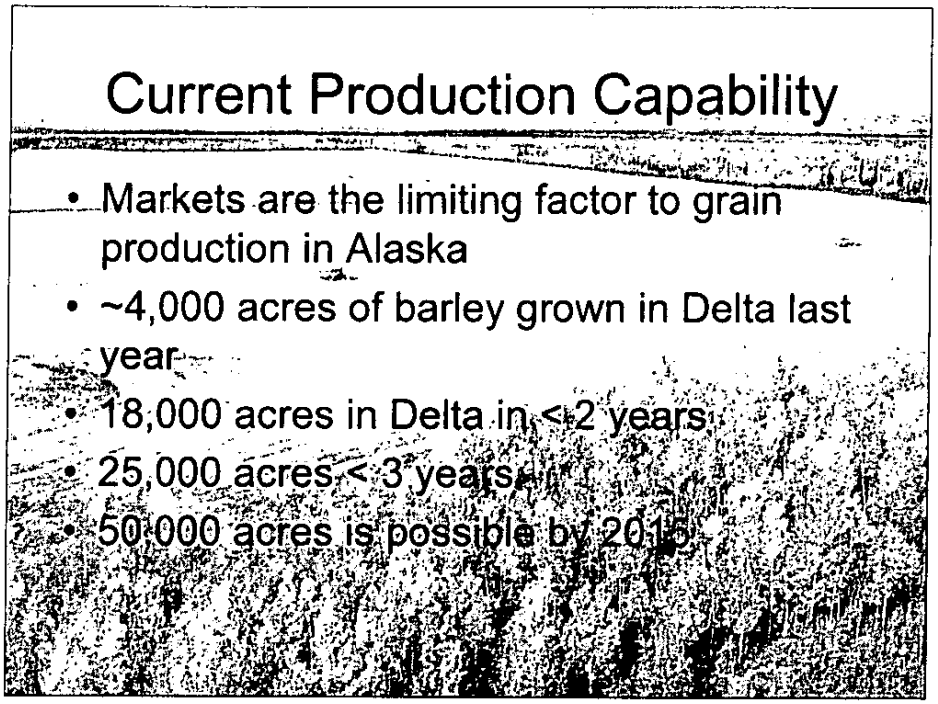
By converting BTU output to cost per million units, it is easy to make a comparison between barley and fuel oil. There are 393,600 BTU's per bushel of barley and 142,000 BTU's per gallon of fuel oil. An 85% efficiency rating was assumed for both furnaces, a reasonable rating for most home heating units.



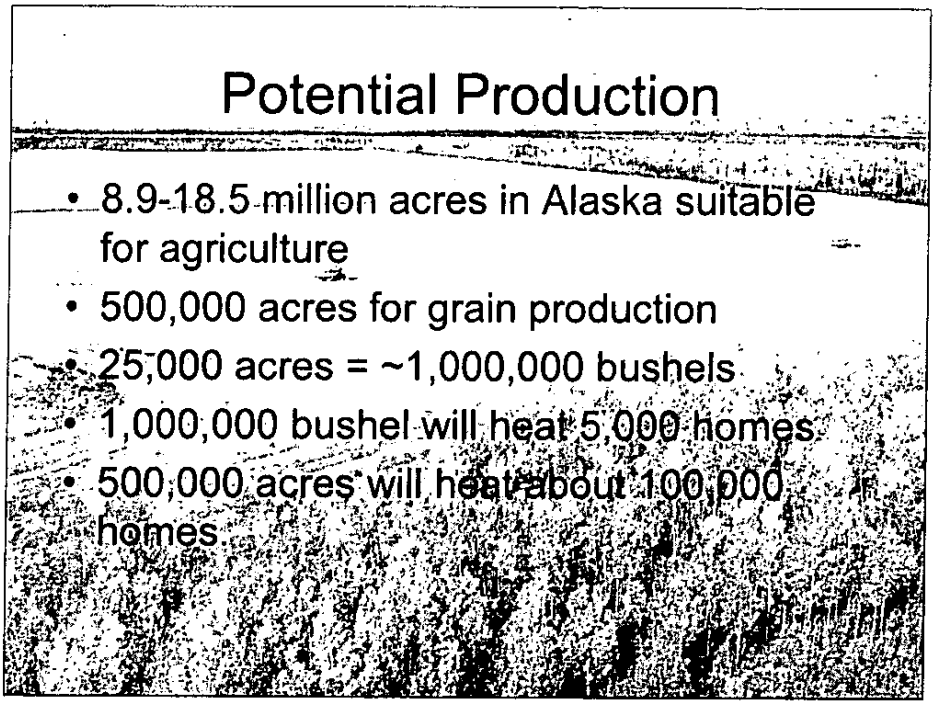
Another way to examine the direct effect on a family's pocketbook is to look at the monthly cost of heating their home. Assuming it takes 100 gallons of fuel oil to heat a 1500 sq ft home for one month, it will cost the family about $300 a month. It takes about 40# of barley per day to heat the same home, or just over a half ton per month. The cost of heating with barley would be about $138 per month.



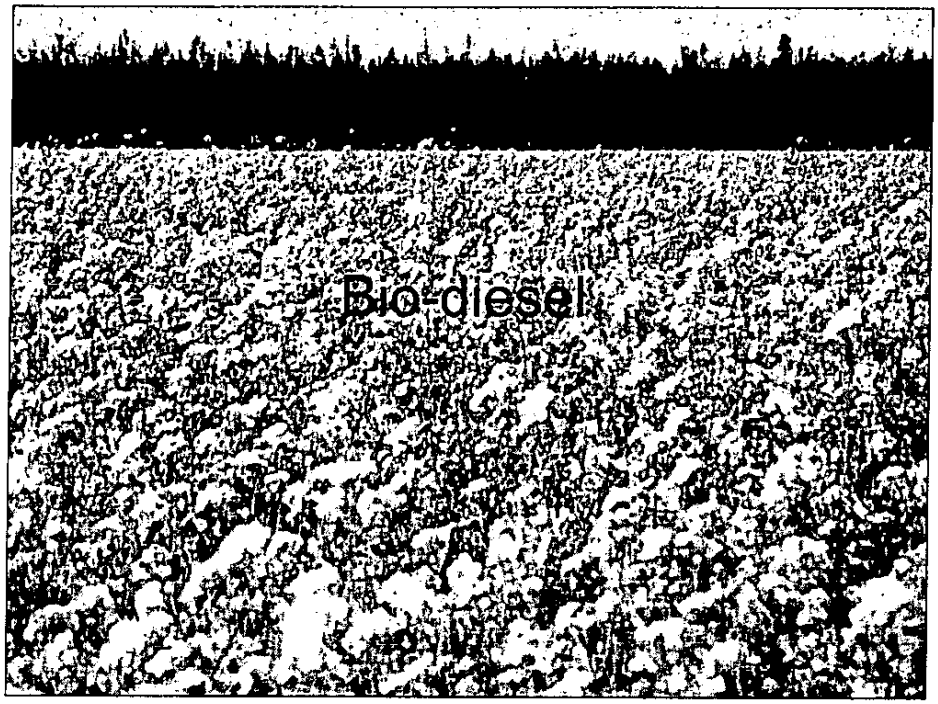
With a carbon cycle of one year, barley is the most renewable resource that can be grown for heat in Alaska. Wood, which is the most common form of alternative energy, has a carbon cycle of 100 years for interior forests. Barley has much lower particulate levels than wood. High particulate levels from outdoor wood burning boilers has caused concern in cities where EPA particulate thresholds are often exceeded in cold weather. Barley is not a hazardous material so it can be shipped as a commodity to villages, making it cheaper and safer than shipping fuel oil. Another advantages to using agricultural products is that typically, ag receipts turn over again and again in the community, up to 7 times. Oil purchases on the other hand turn over twice before finding their way Outside. This is known as the multiplier effect in economics.



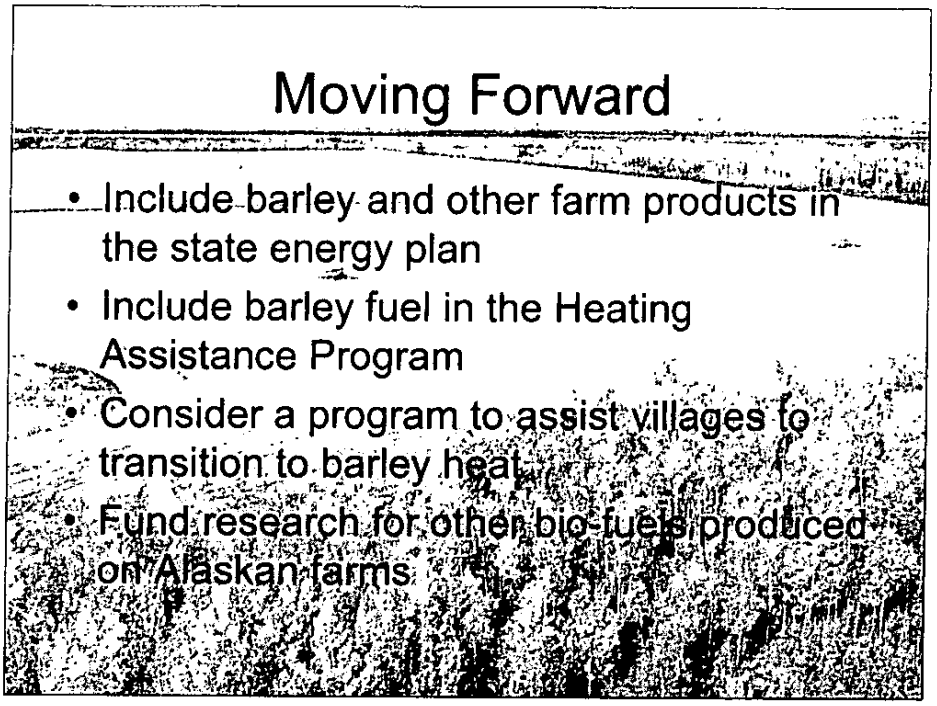
Markets have always been the limiting factor for production. Over the years farmers have adjusted production to the available market. Last year about 4,000 acres of barley were grown. Because barley is such an easy crop to raise, the Delta area alone could have around 18,000 acres in production within 2 years and within 3 years, there could be 25,000 acres in barley if markets justified the extra acreage. By 2015, another 25,000 acres coming out of CRP could potentially be put into production; again, if the market justified the extra production.



2,000,000 acres of farmland is lost each year to urban encroachment in the United States. No where else in the country is there such potential for bringing new ground into production as in Alaska. Depending which survey you choose to accept, between 8.9 million and 18.5 million acres have been identified with potential for agricultural production in Alaska. When the first large scale agriculture area went in, the state's agricultural plan called for 500,000 acres to be in production by the early 1990's. The failure to reach that goal was not because crops could not be grown here. It was primarily because markets did not develop as quickly as production did. As far as potential for grain production and its use for fuel, each acre will produce about 1 ton or 40 bushels. Therefore, 25,000 acres will grow enough barley to heat about 5,000 homes.

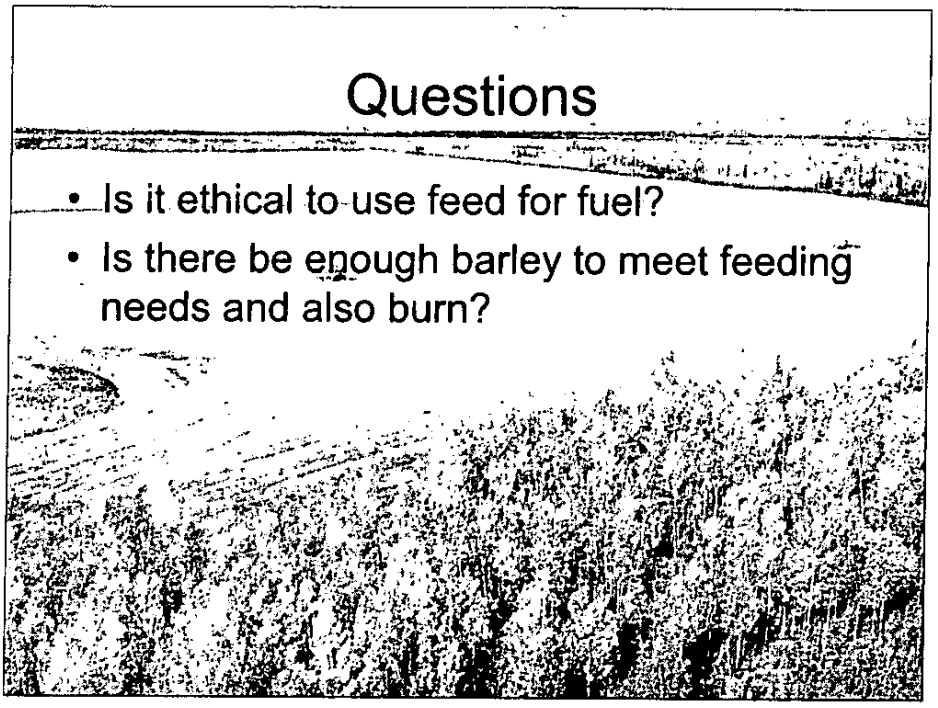


Canola production is gaining interest. New short season varieties show promise for bio-diesel production and biodegradable hydraulic oil. In fact, last summer canola oil was used to run farm equipment on one farm in Delta. The potential for thousands of acres exists if a processing facility can be built. Planning for a small processing facility is already underway in Delta. In the meantime, we have discovered that with the right variety, we can grow canola that meets the requirements for food grade canola oil.



Alaskan farmers have been working for years to create a sustainable agriculture industry. The original goals of the agriculture project remain as important today as they were in the mid 70's. In one generation Alaskan agriculture has accomplished what took 150 years Outside.

Alaskan farmers are stepping up to the plate to help feed and fuel the state. State government can help us do that by including barley and other farm derived products in the state energy plan. Barley should be included in the Heating Assistance Program. State officials could consider a program to help residents transition from polluting, inefficient wood stoves to more efficient stoves designed to burn barley. In an effort to reach the goal of 50% renewable fuel by 2025, research funding should be targeted to producing heat and power from other bio-fuels including straw, canola, and grass.



1- Ethical – barley is a renewable resource, which should be used in the most beneficial manner possible. The in-state demand for livestock feed is currently met with production from about 3,000 acres. It is seldom economically viable to ship grain out because of the cost of shipping. Any increase in production therefore, becomes surplus and too much surplus discourages future production. Additional markets are needed to promote more cultivation, which in turn stabilizes supply for increased livestock production. Asking if burning barley is ethical is like asking if we should burn firewood when there is a demand for lumber.

2- Is there enough barley to burn and feed? Yes, there is at current production and current demand. The goal is to increase demand for barley by expanding markets and at the same time expand production to keep up with the increased demand. A more appropriate question is whether there will be enough to feed if we do not develop additional markets. It requires a certain level of production over demand (>15%) to assure potential livestock owners that their feed needs can be met before they invest in livestock enterprises. The more markets that can be developed for a commodity the more security there is for grain growers to increase production.

9-01-10 Presentation Cook Inlet Natural Gas Storage

<target><bill></bill><subject>9-01-10 Presentation Cook Inlet Natural Gas Storage</subject><comm>HENE26</comm></target>

Alaska Legislature
House Special Committee on Energy

Rep. Charisse Millett
State Capitol Building, Room 412
Juneau, AK 99801
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Rep_Charisse_Millett@legis.state.ak.us

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AGENDA

Wednesday, September 1, 2010
1:30 p.m.
Anchorage LIO (#220)

TOPIC: Cook Inlet Natural Gas Storage (CINGS)

1) Coleen Starring, Rick Gentges, ENSTAR
2) Kevin Banks, Alaska Division of Oil and Gas
3) Bob Pickett, Regulatory Commission of Alaska
4) DAN SEAMOUNT / ACOGCC
Invited testimony only
Meeting will be Teleconferenced

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2121

Cook Inlet Natural Gas Storage-Alaska

Cook Inlet Natural Gas STORAGE

2122

Presentation Agenda

- CINGSA, LLC
- Purpose and Need
- Gas Storage 101
- Site Selection
- Site Specifics
- Customers
- Q&A

Cook Inlet Natural Gas STORAGE

Who is CINGSA?

SEMCOENERGY

MIDAMERICAN ENERGY HOLDINGS COMPANY

- 70/30 Joint Venture
- CINGSA will provide storage service to:
  - ENSTAR
  - Chugach Electric
  - Municipal Light & Power

Cook Inlet Natural Gas STORAGE

Project Purpose and Need

- Construct and operate a new underground natural gas storage facility in Kenai, Alaska
- Peak winter gas demand is forecast to exceed delivery capability of local production – causing potential shortages
- Project will provide operational peaking flexibility and greater security of supply
- Project will enhance system reliability

Cook Inlet Natural Gas STORAGE

Winter vs. Summer Demand

- For all utilities, the demand for natural gas in the winter months is 5X higher than in the summer months
- ENSTAR's demand for natural gas heating load in the winter months is 14X higher than in the summer months

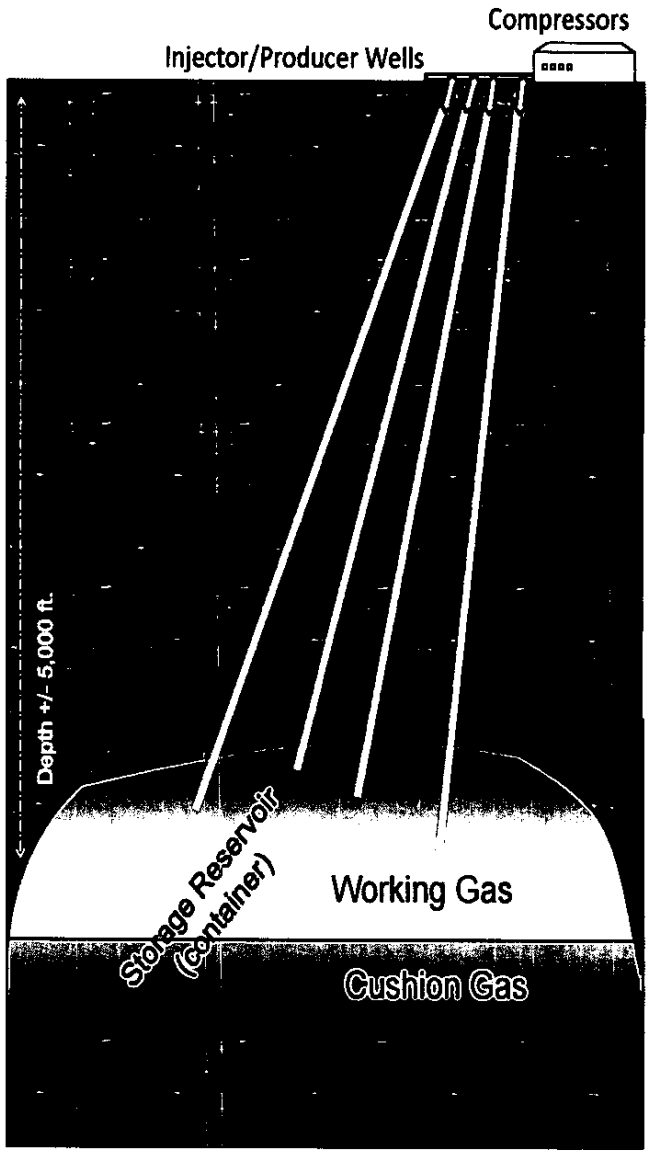
Benefits from this Project

- Reliable deliverability – short and long term benefits
- Less volatile pricing
- May encourage natural gas development in Cook Inlet

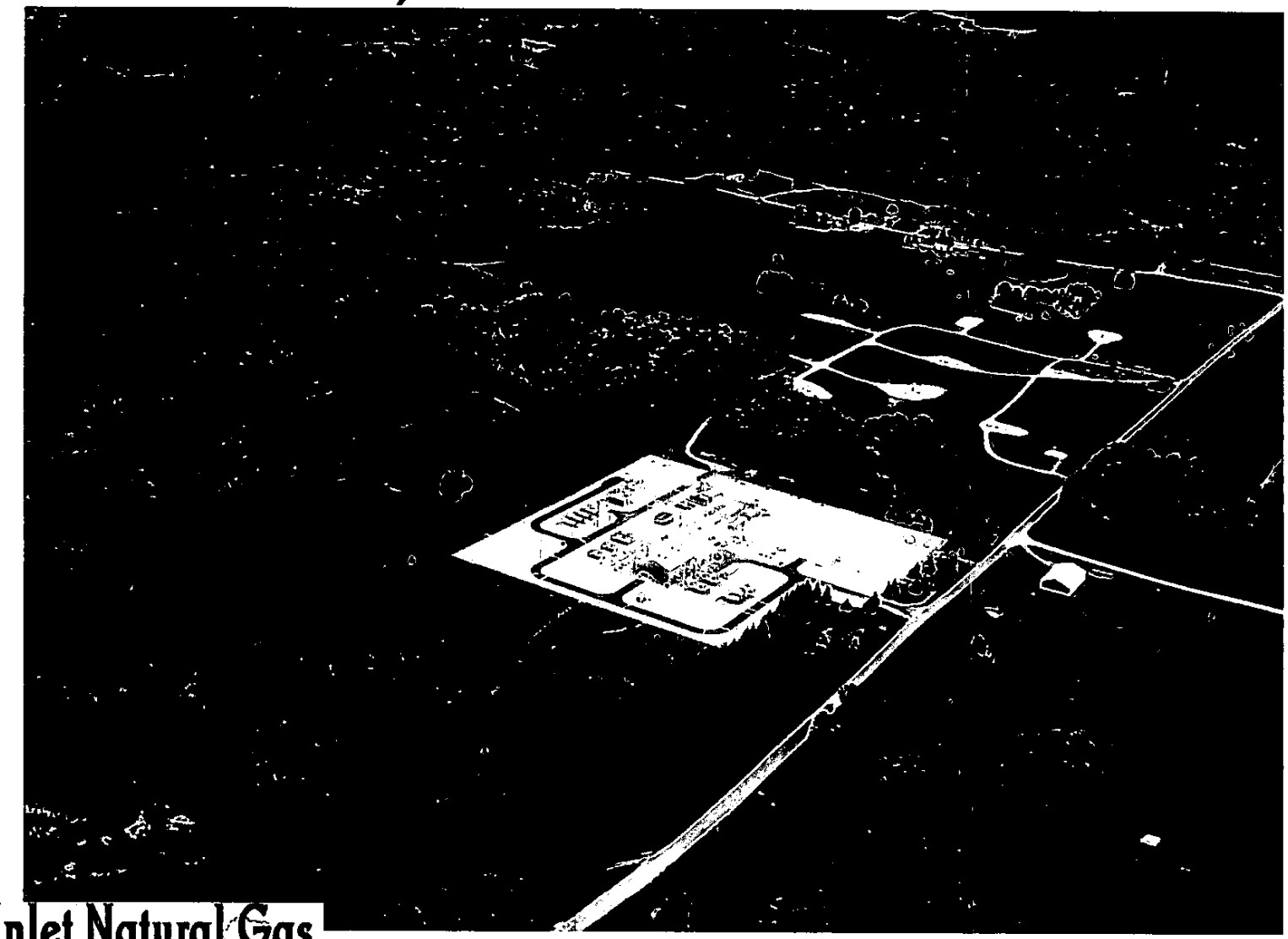
Cook Inlet Natural Gas STORAGE

Gas Storage 101

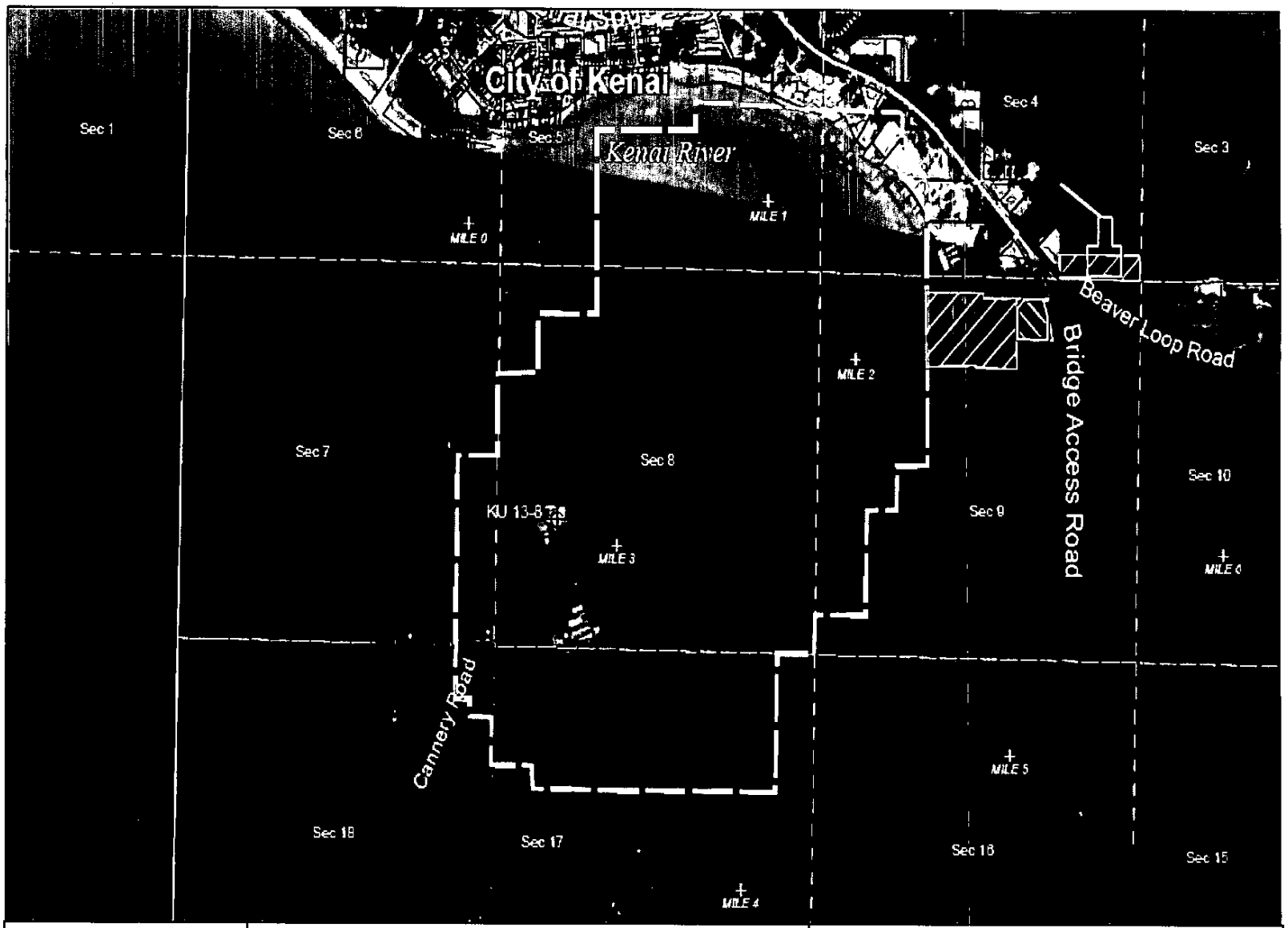
- First natural gas storage in Weland County, Ontario, Canada, in 1915, 1930 in Buffalo, New York
- Most commonly stored in depleted gas reservoirs, over 400 in use in North America storing 4 TCF
- Geologic considerations:
  - Porous and permeable structure
  - Impermeable cap rock
  - Well defined geologic structure



Similar Size Storage Station and Wells (Charlton, MI)



Cook Inlet Natural Gas STORAGE



AECOM

AECOM ENVIRONMENT
1835 S. Bragaw Street, Suite 450
Anchorage, Alaska 99508
phone: (907)561-5700
fax: (907)279-4555
web: http://www.aecom.com

Project No. 60157426

Cook Inlet Natural Gas Storage

Cook Inlet Natural Gas Storage Alaska, LLC

Kenai, Alaska

August [illegible]2010

LEGEND:

- Proposed Underground Storage Boundary
- Proposed Interconnecting and Gathering Pipeline Routes
- Proposed Surface Footprint of Well Pad and of Compression/Gas Conditioning Facility
- Proposed Subsurface Easement Area
- Proposed Lease Area of Well Pad
- Kenai City Limits

1:24,000

Project Considerations

- Minimize Social Impacts: neighborhoods, travel patterns, rights-of-way
- Promote Positive Economic Impacts (locally, regionally)
- Preserve Local Land Use and Traditional Uses
- Avoid Cultural Resources
- Proper Waste Disposal
- Protect Air Quality
- Minimize Noise
- Avoid Wetlands
- Protect Fish and Wildlife
- Maintain Water Quality
- Avoid Floodplains

Cook Inlet Natural Gas STORAGE

Decisions and Authorizations

- State
  - DNR, Division of Oil and Gas: Gas Storage Lease and Lease Plan of Operations
  - DNR, Division of Mining, Land and Water: Surface Lease, Pipeline Easement and Land Classification Order
  - DNR, Division of Coastal and Ocean Management: Consistency Determination
  - DOA, Alaska Oil and Gas Commission: Injection Orders
  - Regulatory Commission of Alaska: Tariffs
  - DEC, Air Permit, 401 Water Quality Certification*
  - DNR, NAWCA*
- Federal
  - U.S. Army Corps of Engineers Wetlands Permit
- Local
  - Kenai Peninsula Borough Requirements

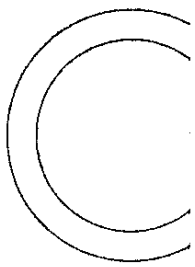
Process and Schedule

- Permitting Complete – 11/2010
- Surface Construction – 10/2010 to 8/2012
- Subsurface Construction – 9/2011 to 4/2012
- Commission Withdrawal Facilities 10/2012

Cook Inlet Natural Gas STORAGE

Customer Profiles

- ENSTAR
  - 5 Bcf
  - 113 Mmcfd injection
  - 91 Mmcfd withdrawal
- CEA
  - 2.4 Bcf
  - 27 Mmcfd injection
  - 35 Mmcfd withdrawal
- ML&P
  - .6 Bcf
  - 10 Mmcfd injection
  - 10 Mmcfd withdrawal



Questions

8/31/10

Background and Talking Points for House Energy Committee Meeting on 9/1/2010

1. Description of Project

- CINGSA is a 70/30 partnership between Semco Energy (ENSTAR's parent company) and MidAmerican energy. The estimated cost of the project is $180MM.
- The project is intended to provide reliable delivery and encourage development of Cook Inlet gas. For example, ENSTAR's peak winter demand can be up to 14X higher than the summer lows.
- The initial capacity of the project is 11 BCF, expandable to 18 BCF. The maximum injection/withdrawal rate is 150 MMCFD.
- The project will consist of 5 injection/withdrawal wells on a 7 acres lease from DNR, a separate 7.5 acre compression/gas conditioning facility on land CINGSA purchased from the University, and associated pipelines connecting these facilities with the gas storage lease (which will be within the current Cannery Loop unit) and the Kenai-Nikiski Pipeline. The wellpad area has been designed to allow for the installation of 2 additional injection/withdrawal wells, if necessary.
- CINGSA's schedule has permitting complete by November 2010; surface and sub-surface construction completed and first injection by late summer of 2012, and first withdrawal by winter 2012/13.

2. Non-DNR Regulatory Issues

- The AOGCC has scheduled a public hearing on CINGSA's Storage Injection Order application for October, 2010. To the best of our knowledge, there are no outstanding issues.
- The current agreement between CINGSA and ENSTAR could fall apart if the RCA does not approve CINGSA's application for a CPCN by 1/31/11. CINGSA has requested expedited consideration, which is likely to be approved. Interestingly, MEA has opposed expedited consideration asserting that approval of the project would represent a de facto commitment of credit capacity of Southcentral utilities and raise the bar for other projects. RAPA has raised issues regarding CINGSA's rate structure, maintaining inception rates for 5 years (rather than being subject to an earlier "true-up) and other factor, such as a proposed 50/50 dept equity structure.

3. Tariffs and Third Party Access

- Tariffs - **Capacity Rate**: $0.13 / MCF / Month * 11 BCF * 12 months / year = $17 MM / year: **Volumetric Rate**: $9.95 / MCF / Month * 150000 MCF * 12 months / year = $18 MM / year: **Total Fixed cost of system for firm service** is $35 MM per year: Usage charge is $0.016 / MCF

- If all of the capacity were used one time each year the effective cost would be about $3.30 / MCF. Assuming the system uses 90 BCF per year, the average cost per MCF is about $0.40 / MCF. While the $3.30 / MCF charge is high for the stored gas, when averaged across the gas consumption the cost seen by the consumer is more palatable.
- Third Party Access –
  - a) Any Customer may request CINGSA to increase design capacity
  - b) CINGSA is obligated to hold an open season "on a commercially reasonable basis".
  - c) All open season bids "shall be evaluated on a non-discriminatory basis"; bidders must meet the existing tariff terms on creditworthiness
  - d) Post open season, CINGSA informs bidders of non-discriminatory capacity award, and indicative costs and rates that are consistent with the pre-existing tariff.
  - e) Bidders have 30 days to sign an expansion firm storage service agreement (precedent agreement)
  - f) After bids have been tendered, "seller shall proceed with the expansion if it is technically feasible and commercially reasonable."
- CINGSA, in other words, commits to expand if doing so is "commercially reasonable and technically feasible". Should there be a dispute about this from an aggrieved shipper, the RCA can be brought in to help resolve the question of what "commercially reasonable" means in a given instance.
- Because of the existence of a regulatory backstop this is, in essence, all that is necessary to ensure adequate third party (so long as the regulators do their job).

B. DNR Issues

1. The Oil and Gas Lease

- The Division has met with both Marathon and CINGSA (when it was CINGS) about assigning Marathon's interest in the underlying oil and gas leases to CINGSA. Marathon and CINGSA have not yet completed their negotiations. There are a number of outstanding issues.

2. Gas Storage Lease

- Major terms of the storage lease are agreed upon. It's for an initial term of 15 years, with a 5 year renewal provision. It consistent with the provisions HB 280. Under HB 280, the fee is waived for 10 years, and withdrawn gas is considered to be non-native until the cumulative withdrawn volume of gas exceeds the cumulative injected volume.

3. DNR Land Use and Permitting

- In addition to the gas storage lease discussed above, the project requires the following State permits and approvals: plans of development and operations; a surface lease; a pipeline easement and land classification order; an ACMP consistency determination; an AOGCC

storage injection order; an RCA issued CPCN; and a DEC issued air permit and 401 water quality certification.

- All of these permits are on track to being noticed and finalized consistent with CINGSA's schedule.
- The DNR surface lease, pipeline easement, land classification and ACMP consistency determination all went out for public review on July 26, 2010 (the gas storage lease was also included in the package but is not subject to public review), and there was a public meeting held in Kenai on August 5, 2010. Seven comments, both critical and supportive, were received by the August 24th deadline. The department is currently reviewing and preparing to respond to the public comments.
- The final ACMP determination is scheduled for September 13, 2010, and agency permits may be issued as soon as five days after that.
- There are, however, two land issues that must still be resolved. The first involves the 7 acre surface lease from DNR for the wetlands that lies within lands purchased under a North American Wetlands Act (NAWCA) grant for conservation purposes. The 7 acres must be "converted" from its current conservation status and substitute lands acceptable under the NAWCA grant must be provided. CINGSA must therefore purchase substitute lands of equal or greater value and donate those lands to DNR for management under terms acceptable to NAWCA. Finalization of the acquisition, and NAWCA acceptance, of suitable replacement lands may delay start up of wellpad clearing.
- The second involves an old Chevron well that sits next to a fish cannery. CINGSA has said, to ensure safe operation of the gas storage facility, it must re-enter and completely plug to a higher standard an old plugged and abandoned exploration well which intercepts the gas storage reservoir. That exploration well is beneath pavement immediately adjacent to a building on land leased by the City of Kenai for the fish cannery operation. Re-entry and plugging the well would require demolishing the adjacent building and CINGSA is still trying to come to terms with the lessee about this.

Application for Natural Gas Storage Filed.

Cook Inlet Natural Gas Storage Alaska, LLC ("CINGSA") has filed an application under AS 42.05.221-.241 for a certificate of public convenience and necessity authorizing the provision of natural gas storage services to customers in the Cook Inlet area. The proposed facility would allow gas to be injected into underground storage during times of lower demand and withdrawn for use at times of higher demand. The CINGSA application is the first request filed by the owner of a natural gas storage facility since the passage of the Cook Inlet Recovery Act, which amended AS 42.05.990(4) to clarify the RCA's jurisdictional authority over natural gas storage facilities. CINGSA has requested a decision on its application by December 1, 2010. The RCA issued a public notice on August 4, 2010, requesting comments on the application due by 4:30 p.m., August 25, 2010.

For information pertaining to the CINGSA Application and Docket U-10-051 please click the link below:
U-10-051

Date Issued: 8/5/2010

701 West Eighth Avenue, Suite 300 Anchorage, Alaska 99501-3469
Phone: (907) 276-6222 Fax: (907) 276-0160 TTY: (907) 276-4533
Toll Free: (1-800) 390-2782 (outside Anchorage, within Alaska)
Webmaster: webmaster.rca@alaska.gov

Matter Number: U-10-051

In the Matter of the Application for a New Certificate of Public Convenience and Necessity for COOK INLET NATURAL GAS STORAGE ALASKA, LLC

Summary | RCA Assignments | Service List | Matter Calendar | Event Dates | Documents | Hearings & Meetings | Pending Actions | Public Notices & Comments

SUMMARY

Matter Type	U - Docket	**Short Description**	Application - New Certificate (Gas Storage Facilities)
Matter Subtype	Application - New Certificate		
Status	Open	**Tariff Status**	
Certificates			
Utility Type	Gas Storage		
Regions			
Communities			

MATTER TIMEFRAMES

Opened	7/28/2010
Notice Issued	8/4/2010
Public Comment Deadline	8/25/2010
Comment - Reply Deadline	
Statutory Timeline	1/31/2011
Closed	

PARTIES

To sort by a column, click the column heading **Total Results:** 1

Name
COOK INLET NATURAL GAS STORAGE ALASKA, LLC

RELATED MATTERS

No related matters found

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Documents

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	Tracking Number	Date	Type	Description	Related Matters	
☑	TR1005057 View File(s)	8/30/2010	Petition for Intervention	PETITION TO INTERVENE for HOMER ELECTRIC ASSOCIATION, INC. and ALASKA EDISON ELECTRIC CORPORATION Filed By: ANDREW E HOGE More Details	U-10-051	
☐	10-0447 View File(s)	8/27/2010	Procedural-Panel	U-10-051(2): ORDER ACKNOWLEDGING COMMENTS AND REQUIRING REPLY COMMENTS More Details	U-10-051	
☐	TR1004979 View File(s)	8/25/2010	Comments	COMMENTS from THE ATTORNEY GENERAL Filed By: DANIEL PATRICK O'TIERNEY More Details	U-10-051	
☐	TR1004975 View File(s)	8/25/2010	Comments	COMMENTS from MAYOR DAN SULLIVAN URGING THE RCA TO EXPEDITIOUSLY APPROVE U-10-051 SO CINGSA CAN PROVIDE NATURAL GAS STORAGE SERVICES IN SOUTHCENTRAL ALASKA. Filed By: Mayor Dan Sullivan More Details	U-10-051	
☐	TR1004969 View File(s)	8/25/2010	Comments	COMMENTS from UNION OIL COMPANY OF CALIFORNIA REGARDING CINGSA'S APPLICATION FOR NEW CERTIFICATE OF PUBLIC CONVENIENCE AND NECESSITY FOR COOK INLET NATURAL GAS STORAGE, LLC Filed By: Gary Orr More Details	U-10-051	
☐	TR1004960 View File(s)	8/25/2010	Public Comments	PUBLIC COMMENTS from M. HAWKER FOR THE REGULATORY COMMISSION OF ALASKA Filed By: Mike Hawker More Details	U-10-051	
☐	TR1004973 View File(s)	8/25/2010	Certificate of Service	CERTIFICATE OF MAILING FOR COMMENT OF GARY ORR for UNION OIL COMPANY OF CALIFORNIA Filed By: PATTI JULIUSSEN More Details	U-10-051	
☐	TR1004971 View File(s)	8/25/2010	Petition for Intervention	COMMENTS from MATANUSKA ELECTRIC ASSOCIATION, INC. and PETITION TO INTERVENE Filed By: DAVID PEASE More Details	U-10-051	
☐	10-0441 View File(s)	8/25/2010	Initiating-Chair	U-10-051(1): ORDER DESIGNATING COMMISSION PANEL, APPOINTING ADMINISTRATIVE LAW JUDGE, AND ADDRESSING TIMELINE FOR DECISION More Details	U-10-051	
☐	TR1004954 View File(s)	8/24/2010	Supplemental Filing	SUPPLEMENTAL CLARIFICATION OF OWNERSHIP INFORMATION FOR COOK INLET GAS STORAGE ALASKA, LLC Filed By: MATTHEW T. FINDLEY More Details	U-10-051	
☐	TR1004608 View File(s)	8/4/2010	Public Notice-Incoming	PROOF OF PUBLIC NOTICE for ENSTAR NATURAL GAS COMPANY, A DIVISION OF SEMCO ENERGY, INC. Filed By: DANIEL M DIECKGRAEFF More Details	U-10-051	
☐	TR1004595 View File(s)	8/4/2010	Public Notice-Outgoing	U-10-051 Public Notice Filed By: James Keen; Colleen Starring More Details	U-10-051	
☐	TR1004556	8/3/2010	Supplemental	NOTICE OF SUPPLEMENTAL FILING OF A SUPPLEMENTAL	U-10-051	

	View File(s)		Filing	EXHIBIT TO COOK INLET NATURAL GAS STORAGE ALASKA, LLC'S COMPLETED APPLICATION FOR A CERTIFICATE OF PUBLIC CONVENIENCE AND NECESSITY Filed By: A WILLIAM SAUPE More Details		
☐	TR1004519 View File(s)	8/2/2010	Supplemental Filing	NOTICE OF SUPPLEMENTAL FILING OF EXHIBITS TO COOK INLET NATURAL GAS STORAGE ALASKA, LLC'S COMPLETED FILING FOR A CERTIFICATE OF PUBLIC CONVENIENCE AND NECESSITY Filed By: MATTHEW T. FINDLEY More Details	U-10-051	
☐	TR1004453 View File(s)	7/28/2010	Application-Certificate-New	APPLICATION FOR NEW CERTIFICATE OF PUBLIC CONVENIENCE and NECESSITY for COOK INLET NATURAL GAS STORAGE, LLC Filed By: A WILLIAM SAUPE More Details	U-10-051	🔒

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SENATE CS FOR CS FOR HOUSE BILL NO. 280(FIN)

IN THE LEGISLATURE OF THE STATE OF ALASKA

TWENTY-SIXTH LEGISLATURE - SECOND SESSION

BY THE SENATE FINANCE COMMITTEE

Offered: 4/18/10
Referred: Today's Calendar

Sponsor(s): REPRESENTATIVES HAWKER AND CHENAULT, Johnson, Olson, Thomas, Ramras, Harris, Millett, Lynn, Neuman, Tuck, Stoltze

SENATORS McGuire, Dyson, Wagoner, Menard, Wielechowski, Meyer, Ellis, French

A BILL

FOR AN ACT ENTITLED

"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."

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 Recovery Act.

*** Sec. 2.** AS 31.05 is amended by adding a new section to read:

Sec. 31.05.032. Certification of gas storage capacity. (a) An owner of a gas storage facility that seeks an exemption under AS 38.05.180(u) or a credit under AS 43.20.046 shall apply to the commission for certification of the facility's working gas storage capacity and certification of the facility's gas withdrawal capability. The application shall be on a form prescribed by the commission.

(b) Within six months after receiving an application under (a) of this section, the commission shall determine and certify

(1) the working gas storage capacity of the facility on the date the facility commences commercial operation rounded to the nearest 500,000,000 cubic feet;

(2) whether the gas storage facility is capable of withdrawing a minimum of 10,000,000 cubic feet of gas a day; and

(3) that the facility qualifies as a gas storage facility for the purposes of this section.

(c) The commission shall provide a copy of the certifications required by (b) of this section to the owner of the gas storage facility that requested the certification, the commissioner of natural resources, and the commissioner of revenue.

(d) If a gas storage facility ceases commercial operation, an owner of the gas storage facility shall give written notice to the commission that commercial operation has ceased. The notice must be filed with the commission before April 1 of the year immediately following the year in which the gas storage facility ceases commercial operation.

(e) In this section,

(1) "ceases commercial operation" means that the gas storage facility fails to inject or withdraw more than 100,000,000 cubic feet of gas during a calendar year following the year in which a gas storage facility commences commercial operation;

(2) "commences commercial operation" means the first injection of non-native gas into a gas storage facility for purposes other than testing;

(3) "cushion gas" means native and non-native gas in a gas storage facility that is needed to pressurize the facility and that allows the facility to function;

(4) "gas storage facility" means a tank or a depleted or nearly depleted reservoir or pool in the state that is available for the storage of gas;

(5) "native gas" means gas in a gas storage facility that was not injected;

(6) "non-native gas" means gas that is produced elsewhere and injected into a gas storage facility;

(7) "pool" has the meaning given in AS 31.05.170;

(8) "working gas storage capacity" means the maximum volume of non-native gas a gas storage facility may safely contain without creating or causing waste; the maximum volume of non-native gas does not include the volume of cushion gas present or the volume required for proper functioning of the gas storage facility at the working gas storage capacity certified under (b) of this section.

*** Sec. 3.** AS 38.05.035(a) is amended to read:

(a) The director shall

(1) have general charge and supervision of the division and may exercise the powers specifically delegated to the director; the director may employ and fix the compensation of assistants and employees necessary for the operations of the division; the director is the certifying officer of the division, with the consent of the commissioner, and may approve vouchers for disbursements of money appropriated to the division;

(2) manage, inspect, and control state land and improvements on it belonging to the state and under the jurisdiction of the division;

(3) execute laws, rules, regulations, and orders adopted by the commissioner;

(4) prescribe application procedures and practices for the sale, lease, or other disposition of available land, resources, property, or interest in them;

(5) prescribe fees or service charges, with the consent of the commissioner, for any public service rendered;

(6) under the conditions and limitations imposed by law and the commissioner, issue deeds, leases, or other conveyances disposing of available land, resources, property, or any interests in them;

(7) have jurisdiction over state land, except that land acquired by the Alaska World War II Veterans Board and the Agricultural Loan Board or the departments or agencies succeeding to their respective functions through foreclosure or default; to this end, the director possesses the powers and, with the approval of the commissioner, shall perform the duties necessary to protect the state's rights and interest in state land, including the taking of all necessary action to protect and enforce the state's contractual or other property rights;

(8) maintain the records the commissioner considers necessary, administer oaths, and do all things incidental to the authority imposed; the following records and files shall be kept confidential upon request of the person supplying the information:

(A) the name of the person nominating or applying for the sale, lease, or other disposal of land by competitive bidding;

(B) before the announced time of opening, the names of the bidders and the amounts of the bids;

(C) all geological, geophysical, and engineering data supplied, whether or not concerned with the extraction or development of natural resources;

(D) except as provided in AS 38.05.036, cost data and financial information submitted in support of applications, bonds, leases, and similar items;

(E) applications for rights-of-way or easements;

(F) requests for information or applications by public agencies for land that is being considered for use for a public purpose;

(9) account for the fees, licenses, taxes, or other money received in the administration of this chapter including the sale or leasing of land, identify their source, and promptly transmit them to the proper fiscal department after crediting them to the proper fund; receipts from land application filing fees and charges for copies of maps and records shall be deposited immediately in the general fund of the state by the director;

(10) select and employ or obtain at reasonable compensation cadastral,

appraisal, or other professional personnel the director considers necessary for the proper operation of the division;

(11) be the certifying agent of the state to select, accept, and secure by whatever action is necessary in the name of the state, by deed, sale, gift, devise, judgment, operation of law, or other means any land, of whatever nature or interest, available to the state; and be the certifying agent of the state, to select, accept, or secure by whatever action is necessary in the name of the state any land, or title or interest to land available, granted, or subject to being transferred to the state for any purpose;

(12) on request, furnish records, files, and other information related to the administration of AS 38.05.180 to the Department of Revenue for use in forecasting state revenue under or administering AS 43.55, whether or not those records, files, and other information are required to be kept confidential under (8) of this subsection; in the case of records, files, or other information required to be kept confidential under (8) of this subsection, the Department of Revenue shall maintain the confidentiality that the Department of Natural Resources is required to extend to records, files, and other information under (8) of this subsection;

(13) when reasonably possible, give priority to and expedite the processing of an application for a lease or assignment of a lease of state land for development and operation of a gas storage facility, for a right-of-way to a gas storage facility, for a change to the allocation of production within a unit, and for a permit necessary for the operation of a gas storage facility; in this paragraph, "gas storage facility" has the meaning given in AS 31.05.032.

*** Sec. 4.** AS 38.05.035 is amended by adding a new subsection to read:

(n) The director may not deny an application for a lease or assignment of a lease of state land for the development and operation of a gas storage facility solely because the gas storage facility would be used exclusively or primarily to store gas owned by the owner or operator of the gas storage facility. In this subsection, "gas storage facility" has the meaning given in AS 31.05.032.

*** Sec. 5.** AS 38.05.180(u) is amended to read:

(u) To avoid waste or to promote conservation of natural resources, the

commissioner may authorize the subsurface storage of oil or gas, whether or not produced from state land, in land leased or subject to lease under this section. This authorization may provide for the payment of a storage fee or rental on the stored oil or gas, or, instead of the fee or rental, for a royalty other than that prescribed in the lease when the stored oil or gas is produced in conjunction with oil or gas not previously produced. A lease on which storage is so authorized shall be extended at least for the period of storage and so long thereafter as oil or gas not previously produced is produced in paying quantities. **Notwithstanding the authorization for payments under this subsection, when requested by a lessee, the commissioner shall exempt a gas storage facility that qualifies for a tax credit under AS 43.20.046 from any payment described in this subsection for the periods described in this subsection. The exemption is available for the calendar year in which the facility commences commercial operation and for each of the nine calendar years immediately following the first year of commercial operation; however, an exemption is not applicable for the calendar year after the facility ceases commercial operation or for any subsequent calendar year. The lessee shall provide the commissioner with any information the commissioner requests to determine if the exemption applies. The information related to state land leased for a gas storage facility under this subsection is public information and may be furnished to the Regulatory Commission of Alaska. On request, the commissioner shall provide the name of each person using state land leased for a gas storage facility under this chapter, the years for which an exemption was granted, and the amount of the exemption. Gas withdrawn from a gas storage facility regulated under AS 42.05 is considered to be non-native gas and is not considered to be produced and subject to royalty until all non-native gas injected into the gas storage facility has been withdrawn from the gas storage facility. A person receiving an exemption for a payment under this section that contracts to store gas for a utility regulated under AS 42.05 shall reduce the storage price to reflect the value of the exemption. In this subsection, "ceases commercial operation," "commences commercial operation," "gas storage facility," and "non-native gas" have the meanings given in AS 31.05.032.**

* **Sec. 6.** AS 42.05.141 is amended by adding a new subsection to read:

(d) When considering whether the approval of a rate or a gas supply contract proposed by a utility to provide a reliable supply of gas for a reasonable price is in the public interest, the commission shall

(1) recognize the public benefits of allowing a utility to negotiate different pricing mechanisms with different gas suppliers and to maintain a diversified portfolio of gas supply contracts to protect customers from the risks of inadequate supply or excessive cost that may arise from a single pricing mechanism; and

(2) consider whether a utility could meet its responsibility to the public in a timely manner and without undue risk to the public if the commission fails to approve a rate or a gas supply contract proposed by the utility.

* **Sec. 7.** AS 42.05.381 is amended by adding a new subsection to read:

(k) The cost to the utility of storing gas in a gas storage facility that is allowed in determining a just and reasonable rate shall reflect the reduction in cost attributable to any exemption from a payment due under AS 38.05.180(u) and the value of a tax credit that the owner of the gas storage facility received under AS 43.20.046. The commission may request the (1) commissioner of natural resources to report the value of the exemption from a payment due under AS 38.05.180(u) that the gas storage facility received; and (2) commissioner of revenue to report information on the amount of tax credits claimed under AS 43.20.046 for the gas storage facility. In this subsection, "gas storage facility" has the meaning given in AS 31.05.032.

* **Sec. 8.** AS 42.05.711 is amended by adding a new subsection to read:

(q) The service of natural gas storage furnished by operating a natural gas storage facility that is (1) part of a pipeline facility operated by a pipeline carrier, (2) part of a natural gas pipeline facility operated by a natural gas pipeline carrier, or (3) part of a North Slope natural gas pipeline facility operated by a North Slope natural gas pipeline carrier is exempt from this chapter. In this subsection, "natural gas pipeline carrier," "natural gas pipeline facility," "North Slope natural gas pipeline carrier," "North Slope natural gas pipeline facility," "pipeline carrier," and "pipeline facility" have the meanings given in AS 42.06.630.

* **Sec. 9.** 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 the service of natural gas storage to the public for compensation;

*** Sec. 10.** AS 42.05.990 is amended by adding new paragraphs to read:

(9) "natural gas storage facility" means a facility that receives natural gas volumes from customers, holds the gas volumes in a reservoir, and delivers the gas volumes to the customer; in this paragraph, "facility" includes

(A) all parts of the facility from the point at which the natural gas volumes are received by the facility from the customer to the point at which the natural gas volumes are delivered by the facility to the customer;

(B) a facility consisting of a reservoir, either underground or aboveground, and one or more of the following components of the facility:

(i) pipe;

(ii) compressor stations;

(iii) station equipment;

(iv) injection and extraction wells;

(v) on-site or remote monitoring, supervision, and control facilities;

(vi) gas processing plants and gas treatment plants, but not including a liquefied natural gas or manufacturing plant or facility;

(vii) other equipment necessary to receive, place into the reservoir, monitor, remove from the reservoir, process, and deliver natural gas;

(10) "service of natural gas storage" means the operation of a natural gas storage facility primarily or exclusively for the benefit of third-party customers, and not for the benefit of the owner, operator, or manager of the natural gas storage facility; "service of natural gas storage" does not include the storage of natural gas

(A) owned by or contractually obligated to the owner, operator, or manager of the natural gas storage facility;

(B) that is incidental to the production or sale of natural gas to one or more third-party customers; or

(C) for which the price of storage is not separately itemized.

* **Sec. 11.** AS 43.05.230 is amended by adding a new subsection to read:

(j) The name of each person claiming a credit and the amount of credit received for each gas storage facility by that person under AS 43.20.046 is public information. The commissioner shall furnish the information to the Regulatory Commission of Alaska on request.

* **Sec. 12.** AS 43.20 is amended by adding a new section to article 1 to read:

Sec. 43.20.046. Gas storage facility tax credit. (a) A person that is an owner of a gas storage facility described in (b) of this section that commences commercial operation after December 31, 2010, and before January 1, 2016, may apply a refundable credit against a tax liability that may be imposed on the person under this chapter for the taxable year in which the gas storage facility commences commercial operation. The tax credit under this section shall be an amount equal to $1.50 for each 1,000 cubic feet of working gas storage capacity that is certified under AS 31.05.032

less any amount of credit received under this section taken in earlier tax years for that capacity. The total amount of the credit that may be received for a single gas storage facility under this section may not exceed the lesser of $15,000,000 or 25 percent of the costs incurred to establish the gas storage facility. The tax credit in this section is in addition to any other credit under this chapter for which the person is eligible.

(b) A gas storage facility qualifying for the credit in this section

(1) must have a working gas storage capacity of at least 500,000,000 cubic feet of gas other than cushion gas;

(2) must have a minimum withdrawal capability of 10,000,000 cubic feet a day as certified by the Alaska Oil and Gas Conservation Commission under AS 31.05.032;

(3) may not have been in operation as a gas storage facility before January 1, 2011;

(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; and

(5) if located on state land and leased or subject to a lease under AS 38.05.180, must be in compliance with the terms of the lease.

(c) To claim the credit, the person shall submit to the department a copy of the certification of working gas storage capacity and withdrawal capability issued under AS 31.05.032, the date that the gas storage facility commenced commercial operation, and other information required by the department. A person applying the credit against a liability under this chapter shall claim the credit on the person's return.

(d) A person entitled to a tax credit under this section that is greater than the person's tax liability under this chapter may request a refund in the amount of the unused portion of the tax credit.

(e) The department may use available money in the oil and gas tax credit fund established in AS 43.55.028 to make the refund applied for under (d) of this section in whole or in part if the department finds that (1) the claimant does not have an outstanding liability to the state for unpaid delinquent taxes under this title; and (2)

after application of all available tax credits, the claimant's total tax liability under this chapter for the calendar year in which the claim is made is zero. In this subsection, "unpaid delinquent tax" means an amount of tax for which the department has issued an assessment that has not been paid and, if contested, has not been finally resolved in the taxpayer's favor.

(f) For the purpose of determining the amount of the credit under this section, the working gas storage capacity on which the credit is based shall be the capacity certified by the Alaska Oil and Gas Conservation Commission under AS 31.05.032.

(g) A person may not receive a credit under this section for the acquisition of a gas storage facility for which a credit has been granted under this section.

(h) If the gas storage facility for which a credit was received under this section ceases commercial operation during the nine calendar years immediately following the calendar year in which the gas storage facility commences commercial operation, the tax liability under this chapter of the person who claimed the credit shall be increased. The amount of the increase in tax liability

(1) shall be determined and assessed for the taxable year in which the gas storage facility ceases commercial operation, regardless of whether the gas storage facility subsequently resumes commercial operation; and

(2) is equal to the total amount of the credit taken multiplied by a fraction, the numerator of which is the difference between 10 and the number of calendar years for which the gas storage facility was eligible for a tax credit under this section and the denominator of which is 10.

(i) The issuance of a refund under this section does not limit the department's ability to later audit or adjust the claim if the department determines, as a result of the audit, that the person that claimed the credit was not entitled to the amount of the credit. The tax liability of the person receiving the credit under this chapter is increased by the amount of the credit that exceeds that to which the person was entitled. If the tax liability is increased under this subsection, the increase bears interest under AS 43.05.225 from the date the refund was issued.

(j) A person claiming a tax credit under this section for a gas storage facility that ceases commercial operation within nine calendar years immediately following

the calendar year in which the gas storage facility commences commercial operation shall notify the department in writing of the date the gas storage facility ceased commercial operation. The notice must be filed with the return for the taxable year in which the gas storage facility ceases commercial operation.

(k) A refund under this section does not bear interest.

(*l*) In this section, "ceases commercial operation," "commences commercial operation," "gas storage facility," and "working gas storage capacity" have the meanings given in AS 31.05.032.

* **Sec. 13.** AS 43.55.011(m) is amended to read:

(m) Notwithstanding any contrary provision of AS 38.05.180(i), AS 41.09.010, AS 43.55.024, or 43.55.025, the department shall provide by regulation a method to ensure that, for a calendar year for which a producer's tax liability is limited by (j), (k), or (o) of this section, tax credits **based on a lease expenditure incurred before January 1, 2011, that are** otherwise available under AS 38.05.180(i), AS 41.09.010, AS 43.55.024, or 43.55.025 and allocated to gas subject to the limitations in (j), (k), and (o) of this section are accounted for as though the credits had been applied first against a tax liability calculated without regard to the limitations under (j), (k), and (o) of this section so as to reduce the tax liability to the maximum amount provided for under (j) or (o) of this section for the production of gas or (k) of this section for the production of oil. The regulation must provide for a reasonable method to allocate tax credits to gas subject to (j) and (o) of this section. Only the amount of a tax credit remaining after the accounting provided for under this subsection may be used for a later calendar year, transferred to another person, or applied against a tax levied on the production of oil or gas not subject to (j), (k), or (o) of this section to the extent otherwise allowed.

* **Sec. 14.** AS 43.55.020(f) 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.

*** Sec. 15.** AS 43.55.020 is amended by adding new subsections to read:

(i) Cushion gas in a gas storage facility is not considered to be gas used in the operation of a lease or property or gas used for repressuring as described in (e) of this section. Gas withdrawn from a gas storage facility regulated under AS 42.05 is considered to be non-native gas until all non-native gas injected into the gas storage facility has been withdrawn from the gas storage facility. Non-native gas withdrawn from a gas storage facility is not considered to be gas produced for the purposes of AS 43.55.011 - 43.55.180. Gas withdrawn from a gas storage facility after all non-native gas previously injected into the gas storage facility has been withdrawn is gas considered to be produced from the lease or property for the purposes of AS 43.55.011 - 43.55.180. In this subsection, "native gas" and "non-native gas" have the meanings given in AS 31.05.032.

(j) In this section, "gas storage facility" has the meaning given in AS 31.05.032.

*** Sec. 16.** AS 43.55.023(g) is amended to read:

(g) The issuance of a transferable tax credit certificate under (d) **or (n)** of this section or the purchase of a certificate under AS 43.55.028 does not limit the department's ability to later audit a tax credit claim to which the certificate relates or to adjust the claim if the department determines, as a result of the audit, that the applicant was not entitled to the amount of the credit for which the certificate was issued. The tax liability of the applicant under AS 43.55.011(e) and 43.55.017 - 43.55.180 is increased by the amount of the credit that exceeds that to which the applicant was entitled, or the applicant's available valid outstanding credits applicable against the tax levied by AS 43.55.011(e) are reduced by that amount. If the applicant's tax liability is increased under this subsection, the increase bears interest under AS 43.05.225 from the date the transferable tax credit certificate was issued. For purposes of this subsection, an applicant that is an explorer is considered a producer subject to the tax levied by AS 43.55.011(e).

*** Sec. 17.** AS 43.55.023 is amended by adding new subsections to read:

(m) A producer or explorer may apply for a tax credit for a well lease expenditure incurred in the state south of 68 degrees North latitude after June 30, 2010, as follows:

(1) notwithstanding that a well lease expenditure incurred in the state south of 68 degrees North latitude 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 (a) of this section, 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 well lease expenditure in the state south of 68 degrees North latitude may elect to apply a tax credit against a tax levied by AS 43.55.011(e) in the amount of 40 percent of that expenditure; a tax credit under this paragraph may be applied for a single calendar year;

(2) a producer or explorer may take a credit for a well lease expenditure incurred in the state south of 68 degrees North latitude 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); and

(B) submits to the Department of Natural Resources all data that would be required to be submitted under AS 43.55.025(f)(2).

(n) For a lease expenditure incurred in the state south of 68 degrees North latitude after June 30, 2010, that qualifies for tax credits under (a) and (b) of this section, and for a well lease expenditure incurred in the state south of 68 degrees North latitude that qualifies for a tax credit under (m) of this section, the department shall issue transferable tax credit certificates to the person entitled to the credit for the full amount of the credit. The transferable tax credit certificates do not expire.

(o) For the purposes of (m) and (n) of this section, a well lease expenditure incurred in the state south of 68 degrees North latitude is a lease expenditure 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, located in the state south of 68 degrees North latitude, if the expenditure is a qualified capital expenditure

and an intangible drilling and development cost authorized under 26 U.S.C. (Internal Revenue Code), as amended, and 26 C.F.R. 1.612-4, regardless of the elections made under 26 U.S.C. 263(c); in this paragraph, an expenditure directly related to a well includes an expenditure for well sidetracking, well deepening, well completion or recompletion, or well workover, regardless of 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.

*** Sec. 18.** AS 43.55.028(a) is amended to read:

(a) The oil and gas tax credit fund is established as a separate fund of the state. The purpose of the fund is to purchase [CERTAIN] transferable tax credit certificates issued under AS 43.55.023**,** [AND CERTAIN] production tax credit certificates issued under AS 43.55.025**, and to pay refunds claimed under AS 43.20.046**.

*** Sec. 19.** AS 43.55.028(e) is amended to read:

(e) The department, on the written application of **a** [THE] person to whom a transferable tax credit certificate has been issued under AS 43.55.023(d) **or (n)** or **to whom** a production tax credit certificate has been issued under AS 43.55.025(f), may use available money in the oil and gas tax credit fund to purchase, in whole or in part, the certificate if the department finds that

(1) the calendar year of the purchase is not earlier than the first calendar year for which the credit shown on the certificate would otherwise be allowed to be applied against a tax;

(2) **except for the application of a person for the purchase of a transferable tax credit certificate issued under AS 43.55.023(n),**

(A) within 24 months after applying for the transferable tax credit certificate or filing a claim for the production tax credit certificate, the applicant incurred a qualified capital expenditure or was the successful bidder on a bid submitted for a lease on state land under AS 38.05.180(f);

(B) [(3)] the amount expended for the purchase would not exceed the total of qualified capital expenditures and successful bids described in **(A)** [(2)] of this **paragraph** [SUBSECTION] that have not been the subject

of a finding made under this **subparagraph** [PARAGRAPH] for purposes of a previous purchase of a certificate;

(3) [(4)] the applicant does not have an outstanding liability to the state for unpaid delinquent taxes under this title;

(4) [(5)] the applicant's total tax liability under AS 43.55.011(e), after application of all available tax credits, for the calendar year in which the application is made is zero;

(5) [(6)] the applicant's average daily production of oil and gas taxable under AS 43.55.011(e) during the calendar year preceding the calendar year in which the application is made was not more than 50,000 BTU equivalent barrels; and

(6) [(7)] the purchase is consistent with this section and regulations adopted under this section.

* **Sec. 20.** AS 43.55.028(g) is amended to read:

(g) The department may adopt regulations to carry out the purposes of this section, including standards and procedures to allocate available money among applications for purchases **under this chapter and claims for refunds under AS 43.20.046 when** the total amount of **the applications for purchase and claims for refund exceed** [WHICH EXCEEDS] the amount of available money in the fund. **The regulations adopted by the department may not, when allocating available money in the fund under this section, distinguish an application for the purchase of a credit certificate issued under AS 43.55.023(n) or a claim for refund under AS 43.20.046.**

* **Sec. 21.** AS 44.23.020(e) is amended to read:

(e) There is established within the Department of Law the function of public advocacy for regulatory affairs. The attorney general shall participate as a party in a matter that comes before the Regulatory Commission of Alaska when the attorney general determines that participation is in the public interest. **When considering whether participation is in the public interest, the attorney general shall consider the issues the Regulatory Commission of Alaska must take into consideration under AS 42.05.141(d).**

* **Sec. 22.** This Act takes effect immediately under AS 01.10.070(c).

10-13-10 Overview: Coal to Liquids Technology

<target><bill></bill><subject>10-13-10 Overview Coal to Liquids Technology</subject><comm>HENE26</comm></target>

ALASKA STATE LEGISLATURE

SENATOR LESIL McGUIRE
Chair, Senate Special Committee on Energy

MEMORANDUM

Date: October 13, 2010

To: Kirsten Waid, Senate Secretary

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

Re: JOINT Senate Special Committee on Energy & House Committee on Energy Schedule

---

Committee Schedule
JOINT Senate Special Committee on Energy & House Committee on Energy
For the week of October 11-15

Wednesday, October 13th @ 1:30 p.m. – 3:00 p.m.

+ * Coal to Liquids Technology
  - Presentations by Tyonek Native Corporation & Accelergy Corporation

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

2160

Coal-To-Liquids Plant
Tyonek Location

A Solution for Alaska & the USAF

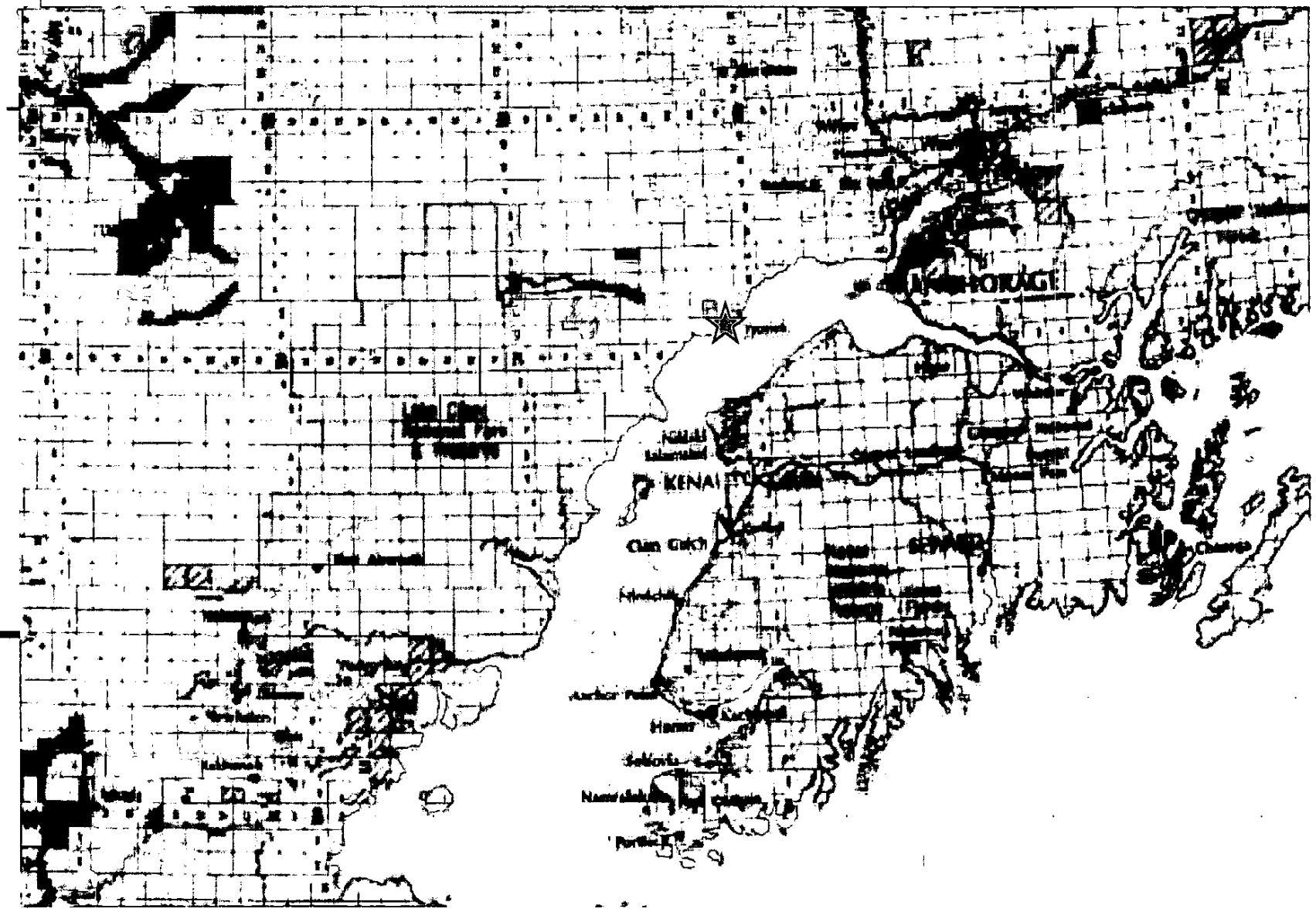
Tyonek Native Corporation

1689 C Street, Suite 201

Anchorage, Alaska 99501

13 October 2010

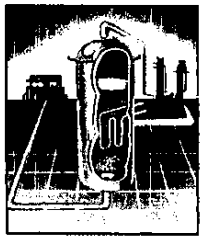
South Central Alaska- Cook Inlet



2162

DNR

2 billion Tons Bituminous Coal



COOK INLET/SUSITNA COAL PROVINCE

4 coal leases

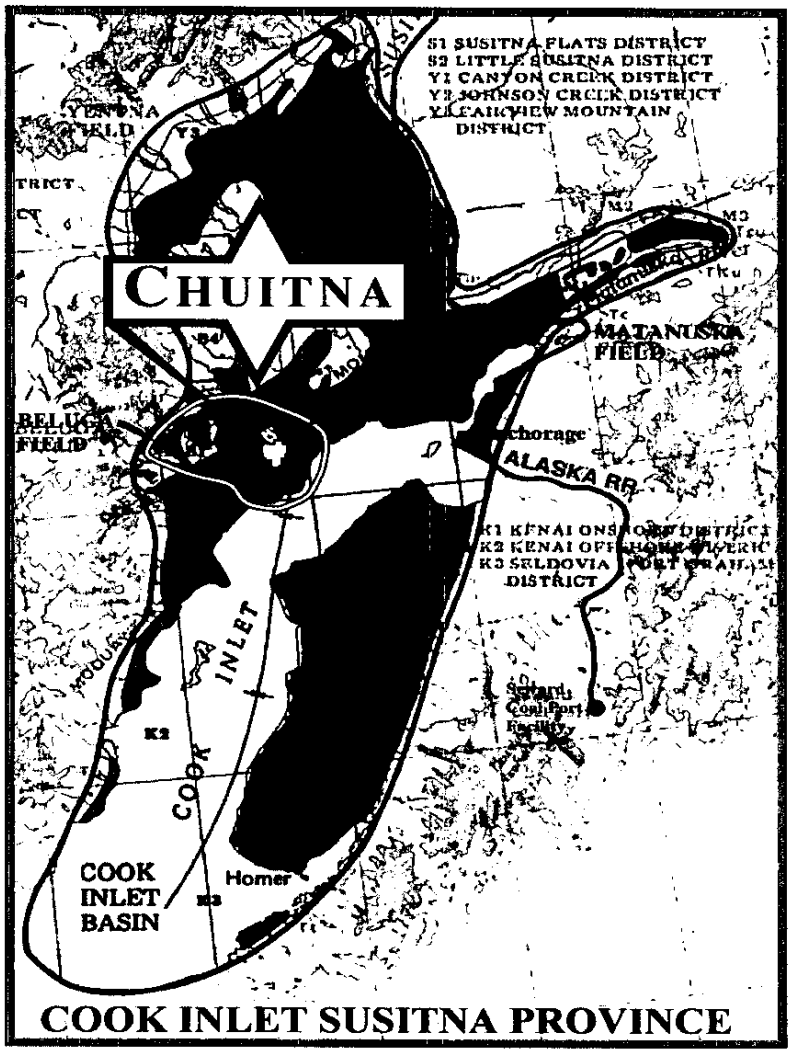
Area of Influence

surface rights coal - to Regional Corp

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 Proven Reserves	700	1.1
° Barrick Reserves	600	1.0
° Skwentna Reserves	500+	0.9

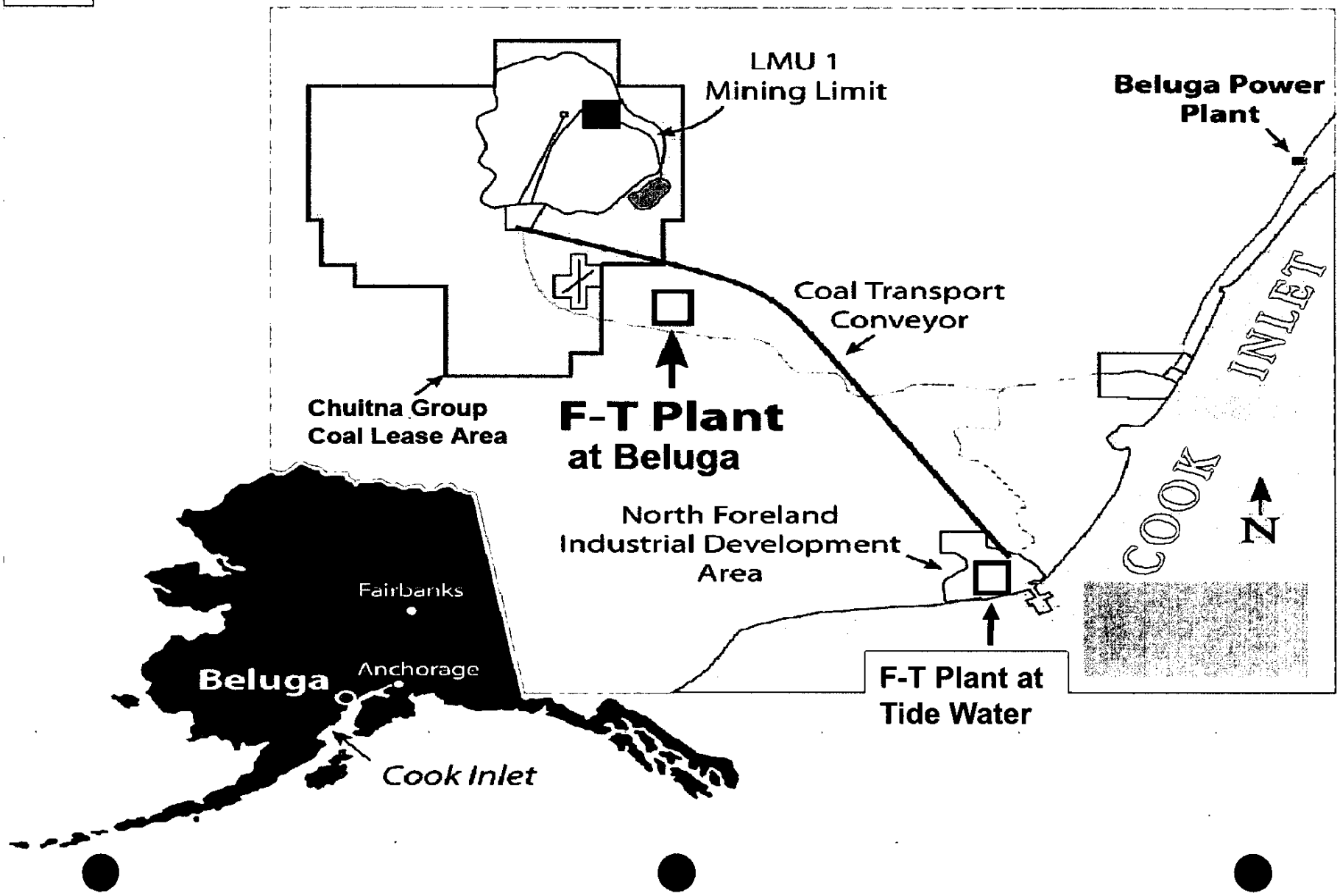


2163

Sasol coal to liquids

80,000 bbl/d Coal To Liquids "Beluga CTL Plant"

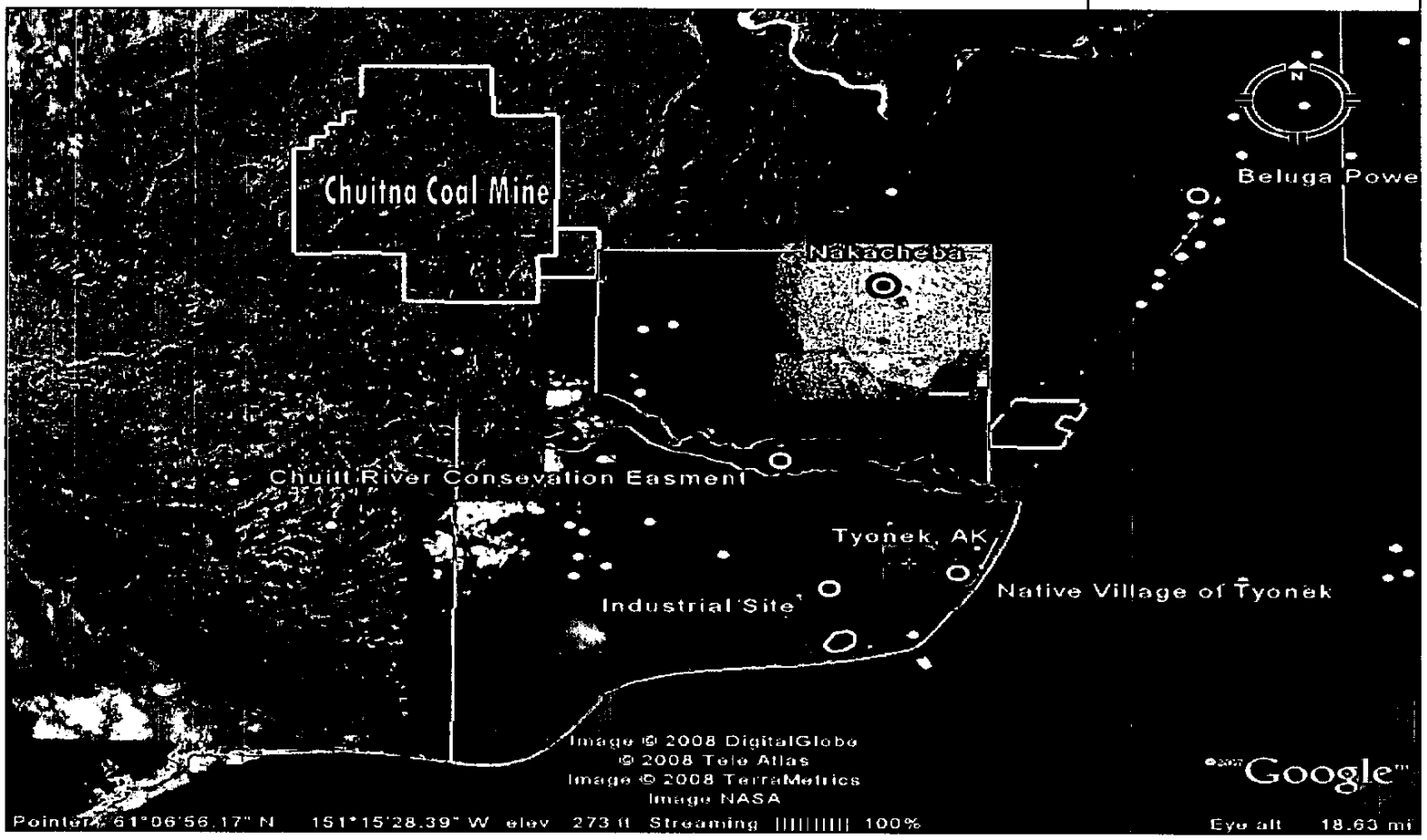
(Mine Mouth or Tide Water)



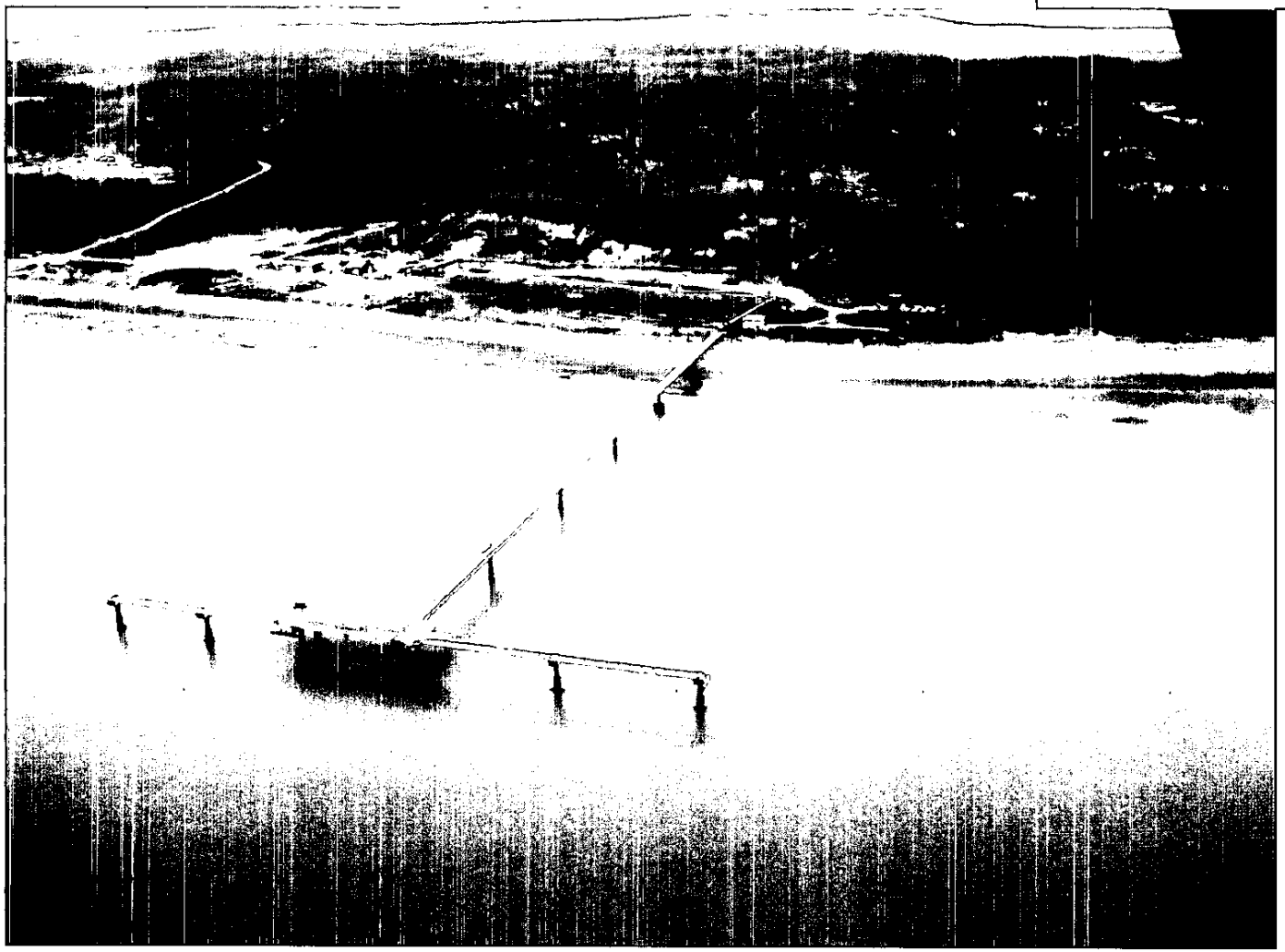
USAF Ak did not respond
Congressman Miller

Tyonek Area Lands Activity

Match or Better gas to
Coal Fisher Trope



North Foreland Industrial Site & Port



2008 Tyonek CTL History

- 'Alaska Beluga CTL Project' w/SASOL.
- USAF 'by 2016, 50% jet fuel will be CTL'.
- USAF BOO CTL plant, open contest for site.
- Tyonek presents to USAF Pentagon; Tyonek "most cost-effective CTL site in N.A."
- Cong. Miller restricts CTL programs.
- USAF only seek public/private partnership.
- SASOL drops USA development plans.

21167

Penn. Coal to liquids

2009/2010 Tyonek CTL History

- TYONEK seeks CTL partner.
- Accelergy & Tyonek introduced.
- AIEDA & AEA enthused & supportive.
- No source for $500K matching grant to certify Tyonek coals to USAF.
- DNR main beneficiary of certification.
- Pennsylvania awards Accelergy $10MM.
- 'Emerging Energy Technology Fund' might furnish $125K Phase1 grant .

2168

Enabling legislation - Regulations - $ million fund

Emerging technology fund

Royalty rate coal / Gas / coal mining

Jobs

Fischer Tropes Technology

ASSESSMENT OF MICRO CATALYTIC COAL LIQUEFACTION TECHNOLOGY (MCL) FOR CHUITNA (BELUGA MINE) COAL RESOURCE

$125,000.00

A PROPOSAL FOR

TYONEK NATIVE CORPORATION

AUGUST 4, 2010

Questions or Comments?

Contact:

John D. McClellan, P.E.
Tyonek Native Corporation
1689 C Street, Suite 219
Anchorage AK 99501

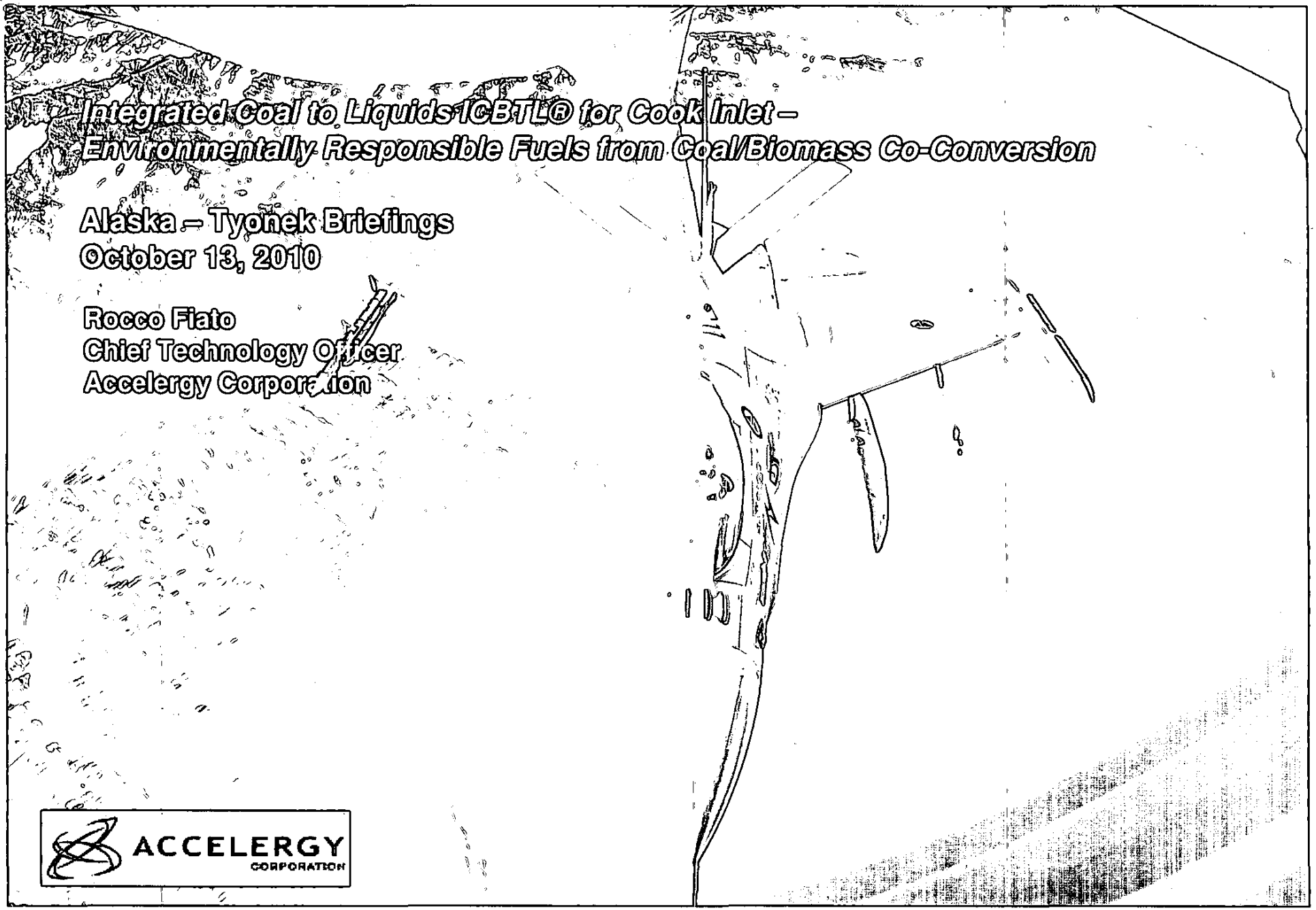
1(907)272-0707

jmcclellan@tyonek.com

Integrated Coal to Liquids ICBTL® for Cook Inlet –
Environmentally Responsible Fuels from Coal/Biomass Co-Conversion

Alaska – Tyonek Briefings
October 13, 2010

Rocco Fiato
Chief Technology Officer
Accelergy Corporation



ACCELERGY CORPORATION

217

Waxman | Markey See 526

Today's Briefing Will Cover —

- Accelergy Introduction
- ICBTL Overview
- China Programs/Potential Partners in Alaska
- Pennsylvania Case Study
- Accelergy Tyonek Path Forward

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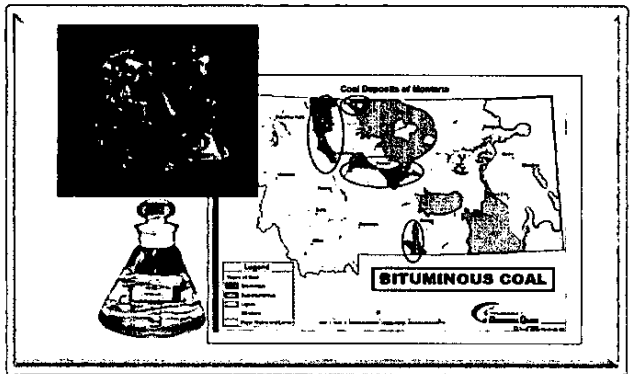
Accelergy Corporation Addressing Challenges in Coal and Biomass Utilization



algae@work.
ENERGY
EERC
ENN
ExxonMobil
MONTANA STATE UNIVERSITY
Raytheon
UTEP
Viresco Energy

Goldman Sachs
NthPOWER
luxcapital
SEQUOIA
Advent International
TECHNOLOGY PARTNERS
Mobius Venture Capital

- **Emerging Leader in Advanced CBTL Processing**
- **Developing Clean Integrated Carbon-to-Liquids (ICTL) Technology via Strategic Licenses –**
  - **Direct Conversion** – ExxonMobil/EERC
  - **Indirect Conversion** – CAS/Raytheon/UTEP/Viresco
  - **Biomass Co-conversion** – A2BE/MSU/Raytheon/ENN
- **Alliances with Clean Coal Project Developers**
- **Experienced Global Management Team**
- **Support from DOE, DOD/AFRL/TARDEC and Leading Investors**

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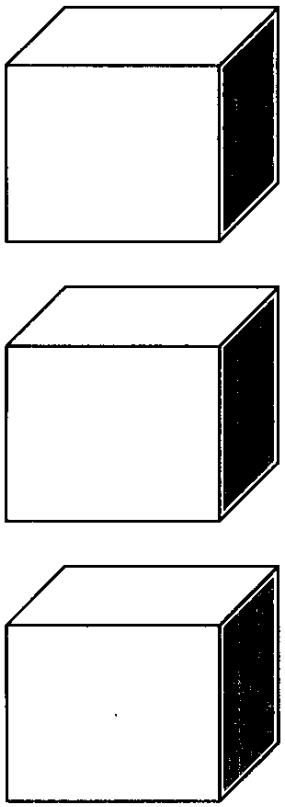
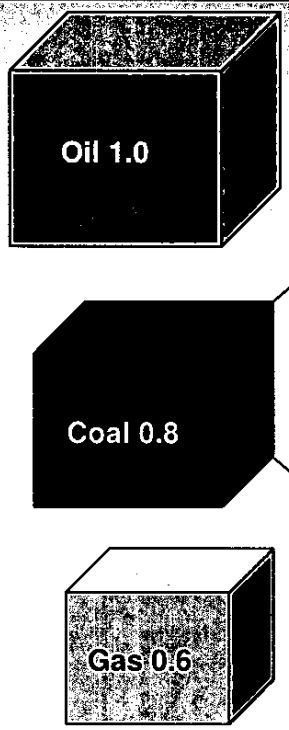
The Global Energy Challenge in Cubic Miles of Oil Equivalents

Global Energy Consumption
(Cubic Miles of Oil Equivalents CMOE)





To Replace Coal
We Would Need To Build
Each Year for 50 Years

32 New 1000 MW Nuclear Plants

Or

31,000 New 3MW Wind Mills

Or

28 Million New 5 KW Solar Panels

Average Solution Total Cost
7+ Trillion Dollars

Source: SRI – Carlson & Malhotra Forbes August 2010

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Cook Inlet Synthetic Jet Fuel Production - DOD/DLA 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 – DOE/EPA LCA Criteria
  - Quality/Technical Criteria
  - Contract Length (Baucus Bill to Allow 20 Year Term for BTL Camelina Fuels)
  - Contract Pricing Structure
- How to Proceed
  - Establish Timeline for Acquisition
  - Pre-Feasibility/Down Select Process

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[redacted]

BACKGROUND

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ACCELERGY EXXONMOBIL MCL® TECHNOLOGY SUPPORTED BY A VERY LARGE EXPERIMENTAL DATA BASE

- **Nine years** of coal operations on 75 lb/D pilot plant
  - All coal ranks, hundreds of yield periods
- **Six years** of operation on 1 T/D Pilot Plant
  - All coal ranks, fully integrated operations
- **Two plus** year program on 250 T/D demo unit
  - All coal ranks – achieved 90% service factor on bituminous coal
  - Integrated with a comprehensive equipment testing program
    - Over 90 individual engineering programs executed
- **Overall development involved 700+ people**
  - Over 100 engineers and researchers
  - 250 T/D demo manpower peaked at 500+ people
- Comprehensive modeling and engineering technology programs captured all learnings – translated into detailed design guides

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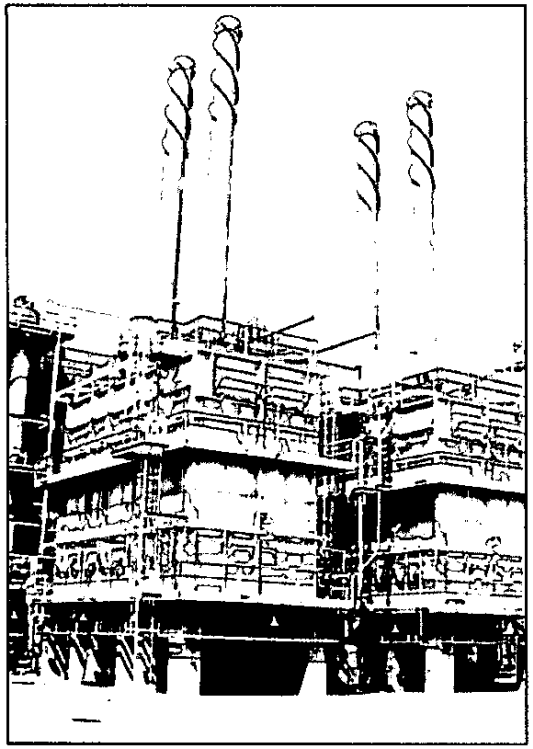
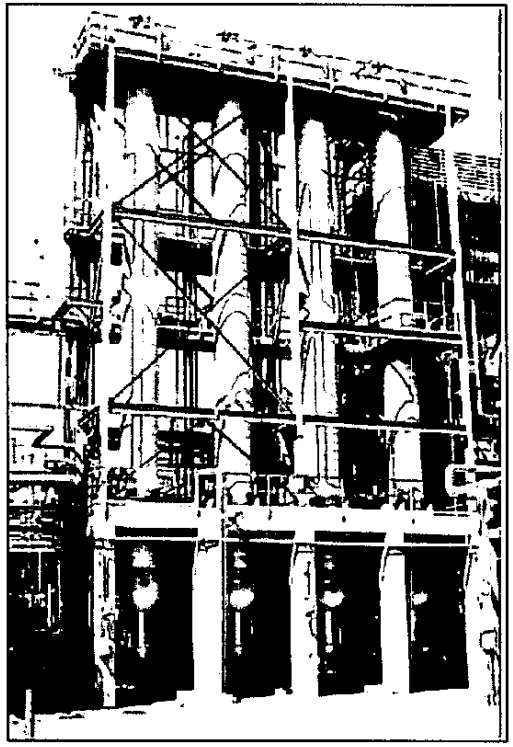
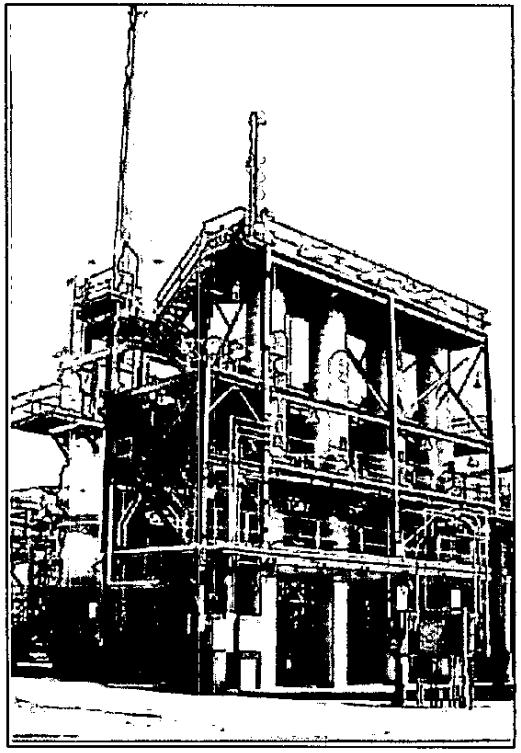
MCL® TECHNOLOGY BUILDS ON SUCCESSFUL $ 1 BILLION EDS DEVELOPMENT PROGRAM



Slurry Preheat Furnaces



Liquefaction Reactors



Solvent Hydrogenation

Service factor of 91% achieved in 250 T/D demo unit

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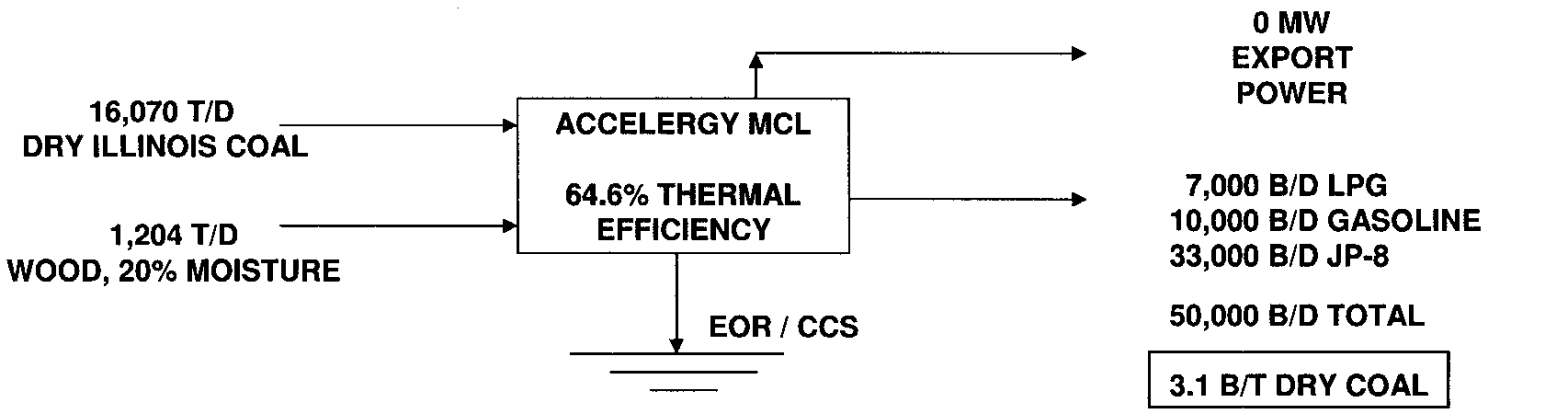
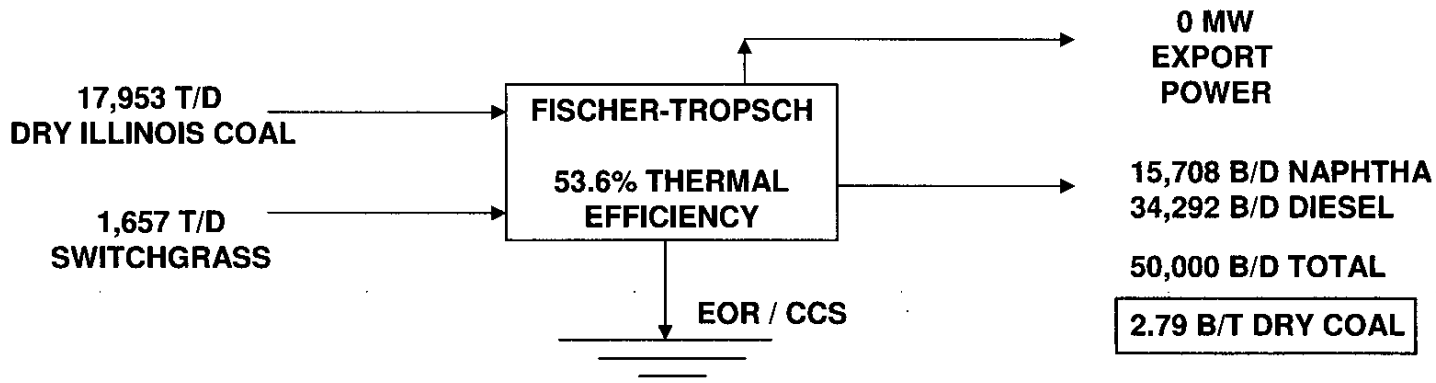
ACCELERGY MCL MUCH MORE EFFICIENT THAN FISCHER-TROPSCH





BOTH TECHNOGIES ACHIEVE EPA LCA TARGET OF 20% REDUCTION VERSUS PETROLEUM

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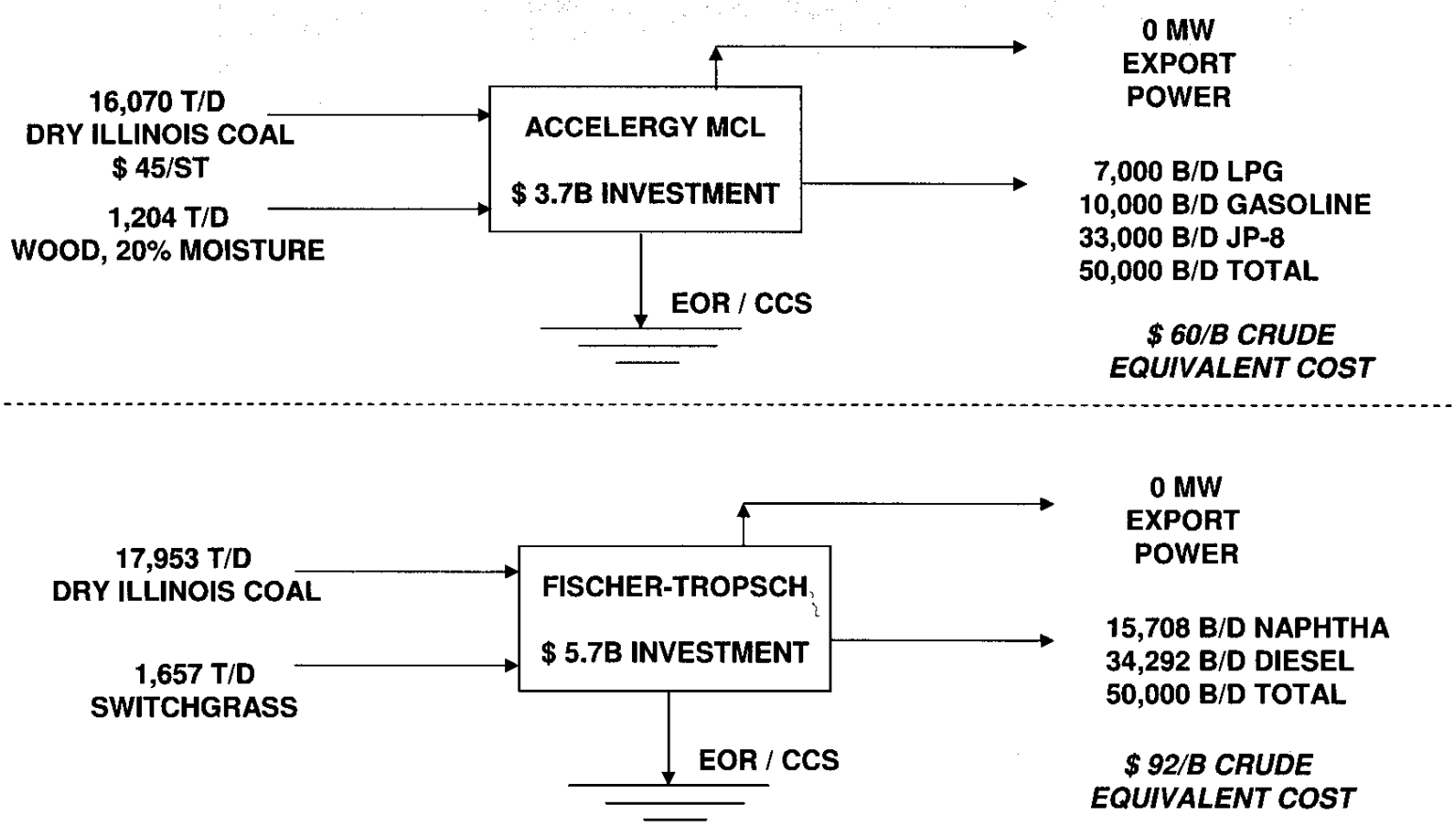
LOWER INVESTMENT, LESS COAL , AND HIGHER QUALITY GASOLINE RESULT IN LARGE ECONOMIC ADVANTAGE



Cases exclude CO2 credit

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ACCELERGY EXXONMOBIL MCL® TECHNOLOGY SUPPORTED BY A VERY LARGE EXPERIMENTAL DATA BASE

- **Nine years** of coal operations on 75 lb/D pilot plant
  - All coal ranks, hundreds of yield periods
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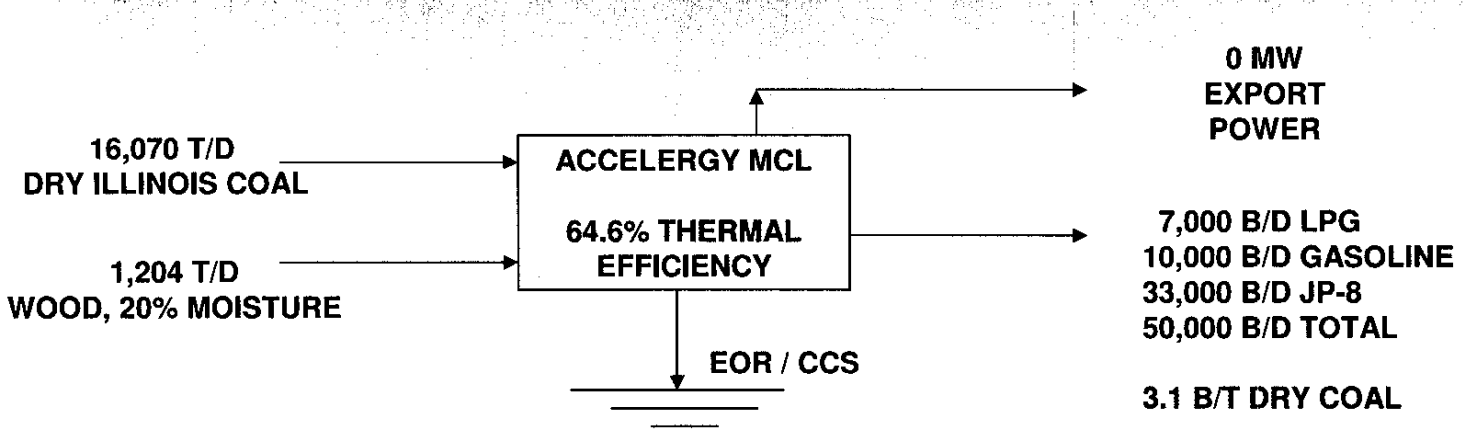
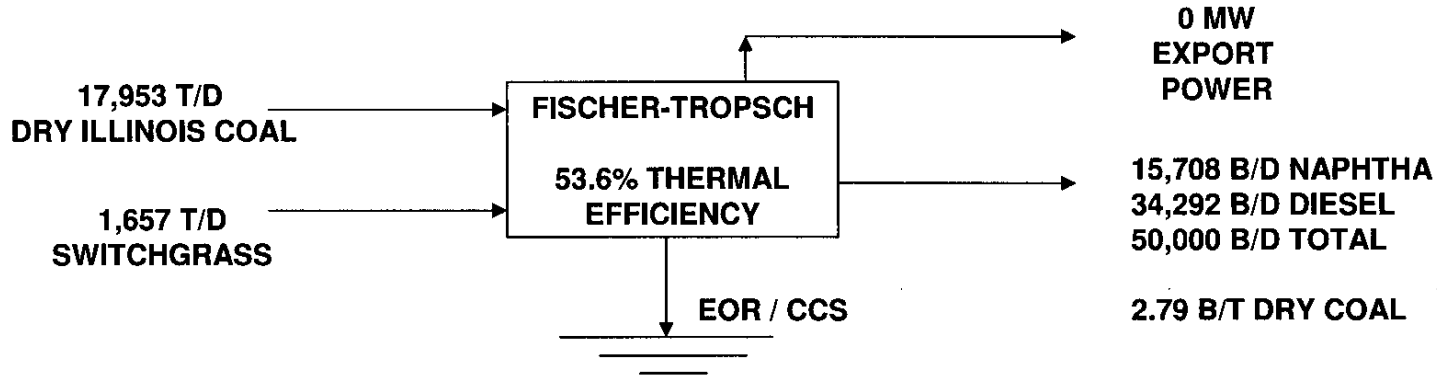
ACCELERGY MCL MUCH MORE EFFICIENT THAN FISCHER-TROPSCH





BOTH TECHNOGIES ACHIEVE EPA LCA TARGET OF 20% REDUCTION VERSUS PETROLEUM

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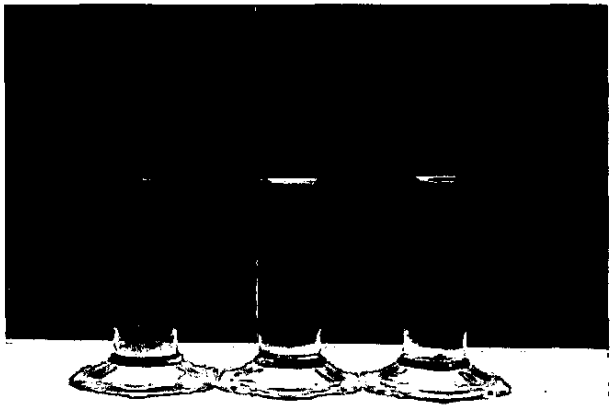
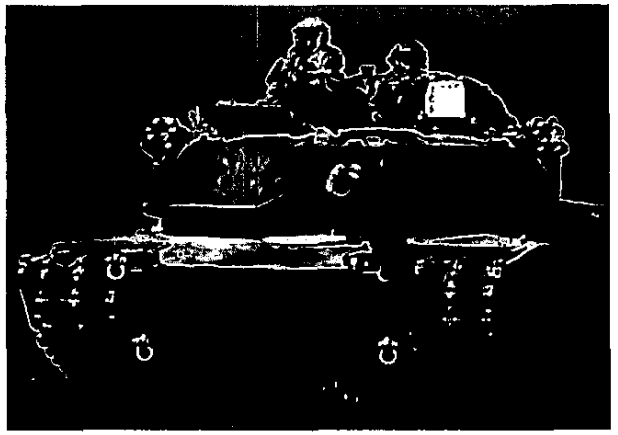
DARPA Project Overview

- Fuel sample submitted to U.S. Air Force
  - Qualified as JP-8 based on seven key fuel property-screening tests
  - Ahead of our development schedule
  - Ahead of our DARPA competition
- Economic modeling
  - Feedstock scenarios
  - Process scenarios
  - Evaluating field-to-fuel options based on feedstock production and processing economics
- Commercialization
  - Identifying partners and scenarios, partnership discussions ongoing
  - Assessing early market entry options





EERC
Energy & Environmental Research Center

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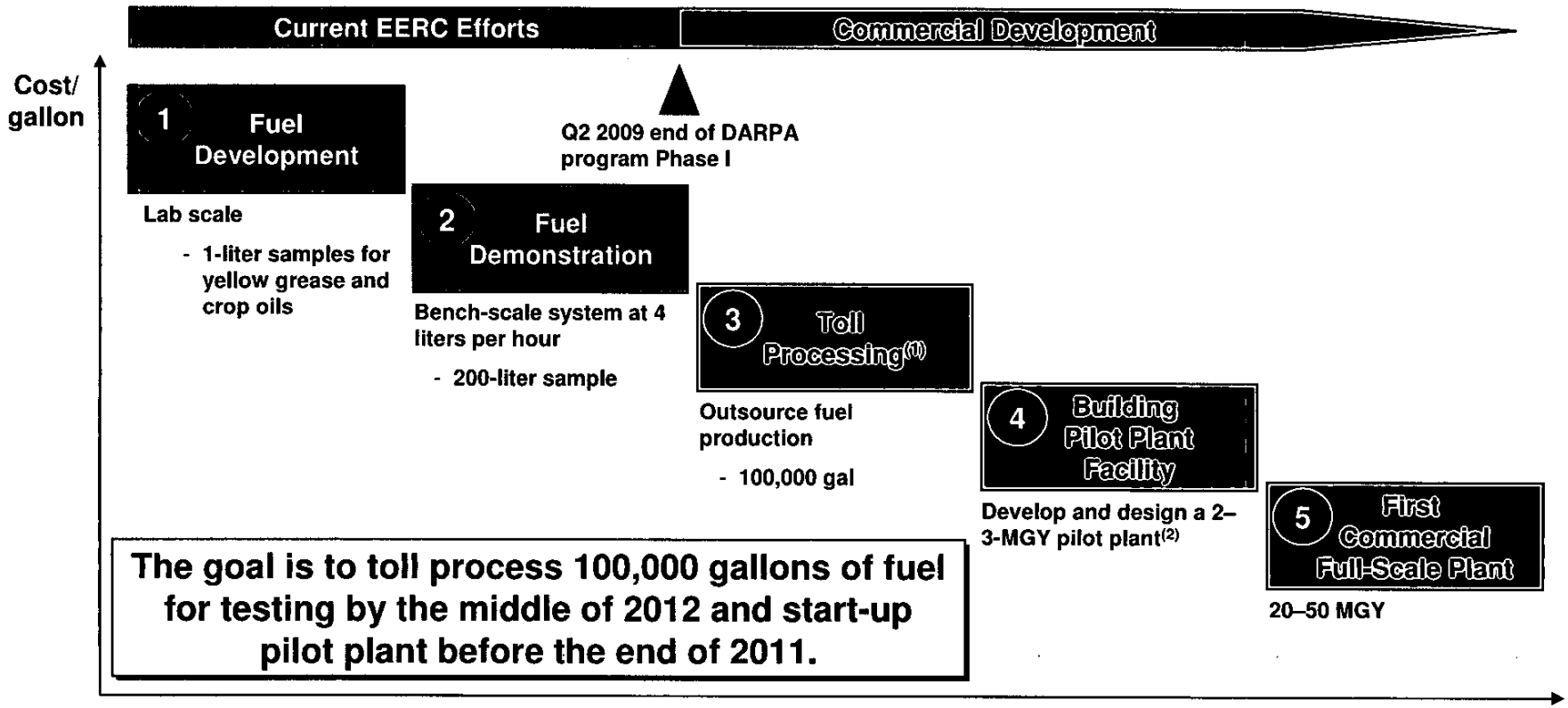
EERC Is at a Stage Where the Technology Is Ready to Be Spun Off – With DPA Grant Enabling Program With Accelergy and Tesoro



(1) Several potential toll processors have been contacted.

(2) Integrated with the Tesoro refinery. Starting engineering design at the beginning of Q3 2009.

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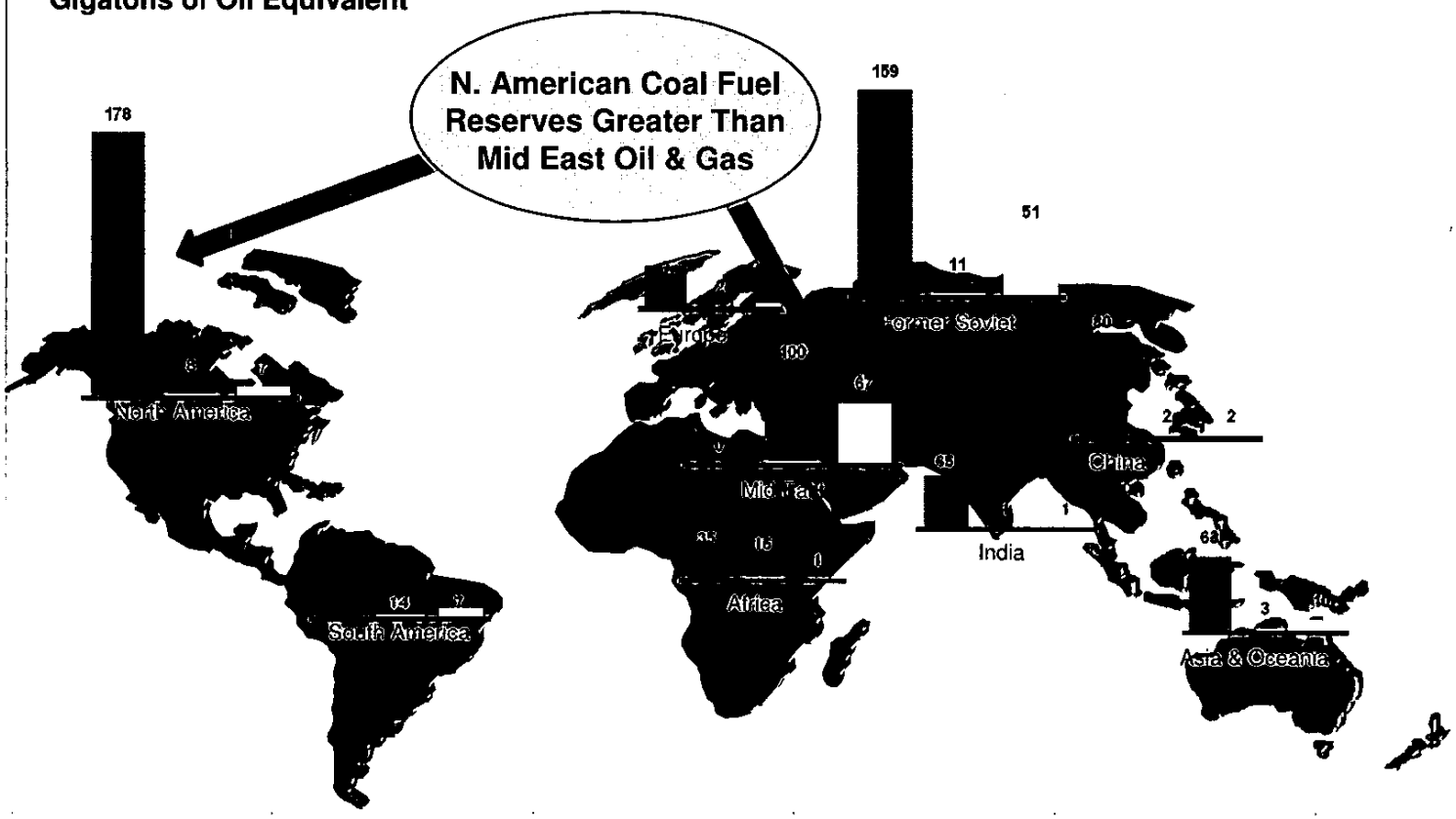
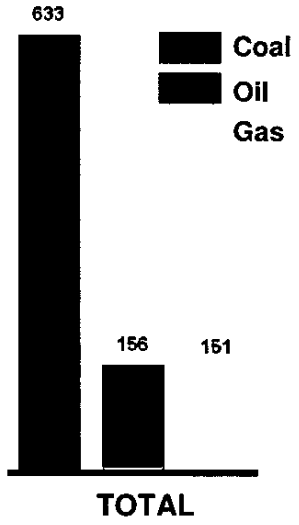
Coal Is More Abundant And Strategically Located Than Oil Or Gas

50% of Nation's Coal

Global Fossil Fuel Reserves

Gigatons of Oil Equivalent





Top coal producers
2007

1. China
2. USA
3. Australia
4. India
5. South Africa
6. Russia

Source: World Coal Institute; BP Annual Statistic Review 2008

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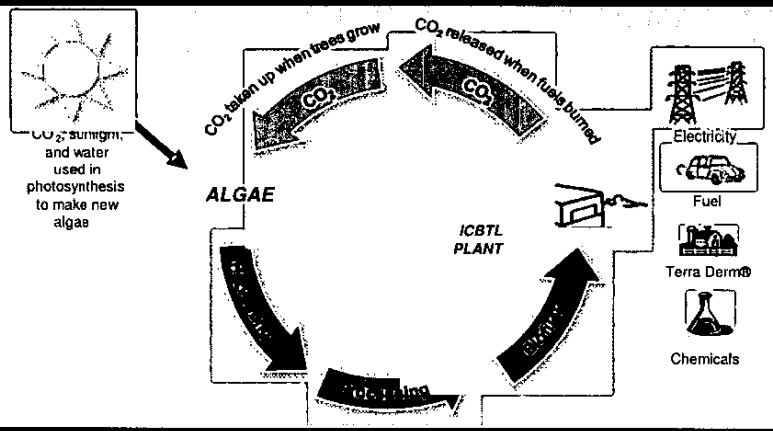
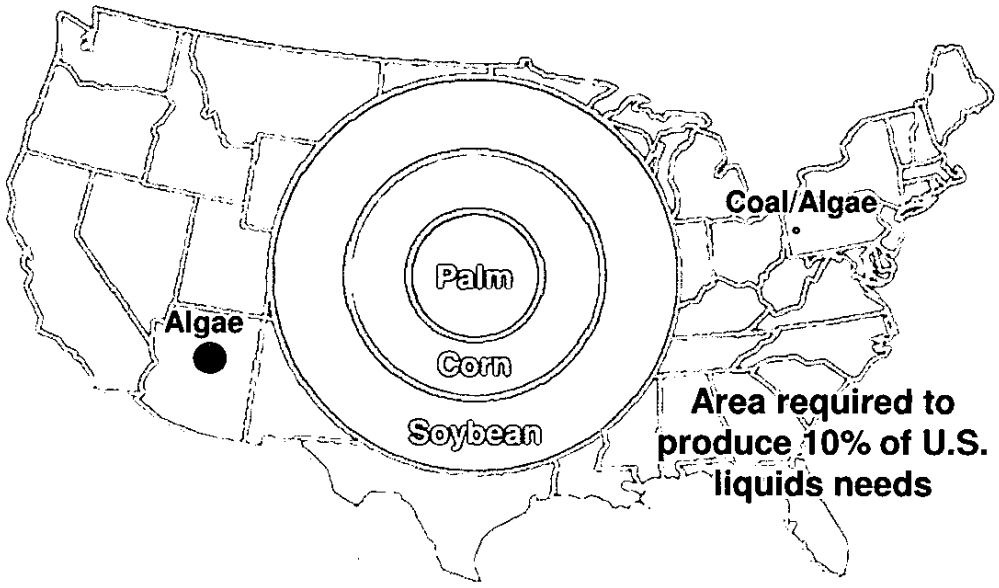
Algae – ICBTL Overcomes Land Use Issues with Biomass Fuels



8 KBD Plant	Feed Type	Acres of Land
BTL	Soy	2,452,800
BTL	Corn	943,384
BTL	Algae	12,264
CBTL	Algae/Coal	>4000
ICBTL®	Algae/Coal	<820

Note: 8KBD = 125 million gallons per year; ICBTL Employs Terra Derm®

Feedstock	Gal/Acre/Year
Soybean	40-50
Corn	100-130
Algae	3,000-10,000
Coal/Algae	>150,000



Area required to produce 10% of U.S. liquids needs

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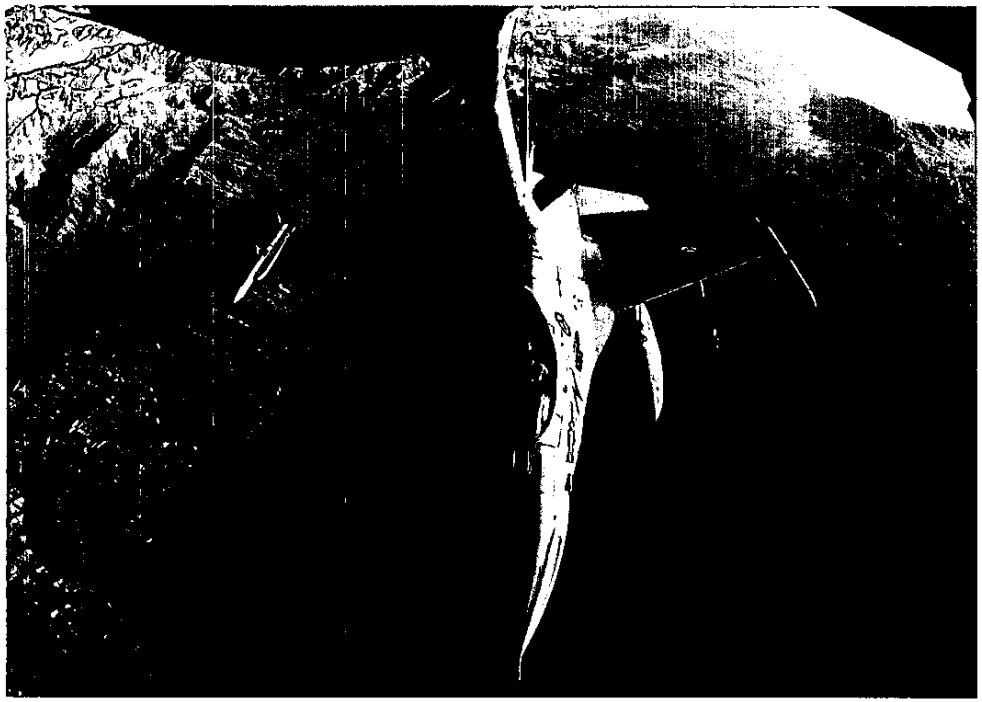
Commercial Implementation of Coal or Biomass to Liquids is Currently Limited Due To Deficiencies Of Existing Technologies

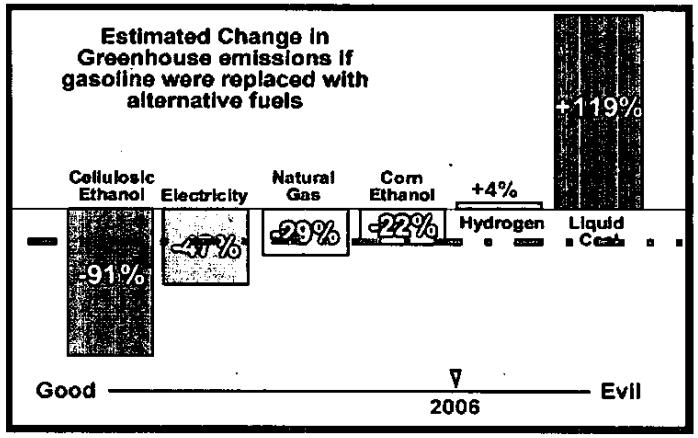


Current CTL or BTL Technology Issues

- **Relatively Expensive**
- **Low Thermal Efficiency**
- **Non Optimal Product Mix**
- **GHG Emissions Well Above Oil-Based Refining**
- **Biofuel Option Requires Very Large Crop Land Area**

Accelergy's Advanced ICBTL Achieves

- *80+% Overall Energy Efficiency*
- *< 10% of BTL Land Area Requirements*
- *Section 526 GHG Requirements*
- *Cost Competitiveness with Today's Crude Oil*



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Accelergy ICBTL Overview

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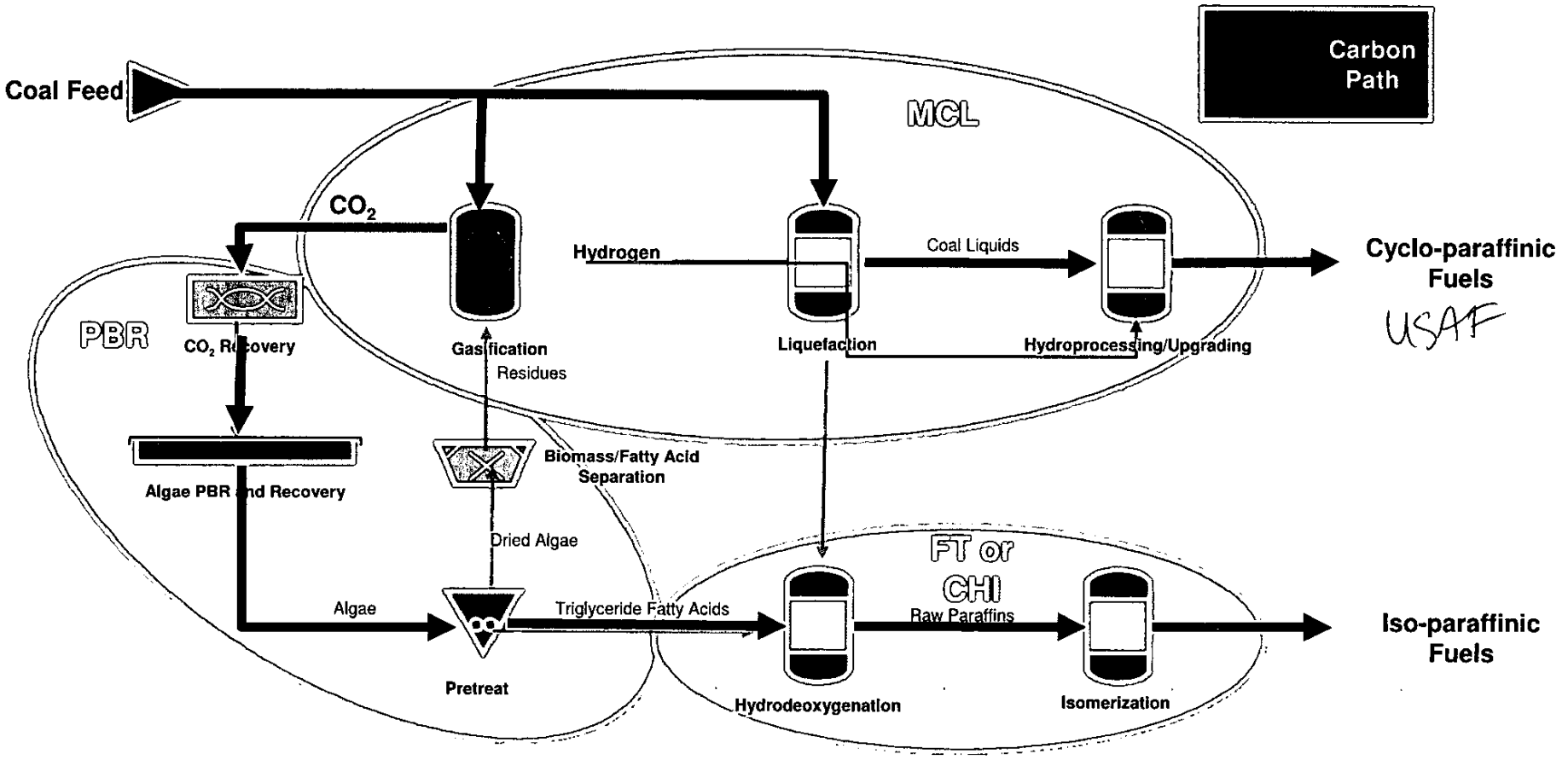
ICBTL with Carbon Capture & Recycle – A Strategic Option for Future Fuel Production



Process CO2 Used for Algae – for Fuels and Terrestrial CO2 Sequestration

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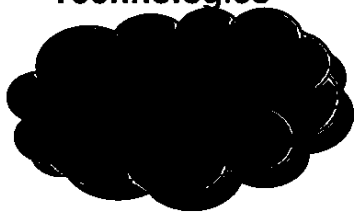
Accelergy's MCL® & ICBTL® Technologies Superior to Other Indirect Conversion Options – Offering Higher Yield and Lower GHG Footprint

1 Ton of Coal

Tons of CO_2

	Conventional CTL Technologies	ACCELERGY MCL®	ACCELERGY ICBTL®
			
	1.6 Tons CO2	1.0 Tons CO2	<0.5 Tons CO2
Barrels of Liquid Fuels			
Products	High GHG Footprint with Low Yield of Gasoline, Diesel and Jet Fuel	Low GHG Footprint with Higher Yield of Gasoline, Diesel and Jet Fuel	CO2 Capture/Conversion for Highest Yield of Gasoline, Diesel and Jet Fuel

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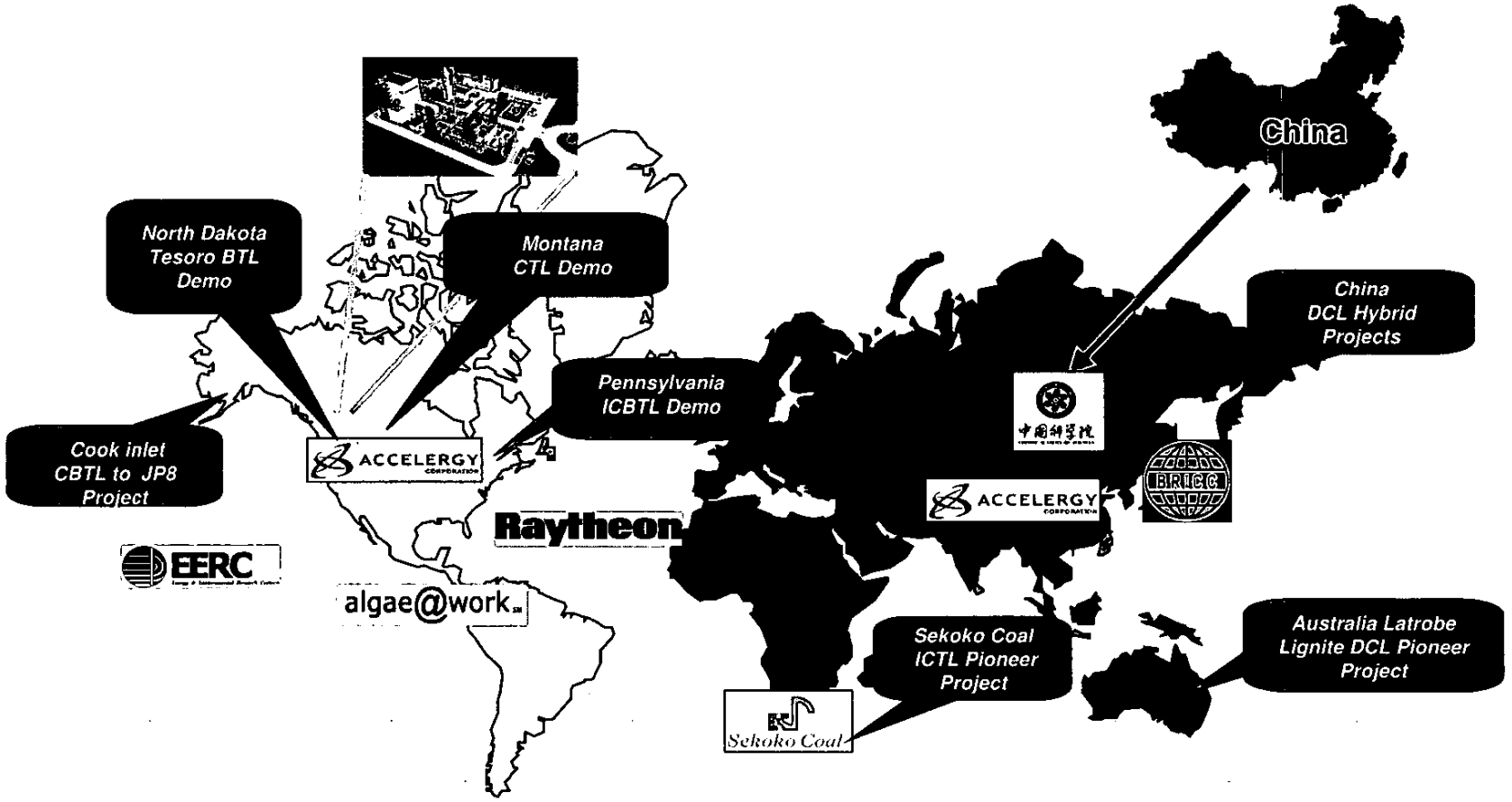
Accelergy Alliance Pursuing Global Opportunities for Integrated Coal-Biomass to Liquids



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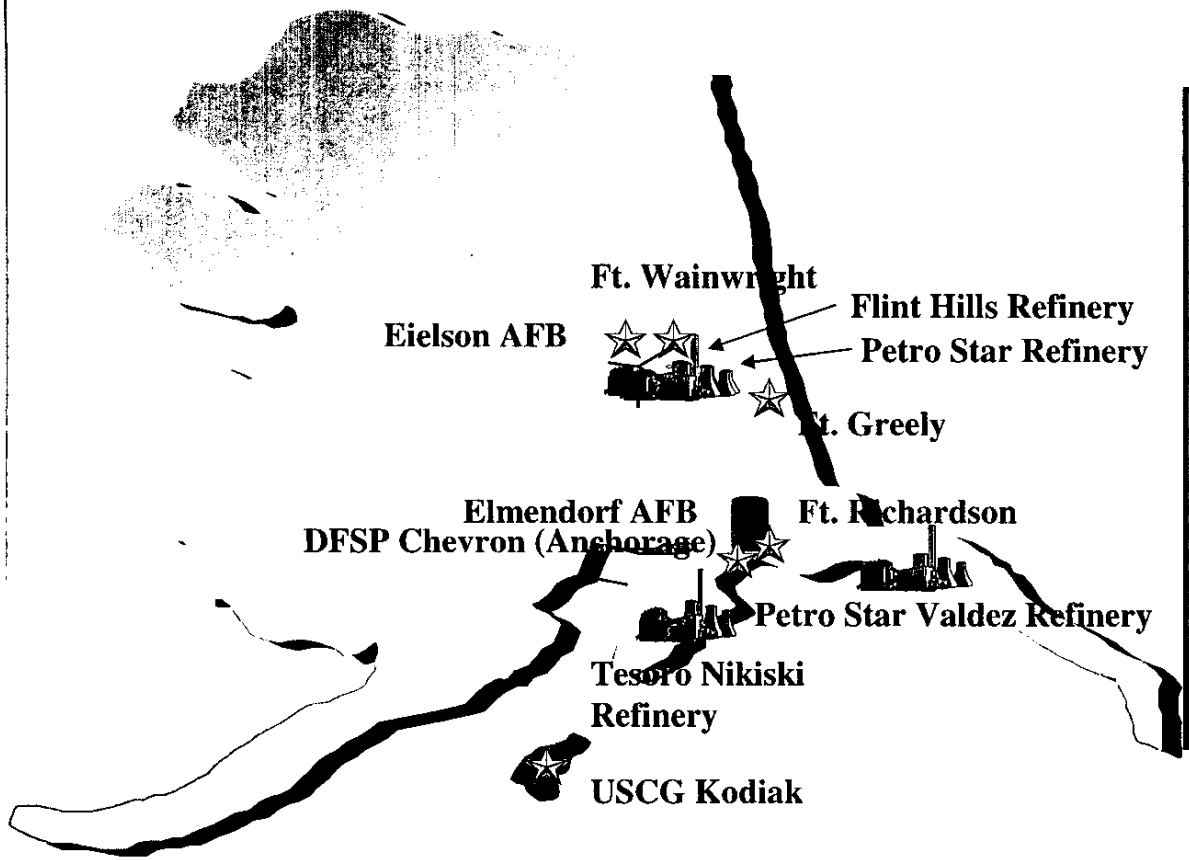
low cost jet fuel

Alaska's Jet Fuel Requirements Provide an Ideal Market for ICBTL



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

(*) Source Mark Iden DESC - Requirements currently under separate Eielson AFB Coal-To-Liquid Initiative

Anchorage International Consumes Over 60000 Barrels Per Day of Jet Fuel

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F-35

Accelergy-EERC Produced CHI and MCL Liquids Meet Critical Military JP-8 Specifications

Fuel Property	JP-8 (MIL-DTL-83133F Spec)	CHI Jet	MCL Jet
Color, Saybolt	No limit	Clear, colorless	Clear, colorless
Aromatics, vol%	25.0 max.	<19	0.9
Sulfur, wppm	3000 max.	nil	< 1ppm
Density, g/cc@ 15°C or	0.775–0.840	0.805	0.840
Flash Point, °C	38 min.	48	45
Freeze Point, °C	–47 max.	–60	–64
Naphthalene, vol%	3.0 max.	0.00	0.00
HV, BTU/lb	18,400 min	18,500	18,550

Larger Scale Tier 2 Test Program Being Discussed with DOE/DOD/USAF Research Laboratories

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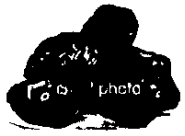
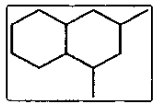
EERC
Energy & Environmental Research Center®

Fit-for-Purpose Fuels: A Win-Win for Accelergy and the USAF

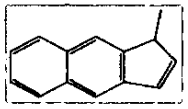
Coal



Cycloparaffins

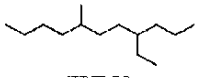


Aromatics



Biomass

Isoparaffins



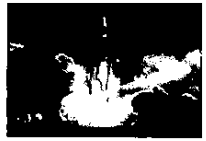
FIT FOR PURPOSE FUELS

TODAY

Advanced Engineering of Fuel Properties (Energy Density, Thermal Management) Optimizes Performance of Current Fleet

TOMORROW

Integration of Aircraft Design with Fuel Engineering Radically Expands Performance Envelope and Logistics Options

FUEL TYPE	APPLICATION
Jet-A	
JP5	
JP8	
JP9+	
RJ6+	

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Oxidative Stability Test of JP-8

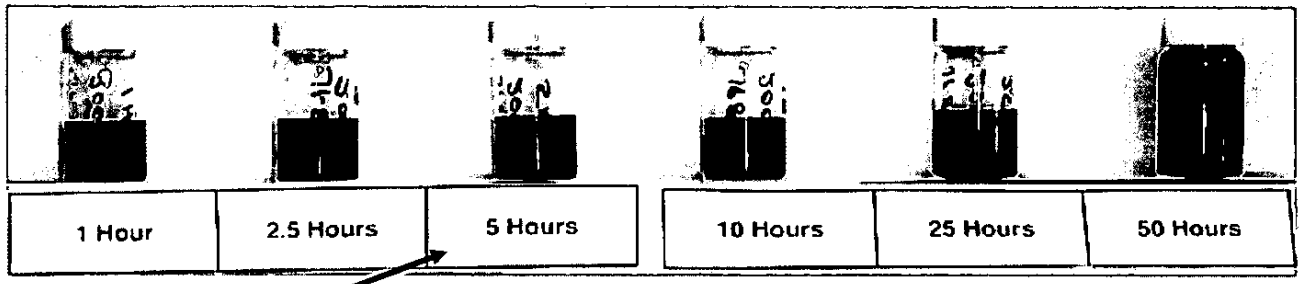

Figure 4-6: Photograph of the JP-8 fuel samples collected from the heating mantle oxidation at 200° C at periods of 1hr, 2.5hrs, 5 hrs, 10 hrs, 25 hrs, and 50 hrs

JP-900 Passes 5hr Test

Oxidative Stability Test of JP-900

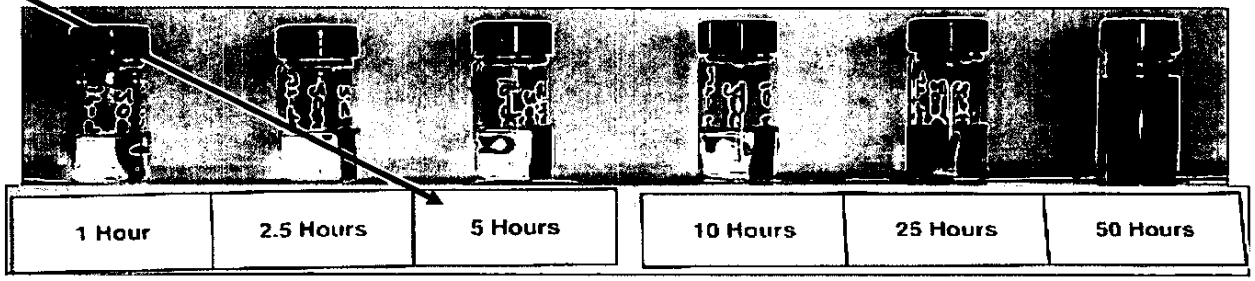

Figure 4-5: Photograph of the fuel samples collected from the heating mantle oxidation of JP-900, POSF-4765, at 200° C at periods of 1hr, 2.5hrs, 5 hrs, 10 hrs, 25 hrs, and 50 hrs

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Source: H Schobert et al Penn State 2002

AFRL Test Program to Certify Accelergy Fully Synthetic JP8 Sec 526 Fuels

AFOSR
AIR FORCE OFFICE OF SCIENTIFIC RESEARCH

The Air Force Office of Scientific Research discovers, shapes, and champions basic science that profoundly impacts the future Air Force.

2009 Fuel Test Program

1Q10 *– JP8 Tier 1 Production in EERC*
2Q10 *– AFRL Tier 1 Testing*
4Q10 *– EERC RCLU Program Launch (Pending Tier 1 Findings/FY2010 Earmark Request)*

USAF JP8 Test Program Requires Progressively Larger Samples

TIER	TEST DESCRIPTION	SAMPLE VOLUME
I	Screening	0.25 gal
II A	Specifications Conformance	
II B	Lubricity	
II C	Low Temperature Properties	2 gals
II D	Extended Chemical/Physical Analysis	
II E	Material Compatibility Properties	
II F	Combustion Test	25 gals
II G	Thermal Stability Testing	

Testing Programs Performed Under Standard USAF Secrecy Criteria and Materials Testing Agreements

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Producer State Compact Home

General Update – Accelergy Military Fuels Programs

- **$18M in program support from Federal/State Sources**
  - $8.0M DOD Grant under Title III of the Defense Production Act
    - To build and operate advance bio-refinery (see next page)
  - $8.0M DOE directed funding from the Energy & Water Appropriations Bill
    - ICBTL Demonstration Project in Montana
    - Demo-scale coal and biomass refinery located outside Billings
    - Engineering to begin Q2, 2011
  - $1.25M DOE Earmark
    - Dedicated DCL processing unit at EERC
    - Unit under construction – start-up February 2011
  - $350K Pennsylvania New Energy Project
    - 1st Draw of potential $10M for fully integrated demo program
    - Demonstration ICBTL with Carbon Capture and Recycle
    - Partnership with Raytheon Corporation and Siemens

First Demo

- **Fully Synthetic Jet Fuel Program**
  - Active program with the Air Force Research Labs/TARDEC under CRADA's
  - Multiple samples submitted and tested through Tier II
  - Currently producing optimal sample for Tier III testing
  - On schedule for new standard development in early 2013

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$800 barrel pioneer project

2197

Title 3 defense Project - Sen Backus

Update - 1st Commercial Bio-Refinery Plant in Collaboration with Tesoro

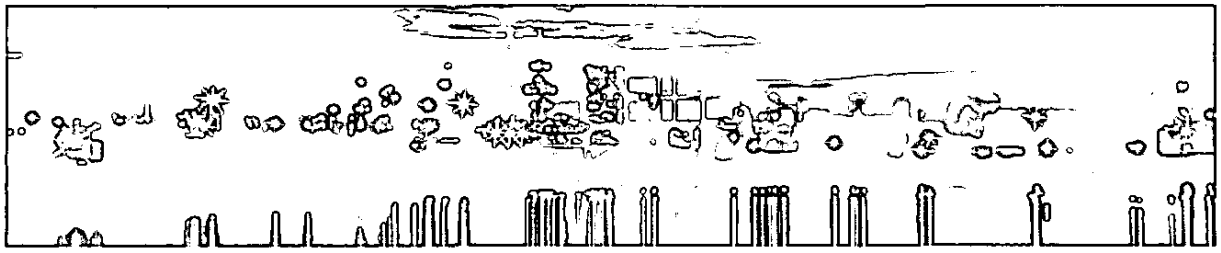
ADVANCED TACTIAL FUELS MANDAN BIOMASS REFINERY

- 100 Barrel/day (1.4M gallons/year) bio-refinery plant
  - Funded under Title III of the Defense Production Act (DOD)
- Co-located at the Tesoro Mandan Refinery
  - 60,000 B/D refinery plant located in Bismarck, North Dakota
- Primary feedstock – Camelina Oil
  - Other anticipated feeds – algae oil, waste grease, soy oil
- Output – Iso-paraffinic distillate for HP jet, diesel & gasoline
  - Sales to Defense Logistics Agency & Tesoro
- Worley Parsons – primary engineer
  - Front end engineer & design (FEED) package complete – December 2010
- Construction Schedule
  - Commence construction – March 2011
  - Startup – February 2012

20 year Military contract purchase agreement

TESORO

EERC



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[redacted]

China Programs/Potential Partners in Alaska

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Continued Progress in China Commercial Development

Commercial Discussions Progressing

Multiple Development Partner Discussions

神华集团有限责任公司
SHENHUA GROUP CORPORATION LIMITED

中国大唐集团公司
China Datang Corporation

Yanzhou Coal Mining Company Limited
EXCELLENT BRAND OUTSTANDING CREDIBILITY

Agreement to examine hybrid opportunities

中科合成油技术有限公司
SYNFUELS CHINA

let's go to China

Government and Technical Advocacy Established

Construction of pilot unit scheduled for 1Q 2011

BRICC

Coal verification and support agreement

中国科学院 上海分院
CHINESE ACADEMY OF SCIENCES SHANGHAI BRANCH

Multiple other reach out programs established (e.g. NDRC, MOST, Xinjiang)

Response and support suggest aggressive development program

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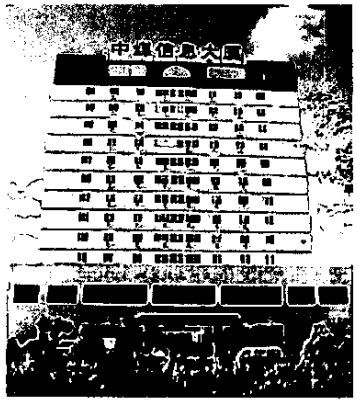
1.2 billion

Accelergy Beijing Micro-Catalytic Direct Liquefaction Pilot Plant

- Project agreement developed and executed with Beijing Research Institute of Coal Chemistry (BRICC)
  - One-half Barrel/Day Direct Liquefaction Unit
  - Located at the BRICC's Beijing Headquarters
  - Leveraging an existing direct liquefaction pilot unit
- Phase 1 – USAF Production
  - Full production run to produce 10 barrels of DCL distillate
  - Upgraded in the United State
  - Production commences November 2010
- Phase 2 – Integration of MCL Reactors
  - Upgrading of pilot facility with MCL plug-flow reactors
  - Continued production of DCL distillate for USAF
  - Production commences March 2011
- Phase 3 – 3rd Party Coal Performance Confirmation
  - Processing of third party coals
  - Confirmation of performance for Chinese coal chemistry companies
  - Program to start in the Summer of 2011



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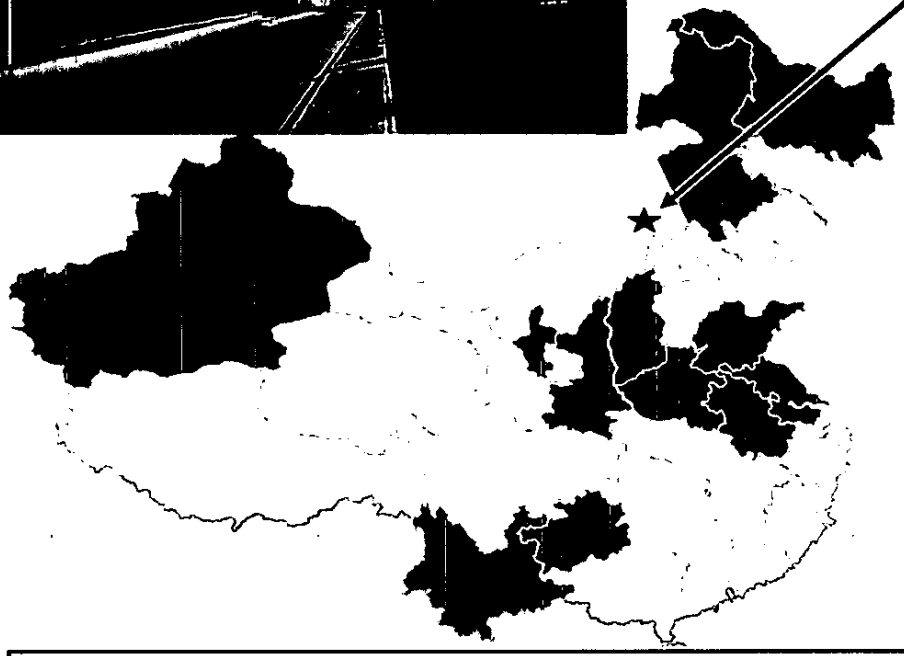
Northeastern China FT Plant

Representative Project – Hybrid Retrofit of Existing Plant



Yitai Coal-to-Liquids Plant

- **4,000 barrel/day Coal FT Plant**
- **Commissioned April 2009**
- **Erdos, Inner Mongolia**
- **Synfuels China FT Technology**
- **Product Sales Price - $50/barrel**
- **$400 million Construction Cost**

HYBRID RETROFIT ECONOMICS

- 5,000 B/D incremental capacity
- Capital cost of $300M
- Accelergy Capital - $60M
- Accelergy Cash Flow - $40M annually

Several Chinese Partners Interested in Offshore Options Including Alaska Cook Inlet

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Accelergy – State of Pennsylvania Programs Provide A Good Model for Cook Inlet ICBTL

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Commercial Projects Must Meet Technical – Regulatory – Economic Targets

State of Pennsylvania New-Energy Project Requirements Are Illustrative

Pen. Coal Use

Energy Security

- **Utilizes Domestic Resources**
- **Sustainable Use of Land, Water and Process Feedstocks**

MIT

Carbon capture - Recycle

Environmental Responsiveness

- **Avoids need for CCS** expensive
- **Section 526 GHG**
- **High Thermal Efficiency**
- **Beneficial Use of CO2**
- **Consumes Waste Coal and Coal Bed Methane**

Economic Viability

- **At Crude Price Parity** High Ash content
- **Does Not Need Tax or Price Subsidies**
- **Provides Secure Jobs**

25% more energy to bury CO^2

Pennsylvania's Major Objectives for Pioneer ICBTL Project

- Establish a "Truly Clean" Coal Industry Utilizing State Resources
- Mitigate Susquehanna Watershed Waste Water Problems via Bio Fertilizers
- Maximize the Utilization of Waste Coal
- Achieve CO2 Mitigation via Algae TerraDerm® Bio Fertilizer for Terrestrial Sequestration
- Produce Transportation Fuels for PA and Fully Synthetic JP8 for DOD
- Produce Secure Domestic Jobs/Creates New Industrial Base

Waste Coal Project - Seward - Reliant Company!

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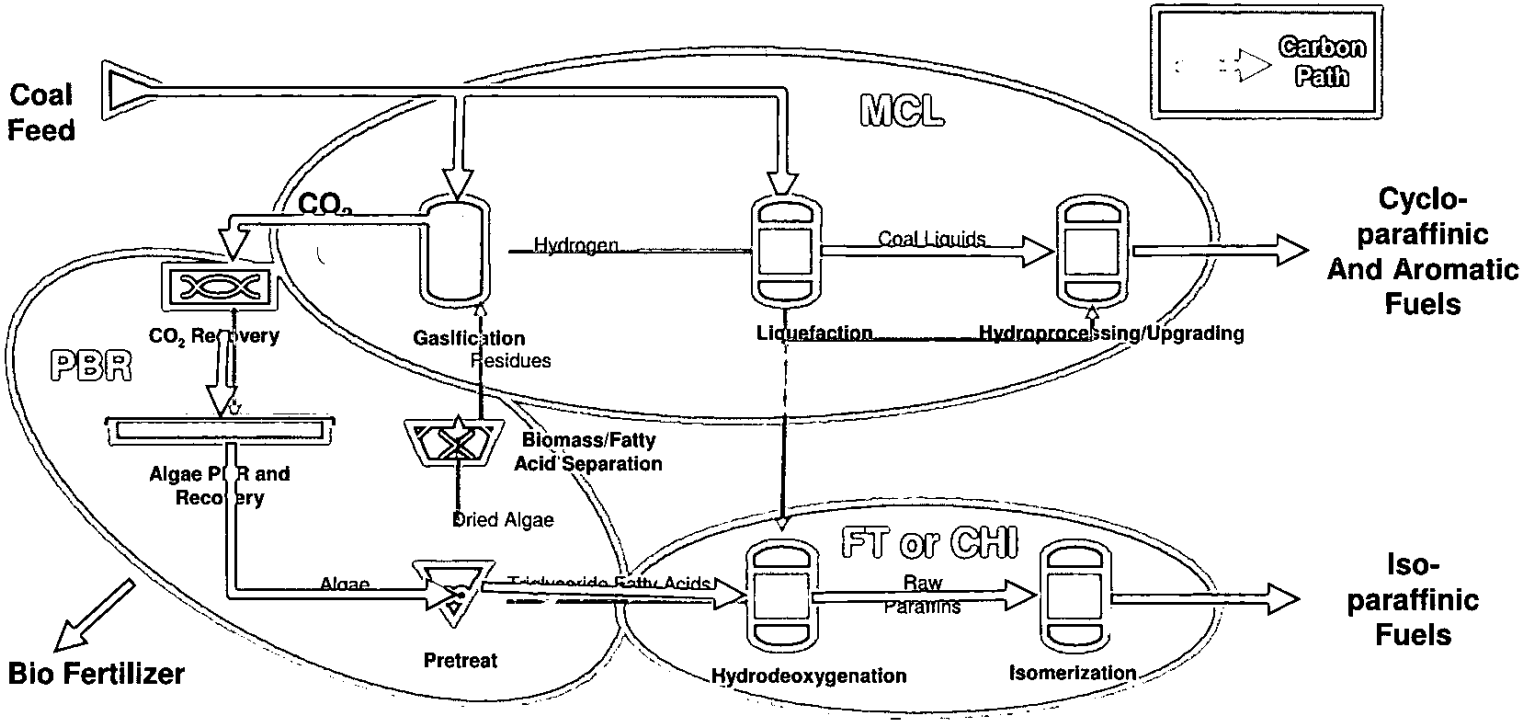
Pennsylvania ICBTL Demo Project Includes Carbon Capture & Recycle



- *Process CO2 Used for Algae – for Fuels and Terrestrial CO2 Sequestration*
- *Initial Flow Scheme to Include MCL Coupled with PBR – TerraDerm*
- *Camelina and/or Coal Derived Syngas to be Used for Iso-paraffin Production*
- *System to Produce Fully Synthetic JP8 for DOD Applications – 20 Year DOD Purchase Agreements Offered in Pending Baucus-Tester Energy Bill*

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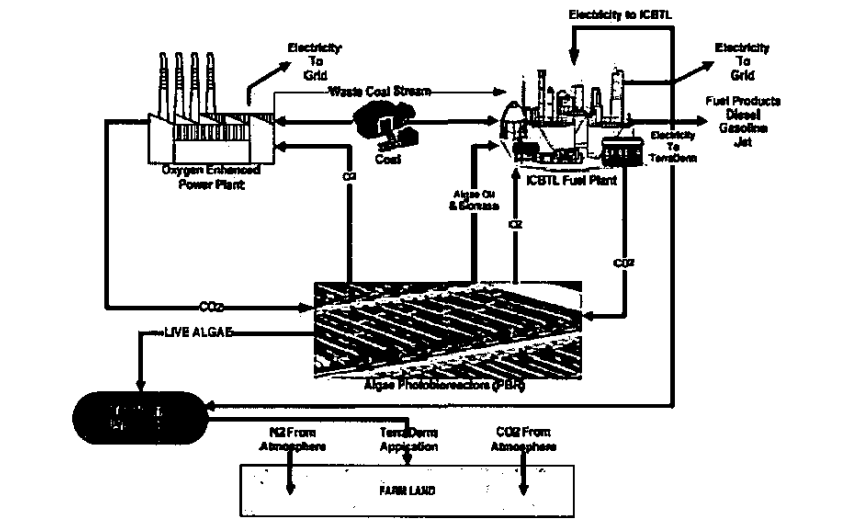
Pennsylvania Interested in ICBTL Power Plant Co-location



ICBTL Plant Configured with Stand Alone Power Plant – Produces 50,000+ Barrels Per Day Fuel While Capturing CO2 to Sustain Farm Based Fertilizer While Meeting Section 526 Requirements

Accelergy Alliance Confidential

- **Commercial PA ICBTL Plant to Be Co Sited with Existing Power Plant in Western PA**
  - Seward 500MW Waste to Power Plant
  - Mansfield 2.6GW PC Power Plant
  - Close Proximity to Pittsburgh No 8 or High Sulfur Bituminous Feedstocks – Alpha Cumberland Mines
- **State DEP and Department of Agriculture to Assist in Project and Environmental Permitting**
  - Carnegie Mellon, U Pittsburgh and Penn State Assisting with Process, Environmental and Econometric Modeling
- **Secure 50% Financing via State Bonds – Low Interest Loans Via DOE CCS Project Finance RFP**
  - Use DEP/McGinty Approach to Seward Financing
- **Prequalification for ExxonMobil to be Achieved with Foster Wheeler, Bechtel and/or Siemens**

Pennsylvania Commercial Project - Notional Schedule Based on Seward Experience

- Feasibility Study/EM Prequalification	2010- 2011
- Pre-FEED/FEED/Permitting	2012
- EPC	2012- 2015
- Shakedown/Start-up	2016

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ICBTL Project Economics/Impacts

Notional 8KBD Facility – 2000 TPD DAF Coal Feed
Assumes Coal Validation Studies Completed with Pre-Qualification

Program Phase	Total Jobs	Duration	Total Cost
Feasibility Study	5	3 months	$350K
Pre-Qualification	15	3 months	$1.5 million
Resource Validation Program	30	24 months	$10+ million
Pre-FEED/FEED	~100	24 months	$60-70 million
EPC	2500	36 months	~$800 million
Operation	1000 (250 direct)	30 years	~$150 million/yr

Projected Savings on US Foreign Oil Payments
(Assuming $80/B Oil) = $9 Billion Over 30 Year Life of Project

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ICBTL Jobs and Economic Development Potential is Significant

Personnel Analysis for 8000B/D Liquefaction Plant with Terra Derm (2010 Accelergy Adjusted 2005 DOE Reference Case)

Type of Job	Wages $/hr	Number of Employees	2010 Annual Payroll
DIRECT PERSONNEL			
Plant Operations			
Plant Operators	$28.68	185	$11,067,512.20
Shift Supervisor and Computer Control Operators	$32.78	45	$3,076,682.93
Machine Operators	$24.59	29	$1,487,063.41
Lab Technicians	$18.44	29	$1,115,297.56
Labor Experienced	$20.49	58	$2,478,439.02
Labor Common	$14.34	58	$1,734,907.32
Maintenance			
Labor Mechanic - Repairs	$30.73	29	$1,858,829.27
Labor Electronic - Repairs	$30.73	29	$1,858,829.27
			$24,677,560.98
INDIRECT PERSONNEL			
Central Office	$24.59	58	$2,974,126.83
Technical Support & Marketing			
Sales Personnel	$61.46	58	$7,435,317.07
Architectural	$81.95	29	$4,956,878.05
Technical Service	$61.46	58	$7,435,317.07
Warehouse	$24.59	35	$1,794,731.71
			$24,596,370.73
	Total Employees	700	
	Total Payroll		$49,273,931.71
	Average Salary		$70,391.33

Note: Pro Rata Screening Study Results from DOE 2005 Liquefaction Study. More Detailed Analysis of Potential Alaska and Pennsylvania Projects Will be Required To Develop Site Specific 2013+ ICBTL Cases.

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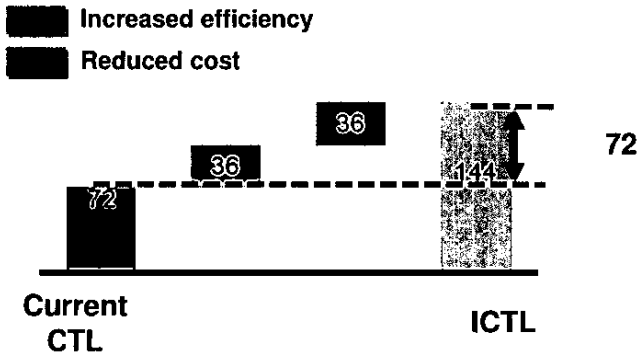
Accelergy ICTL® Creates Substantial Value While Significantly Reducing GHG Footprint

Value Created by Accelergy ICTL
Profit (US$) from 1 Ton of Dry Ash Free Coal



If 1% of the world's coal reserve is converted into fuels over a 30-year period using Accelergy ICBTL instead of current CTL technologies

Produce Two Times More Fuel Each Year or $16Billion Worth of Domestic Energy

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Accelergy – Tyonek – Alaska Path Forward

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ICBTL for Coal/Biomass Conversion to Synthetic Jet Fuel
Major Objectives for Cook Inlet Project in Local – Asia Pacific Export Markets

Energy Security – **Anchorage International and USAF Alaska Fuel Demand Sufficient to Justify a World Class ICBTL Facility in Cook Inlet**

Energy Sustainability – **Distillates, Bio-oils and Synthetic Crude Can Provide Supplemental Feeds and Blend-stocks for Existing Alaskan Refineries – Cook Inlet Coal Resources Sufficient to Provide Fuels For Many Decades**

Environmental Responsiveness – **ICBTL Meets Section 526 GHG Requirements – Produces Useful Sulfur and By-product Coal Solids for Industrial Application – Minimizes Water Usage Per Barrel of Fuel Product – Provides Alternative to CCS for Power Plant GHG Mitigation via Terra Derm Synthetic Bio-Fertilizer**

Economic Viability – **Preliminary DOE/DOD Studies Define Wide Range of Business Opportunities for Cook Inlet Coal Conversion – Ability to Create Secure and Attractive Jobs for US – Superior Economics to All Known CTL Alternatives**

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Accelergy - Tyonek CBTL Program - Path Forward

Developed MOU on Tyonek Coal/Biomass to 100% Synthetic Jet Fuel Program

- Resource Assay – Permitting – Land Use Assessment
- Joint Development Program Funding Initiatives
- Joint Approach to Elmendorf AFB and Anchorage International

Initiate Joint Program on Tyonek Tier 1/2 Test Program with AFRL/TARDEC

- KL Gates Assistance with Alaskan and Lower 48 Senate Staff
- Explore State of Alaska and USAF/DESC/DOD Options
- Develop CRA Proposal on 100% Fully Synthetic JP8
- Explore Full Range of Beluga CBTL Options with DOD/DESC/USAF

Collaborate with Crow on Many Stars Education and Technology Training

- Held Face to Face Meeting in 1Q'2010
- DC Meeting on Congressional Funding for Coal States (AK, MT, ND, PA)
- Seeking Agreement in Principle from University of Alaska on Environmental Test Facilities for MT Demo Program

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ACCELERGY - TYONEK ENTERPRISE DEVELOPMENT – NEXT STEPS

- **Site specific study on Beluga coal at Tyonek Tribe selected site - $250K**
  - Definition of Process Basis
  - Lab testing of Beluga coal
  - Develop heat and material balance for plant
  - Determine investment and operating cost
  - Develop project economics
  - Establish a test program to demonstrate Tyonek Project design
- **Tyonek Coal Assay/MCL Pretreatment/Autoclave Process Study - $320K**
  - Analysis of preferred coal feedstocks
  - Lab scale testing of pretreatment methods
  - Parametric studies to define optimum MCL autoclave process conditions
  - Production of MCL distillates for preliminary characterization studies
- **Bench Scale Production and USAF Tier 1-2 Testing of Tyonek JP8 and JP8+100 Samples - $430K**
  - Large scale autoclave production of MCL distillate
  - Distillate upgrading to JP8 and JP8+100 samples for Accelergy and USAF testing
  - USAFRL testing of JP8 and JP8+100 for Tier 1 certification
  - Determine investment and operating cost

Accelergy Alliance Proposed 50/50 Cost Allocation with Tyonek Group to Complete Beluga MCL Study and Product Certification

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10-22-10 Update: Energy Projects & Appropria-tions

<target><bill></bill><subject>10-22-10 Update Energy Projects and Appropriations</subject><comm>HENE26</comm></target>

House Special Committee on Energy

Rep. Charisse Millett
State Capitol Building, Room 412
Juneau, AK 99801
Phone (907) 269-0222
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Rep. Bryce Edgmon
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AGENDA

Friday, October 22nd, 2010
9:00 a.m. – 12:00 p.m.
Room 501, Akosofu Building, Fairbanks, AK

UPDATE ON ENERGY PROJECTS AND APPROPRIATIONS

****Testimony by Invitation Only****

Welcoming Remarks from Luke Hopkins, Mayor, Fairbanks North Star Borough

Steve Haagenson, Executive Director, Alaska Energy Authority

Bob Brean, Director of Research & Development, &.
Cary Bolling, Energy Specialist, Alaska Housing Finance Authority

Julie Estey, Business Director, Alaska Center for Energy and Power

Jack Hebert, President / CEO, Cold Climate Housing Research Center

AHFC Energy Programs

Rebate, Weatherization, Revolving Loan

LEGISLATIVE REPORT

10/22/2010

Alaska Housing Finance Corporation

www.ahfc.state.ak.us/energy

Overview

- $200 million for weatherization
  (income-based, no-cost program)
- $100 million for rebates
  (for those NOT qualifying for weatherization program:
  rebates for eligible improvements - ratings required)
- $60 million additional for rebates 9/2008
  (to carry program into next calendar year)
- Large training component for both programs

Allocations

	Rebate	Weatherization
Anchorage Region	$26 million	• $34 million
Southcentral Region	$16 million	• $24 million
Fairbanks Region	$17 million	• $29 million
Interior Region	$2 million	• $12 million
Juneau Region	$4 million	• $12 million
Southeast Region	$5 million	• $14 million
Northern Region	$4 million	• $18 million
Western Region	$5 million	• $20 million
Southwest Region	$2 million	• $12 million

Weatherization PROGRAM

$200 Million

Encumbered:

2008-2009= **$70 million**

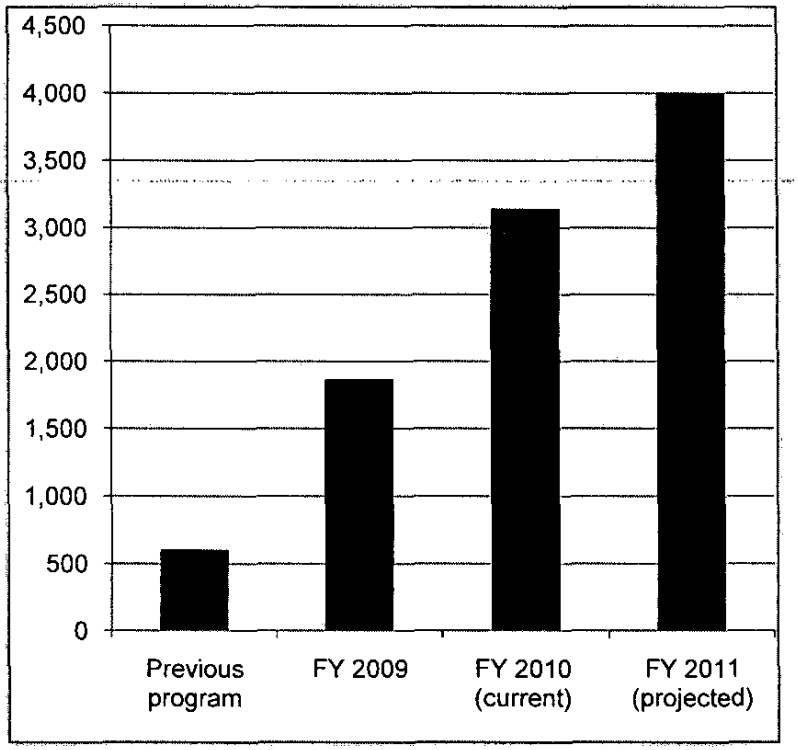
2010= **$60 million**

Alaska Housing Finance Corporation www.ahfc.state.ak.us/energy

Weatherization PROGRAM

Homes Weatherized

- Previous program: **600**
- FY 2009: **1864**
- FY 2010: **3139** (current)
- FY 2011: **4000** (projected based on funding)
- Statewide weatherization providers and housing authorities have now achieved a sustainable capacity.



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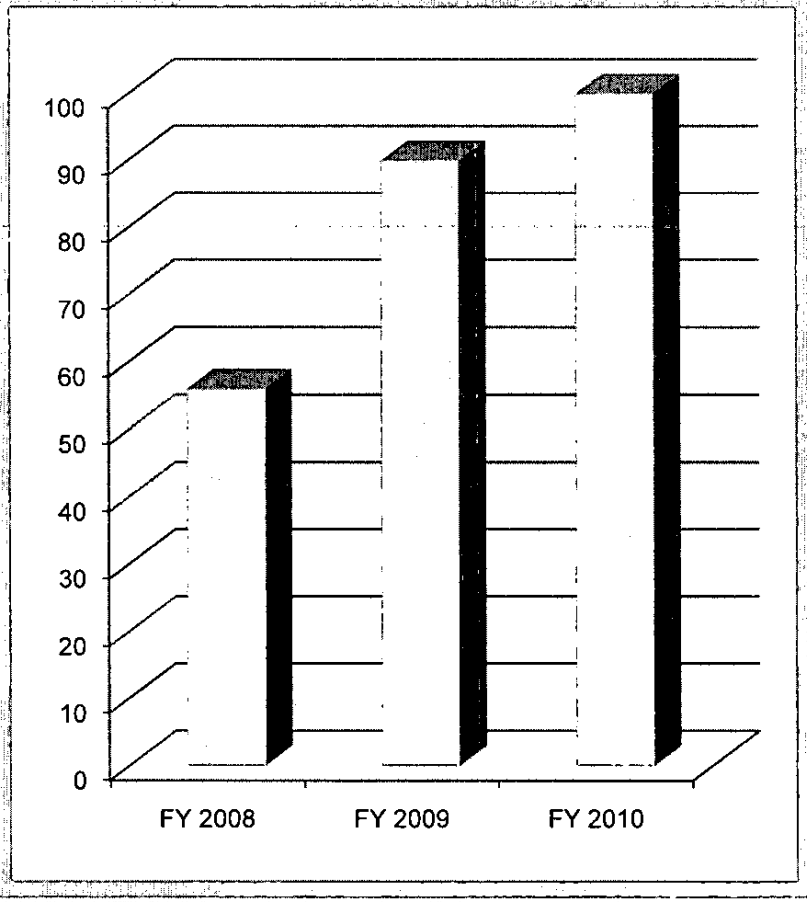
Weatherization PROGRAM

Communities/Areas Served

- FY 2008: **56**
- FY 2009: **90**
- FY 2010: **100+**



Home Energy Rebate PROGRAM

$160 Million

Funds Fully Encumbered
Expended: $72.8 million

Alaska Housing Finance Corporation www.ahfc.state.ak.us/energy

10.12.2010

Home Energy Rebate PROGRAM

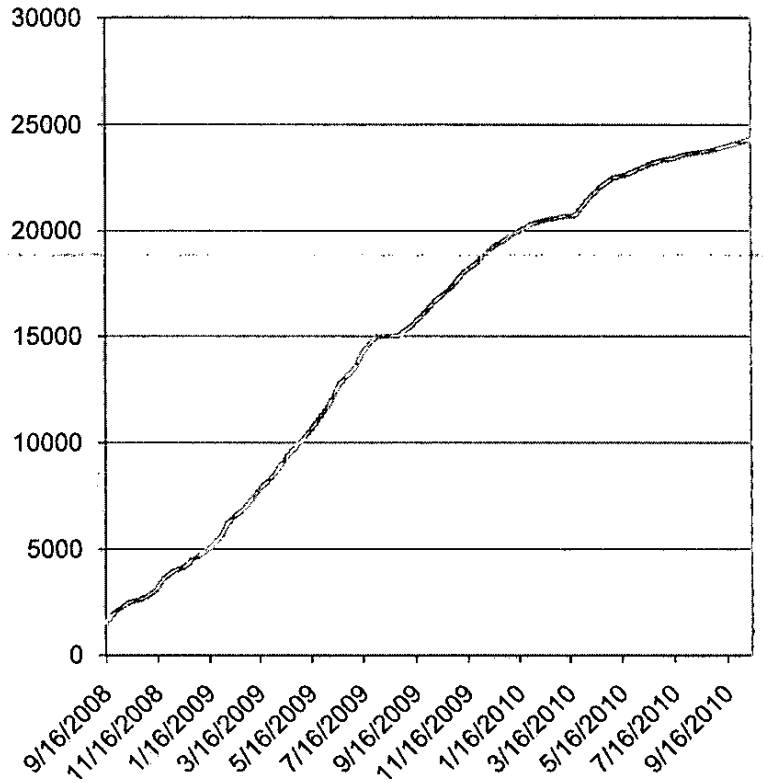
As-Is Ratings Paid : 24,292*

Existing Homes*

- **9,142** rebates paid
- **$6,258** average
- 18 month deadline
- **63.5%** participation rate

New 5 Star Plus Homes

- **822** rebates paid



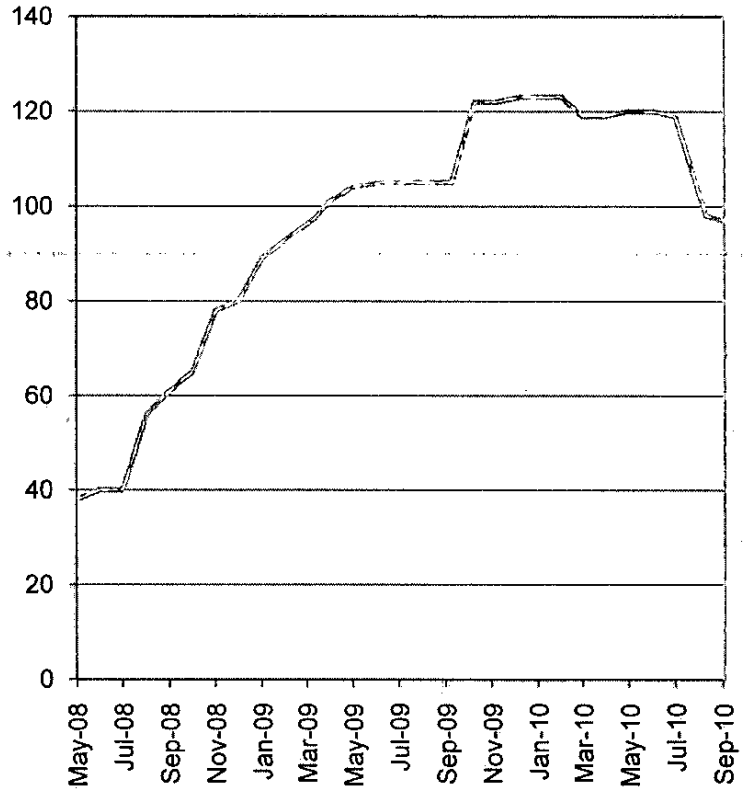
Alaska Housing Finance Corporation www.ahfc.state.ak.us/energy

10.12.2010

Home Energy Rebate PROGRAM

Raters Available

- Raters
  - 38 at program start
  - 123 at peak
  - 97 currently listed
- Roving rater program
- Centralized sign-up list
  - www.akrebate.com or call 1-877-AK-REBATE



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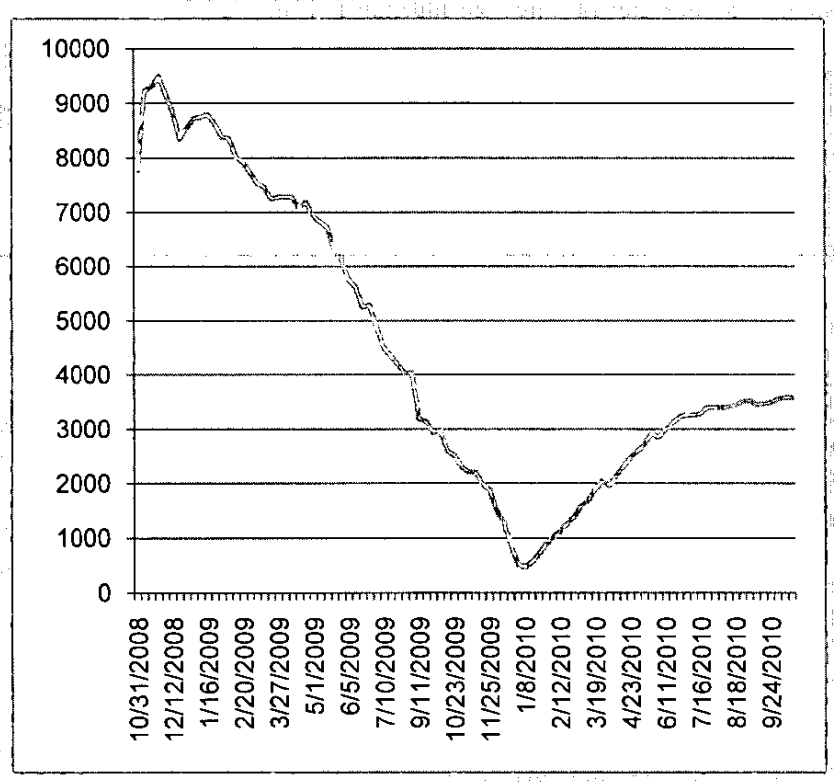
9.15.2010

Home Energy Rebate PROGRAM

Wait List



Statewide: 3,575

Anchorage: 1,583

Fairbanks: 326

Juneau: 182

Total Ratings Dispatched

Statewide : 30,081

Alaska Housing Finance Corporation www.ahfc.state.ak.us/energy

10.15.2010

Home Energy Rebate PROGRAM

Program Snapshot

Approximate Costs of Sampled Homeowners

AHFC Rebate Amount

$6200 average rebate

Homeowner Paid Costs

$10,800 average spent

-$6200 average rebate

=$4600 homeowner investment

$1580 annual energy savings
3 year payback

Alaska Housing Finance Corporation www.ahfc.state.ak.us/energy

10.19.2010

Home Energy Rebate PROGRAM

Energy & CO2 Impacts

HOMES	Before	After	Total Saved	Per Home
6998				
Energy Cost	$38,104,164	$27,061,010	$11,043,154	**$1,586 / year**
CO2 lbs/year	304,449,069	218,531,869	85,917,199	12,341 lbs / yr
Rating Stars	2+	4		3 steps
BTUS			679 Billion	97 Million

Average energy use reduced 32.58%

Equivalent energy savings: **117,184 barrels of crude oil**
4.9 million gallons of fuel oil
700 gallons of fuel oil per home

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9.1.2010

Home Energy Rebate PROGRAM

Average Savings per Home by Fuel Type

[illegible]	Average [illegible]
Electric	748 kwh
Natural Gas	978 ccf
#2 Oil	650 gallons
Propane	84 gallons
Wood	2.2 cords

6998 sampled homes

Projected average energy cost reduced 29%

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9.1.2010

Second Mortgage for Energy Conservation

- 2nd Mortgage up to $30,000
  - -15 Year Loan at the Taxable Rate
  - -Loans Paid Off: **84**
  - -Active Loans: **34**

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10.6.2010

Home Energy Rebate & Weatherization

Comparison Snapshot

	BEFORE* 1996 - March 2008	AFTER April 2008 – October 15, 2010
• Ratings	25,557	34,283
• Rebates	n/a	9142
• 5+ Homes	2,345	822
• Weatherized	10,704	5003

14,967 homes now more energy efficient since 2008

Alaska Housing Finance Corporation www.ahfc.state.ak.us/energy

*Programs prior to $360 million state funding

Alaska Energy Efficiency Revolving Loan Fund (AEERLF)

"Alaska Sustainable Energy Act" - $250 million revolving loan fund

- Energy efficiency improvements for
  - Regional Educational Attendance Areas (REAAs)
  - University of Alaska
  - State facilities
  - Municipal facilities
- Guaranteed savings from energy efficiency improvements are used to pay off the loan
- Requires Retrofit Energy Assessment for Loan (REAL)

In final development phase

Retrofit Energy Assessment for Loan (REAL)

Prior to applying for the loan…

- **Initial Project Evaluation**
  - Energy benchmark
- **Energy Audits**
  - Audits by Certified Energy Auditor (CEA) or Certified Energy Manager (CEM) certification through the Association of Energy Engineers (AEE), or an AHFC-approved equivalent.
- **Energy Performance Contracts (EPCs)**
  - Energy Service Companies (ESCos) pre-qualified by Alaska Housing Finance Corporation (AHFC) and Alaska Department of Transportation and Public Facilities (DOT/PF) may be used.

Retrofits may be managed by qualified Energy Service Companies (ESCos), or the facility owner (if under $250,000).

Retrofit Energy Assessment for Loan (REAL)

Process

REAL application/benchmark to AHFC

AHFC reviews application for eligibility

Initial assessment performed by qualified energy auditor (CEA/CEM) to allow for benchmarking and AHFC prioritization of projects

Investment Grade Audit (IGA)

Loan application to AHFC for approval

Alaska Housing Finance Corporation

www.ahfc.state.ak.us/energy

Energy Efficiency Revolving Loan (EERL)
Process

Loan approved by AHFC

Upgrades accomplished either through an Energy Performance Contract (EPC) with an Energy Service Company (ESCo) , or overseen by facility owner (if less than $250,000)

Loan repaid according to projected energy savings (term depends on payback of project less than or equal to 15yrs; interest based on rate in effect at time of application)

Technical assistance available

Long term energy savings

Alaska Housing Finance Corporation

www.ahfc.state.ak.us/energy

Two ways to get the work done

Path 1

ESCo does IGA

ESCo manages project, performs work through EPC

Path 2

Certified Energy Auditor or Certified Energy Manager does IGA

Facility owner manages project (if less than $250,000)

10-27-10 Energy Requirements for Proposed Mines

<target><bill></bill><subject>10-27-10 Energy Requirements for Proposed Mines</subject><comm>HENE26</comm></target>

Alaska Legislature
House Special Committee on Energy

Rep. Charisse Millett
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Rep_Charisse_Millett@legis.state.ak.us

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AGENDA

Wednesday, October 27, 2010
11:00 a.m.
Anchorage LIO (#220)

TOPIC: Energy Requirements for Proposed Mines in Alaska

1) Status of the Mining Industry in Alaska
Lorna Shaw, Executive Director, Council of Alaska Producers

2) James Fueg, Donlin Creek Mine
3) John Shively, The Pebble Project
4) Dan Graham, Chuitna Coal Project
5) Karl Hanneman, Livengood Project
6) Lorali Carter, Wishbone Hill Mine (Usibelli)

Invited testimony only
Meeting will be Teleconferenced

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The Energy Needs of Alaska's Metal Mining Industry

Lorna Shaw, Executive Director
Council of Alaska Producers

October 27, 2010

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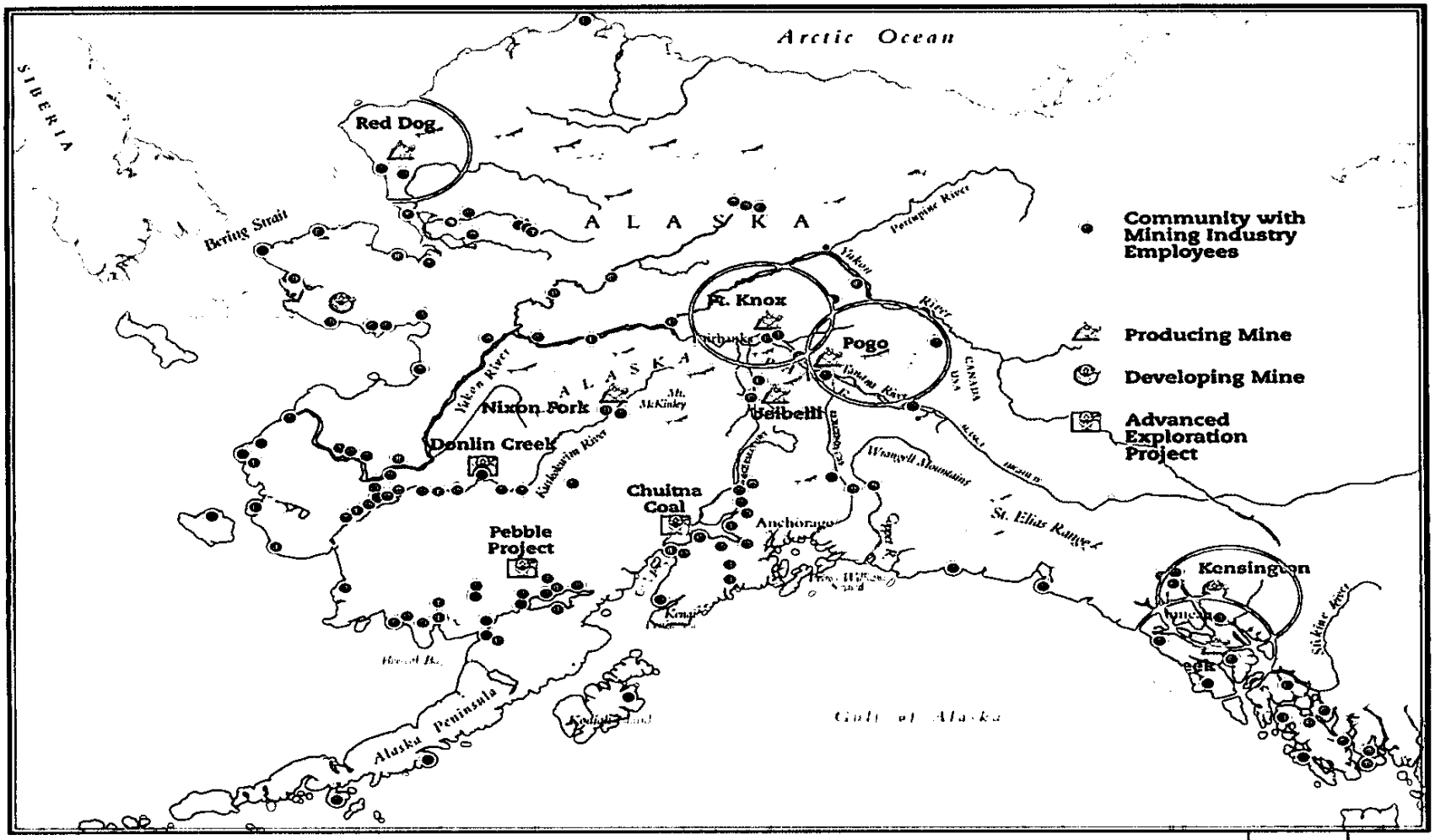
Alaska Producers

Five operating large metal mines



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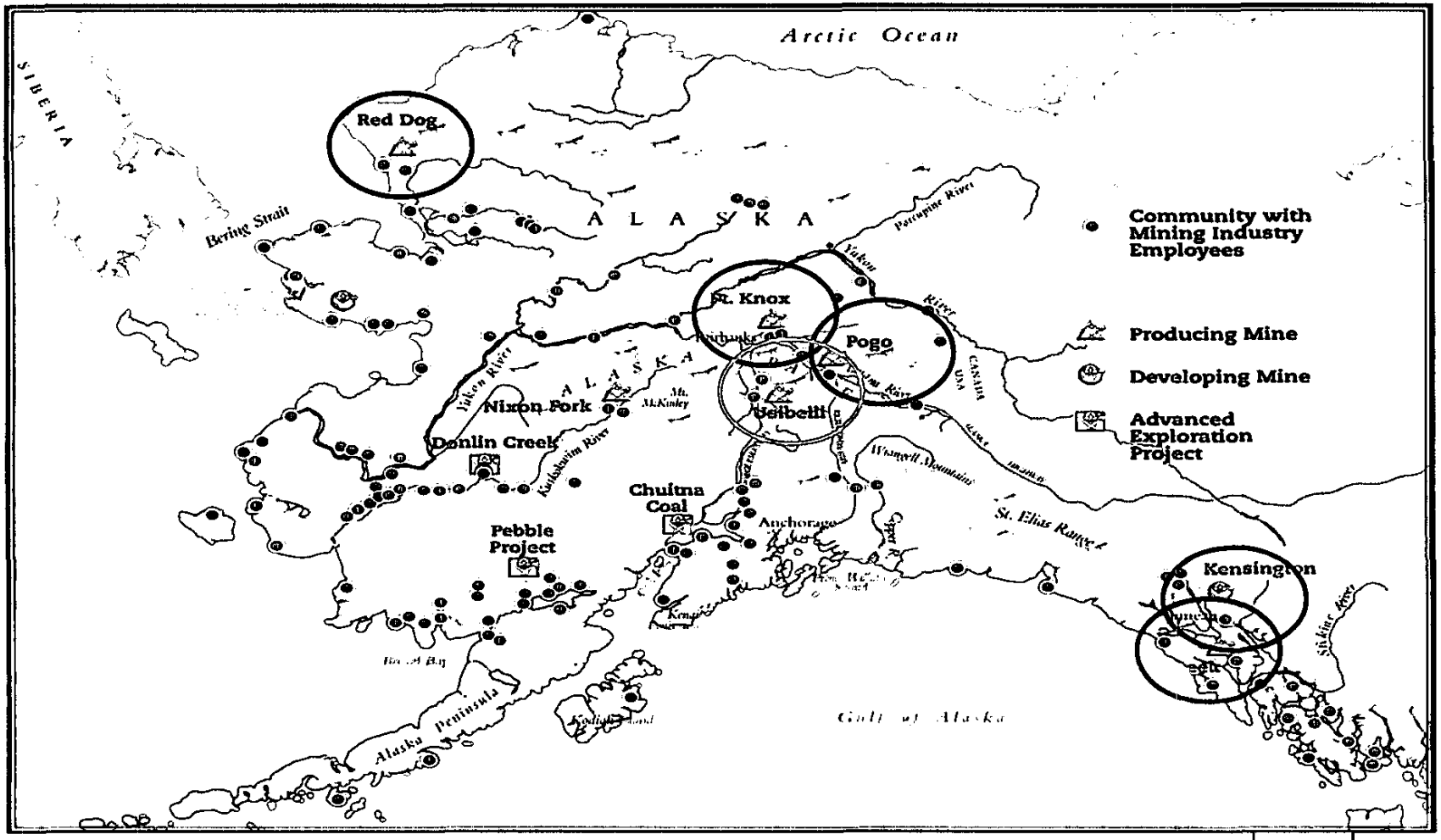
One operating coal mine



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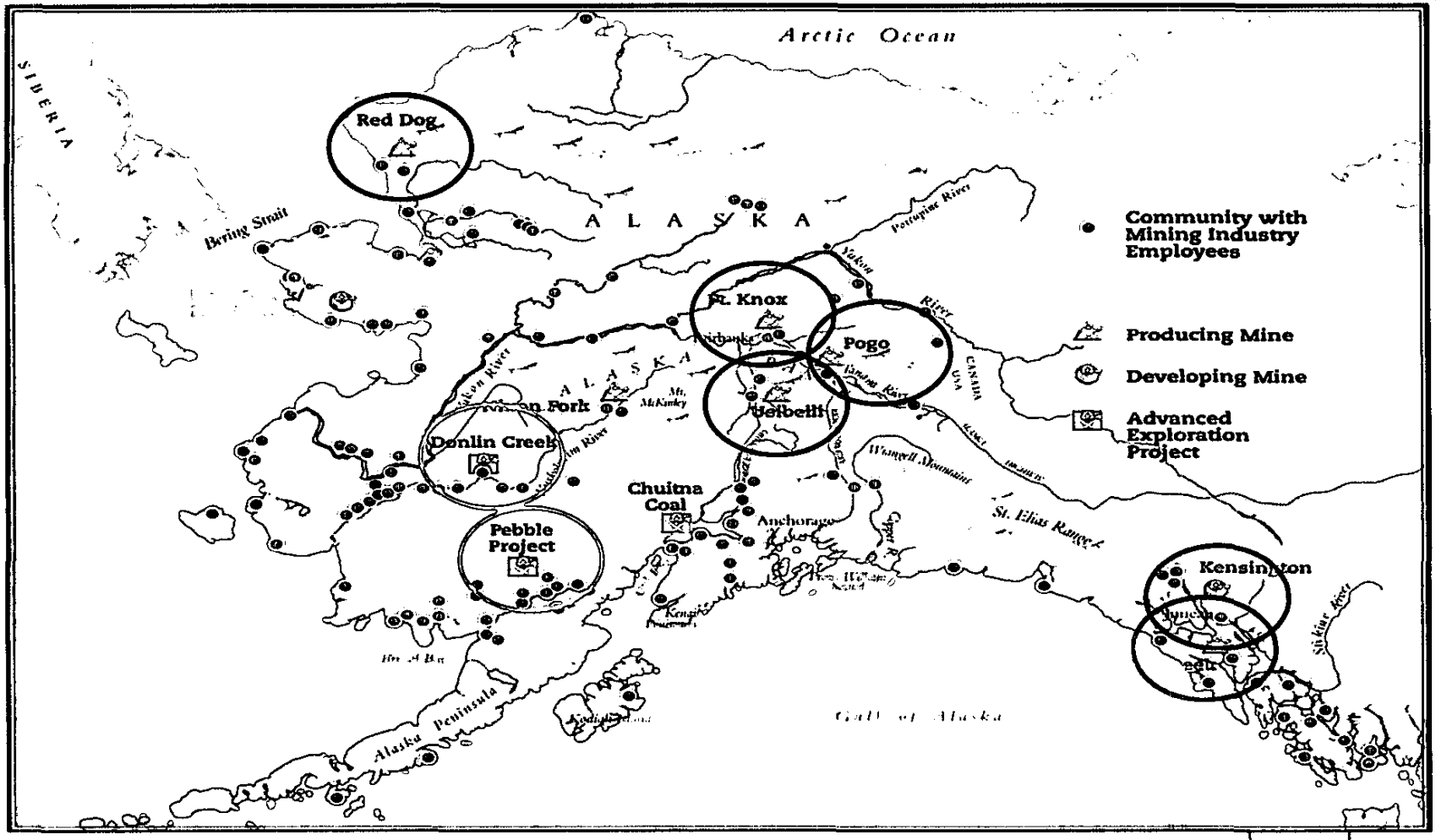
Two advanced exploration metal projects



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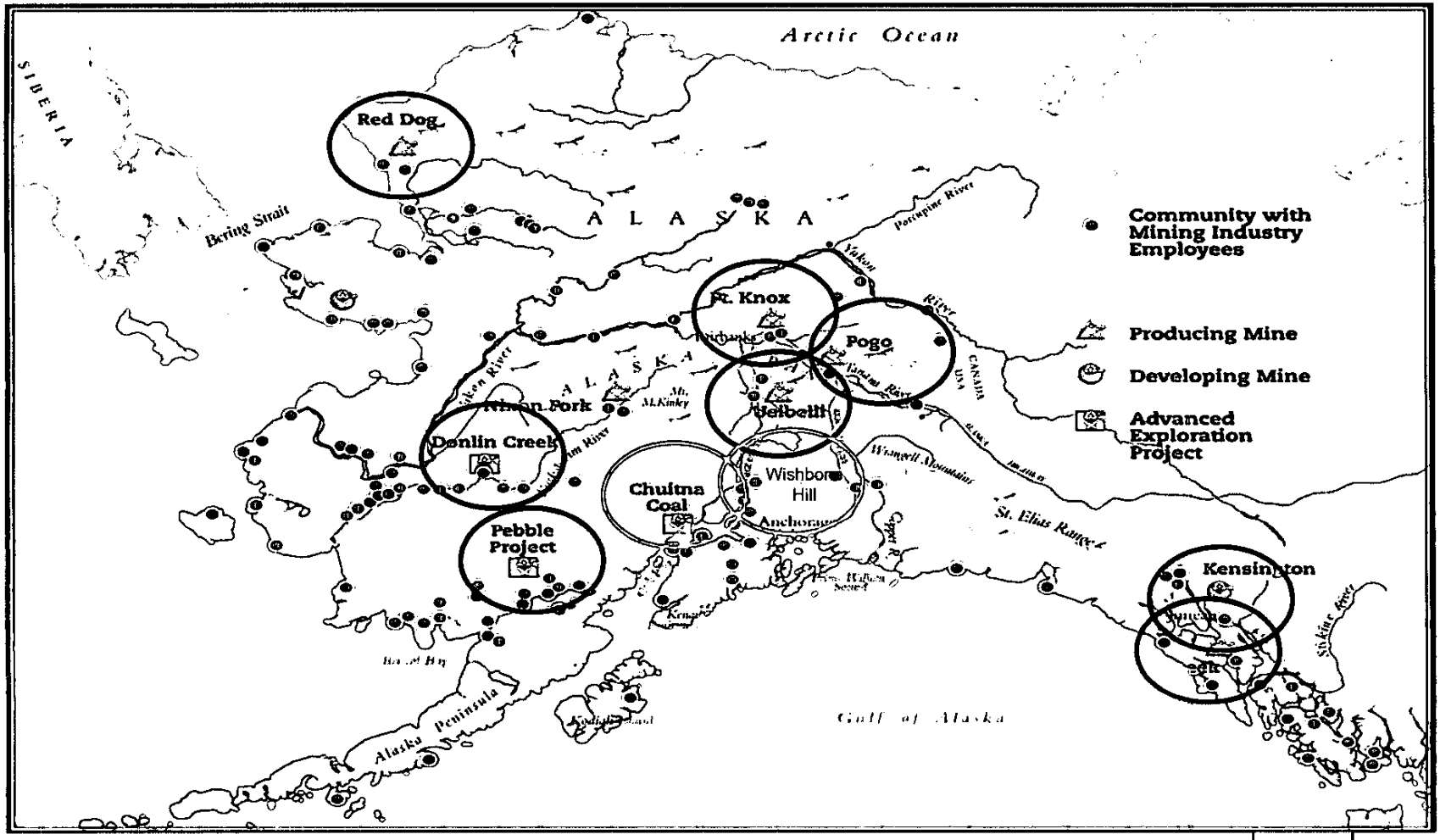
Two advanced exploration coal projects



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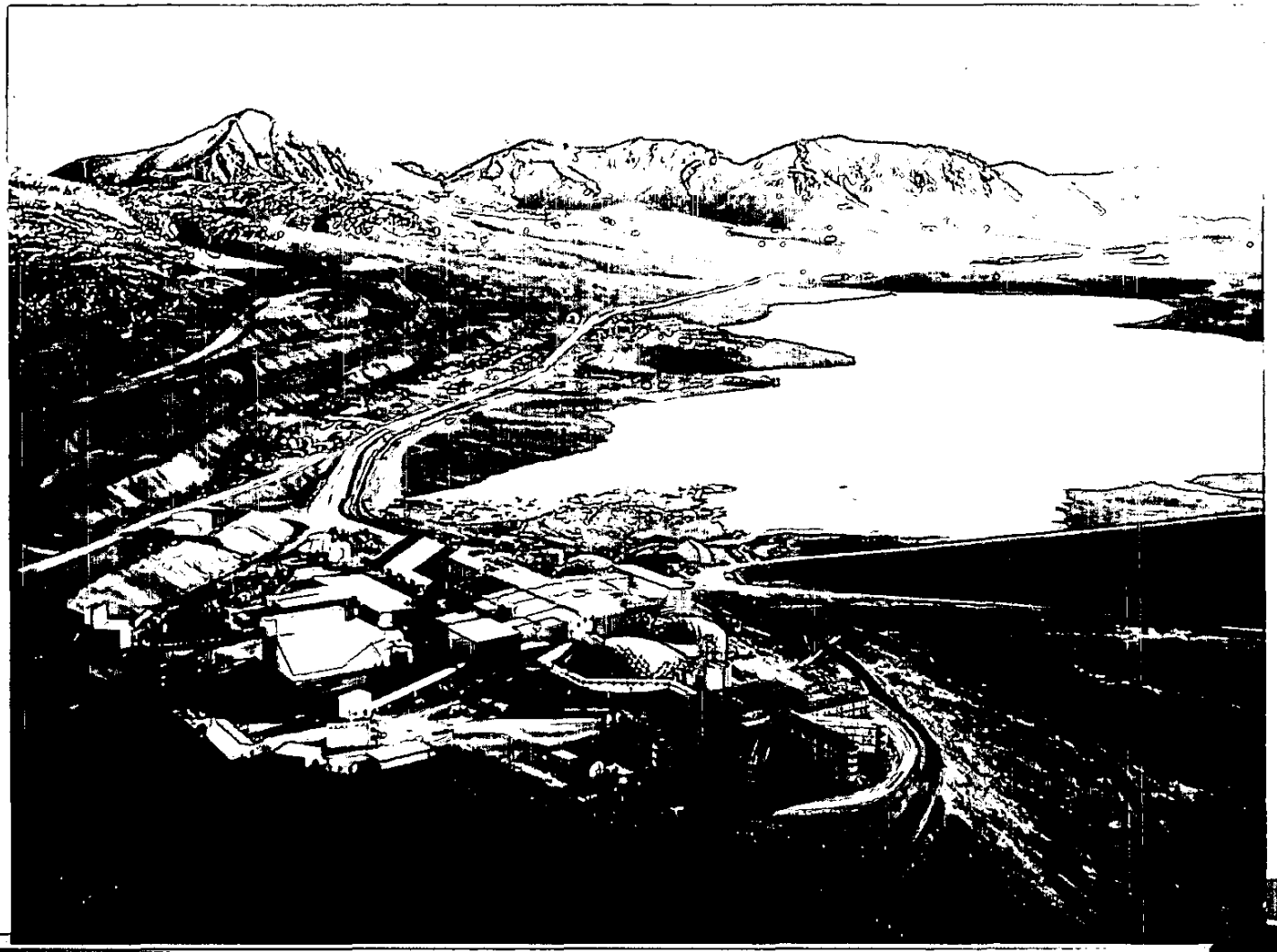
Red Dog



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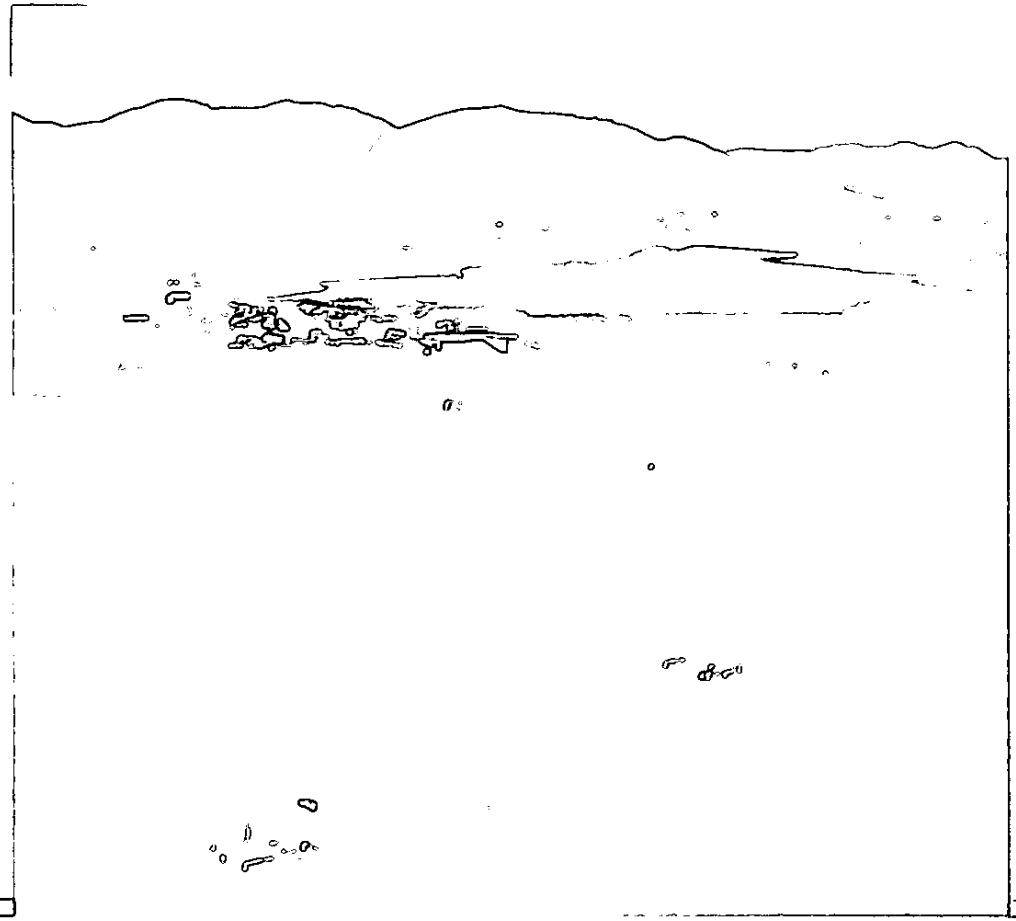
Red Dog Mine and Port:
One of the world's top Lead and Zinc producers



Power

- 43MW power generation on-site
- 15.5 M gallons fuel annually
- Waste heat provides space heating

Mine Ops/Port Haul

- 1.4 M gallons fuel annually
- 0.15 M gallons jet fuel annually

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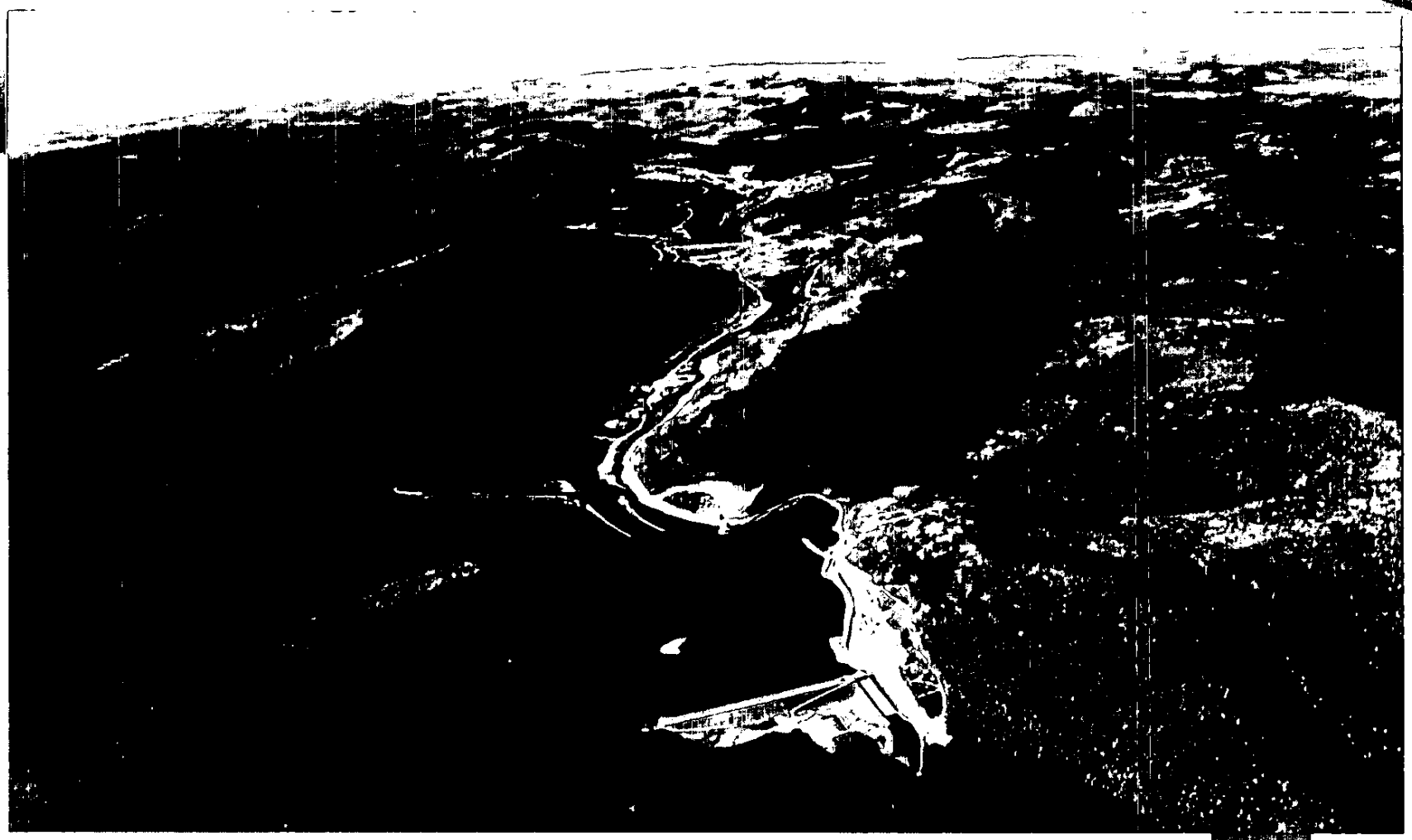
Fort Knox



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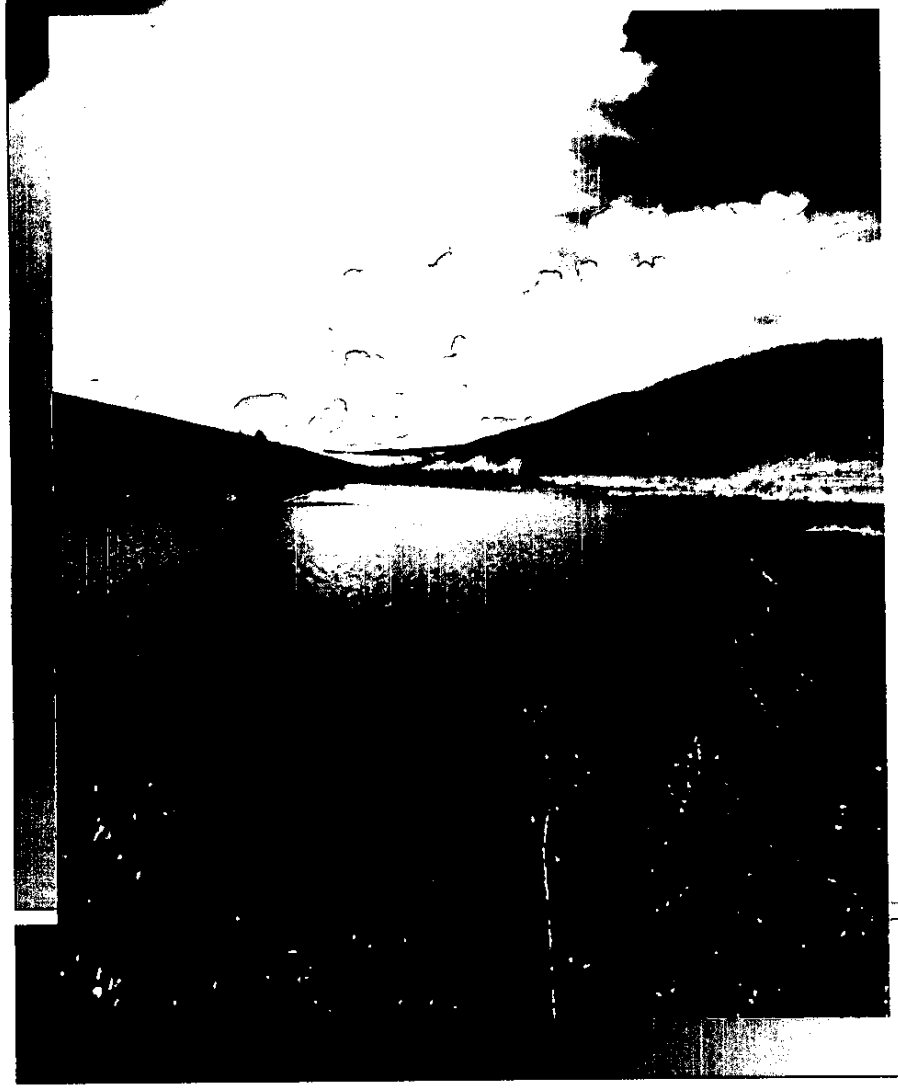
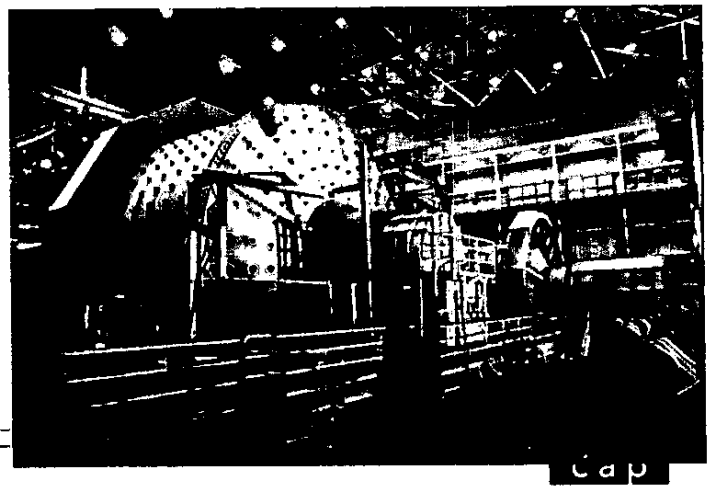
Fort Knox:
Producing Gold in Alaska's Golden Heart



Power
- 33.5 MW from GVEA
- 250 MW consumed annually

Mine Ops
- 10.5 M gallons fuel annually



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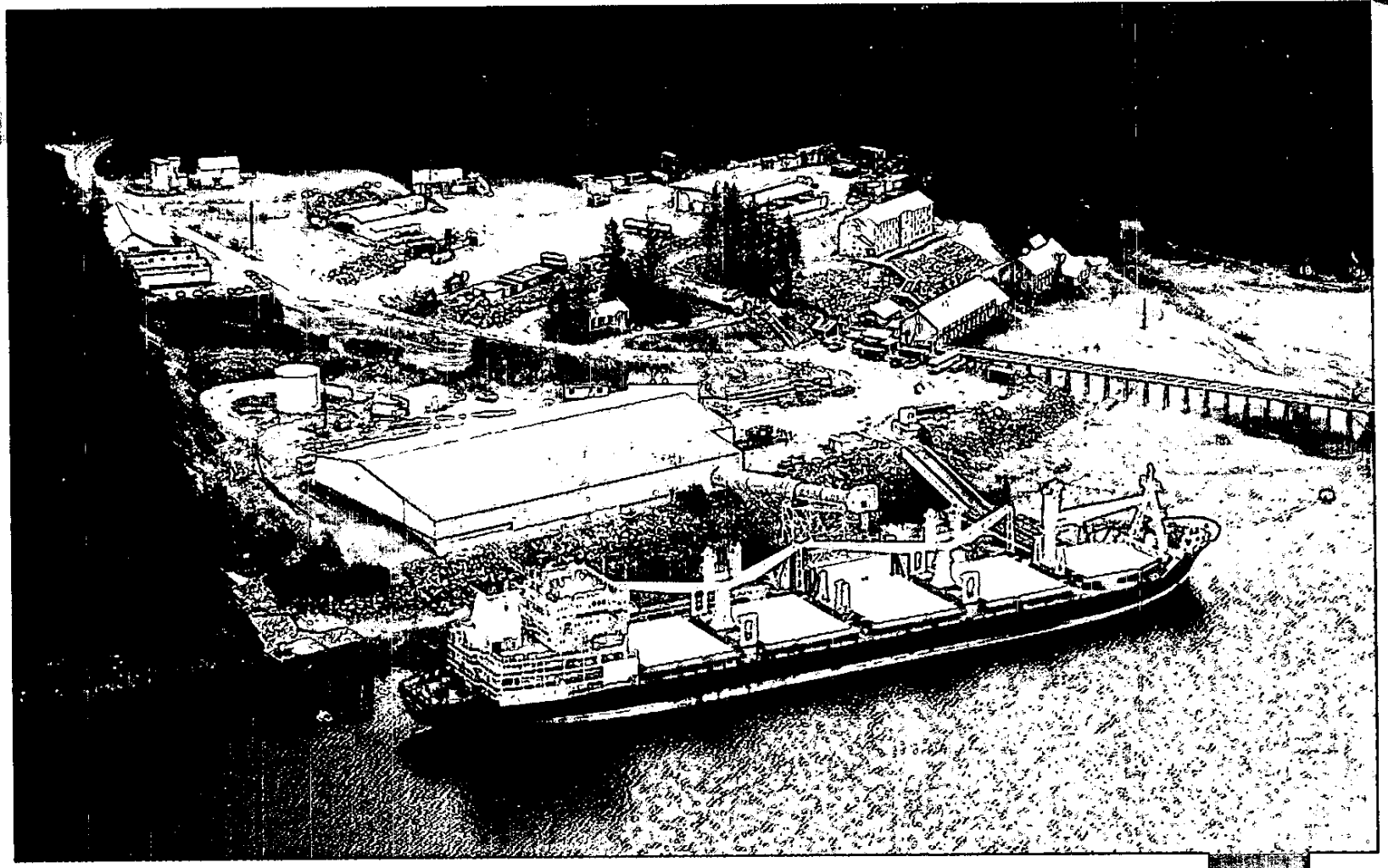
Greens Creek



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Alaska Producers

Greens Creek:

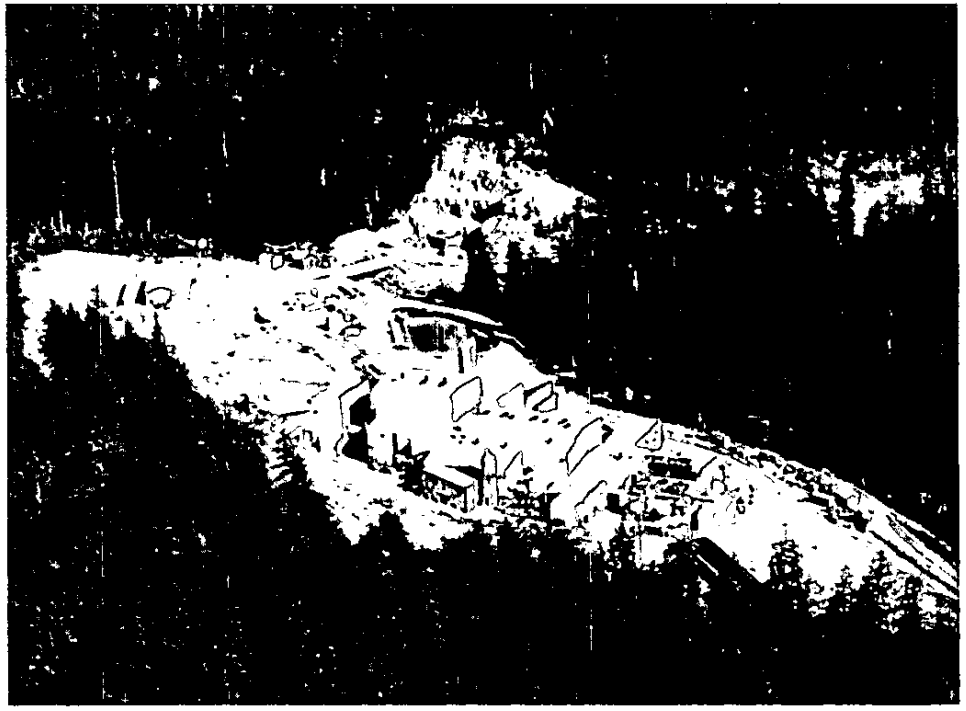
Alaska's source for Lead, Zinc, Silver and Gold

Power

- On-site diesel generation until 2006
- SE AEL&P Intertie provides hydro-power
- 9/09 Dorothy Lake Project
- 95% power from AEL&P
- 7.5 MW consumed

Fuel

- 6M gallons fuel annually when producing 100% of power



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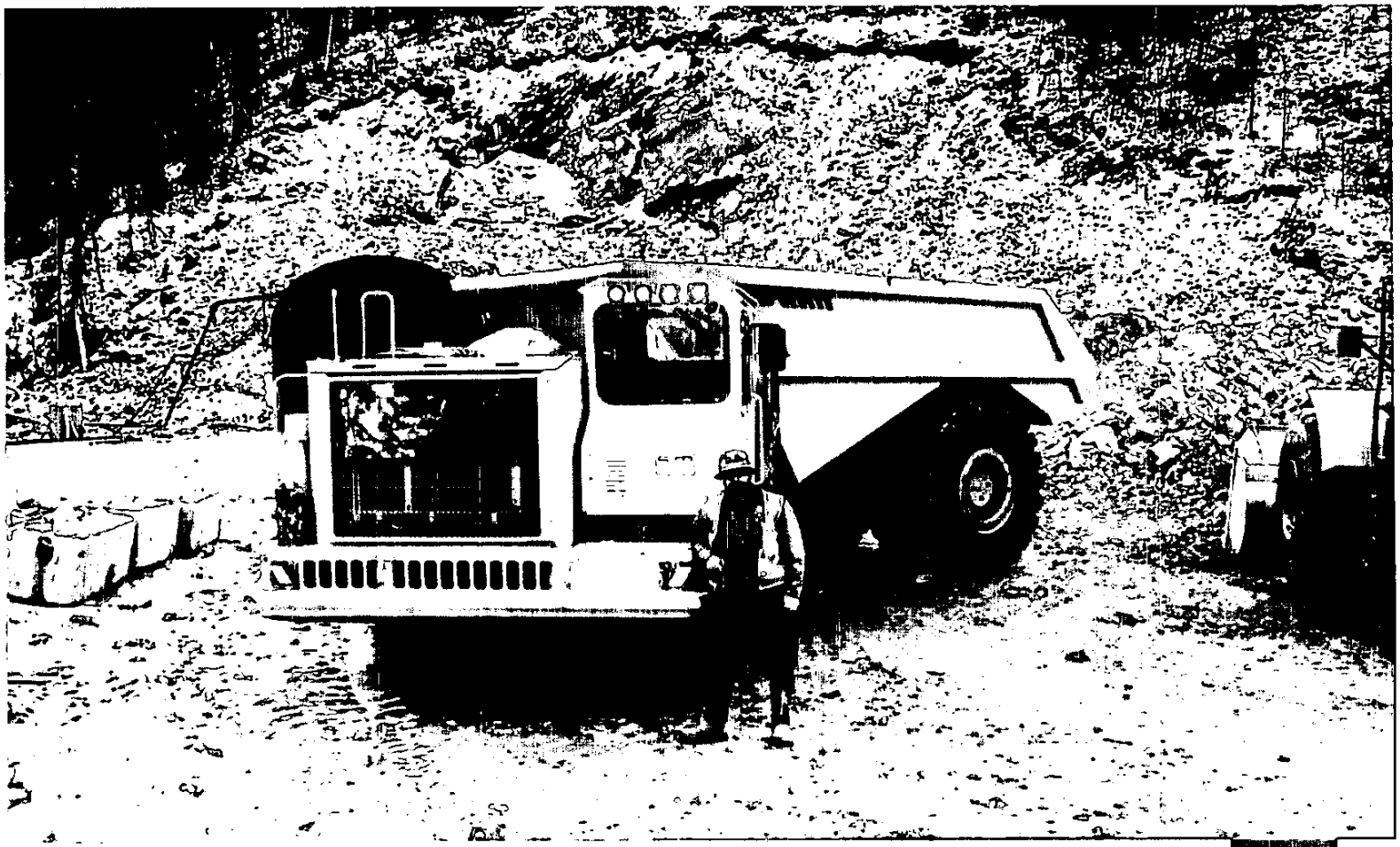
Pogo



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Pogo:
Alaska's top Gold producer

Power

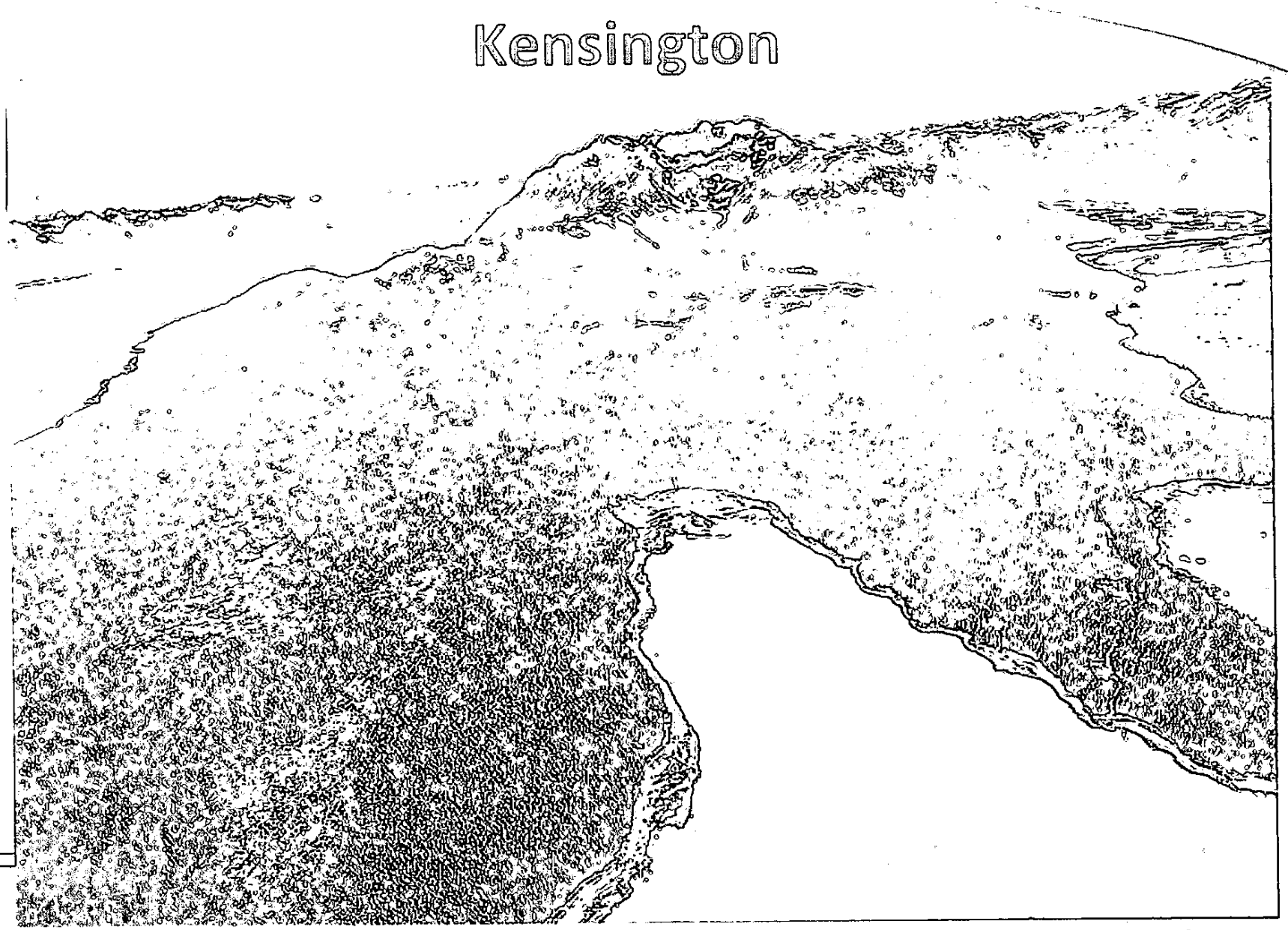
- 10MW from GVEA
- 50 mile line

Mine Ops

- 1.94M gallons diesel
- 1.0M gallons propane (winter use only) for heat

Council of
Alaska Producers

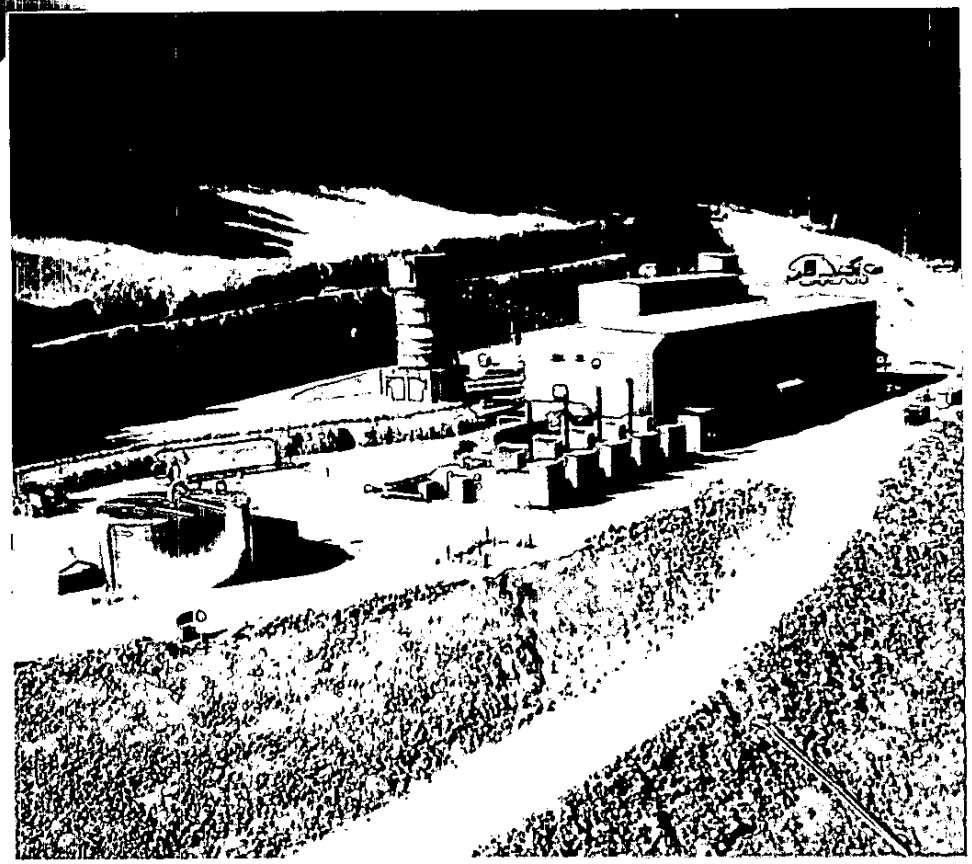
Kensington



Alaska Producers

Kensington:

Alaska's newest gold mining operation



Power

- Six 1.2 MW gensets
- Five currently in place

Mine Ops

- Currently use approximately 0.9M gallons fuel
- Estimated use for operations is approximately 3M gallons annually

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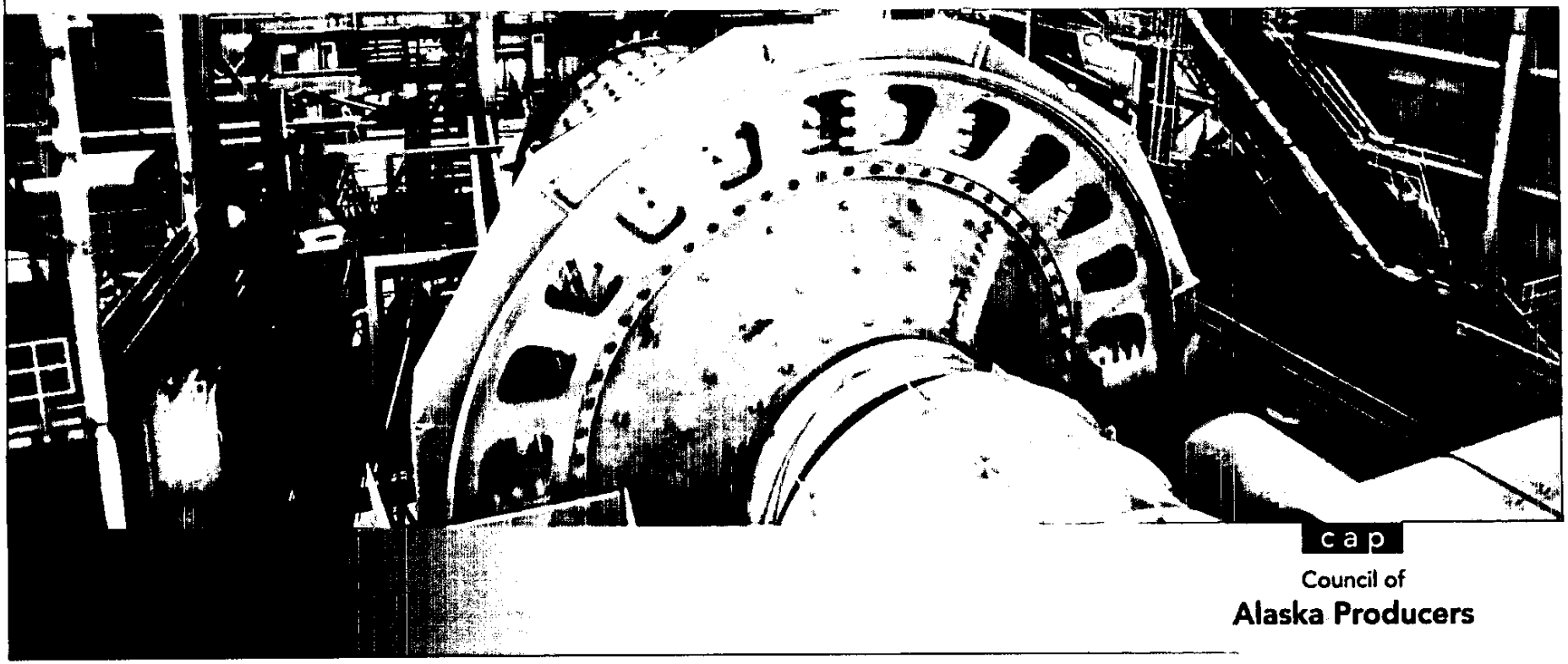
Powering Alaska's Mines

- Energy intensive operations
- Power unavailable in many areas of the state
- Affordable power is critical to build a mine



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Alaska's Mining Industry

Providing the Building Blocks for Modern Life

2254

House Energy Committee

Hearing on Energy Requirements for Proposed Mines

October 27th, 2010

DONLIN CREEK

A BARRICK/NOVAGOLD COMPANY

James Fueg, Technical Manager

Donlin Creek - Location

Donlin Creek Project

- Partnership between Barrick Gold and NovaGold
  - Lease agreement with Calista Corp.
  - Surface use agreement with The Kuskokwim Corp.
- Large gold resource of more than 30 million oz.
- Potential mine life of more than 25 years
- Could produce significant regional infrastructure
- Employment potential
  - Up to 3,000 jobs during construction
  - Up to 800 during operations

Project Energy Requirements

DONLIN CREEK
A BARRICK/NEWMONT COMPANY

- Multi-stage process will require significant amounts of reliable power

- Total electrical load
  - Average running load ~130 Mw (similar to Fairbanks)
  - Peak load ~152Mw

- Additional diesel requirements for fleet fuel

Energy Options Evaluated

DONLIN CREEK
A BARRICK/NOVAGOLD COMPANY

- Diesel based generation supplemented by wind
- Electrical intertie to Nenana
- Peat, hydro, nuclear, coal, biomass
- Gas pipeline

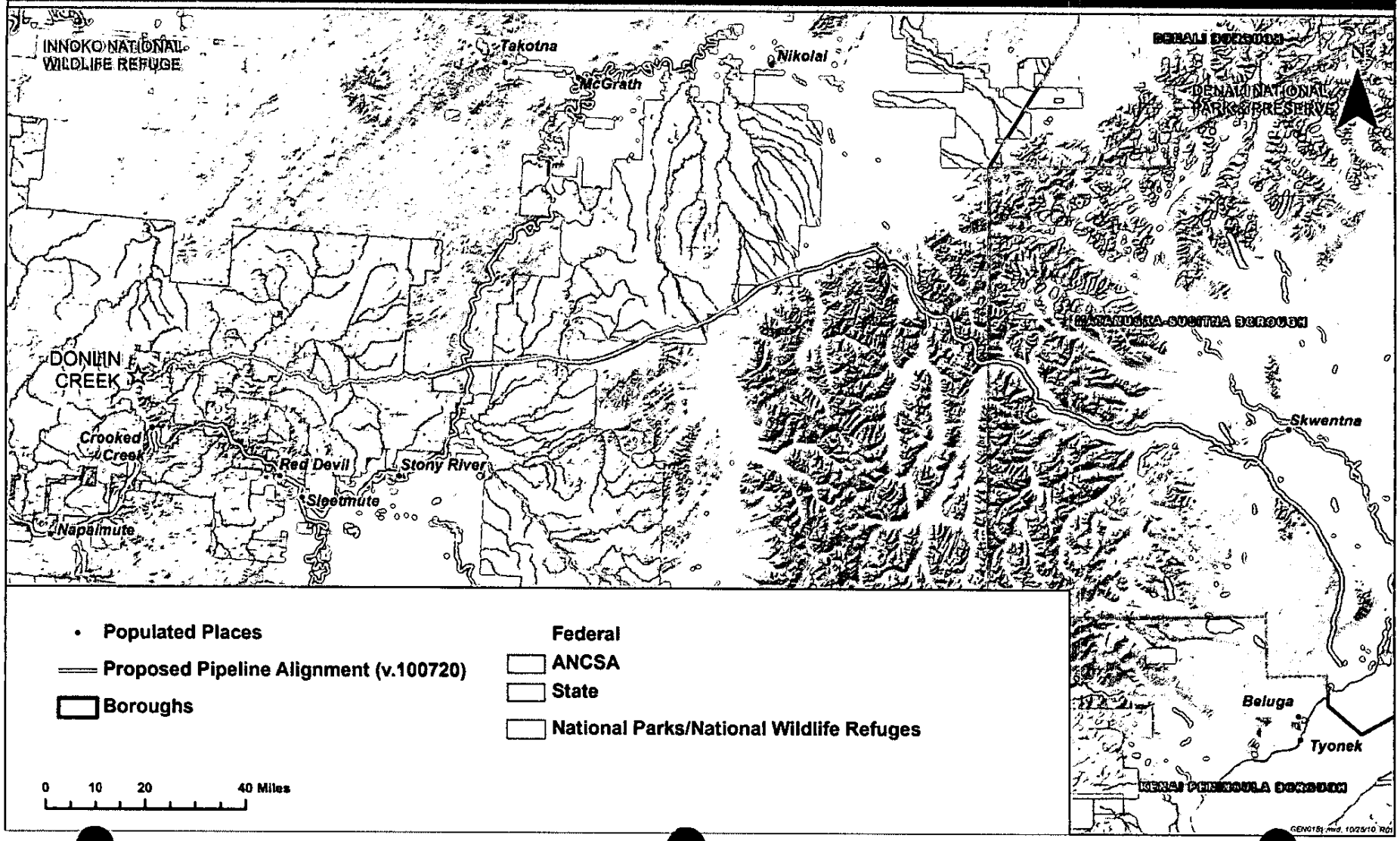
Gas Pipeline Option

DONLIN CREEK
A BARRICK/NEWMONT COMPANY

- Gas pipeline route from Cook Inlet
- Route totals 325 miles with no infrastructure
- Buried 12 inch steel gas only pipeline
- Aim is to construct using temporary access

Pipeline Route

DONLIN CREEK
A BARRICK/NOVAGOLD COMPANY



Gas Requirements

DONLIN CREEK
A BARRICK/NEWMONT COMPANY

- Project would require ~ 25 million cubic feet of gas/day
  - Demand may increase if gas is used to offset other energy requirements
  - Approximately 10% of Cook Inlet demand (without industrial users)
  - Constant year round load (no seasonal variation)
- Exploring multiple options for sourcing gas

Project Schedule

- Evaluate project feasibility
  - Major field program completed fall 2010
  - Updated feasibility study completed mid 2011
- If economically viable and subject to partners approval, project goes to permitting fall of 2011
  - Mine and pipeline permitted as a single project
  - Anticipate a multiyear NEPA review (EIS)
- If permits are granted, construction begins
  - Anticipate three to four years for project construction

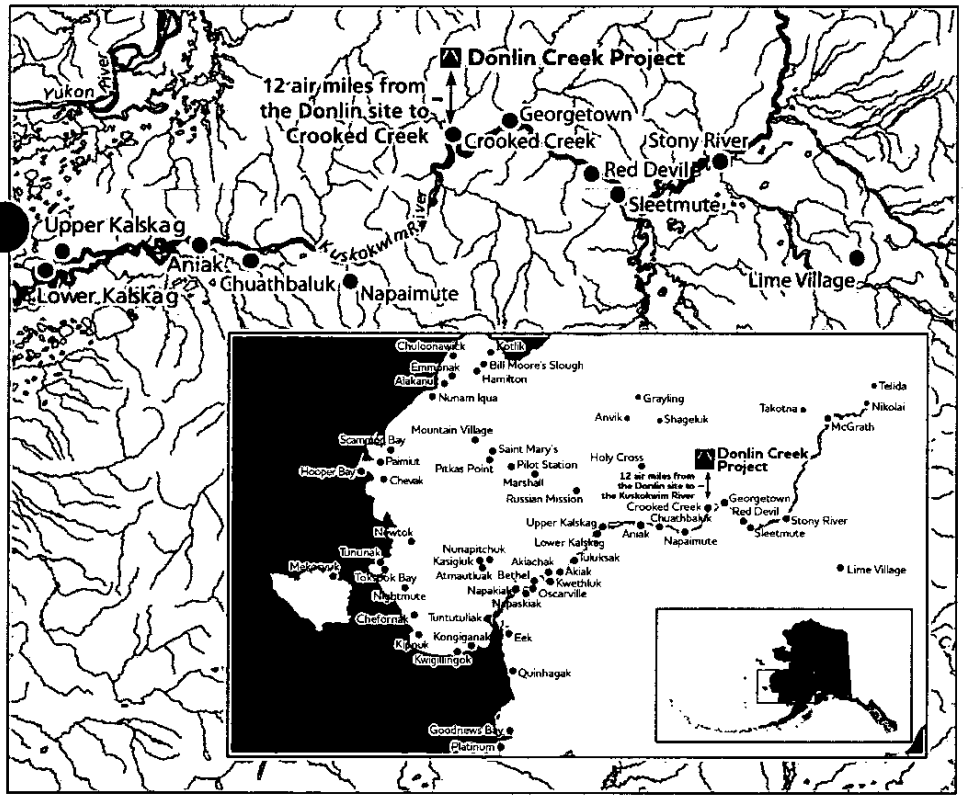
DONLIN CREEK LLC

A BARRICK/NOVAGOLD COMPANY

EXECUTIVE SUMMARY

THE DONLIN CREEK DEPOSIT

The Donlin Creek project is a large, undeveloped gold deposit located in the historic Kuskokwim Gold Belt of southwestern Alaska. Current estimates based on extensive exploration drilling approximate the deposit at about 30 million ounces of inplace resources. The property is under lease from Calista Corporation and the Kuskokwim Corporation, two Native Alaskan Corporations, and is located 12 miles north of the community of Crooked Creek, Alaska.



DONLIN CREEK LLC

The Donlin Creek LLC (DCLLC) is a 50-50 venture owned equally by Nova Gold Resources, Inc. and Barrick Gold U.S., Inc. It oversees the development and operation of the project.

Many Calista shareholders and descendants are employed at Donlin Creek, and DCLLC relies on Calista businesses to support the project. In addition, DCLLC contributes to Calista scholarship funds and supports Calista charitable events. DCLLC also has a land payments agreement with the Kuskokwim Corporation.

PROJECT HIGHLIGHTS:

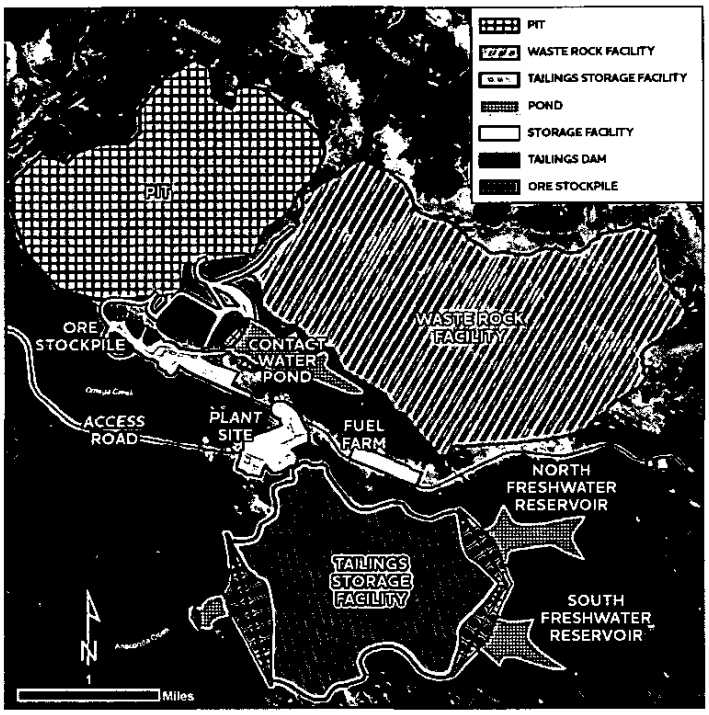
- Estimated 25-year mine life, producing approximately 1.3 million ounces of gold annually
- During the three-year mine construction period it is estimated up to 3,000 jobs would be created
- While the mine is involved in production operations, it is estimated 600 to 800 jobs would be created
- DCLLC places a high value on local hire and doing business with Alaska-based companies
- Development means local employment and training opportunities

COMMITTED TO STEWARDSHIP.

PROPOSED MINE LAYOUT

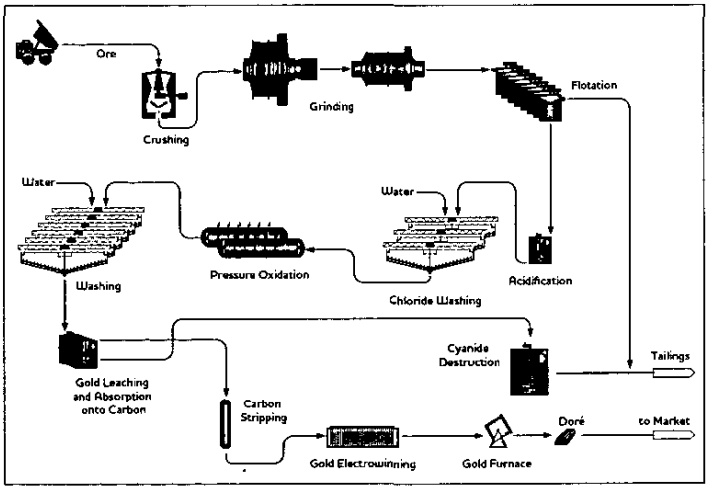
Donlin Creek would be an open pit gold mine. The operation would be a conventional truck and shovel mining site, processing approximately 50,000 to 60,000 metric tons of ore per day. A new airstrip and on-site housing would be built, along with a port on the Kuskokwim River, an on-site power generation plant, a wind turbine farm, conveyor systems, a mill, water treatment plant, truck shop, labs, sewage treatment plant, offices, warehouses and on-site access roads.

Assuming that all the needed permits and approvals are received, it would take about three years to construct the infrastructure and facilities required for this project.



SIMPLIFIED MILLING PROCESS FLOW CHART

The mineralized rock at Donlin Creek requires processing to extract the gold.



ENVIRONMENTAL STEWARDSHIP

Numerous studies of the Kuskokwim River have been done and are continuing, so that the effects of additional activity required to construct and operate the mine can be evaluated.

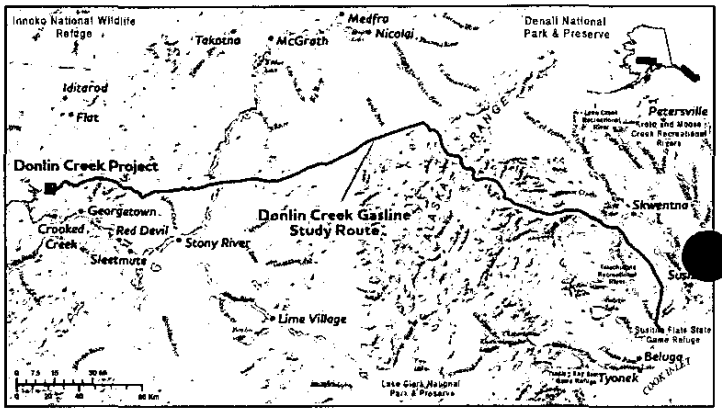
Studies include:

- fishing activity and river use surveys from Georgetown to Kuskokwim Bay
- erosion studies
- barge wake impact studies
- sediment and water sampling
- noise observations
- wildlife observations

CURRENT WORK AT THE PROJECT

A key challenge facing the project is energy. The operating mine will require a power plant and a fleet of heavy equipment. Studies are currently underway to investigate the possibility of a 325-mile, 12-inch buried pipeline to bring natural gas to the site for producing the needed electricity to power the mine.

PIPELINE STUDY ROUTE



NEXT STEPS

DCLLC is working to complete a feasibility study for the project, which will provide an estimate of the costs to build the mine and the target dates for construction and production. Ecological data collection and baseline studies are being completed. These are requirements for mine permitting if a decision to go forward is made in the future.

ECONOMIC POTENTIAL

If Donlin Creek is developed, it would be among the world's largest gold mines and a major employer in the Yukon-Kuskokwim region of southwest Alaska. Currently the area is one of the state's most economically depressed areas.

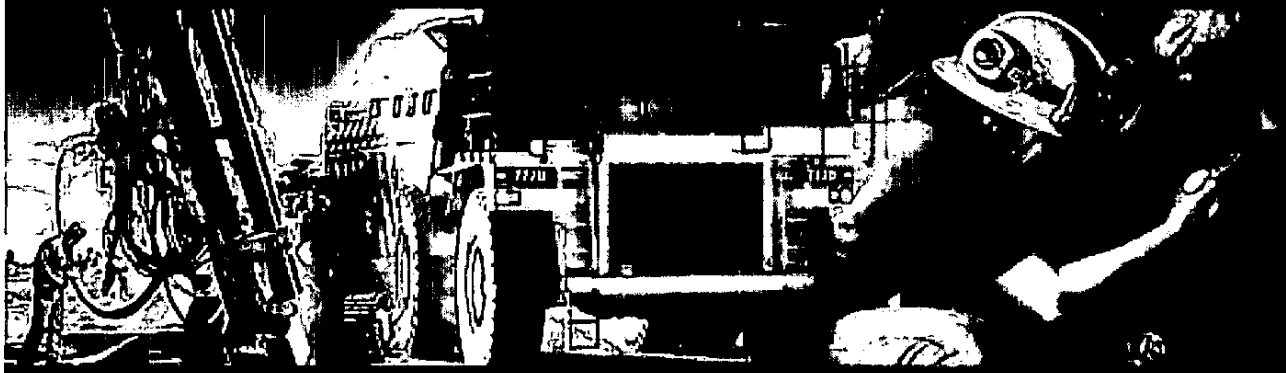
DCLLC will continue to work closely with regulators, its Alaskan Native partners and local communities to ensure all stakeholders are informed as the project advances. For more about the Donlin Creek project contact Donlin Creek LLC:

4720 Business Park BLVD, Suite G25, Anchorage, AK 99503

(907) 273-0200, info@donlincreek.com

www.donlincreek.com

Money Knob Gold Project
Livengood, Alaska
Future Energy Needs



INTERNATIONAL TOWER HILL MINES LTD

House Special Committee on Energy
October 27, 2010
By Karl Hanneman, Project Manager
Talon Gold Alaska, Inc., a wholly owned subsidiary of ITH

Forward-Looking & Cautionary Statements

Certain of the statements contained in this presentation, including, without limitation, statements regarding the anticipated content, commencement and cost of exploration programs, anticipated exploration program results, the discovery and delineation of mineral deposits/resources/reserves, the anticipated preparation and timing of an updated 43-101 resource estimate and an initial preliminary economic assessment at Livengood, the potential for a significant expansion of the Livengood resource, the economic outlook for the gold mining industry, the Company's expectations regarding gold prices and production, the commencement of commercial operations on the Company's properties, potential mining scenarios at the Company's properties and its future liquidity and capital resources and planned expenditures, are forward-looking statements. Information concerning mineral resource estimates may also be deemed to constitute forward-looking statements in that it reflects a prediction of mineralization that would be encountered if a mineral deposit were to be developed and mined. Although the Company believes that such statements are reasonable, it can give no assurance that such expectations will prove to be correct.

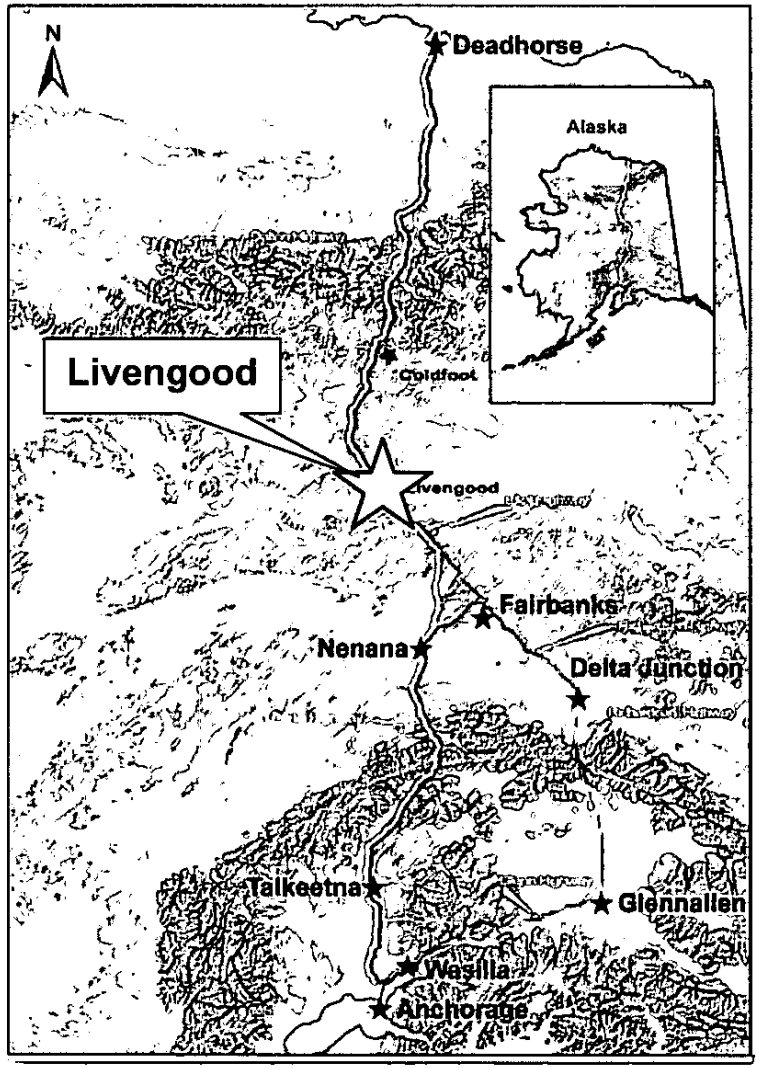
Accordingly, the Company cautions that any forward-looking statements are not guarantees of future results or performance, and that actual results may differ materially from those set out in the forward-looking statements as a result of, among other factors, variations in the nature, quality and quantity of any mineral deposits that may be located, the Company's inability to obtain any necessary permits, consents or authorizations required for its activities, material adverse changes in economic and market conditions, changes in the regulatory environment and other government actions, fluctuations in commodity prices and exchange rates, the inability of the Company to raise the necessary capital for its ongoing operations, and business and operational risks normal in the mineral exploration, development and mining industries, as well as the risks and uncertainties disclosed in the Company's most recent Annual Information Form filed with certain provincial securities commissions in Canada and in the Company's most recent Form 20F filed with the United States Securities and Exchange Commission, available at www.sedar.com and www.sec.gov, respectively. The Company undertakes no obligation to update publicly or release any revisions to these forward-looking statements to reflect events or circumstances after the date of this presentation or to reflect the occurrence of unanticipated events. All subsequent written or oral forward-looking statements attributable to the Company or any person acting on its behalf are qualified by the cautionary statements herein.

Scientific or technical information contained herein is derived from the Company's technical reports which include more detailed information with respect to the Company's properties, including the dates of such reports and the estimates included therein, details of quality and grade of each resource, details of the key assumptions, methods and parameters used in the resource estimates, a general discussion of the extent to which the resource estimates and the other estimates and projections included in the reports may be materially affected by any known environmental, permitting, legal, taxation, socio-political, marketing, or other relevant issues. **The company's preliminary economic assessment (PEA) discussed herein is preliminary in nature, includes inferred mineral resources that are considered too speculative geologically to have economic considerations applied to them that would enable them to be categorized as mineral reserves, and there is no certainty that the preliminary assessment will be realized. Mineral resources that are not mineral reserves do not have any demonstrated economic viability.**

The Company uses certain terms in this presentation, such as "resources," "indicated" and "inferred" that the SEC's guidelines strictly prohibit U.S. registered companies from including in their filings with the SEC. Accordingly, the Company's disclosures regarding mineralization may not be comparable to similar information disclosed by US registered companies. You are urged to consider closely the disclosure in the Company's latest Form 20-F annual report, which may be secured from the Company, or from the SEC's website at www.sec.gov.

Note: All monetary values are USD unless otherwise stated.

Money Knob Gold Project Highlights



Significant and Expanding Gold Deposit

Indicated Resources of 10.9Moz @ 0.83 g/t Au and Inferred Resources of 2.4Moz @ 0.79 g/t Au (0.5 g/t cutoff). (June 2010)

Compelling economic assessment

Deposit geometry supports low-cost bulk tonnage mining and processing

Favorable infrastructure

Historic mining district with local trail network

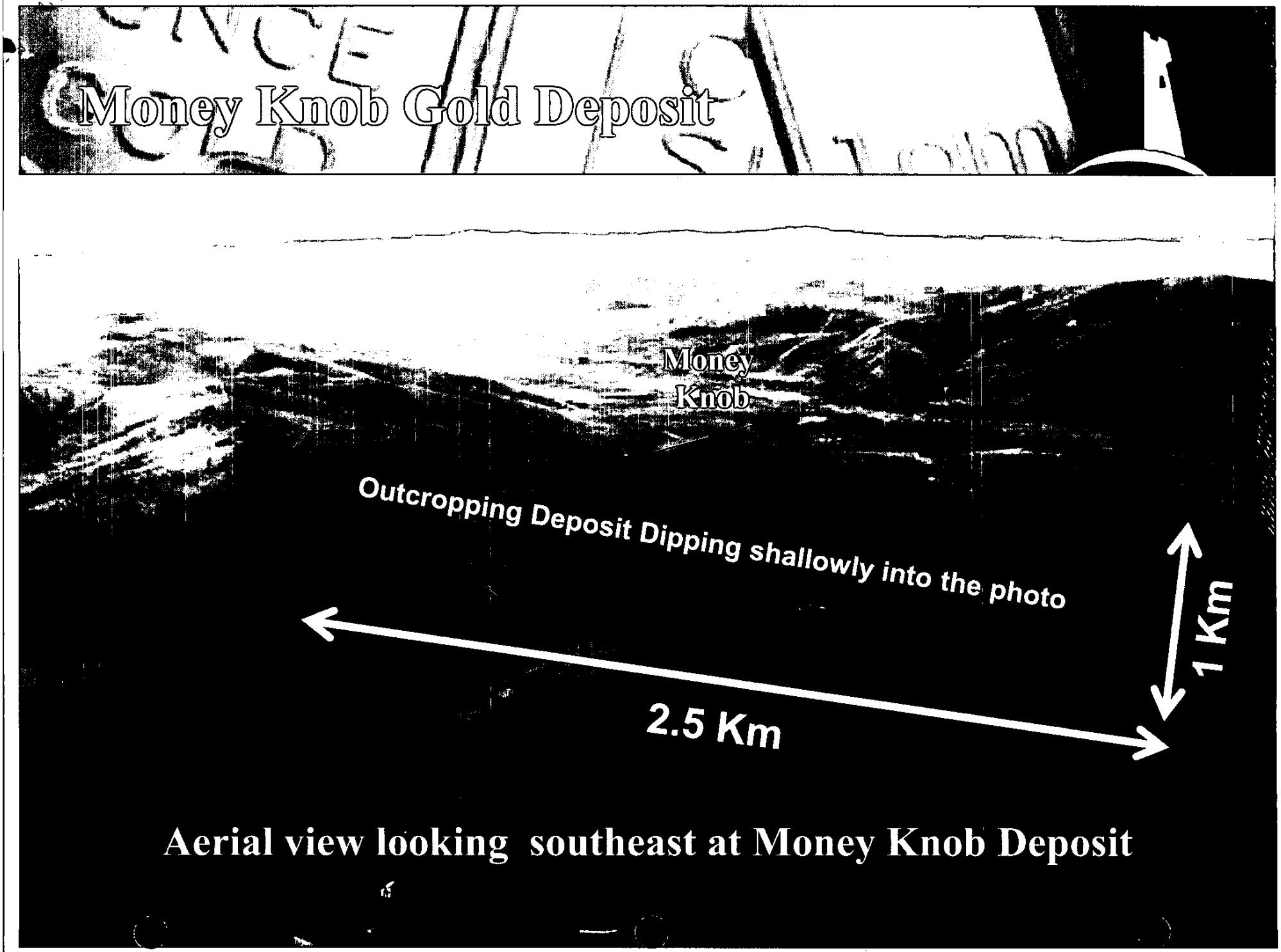
Accessible via all weather paved highway, 70 road miles north of Fairbanks

Adjacent to potential natural gas transportation routes

Project Status

Experienced development team moving through pre-feasibility phase in advance of permitting.

Money Knob Gold Deposit



Aerial view looking southeast at Money Knob Deposit

Livengood Hardrock History

1914 Placer Gold discovered in Livengood valley

1914-1950's small scale prospecting by old times located small veins and dikes with gold – local hill named "Money Knob"

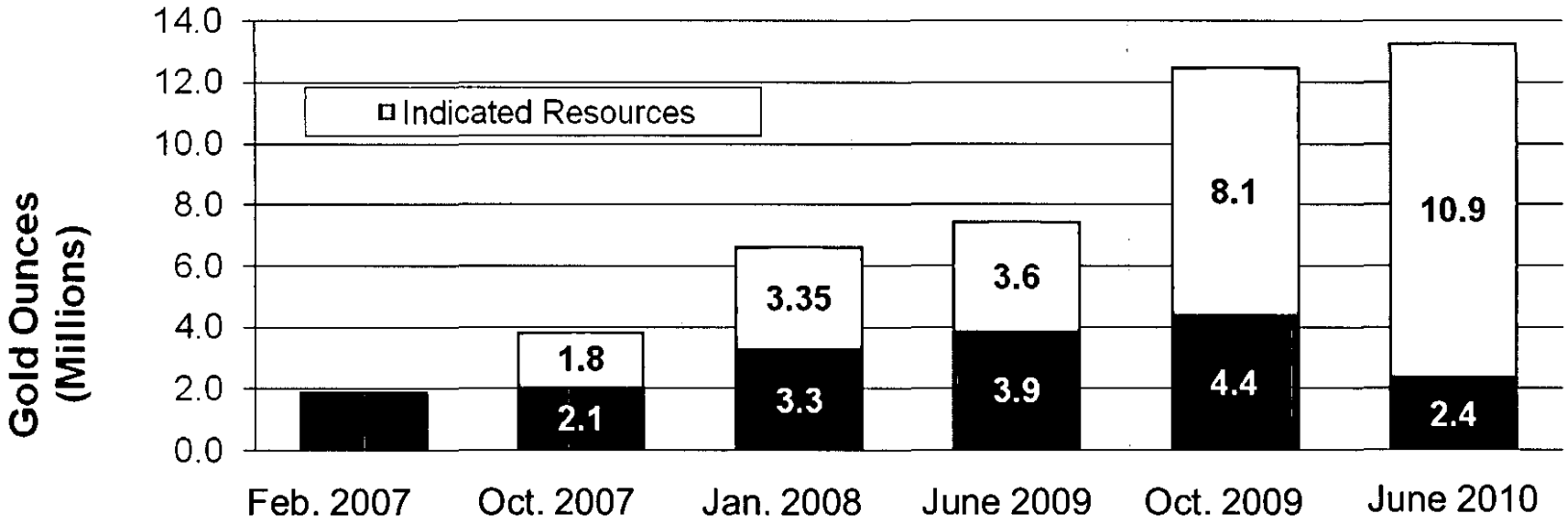
1976 Homestake	6 bore holes
1981 Occidental	6 bore holes
1991 AMAX	3 bore holes
1996 Placer Dome	9 bore holes
1999 Cambior	soil geochemistry
2003-2005 Anglo Gold Ashanti	12 bore holes
2006 to present – ITH	450 RC boreholes
	85 core boreholes

Note that it was almost 2 decades after State geologists helped the Alaska Mental Health Trust select the Livengood area for its mineral potential before a major hardrock gold resource was identified

Livengood Resource Growth

Livengood Independent Resource, June 2010

Classification	Gold Cutoff (g/t)	Tonnes (millions)	Gold (g/t)	Million Ounces Gold
Indicated	0.30	789	0.62	15.7
Inferred	0.30	229	0.55	4.0
At 0.50 g/t Au Cut-off				
Indicated	**0.50**	**409**	**0.83**	**10.9**
Inferred	**0.50**	**94**	**0.79**	**2.4**
At 0.70 g/t Au Cut-off				
Indicated	0.70	202	1.07	6.9
Inferred	0.70	40	1.06	1.4



2271

Project Phases

Underway .....
to be completed December 2011

1. **Pre-Feasibility**
2. **Pre-permit application consultation**
    1. **Agency and public interaction**
    2. **Project optimization**
3. **Permit Application**
4. **Permitting and Feasibility Study**
5. **Construction**
6. **Operation**
7. **Reclamation and Closure**

Money Knob
Potential Energy Needs

- **Project in early stage**
  - **Resource still being defined**
  - **project not yet designed**

- **Conceptual energy requirements**
  - **If heap leach only (10-15MW)**
  - **If large mill and heap leach (70-80MW)**
  - **Low-sulfur diesel for mobile equipment**

Money Knob
Potential Power Needs

- **Will evaluate purchased power (GVEA) vs. local self generation**
  - **Railbelt energy has better reliability**
  - **Railbelt energy offers source diversity with improved supply and price stability**

    (oil, gas, coal, hydro, wind?)
  - **If installed capacity is part of railbelt grid, it can benefit Alaskans after mine life**

2274

State Efforts can Make a Difference

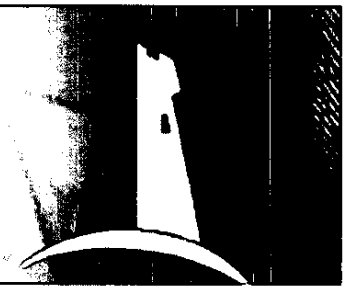
- **Share environmental baseline studies already completed along Fairbanks-Livengood utility corridor in order to avoid wasteful duplication of effort and save time in advance of permitting of potential transmission line to Livengood**

2275

State Efforts can Make a Difference

- Support low cost power on railbelt grid
  - benefits all Alaska
  - encourage utility consolidation
  - encourage long term planning for low cost power
    - Susitna?
  - Support efforts to commercialize gas
    - ROW assistance for small pipeline to Fbks?
- Support efforts to produce low-sulfur diesel

2276



Thank You

TALONGOLD
Alaska Inc. A SUBSIDIARY OF ITH

INTERNATIONAL
TOWER
-HILL-
MINES LTD

Creating Value Through Discovery

2277

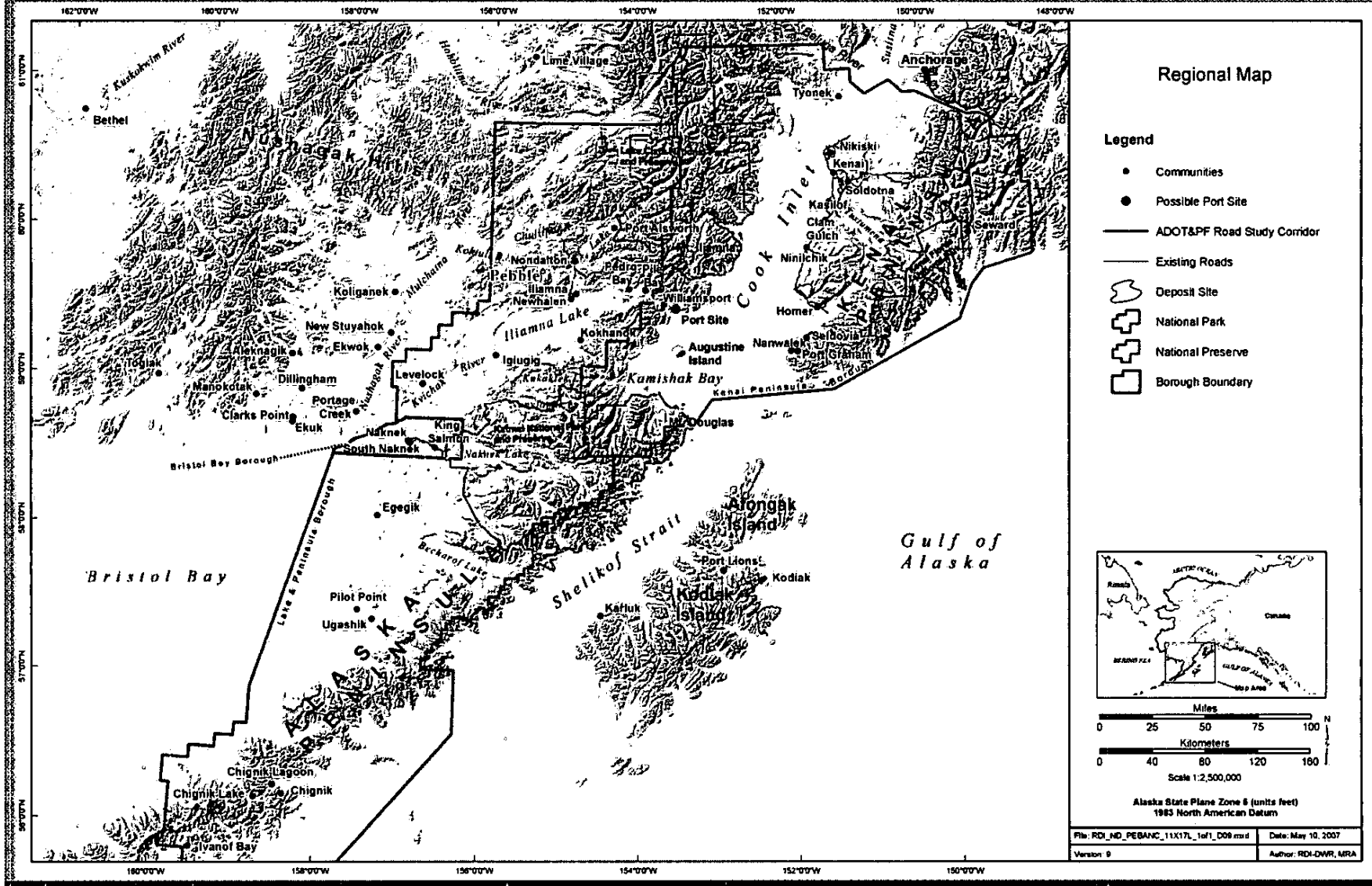
THE pebble PARTNERSHIP

Pebble Prospect
John Shively

OCT 2010

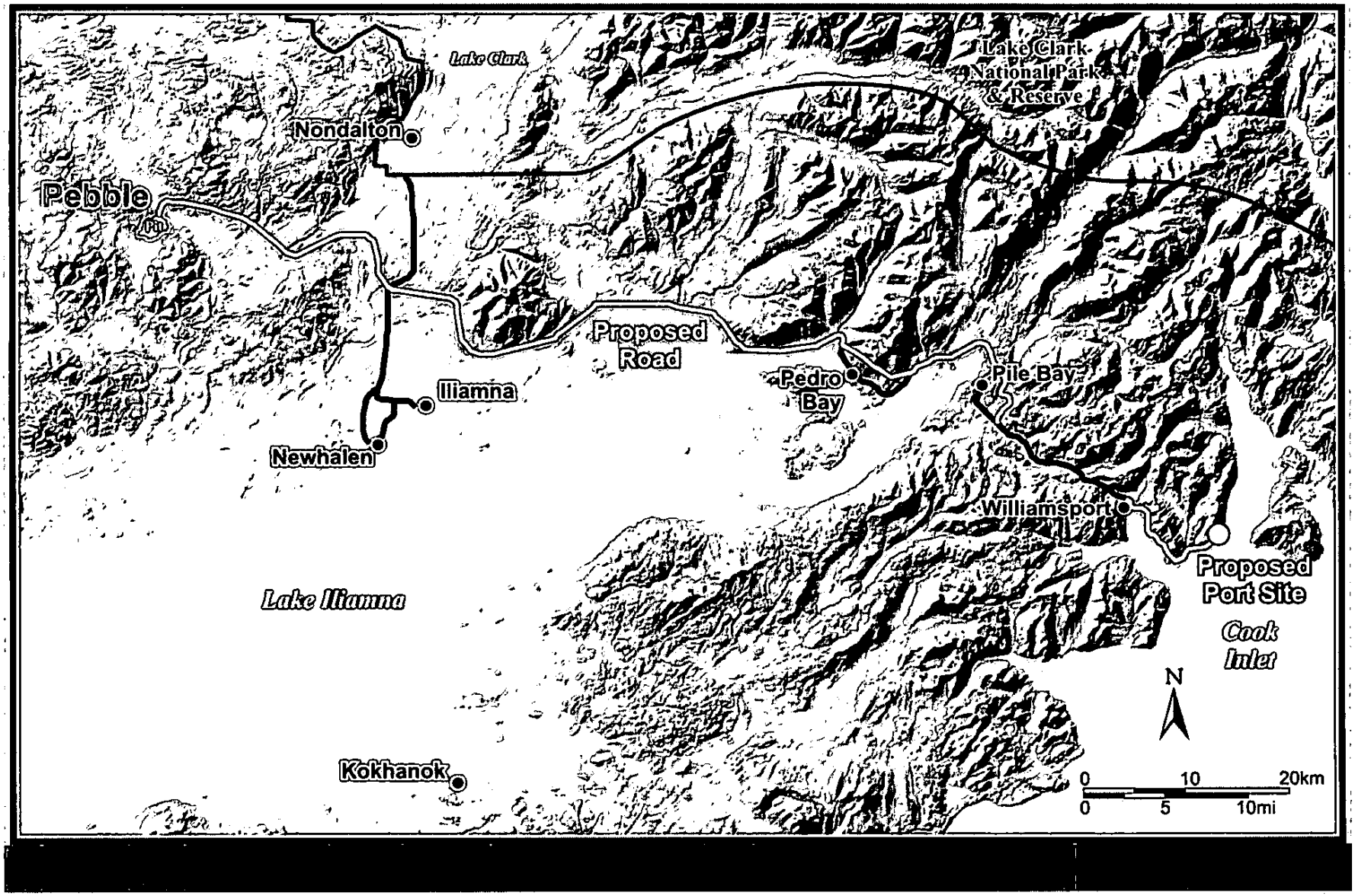
THE pebble PARTNERSHIP

Prospect Location



THE pebble PARTNERSHIP

Road Corridor & Port Site



Chuitna Coal Project

Projected Power Requirements and Electrical Supply Update to the House Energy Committee

Anchorage, Alaska
October 27, 2010

PacRim Coal, LP
Dan Graham, PE, Chuitna Project Manager

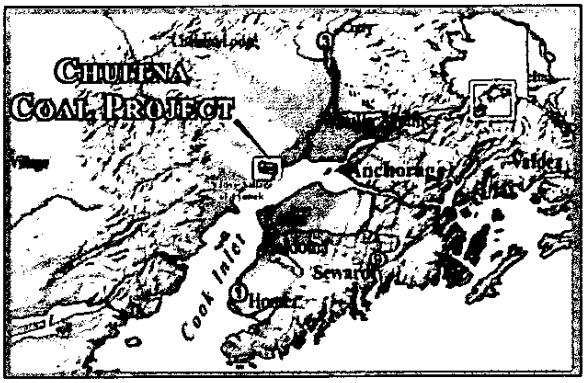
Why coal now?

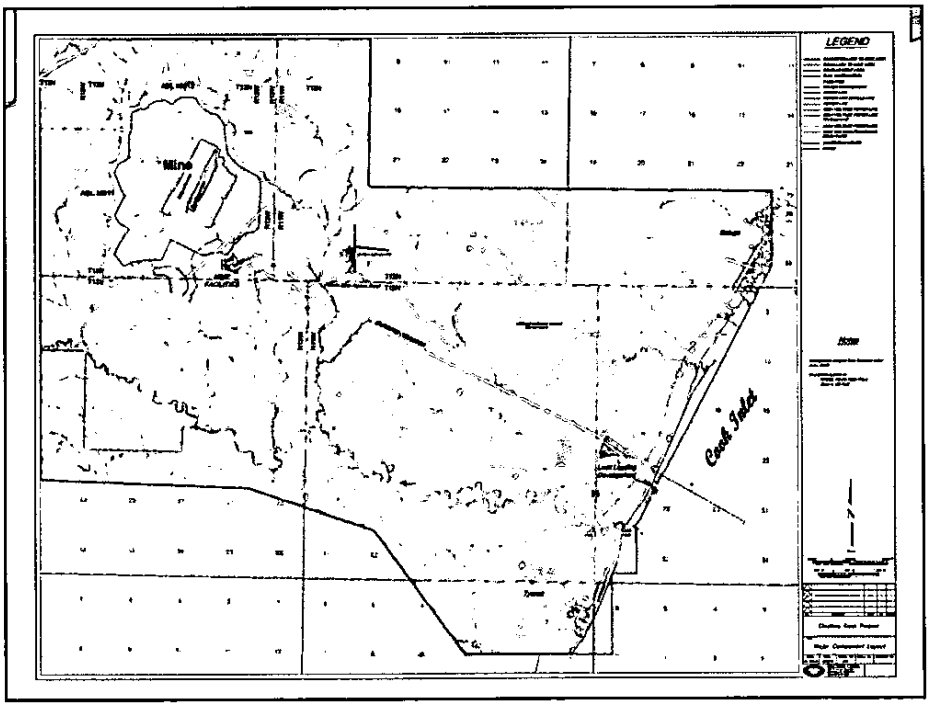
- LNG import and **Crude Oil** prices in Pacific Rim have **increased significantly** in past 5 years
- In reaction, **demand** and **pricing** for **steam coal** on the export market has increased. Demand is anticipated to increase roughly 120 million tons over the next 5 years (20% above current levels)
- Alaska holds in excess of 2 billion tons of reserves (Equivalent of 35 TCF of gas) of just within the existing leases in the Railbelt and Cook Inlet region
- These sub-bituminous coals are naturally low in sulfur, which is highly desired in the marketplace.

- RESULT: Alaska has a great opportunity to fill international demand and monetize this world-class resource, bringing **jobs** and **business opportunities** to the State

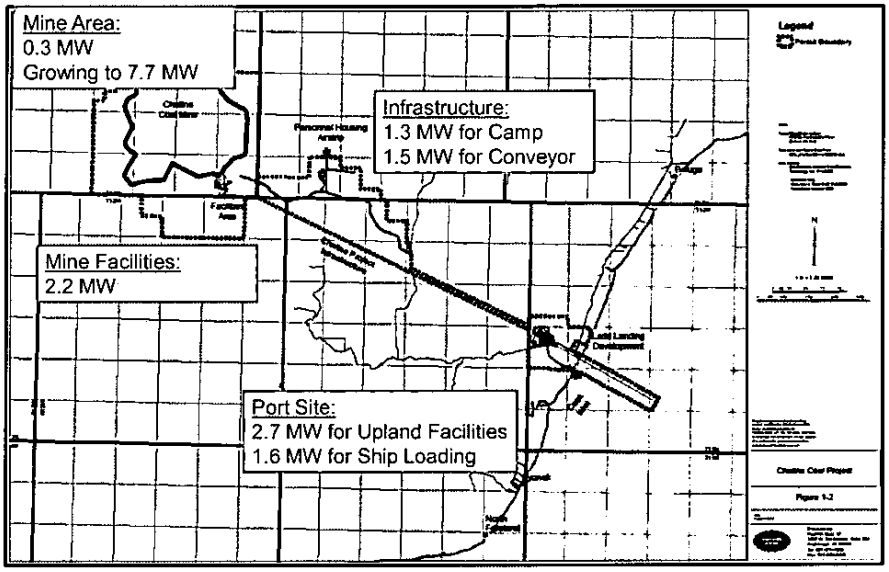
Project Overview

- Export Coal Project
- 300 Million ton reserve in proposed permit area
- 25 year design life
- Camp facility for mine workers
- Port facilities for vessel loading





Electrical Demand

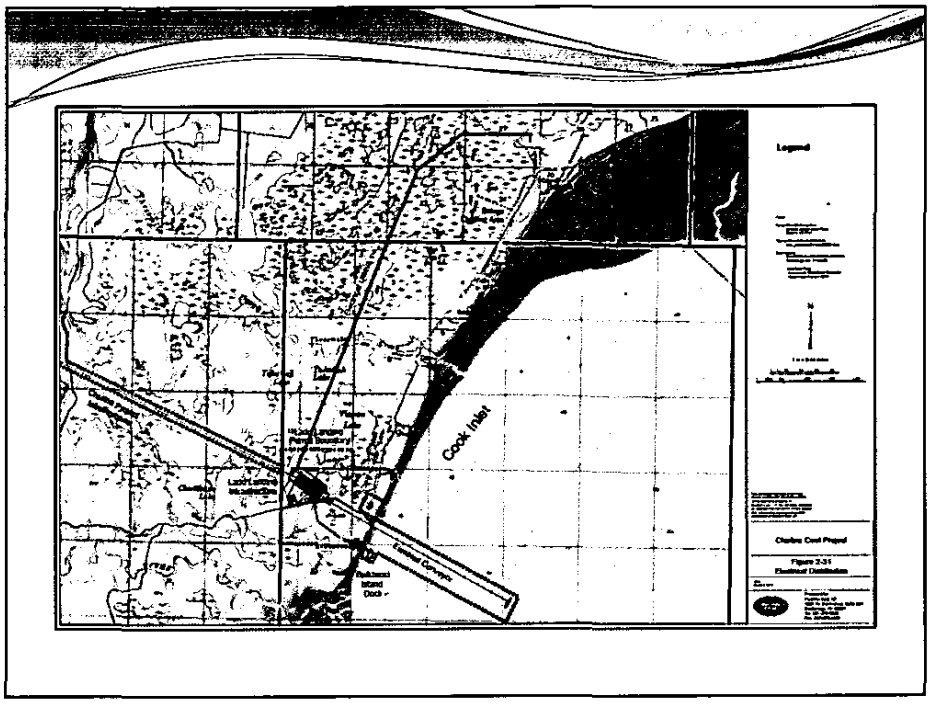


Total Electrical Demand:

- Up to 10 MW demand during construction and initial years of production
- Expanding to between 17 and 20 MW peak demand following addition of dragline

Electrical Supply Source:

- Existing 24.9 kV line passes through Port site – source of construction power for port and temporary camp
- Mine site construction power supplied by temporary generator sets
- Permanent power to be supplied by new 6 mile long 138 kV line from Chugach Electric's Beluga Power Station (open switch available)
- Chugach has requested that the mine supply power line be tied to existing power line at our facility to provide redundancy in the distribution system, benefiting the local area with improved reliability


Legend
Cook Inlet
Port MacKenzie
Point Possession
Anchorage
Knik Arm
Fire Island
Port of Anchorage
Municipal Light & Power
Port of Alaska
Elmendorf Moorings
Elmendorf Moorings
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Elmendorf Moorings
Port of Alaska
Elmendorf Moorings
Port of Alaska

Usibelli Coal Mine, Inc.

Wishbone Hill Project Overview

October 27, 2010

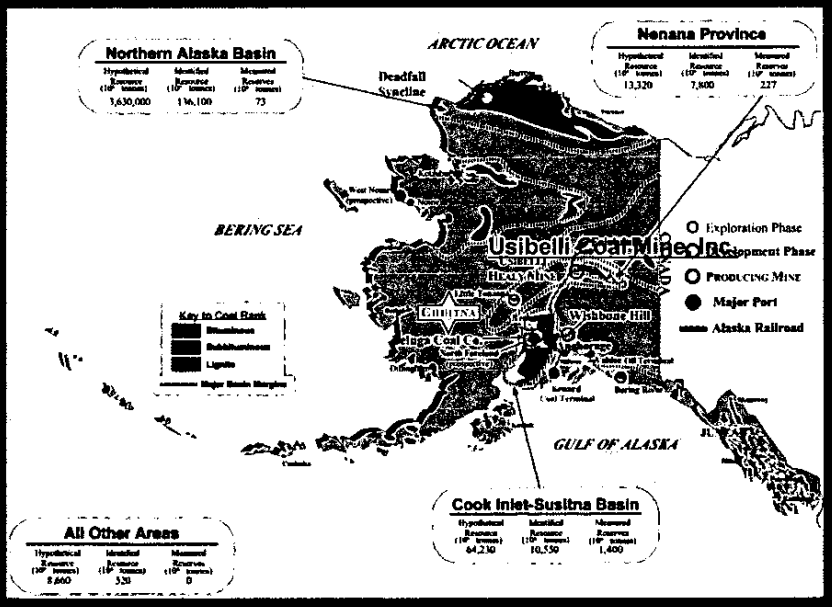
Lorali Carter
External Affairs Manager
Wishbone Hill Project

Usibelli Coal Mine

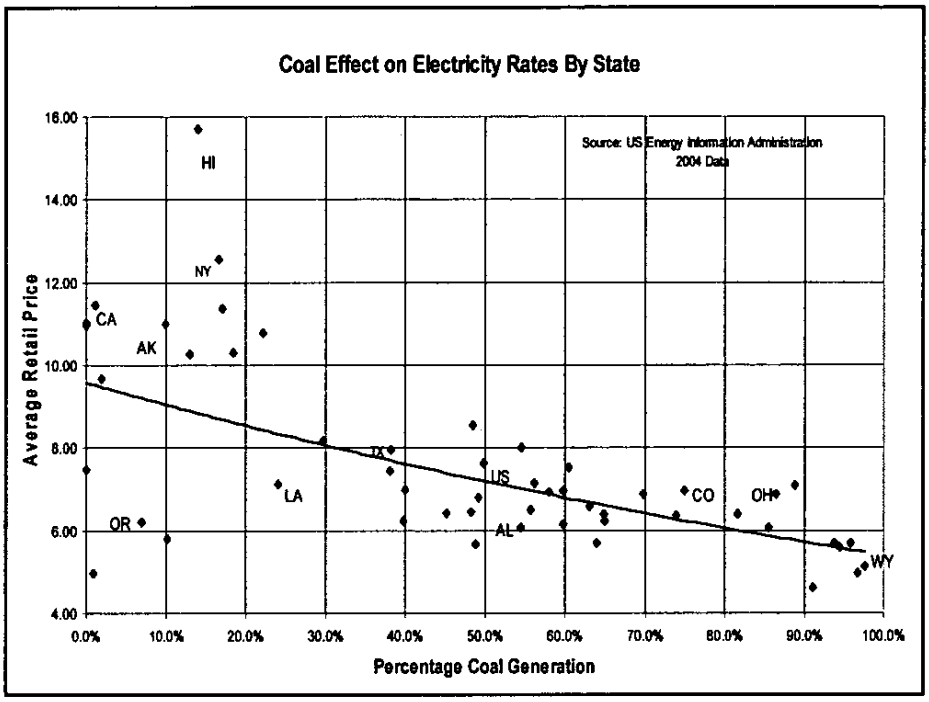
- 4th generation family owned Alaska company
- Founded in 1943 by Emil Usibelli
- 1.5 to 1.8 million tons of coal mined from Healy annually
- Sell to 6 customers in Interior Alaska as well as export
- Over 500 million tons proven reserves

Coal Facts

- The U.S. has 27% of the world's coal reserves.
- Alaska has 50% of the U.S. coal reserves.
- Railbelt: >1,000 years reserve at current consumption.

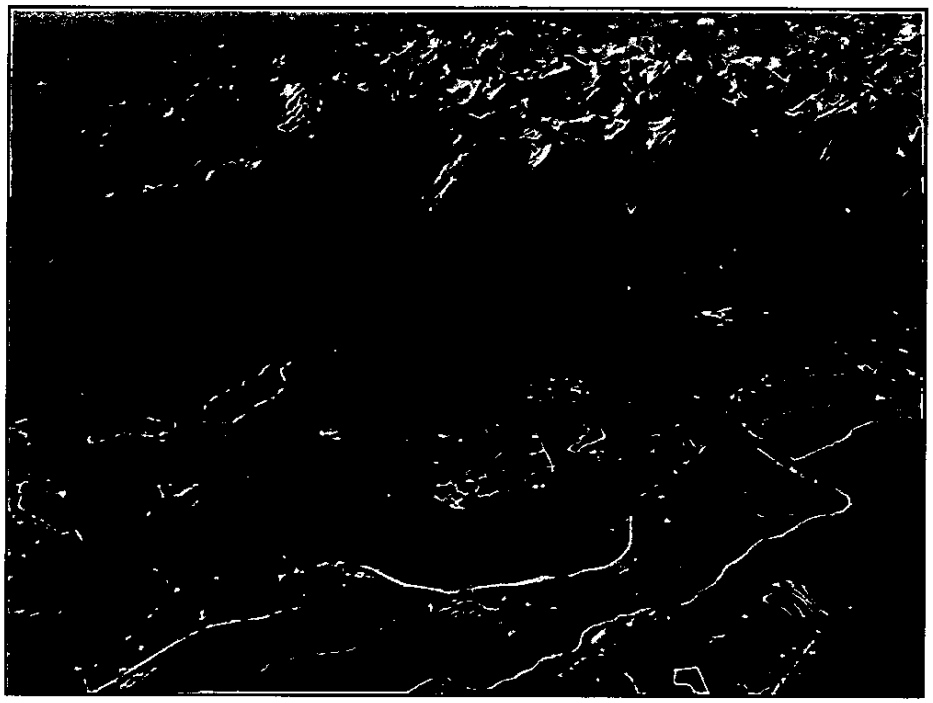


Alaska has half of the coal reserves in the United States.



Wishbone Hill History

- Early mining: 1916-1962
- 7 million tons mined from 18 mines
- By 1992 all permits for Wishbone Hill mine were obtained
- 14 million tons of surface mineable coal identified
- The only bituminous coal deposit on the Alaska road system

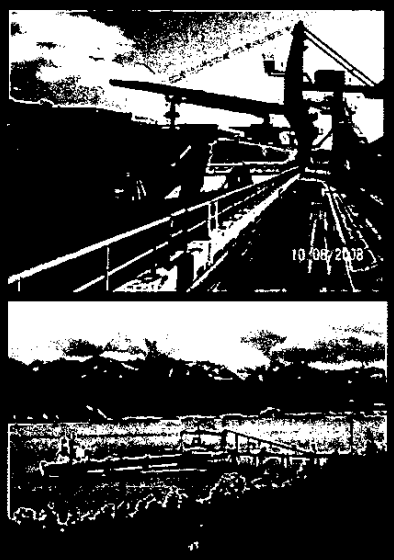


Wishbone Hill Project
- *Where are we today?*

- **Feasibility Study**
  - Estimated year-long process
  - Based on 6 million tons total; 500,000 tons annually, for 12 years
  - Exploration program
  - Analyze transportation options
  - Update permits
  - Engineering

Getting the Coal to Market

- **Transportation Options**
  - Truck to Port MacKenzie
  - Truck to Railroad then to Seward Port
  - Rail extension to mine site

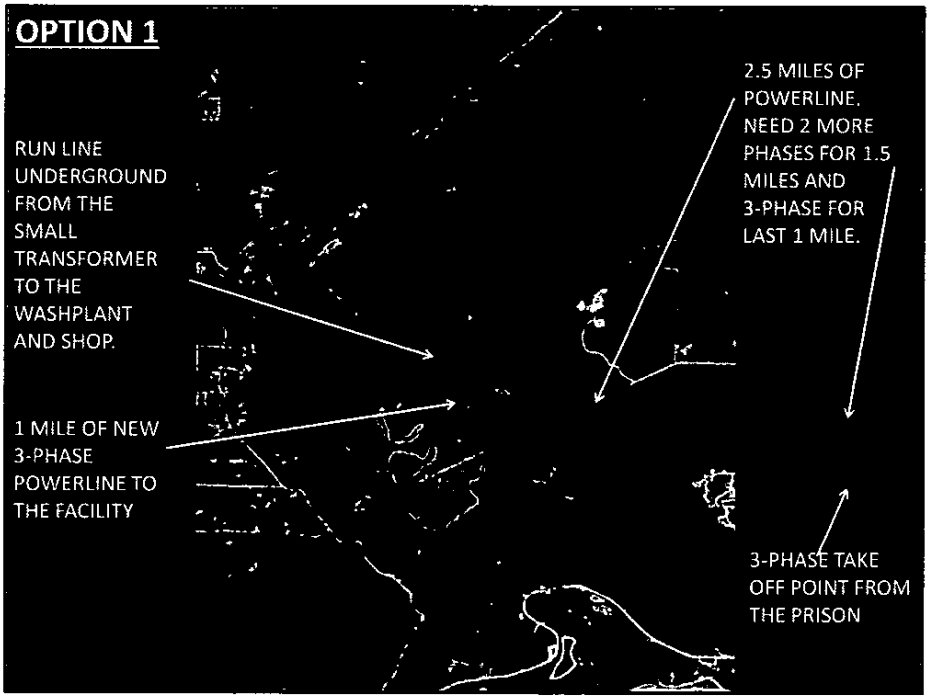


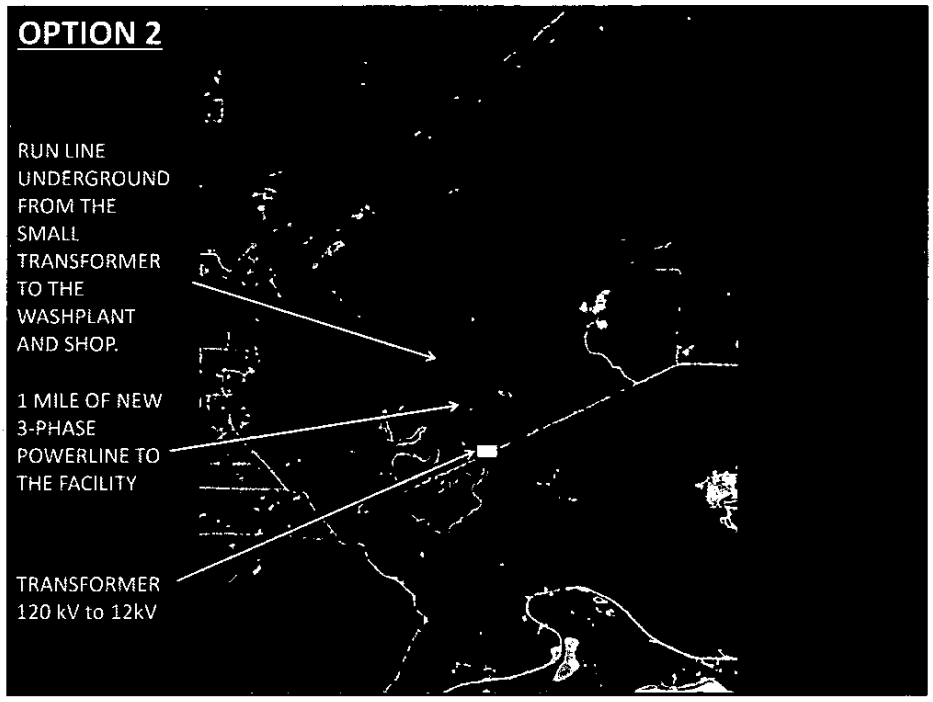
Wishbone Hill Economic Impact

- **Jobs & Income**
  - 75 to 125 mine jobs at full production
  - High-paying, stable jobs
  - Money that stays here in Alaska's economy

Wishbone Hill Energy Needs

- Anticipate 600 kilowatts per hour
- Feasibility study:
  - Option 1: New line from nearby existing 3-Phase
  - Option 2: Insert transformer at existing 120kV line





Usibelli Coal Mine Inc.
Wishbone Hill Project

Questions?

Lorali Carter
745-6028
lorali@usibelli.com
www.usibelli.com

ALASKA MINERS ASSOCIATION, INC.

Infrastructure for Mines

September 2010

By Steve Borell

Most people assume that the basic infrastructure required for Alaska mines is provided by the state or federal government. By basic infrastructure I refer to electrical power, roads, railroads, airfields, and ports.

I first researched the topic several years ago when I was asked to speak at an Alaska session in Tacoma, Washington. My assigned topic was to describe the infrastructure that the state will have to build to service various prospective mining projects. However, as I began to research the topic, I realized that most of the basic infrastructure used by Alaska's large mining operations was not built by the state or federal government but rather by the mines themselves.

Infrastructure is a major cost item wherever it occurs, and especially in remote parts of the state. Furthermore, the infrastructure is often needed long before the mine has a positive cash flow from operations because infrastructure is needed before the mine can even be built. It is needed to bring in the supplies and equipment that are used to build the mine. Infrastructure costs have a huge adverse financial impact on the project's rate of return because of the time value of money which must be spent long before there is any return.

The table titled "Infrastructure for Alaska Mines" is a list of Alaska's large mines and major projects showing how their infrastructure was funded. The six large operating mines have a total of 18 items of infrastructure. Twelve of those items, shown with an (*), were paid for entirely by the mines. Three items were existing infrastructure. Two items, indicated by (+), were paid by a government "authority" and the cost recovered by charging the mine a user fee. One item, indicated by (*+), was constructed by the mine with a partial payment by the State.

Infrastructure for Alaska Mines

Mine/Project	Power	Road	Airfield	Port
Major mines now in operation				
Usibelli Coal	On grid	On road & RR		
Greens Creek	*Diesel, now on grid	*7 mi		*Yes
Red Dog	*Diesel	+55 mi	*4500 ft	+Yes
Fort Knox	*24 mi to grid	*4 mi		
Pogo	*55 mi to grid	*55 mi	*3000 ft	
Kensington	*Diesel	*+6 mi		*Yes
Major mines now in idle status				
Nixon Fork	*Diesel		*4500 ft	
Rock Creek	*6 mi to grid	3mi by State		
New large projects in permitting or advanced exploration				
Chuitna Coal	*10 mi to grid	*13 mi	*3000 ft	*Yes
Donlin Creek	*Diesel & wind	*23 mi	*5000 ft	*Yes
Pebble	*105 mi to grid	*~80 mi		*Yes

* Constructed by the mine
\+ Reimbursed by mine based on throughput
*+ Combination of mine and State funding

The mines in idle status have a total of four items of infrastructure. Three of the four were constructed by the mines and one item, a three-mile road, was part of the "Roads to Resources" program and was constructed by the State. For the three advanced projects – if these projects can get through the permitting process, all 11 items of infrastructure required will be constructed by the mines.

To summarize the numbers – 88% (30 of 34 items) of the items of infrastructure required by the major mines and advanced projects has been paid (or will be) by the mines.

The situation is very different in other states and countries. In the lower 48 states and much of Canada, only the final few miles of road or powerline will be paid by the mine. It is a rare case where the mine is isolated from the road system or must build its own power plant, airfield, or port. Throughout Canada, the roads, railroads, and powerlines are typically built by the government.

In some countries the governments will provide much of the infrastructure. I recall hearing a few years ago that a project in Inner Mongolia of northern China was going to need a road. This need was expressed to the government officials. Within a year a 200 km road was under construction; two years later it was complete.

I often hear that the State of Alaska built the road and port facilities for the Red Dog Mine. That is correct. The Alaska Industrial Development & Export Authority (AIDEA) paid for construction of the road and port known as the Delong Mountains Transportation System (DMTS). But Red Dog makes annual payments to AIDEA based on throughput of concentrates that are shipped. If the mine does not meet a certain level of throughput each year, Red Dog must still pay a guaranteed minimum amount to AIDEA. That has not yet happened because every year since the mine began operating in 1989 the throughput has been more than the minimum. The initial construction of DMTS was $180 million with a subsequent upgrade of $85 million for a total cost of $265 million. Thus far the state has received $312 million of interest and principle on its investment. That says nothing about the jobs and other benefits to the region and the entire state.

There are numerous other roads and other infrastructure throughout Alaska that was built by the mining industry. Electrical power generation in Juneau is a case of particular note. Juneau has the lowest power cost in the state because of the mining industry. There are five hydroelectric generating plants in Juneau. Three of these were built by the mining industry and a fourth was built because of mining guarantees. The three plants built by the mines are Gold Creek (1893), Salmon Creek (1913) and Annex Creek (1915). When the A-J mine closed these plants were sold to Alaska Electric Light & Power (AEL&P). Salmon Creek was upgraded in 1984 with a new generator but the others still operate with the original equipment.

A fourth hydroelectric power plant, Dorothy Lake (2009), was built because the Greens Creek mine signed a contract guaranteeing that it would take any power not required by the city. The result was that AEL&P was able to obtain funding for the plant.

As I previously mentioned, most people assume that the basic infrastructure required for Alaska mines would be provided by the state or federal government. Those people would be wrong and the facts clearly show that the basic infrastructure requirements are most often constructed by the mines themselves.

HB

31

<target><bill>HB 31</bill><subject>HB
31</subject><comm>HENE26</comm></target>

ALASKA STATE LEGISLATURE

REPRESENTATIVE KURT OLSON

- Chair, Labor and Commerce
- Member: Rules, Resources

Session: January – April
State Capitol
Juneau, AK 99801-1182
Phone: 907-465-2693
Fax: 907-465-3835

Interim: May – December
145 Main Street Loop, Ste 221
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Phone: 907-283-2690
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Official Business

January 28, 2010

Representative Charisse Millett, Chair
Representative Bryce Edgmon, Co-Chair
House Energy Special Committee
Room 124, State Capitol
Juneau, Alaska 99801

Please find the attached amendment to House Bill 31 – Net Metering. This amendment reflects the recent efforts of the Regulatory Commission of Alaska to create net metering regulations for the state.

I respectfully request a hearing to discuss House Bill 31 and the amendment at your earliest convenience. Please do not hesitate to contact me or my staff, Jennifer Senette at 465-4530 with questions or concerns about this issue. I look forward to hearing from you and discussing this bill in further detail.

Email: Representative_Kurt_Olson@legis.state.ak.us

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Kane
1/27/10

AMENDMENT

OFFERED IN THE HOUSE
TO: HB 31

BY REPRESENTATIVE ~~OLSON~~ RAMRAS

Page 1, line 1:

Delete "**net energy metering for retail electricity suppliers and customers**"

Insert "**net metering of electric energy for electric utilities subject to economic regulation by the Regulatory Commission of Alaska and for a utility's retail consumers**"

Page 1, line 4, through page 2, line 27:

Delete all material and insert:

"*** Section 1.** AS 42.05 is amended by adding a new section to read:

Sec. 42.05.686. Net metering of electrical energy. (a) This section applies to every electric utility that is subject to exercise of the jurisdiction of the Regulatory Commission of Alaska that extends to matters concerning rates and charges for public utility services.

(b) The commission may modify or waive a requirement in this section, in whole or in part, by order. The commission may act on an application for modification or waiver and a showing of good cause or on the commission's own motion. An application for modification or waiver under this section must be in writing and must set out the pertinent facts in sufficient detail to support a finding by the commission that no legitimate public interest will be served by enforcing the requirement designated in the application. Under the authority set out in this subsection, the commission may not modify or waive a requirement in another provision of AS 42.05.

(c) The commission may adopt by regulation additional requirements pertaining to safety, power quality, and interconnection standards for consumer generation systems participating in the net metering program if the commission

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considers the requirements to be necessary to protect public safety and system reliability.

(d) This section does not apply to the following systems of an electric utility that is otherwise subject to exercise of the jurisdiction of the commission described in (a) of this section:

(1) an independent electric system owned and operated by an electric utility if

(A) except for fossil fuel generation for standby and emergency power, 100 percent of the independent electric system's power is supplied by a facility described in (*l*)(1) of this section; or

(B) the independent system had total retail sales of less than 5,000,000 kilowatt-hours during the previous calendar year; or

(2) any portion of the distribution system of the electric utility if and to the extent the electric utility demonstrates to the commission that limiting net metering installations in that portion of its distribution system is reasonably necessary to address system stability constraints or other operational issues.

(e) Except as provided in (f) or (j) of this section, an electric utility subject to this section shall

(1) make a net metering program available to each of its retail consumers that requests interconnection; and

(2) allow eligible consumer generation systems complying with (*l*) of this section to be interconnected to the electric utility's facilities in accordance with interconnection standards approved or accepted by the commission.

(f) An electric utility may refuse to interconnect with a consumer that requests net metering if interconnection would cause the total nameplate capacity of all eligible consumer generation systems participating in the net metering program to exceed 1.5 percent of the electric utility's average retail demand. The utility shall notify the commission if it refuses to interconnect with a potential net metering consumer under this subsection.

(g) An electric utility that has a decrease in average retail demand that results in the total nameplate capacity of eligible consumer generation systems exceeding 1.5

percent of average retail demand shall allow existing net metering consumers to continue participating in the net metering program.

(h) By March 1 of each year, an electric utility shall submit a tariff filing stating the number of kilowatts equivalent to 1.5 percent of the electric utility's average retail demand for the previous calendar year and the total nameplate capacity of eligible consumer generation systems participating in the net metering program at the time of filing. The commission may require the filing to be made using a tariff advice letter with accompanying tariff sheet.

(i) An electric utility may submit a tariff filing requesting an increase in the limit on total nameplate capacity of eligible consumer generation systems participating in the net metering program above 1.5 percent of the electric utility's average retail demand. The commission may require the filing to be made using a tariff advice letter.

(j) An electric utility may deny participation in a net metering program to an electric consumer that

(1) participates in another program if the program allows the consumer to collect, through voluntary contributions from other participating consumers of the utility, more than the non-firm power rate a kilowatt-hour for the sale of electric energy; or

(2) sells electric energy under an existing contract if the contract allows the consumer to collect more than the non-firm power rate a kilowatt-hour for the sale of electric energy.

(k) An electric utility may install additional metering equipment for net metering consumers. The electric utility

(1) is responsible for all costs related to the purchase, installation, and maintenance of the additional metering equipment; and

(2) may not assess a recurring charge for the additional metering equipment.

(*l*) To be eligible for interconnection under a net metering program, a generation system must

(1) be a facility that produces electric energy derived from one or more of the following sources:

(A) solar photovoltaic and solar thermal energy;

(B) wind energy;

(C) biomass energy;

(D) hydroelectric energy;

(E) geothermal energy;

(F) hydrokinetic energy;

(G) ocean thermal energy;

(H) landfill gas or biogas produced from organic matter, wastewater, anaerobic digesters, or municipal solid waste; and

(I) other sources, as approved by the commission, that generally have similar environmental effects;

(2) be operated and owned or leased by the consumer and

(A) have a total nameplate capacity of not more than 25 kilowatts for each consumer premises;

(B) be located on or adjacent to the consumer's premises;

(C) be used primarily to offset part or all of the consumer's requirements for electric energy; and

(D) include a device that converts direct current power into alternating current power to ensure the generated power is compatible with power generated by an electric utility;

(3) include an electric generator and its accompanying components that connect the electric generator to a utility's electric distribution system, including interface equipment and interface equipment controls, switchgear, inverter, and other interface devices; and

(4) be physically interconnected to the consumer's side of the meter from which electric service is provided by the utility to the consumer.

(m) Each electric utility with a consumer participating in a net metering program shall measure the net electric energy during each monthly billing period, and

(1) if the utility supplied more electric energy to the consumer than the consumer supplied to the utility during the monthly billing period, the electric utility shall bill the consumer for the number of kilowatt-hours of net electric energy supplied

by the utility to the consumer at the applicable rates contained in the utility's currently effective tariff; or

(2) if the consumer supplied more electric energy to the utility than the utility supplied to the consumer during the monthly billing period, the electric utility shall credit the consumer's account with an amount derived by multiplying the kilowatt-hours of net electric energy supplied by the consumer to the utility by the non-firm power rate contained in the utility's currently effective tariff, unless a different rate has been established in a commission-approved contract; the electric utility shall credit dollar amounts to the account of a net metering consumer for furnishing electric energy to the utility under this paragraph and use the credits to reduce dollar amounts owed by the consumer in subsequent monthly billing periods; the credits do not expire or otherwise revert to the utility.

(n) Except as otherwise provided in (m) of this section regarding kilowatt-hour charges, the electric utility may bill a net metering consumer for all applicable charges authorized by the electric utility's approved tariff.

(o) An electric utility administering a net metering program may not charge a consumer participating in the net metering program any additional fee for standby, capacity, interconnection, or other net metering expense unless approved by the commission.

(p) An electric utility may petition the commission to change electric rate designs, consistent with regulations adopted by the commission, including appropriate rate classes for net metered consumers. The commission shall allow the charge if the utility can demonstrate an adverse material rate effect on utility consumers that do not participate in the net metering program.

(q) In this section,

(1) "average retail demand" is the number of kilowatts determined by dividing the total retail sales of the utility, measured in kilowatt-hours, for a calendar year

(A) with 365 days, by 8,760 hours; or

(B) with 366 days, by 8,784 hours;

(2) "consumer" means a customer of an electric utility described in (a)

of this section that consumes the electricity purchased from the utility;

(3) "consumer premises" means all buildings and associated grounds owned or leased by a consumer at a single location where an electric utility provides service through one or more utility meters;

(4) "electric system" means an integrated electrical system that includes, at a minimum, generation and distribution of electric energy;

(5) "independent electric system" means an electric system that is not interconnected with another electric system;

(6) "nameplate capacity" means the maximum rated output of a generator, prime mover, or other electric power production equipment under specific conditions designated by the manufacturer;

(7) "net electric energy" means, as metered by the electric utility for a specified period and expressed in kilowatt-hours, the amount by which the quantity of electric energy supplied by the

(A) utility to the consumer exceeds the quantity of electric energy supplied by the consumer to the utility; or

(B) consumer to the utility exceeds the quantity of electric energy supplied by the utility to the consumer;

(8) "non-firm power rate" means the rate updated quarterly in an electric utility's tariff in accordance with regulations adopted by the commission or another non-firm power rate as may be authorized by the commission;

(9) "retail sales" means sales of electricity to the end-use consumer, exclusive of any wholesale sales.

* **Sec. 2.** This Act takes effect January 1, 2011."

FISCAL NOTE

STATE OF ALASKA
2009 LEGISLATIVE SESSION

Fiscal Note Number:
Bill Version: **HB 31**
() Publish Date:

Identifier (file name): HB031-CED-RCA-02-26-09
Title
Sponsor Representative Olson
Requester House Energy Committee

Dept. Affected: DCCED
RDU Regulatory Commission of Alaska
Component Regulatory Commission of Alaska
Component Number 2417

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	48.3	48.3	98.2	98.2	98.2	98.2	98.2
Travel	5.0	5.0					
Contractual	6.9	6.9	6.9	6.9	6.9	6.9	6.9
Supplies	1.0	1.0	0.5	0.5	0.5	0.5	0.5
Equipment	5.0	5.0					
Land & Structures							
Grants & Claims							
Miscellaneous							
TOTAL OPERATING	**66.2**	**66.2**	**105.6**	**105.6**	**105.6**	**105.6**	**105.6**
CAPITAL EXPENDITURES							
CHANGE IN REVENUES ( )							

FUND SOURCE (Thousands of Dollars)

1002 Federal Receipts							
1003 GF Match							
1004 GF	66.2	66.2	105.6	105.6	105.6	105.6	105.6
1005 GF/Program Receipts							
1037 GF/Mental Health							
Other Interagency Receipts							
TOTAL	**66.2**	**66.2**	**105.6**	**105.6**	**105.6**	**105.6**	**105.6**

Estimate of any current year (FY2009) cost:

POSITIONS

Full-time	1	1	1	1	1	1	1
Part-time							
Temporary							

ANALYSIS: *(Attach a separate page if necessary)*

This proposed legislation would require retail suppliers of electricity to offer residential and commercial customers net energy metering. Net metering allows customers generating electricity from alternative energy sources to receive an offset against their utility bills for electricity generated from their on-site facility and delivered to local distribution utility facilities. Customers that generate more electricity than they consume during a billing period would receive energy credits. Customers may sell energy credits to a retail electric supplier at the supplier's negotiated firm purchase power price as determined and approved by the Regulatory Commission of Alaska (RCA).

(Continued on page 2)

Prepared by: Robert M. Pickett, Chairman — Phone (907) 276-6222
Division: Regulatory Commission of Alaska — Date/Time 3/2/09 8:00 AM
Approved by: Emil R. Notti, Commissioner — Date 3/2/2009
Commerce, Community, and Economic Development

ANALYSIS CONTINUATION

The RCA would be required to establish through regulations a voting procedure for cooperatives seeking waiver of the exemption from net metering requirements. The RCA would also be required to review and approve (1) any negotiated power purchase agreement for excess customer generation between a customer and an economically regulated electric utility, and (2) any utility tariff provision designed to implement a rate for the purchase of excess generation. The RCA may also be required to ensure compliance with statutory net metering requirements. From a rate-setting perspective, this proposed legislation would result in a reallocation of utility cost away from non-firm renewable power producers to other utility customers. This reallocation may be controversial and would likely further complicate rate proceedings. To perform these obligations, RCA would need to hire a Utility Financial Analyst III (Range 21) to address enforcement of net metering requirements and assist in rate proceedings for regulated electric utilities.

This fiscal note identifies the costs associated with adding the new position. These costs include salary and benefits, travel for one-time training, one-time startup costs for equipment and supplies and annual contractual charges. The salary and benefits costs are lower in FY2010 because the effective date of this bill is January 1, 2010. This position is required to attend a two week training course provided by the National Association of Regulatory Commissioners that is designed specifically for regulators to provide a basic understanding of modern regulatory theory and processes.

The RCA's budget is funded through Regulatory Cost Charges (RCC) and direct charge mechanisms. The RCC is recalculated each year and allows the agency to recover its operating expenses through an assessment on revenues of regulated utilities and pipeline carriers. Utilities exempt from economic regulation by the RCA do not pay RCCs, but may be required to pay the actual costs of services provided by the RCA.

General Funds are requested because at the current statutory RCC cap is 0.7% and no additional RCC receipts are available. If General Funds are not appropriated an increase to the statutory RCC cap will be necessary.

FISCAL NOTE

STATE OF ALASKA
2009 LEGISLATIVE SESSION

Fiscal Note Number:
Bill Version: **HB 31**
() Publish Date:

Identifier (file name): HB031-CED-RCA-03-23-09
Title: Net Energy Metering
Sponsor: Representative Olson
Requester: House Energy Committee

Dept. Affected: DCCED
RDU: Regulatory Commission of Alaska
Component: Regulatory Commission of Alaska
Component Number: 2417

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	48.3	48.3	98.2	98.2	98.2	98.2	98.2
Travel	5.0	5.0					
Contractual	6.9	6.9	6.9	6.9	6.9	6.9	6.9
Supplies	1.0	1.0	0.5	0.5	0.5	0.5	0.5
Equipment	5.0	5.0					
Land & Structures							
Grants & Claims							
Miscellaneous							
TOTAL OPERATING	**66.2**	**66.2**	**105.6**	**105.6**	**105.6**	**105.6**	**105.6**
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							
Regulatory Cost Charges (1141)	66.2	66.2	105.6	105.6	105.6	105.6	105.6
TOTAL	**66.2**	**66.2**	**105.6**	**105.6**	**105.6**	**105.6**	**105.6**

Estimate of any current year (FY2009) cost:

POSITIONS

Full-time	1	1	1	1	1	1	1
Part-time							
Temporary							

ANALYSIS: *(Attach a separate page if necessary)*

This proposed legislation would require retail suppliers of electricity to offer residential and commercial customers net energy metering. Net metering allows customers generating electricity from alternative energy sources to receive an offset against their utility bills for electricity generated from their on-site facility and delivered to local distribution utility facilities. Customers that generate more electricity than they consume during a billing period would receive energy credits. Customers may sell energy credits to a retail electric supplier at the supplier's negotiated firm purchase power price as determined and approved by the Regulatory Commission of Alaska (RCA).

(Continued on page 2)

Prepared by: Robert M. Pickett, Chairman — Phone (907) 276-6222
Division: Regulatory Commission of Alaska — Date/Time 3/23/09 8:00 AM
Approved by: Emil R. Notti, Commissioner — Date 3/23/2009
Department of Commerce, Community, and Economic Development

(Revised 9/10/2008 OMB)

2303

STATE OF ALASKA
2009 LEGISLATIVE SESSION

BILL NO. HB 31

ANALYSIS CONTINUATION

The RCA would be required to establish through regulations a voting procedure for cooperatives seeking waiver of the exemption from net metering requirements. The RCA would also be required to review and approve (1) any negotiated power purchase agreement for excess customer generation between a customer and an economically regulated electric utility, and (2) any utility tariff provision designed to implement a rate for the purchase of excess generation. The RCA may also be required to ensure compliance with statutory net metering requirements. From a rate-setting perspective, this proposed legislation would result in a reallocation of utility cost away from non-firm renewable power producers to other utility customers. This reallocation may be controversial and would likely further complicate rate proceedings. To perform these obligations, RCA would need to hire a Utility Financial Analyst III (Range 21) to address enforcement of net metering requirements and assist in rate proceedings for regulated electric utilities.

This fiscal note identifies the costs associated with adding the new position. These costs include salary and benefits, travel for one-time training, one-time startup costs for equipment and supplies and annual contractual charges. The salary and benefits costs are lower in FY2010 because the effective date of this bill is January 1, 2010. This position is required to attend a two week training course provided by the National Association of Regulatory Commissioners that is designed specifically for regulators to provide a basic understanding of modern regulatory theory and processes.

The RCA's budget is funded through Regulatory Cost Charges (RCC) and direct charge mechanisms. The RCC is recalculated each year and allows the agency to recover its operating expenses through an assessment on revenues of regulated utilities and pipeline carriers. Utilities exempt from economic regulation by the RCA do not pay RCCs, but may be required to pay the actual costs of services provided by the RCA.

ALASKA STATE LEGISLATURE

REPRESENTATIVE KURT OLSON

- Chair, Labor and Commerce
- Member: Rules, Resources, Military and Veterans Affairs

Session: January – April
State Capitol
Juneau, AK 99801-1182
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Official Business

Sponsor Statement
HB 31 – Net Metering

With our windy coasts, untapped rivers, and huge tidal resources, Alaska has the potential to be a national leader in the development of renewable energy sources. Though the state already produces 25% of its energy from renewable sources, we can do more to promote the use of these resources to meet Alaska's energy needs. House Bill 31 is an opportunity to do just that. This legislation promotes the private investment in renewable energy systems by giving Alaskans the option of net metering.

Net metering allows grid-tied customers who generate electricity from renewable resources to receive credit from their utility for the excess power they generate beyond what they consume. HB 31 allows customers to apply these credits towards the following billing period or to sell unused credits back to the retailer. This legislation thus provides a simple arrangement that allows customers to use the excess electricity they generate to offset electricity used at other times during the billing period.

Not only does this legislation encourage Alaskans to take ownership of their own energy generation, it is an inexpensive way for the state to promote the use of renewable energy systems. Alaska is rich with renewable energy sources, and giving consumers a financial incentive to tap into them benefits both the state and the environment.

Forty states currently provide a net metering option to consumers. Though these requirements are often enacted by state utility regulators, state lawmakers may step in to enact net metering laws through legislative action. The legislatures of Washington, Oregon, and California have addressed net metering in this fashion, and I urge this body to follow their lead.

House Bill 31 is a chance to encourage Alaskans to take advantage of our renewable energy resources and an opportunity that should not be missed. I respectfully ask for your consideration of this bill and look forward to hearing your questions and concerns.

Email: Representative_Kurt_Olson@legis.state.ak.us

ALASKA STATE LEGISLATURE

REPRESENTATIVE KURT OLSON

- Chair, Labor and Commerce
- Member: Rules, Resources, Military and Veterans Affairs

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Sectional Summary
HB 31 – Net Metering

The following is a sectional summary of HB 31 and is not an authoritative representation of the bill. For an authoritative interpretation, please refer to the bill itself.

Section 1: amends AS 42.45 which establishes rural and statewide energy programs.

Subsection (a) creates a net metering option for customers operating an energy production facility.

Subsection (b) allows customers to acquire credits when the customer's energy facility generates more energy than the customer consumes. The retail supplier of energy credits customers in kilowatt-hours. Credits may be applied by the customer towards the following billing periods.

Subsection (c) allows customers to sell energy credits not used towards the next month's bill back to the retail supplier. Credit prices are to be determined and approved by the Regulatory Commission of Alaska.

Subsection (d) exempts retail suppliers organized as cooperatives from net metering requirements. The exemption may be waived upon a majority vote of the membership of the cooperative, effectively allowing cooperatives to "opt-in" to the net metering program.

Subsection (e) exempts from net metering requirements any retail electricity supplier that generates 100 percent of its power from alternative energy systems.

Section 2: provides for an effective date.

Email: Representative_Kurt_Olson@legis.state.ak.us

ALASKA STATE LEGISLATURE

REPRESENTATIVE KURT OLSON

- Chair, Labor and Commerce
- Member: Rules, Resources

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Official Business

January 28, 2010

Representative Charisse Millett, Chair
Representative Bryce Edgmon, Co-Chair
House Energy Special Committee
Room 124, State Capitol
Juneau, Alaska 99801

Please find the attached amendment to House Bill 31 – Net Metering. This amendment reflects the recent efforts of the Regulatory Commission of Alaska to create net metering regulations for the state.

I respectfully request a hearing to discuss House Bill 31 and the amendment at your earliest convenience. Please do not hesitate to contact me or my staff, Jennifer Senette at 465-4530 with questions or concerns about this issue. I look forward to hearing from you and discussing this bill in further detail.

Email: Representative_Kurt_Olson@legis.state.ak.us

ALASKA STATE LEGISLATURE

REPRESENTATIVE KURT OLSON

- Chair, Labor and Commerce
- Member: Rules, Resources

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Official Business

Sectional Summary

Proposed Amendment to HB 31 – Net Metering

The following is sectional summary of the proposed HB 31 amendment and is not an authoritative representation of the amendment. For an authoritative interpretation, please refer to the amendment itself.

Section 1: amends AS 42.05 by adding a new section to read:
Section 42.05.686. Net metering of electrical energy

Subsections (a) and (b) address the applicability of the net metering requirement and the possibility of waiving requirements upon application

Subsection (c) allows the commission to adopt by regulation additional requirements for consumer generation systems participating in the net metering program

Subsection (d) makes an exception for certain systems of an electric utility

Subsections (e)-(h) relate to the net metering of electricity, including setting an overall capacity limitation on net metering

Subsection (i) allows an electric utility to request an increase in the limit on total capacity of eligible consumer generation systems participating in the net metering program

Subsection (j) describes circumstances in which an electric utility may deny participation in a net metering program

Subsection (k) allows an electric utility to install additional metering equipment for net metering consumers

Subsection (l) specifies eligibility criteria for consumer generation facilities, including a generation capacity limit of 25 kilowatts

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Subsections (m)-(p) address charges or credits for net electricity

Subsection (q) defines the terms used in this bill

Section 2: provides for an effective date

STATE OF ALASKA

THE REGULATORY COMMISSION OF ALASKA

Before Commissioners: Robert M. Pickett, Chairman
Kate Giard
Paul F. Lisankie
Anthony A. Price
Janis W. Wilson

In the Matter of the Consideration of the Adoption of Regulations Implementing Net Metering

R-09-1

ORDER NO. 3

ORDER ADOPTING REGULATIONS

BY THE COMMISSION:

Summary

We adopt regulations establishing net metering requirements for certain electric utilities.

Background

After declining to adopt a federal net metering standard,[1] we opened this docket to consider regulations implementing an Alaska-specific net metering standard.

[1] *See* Order R-06-5(7), dated August 27, 2008 and titled *Order Declining to Adopt Federal Net Metering, Fuel Diversity, and Fossil Fuel Generation Efficiency Standards.*

Regulatory Commission of Alaska
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We issued a straw man proposal to generate comment on elements of a net metering requirement,[2] and held a technical conference to discuss the net metering requirement.[3] We issued proposed regulations for comment[4] and provided public notice of our intent to consider net metering regulations.[5]

[2] *See* Order R-06-5(8)/R-09-1(1)/R-09-2(1), dated February 6, 2009 and titled *Order Closing Docket, Opening Dockets, Subsuming Applicable Portions of Docket R-06-5 Record into Dockets R-09-1 and R-09-2, Scheduling Technical Conferences, and Requiring Filings.*

[3] The technical conference was held as scheduled on March 4, 2009. Organizations represented at the net metering technical conference included Alaska Center for the Environment (Margaret Adsit), Alaska Power Association (Crystal Enkvist and Dean Thompson), Alaska Power & Telephone Association (Danny Gonce), Alaska Village Electric Cooperative (Meera Kohler), Alaskan Wind Industries (Nadia Daggett), Chilkoot Indian Association (Scott Hansen), Chugach Electric Association, Inc. (Don Edwards and Rick Freymiller), Golden Valley Electric Association (Kirk Gibson, Ethan Falatko, and Mike Wright), Homer Electric Association (Jim Patras and Rick Eckert), Interstate Renewable Energy Council (Jason Keyes), Matanuska Electric Association (Jim Walker), MEA Ratepayers Alliance (Tim Leach), the Municipality of Anchorage d/b/a Municipal Light & Power (Robert Reagan), the National Wildlife Foundation (Pat Lavin), the Regulatory Affairs and Public Advocacy Section of the Alaska Attorney General's Office (Sam Cason and Janet Fairchild), Rural Energy Enterprises (Lonnie Jackson), Sitka Global Warming Group (Michelle Putz), TDX Power (Jennifer Owens), and Your Clean Energy LLC (Andy Baker). Individuals appearing on their own behalf were David Mogar, Will Schlein, Jim Stimpfle, and Jeff Turner (Chief of Staff for Representative Charisse Millet).

[4] *See* Order R-09-1(2), dated June 12, 2009 and titled *Order Issuing Proposed Regulations for Comment.*

[5] *See Notice of Proposed Changes in the Regulations of the Regulatory Commission of Alaska*, dated June 12, 2009.

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We reviewed over 45 comments during the public comment period, which included an opportunity for initial and reply comments.[6]

Commission Staff presented a comment summary and suggested several revisions to the proposed regulations based on public comment. After reviewing the public comments and agreeing on revisions to the proposed regulations at our October 14, 2009 public meeting, we voted to adopt the net metering regulations that are attached to this order as Appendix A.[7]

Discussion

Net metering allows a consumer to reduce his or her load requirement by interconnecting on-site generation facilities to electric utility facilities. The amount of customer-generated power is compared to the customer's electric consumption for the applicable billing period, with the customer either billed for net electric consumption or credited for generating more electricity than used in a billing period.

We adopted a net metering requirement that will apply to certain Alaskan electric utilities. While the parameters of our net metering requirement vary from

[6]Initial comments were filed by Representative Alan Austerman, Alaska Center for the Environment, Alaska Power Association, Ole Anderson, Melissa Aronson, Christopher Brewton, Robert Burns, Chugach Electric Association, Nina Faust and Edgar Bailey, Dr. Frederick Foster, Jeff Friedman, Golden Valley Electric Association, Matt Gray, Dianne Holmes, Frank L. Holmes, Homer Electric Members Forum, Interstate Renewable Energy Council, Pat Irwin, Tim June, Philip Kaluza, Sherry Kimmons, Kootznoowoo Incorporated, James Lawrence, J.T. Lindholm, Bill Lynch, Peter McKay, Mark Masteller, Duff Mitchell, Deborah Nakada, the National Wildlife Federation, Representative Paul Seaton, Peter Schneidler, Rebecca Shaffer, Phil St. John, Michael J. Van Note, Paulette Wellington, Lawrence Whiting, Michelle Wilber, Yukon River Inter-Tribal Watershed Council, and Bryan Zak. Reply comments were filed by Alaska Power Association, Chugach Electric Association, the National Wildlife Federation, and the Municipality of Anchorage d/b/a Municipal Light and Power.

[7]October 14, 2009 public meeting transcripts at 173-175.

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pending net metering legislation,[8] we believe that our net metering regulations reflect an appropriate compromise that facilitates net metering in Alaska and adequately protects the interests of utilities, net metering consumers, and utility customers that do not net meter. We create a new Article in Chapter 50 (*Energy Conservation)* to incorporate net metering requirements (3 AAC 50.900 – 3 AAC 50.949). The elements of our proposed net metering regulations are discussed below.

3 AAC 50.900, Applicability and Waiver

This section addresses the applicability of our net metering requirement by identifying categories of electric utilities subject to the net metering requirement.[9] Generally speaking, the net metering requirement applies to all electric utilities subject to economic regulation by this agency. However, the requirement does not apply to an economically regulated electric utility (1) with 100 percent of its electrical power supplied by an eligible facility, as defined in 3 AAC 50.949,[10] or (2) for independent systems that have retail sales of less than 5,000,000 kilowatt hours during the utility's previous fiscal year.[11] In addition, an electric utility demonstrating that limiting net metering

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[8]The 26th Alaska State Legislature has three pending legislative bills that would require retailer suppliers of electricity to provide net metering - House Bill 31, House Bill 66, and Senate Bill 131.

[9]Appendix B to this Order lists the utilities subject to the net metering requirement.

[10]Specifically, "eligible facility" means a facility that produces electric energy derived from solar photovoltaic and solar thermal energy; wind energy; biomass energy; hydroelectric energy; geothermal energy; hydrokinetic energy; ocean thermal energy; landfill gas or biogas produced from organic matter, wastewater, anaerobic digesters, or municipal solid waste; and other sources as approved by us that generally have similar environmental impact. *See* 3 AAC 50.949(9).

[11]For example, Alaska Power Company provides service to 21 different communities, each having a separate electrical system. Only five of the separate electric systems sold more than 5,000,000 kilowatt during the 2007 fiscal year. These five systems would be the only portions of Alaska Power Company required to participate in the net metering program.

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installations is reasonably necessary to address system stability constraints or other operational issues is not required to provide net metering over the affected portion of its distribution system. This section also allows us to waive any requirement in 3 AAC 50.900 – 3 AAC 50.949 upon application and for good cause shown.

3 AAC 50.910, Net Metering of Electricity

Subsection (a) requires covered electric utilities to make net metering available to its customers, and allows the interconnection of customer generation systems to the electric utility's facilities. Subsection (b) states an overall capacity limitation on net metering, allowing an electric utility to refuse net metering service if the overall nameplate capacity of all net metering systems interconnected with the utility exceeds a pre-defined cap (1.5 percent of the electric utility's average retail demand). Subsection (c) precludes a utility from disconnecting existing net metering customers should the cumulative nameplate capacity of net metering systems interconnected to the utility's distribution system exceed the cap as a result of a decrease in average demand. Subsection (d) requires an electric utility to annually publish in its tariff the number of kilowatt hours equivalent to 1.5 percent of the electric utility's average retail demand.

3 AAC 50.920, Consumer Generation System

This section specifies eligibility criteria for consumer generation facilities, including a generation capacity limit of 25 kilowatts.

3 AAC 50.930, Charges or Credits for Net Electricity

Subsection (a) requires an electric utility to measure a net metering consumer's energy consumption and generation, with net metering consumers being billed for net consumption and receiving bill credits when the customer's generation exceeds usage. Subsection (b) addresses the application of bill credits as dollar amounts to subsequent monthly billing periods. Subsection (c) allows an electric utility

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to charge a net metering consumer for non-generation related consumer charges provided those charges are authorized by the electric utility's tariff. Subsection (d) precludes an electric utility from charging a net metering consumer additional fees for net metering service unless we approve the charge. Subsection (e) states an electric utility may request a change to its rate design to incorporate a net metering customer class. It requires the electric utility to demonstrate an adverse material rate impact on non-net metering customers to justify a net metering customer class.

3 AAC 50.940, Interconnection of Customer Generation Facilities

This section allows us to establish interconnection requirements for customer generation systems.

3 AAC 50.950, Definitions

This section defines terms used in the net metering regulations, including a definition specifying eligible sources of electricity for net metering purposes.[12]

ORDER

THE COMMISSION FURTHER ORDERS that the regulations set out in Appendix A to this order are adopted.

DATED AND EFFECTIVE at Anchorage, Alaska, this 15th day of January, 2010.

BY DIRECTION OF THE COMMISSION
(Commissioner Anthony A. Price, dissenting.)

[12] See footnote 10.

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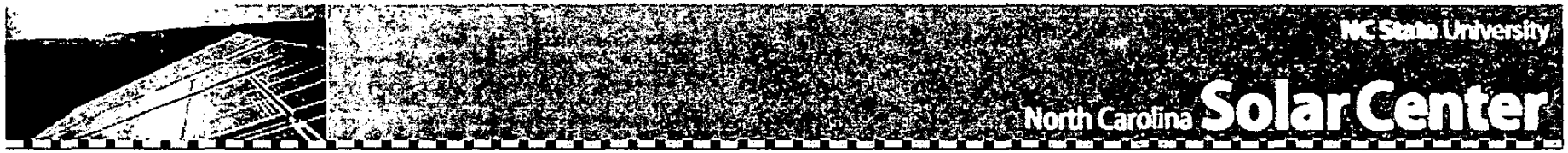
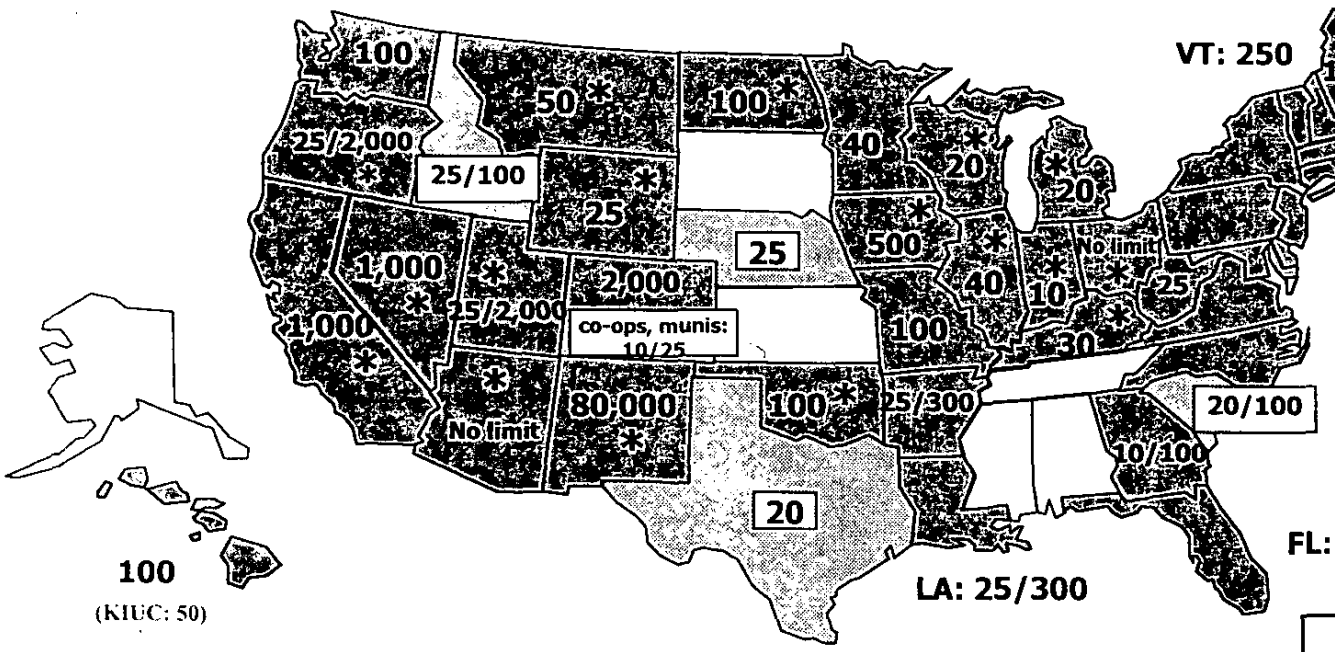


DSIRE: www.dsireusa.org

February 2009

Net Metering



VT: 250

NH: 100
MA: 60/1,000/2,000*
RI: 1,650/2,250/3,500*
CT: 2,000*
NY: 25/500/2,000*
PA: 50/3,000/5,000*
NJ: 2,000*
DE: 25/500/2,000*
MD: 2,000
DC: 1,000
VA: 10/500*
NC: 20/100*

FL: 2,000*

Net metering is available in 44 states + D.C.

- State-wide net metering for all utility types
- State-wide net metering for certain utility types only (e.g., investor-owned utilities)
- Net metering offered voluntarily by one or more individual utilities

Note: Numbers indicate individual system size limit in kilowatts (kW). Some states' limits vary by customer type, technology and/or system application; this is the case when multiple numbers appear for one state. Other limits may also apply. For complete details, see www.dsireusa.org.

with homeowners tap into an array of rebate programs, they can cut that price by almost one half."

NEW JERSEY'S CLEAN ENERGY PROGRAM

In New Jersey, small solar-electric systems of fewer than 10 kw qualify for a rebate of $5 per watt. The rebate covers up to 60 percent of the system costs under a program funded by the state and administered by utility companies. New Jersey also provides a sales tax credit for solar-electric system installations.

By fall 2001, there had been little publicity about this program with most applicants finding out about it by word-of-mouth. One of the major utilities in the state reported in late August only 16 applications had been processed. Some of the impediments to the program included lack of publicity and early difficulties homeowners had locating solar contractors. Now a short list of utility-qualified contractors is provided to interested homeowners.

CALIFORNIA'S REBATE PROGRAMS

California has myriad state, local and utility sponsored rebate programs, state property tax exemptions and other incentives to help homeowners install solar electric rooftops—and they are being used. Some solar programs in California reported receiving 250 inquiries a week.

The "Emerging Renewable Buy Down Program" and "Self-Generation Program" both offer rebates of up to $4.50 per watt or 50 percent off the price of purchasing the system, whichever is less.

The Los Angeles Department of Water and Power (LADWP) offers even more generous rebates as part of an effort to install 100,000 solar rooftops in the city of Los Angeles by 2010. Under the LADWP program, financial incentives include a maximum $3 per watt for systems manufactured outside of Los Angeles, and a maximum of $5 per watt for systems manufactured within the city.

TO FIND A SOLAR ROOF DEALER

The fastest way to learn what rebates are available in your area is to contact a local solar roof dealer. The dealer will know

Pam Chang beams from the top of her new thin-film Building-Integrated Photovoltaic (BIPV) roof on her home in Berkeley, California.

About Net Metering

Net-metering is a "win-win" for the utility and the homeowner. The utility adds more clean power to its network from a power source located close to demand centers, reducing not only the need to build new plants to meet peak demands but also reducing the load on distribution lines. The process is a win for the homeowner, who doesn't need a bank of batteries to store electricity to power the household at night or during overcast days. Instead the system uses the utility grid as a storage battery.

When the solar-electric rooftop produces more electricity than the household needs (at midday when the family is away at work and school), electricity is sent to the utility grid and the home's meter runs backward. When the household needs more electricity than the system produces (at night), it is drawn from the utility grid and the electrical meter runs forward. The net difference between electricity exported to the grid and grid-electricity used forms the basis for the homeowner's electric bill. In many states, net metering is annualized. The utility credits solar electricity produced by the rooftop system during the summer against electricity needed from the grid during the winter.

Interstate Renewable Energy Council (IREC) "Connecting to the Grid" Project
State and Utility Net-Metering Rules, Regulations and Programs

(Updated October 2008)

Program	System Size Limit / Customer Classes Eligible	Eligible Technologies	Limit on Total Capacity	Treatment of Net Excess Generation (NEG)	Interconnection Standards for Net Metering	Utilities Involved
Arizona - Arizona Public Service	100 kW / All customers	Solar, Wind, Biomass	15 MW	Credited at retail rate to customer's next bill; granted to utility at end of calendar year	(Utility guidelines)	Arizona Public Service
Arizona - Salt River Project	20 kW / Residential	Photovoltaics	None	Purchased monthly by utility at average monthly market price minus a price adjustment of $0.00017/kWh	(Utility guidelines)	Salt River Project
Arizona - Tucson Electric Power	10 kW / Commercial, Residential	Photovoltaics, Wind	500 kW peak aggregate	Credited to customer's next bill; granted to utility after January billing cycle	(Utility guidelines)	Tucson Electric Power
Arkansas	25 kW for residential systems; 300 kW for non-residential systems	Solar, Wind, Biomass, Hydro, Geothermal, Fuel Cells, Microturbines	None	Credited at retail rate to customer's next bill; granted to utility at end of 12-month billing cycle	Yes	All utilities
California	1 MW (10 MW for as many as three biogas digesters) / Commercial, Industrial, Residential	Photovoltaics, Landfill Gas, Wind, Anaerobic Digestion, Fuel Cells	2.5% of utility's peak demand, 50 MW for biogas	Credited at retail rate to customer's next bill; granted to utility at end of 12-month billing cycle	Yes	All utilities*
Colorado	IOUs: 2 MW Electric cooperatives and municipal utilities: 10 kW for residential; 25 kW for commercial and industrial	Wind, Biomass, Geothermal Electric, Solar, Recycled Energy, Small Hydroelectric, Fuel Cells	None	Credited to customer's next bill; IOU's: at end of each calendar year, customer reimbursed for NEG at utility's average hourly incremental cost for the prior 12-month period; Co-ops and Munis: annual reconciliation at a rate deemed appropriate by the utility.	Yes	All IOUs and co-ops; munis with more than 5,000 customers
Connecticut	2 MW / All customers	Solar, Landfill Gas, Wind, Biomass, Fuel Cells, Municipal Solid Waste, Small Hydro, Tidal Energy, Wave Energy, Ocean Thermal	None	Credited to customer's next bill at retail rate; purchased by utility at avoided-cost rate at end of 12-month billing cycle	Yes	Investor-owned utilities

* In California, all utilities – with the exception of Los Angeles Department of Water & Power (LADWP) -- must offer net metering to customers with PV and wind-energy systems. (LADWP offers net metering voluntarily.) In addition, investor-owned utilities must offer net metering to customers with fuel cells and biomass-energy systems.

Sources: IREC "Connecting to the Grid" Project (www.irecusa.org/index.php?id=31) and the Database of State Incentives for Renewables and Efficiency (DSIRE) (www.dsireusa.org). Both projects are managed by the N.C. Solar Center at N.C. State University. Additional information, including statutory and regulatory authority citations, is available on the projects' web sites.

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Delaware	25 kW for residential systems; 2 MW for non-residential customers of DP&L; 500 kW for non-residential customers of DEC and municipal utilities	Solar, Wind, Biomass, Hydro, Fuel Cells	1% (utilities may allow a higher limit or no limit)	Credited to customer's next bill at retail rate; at end of 12-month period, any remaining NEG is granted at the utility's avoided-cost rate to Delaware's Green Energy Fund	Yes (under revision)	All utilities (applies to cooperatives only if they choose to compete outside their limits)
District of Columbia	1 MW (pending PSC rules)/ Commercial, Industrial, Residential	Solar, Wind, Biomass, Hydro, Geothermal, Tidal, Fuel Cells, CHP, Microturbines	None	Credited at retail rate to customer's next bill	Yes	All utilities
Florida	2 MW / Commercial, Industrial, Residential	Solar, Wind, Biomass, Hydroelectric, Geothermal Electric, CHP/Cogeneration, Hydrogen, Tidal Energy, Wave Energy, Ocean Thermal	None	Credited to customer's next bill at retail rate; purchased by utility at avoided-cost rate at end of 12-month billing cycle	Yes	Investor-owned utilities
Florida - CHELCO	10 kW / Commercial, Residential	Solar, Wind	None	Carried forward indefinitely as a kWh credit. Unused credit granted to utility if/when the customer discontinues net metering.	Yes	CHELCO
Florida – Orlando Utilities Commission	20 kW Residential 1 MW Non Residential	Solar				
Florida - Florida Keys Electric Cooperative	10 kW / Residential	Photovoltaics	None	Credited at retail rate to customer's next bill; purchased by utility at retail rate at end of 12-month period	Yes	Florida Keys Electric Cooperative
Florida - JEA	10 kW / Residential	Photovoltaics, Wind	None	Credited at retail rate to customer's next bill	(Utility guidelines)	JEA
Florida - Lakeland Electric	500 kW for commercial systems; 10 kW for residential systems	Photovoltaics	None	Credited at retail rate to customer's next bill; indefinite carryover	(Utility guidelines)	Lakeland Electric
Florida - New Smyrna Beach Utilities	10 kW / Commercial, Industrial, Residential	Photovoltaics	None	Credited at retail rate to customer's next bill	(Utility guidelines)	New Smyrna Beach Utilities

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Florida - Tallahassee Electric Utility	10 kW / Commercial, Residential	Photovoltaics	None	Credited at retail rate to customer's next bill; granted to utility at end of 12-month billing cycle	(Utility guidelines)	Tallahassee Electric Utility
Georgia	100 kW for commercial systems; 10 kW for residential systems	Photovoltaics, Wind, Fuel Cells	0.2% of a utility's annual peak demand	Credited at retail rate to customer's next bill; granted to utility at end of 12-month billing cycle	Yes	All utilities
Hawaii	KIUC - 50 kW / HECO, HELCO, MECO – 100 kW / Commercial, Residential, Government	Photovoltaics, Wind, Biomass, Hydro	1.0% of a utility's annual peak demand	Credited at retail rate to customer's next bill; granted to utility at end of 12-month billing cycle	Yes	All utilities
Idaho - Idaho Power	100 kW for large commercial and agricultural; 25 kW for residential and small commercial	Solar, Wind, Biomass, Hydro, Fuel Cells	0.1% of utility's 2000 peak demand (in Idaho)	Credited to customer's next bill at utility's retail rate for residential and small commercial customers; credited at 85% of utility's avoided-cost rate for large commercial and agricultural customers	(Utility guidelines)	Idaho Power
Idaho - Rocky Mountain Power	100 kW for large commercial and agricultural; 25 kW for residential and small commercial	Solar, Wind, Biomass, Hydro, Fuel Cells	0.1% of utility's 2002 peak demand (in Idaho)	Credited to customer's next bill at utility's retail rate for residential and small commercial customers; credited at 85% of utility's avoided-cost rate for all other customers	(Utility guidelines)	Rocky Mountain Power
Idaho - Avista Utilities	25 kW / Commercial, Residential, Agricultural	Solar, Wind, Biomass, Hydro, Fuel Cells	0.1% of utility's 1996 peak demand (in Idaho)	Credited to customer's next bill at utility's retail rate; granted to utility at beginning of calendar year with no compensation to customer	(Utility guidelines)	Avista Utilities
Illinois	40 kW / All customers (Dual Metering allowed for customers with systems up to 2 MW)	Solar, wind, crops, anaerobic digestion of livestock or food processing waste, fuel cells, microturbines that use renewable fuels, hydro	1% of utility's previous peak year demand (includes net-metered systems and dual-metered systems up to 2 MW)	40 kW or less, 1:1 ratio 40kW to 2 MW, credited at provider's avoided cost of supply, or as negotiated within a power-purchase agreement. Excess credits expire after 1 year.	(Utility guidelines)	All utilities except munis and coops
Indiana	10 kW / Residential, Schools	Photovoltaics, Wind, Small Hydro	0.1% of a utility's most recent peak summer load	Credited at retail rate to customer's next bill	Yes	Investor-owned utilities

Sources: IREC "Connecting to the Grid" Project (www.irecusa.org/index.php?id=31) and the Database of State Incentives for Renewables and Efficiency (DSIRE) (www.dsireusa.org). Both projects are managed by the N.C. Solar Center at N.C. State University. Additional information, including statutory and regulatory authority citations, is available on the projects' web sites.

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Iowa	500 kW / Commercial, Industrial, Residential	Photovoltaics, Wind, Biomass, Hydro, Municipal Solid Waste	None	Credited at retail rate to customer's next bill	No	Investor-owned utilities
Kentucky	30 kW / All customers	Photovoltaics	1.0% of a utility's single-hour peak load during the previous year	Credited at retail rate to customer's next bill; indefinite carryover	Yes	Investor-owned utilities, cooperatives
Louisiana	300 kW for commercial and agricultural systems; 25 kW for residential systems	Photovoltaics, Wind, Biomass, Hydro, Geothermal, Fuel Cells (Renewable Fuels), Microturbines (Renewable Fuels)	None	Credited at retail rate to customer's next bill; indefinite carryover	Yes	All utilities
Louisiana - City of New Orleans	300 kW for commercial systems (Pending City Council approval); 25 kW for residential systems	Photovoltaics, Wind, Biomass, Hydro, Geothermal, Fuel Cells (Renewable Fuels), Microturbines (Renewable Fuels)	None	Credited at retail rate to customer's next bill; indefinite carryover	Yes	Entergy New Orleans (and any other jurisdictional utilities)
Maine	100 kW / Commercial, Industrial, Residential	Solar, Wind, Biomass, Hydro, Geothermal, Fuel Cells, Municipal Solid Waste, CHP, Tidal Energy	None	Credited at retail rate to customer's next bill; granted to utility at end of 12-month billing cycle	No	All utilities
Maryland	2 MW / Commercial, Residential, Schools, Government	Photovoltaics, Wind, Biomass, Anaerobic Digestion	1,500 MW	Credited at retail rate to customer's next bill; granted to utility at end of 12-month billing cycle	Yes	All utilities
Massachusetts	"Class I" facilities: 60 kW "Class II" facilities: 1 MW "Class III" facilities: 2 MW / All Customers	Solar, Wind, Biomass, Hydro, CHP, Fuel Cells, Municipal Solid Waste, Anaerobic Digestion	1% of each utility's peak load	Varies by system type and customer class	Yes	Investor-owned utilities
Michigan[1]	30 kW / Commercial, Industrial, Residential, Nonprofit, Schools, Government, Agricultural, Institutional	Solar, Wind, Biomass, Hydro, Geothermal, Municipal Solid Waste	0.1% of a utility's peak load or 100 kW (whichever is greater)	Credited at retail rate to customer's next bill; granted to utility at end of 12-month billing cycle	Yes	Various utilities (voluntary participation)

[1] In early October Michigan enacted net metering legislation for renewable energy systems up to 20 kW. This table does not yet reflect the new law.

Sources: IREC "Connecting to the Grid" Project (www.irecusa.org/index.php?id=31) and the Database of State Incentives for Renewables and Efficiency (DSIRE) (www.dsireusa.org). Both projects are managed by the N.C. Solar Center at N.C. State University. Additional information, including statutory and regulatory authority citations, is available on the projects' web sites.

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Program	System Size Limit / Customer Classes Eligible	Eligible Technologies	Limit on Total Capacity	Treatment of Net Excess Generation (NEG)	Interconnection Standards for Net Metering	Utilities Involved
Minnesota	40 kW / Commercial, Industrial, Residential	Photovoltaics, Wind, Biomass, Hydro, Municipal Solid Waste, CHP	None	Customer receives a check for NEG at the end of each month, calculated at the "average retail utility energy rate"	Yes	All utilities
Missouri	100 kW / All customers	Solar, Wind, Hydro	5% of a utility's single-hour peak load during the previous year	Credited at avoided-cost rate to customer's next bill; granted to utility at end of 12-month billing cycle	Yes	All utilities
Montana	50 kW / Commercial, Industrial, Residential	Photovoltaics, Wind, Hydro	None	Credited at retail rate to customer's next bill; granted to utility at end of 12-month billing cycle	Yes	Investor-owned utilities
Montana - Montana Electric Cooperatives	10 kW / Commercial, Residential	Photovoltaics, Wind, Geothermal, Fuel Cells, Small Hydro	None	Granted to the utility, no carryover.	Yes	Most of MEC's 26 members
Nebraska – Nebraska Public Power District	25 kW / All retail customers	Photovoltaics, Wind, Biomass, Hydroelectric, Municipal Solid Waste, CHP/Cogeneration, Anaerobic Digestion, Other Distributed Generation Technologies	1% of peak annual demand of retail customers	Carried over monthly at varying rates depending on season and technology; accumulated NEG credits paid to customer at the end of the calendar year.	No, general NPPD DG Standards apply	NPPD
Nevada	1 MW[1] / Commercial, Industrial, Residential	Solar, Wind, Biomass, Hydro, Geothermal Electric	1% of a utility's peak capacity	Credited at retail rate to customer's next bill; indefinite carryover	Yes	Investor-owned utilities
New Hampshire	100 kW / Commercial, Industrial, Residential	Photovoltaics, Wind, Hydroelectric	1% of a utility's annual peak demand	Credited at retail rate to customer's next bill; indefinite carryover	Yes	All utilities

[1] In Nevada, utilities are permitted to charge certain fees on systems greater than 100 kW.

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New Jersey	2 MW / Commercial, Residential	Solar, Wind, Biomass, Hydro, Geothermal, Fuel Cells (Renewable Fuels), Tidal Energy, Wave Energy, Anaerobic Digestion	No firm limit, but BPU has authority to limit capacity to 2.5% of peak demand	Several options exist according to customer preference. Generally, NEG will be credited to customer's next bill at retail rate with next excess purchased by the utility at the avoided cost rate at the end of an annualized period.	Yes	Investor-owned utilities
New Mexico	80 MW / Commercial, Industrial, Residential	Solar, Wind, Biomass, Hydro, Geothermal, Fuel Cells, Municipal Solid Waste, CHP, Microturbines	None	Credited to customer's next bill at utility's avoided-cost rate or purchased by utility at avoided-cost rate monthly	Yes	Investor-owned utilities, cooperatives
New Mexico – Farmington Electric Municipal Utility	10 kW / Residential	Solar, Wind, Hydro, Distributed Generation Technologies	None stated	Carried over to next bill at utility's retail rate; either purchased by utility at end of 12-month period or carried forward indefinitely	Yes	Farmington
New York	Solar: 25 kW for residential, 2 MW or peak load for non-residential; Wind: 25 kW for residential, 500 kW for farm-based, and 2 MW or peak load for non-residential; Biogas: 500 kW (farm-based only)	Photovoltaics, Biomass, Wind, Anaerobic Digestion	1.0% of 2005 demand for each IOU for solar and on-farm biogas systems; 0.3% of 2005 demand for each IOU for wind	Monthly NEG credited to customer's next bill at utility's retail rate with accounts generally reconciled annually at the avoided-cost rate; annual NEG compensation for non-residential customers is not addressed	Yes	All major investor –owned utilities
North Carolina	100 kW for non-residential systems; 20 kW for residential systems	Photovoltaics, Wind, Biomass, Hydro	0.2% of a utility's North Carolina retail peak load for the previous year	Credited to customer's next bill at retail rate; granted to utility annually at beginning of each summer season[5]	Yes	Investor-owned utilities
North Dakota	100 kW / Commercial, Industrial, Residential	Solar, Wind, Biomass, Hydro, Geothermal, Municipal Solid Waste, CHP	None	Purchased by utility at avoided-cost rate	No	Investor-owned utilities

[5] In North Carolina, customers are required to switch to a time-of-use tariff in order to net meter. This arrangement includes the separate carryover of on-peak NEG and off-peak NEG.

Sources: IREC "Connecting to the Grid" Project (www.irecusa.org/index.php?id=31) and the Database of State Incentives for Renewables and Efficiency (DSIRE) (www.dsireusa.org). Both projects are managed by the N.C. Solar Center at N.C. State University. Additional information, including statutory and regulatory authority citations, is available on the projects' web sites.

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Ohio	No limit specified (must be sized to match some or all of customer's load) / Commercial, Industrial, Residential	Solar, Wind, Biomass, Hydro, Fuel Cells, Microturbines	1% of a utility's peak demand	Credited at utility's unbundled generation rate to customer's next bill; customer may request refund of NEG credits accumulated over a 12-month period	Yes	All electric distribution utilities and competitive retail electric service providers
Ohio - Yellow Springs Utilities	25 kW / Commercial, Residential	Photovoltaics, Wind	None	Not addressed	(Utility guidelines)	Yellow Springs Utilities
Oklahoma	100 kW or 25,000 kWh/year (whichever is less) / Commercial, Industrial, Residential	Solar, Wind, Biomass, Hydro, Geothermal, Municipal Solid Waste, CHP	None	Granted to utility monthly or credited to customer's next bill at utility's avoided-cost rate (varies by utility)	No	Investor-owned utilities, cooperatives regulated by OCC
Oregon	2 MW for Non-residential customers of PGE and PacifiCorp; 25 kW for residential systems; 25 kW for non-residential customers of municipal utilities, electric cooperatives, people's utility districts	Solar, Wind, Biomass, Hydro, Fuel Cells, Anaerobic Digestion	None	PGE and PacifiCorp: no limit Municipal utilities, electric cooperatives, people's utility districts: 0.5% of a utility's historic single-hour peak load	Yes	Investor-owned utilities (PGE and PacifiCorp only)
Oregon - Ashland Electric	None / Commercial, Residential	Photovoltaics, Wind	None	Purchased by utility monthly at retail rate (1,000 kWh/month maximum)	(Utility guidelines)	Ashland Electric
Pennsylvania	5 MW for systems connected to microgrids or available for emergencies; 3 MW for nonresidential systems; 50 kW for residential systems	Solar, Wind, Biomass, Hydro, Fuel Cells, Municipal Solid Waste, CHP, Waste Coal, Other DG	None	Credited to customer's next bill at retail rate; PUC to address treatment of NEG remaining at end of 12-month period	Yes	Investor-owned utilities

Sources: IREC "Connecting to the Grid" Project (www.irecusa.org/index.php?id=31) and the Database of State Incentives for Renewables and Efficiency (DSIRE) (www.dsireusa.org). Both projects are managed by the N.C. Solar Center at N.C. State University. Additional information, including statutory and regulatory authority citations, is available on the projects' web sites.

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Interstate Renewable Energy Council (IREC) "Connecting to the Grid" Project
State and Utility Net-Metering Rules, Regulations and Programs
(Updated October 2008)

Program	System Size Limit / Customer Classes Eligible	Eligible Technologies	Limit on Total Capacity	Treatment of Net Excess Generation (NEG)	Interconnection Standards for Net Metering	Utilities Involved
Puerto Rico	25 kW / Residential 1MW / Non-residential	Photovoltaics, Wind, "Other Sources" of Renewable Energy	None	Credited to customer's next bill at utility's retail rate (with certain limitations); at end of 12-month billing cycle, utility purchases 75% of outstanding NEG credits at a minimum rate of $0.10/kWh, and the remaining 25% of credits are donated to public schools	No	Puerto Rico Electric Power Authority (PREPA)
Rhode Island	3.5 MW for systems owned by cities, towns or the Narragansett Bay Commission; 2.25 MW for systems developed but not owned by cities and towns, sited on land owned by the city or town, and providing power solely to the city or town; 1.65 MW for other customers	Solar Thermal Electric, Photovoltaics, Wind, CHP/Cogeneration	2% of utility's peak load (1 MW of this limit is reserved for systems under 25 kW)	Credited at a rate slightly less than utility's retail rate and carried forward for a 12-month period. NEG remaining at the end of a 12-month period is transferred to the Rhode Island Renewable Energy Low-Income Fund.	(Utility guidelines)	National Grid
South Carolina – Progress Energy	20 kW / Residential 100 kW / Non-residential	Solar, Wind, Biomass, Small Hydro	0.2% of Progress Energy's South Carolina retail peak load for the prior calendar year	Credited to customer's next bill at applicable time-of-use rate or less; granted to utility (annually) at beginning of each summer	Yes	Progress Energy South Carolina
South Carolina – Duke Energy	20 kW / Residential 100 kW / Non-residential	Solar, Wind, Biomass, Small Hydro	0.2% of Duke's South Carolina jurisdictional retail peak demand for the previous calendar year	Credited to customer's next bill at applicable time-of-use rate or less; granted to utility (annually) at beginning of each summer	Yes	Duke Energy South Carolina
Texas	50 kW / Commercial, Industrial, Residential	Solar, Wind, Biomass, Hydro, Geothermal, Fuel Cells, Tidal Energy, Wave Energy, Microturbines	None	Purchased by utility for a given billing period at avoided-cost rate	Yes	Integrated IOUs that have not unbundled

Sources: IREC "Connecting to the Grid" Project (www.irecusa.org/index.php?id=31) and the Database of State Incentives for Renewables and Efficiency (DSIRE) (www.dsireusa.org). Both projects are managed by the N.C. Solar Center at N.C. State University. Additional information, including statutory and regulatory authority citations, is available on the projects' web sites.

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Interstate Renewable Energy Council (IREC) "Connecting to the Grid" Project
State and Utility Net-Metering Rules, Regulations and Programs

(Updated October 2008)

Program	System Size Limit / Customer Classes Eligible	Eligible Technologies	Limit on Total Capacity	Treatment of Net Excess Generation (NEG)	Interconnection Standards for Net Metering	Utilities Involved
Texas - Austin Energy	20 kW / Commercial, Residential	Solar, Wind, Biomass, Hydro, Geothermal, Municipal Solid Waste, Anaerobic Digestion, Tidal, Wave	1% of utility's load	Tariff will be re-evaluated after 1% of load is served by distributed generation from renewable resources	(Utility guidelines)	Austin Energy
Utah	25 kW / Residential 2 MW / Non-residential	Solar, Wind, Hydro, Fuel Cells, Hydrogen, Anaerobic Digestion, CHP, Biomass	0.1% of each utility's peak demand in 2007	Credited to customer's next bill at utility's avoided-cost rate; granted to utility at end of 12-month billing cycle	Yes	Investor-owned utilities and certain cooperatives
Utah - City of St. George	10 kW / All customers	Photovoltaics, Wind	None stated	Credited to customer's next bill at utility's avoided-cost rate; indefinite carryover	(Utility guidelines)	City of St. George
Utah - Murray City Power	10 kW / All customers	Photovoltaics, Wind, Hydro	None stated	Credited to customer's next bill at utility's retail rate; granted to utility each April	(Utility guidelines)	Murray City Power
Utah – Washington City	10 kW / All customers	Photovoltaics, Wind	1% of utility's most recently measured annual peak load	Credited monthly at utility's avoided cost rate	(Utility guidelines)	Washington City
Vermont	250 kW (farm systems and "group net metering" systems may be larger, but net metering applies only up to 250 kW)	Solar Thermal Electric, Photovoltaics, Landfill Gas, Wind, Biomass, Hydroelectric, CHP, Anaerobic Digestion, Fuel Cells (Renewable Fuels)	2% of each utility's 1996 peak demand or peak demand during most recent calendar year (whichever is greater)	Credited at retail rate to customer's next bill; granted to utility at end of 12-month billing cycle	Yes	All utilities
Virginia	500 kW for non-residential; 10 kW for residential	Solar, Wind, Biomass, Hydro, Geothermal, Tidal, Wave, Municipal Solid Waste	1.0% of adjusted Virginia peak-load forecast for the previous year	Credited to following month at utility's retail rate; either granted to utility annually or credited to following month	Yes	Investor-owned utilities, cooperatives
Virgin Islands (U.S.)	10 kW / Commercial, Residential	Photovoltaics, Wind, or other Renewable Energy	5 MW on St. Croix; 10 MW on St. Thomas, St. John, Water Island and other territorial islands	Credited at retail rate to customer's next bill; granted to utility at end of 12-month billing cycle	Yes	U.S. Virgin Islands Water and Power Authority (WAPA)

Sources: IREC "Connecting to the Grid" Project (www.irecusa.org/index.php?id=31) and the Database of State Incentives for Renewables and Efficiency (DSIRE) (www.dsireusa.org). Both projects are managed by the N.C. Solar Center at N.C. State University. Additional information, including statutory and regulatory authority citations, is available on the projects' web sites.

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IREC

Interstate Renewable Energy Council (IREC) "Connecting to the Grid" Project
State and Utility Net-Metering Rules, Regulations and Programs

(Updated October 2008)

Program	System Size Limit / Customer Classes Eligible	Eligible Technologies	Limit on Total Capacity	Treatment of Net Excess Generation (NEG)	Interconnection Standards for Net Metering	Utilities Involved
Washington	100 kW / Commercial, Industrial, Residential	Solar, Wind, Hydro, Biogas, Fuel Cells, CHP	0.25% of a utility's 1996 peak load	Credited at retail rate to customer's next bill; granted to utility at end of 12-month billing cycle	Yes	All utilities
Washington - Grays Harbor PUD	100 kW / Commercial, Industrial, Residential	Solar, Wind, Hydro, Biogas, Fuel Cells, CHP	0.25% of utility's 1996 peak load	Credited at retail rate to customer's next bill; purchased by utility at 50% retail rate at end of 12-month billing cycle	Yes	Grays Harbor PUD
West Virginia	25 kW / Commercial, Residential	Photovoltaics, Landfill Gas, Wind, Biomass, Fuel Cells, Hydro	0.1% of a utility's total load participation	Credited to customer's next bill at utility's retail rate	Yes (utility tariffs only)	All utilities
Wisconsin	20 kW** / Commercial, Industrial, Residential	Solar, Wind, Biomass, Hydro, Geothermal, Municipal Solid Waste, CHP, Other DG	None	Varies by utility. Generally credited at retail rate for renewables; generally credited at avoided cost for non-renewables.	Yes	Investor-owned utilities, municipal utilities
Wyoming	25 kW / Commercial, Industrial, Residential	Solar, Wind, Biomass, Hydro	None	Credited at retail rate to customer's next bill; purchased by utility at avoided-cost rate at end of 12-month billing cycle	Yes	All utilities

** In January 2006, the Wisconsin Public Service Commission approved a proposal by We Energies to offer net metering to customers with wind turbines greater than 20 kW but no greater than 100 kW in capacity. This offer is available to the first 25 eligible applicants.

Sources: IREC "Connecting to the Grid" Project (www.irecusa.org/index.php?id=31) and the Database of State Incentives for Renewables and Efficiency (DSIRE) (www.dsireusa.org). Both projects are managed by the N.C. Solar Center at N.C. State University. Additional information, including statutory and regulatory authority citations, is available on the projects' web sites.

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HB

44

<target><bill>HB 44</bill><subject>HB
44</subject><comm>HENE26</comm></target>

26-LS0231\R
Kane
2/16/09

CS FOR HOUSE BILL NO. 44( )

IN THE LEGISLATURE OF THE STATE OF ALASKA

TWENTY-SIXTH LEGISLATURE - FIRST SESSION

BY

Offered:
Referred:

Sponsor(s): REPRESENTATIVES CHENAULT AND WILSON, Harris

A BILL

FOR AN ACT ENTITLED

"An Act relating to investments applicable to energy; authorizing the Alaska Permanent Fund Corporation to make in-state energy project investments; and authorizing certain public corporations to issue bonds for energy projects."

BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF ALASKA:

*** Section 1.** AS 18.56.089(c) is amended to read:

(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;

(E) sec. 3 of this Act; 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.

*** Sec. 2.** AS 37.13.120 is amended by adding a new subsection to read:

(f) The board may invest an amount not to exceed $1,000,000,000 of the assets of the fund in in-state energy project investments, to the extent that in-state energy project investments are available and the projects are eligible for investment of fund assets under (a) of this section.

*** Sec. 3.** The uncodified law of the State of Alaska is amended by adding a new section to read:

ALASKA HOUSING FINANCE CORPORATION: LEGISLATIVE AUTHORIZATION AND APPROVAL OF ENERGY EFFICIENCY AND CONSERVATION PROGRAM BONDS. (a) The Alaska Housing Finance Corporation is authorized to issue bonds under the power granted to it in AS 18.56.110 to establish energy efficiency and conservation programs for all homeowners. The maximum principal amount of bonds that the Alaska Housing Finance Corporation may issue under this section is $100,000,000. The Alaska Housing Finance Corporation 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 Housing Finance Corporation determines best furthers the purpose of financing the programs described in this section. The Alaska Housing Finance Corporation 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) This section constitutes the approval required by AS 18.56.110(g) for the issuance

of the bonds described in this section.

*** Sec. 4.** 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) 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 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) This section constitutes the approval required by AS 41.41.320 for the issuance of the bonds described in this section.

Alaska State Legislature

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REPRESENTATIVE MIKE CHENAULT
SPEAKER OF THE HOUSE

SPONSOR STATEMENT
COMMITTEE SUBSTITUTE for HOUSE BILL 44 ( ), R version
"An Act relating to investments applicable to energy; authorizing the Alaska Permanent Fund Corporation to make in-state energy project investments; 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. The bill also gives Legislative approval for the Permanent Fund Corporation to invest up to $1 billion for in-state energy projects.

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 a in-state gasline.

The authorization for the Permanent Fund to invest in any of the in-state energy projects is suggestive at the most. The corporation already has the authority under AS 37.13.120 to invest in income producing projects as long as the prudent-investor rule is applied.

Representative_Mike_Chenault@legis.state.ak.us

Alaska State Legislature

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REPRESENTATIVE MIKE CHENAULT
SPEAKER OF THE HOUSE

SECTIONAL ANALYSIS
HOUSE BILL 44 ( ), LS0231\R

"An Act relating to investments applicable in energy; authorizing the Alaska Permanent Fund Corporation to make in-state energy project investments; 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 3 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: Adds a new subsection to AS 37.13.120, Investment responsibilities. States that the Permanent Fund Corporation board may invest up to $1 billion in in-state energy projects.

Section 3: 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 4: 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 and ensure energy sufficiency for Alaskans.

Representative_Mike_Chenault@legis.state.ak.us

FISCAL NOTE

STATE OF ALASKA
2009 LEGISLATIVE SESSION

Fiscal Note Number: 1
Bill Version: **HB 44**
() Publish Date:

Identifier (file name): HB44-REV-APFC-02-13-09
Dept. Affected: Revenue
Title ENERGY BONDS/INVESTMENTS
RDU AK Permanent Fund Corporation
Component AK Permanent Fund Corporation
Sponsor Representative Chenault
Requester House Energy Committee
Component Number 109

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							
1105 APFC 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 authorizes (but does not require) the APFC to invest in in-state energy projects. It would not affect the operations of the APFC.

Prepared by: Michael J. Burns
Phone 907-796-1520
Division Alaska Permanent Fund Corporation
Date/Time 2/13/09 12:00 AM
Approved by:
Date

(Revised 9/10/2008 OMB)

FISCAL NOTE

STATE OF ALASKA
2009 LEGISLATIVE SESSION

BILL NO. _____

ANALYSIS CONTINUATION

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

b

HOUSE COMMITTEE REPC r

2-18-09

(7)

Date Referred to Committee: January 20, 2009 **FURTHER REFERRALS: Finance**

Date of Committee Action: 2/17/09

The HOUSE SPECIAL COMMITTEE ON ENERGY considered: **HOUSE BILL NO. 44**

"An Act relating to investments applicable to energy; authorizing the Alaska Permanent Fund Corporation to make in-state energy project investments; and authorizing certain public corporations to issue bonds for energy projects."

HB 44 ENERGY BONDS/INVESTMENTS

Recommends it be replaced with [ ] HCS *or* [X] CS *for* HB 44 (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
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
REV	1			X

PREVIOUS **FISCAL NOTES**				
List by Dept(s):	FN#	Fiscal	Indet.	Zero

Signing with recommendations	Printed Last Name	DP (2)	DNP (1)	NR (4)	AM
Peter Petersen	Dyh/Stmn Petersen			X	
				X	
Bryce Ramras	RAMRAS		X		
Chris Tuck	Tuck	X			
Kyle B Johansen	Johansen	X			
CO Chair: Charisse Millett	Millett			X	
CO Chair: Bryce Edgmon	Edgmon			X	

2339

HB

66

<target><bill>HB 66</bill><subject>HB
66</subject><comm>HENE26</comm></target>

REPRESENTATIVE PAUL SEATON

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ALASKA STATE LEGISLATURE
House District 35

Memorandum

From: Representative Paul Seaton
To: House Energy Co-Chair, Representative Charisse Millett
Date: January 30, 2009
RE: HB 66 Net Energy Metering bill hearing request

I respectfully request a hearing for HB 66 Net Energy Metering in the House Energy Committee. HB 66 creates a Net Metering policy for Alaska. Net Metering is a policy that allows a home or business owner to decrease their electric bills through on-site renewable energy generation.

http://www.RepPaulSeaton.com
Email: Rep_Paul_Seaton@legis.state.ak.us

Comments of Peter McKay on HB-66

Heard in the House Special Committee on Energy, Labor, and Commerce March 31, 2009.

I would like to thank Representative Seaton for bringing this bill forward (again). It reflects a lot of effort on his part, and that of his staff especially Louis Flora. The supporting documentation is extensive – and in my opinion - irrefutable. There is no valid reason not to pass this bill. I really appreciate the effort that Representative Seaton's office has taken to contact so many states with net metering and interconnection standards in place to solicit responses that counter the typical arguments against net metering/interconnection that Alaskan utilities have used. Great work!

As much as I support this bill, I urge the Committee to consider an amendment to strike section "G", found on Page 3, Line 25 thru Page 4, Line 1. This "opt-out" provision for smaller utilities is unnecessary. The stability and security of smaller grids is ensured with 1) the small system size limits, and 2) the small (1%) penetration limit for interconnected customer/generator systems. The "opt-out" provisions of section "G" will not pass a legal challenge when a customer/generator seeking to interconnect to a smaller grid is denied and protests that he is being discriminated against because of where he lives, the size of the utility company, or whether his retail electric supplier is organized as a municipal, co-operative etc. Small utilities may only allow a few interconnections to meet the 1% limit – but this should be done on a first-come/first-serve basis throughout the state. This is an issue of fairness and equity.

I strongly support HB-66. I urge the Committee to approve the measure and move it along. This bill is much more comprehensive than HB-31 heard by this committee last week. I use the same recommendation for this bill as I did in testimony last week. **Work cooperatively with the Regulatory Commission of Alaska on these issues.** The RCA Commissioners and Staff are very talented and well informed on this issue. They have worked very hard to progress these standards and have been inclusive in their approach to these issues. The public has been very active in these issues. Please do not let the issue fall between the cracks – saying that it is the RCA's job to move this alone. This year... the Regulatory and Legislative (and perhaps the Executive branch) need to work this thru to completion. Alaska needs Net Metering and Interconnection standards.

Thank you for considering my opinion.

Respectfully

Peter McKay – 55441 Chinook Rd. Kenai, AK 99611

AMENDMENT

OFFERED IN THE HOUSE
TO: HB 66

Page 3, lines 23 and 24

Delete: "an alternative energy system, as that term is defined in AS 46.11.900."

Insert "alternative energy as identified in section 1 of this act."

AMENDMENT

OFFERED IN THE HOUSE
TO: HB 66

Page 2, line 25

Delete: "annual peak energy usage"

Insert: "peak demand"

AMENDMENT

OFFERED IN THE HOUSE
TO: HB 66

Page 2, after line 21:

Insert:

(d) A customer-generator owns the tax credits associated with the equipment and renewable energy credits associated with the electricity it generates.

"Renewable energy credit" is a tradable instrument that includes all renewable and environmental attributes associated with the production of electricity from a renewable energy generation system.

REPRESENTATIVE PAUL SEATON

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ALASKA STATE LEGISLATURE
House District 35

Sponsor Statement HB 66

HB 66 promotes alternative energy use by establishing a Net Metering policy for Alaskan utilities. Net Metering is the measurement of the difference between electricity purchased from a utility and electricity produced from a customer's private generating equipment. Home and business owners who install renewable energy equipment such as solar panels or windmills get to use their own electricity and will receive a credit for their excess energy generation. The credit is in kilowatt hours and reduces the customers' electrical bill in following months.

This "carry forward" of credits from Alaska renewable energy generation allows the customer to harvest excess energy during peak renewable production times, such as the summer for solar, and benefit from this production during low energy months. A Net Metering policy encourages private investment by allowing customer/generators to calculate the pay-down of their equipment cost through the calculation of their potential annual solar, wind or hydro production.

Alaska utilities also benefit under this legislation. By trading the homeowner a credit for the energy that the homeowner puts onto the grid, the utility does not have to generate more electricity to supply other customers. This can decrease the need for a utility to find new large scale power sources. Carbon dioxide emission reduction is also achieved and net metering can help the utility meet renewable energy standards. It is generally recognized that utilities gain about 10% in sales from distributed generation as there is little line loss to the point of sale.

http://www.RepPaulSeaton.com
Email: Rep_Paul_Seaton@legis.state.ak.us

HB 66 provisions and rationale

- A Net Metering customer may have a renewable energy system size to up to 25kW, but individual utilities may allow systems with a higher kilowatt rating. *Testimony from utilities is that the cost of systems under 25kW and complexity of the interconnection of these systems is much less than larger systems, making it a good break-point.*

- Net Metering participation can reach up to 1% of retail system peak demand before a utility disallows new participants. However, a utility may voluntarily adopt a higher percentage. *A 1% threshold will allow for the growth of renewable generation along the Railbelt, while simultaneously addressing concerns of small utilities that a large renewable producer would come in and negatively impact the grid with excessive power.*

- A utility may limit Net Metering installations due to special circumstances related to engineering constraints on the portions of the distribution system affected by the proposed installation. *This also addresses concerns raised by small utilities.*

- If a customer generates more electricity than they consume, they receive a kilowatt hour credit. Credits roll over from month to month for up to one year. At the end of a year any excess credits are donated to the utility customer base. *Donation of excess credits allows the utility consumer base to directly benefit from net metering customer and eliminates the potential for paperwork from small potentially taxable transactions.*

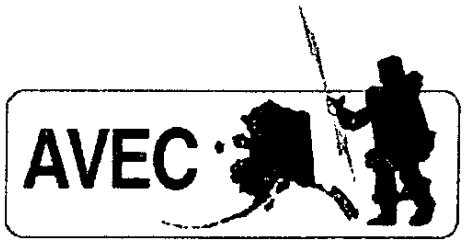
- Customers of a small utility may vote to exempt the utility from the provisions of the bill.

- A default uniform statewide utility interconnection standard is established. *Interconnection standards should be adopted simultaneous with net metering rule. Standardization of clear interconnect standards is an important component of Net Metering.*

- HB 66 prohibits additional fees for Net Metering. *The financial benefits of Net Metering can easily be outweighed by fees and charges, decreasing a customer's ability to amortize the cost of renewable generation equipment.*

- Nothing in HB 66 prohibits a utility from concurrently offering a SNAP program that a customer/generator can choose instead of or in combination with Net Metering. *SNAP is not Net Metering and it would not be precluded under HB 66. If a utility chooses to adopt Sustainable Natural Alternative Program (as offered in Alaska by GVEA and HEA) it is free to offer this in addition to Net Metering.*

- Nothing in HB 66 prohibits a utility and a customer from negotiating an individual power purchase agreement for excess customer generation. *This allows existing and future large scale renewable generation projects to go forward under separate individual agreements with the utility.*



March 31, 2009

Re: Alaska Village Electric Cooperative Testimony re HB 66

Dear Co-Chairs and Members of the House Energy Committee:

HB 66, which would mandate net metering in Alaska, is well intended but is not appropriate in Alaska today.

Why not? First and foremost, because we are a "public power" state. This means that almost all Alaskans who receive power from their serving utilities actually own those utilities. So when a member receives electricity from the utility that he is not paying for (via a "net meter") then all the other members are going to be paying a little more for their electricity, or will receive a little less patronage capital. In other words, the unfunded mandate will be paid for by the remaining customers of the utility.

The next major problem with HB 66 is the figure of 25 kW that was identified as the limit on a member's generation sources that would be allowed to receive net metering. This number may appear to be appropriate to certain regional Alaskan standards but, in reality, this number would blow the socks off more than a hundred generating utilities in our state.

In AVEC's 53 villages, for example, the largest annual sales we enjoy is in St. Mary's, where our members use about 2.8 million kWh - an average load of 320 kW. In the Lower-48, the staunchest renewable energy supporters do not recommend allowing more than 0.5% of consumer produced energy into the local grid. That would translate to about 1.6 kW in St. Mary's. In our average village, where we sold about 1.3 million kWh last year, the average load is less than 125 kW. I'm sure you can envision what an uncontrolled, intermittent power source of 25 kW can do to such a system.

Net metering is a concept that is heavily promoted by individuals who are better equipped financially than many others to consider installation of alternative energy sources for their personal use, as well as by the vendors of products that those consumers might use. In Alaska, a net metering mandate will result in inappropriate burdens being placed upon consumers who are not part of the elite self-generation group and whose interests are not being represented by those who are promoting net metering. It will also place further financial and operational constraints on the member owned utilities that are struggling to keep the lights on under circumstances more onerous than any that have ever been experienced before in this state's history.

4831 EAGLE STREET * ANCHORAGE, ALASKA * PHONE (907) 561-1818 * FAX (907) 562-4086

Rather than considering a bill such as HB 66 that will benefit perhaps 50 – 100 Alaskans and a few vendors, please consider instead providing additional funds to the State Renewable Energy Fund to develop alternative energy projects that will serve all of a utility's customers into the foreseeable future. Developing renewable energy sources comes at prohibitive costs.

Alaska's legislature should not be promoting special interest legislation such as net metering, but should rather be partnering with Alaska's publicly owned utilities to bring the benefits of renewable energy to all Alaskans. If net metering is to be implemented in some fashion in Alaska, it is best left to the Regulatory Commission of Alaska to determine when, where and how such a program might be initiated so as to bring maximum benefit and least harm to Alaskans. Rural Alaskans are particularly vulnerable to harm from an imprudently applied net metering requirement and the RCA is best equipped to address this.

Yours very sincerely,

Meera Kohler
President and CEO

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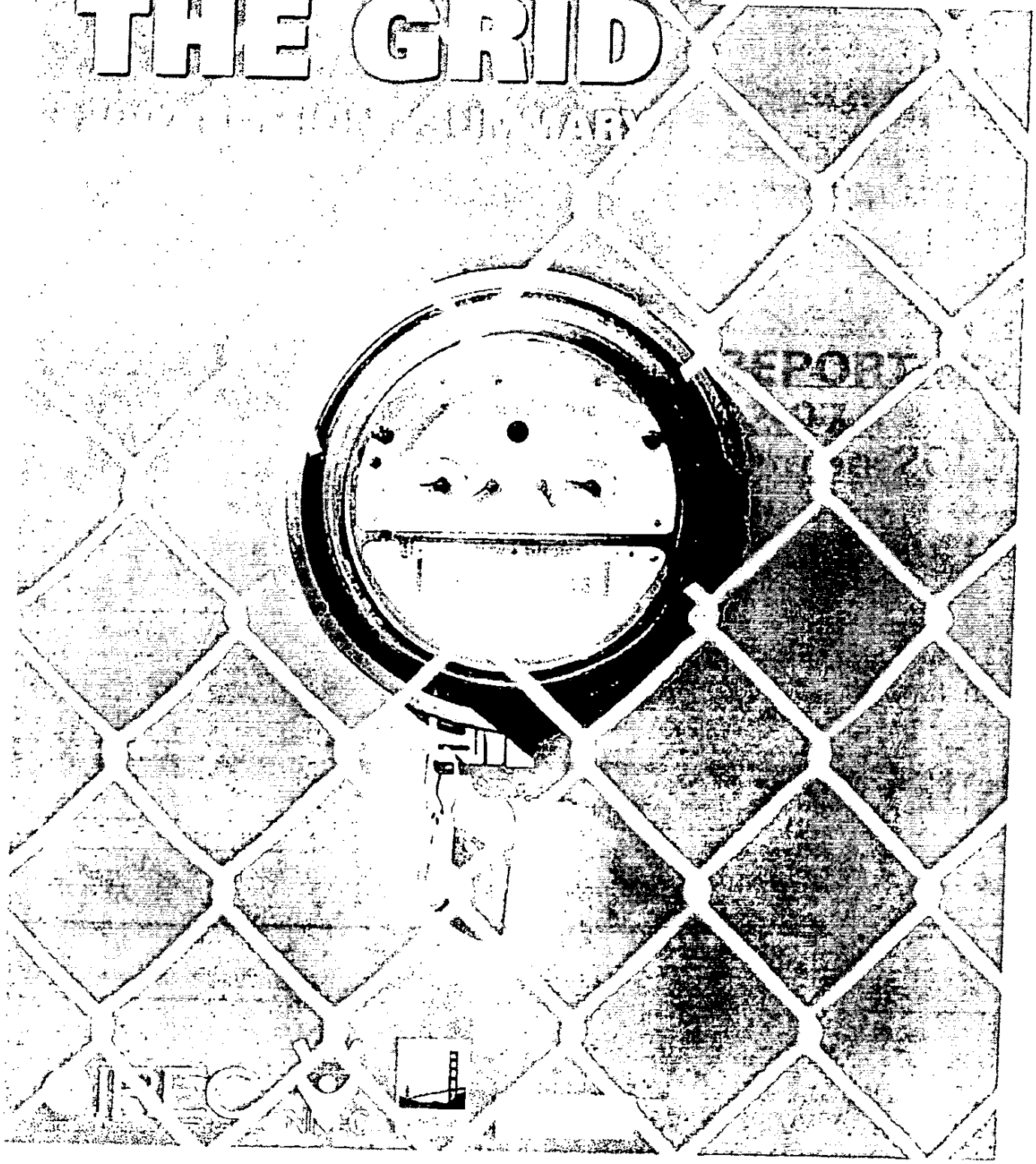
FREEING THE GRID

REPORT NO. 02-07

SEPTEMBER 2007



2007 Edition

Introduction

What Is Interconnection?

What Is Net Metering?

Our Scoring Methods

Grading

Notes for the Future

Endnotes

Grades - Net Metering

Grades - Interconnection

This document is in advance of a larger update to **Freeing the Grid**. The full updated report will be released at the National Association of Regulatory Utility Commissioners' (NARUC) annual convention, November 11 - 14, 2007.

Available for Online Download

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Freeing The Grid
How Effective State Net Metering Laws Can Revolutionize U.S. Energy policy

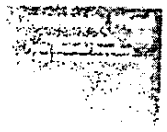
NO 01-06 Nov. 2006
Forward By Michael Dworkin
Professor of Law and Director of the Institute for Energy & the Environment
Vermont Law School

Renewing America:
The Case for Federal Leadership on a National RPS

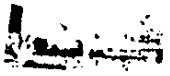
NO 01-07 Jun. 2007
Christopher Cooper,
Senior Policy Strategist
Dr. Benjamin Sovacool,
Senior Research Fellow
Forward By Marilyn Brown
National Commission on Energy Policy

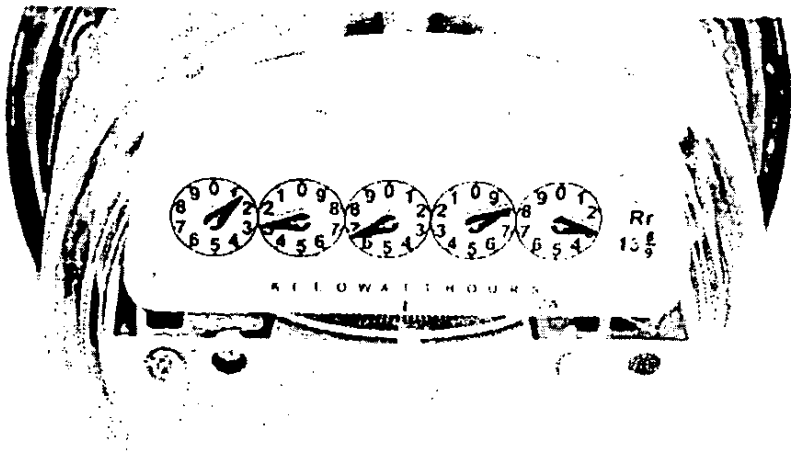
The Rush to Ethanol:
Not All Biofuels Are Created Equal

July 2007
A report by Food & Water Watch, the Network for New Energy Choices, and the Institute for Energy and the Environment at Vermont Law School provides comprehensive analysis and recommendations for U.S. biofuels and transportation policies.



Community Wind
Supportive Policies, Public Financial Incentives, and Best Management Practices
September 2006





Since the 2006 edition of **Freeing the Grid**, there have been great strides in bringing more clean energy to the grid. Many states have taken the lead by reforming their clean energy policies and goals. But we are still far from conquering the "Energy Trilemma" – an energy world constrained by the three forces of financial goals, environmental concerns and security risks. In this 2007 edition, the Network for New Energy Choices teamed up with the Solar Alliance, the Vote Solar Initiative, and the Interstate Renewable Energy Council to bring the most up to date analysis of statewide interconnection and net metering rules. In our study, we graded each state based on its progress towards the goals of smoother interconnection and favorable net metering standards.

What Is Interconnection?

An interconnection standard is the set of rules under which a customer-generator interfaces with the electricity grid. Generally, the distribution utility must study and approve the generator within a framework established by the state utilities commission. Therein lays the conflict. Utilities that may perceive customer-generators as a threat to their financial bottom line have the authority to decide how many systems may connect to the grid, and under what circumstances. This situation can result in a significant barrier, as utilities either apply to a two-kilowatt (kW) residential solar generator a set of procedures better suited to a two-gigawatt nuclear power plant; or impose steep fees, redundant safety requirements, or other preventative measures.

While the underlying engineering standards and requirements are well-known (generally, the Institute for Electrical and Electronics Engineers' (IEEE) 1547 standard covers all the bases), an engineering standard is not a complete procedure. A full procedure must address fees, timelines, insurance requirements and indemnification, forms and certain other issues, to provide a comprehensive procedure that supports investment in small generation – either by individuals or by project development investors.

Wherever the standard is unclear, or where redundant or unnecessary tests or steps are piled on the existing national standards, the results can be costly. The impact of these costs on small generators can be significant.

Sunshine Solar Inc.

Solar Panels (2,500 Watts)	$	11,700
Racks, Wiring, and Hardware	$	1,250
Inverter	$	1,950
Installation Labor	$	1,650
Redundant Disconnect + Labor	$	400
Interconnection Forms & Fees + Labor	$	1,000
Total Cost	$	17,950

Consider the example above, assume Ray McSolar purchases a 2.5-kW solar s ystem – more expensive per watt than a larger solar roof, but enough for his needs. His state's interconnection rules force him to endure lots of testing, pay big fees to the electric company, and install an external disconnect switch.

With $48.50 earned for electricity produced each month, he'll be running that system for more than two years just to pay off the red tape!

Imagine the simplest possible metering arrangement: a single, 1950s-standard electromechanical meter. Now imagine that a residential customer, Ray McSolar, added a rooftop solar-electric system to his home, on his side of this meter.

Ray wakes up pretty early for his job; on most days, he's up and out of the house before the sun rises. In these dark morning hours Ray makes his coffee and breakfast, while watching some morning news on the TV. In this case, the meter spins forward as Ray is consuming electricity from the grid.

As the sun rises, Ray heads off to work. Making sure not to waste a drop of electricity, he shuts off all his appliances. The meter spins in reverse as the solar panels churn out electricity - electricity Ray sends back to the overstressed grid.

When Ray returns at night to cook dinner and relax in front of the TV, the meter spins forward again while he consumes electricity.

The result? Ray's bill will show only his net consumption of electricity from the grid. Should it be a hot sunny month (the sort of months when the grid needs the most help), or a month in which Ray's electricity use is low, he can carry any excess electricity his system generated to the next bill, just as he might roll over excess cell phone minutes.

The result of net metering is to allow for the production of electricity that a strained grid did not have to produce. This is, in fact, exactly the same result Ray would get if he had installed a more efficient refrigerator. The only way his utility would know the difference between the use of more efficient technologies (like that refrigerator) and the use of on-site generation (e.g. solar panels) is if it installed a costly additional meter at Ray's home and underwent the expense of reading both meters and billing Ray for the results.

In effect, net metering is the simplest possible billing arrangement for customer-sited distributed generation. Without exception, significant deployment of clean, customer-sited distributed generation occurs only in states with modern interconnection and net metering policies.

Interconnection and Net Metering: *What's the Difference?*

Interconnection – the technical rules for customers to "plug in" to the grid.

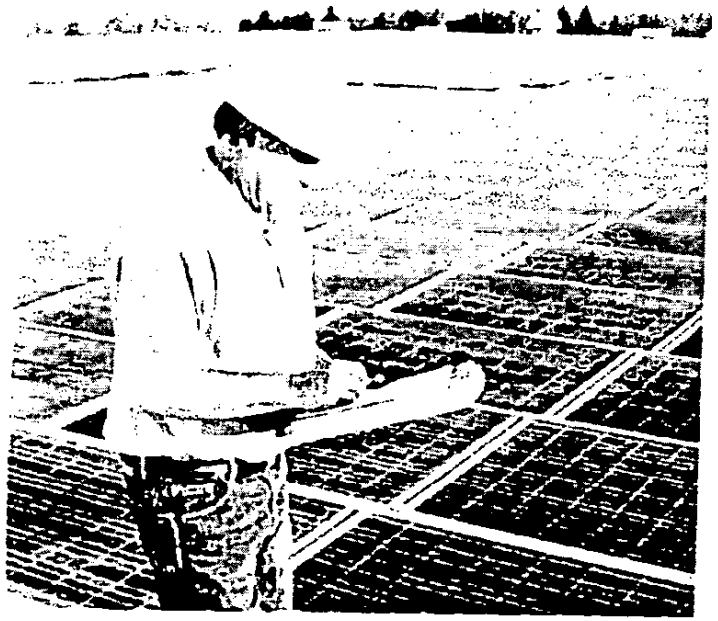
Net Metering – the billing arrangement by which customers realize savings from their systems, where one kilowatt-hour (kWh) generated by the customer has the exact same value as one kWh consumed by the customer.

In our evaluation of statewide interconnection and net metering programs, we developed an index that rewards program elements that promote participation, expand renewable energy generation, or otherwise advance the goals sought by net metering. Conversely, the index assigns demerits to program components that discourage participation or limit renewable energy generation.

We measured program components and assigned numerical values to each. Negative values represent factors that undermine the effectiveness of the net metering program. Positive values represent additional incentives that contribute to program effectiveness.

Applying these numerical values to program components allows us to plot (separately) the effectiveness of each interconnection and net metering program, and to assign a letter grade to each.

An analysis of the provisions of many state programs demonstrates a distinctive distribution: perhaps a dozen "best practices" states where the framework is more or less standardized and small-scale generation is already flourishing or about to begin surging; a large undifferentiated middle where development is limited; and a few states where customer generation is actively discouraged or impossible outside of isolated demonstration projects.



Policy Point: Net Metering Individual System Capacity

In certain cases, statutory limitations on the size of eligible technologies prevent customer-generators from correctly sizing a system to meet their own demand.

Uniform size limits reduce regulatory confusion while promoting the broadest population of renewable energy generating systems. Increasing the eligible facility size for non-residential systems also could encourage participation in net metering programs by large investors. It is no longer uncommon to see renewable energy systems in the 100 kW to 2 megawatts (MW) range. Several project developers in Oregon, for example, argued that the transactional cost of systems less than 100 kW are too great to interest large investment partners.[1]

There is no policy justification for limiting system size to an arbitrary level. Customer load and demand should determine the system design parameters, and it is simple to prevent "oversizing" without recourse to arbitrary distinctions that may exclude the most cost-effective projects.

While the most progressive state standards embrace this concept, many are converging on a consensus level of 2 MW.

Points	Largest
+5	Greater than 1 MW
+4	Between 750 kW and 1 MW
+3	Between 500 kW and 750 kW
+2	Between 100 kW and 500 kW
+1	Between 50 kW and 100 kW
0	Not greater than 50 kW
-1	Residential systems capped below 20 kW
Notes	Some permit up to 80 MW on very large loads (such as a military base or corporate headquarters campus)

Total Program Capacity Limits

In a nod to utility concerns that on-site generation represents lost revenues (an intuitive but short-sighted view of the arrangement), many states have limited the total capacity eligible for net metering either statewide or for any given utility.

It makes little sense to limit the total amount of clean energy that customers may generate and contribute to the electricity grid. Utilities do not have an inherent right to charge for electricity that customers could otherwise generate more efficiently and more cleanly on their own. Capacity limits artificially restrict the expansion of on-site renewable generation and curtail the market for new renewable energy distributed generation (DG) systems. They may also prove incompatible with aggressive targets for renewable energy deployment set by several states.

Capacity limits, based on a percentage of peak demand, create uncertainty for new customers considering net metering. Since customers have no way of knowing when capacity limits will be met, they cannot effectively plan for future DG installations.[7] This regulatory uncertainty inhibits renewable energy investment.

Points	Total Program Limit as Percentage of Peak Demand
+2.5	> 5% or no limit
+2	Between 2% and 5%
+1.5	Between 1% and 2%
+1	Between 0.5% and 1%
+0.5	Between 0.2% and 0.5%
0	Between 0.1% and 0.2%
-0.5	Less than 0.1%
Bonus +1	For excluding generators that don't export electricity, or measuring based on energy produced instead of total capacity.

Restrictions on "Rollover"

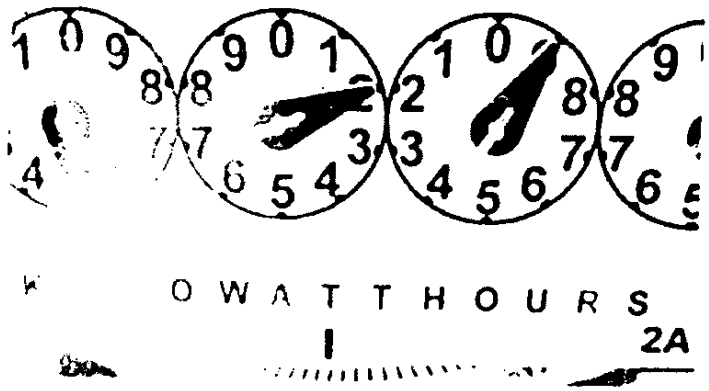
When customers generate more electricity during a monthly billing period than they consume, some states allow customers to "roll over" the excess generation. The utility carries forward any excess generation until it is used up. Some of the least effective programs allow zero rollover, granting the utility excess electricity generated by customers each month. In these states, customers undersize their systems so that the system is less than the customer's monthly minimum load. Other states limit the time over which rollover can be used.

Restricting rollover to a single month is more a function of utility billing cycles than public policy. In fact, it is very easy for the administrative costs associated with paying for small amounts of excess generation (withdrawing bills, hand-billing, etc.) to overwhelm any saved revenue for the utility. To be successful, a net metering program must facilitate rollover so that customer-generators can receive credit for excess energy generated during the seasons when renewable output is highest and apply it toward their consumption when output is lowest, striving towards a zero bill.

In the worst possible case, a so-called net metering tariff could actually require customers to pay utility transmission and distribution fees even on generation they never rolled over – paying the utility a fee in exchange for not using their services.

Remember Ray McSolar and his 1950s meter? That's the best implementation of rollover – to read this meter annually is to provide the lowest administrative cost and best equity for the customer.

Points	Rollover Provisions
+1.5	Indefinite rollover at retail rates.
+1	Monthly rollover for one year, annual payment at retail rates. (It is key to limit payout in this case so that customers do not oversize their generator beyond their own needs. Indefinite rollover is easier.)
+0.5	Monthly rollover for one year; annual payment at wholesale or avoided cost.
0	Monthly rollover for one year; excess energy donated to utility annually.
-2	Monthly payment at wholesale or avoided cost.
-4	No rollover permitted; excess energy donated to utility monthly.



Metering Issues

Requiring customer-generators to pay for additional meters adds no value to the customer-generator or the utility. Once again, if a customer could save 20% of their usage with a better air conditioner, would it be reasonable to meter the savings and compensate them differently?

Some states compel customers that choose to net meter to switch to a time-of-use (TOU) rate, where they pay differing amounts depending on the time of day. This can either reflect the reality of the grid (and reward generators who produce during constrained peaks), or disadvantage customers.

Points	Metering Provisions
+2	Single meter
+1	Dual meters or dual registers – utility pays for the additional meter
0	Dual meters or dual registers – customer pays for the additional meter
Points	**Metering Provisions Under Time of Use**
+2	TOU meters with time bin carryover
+1	TOU meters with segregated time periods
-1	Fixed TOU rate disadvantages small generators

Renewable Energy Credit Ownership

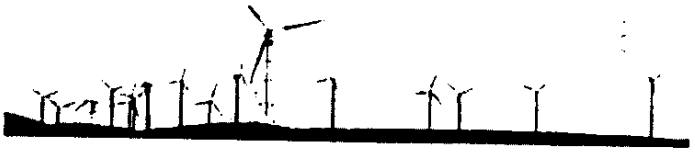
Customer-generators that install renewable resources have done so with their own investment of money and effort. Often these generators qualify for renewable energy credits (RECs) that can be used for marketing purposes or to meet legal renewable energy targets. Utilities that have simply permitted these customers to reduce their net usage from the grid should not be permitted to seize these credits without paying for them.

Points	REC Ownership
+1	Owned by customer
-5	Transferred to utility

Eligible Technologies

Subject to appropriate interconnection standards, there is no reason to exclude any type of renewable customer-generators from net metering; some states even permit non-renewable generators to address particular local concerns.

Points	Eligible Technologies
+1	All renewable and zero-emission technologies
+0.5	Solar and wind included, one or more other renewables excluded
+0.5	All renewables, plus one or more non-renewable technologies
0	Solar only
-0.5	Solar excluded from standard



Eligible Customers

Some state net metering rules restrict the customer classes that are eligible to participate. Some state rules exclude commercial customers who may have the most substantial effect on reducing demand on the strained grid, and who often enjoy the lowest costs for installed systems.

The Texas State Energy Conservation Office has noted, "It would make more sense to limit the eligibility of a technology for a period of time, say five or ten years, in order to give the technology a period in which it has the opportunity to become commercially viable, than to limit the size of the initial market, when the goal is creating a critical mass of market demand."

Allowing commercial and industrial customers to be eligible for net metering is essential to jump-starting new renewable energy markets.

Points	Largest Permissible Customer-Generator
+2	No eligible class restrictions
+1	Commercial at overall net metering limits, and residential larger than 10 kW permitted
0	Residential only, larger than 10 kW permitted
0	Commercial only
-1	All other restrictions

Bonuses for additional net metering provisions

Points	Reason for Bonus
+1	One customer can aggregate net meter within contiguous property.
+1	Utility provides a meter change if needed at utility cost.
+3	"Safe harbor language" protects customers from unspecified additional equipment, fees, requirements to change tariffs, etc.

Standby Charges or Other Fees

Many utilities claim that, in the event that net metered systems fail, the utility is required to meet the resulting customer demand. As a result, many states allow utilities to impose a "standby charge" on net metered customers.

Standby charges are illogical. Some researchers have noted that they are "analogous to assigning standby fees to residential customers who purchase high efficiency air conditioning units,"[4] because, in theory, utilities would be required to meet increased demand should the air conditioners fail and need to be replaced by more conventional units.

In some cases, standby charges are equal to or even exceed rates for full electrical service, in effect creating an economic disincentive for customers to install renewable energy systems.

Standby charges are particularly burdensome to small generators. Utilities only need to provide a negligible amount of back-up power for these customers. Nevertheless, standby fees may be so costly that they diminish most, if not all, of the economic incentive net metering was intended to offer smaller generators.

There are a variety of other idiosyncratic fees and charges that can render net metering unworkable.

Points	Fees
-1	Minor additional fees for net metering
-5	Significant additional charges or fees[5]
-5	Per kWh fee on all production (in addition to other fees)[6]

Utility Power Interconnection

Eligible Technologies

While public policy may suggest an emphasis on renewable energy, the system and engineering impacts of a system should be evaluated solely on their own merits. To do otherwise introduces complexity and may restrict innovation. If a generator complies fully with the relevant technical standards, there is no operational or safety justification to deny it interconnection.

Points	Customers that Qualify
0	All customer generators qualify.
-1	Only renewable generators permitted.

Individual System Capacity

Technical standards can and should become significantly more stringent as system sizes increase. However, they should also permit systems that are sized to meet even large onsite loads. Office parks, prisons, or college campuses can potentially accommodate installations of two megawatts or more just to serve a portion of native load, and increasingly, forward-thinking states facilitate this option.

Points	System Capacity
0	Generators from 2 MW to 20 MW permitted
-1	1 MW to 2 MW
-2	500 kW to 1 MW
-3	100 kW to 500 kW
-4	Less than 100 kW
Notes	Larger generators generally fall under federal jurisdiction and don't need to be considered here.

"Breakpoints" for Interconnection Processes

Many technical considerations and studies become relevant only for relatively large generators. It is most efficient to break a single overall interconnection process into separate "tracks" based on generator capacity, relieving complexity for the smallest systems while preserving conservative and thorough studies for larger installations.

The emerging consensus is to fragment applicants at 4 breakpoints: 10 kW, 2 MW, 10 MW (non-export), and 20 MW.

Points	Levels
1	Four levels
0	Three levels
-1	Two levels
-2	No breakpoints; one process for all generators regardless of size.
Bonus +1	Progressive standards that allow larger systems in any category.

Timelines

Time is money, and for a device like a rooftop solar generator, (where physical installation may take just two working days) paperwork and permits represent the single largest obstacle to quick installation.

The Federal Energy Regulatory Commission (FERC) adopted a model interconnection standard (Order 2006) establishing a timeline for each step of the application process, for each type of generator. There is room for improvement in these guidelines, and some states have elected to trim the amount of time allowed – for instance, for the read-through of the application of the very simplest small generators using pre-certified equipment.

Points	Timelines
+1	Timelines Quicker than FERC's
0	Timelines the Same as FERC's
-1	Timelines Longer than FERC's

Interconnection Charges

Interconnection processing and study fees can easily add up to "death by a thousand cuts." Fees of $100 here and $250 there quickly add up for small systems. What's more, uncapped or unknown fees can make it impossible to obtain financing for larger projects, as their total cost may be under the control of a hostile utility.

Again, we refer to the FERC process, which established reasonable fee levels through an extensive compromise and negotiation process.

Points	Fees
+1	Fees lower than FERC's
0	Fees the same as FERC's
-1	Fees greater than FERC's

Engineering Charges

An interconnection standard may require engineering review; where it does, it is key that the fees associated with that review are known beforehand.

Points	Fees
+1	Engineering Fees Fixed
0	Engineering Fees Not Fixed

External Disconnect Switch

In theory, a customer-generator presents a safety hazard if the grid goes down and an interconnected system continues to produce power without the utility's knowledge (a situation utilities call "islanding"). Potentially, line workers could come into contact with an unexpectedly energized line. Many utilities cite these safety concerns to require that net metered customers install and test external disconnect switches on any interconnected system. However, the practical effect is that, like hidden interconnection fees, requiring additional external disconnect switches only adds unnecessary costs and discourages customers from investing in renewable energy systems.[7]

It is important to note that not one accident resulting from the islanding of net metered renewable energy systems has been reported.[8] More importantly, utility workers are trained to treat all lines as live, and a variety of other safety precautions are required as part of standard operating

procedures." An external disconnect switch represents a fourth or fifth level of redundancy that is only relevant if a utility worker ignores his or her training. If a worker is following proper protocol, none of the levels of safety preceding an external disconnect switch will ever be needed, much less the switch itself.

Requiring additional external disconnect switches is made unnecessary since all inverters that meet IEEE standards have automatic shut-off capabilities integrated with the systems." All modern inverters shut down interconnected systems automatically in the event of grid failure."

Points	Requirement
+1	Redundant External Disconnect Switch Prohibited
0	Redundant External Disconnect Switch Not Addressed
-1	Redundant External Disconnect at Utility's Discretion
-2	Redundant External Disconnect Switch Required

Certification

The electrical safety and operation of the grid must be a primary concern in the development of any interconnection procedure, and must remain an engineering standard, not a policy determination.

The relevant standards have been developed jointly by utilities, equipment manufacturers, national laboratories and testing facilities, and governmental representatives.

While some states have provided for additional options (e.g. the reuse of certification on equipment individually type-tested by utilities), others have used conflicting technical standards – a critical flaw that may in fact impact the safety and security of the grid. Still others have added idiosyncratic or unspecified "blanket" clauses that introduce uncertainties. Potential purchasers or investors in these systems do not know when such a clause might arise to disqualify them.

Points	Standard
+1	UL 1741 / IEEE 1547 standards used in addition to other options (e.g. self-certification)
0	UL 1741 / IEEE 1547 used
-1	UL 1741 / IEEE 1547 not used, or modified elements of IEEE 1547
-4	Standard used in conflict with or in excess of IEEE 1547

Technical Screens

Every interconnection is different, but all interconnections share some fundamental characteristics. These relate to, among other things, the size of the generator relative to the section of the grid to which the generator connects, and the ratings of the protective equipment installed. These factors determine how complex the interconnection process needs to be.

FERC Order 2006 provides a thorough set of technical screens that has been copied by many jurisdictions; any significant revision of these guidelines introduces difficulties to the process (and may increase system expense, as configurations or programming must be changed to differ from these widely-used benchmarks).

Points	Screen
0	FERC screens used
-1	Partial adoption of screens
-2	No screens used or utility discretion
Penalties:	Used more conservative screen than FERC = -1 for each
Bonus:	Dropped one or more FERC screens that do not affect safety or used more liberal screen element that does not affect safety = +1 for each

Spot Network Interconnection / Area Network Interconnection

A "spot network" might be designed to serve a large single location (such as a corporate campus or high-rise building); an "area network" describes the power distribution system in an area dense with users (such as a downtown area).

Either increases reliability by creating more potential paths from generation to load. However, the types of systems that can be connected are usually restricted, as these networks are much less tolerant of any export.

Some jurisdictions have extended this concern to ban these types of interconnections completely. However, the very area networks that jurisdictions aim to protect are those most in need of the relief that distributed generation can bring. More appropriate is to create more stringent technical standards for these types of systems, or simply require that they install specified high-speed equipment that disconnects systems in case of any outage.

Spot Network Interconnection

Points	Terms
1	Allowed for all systems with a single customer, or systems above 50 kW allowed
0	Allowed, but limited to 50 kW
-1	Not allowed
Bonus:	Separate standards for one customer vs. multi-customer spot networks – with single customer more liberal than FERC standard = +1
Bonus:	Systems allowed provided they install high-speed network protectors = +1

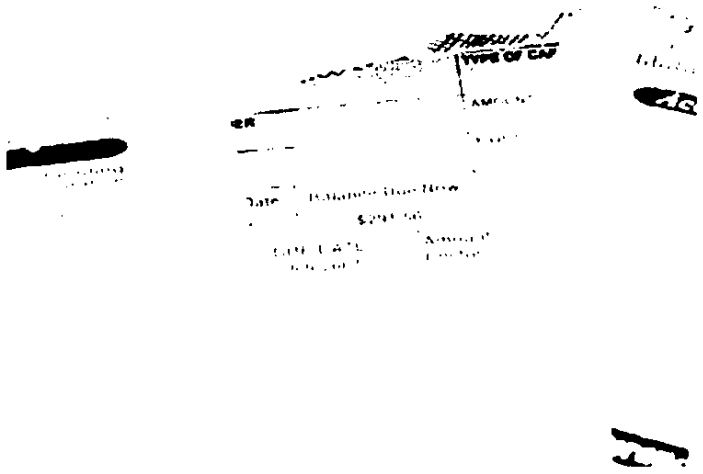
Area Network Interconnection

Points	Terms
1	Allowed for systems 500 kW or greater and 10% minimum load
0	Not addressed or allowed but at utility discretion or only after study
-1	Not allowed
Bonus:	Allowed for systems that do not export power = 1

Standard Form Agreement

The point where the "rubber meets the road" in any interconnection framework is the agreement. Without a standard agreement, the interconnection process is immediately more complex. If the standard is overly complicated, or includes clauses hostile to the customer such as requiring the customer to indemnify the utility for a broad list of potential liabilities, with no equivalent protection from the utility - then the standard loses much of its value.

Points	Form Style
+1	Standard agreement with friendly clauses
0	Standard agreement with standard clauses
-0.5	No standard agreement
-1	Standard agreement with excessively complex or hostile clauses



Insurance Requirements

Because of potential personal injury and property damage liability risks associated with interconnection, many states allow utilities to impose liability insurance requirements on customer-generators. Some states want customer-generators to carry $100,000 or more in coverage to protect utilities from being held financially responsible for problems caused by interconnected systems.

However, to our knowledge there has never been a documented case of a small-scale net metered system causing electrical failure or creating potential personal injury or property damage liabilities for a utility.[7] Renewable energy technologies manufactured and installed in compliance with interconnection standards significantly reduce the risk of potential safety issues.[8] Product liability insurance carried by equipment manufacturers, as well as the ability of these manufacturers to indemnify customers or utilities, further negates the need for additional insurance.[9]

Excessive insurance requirements only serve to discourage customers from investing in renewable energy systems and participating in net metering programs. Requiring customer-generators – especially those with relatively small systems – to obtain and maintain million-dollar insurance policies is impractical. The high premiums associated with these policies will likely exceed the economic benefits of participating in net metering programs.

Points	Requirements
+1	Insurance requirements prohibited
+0.5	Insurance required, but not more than typical customer would carry
0	Not addressed
-2	Additional insurance required

Dispute Resolution

Inevitably, some requests for interconnection will result in disputes. The best standards provide a low-cost means of accessing an expert judgment (for instance, through a telephone call to a technical master employed by the state utility commission). Others are more administratively burdensome or complex.

Of course, if the standard explicitly states that all disputes will be resolved through or by a utility's discretion, the standard becomes less reliable in the eyes of counter-parties.

Points	Dispute Process
+2	Process in place (low or no cost, quick)
0	Not addressed or costly or administratively burdensome
-1	Utility discretion

Miscellaneous

Adverse system impact check needed on 2-MW expedited interconnections - -1 (This study addresses the potential impact of a customer-generator on the transmission network. It should not be applied to very small generators.)

Certificate of completion required without addressing local code official refusal -1 (Some states require that a local code official sign or certify documentation associated with the interconnection process. Since these officials do not generally certify documents other than their own inspections, they can be resistant to do so, delaying or complicating the process.)

Interconnection process is significantly different from FERC standards -1 (The overall framework of the FERC process is well-understood and should be the basic underpinning of any standard.)

[illegible]

[illegible]

- Full retail credit with no subtractions. Customers protected from fees and additional charges. Rules encourage use of Distributed Generation (DG)
- Generally good net metering rules with full retail credit but there may be certain fees or costs that detract from full retail equivalent value. There may be some obstacles to obtaining net metering.
- Adequate net metering rules, but there may be some significant fees or other obstacles that undercut the value or make the process of net metering more difficult.
- Poor net metering with substantial charges or other hindrances. Many customers will forgo an opportunity to install DG because net metering rules subtract substantial economic value from the DG system operation.

  Net metering rules that hamper customer use of DG.

[illegible]

- No restrictions on interconnection of distributed generation that meet safety standards. Rules "encourage" customer-generator interconnection and represent most or all state best practices.
- Good interconnection rules that incorporate many best practices adopted by states. Few to no customer-generators will be blocked by interconnection barriers. There may remain some defects in the rules, such as, lack of standardized interconnection agreements and expedited interconnection to networks.
- Adequate for interconnection although generators incur higher fees and longer delays than necessary. There are likely a few generators that will be precluded from interconnection because of remaining barriers in the interconnection rules.
- Poor interconnection rules that leave many needless barriers to interconnection in place. A few state best practices included but many best practices options excluded. A significant number of generators will experience delays and high fees to be interconnected and a sizable percentage may be blocked from using DG because of these rules.
- Interconnection rules retain many barriers to interconnection. Few to no generators will experience expedited interconnection and few to no state best practices are adopted. Many to most DG systems will be blocked from interconnecting because of the rules.

We observe that despite the developments and in some cases vast improvements in the interconnection and net metering rules and regulations in several notable states, New Jersey continues to maintain a leadership role among all states in both of these critical policy areas. This is not to say that the New Jersey rules cannot be improved upon or that there are not state rules that have indeed improved upon the New Jersey rules in certain discrete areas. In several areas the state has adopted policies that go beyond the simple removal of barriers to actual encouragement of the use of distributed generation by customers. In order to advance the use of clean and renewable distributed generation, we encourage states to improve upon the best practices in New Jersey that is, to incorporate those rules as a starting point and adopting the best practices developed in more recent state rulemaking proceedings.

As states continue to discuss and implement new interconnection and net metering rules there will invariably be improvements in standard practice that were not anticipated when the point and grading scale used for this report was developed. As those improvements arise, the grading and point scale we use will be modified to accommodate them. Conversely, the standard may also need to be revised to appropriately downgrade a limited number states that erect unforeseen new barriers. In sum, the grading and point scale is subject to ongoing revision to address evolutions and devolutions in the interconnection and net metering policy arena. Of course, best practices have a way of becoming commonplace, and this, too, will require a scoring adjustment. For example, as we approach more than a dozen states with a 2 MW system capacity limit, this once aggressive policy stance will be regarded as commonplace, and only larger limits will obtain maximum points.

STATE	Grade
IREC Model	A
Colorado	A
New Jersey	A
Pennsylvania	A
Maryland	A
California	A
Oregon	B
Delaware	B
Iowa	B
Connecticut	B
Ohio	C
New Mexico	C
Arkansas	C
New Hampshire	C
Rhode Island	C
Hawaii	C
Maine	C
Louisiana	C
Virginia	C
Minnesota	C
North Dakota	C
Massachusetts	C
Montana	C
Vermont	C
Missouri	C
Washington	D
New York	D
Texas	D
Kentucky	D
Michigan	D
Wyoming	D
Oklahoma	D
Indiana	D
West Virginia	D
Utah	F
D.C.	F
Georgia	F
North Carolina	F
Wisconsin	F

STATE	Grade
IREC Model	A
New Jersey	A
Arizona	A
California	A
Ohio	A
Texas	A
New York	A
Colorado	A
Oregon*	A
Massachusetts	A
Georgia	A
New Mexico*	A
Vermont	A
Minnesota	A
Rhode Island	A
Wisconsin	A
West Virginia	A
Arkansas	A
New Hampshire	A
Virginia	A
Iowa	A
Maryland*	A
Montana	A
Michigan	A
Indiana	A
Pennsylvania	A
Connecticut	A
North Carolina	A
D.C.	A
Wyoming	A
Louisiana	A
Delaware	A
Hawaii	A
Utah	A
Washington	A
Missouri	A

15+

9 - 15

6 - 9

3 - 6

< 3

Our office has recently pre-filed legislation to require utilities statewide to offer the option of net metering to utility customers that generate electricity on-site through the use of alternative power sources (our particular legislation puts a cap on home generation at 25 kilowatts, and credits the customer-generator for their generation by applying a kilowatt hour credit against their following months bill). Below I have listed some of the concerns that our office has heard on the issue of net-metering in general. I would like to get some feedback from other states or cities that have implemented net-metering rules, code or legislation so that we can address the issues as the bill moves forward in the Alaska Legislature.

If you have a moment, please take a look at the concerns listed below, and let me know if your state has heard such complaints and if they have been borne out.

Thank you.

Louie Flora, Staff

Rep. Paul Seaton

Net Metering:

- **Dangerous to Linemen and the public**
  - **no back-feed protection**
  - **no phasing protection**
  - **no fault protection**
- **devastating to small utilities with a low customer density**
- **forces a utility to buy higher cost power**
  - **No margin for revenue generation allowed if we must purchase it at the same cost as we sell it for.**
  - **Increases cost to all customers**
- **Would force some Utilities to violate existing power purchase agreements**

IOWA

Regarding your net metering issue list below:

1. Dangerous to linemen and the public: a) no back-feed protection; b) no phasing protection; c) no fault protection.

These issues would be addressed in the context of Iowa's interconnection standards (Rule 15.10 -- see: http://www.legis.state.ia.us/Rules/Current/iac/199iac/19915/19915.pdf), rather than the net metering rule (Rule 15.11(5)).

2. Devastating to small utilities with a low customer density.

This issue has not arisen in Iowa, perhaps because Iowa's net metering rule applies only to rate-regulated utilities, only one of which is a small utility. All other small electric utilities in Iowa are non-rate-regulated (i.e., municipal utilities and electric cooperatives).

3. Forces a utility to buy higher cost power: a) no margin for revenue generation allowed if we must purchase it at the same cost as we sell it for; b) increases cost to all customers.

This issue was generally resolved by allowing the rate-regulated utilities to limit net metering to 500 kW of capacity for each individual system. Again, Iowa's net metering rule applies only to rate-regulated utilities.

4. Would force some utilities to violate existing power purchase agreements.

This issue has not arisen in Iowa, probably because the Iowa rule describes net metering as a metering arrangement, rather than a purchase and sale arrangement (Rule 15.11(5) -- see: http://www.legis.state.ia.us/Rules/Current/iac/199iac/19915/19915.pdf).

John Pearce
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Virginia

Virginia went through the same issues back in 1999 when we were going through our net metering proceedings. I have attached two documents that may be helpful in answering some or all of the issues you addressed below. One issue that probably won't be addressed is the issue of how "devastating" net metering will be to small utilities. Obviously this was an unknown at the time - but I can safely say that 7 years later - none of our utilities have gone bankrupt, and our rules have slowly evolved. Originally only solar, wind and small hydro were allowed. Now ALL renewable technologies (ocean/tidal, biomass, etc) are allowed. Originally non-residential systems were capped at 25 kilowatts. This limit has been raised to 500 kW. Third-party ownership of systems is now allowed, and the total system-wide capacity has been increased from 1/10% up to 1% of peak load.

Bottom line (in my opinion) is that the utilities scream and complain and put up roadblocks - because that's what they're supposed to do to maintain status quo. The reality is, however (again - my opinion) that once they get used to it - they grudgingly admit it was and is not that big a deal - especially with limits like 25 kW. This has proven to be the case in Virginia where with a residential limit of 10 kW and non-residential of 500 kW - we have to date less than 250 **KILOWATTS** total statewide net metered generation compared to a total utility generating capacity of around **23,000 megaw**atts.

I hope this somewhat dated info is helpful. Please feel free to contact me if you would like additional information.

Ken Jurman
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(804) 692-3238 (fax)
www.dmme.virginia.gov

Pennsylvania

In Pennsylvania we heard relatively the same arguments against Net Metering and Interconnection standards that were required by legislation referred to as the Alternative Energy Portfolio Standards. You may view our regulations at: http://www.puc.state.pa.us/electric/electric_alt_energy.aspx. If you have futher questions, please contact me. Good luck!

Cal Birge
cbirge@state.pa.us

West Virginia

I am with the West Virginia PSC. Our Commission adopted net metering tariffs last year after considering the issue pursuant to the provisions of the Federal Energy Policy Act of 2005. During the course of that proceeding, all parties reached a consensus not only regarding net metering provisions but also on rules for the interconnection of distributed generation. Two of the largest electric utilities in the nation - American Electric Power and Allegheny Energy were parties to the case.

Regarding the concerns you identify, my comments would be as follows:

Safety issues, danger to linemen, etc. - This is basically a non-issue provided that the state adopts industry standards like IEEE 1547 and the National Electric Code. Some utilities continue to play the safety card because they still resist distributed resource interconnections. Safety issues have been covered in excruciating detail in the provisions of industry standards like IEEE 1547 and the NEC. Further, when it somes to renewable generators less than 25kW in capacity it is even less of an issue because most if not all of those types of generators utilize UL-certified static inverters to interconnect to the utility's distribution system.
For single-phase generators (like residential applications) phasing protection is not an issue.

Financial Impact on Distribution Utilities - This will depend largely on the level of customer participation in net metering in your state. Utilities must be able to recover costs necessary to properly operate their distribution systems and I feel that net metering customers should help pay for that system because they use it. One mechanism is a fixed "customer charge" that allows the utility to recover non-variable fixed costs associated with distribution expenses. On the other hand, there are benefits that distributed resources provides to the utility which can be quantified in terms of "avoided costs".

Energy Rate - I think the level of participation and customer eligibility has to be considered. For example, if you limit participation to residential customers with renewable sources then the financial impact will be much less than if larger users participate. It also must be weighed against how long the customer can bank the credits and whether or not the state allows customers to go above a net-zero balance (i.e., make money by selling power back to the utility). In West Virginia we hold the customers to a "zero balance limit" on energy charges, but they still pay a customer charge for the utility fixed costs.

Alleged Violation of Existing Purchased Power Agreements - I think this is a legal issue that will depend on how the state laws or regulations governing net metering are constructed.

Increased Cost to all Customers - For programs that are geared toward small residential applications, I do not see how this can be the case, provided that the state commission has rules in place that fairly allocate costs to those who should pay them. There are several models for interconnection and net metering rules that provide reasonable solutions. Examples are the NARUC Model and the IREC Model. I recommend that you take a look at these model standards, I used them in developing the rules for West Virginia.

Hope this helps! Good Luck!!

Jim

James W. Ellars, P.E.
Chief Utilities Manager
Engineering Division
Public Service Commission of West Virginia
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Charleston, WV 25323
(304) 340-0331

Connecticut

We have had net metering for twenty years. It is a subsidy to promote renewables. But the impact to date is minimal. There have not been and technical or safety problems. 25kW is very small. I wouldn't worry about it.

Mark Quinlan
Ct. DPUC
860-827-2691

North Carolina

Keith McAllister and Joan Ward manage the Interstate Renewable Energy Council's "Connecting to the Grid" project, which collects and analyzes information -- especially state-level information -- related to interconnection standards and net metering. I'll provide you with some thoughts regarding your questions below (see embedded comments). For additional information, follow up with Keith and Joan, who are copied on this message.

Rusty

>
> Net Metering:
>
> * Dangerous to Linemen and the public
>
> * no back-feed protection
> * no phasing protection
> * no fault protection

*** Net metering is not dangerous. It is an economic and legal arrangement, not an engineering arrangement. Interconnection is not hazardous if the procedure and equipment meet IEEE 1547 and UL 1741 standards. This study should help dispel concerns about the safety of interconnected PV systems: www.e3energy.com/Extdisc.doc. More significantly, the National Renewable Energy Laboratory (NREL) is about to publish a similar study with similar conclusions. Notably, there are no know safety incidents related to the tens of thousands of interconnected, customer-sited renewables currently installed in the United States. It might be useful to contact the California Public Utilities Commission about this. There are more than 20,000 customer-sited, interconnected renewable-energy systems currently operating in CA.

Additional related resources are available here: www.solarabcs.org/interconnection/panels/interconnect_net_metering_resources.htm

>
> * devastating to small utilities with a low customer density

*** This is not proven to be true. If this is a legitimate concern, cap the aggregate capacity of all net-metered systems operating in a utilities' service territory. And then require utilities to prove that net metering has clearly adversely affected revenue. If they can't, then raise the aggregate limit. Note that CA has a 2.5% aggregate limit, and NJ has no aggregate limit.

> * forces a utility to buy higher cost power

*** There are countless public policy trade-offs involved. Significantly, more than 40 states clearly believe that the collective benefits of promoting net metering outweigh the argument that utilities are "forced to buy power at a higher cost." (For that matter, several utilities offer net metering voluntarily.) Utilities are regulated monopolies in most states, after all. This does not mean they hold a monopoly on making decisions that involve the public's best interest.

>
> * No margin for revenue generation allowed if we must purchase it at the
> same cost as we sell it for.

*** See above comment.

> * Increases cost to all customers

*** This is not proven to be true. One could easily argue that net metering increases benefits to all customers in the form of reduced air pollution and GHG emissions, increased peak power generation (in the case of PV), and a host of other benefits.

>
> * Would force some Utilities to violate existing power purchase agreements

*** Offhand, I don't believe that utilities would be "forced" to violate contracts. I'm not sure how other states have addressed this. This might be another good question for the CA PUC.

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Oregon

The Oregon Public Utility Commission issued rules in 2007 for the state's two largest investor-owned utilities (Portland General Electric and Pacific Power, accounting for about three-quarters of the state's load) that I believe addresses these concerns. The 2005 Oregon Legislature gave the Commission authority to raise the net metering facility size limit for these two utilities, from the mandatory level of 25 kilowatts for all Oregon utilities since 1999 (ORS 757.300).

Among other provisions, the Commission's new rules:

* Provide for net metering up to 2 megawatts for non-residential customers (residential customers remain at 25 kilowatts)

* Provide uniform, streamlined interconnection standards for net metering facilities, while maintaining safety and reliability protections through specified requirements

* Provide for netting of a customer's generation against consumption for all kilowatt-hour related charges on the bill over an annual billing cycle. Any "excess" credit remaining at the end of the annual cycle goes toward Commission-approved, low-income energy assistance programs pursuant to statutory intent that net metering is primarily to offset customer load. Thus, systems are not significantly oversized relative to load, helping to mitigate concerns about cost shifting from non-participants to cover fixed utility costs.

We had the utilities' full support for the 2005 legislation, as well as the proposed rules, with minor exceptions in the case of one utility.

The Commission's order summarizes the arguments and the Commission's rationale and includes the final adopted rules (last section): http://apps.puc.state.or.us/orders/2007ords/07-319.pdf

Lisa Schwartz

Senior Analyst
Oregon Public Utility Commission
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www.puc.state.or.us

New Jersey

If you have not done so already, I recommend you review the report titled "Freeing the Grid",
issued by NNEC and IREC (Interstate Renewable Energy Council) et al. Here is a link to the report,
http://www.newenergychoices.org/index.php?page=publications&sd=no

Your first concern listed under "net metering issues" below is more an interconnection issue. But NJ does deal with net metering and interconnection in the same set of rules, N.J.A.C. 14:8-4 and since the larger set of rules are undergoing re-adoption, they are currently available at
http://www.bpu.state.nj.us/bpu/pdf/rules/20071018energychapters4and8.pdf

Your subsequent concerns are also dealt with pretty effectively in the report described above. And I believe the final bullet pertaining to PURPA contracts could be dealt with in your rules.

Scott

B. Scott Hunter
Renewable Energy Program Administrator
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New Jersey Board of Public Utilities
Two Gateway Center
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www.njcep.com

Michigan

Michigan has a voluntary net metering program that was established in 2005. As of June 2007, there are 23 customers of regulated utilities participating. (The MPSC regulates investor owned utilities and cooperative utilities. It is possible that some municipal utilities have net metering programs.)

Over the last year we have had a net metering investigation proceeding. We have heard comments from net metering advocates and utilities. Basically the issues you mentioned below were discussed at some time during the proceeding. Staff issued a report on October 1 and the first 32 pages cover net metering issues.

Here is a link to report webpage: http://www.michigan.gov/mpsc/0,1607,7-159-16377_47107_47112---,00.html
(The report is the top link in the Documents box in the middle of the page.)

Julie Baldwin, Staff Engineer
Electric Operations Section
Operations & Wholesale Markets Division
Michigan Public Service Commission
(517) 241-6115

North Dakota

ND has had a rule since the early 1900's requiring jurisdictional electric utilities (IOUs) to offer net energy billing for PURPA QFs with 100 kW or less of generating capability. There has been only limited usage as the jurisdictional IOU's mostly serve towns where most wind generators are not allowed under local zoning, etc. ND rural electric cooperatives are not PSC jurisdictional so the rule does not apply to them.

Therefore, we have not substantially addressed any of the drawbacks you have listed. Please let me know if you want to discuss further. Thanks.

Jerry Lein
Public Utility Analyst
701 328-1035

Minnesota

Wow—as the state with the oldest net metering law, I can say that we haven't had safety issues that resulted from net metering. Interconnection is a simple process. We have a standard state net metering contract.

I am on another project, but if you don't get the help you need, I could refer you to our largest utility, Xcel Energy. They have established a replicable model for interconnection among utilities here in Minnesota.

Good luck,

Stacy A. Miller
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Renewable Energy and Advanced Technologies
State Energy Office
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Maine

Maine has had net billing rules since the early 1980s. Although I was not around when the rules were first adopted, over the last 15 -20 years, utilities in Maine have not made the "danger" argument and there have no reports of any damage or injury resulting from net billing. We have heard some concerns recently from very small utilities (e.g. municipal utilities/Co-ops) that a revenue loss from net billing might be a problem—but to date, the number of net billing customers have been relatively small and have not caused any revenue loss problem. We have not heard that arguments that net billing forces utilities to buy higher cost power or that it might require the violations of existing power purchase agreements. Maine's utilities do not like net billing and they correctly argue that its transfer cost responsibility to other customers. However, in Maine the number of net billing customers has always been very small—so it has never been a real issue. However, to address the utilities revenue loss concerns, Maine's net billing rule states that the PUC will review whether net billing should continue if the cumulative capacity of net billing generation facilities reaches 0.5% of the utility's peak load.

Please let me know if I can be of further assistance.

Mitch Tannenbaum
Deputy General Counsel
Maine Public Utilities Commission
(207) 287-1391

Illinois

Use of UL 1741 listed inverters addresses concerns of utilities regarding back feed issues and power quality. A grid-connected photovoltaic or wind power system will need an inverter to convert the direct current power to alternating current and sync with utility power. An inverter that meets UL 1741 will shut down when utility power is lost, thus preventing any back feed. UL 1741 inverters are also designed to shut down if the voltage or frequency of the power is outside a set range, thus protecting power quality.

Our utility requires small wind and photovoltaic customers to use UL 1741 listed inverters and install an accessible disconnect on the AC side. This satisfies our safety requirements.

Maryl Freestone
Wind and Photovoltaic Programs
ComEd Energy Delivery
3 Lincoln Center
Oakbrook Terrace, IL 60181
1-800-825-5436
(630) 576-6353 fax

North Carolina Public Utilities Commission

- Dangerous to Linemen and the public
  - no back-feed protection
  - no phasing protection
  - no fault protection

- devastating to small utilities with a low customer density

- forces a utility to buy higher cost power
  - No margin for revenue generation allowed if we must purchase it at the same cost as we sell it for.
  - Increases cost to all customers

- • **Would force some Utilities to violate existing power purchase agreements**

Utah

Please feel free to contact me if you have further questions. My comments are below.

Dangerous to Linemen and the public

- **no back-feed protection**
- **no phasing protection**
- **no fault protection**

Regarding the point on line protection. Dangers of line feedback are a misnomer. Most distributed generation (DG) systems like solar, wind, and micro-hydro require inverters to tie in to the grid. Grid-tied inverters now have safety features built in, so they will not back-fee or send any type of feed into the system that could damage equipment or injure linemen. Larger systems that do not have indenters, i.e. co-gen systems, should require safety equipment to prevent issues like this. Utah's net metering law or the Utah's utility net-metering rules cover these issues.

• **devastating to small utilities with a low customer density**

I have not heard of a net-metering law that is devastating to a utility. Currently, due to the high cost of DG systems, a utility will not have a large percentage of DG on its system. In addition, the DG customers may be generating at a time that the utility pays a high cost for power, thus it may save the utility money. A few of the Co-Ops in Utah charge an additional fee to make up for the lost revenue, but I do not think this is should be required. Even in California, a place Net-Metering is considered very successful, DG only equates to 3% of the states generating capacity.

Our munis and Co-Ops are not concerned with this issue.

- **forces a utility to buy higher cost power**

This is only true if you craft a law or rule to require that the utility credit the customer at a set rate that is higher. Many DG systems produce power when energy costs are above what the customers purchase it for. I assume that hydro may be a big DG producer for your state. If so, I would consider time of use rates or one lower flat rate.

  - **No margin for revenue generation allowed if we must purchase it at the same cost as we sell it for.**

Net metering is more of an economic incentive for the DG owner, not the utility. Although it can benefit the utility by reducing demand on their system. It can save the utility money, but it may not.

  - **Increases cost to all customers**

Again Net-Metering is such a small portion of most systems, (0.5%-3% are often the aggregate limits for utilities) that it doesn't affect a utilities to the point to where they have to raise costs. That is why a net metering law or a PSC rule or utility rule will have an aggregate limit on net-metering capacity. Utah's aggregate limit is about 3,000kw for our major IOU utility.

Would force some Utilities to violate existing power purchase agreements
Again, net-metering is not significant enough to affect this point.

I would say that it would be important to have a solid interconnection law/rule for your state to protect the utilities from DG systems as well as making it easier for DG owner to tie-in to the grid. Utah is currently working on creating rules for interconnection.

"Our office has recently prefiled legislation to require utilities statewide to offer the option of net metering to utility customers that generate electricity on-site through the use of alternative power sources (our particular legislation puts a cap on home generation at 25 kilowatts, and credits the customer-generator for their generation by applying a kilowatt hour credit against their following months bill). "

25kW is more than enough for residential net-metering, but will suggest that a larger amount be considered for commercial systems. Many states are now going to much larger caps for net metering due to the fact that it is more common for DG systems to be larger. For example the city of Logan, Utah just increased their net metering to 250kW for commercial systems. This will allow more companies with larger energy loads to net-meter.

I hope this helps.

You may wnat to read through a report from a coupole of organization too. The links are below.

http://www.raponline.org/

freeing the Grid is also a good review of what other states are doing regarding net-metering. It also debunks the myths about DG.

Thanks,

Jason

RAP is a great organization that can help you on issue dealing with net-metering.

Jason Berry
Renewable Energy Coordinator
State Energy Program
Utah Geological Survey
801-538-5413
Fax:801-538-4795

jasonberry@utah.gov
geology.utah.gov/sep

New Hampshire

NH has had net metering in place since the 1980s. It's part of our rules, see Puc 900 rules on our website (http://www.puc.nh.gov/Regulatory/Rules/puc900.pdf) for details although they are getting updated to incorporate some changes in legislation passed in 2007. The primary change increases the eligible installed generation from 25 kW to 100 kW as well as increasing the utility's overall amount of net metering load from 0.05% to 1%. We have never come close to meeting that amount. Excess generation can be carried over.

As far as safety is concerned, NH hasn't experienced any problems that I'm aware of. It is important that anyone installing on-site generation notify their utility and follow the applicable interconnection process.

We have no evidence that small utilities have been harmed by net metering though, as I said, it has not been widely adopted in NH.

Under a restructured environment, the distribution company purchases "default" power for its customers on an all requirements basis based on competitive bid process. There is no "profit" margin built into default power for the distribution company. Whether the competitive power supplier takes the load of net metering into account as part of its bid strategy is unknown, but I doubt ranks too high in the list of risks it does take into account. At least, not until the level of net metering shows some significant growth. Does it increase cost to other customers? It would depend on the load characteristics of the classes as well as the type of regulatory enviroment (i.e., is the distribution company operating under traditional COS or some alt reg variety?). In general though, you are offsetting all costs of service with the value of generation produced on-site. The effect will usually be to shift costs to others, but it that effect is very small.

We're not aware of any existing power purchase contracts that were violated. Certainly, that wouldn't be a problem for new contracts entered into after a net metering law or rule went into effect.

Tom Frantz
Director - Electric Division
New Hampshire Public Utilities Commission
21 S. Fruit Street
Concord, NH 03301
603.271.2431

Idaho

Idaho does not have a net metering law. However, all three of the investor-owned utilities serving in our state (Idaho Power, Avista, PacifiCorp) have had net metering tariffs for many years, some since the early 80s. The net metering tariffs for each of these three utilities can be found on their websites. There are also several coops and municipal utilities in Idaho, but because the Idaho PUC does not regulate them, what they do with regard to net metering is completely up to them. Over 80 percent of customers in Idaho are served by regulated utilities; however.

Despite net metering being available to customers in Idaho for many years, extremely few have chosen to participate. There are a couple dozen net metering installations, with a collective capacity of about 200 kW. The total amounts paid by utilities to purchase from net metering projects is only about $30,000 per year. The impact on the utilities and on non-participating customers is almost negligible. Nevertheless, nothing seems to generate as much controversy and debate as net metering. We've argued over most of the usual issues, but in the end, the arguments have always been far bigger than the issues we've had to resolve. The claims made by both sides have always been greatly exaggerated.

Regarding the issues you list:
Dangerous to Linemen and the public: We allow each utility to prescribe whatever interconnection and protection equipment they believe is necessary for safety. The PUC has not received complaints from any participants that the utility requirements are onerus, but some net metering advocates who are not participants sometimes still like to claim that they are.

devastating to small utilities with a low customer density: We've never heard this contention before, but none of the three utilities we deal with are considered "small." Given the extremely low participation rate, however, it seems unlikely that net metering could be devastating to a utility of any size.

forces a utility to buy higher cost power: We believe this is definitely true, however, because there are so few kWh under net metering, the cost impact on the utility is negligible. If there was far more participation, this is an issue we would probably have tried to resolve.

Would force some utilities to violate existing power purchase agreements: We have never heard this argument before.

Rick Sterling, Idaho PUC

Oregon

Net metering has no more impact on revenue than people choosing to turn off . . .fill in the blank. We limited net metering to 0.5% of the connected load. This is smaller than the actual meter bases are accurate.

Saftey concerns have been addressed, with the exception of how to deal with urban spot and area networks.

Long term revenue impact will be addressed as the amount of solar energy applications rise beyond 0.5%.

Oregon has a 2MW net metering law, a 50% tax credit and a 25% by 2025 RPS (above the 44% hydro already in place).

My recommendation is to start small and start soon. One of my favorite examples for solar is that there are many locations in Alaska where it is more cost effective than in Phoenix. That's because the cost for remote generation (non-hydro) is more than 2x times the cost of Power in Phoenix, whereas the amount of sunlight (annually) in Alaska is only half that of Phoenix.

Alaska has many places where solar offers quicker payback than Phoenix.

That is if you had net metering.

Christopher Dymond
Senior Energy Analyst
Oregon Department of Energy
625 Marion St NE Salem OR 97301-3742
(503) 378-8325
www.energy.state.or.us

Kentucky

There have been several replies to your request, most of which I could easily repeat, but I'll try not to be redundant. The concern about net metering being dangerous to linemen is not a valid argument. Being a lineman is a hazardous occupation which requires an individual doing the job to have proper training and experience and to follow the appropriate safety codes, procedures and practices. When properly approached a net metering installation should not present any greater safety concern than what might be encountered on the job anyway. Just because there are laws and regulations allowing net metering interconnections, does not require the utilities to make dangerous and unsafe interconnections and they don't. Most of this equipment is supplied commercially with interface controllers that make these installations safer than having portable individual backup generators connected and used during power outages; how many times does that situation exist with nobody's approval or knowledge except the owner.

The other complaints are economic and are not as valid as they would seem, since as others have stated, there are usually limits on the number and impact of these connections compared to the size of the servicing utility. These utilities typically don't really want net metering, so they will think up any and every excuse they can to keep from facing the issue. And as the previous responses have indicated, the participation of customers in net metering installations is very limited. I believe it would be a rare instance for net metering installations to truly be economically justified in most locations; at least, I've never come across one in Kentucky. Individuals tend to pursue an interest in net metering for reasons other than economic.

John Shupp
Electric Branch Manager, Engineering Division
Kentucky Public Service Commission
(502) 564-3940 Ext. 421

New Mexico

I have added comments in italics to the questions you posed:

Net Metering:

- **Dangerous to Linemen and the public**
  - **no back-feed protection**
  - **no phasing protection**
  - **no fault protection**

  It is my understanding that systems currently on the market have addressed these issues in their designs.

- **devastating to small utilities with a low customer density**

  As Texas has deregulated generation and energy sales, utilities have become transmission/distribution companies. Their revenue comes from fees for transmission/distribution rather than from energy sales directly. In formulating the new rules for net metering and distributed renewable generation, we will be mindful of the potential for erosion of revenues for T&D companies.

- **forces a utility to buy higher cost power**
  - **No margin for revenue generation allowed if we must purchase it at the same cost as we sell it for.**
  - **Increases cost to all customers**

  The statute (HB 3693) in Texas provides for the sale of excess energy to be at a rate negotiated between the generation system owner and his/her Retail Electric Provider.

- **Would force some Utilities to violate existing power purchase agreements**

  In Texas, these agreements are between wholesale generators and Retail Electric Providers. The REP would need to balance purchases from customer and wholesalers to meet total customer load.

I hope this is helpful. Please call with any further questions.

I must apologize that I had not responded to your request for information. In a short answer the NMPRC has two rules which relate to net metering. One is specific to GOVERNING COGENERATION AND SMALL POWER PRODUCTION, and the second is NET METERING OF CUSTOMER-OWNED ENERGY RESOURCES.

Links to those rules are:
http://www.nmcpr.state.nm.us/nmac/parts/title17/17.009.0570.htm

http://www.nmcpr.state.nm.us/nmac/parts/title17/17.009.0571.htm

I believe all of the concern that you listed are valid and the responses for the other commission have addressed those concerns. The NMPRC is applied these two rule to help stream-line customers ability to net meter. The purpose of rule 571 is to simplify the interconnection requirements for Qualifying Facilities of 10kW or smaller and encourage the use of small-scale customer-owned renewable or alternative energy resources in recognition of the beneficial effects the development of such resources will have on the environment of New Mexico.

This information is getting to you late but I hope it might help in some way.

Jim Brack, Economics Bureau Chief
Utility Division, New Mexico Public Regulation Commission
224 E. Palace Avenue
Santa Fe, NM 87501

505-827-6982

Jim.Brack@state.nm.us

HOUSE COMMITTEE REPC Γ

4.1.09

(7)
Date Referred to Committee: March 2, 2009 **FURTHER REFERRALS: Finance**

Date of Committee Action: MARCH 31, 2009

The HOUSE SPECIAL COMMITTEE ON ENERGY considered: **HOUSE BILL NO. 166**

"An Act relating to the Southeast energy fund."

HB 166 SOUTHEAST ENERGY FUND

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
CED	1			X

PREVIOUS FISCAL NOTES				
List by Dept(s):	FN#	Fiscal	Indet.	Zero

Signing with recommendations	Printed Last Name	DP 5	DNP	NR	AM
Peggy Peterson	PETERSEN	X			
Chris Tuck	TUCK	X			
Bryce Johansen	Johansen	X			
CO Chair: Bryce Edgmon	Edgmon	X			
CO Chair: Melissa Millett	Millett	X			

2383

HB

148

<target><bill>HB 148</bill><subject>HB
148</subject><comm>HENE26</comm></target>

ALASKA STATE LEGISLATURE

REPRESENTATIVE LES GARA
REPRESENTATIVE BILL THOMAS

MEMORANDUM

DATE: March 1, 2009

TO: Representative Charisse Millett
Representative Bryce Edgmon

FROM: Representative Les Gara
Representative Bill Thomas

RE: Hearing Request for HB 148

We respectfully request that House Bill 148, relating to energy efficiency, be scheduled for a hearing in the House Energy Committee. Please feel free to contact Representative Gara, or aide Katie Conway, with questions or thoughts at 465-6591.

Attached you will find a background packet for HB 148. This includes the current version of the bill, a sponsor's statement, sectional analysis and backup materials.

Thank you for your consideration.

REPRESENTATIVE BILL THOMAS

ALASKA STATE LEGISLATURE DISTRICT 5

State Capitol
Juneau, AK 99801-1182
(907) 465-3732
(888) 461-3732
FAX (907) 465-2652

Representative Charisse Millett, Co-Chair
Representative Bryce Edgmon, Co-Chair
House Special Committee on Energy

March 26, 2009

Dear Co-Chairs,

I respectfully request that HB 148 be heard at your earliest convenience.

In these challenging times of high energy costs and budget constraints at both the state and national level it is our responsibility to apply vigorous, creative solutions for Alaska.

HB 148 is an opportunity for Alaska to take the lead in nationwide efficiency standards with an energy plan to reduce the energy consumption in state run buildings. It also provides a funding mechanism for non-state entities to follow suit.

Specifically, this legislation requires that Department of Transportation and the Courts abide by the International Energy Conservation Code for certified buildings. This is the standard that is quickly becoming the universal code for energy efficiency. Additionally, the Department of Transportation will be required to present a report to the legislature on the currently mandated energy audits, ensuring proper oversight of this program.

Finally, HB 148 creates a grant program for non-state public facilities, such as school and municipal buildings. This effort is aimed at cutting long term energy expenses, and reducing the demand for energy in Alaska while nurturing the growth of an Alaskan energy efficiency industry.

By making a commitment to enforce ourselves as well as support others in the pursuit of energy efficiency, we save the state money, set an example for others, and help our constituencies.

The time is right for the Sate to lead by example toward a future in which balancing the budget and helping Alaskans are not mutually exclusive. I hope you'll join me in supporting this bill. If you have questions please do not hesitate to call my office.

Sincerely,

Bill Thomas

Representative Bill Thomas

email: Representative.Bill.Thomas@legis.state.ak.us
webpage: www.akrepublicans.org/thomas/

ALASKA STATE LEGISLATURE

REPRESENTATIVE LES GARA
REPRESENTATIVE BILL THOMAS

Sponsor Statement
HB 148 – Energy Efficiency Plan and Grant Fund

As we enter an era of high fuel prices, Alaska should have an energy savings plan. House Bill 148 is a bi-partisan effort to create a plan for upgrading the energy efficiency of public facilities. The legislation also creates a grant program for non-state public facilities, such as school and University of Alaska buildings. The effort is aimed at cutting long term energy expenses, and reducing the demand for energy in Alaska.

HB148 commits Alaska government to lead by example with a plan to reduce energy consumption and improve energy efficiency in buildings. The Department of Transportation and Courts are both tasked to construct International Energy Conservation Code (IECC) certified buildings—a standard of efficiency quickly becoming universal around the rest of the United States for state building efficiency codes and federal efficiency legislation.

HB148 encourages the use of performance contracting—a fancy way of saying "we pay, you save." This is good for the third party businesses contracted to do the efficiency improvements, creating jobs and fueling a growing energy efficiency industry. This is also good for the state agencies who quickly realize cost savings without ever having to put a lot on the line in overhead expenses.

HB148 holds DOT accountable for the energy audits they are already mandated to do but don't. With the cost of energy so fresh on everyone's mind the legislature should know exactly how much of a limited budget is going to wasted energy. Likewise, we should also know that implementing efficiency measures is saving us resources.

HB148 creates a funding mechanism that allows school districts and municipalities or small communities to undertake energy efficiency improvements as well. Particularly in rural Alaska, better insulated windows or a new boiler can mean more money to put toward resources with a much greater return, like school books or sports equipment.

Energy efficiency makes CENTS. Often called the "low hanging fruit" of smart growth, making the choice to be more energy efficient saves money and resources. In tough economic times, it's practical to cut back on spending by making what energy we do use spread further. The time is right for the State to lead by example toward a future in which balancing the budget and helping Alaskans are not mutually exclusive. I hope you'll join me in supporting this bill. If you have any questions please do not hesitate to call my office.

Thank you.

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 27, 2009

SUBJECT: Sectional summary of HB 148 (Work Order No. 26-LS0528\P)

TO: Representative Les Gara
Attn: Katie Conway

FROM: Brian J. Kane BJK
Legislative Counsel

You have requested a sectional summary of HB 148, a bill relating to a state energy use reduction plan and energy efficiency improvement contracts and to energy audits of public buildings conducted by the Department of Transportation and Public Facilities; relating to agency capital budget requests; and establishing an energy efficiency grant fund in the Alaska Housing Finance Corporation.

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 states the legislative intent for the bill.

Section 2 adds the administering of grants from the energy efficiency fund to the duties of the Alaska Housing Finance Corporation.

Section 3 of the bill creates the energy efficiency grant fund, providing for the Alaska Housing Finance Corporation to make grants to municipalities, unincorporated communities, school districts, and the University of Alaska for energy efficiency improvements and enhancement. This section also sets qualifications and priorities regarding grants awarded from the energy efficiency grant fund.

Section 4 of the bill amends the authority of the supreme court in regard to court buildings so that the supreme court must comply with the state energy use reduction plan.

Section 5 of the bill amends the Executive Budget Act to state that an agency requesting an appropriation in excess of $1,000,000 for capital improvements must submit to the legislature a report including the most recent energy audit report, a proposal for energy efficiency improvements, and a cost-savings analysis.

Section 6 of the bill requires the Department of Transportation and Public Facilities to submit to the legislature a report each year summarizing the energy audits conducted under AS 44.42.065.

Section 7 of the bill instructs the Department of Transportation and Public Facilities to prepare and adopt a state energy use reduction plan and to consider the use of performance energy contracts, if cost-effective.

Section 8 of the bill requires the Department of Transportation and Public Facilities to submit a report to the legislature no later than January 31, 2010, that summarizes information gathered and recommendations made by the department related to the department's most recent energy audit.

Section 9 of the bill provides an effective date of July 1, 2010.

BJK:plm
09-126.plm

FISCAL NOTE

STATE OF ALASKA
2009 LEGISLATIVE SESSION

Fiscal Note Number:
Bill Version: HB148
() Publish Date:

Identifier (file name): HB148-DFG-DAS-04-07-09
Title: An act relating to a state energy use reduction plan and energy
Sponsor: Thomas, Holmes, Salmon, Seaton, Wilson, Petersen, Kerttula, Buc
Requester: House Special Committee on Energy, State Affairs, Finance

Dept. Affected: Fish and Game
RDU: Administration and Support
Component: Administrative Services
Component Number: 479

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)*

Indeterminate impact. Section 5 as written would cause the department to expend funds (possibly significant) for studies and analysis prior to the submission or approval of a capitlal project appropriation request. If necessary, this specific section should be included in the formal design phase after a project appropriation is approved.

Prepared by: John White, Procurement Specialist V — Phone 907-465-6178
Division: Administrative Services — Date/Time 4/7/09 1:15 p.m.
Approved by: Tom Lawson, Director of Administrative Services — Date 4/7/2009
Department of Fish and Game

(Revised 9/10/2008 OMB)

FISCAL NOTE

STATE OF ALASKA
2009 LEGISLATIVE SESSION

Fiscal Note Number: 1
Bill Version: **HB 148**
() Publish Date:

Identifier (file name): HB148-DOR-AHFC-04-07-09
Title: ENERGY EFFICIENCY PLAN AND GRANT FUND
Sponsor: Representative Gara
Requester: (H) Energy

Dept. Affected: Revenue
RDU: Alaska Housing Finance Corp.
Component: Operations
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 148 proposes to establish an energy efficiency grant fund in the Alaska Housing Finance Corporation to provide grants for energy efficiency projects for various public buildings.

AHFC does not expect a fiscal impact from the passage of this bill. At the point in which there would be funds deposited into the fund, there would be an expense to the Corporation for the administration of the program but that fiscal impact would be dictated by the size of the appropriation into the fund which is currently unknown.

Prepared by: Bryan Butcher, Director, Governmental Relations/Public Affairs — Phone 330-8445
Division: Alaska Housing Finance Corporation — Date/Time 4/7/09 12:00 AM
Approved by: Ginger Blaisdell, Director — Date 4/8/2009
Administrative Services Division

(Revised 9/10/2008 OMB)

LEGISLATIVE RESEARCH REPORT

DECEMBER 10, 2008 REPORT NUMBER 09.056

ENERGY EFFICIENCY STANDARDS IN STATE PUBLIC FACILITIES

PREPARED FOR REPRESENTATIVE LES GARA

BY DANIEL LESH, LEGISLATIVE ANALYST

You asked about energy efficiency standards in state public facilities in Alaska. Specifically, you wanted to know of any current statutes regarding energy efficiency audits or minimum standards for public facilities, as well as any related state programs. You also asked about public facility energy efficiency programs in other states, and the cost effectiveness of each program.

ALASKA

No Minimum Energy Efficiency Standards

According to Joel St. Aubin, chief of statewide public facilities, Alaska Department of Transportation and Public Facilities, there are no minimum energy efficiency standards for state facilities.[1] Mr. St. Aubin notes, however, that "in practice, when a new building is constructed, or an existing building is remodeled or repaired, we choose the most energy efficient design that the budget will allow, and will meet the applicable building codes." Applicable commercial building codes in Alaska include the following: the building, mechanical, fuel gas, and fire codes of the International Code Council, the Uniform Plumbing Code, and the National Electric Code.[2] Alaska has not adopted—for government or commercial buildings—any of the standard energy efficiency codes adopted by many other states. These codes include the International Energy Conservation Code (for residential and smaller commercial buildings), International Existing Buildings Code (for renovations to existing buildings), and the American Society of Heating, Refrigeration, and Air-conditioning Engineers (ASHRAE) code (for larger commercial buildings).[3]

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[1] Mr. St. Aubin can be reached at (907) 269-0823.

[2] In Alaska, the state fire marshal adopts the building, mechanical, fuel gas, and fire codes and the Department of Labor adopts the plumbing and electric codes.

[3] Anchorage, however, has adopted the International Energy Conservation Code, and all new state buildings or major renovations to existing state buildings in Anchorage must follow these codes. The only statewide energy code is a modified version of the residential International Energy Conservation Code that was adopted in 1992. The code applies only to residential buildings financed with underwriting from the Alaska Housing Finance Corporation, and is not applicable to state buildings.

Required Energy Audits of State Facilities Are Not Being Performed

Under Alaska Statute 44.42.065 (Attachment A), the Department of Transportation and Public Facilities (DOT&PF) is directed to perform an energy audit of each public building every seven years. Each audit is to include the following:

> recommendations for corrective measures to improve the energy efficiency and to minimize the life-cycle cost of the public 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.

According to Joel St. Aubin, AS 44.42.065 has not been implemented as a formal program, as the legislature has never funded the program. However, according to Rob Carpenter, fiscal analyst, Alaska State Legislature, this statute is not dependent on legislative appropriation and the department's base funding is designed to cover this type of statutory responsibility.[4] Alaska Statute 44.42.065 has undergone substantial amendment only once since its 1980 establishment: legislation in 1994 (ch. 126 SLA 1994) removed an annual requirement that the building audits completed in the previous year be submitted to the legislature each spring.

Performance Contracting Used by DOT&PF to Complete Energy Efficiency Upgrades

Beginning in the late 1990's, the DOT&PF initiated an energy performance contracting program to complete energy upgrades of state facilities.[5] Under the program, a contractor (called an energy service company or ESCO) performs energy audits, recommends measures to improve a building's operating performance, completes the building upgrades, and reimburses the state if realized savings are less than an agreed-upon cost savings guarantee. The voluntary program relies on the interest of building managers, and does not specifically attempt to identify, or compel the participation of, the most inefficient state facilities.

Twenty-four state facilities have participated in the DOT&PF's performance contracting program. Improvements to the first round of eight buildings were completed in 2006, with guaranteed utility cost savings of $277,446 annually and an additional, projected annual savings of $43,300. Subsequently, eight additional buildings have completed energy upgrades through the program and eight others (the participating facilities of the Department of Health and Social Services) have completed the audit portion of the program and will implement any efficiency upgrades through their own budgets when feasible.[6]

---

[4] Mr. Carpenter can be reached at (907) 465-5413.

[5] The program is not specifically addressed in statute, but follows general state procurement guidelines covered in AS 36.30. Information on the state performance contracting program was obtained from Joel St. Aubin.

[6] For a list of the 24 state facilities that have participated in this program, please see Attachment B.

OTHER STATES' EFFICIENCY STANDARDS

ENERGY CONSERVATION BUILDING CODES

According to information compiled by the Building Codes Assistance Project (BCAP), almost all states have adopted basic energy conservation codes applicable to new state buildings.[7] The most commonly implemented codes are the International Energy Conservation Code (for residential and smaller commercial buildings) and the American Society of Heating, Refrigeration, and Air-conditioning Engineers (ASHRAE) code (applicable to all commercial buildings)—though other comparable standards are used in some states.[8] As of November 2008, **thirty-nine states** have adopted a 1999 or more recent version of one of these standard codes that applies to new state buildings. In addition, four states (Indiana, Minnesota, Mississippi, and Missouri) have adopted relevant energy efficiency codes that are equivalent to older versions of the standard codes.[9]

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[7] The Building Codes Assistance Project—a joint project of the Alliance to Save Energy, the American Council for an Energy-Efficient Economy, and the Natural Resources Defense Council—provides information and assistance to state and local governments regarding building energy code adoption and implementation.

[8] These codes are developed by private organizations with input from the U.S Department of Energy, and are copyrighted documents. A description of the International Energy Conservation Code, which is similar to the ASHRAE code, is provided below, excerpted from an International Energy Agency report on building energy codes (Attachment C):

> The International Energy Conservation Code 2004 (IECC 2004) is a model building code or standard for energy efficiency of new buildings. It was devised by the International Code Council (ICC), and is based on US conditions and traditions for energy efficiency regulation. This code IECC 2004 sets rules for residential (with less than 4 floors) and for small and less complicated commercial buildings while it contains a reference for the ASHRAE for large and complex buildings. There is an emphasis on new buildings.
>
> Rules are based on climatic zones, which are set based on cooling degree days CDD and heating degree days HDD and some humidity conditions. In general, the US is split into 8 different zones, based on the level of cooling and heating. Some humidity conditions divide the zones into dry, humid and marine areas.
>
> Rules are set as prescriptive values for building parts, heating and cooling systems, ventilation and lightning. Insulation requirements are set as R-values or U-factor where U = 1/R for each climatic zone separately. These values have to be fulfilled for each building part in the prescriptive model. Some specific regulations are given for pipe and duct insulation, air tightness, sealing, hot water systems, mechanical ventilation and circulation of hot water. Rules for heating and cooling equipment are only given as sizing requirements IEEC also includes a trade-off model where some parts can be made with less energy efficiency as long as the total building still fulfils the same overall requirements which would be the result of fulfilling each single demand. In this model the same values are used for the trade off model as reference values for the model building. The trade-off model is based on energy costs which take into account the different energy costs for gas, oil or electricity. Specific and more detailed values are set for some steel solutions. Finally it contains a frame with an overall assessment where total values have to be obtained. The energy efficiency requirements for residential buildings and those for new commercial buildings are indicated in two separate chapters. The prescriptive model is described as Mandatory Requirements, while the trade-off model is referred to as Performance Based requirements. Finally there are some requirements for the use of software for the Performance based model Some basic assumptions are set for the reference buildings used in the trade off model such as amount of windows (18 % of floor area) and calculation values.
>
> The IECC apply for major renovation and refurbishment projects too. The values R-values and U-factors (prescriptive) in the regulation have to be fulfilled in some renovation projects, for example a full exchange of windows must comply with the energy efficiency requirements for windows. A special standard is developed for refurbishment of existing buildings, International Existing Building Code (IEBC).

[9] For a map of which states have adopted which codes, please see Attachment D, a map compiled by the BCAP. More detailed information on each state's codes is available on the BCAP's website, *http://www.bcap-energy.org/node/5*.

GREEN BUILDING STANDARDS

A large and growing number of states have mandated green building standards for new and renovated state buildings. The most common requirement in these states is U.S. Green Building Council Leadership in Energy and Environmental Design (LEED) certification, which addresses a wide range of environmental and human health impacts related to buildings.[10] This certification includes a number of basic requirements in each of the following categories: land use (construction impacts, site selection, etc.); water efficiency; energy and atmosphere (energy efficiency, renewable energy generation, etc.); materials and resources (recycled and reused building materials, etc.); and indoor environmental quality (ventilation, non-toxic materials, etc.). In addition to the basic requirements, there is a total point requirement that can be achieved by excelling in some or all of the categories

It is important to note that LEED certification does not necessarily guarantee that a building is energy efficient. A recent study funded by the U.S. Green Building Council (Attachment E) sampled a group of recently-constructed LEED certified buildings at all four levels of certification (certified, silver, gold, and platinum, in increasing order of "greenness"), and found an average energy star rating of 67. (An energy star rating of 50 is equal to the median energy efficiency level of all U.S. buildings.) Despite the above average performance of most LEED buildings, a full quarter of the buildings studied fell below an energy star rating of 50, including buildings in all levels of certification. This is a result of the fact that LEED energy efficiency requirements are fairly basic, and a builder can choose to earn the points needed for a certain rating by excelling in one of the non-energy categories described above.[11]

Currently, at least twenty states require LEED or comparable certification for all new state buildings, or all new state buildings over a minimal size or cost level.[12] Most of these states also apply this requirement to major renovations of existing state buildings, though states vary in how they define which types of renovations apply. In two additional states (Illinois and Ohio), new public schools, but not other state buildings, must obtain LEED certification. Four states—Arkansas, Louisiana, New York, and Wisconsin—have made less aggressive steps in this area, including the adoption of policies encouraging green building by the state, or the creation of a commission to study the issue.

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[10] The U.S. Green Building Council is a non-profit organization composed of 15,000 member groups, including building owners, real estate developers, facility managers, architects, designers, engineers, general contractors, subcontractors, product and building system manufacturers, government agencies, and nonprofits.

[11] We note that legislation passed in South Carolina partially addresses this issue by requiring state buildings to achieve a minimum of four credits under the LEED Energy and Atmosphere Credit #1 "Optimize Energy Performance." We include this statute, South Carolina Code of Laws § 48-52-830, as Attachment F

[12] For more information on each state's green building requirements, please see the website of the U.S. Green Building Council, *http://www.usgbc.org/DisplayPage.aspx?CMSPageID=1852#state*. The twenty states that require green building certification are Arizona, California, Colorado, Connecticut, Florida, Hawaii, Indiana, Maine, Maryland, Massachusetts, Michigan, Nevada, New Jersey, New Mexico, Oklahoma, Rhode Island, South Carolina, South Dakota, Virginia, and Washington.

SPECIFIC ENERGY CONSERVATION STANDARDS DIRECTED AT EXISTING BUILDINGS

The energy codes and green building requirements described above generally address only new state buildings or major renovations to existing state buildings. However, a small number of states have implemented specific policy measures to address the energy efficiency of ***existing*** state facilities. For instance, Arizona Revised Statutes § 34-451 requires that three state agencies reduce energy use per square foot in public buildings they administer by ten percent by 2008 and fifteen percent by 2011.[13]

Glen Anderson, National Conference of State Legislatures, highlights the state of Minnesota as a leading example in this area.[14] A 2005 executive order in this state required all state agencies to reduce energy use in their facilities by ten percent during the following year. A follow-up report (Attachment H) concluded the state saved $1.5 million as a result of this action, though not all agencies were able to meet the ten percent target.

It appears that most states avoid mandating specific energy efficiency targets in favor of more incremental approaches, such as public and employee education, revolving loan funds, performance contracting programs, and improvements to state procurement guidelines. Numerous states have signed on to the U.S. Environmental Protection Agency's general call to consumers to reduce energy use by ten percent—a program known as the Energy Star Challenge. Brief descriptions of each state's approach can be accessed at the challenge's webpage, *http://www.energystar.gov/index.cfm?fuseaction=challenge.showWelcome&sortby=org*.

California appears to take a hybrid approach, relying on a broad suite of incremental approaches but also establishing a specific energy efficiency goal for the state. California Executive Order S-20-04 specifically targets a twenty percent reduction in state energy use by 2015. However, the order does not mandate that this level of energy reduction be reached by each state agency. We include this executive order, which also outlines the broad range of energy efficiency strategies to be employed by various state agencies, as Attachment I.

For a list of energy efficiency measures suggested by the Alaska Energy Authority for adoption in our state, please refer to Attachment J, a report titled "Alaska Energy Efficiency Program and Policy Recommendations." This document recommends that Alaska adopt a commercial energy efficiency code, conduct energy audits of public schools, establish a low-interest loan program for energy efficiency upgrades to state facilities, and adopt a policy to reduce energy consumption by state agencies by twenty percent from 2000 levels by 2020, among other recommendations.

We hope you find this information to be useful. Please let us know if you have questions or need additional information.

[13] The Arizona agencies named in this statute are the Department of Administration, the Arizona Board of Regents, and the Department of Transportation. We include this statute as Attachment G. We were not able to find information on the cost effectiveness of Arizona's program in the time allotted.

[14] Mr. Anderson can be reached at (303) 856-1341.

LIST OF ATTACHMENTS

Attachment A

Alaska Statutes § 44.42.065

Attachment B

Alaska State Facilities Participating in the Energy Savings Performance Contracting Program
Alaska Department of Transportation and Public Facilities

Attachment C

"Energy Efficiency Requirements in Building Codes, Energy Efficiency Policies for New Buildings"
International Energy Agency, March 2008

Attachment D

"Commercial State Energy Code Status, As of November 2008"
Building Codes Assistance Project

Available at *http://bcap-energy.org/files/commercial_with-legend.pdf*

Attachment E

"Energy Performance of LEED for New Construction Buildings"
New Buildings Institute, March 2008

Attachment F

South Carolina Code of Laws § 48-52-830

Attachment G

Arizona Revised Statutes § 34-451

Attachment H

"State Agency Energy Conservation: A Progress Report on Governor's Executive Order 05-16"
Minnesota Department of Administration

Attachment I

California Executive Order S-20-04

Attachment J

"Alaska Energy Efficiency Program and Policy Recommendations"
Cold Climate Housing Research Center
Prepared by Information Insights, Inc.
Project funded by Alaska Energy Authority and Alaska Housing Finance Corporation

LEGISLATIVE RESEARCH REPORT

FEBRUARY 2, 2009

REPORT NUMBER 09.091

ENERGY EFFICIENCY IN ALASKA SCHOOL BUILDINGS

PREPARED FOR REPRESENTATIVE LES GARA

BY HEATHER PARKER, LEGISLATIVE ANALYST

You asked about energy efficiency programs in schools in Alaska. Specifically, you wanted to know which energy efficient projects and programs are currently in place in Alaska schools, which programs and building improvements would be most effective in those schools, and the conclusions of any analyses done regarding the energy efficiency of Alaska school buildings.

CODES AND STATEWIDE MINIMUM STANDARDS

Alaska does not have a statewide energy conservation code for public or commercial buildings or a minimum statewide energy efficiency standard applicable to all school buildings.[1] Sam Kito, facilities technical engineer and architect, Department of Education and Early Development, points out that some energy standards are indirectly written in statute; as provided in AS 14.11.011(b)(4)(A)(ii), schools are eligible to apply for a maintenance or construction grant (also known as a capital improvement plan or CIP funding) from the state only if they meet certain requirements—in particular, schools must have a preventative maintenance plan that allows them to annually collect certain data on utilities used in school buildings owned or operated by the district.[2] This plan is loosely defined and varies greatly from district to district. Mr. Kito explains that all school districts but one regularly apply for CIP funds and strive to meet this criterion.[3]

We contacted superintendents from each of the 53 Alaska school districts with a survey of questions regarding the current status and needs of buildings in their districts. We received

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[1] Anchorage and the Matanuska-Susitna Borough have chosen to require all new buildings, including schools, to meet national or international "green" building certification standards. Anchorage has adopted the International Energy Conservation Code (2006); in 2007, the Matanuska-Susitna Borough adopted the U.S. Green Building Council's Leadership in Energy and Environmental Design (LEED) "Silver" standard for all new construction and additions of 10,000 square feet or greater.

[2] Mr. Kito can be reached at (907) 465-6906. We include AS 14.11.011 as Attachment A.

[3] Mr. Kito explains that the Aleutians Region school district does not apply for CIP funds.

responses from 16 of the school districts.[4] Of these, all reported problems with basic infrastructure, energy efficiency, and rising fuel costs.[5] All cited financial reasons—not federal or state standards or requirements—for retrofitting or upgrading their school facilities.

ENERGY EFFICIENCY RESOURCES AVAILABLE TO ALASKA SCHOOL DISTRICTS

We were unable to locate any federal or state grant or loan programs specifically targeting energy efficiency gains in schools. The relevant state and federal programs we identified were broad, competitive grant programs under which school districts compete against a wide range of other projects and are often required to provide a significant contribution themselves. Unlike Alaska home owners, schools are not currently eligible for specific weatherization grants or rebates.[6] We present below the federal and state energy efficiency programs we identified, along with district-wide and individual school projects in Alaska.

FEDERAL AND STATE PROGRAMS

Federally sponsored programs

The Village End Use Efficiency Measures initiative attempts to increase energy efficiency and reduce the amount of diesel brought into rural Alaska communities. Funded by the Denali Commission and implemented by the Alaska Energy Authority and the Alaska Building Science network, the program works to replace energy efficient lighting switchboxes and motion sensors, and to apply weather stripping and low mass boilers in villages that have recently received an upgrade to their local power system.[7] Though not designed specifically for school buildings, the program directly benefits schools. Between January 2005 and January 2007, the program worked with 17 villages, retrofitting 152 community buildings and 110 teacher units.[8]

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[4] We received responses from Alaska Gateway, Anchorage, Chugach, Cordova City, Delta-Greely, Galena City, Haines Borough, Hydaburg City, Juneau, Kenai, Kuspuk, Lower Kuskokwim, Pelican City, Saint Mary's, Sitka, and Wrangell City school districts. Refer to Table 1 at the end of this report for more information.

[5] Several superintendents noted that their school buildings were over 30 years old. Six mentioned a need for improved insulation and one noted that doors to school buildings do not currently close.

[6] The Alaska Housing Finance Corporation has a home energy rebate program in which a homeowner, upon completing specific renovations for energy efficiency, can be eligible for a one-time rebate of up to $10,000. For more information on this program, refer to *http://www.ahfc.state ak.us/energy/weatherization_rebates.cfm#The_Home_Energy_Rebate_Program.*

You may be interested to note that a rebate program exists in statute for schools that reduce the amount of waste used. Under AS 46.11.070, schools that significantly reduce the amount of waste used by students and staff and improve recycling efforts may—subject to available funding—be eligible for awards of up to $2,000. Sandra Woods, environmental specialist II, Solid Waste Program, Division of Environmental Health, Department of Environmental Conservation, notes that no such program is currently active due to lack of funding. Ms. Woods can be reached at (907) 465-5318

[7] The Denali Commission provides rural power system upgrades to meet basic standards for safety, reliability, and environmental protection in power plant and distribution systems of select Alaska villages. Upgrades are distributed to those communities with the highest need. For more information on the Denali Commission, refer to *www.denali.gov/*

[8] Communities that have participated in Phase I of the Village End Use Efficiency Measures initiative include Buckland, Elim, Gambell, Golovin, Koyuk, Old Harbor, Port Heiden, Savoonga, Selawik, Chefornak, Chevak, Kasigluk, Kongiganak, Kwigillingkok, Mekoryuk, Nunapitchuk and Quinhagak. Phase II includes 14 villages; Phase III, 20 villages. All projects are projected to be complete by 2010. For more information on the program, please refer to *http://www.akenergyauthority.org/programsalternativeVEUM.html.* We include the final report on Phase I of this program as Attachment B.

The EnergySmart School program (U.S. Department of Energy) is another federal program specifically designed to help school districts become more energy efficient. Though the program cannot provide grants or loans for school projects, it provides other resources, such as publications, suggested energy standards, recommendations and design manuals for construction of new buildings or retrofitting, and training sessions for administrators and teachers.[9] It is unclear how many schools in the state currently use this resource.

State programs that schools can use for energy efficiency

As mentioned earlier, schools that meet the preventative maintenance requirements described in AS 14.11.011(b)(4)(A)(ii) are eligible to apply for capital improvement (CIP) funds through the Department of Education and Early Development for construction or major maintenance projects. Under this program, schools with a specific project in mind can either apply for a grant or for debt reimbursement. Don Hiley, facilities program manager at Southeast Regional Resource Center, explains that although CIP funds are not specifically for energy efficiency projects, schools can rarely get funding directly for energy efficient upgrades and as such, try to become more energy efficient when completing a construction project or retrofit that applies under these grants.[10] Sam Kito, Department of Education and Early Development, notes that this past year, 38 school districts applied for CIP funding.[11]

Schools can also receive funding for energy efficiency projects from the Alaska Energy Authority's energy cost reduction program. This program provides grant and loan financing for project proposals that reduce the cost of power and heat in Alaska communities. According to Rebecca Garrett, program manager for the Alternative Energy and Energy Efficiency Program, at least two school districts—Anchorage and the Aleutian East Borough—have received funding through this program for lighting retrofits in school buildings this past year.[12]

According to Joel St. Aubin, chief of statewide public facilities, Alaska Department of Transportation and Public Facilities, performance contracting is currently available to school districts.[13] Performance contracting—a program in which a contractor audits a building and provides recommendations for upgrades with the guarantee that the resulting energy and operating savings will be sufficient to fund the project—has not been used by any school district to date.

State programs for renewable energy

School districts are eligible to apply for funding from the Alaska Energy Authority for projects that produce renewable energy for school buildings. Through HB 152 (Ch 31 SLA 08), the legislature established the Renewable Energy Grant fund and awarded AEA $50 million annually for the next

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[9] For more information on the EnergySmart school program, refer to *http://www1.eere.energy.gov/buildings/energysmartschools/*.

[10] Mr. Hiley can be reached at (907) 586-6806. Southeast Regional Resource Center is a non-profit organization that has helped many schools through the process of applying for these grants.

[11] Mr. Kito projects that out of approximately 200 applications roughly 32 are for school construction projects and approximately 136 are for major maintenance projects. Of these, he estimates that 25 will receive CIP funding.

[12] Ms. Garrett can be reached at (907)-771-3042. The Alternative Energy and Energy Efficiency Program is program managed and funded largely by the Alaska Energy Authority. We include the "Alternative Energy and Energy Efficiency Program Assistance Plan," which details current projects run by the Alaska Energy Authority, as Attachment C. The energy cost reduction program is not specific to schools.

[13] Mr. St. Aubin can be reached at (907) 269-0823.

five years to fund renewable energy projects.[14] The money can be used for feasibility studies and energy resource monitoring. Butch White, grants administrator for the renewable energy grant program, explains that though the program is not specific for school districts, both Copper River and Delta-Greely schools have already applied and received this award mid-January of this year.[15]

School District-Wide Energy Programs

Of the 16 school districts that responded to our survey, two mentioned district-wide programs to encourage energy efficiency in all school buildings under their jurisdiction. The most aggressive of these, Anchorage, established a year-long energy conservation pilot program from January 1, 2006, through January 1, 2007, with the goal of reducing energy use by 10% through an initial energy audit and increased awareness of energy conservation through teacher and staff training. Nine schools actively participated in the program, reducing electricity use by 11.2% and natural gas use by 6.5%, for a total of $114,361 in savings to the district.[16]

Kenai has a district-wide program that allows for individual schools to make money by conserving energy. Individual schools that save the district money in fuel costs receive those savings directly and can use the funds as needed for supplies or improvements for their school buildings. Paul Brenner, energy conservation manager for the school district, notes that the program is effective because schools see direct financial results.[17] He also explains that the school district recently purchased the use of an online program that allows him to track energy usage in all school buildings in the district. With this program, schools can compare energy usage and compete to reduce the total amount of energy used in individual schools.

Energy Projects at Individual Schools

Several superintendents expressed an interest in alternative fuel projects, especially in rural areas with high fuel costs. As mentioned above, Delta-Greely and Alaska Gateway school districts have both applied for grants for woodchip boilers for their schools. Similarly, Cordova City and Galena City schools are currently using waste oil boilers to provide some heat for certain school buildings. Finally, Jim Nygaard, superintendent of the Cordova City school district, explained that students had installed a wind generator for a science project, allowing the science classroom to produce its own power.[18] A few schools had done cost analyses on the feasibility of these projects; in a study of the woodchip boiler project, the Alaska Gateway school district found that the district would save approximately $125,000 annually for a single school. Further, the Galena City district reported savings of approximately $300,000 a year in heating fuel since the establishment of a waste oil boiler in one building.

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[14] For more information on the Renewable Energy Grant fund, refer to *http://www.akenergyauthority.org/RE_Fund.html*.

[15] Mr. White can be reached at (907) 771-3048. The Copper River and Delta-Greely school districts were announced as recipients of funds through this program on January 14, 2009. For more information on the renewable energy fund project grants, refer to *http://www.aidea.org/AEA/RE_Fund.html*.

[16] For more information on the program, refer to "Energy Conservation Pilot Program, Final Report (January 2007)" in Attachment D.

[17] Mr. Brenner can be reached at (907) 714-8825. He notes that in the past year, for example, he distributed approximately $2,000 to a K-2 elementary school and $4,100 to a high school in Homer.

[18] Mr. Nygaard can be reached at (907) 424-3265.

Other energy efficiency efforts in the 16 school districts that responded include switching to more energy efficient lights in buildings, providing additional insulation, using fewer lights and less heat when buildings are not in use, and promoting energy conservation education. A few schools recently installed digital controls in buildings, allowing facilities management to monitor lights and heat off site. Jim Smith, superintendent of the Galena City school district, mentions his district's hosting of a statewide rural energy conference geared to promote education on energy efficiency.[19] Mr. Nygaard of the Cordova City school district describes a few unique energy efficiency measures that students at his schools have taken, including removal of lights from vending machines and removal of door stops from all exterior doors.

Though districts had completed energy audits for a few individual buildings, few districts had completed an energy audit of all school buildings. Of the 16 schools contacted, only the Galena City School District reported completing energy audits at all schools in the district.[20]

Recommendations made by the Alaska Energy Authority

Given the current ad hoc and unorganized energy efficiency efforts described in this report, it is not surprising that the Alaska Energy Authority released a set of recommendations in 2008 that encourage state involvement in school energy efficiency efforts. The Alaska Energy Authority recommendations to the legislature include the following: to provide funding for conducting an energy audit for every school in the state; to provide funding for institutional conservation grants for schools, educate teachers and staff about energy conservation; and to provide funding for the Alaska Energy Authority to establish a low interest loan program for energy improvements in public facilities.[21] The Alaska Energy Authority estimates that energy audits and user education could reduce energy usage by approximately 10% in one year, saving schools across Alaska approximately $2 million.[22]

Finally, in a 2004 study of energy programs in rural Alaska, the Alaska Energy Authority explains that basic steps taken for energy efficiency—such using high-efficiency lighting or replacing electric water heaters—would significantly reduce the costs of electricity and heating fuel in villages. Based on an assessment of current use of energy in Canadian schools in the Yukon Territories, there could be reduced use of fuel and electricity of up to 50% in rural Alaska school facilities with potential cost savings of several thousand dollars.[23]

I hope you find this information to be useful. Please do not hesitate to contact us if you have questions or need additional information.

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[19] Mr. Smith can be reached at (907) 656-1883, extension 107.

[20] Mr. Smith explains that energy audits have been done for all 17 sites in the district.

[21] For more information on the recommendations of the Alaska Energy Authority, refer to pages 42-44 in "Alaska Energy Efficiency Program and Policy Recommendations" (Attachment E).

[22] Information is provided in page 42 of "Alaska Energy Efficiency Program and Policy Recommendations."

[23] Refer to pages ES-10 and ES-11 of "Alaska Rural Energy Plan: Initiatives for Improving Energy Efficiency and Reliability – Volume I: Executive Summary" (Attachment F).

Table 1: Energy Efficiency Projects in Alaska School Districts

District Name	Current Projects for Energy Efficiency	Potential Projects Needed	Special Regional Considerations	Results of Cost Benefit Analyses
Alaska Gateway Schools	looking into alternative energy grant	looking for alternative energy grant to reduce hazardous fuels in Tok area; interest in converting from oil furnace to woodchip boiler	no data available	oil to woodchip boiling system would save $125,000 annually at Tok School (reduction of 65,000 gallons of fuel used prev. yr)
Anchorage Schools	Energy Conservation pilot program - awareness of energy conservation, 10% goal for energy savings, operational audits, periodic meetings (more information provided in Attachment D)	want to expand project	no data available	Energy Conservation pilot program saved 11.2% electricity and 6.5% natural gas; cost savings to district of $114,361, projected savings of $1,500,000 annually if all schools involved
Chugach Schools	(awaiting funding for cost benefit analyses for school district; no information currently available)			
Cordova City Schools	students conducting "energy audit" of school; use of timers, motion sensors; removal of lights from vending machings; taking unused water heaters off-line, "powering down" electronics; removal of all door stops; installation of wind generator and battery bank (science classroom now generates own power); waste oil boiler attached to heating system; additional insulation; better siding	need for electronic controls for heating system (buildings heated when not in use); more effort towards motion sensors/timers for lights	high price for fuel	no data available
Delta-Greely Schools	recently approved for Alaska Energy Authority renewable energy grant to put wood chip boiler in a school	most buildings over 50 years old; have no boilers, no glycol, windows are single paned; need for added insulation, new windows, better doors (doors don't close currently)	subarctic climate; recent winter temperatures have ranged from -42 to -65; 100mph winds	no data available

Table 1: Energy Efficiency Projects in Alaska Public School Districts, cont.				
District Name	**Current Projects for Energy Efficiency**	**Potential Projects Needed**	**Special Regional Considerations**	**Results of Cost Benefit Analyses**
Galena City Schools	building heated from waste heat provided by City of Galena Diesel Power Plants; school district holding a state-wide rural energy conference for greater awareness of efficienct energy consumption; use of Preventative Maintenance program to track energy use in all buildings	need for more efficient lighting, heat system up-grades, meter installations in Air Base Buildingings; need for new energy efficient equipment in food services sites; window replacements	no data available	building audits done at all 17 sites; heating from waste heat of Galena Diesel Power Plants - saving approximately $300,000/year in heating fuel
Haines Borough Schools	new school has heating system "talk back" feature that allows monitoring of sytem via computer; can control heating plant and automatically set heating levels for different dates and times of day; system and oil fired boilers chosen for energy efficiency; reduced number of lights on after hours, have photovoltaic automatic switches that turn off lights if there is no activity	no data available	no data available	currently conducting energy audit of public buildings
Hydaburg City Schools	school recently relamped with energy efficient lamps	need to replace windows and exterior doors with more energy-efficient ones	area heavily timbered, mill 30 miles away produces wood chips; looking into wood-fired boiler system	no data available
Juneau Borough Schools	currently in second year of an energy program that addresses plant/physical equipment and people aspect of reducing and/or conserving energy	money for retrofits (specifically for lights, windows, window shades, furnaces); working to have schools certified as Energy Star schools	no data available	during first year of energy program, reduced energy useage by 1 million kWh

Energy Efficiency Projects in Alaska Public School Districts, cont.

District Name	Current Projects for Energy Efficiency	Potential Projects Needed	Special Regional Considerations	Results of Cost Benefit Analyses
Kenai Peninsula Borough Schools	energy conservation award program; replacing windows	most schools 40-50 years old, need retrofits; need new windows, heating systems, improved thermostat systems	high increases of fuel prices (within FY 2008, electricity increased by 18%, natural gas 10-12%, fuel oil by 37%, and propane by 40%)	purchased Schooldude.com (compares energy useage of all schools in district)
Kuspuk Schools	efforts to conserve energy by turning off lights, isolating areas of buildings not used as frequently; weather strippings and adding insulation	buildings at least 30 years old; need access to products at a reduced cost and more readily available in remote location (such as insulation, building supplies, storm windows)	severe winter conditions; remote location	no data available
Lower Kuskokwim Schools	2000-01 replaced classroom lighting and 7 gymnasiums to T5 lights with electronic ballasts; currently replacing doors and windows, increasing insulation on new projects; upgrades to heating systems incorporate temperature setback options at times building not in use	continuing upgrades to heating systems (upgrading generators and incorporating heat recovery in existing school generators)	no data available	cost benefit analysis part of design process for new projects; has been done for Chefornak, Kipnuk, Kwig Reno projects
Pelican City Schools	turn heat down or off when building not in use	have submitted CIP application	currently water and septic system frozen in high school	no data available
Saint Mary's Schools	turn off lights, set temperature accordingly	need upgrades on insulation, windows, lights	no data available	did cost benefit analysis for installing new lights; determined lights would pay for themselves in 1 1/2 years

Table 1: Energy Efficiency Projects in Alaska Public School Districts, cont.				
District Name	**Current Projects for Energy Efficiency**	**Potential Projects Needed**	**Special Regional Considerations**	**Results of Cost Benefit Analyses**
Sitka Borough Schools	replaced roofs; added insulation; converted fuel boilers to electricity because fo low electrical rates	have board member working on plan to establish energy efficiency plan similar to Juneau Schools	no data available	no data available
Wrangell City Schools	have installed digital controls in buildings; thermopane windows	need money to convert boilers to electricity	hydropower available (need money to convert)	study on savings from gas/oil to electricity and hydropower; could save several thousand dollars on heating fuel

NOTES: Information provided by superintendents and energy managers of 16 school districts that responded to email survey.
(1) We include "Anchorage School District 2007 Energy Conservation Pilot Program: Final Report" (May 12, 2008) as Attachment D.
SOURCES: Todd Poage, superintendent, Alaska Gateway Schools; Robin Siegfried, executive assistant to superintendent, Anchorage Schools ; Bob Crumley, superintendent, Chugach schools; Jim Nygaard, superintendent, Cordova City schools; PJ Ford Slack, superintendent, Delta-Greely Schools ; Jim Smith, superintendent, Galena City Schools; Michael Byer, superintendent, Haines Borough Schools; Al Weinberg, superintendent, Hydaburg City Schools ; Joyce Kitka, energy manager, Juneau Borough Schools , Paul Brenner, energy conservation manager, Kenai Peninsula Borough Schools; Brad Allen, superintendent, Kuspuk School District; Gary Baldwin, superintendent, Lower Kuskokwim Schools; Connie Newman, superintendent, Pelican City Schools ; David Herbert, superintendent, Saint Mary's Schools; Steve bradshaw, superintendent, Sitka Borough Schools; Woody Wilson, superintendent, Wrangell City Schools.

International Codes-Adoption by State

[illegible]

Y = Effective Statewide A = Adopted but may not yet be effective L = Adopted by Local Governments
S = Supplement 06 = 2006 Edition 04 = 2004 Edition 03 = 2003 Edition 00 = 2000 Edition

* The title of the 2006 and 2003 IUWIC Code was changed to IWUIC in the 2006 version

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	X06	L	X06	X06,L	X06,L	L	X06 L	L	L	L	L		L	IBC, IFC, IMC IPC IFGC - AL Building Commission: state owned, schools, hotels, movie theaters
[illegible]	[illegible]	X03	L06	X03	X03	L		X03							
AZ	Arizona	X00	L	X03	L	L		L	X00	X00	L	L	L	L	AZ-Dept of Health Services, health care institutions
AR	Arkansas	X06	X06	X06	X06	X06	L	X06	X03	L	L				
CA	California	X06		X06											CA currently adopts the 2006 IBC & IFC as the base model codes for the CA 2007 Building Standards Code CA also adopts a portion of the IEBC, Apx A, Chapter 1 which is published in Volume II of the 2007 CA Building Code
CO	Colorado	X06	L	X06	X06	X06	L	X06	X06	L	L	L	L	L	All State Buildings & Facilities IBC, IMC, IPC, IFGC, IECC All Public Schools & Junior Colleges: IBC, IFC, IMC, IPC, IFGC
CT	Connecticut	X03	X03	X03	X03	X03			X03	L	X03				IFC: Portions used in the CT State Fire Code; ICC/ANSI A117.1
DE	Delaware	L	L	L	L	X03		L	L	L	L				
DC	District of Columbia	X00	X00	X00	X00	X00		X00	X00	X00					
FL	Florida	X03	X03		X03	X03		X03	X06	L03	X03				2006 codes scheduled to go into effect 3/1/2009
GA	Georgia	X06	X06	X06	X06	X06		X06	X06	L	L				
HI	Hawaii	X06	X03												
ID	Idaho	X03	X06	X03	X03			X03	X03		L				
IL	Illinois	X06	L	X06	X06	L	L	X06	X06	X06	X06	L	L	L	2000 IECC, modified by the 2001 Supplement for commercial structures statewide. IBC, IFC, IMC, IFGC, IPMC, IECC, IEBC for IL Board of Edu Facilities (other than vehicular), but do not apply to Chicago. IBC adopted by Dept of Health for hospitals where local codes do not apply.
IN	Indiana	X06	X03	X06	X06			X06							
IA	Iowa	X06	X06	X06	X06	L	L	L	X06	L	X06			L	IBC, IRC, IMC, IEBC, IECC State owned and rented structures
KS	Kansas	X03	X03	X03	L03	L03	L	L03	X06	L	L				Applies to state owned facilities
KY	Kentucky	X06	X06	L	X06			X06	X06	L					IECC bldgs other than 1&2 family regulated by the KRC
LA	Louisiana	X06	X06	L	X06			X06	X06, L	L	X06				The IECC is adopted by the State Fire Marshal's Office for low-rise residential buildings. It is also adoptable on a local level
ME	Maine	X03 L	X03	L	L	L	L	L	X03	L	X03			L	
MD	Maryland	X06	X06		X06	X06,L	L	L	X06	L06	X06				IPC Industrialized housing Other codes, edition shown may not be in use locally; check with local jurisdiction
MA	Massachusetts	A03	X03		A03										
MI	Michigan	X03	X03	L	X03	X03	L	X03		L	X03	L			
MN	Minnesota	X06	X06	X06	X00			X06		L					
MS	Mississippi	X03	X03	L	L	L	L	L	L	L	L	L			The MSBCC adopted the 2003 IBC & IRC in 2006 Legislation was passed in 2007 stating that jurisdictions adopting new codes must adopt the codes of the MSBCC and that jurisdictions already enforcing other codes must adopt the codes of the MSBCC by 07/01/2010
MO	Missouri	X00	X00	L	X00	X00, X03	L	X00	L	L	L	L	L	L	State Office Space - 03 IPC, Modular Construction - 00 IBC, IRC, IMC, IPC, IFGC
MT	Montana	X06	X06	L	X06			X06	X03		X06				
NE	Nebraska	X00	X00	L	L	L	L	L	X03	L	L		L	L	
NV	Nevada	X00	X06	X03	L	L	L	L	X06	L	X06	L			IBC, IFC SFM, schools health care, state bldgs, commercial bldgs for counties over 100k IBC, IRC, IFC, IECC, IEBC NV Public Works Board, state buildings
NH	New Hampshire	X06	X06	L	X06	X06		L	X06	L					
NJ	New Jersey	X06	X06	X06	X06			X06	X06	L					The IFC will go into effect 02/01/2009
NM	New Mexico	X06	X06	X03		L			X06		X06				06 IBC, IRC, IECC & IEBC adopted statewide by NM Const Ind Div 03 IFC adopted statewide by the State Fire Marshal's Office
NY	New York	X03	X03	X03	X03	X03		X03	X03	X03	X03				

International Codes-Adoption by State

X = Effective Statewide A = Adopted but may not yet be effective L = Adopted by Local Governments
S = Supplement 06 = 2006 Edition 04 = 2004 Edition 03 = 2003 Edition 00 = 2000 Edition

* The title of the 2000 and 2003 IUWIC Code was changed to IWUIC in the 2006 version

NC	North Carolina	X03	X00	X03	X03	X03		X03	X03						
ND	North Dakota	X	X	L	X	L		X		L	L				
OH	Ohio	X06	X03	X06	X06	X06		X06	X06	L				L	Residential Code of Ohio is the 2003 IRC with amendments
OK	Oklahoma	X06	X06	X06	X06	X06	L	X06	X03	X06	X06	X06	L	L	IRC - Mechanical, Plumbing and Fuel Gas provisions only
OR	Oregon	X06	X06	X06	X06			X06							
PA	Pennsylvania	X06	X06	X06	X06	X06		X06	X06	L	X06	X06	X06		
RI	Rhode Island	X06	X06		X06	X06		X06	X06	L06					
SC	South Carolina	X06	X03	X06	X06	X06		X06	X06	L06	L06	L06			
SD	South Dakota	X00	L	X00	X00		L	L	L	L	L	L	L		IBC, IFC Approved for local adoption, IMC for state school construction
TN	Tennessee	X06	L	X06	L	L		L	L	L	L	L		L	IFC adoption effective12/16/2008
TX	Texas	X03	X00	L	L	L	L	L	X00	L	L	L	L	L	Jurisdictions authorized by state law to adopt later editions of IBC, IRC, IPC, IMC, IFGC, and IECC. See Jurisdiction Chart for specific edition adopted
UT	Utah	X06	X06	X03	X06	X06		X06	X06						
VT	Vermont	X03	L03			X03			X04						
VA	Virginia	X06	X06	X06	X06	X06		X06	X06	X06	X06				
WA	Washington	X06	X06	X06	X06			X06		L	L	L	L		
WV	West Virginia	X03	X03		X03	X03		X03	X03	L00	X03				
WI	Wisconsin	X06		L	X06			X06	X06		X06				
WY	Wyoming	X	L	X	X	L	L	X	L	L	L	L			
PR	Puerto Rico				X	X		X							
VI	U.S. Virgin Islands	X03	X03		X03				X03						

HB

163

<target><bill>HB 163</bill><subject>HB
163</subject><comm>HENE26</comm></target>

State of Alaska

Department of Revenue

Administrative Services Division

SARAH PALIN, GOVERNOR
333 Willoughby Avenue, 11th Floor
P.O. Box 110400
Juneau, Alaska 99811-0405
Phone: (907) 465-2300
Fax: (907) 465-2394

March 3, 2009

The Honorable Charisse Millett
Co-Chair, House Energy Committee
Alaska State Legislature
State Capitol, Room 412
Juneau, AK 99801-1182

The Honorable Bryce Edgmon
Co-Chair, House Energy Committee
Alaska State Legislature
State Capitol, Room 416
Juneau, AK 99801-1182

Dear Representatives Millett and Edgmon:

House Bill 163 was read across the floor on March 2, 2009 and transmitted to the House Energy Committee for consideration.

The HB 163 Alaska Natural Gas Development Authority (ANGDA) legislation would extend the purpose of the authority to consider natural gas development in areas of the State outside of the North Slope to the Southcentral Alaska natural gas distribution grid. By extending the purpose of the ANGDA, Alaska would be able to explore opportunities with recent finds in the Brooks Range and other areas of the State. This legislation carries with it a zero fiscal note.

I respectfully request that HB 163 be scheduled for hearing in the House Energy Committee as early as possible.

If the Committee requires any additional information, please contact me.

Sincerely,

Ginger Blaisdell
Director

2411

26-GH1057\R
Bullock
4/13/09

CS FOR HOUSE BILL NO. 163(RES)

IN THE LEGISLATURE OF THE STATE OF ALASKA

TWENTY-SIXTH LEGISLATURE - FIRST SESSION

BY THE HOUSE RESOURCES COMMITTEE

Offered:
Referred:

Sponsor(s): HOUSE RULES COMMITTEE BY REQUEST OF THE GOVERNOR

A BILL

FOR AN ACT ENTITLED

"An Act clarifying the purpose of the Alaska Natural Gas Development Authority; and relating to the definitions of certain terms that relate to a project that may be developed by the Alaska Natural Gas Development Authority."

BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF ALASKA:

*** Section 1.** 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 project.

*** Sec. 2.** 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. 3.** 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 markets in the state, or** [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. 4.** 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.

FISCAL NOTE

STATE OF ALASKA
2009 LEGISLATIVE SESSION

Fiscal Note Number: 1
Bill Version: HB 163
(H) Publish Date: 3/2/09

Identifier (file name): 0057-DNR-OGD-02-25-09
Title: Clarifying Purpose of Alaska Natural Gas Dev. Auth.
Sponsor: Rules Committee
Requester: Governor

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 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)*

No fiscal impact to DNR anticipated from this bill.

Prepared by: Kevin Banks, Director — Phone 269-8802
Division: Oil and Gas — Date/Time February 25, 2009
Approved by: Tom Irwin, Commissioner — Date February 25, 2009
Natural Resources

(Revised 9/10/2008 OMB)

FISCAL NOTE

STATE OF ALASKA
2009 LEGISLATIVE SESSION

Fiscal Note Number: 2
Bill Version: HB 163
(H) Publish Date: 3/2/09

Identifier (file name): 0057-DOR-GAO-02-27-09
Dept. Affected: Revenue
Title: Alaska Natural Gas Development Authority
RDU: ANGDA 495
Component: Gas Authority Operations
Sponsor: Rules Committee
Requester: Governor Palin
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)*

There is no anticipated fiscal impact to the Department.

Prepared by: Ginger Blaisdell, Director
Phone 907-465-2300
Division: Administrative Services
Date/Time: February 27, 2009
Approved by: Patrick Galvin, Commissioner
Date: February 27, 2009
Revenue

(Revised 9/10/2008 OMB)

26-GH1057\A.1
Bullock
4/9/09

AMENDMENT

OFFERED IN THE HOUSE BY REPRESENTATIVE RAMRAS

TO: HB 163

Page 1, line 1, following "**Authority;**":

Insert "**relating to prior approval by the governor or the commissioner of revenue before the exercise of certain powers of the Alaska Natural Gas Development Authority;**"

Page 2, following line 7:

Insert new bill sections to read:

"*** Sec. 3.** AS 41.41.200 is amended to read:

Sec. 41.41.200. Powers of the authority. In furtherance of its corporate purposes, in addition to its other powers**, and subject to the approval by the governor under AS 41.41.210**, 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.

* **Sec. 4.** AS 41.41 is amended by adding a new section to article 2 to read:

Sec. 41.41.210. Required approval. (a) The authority may not exercise the power in AS 41.41.200(5), (6), (7), (8), or (9) without the prior written approval of the governor after the governor finds that the project proposed or being developed by the authority is in the best interest of the state. The governor shall give written notice to the authority of the approval or denial of approval.

(b) The authority may not exercise the power in AS 41.41.200(4) without the prior written approval of the commissioner of revenue after the commissioner of revenue finds that the execution of the contract or other instrument is in the best interest of the state. The commissioner of revenue shall give written notice to the authority of the approval or denial of approval.

(c) The written approval or denial of approval in (a) or (b) of this section is a final administrative action for purposes of appeal to the superior court."

Renumber the following bill sections accordingly.

MEMORANDUM

State of Alaska

Department of Law

TO: Pat Galvin
Commissioner
Dept. of Natural Resources

DATE: April 7, 2009

FILE NO.: 661-09-0121

TEL. NO.: 269-5211

FROM: Lisa Weissler
Larry Ostrovsky
Assistant Attorneys General
Oil, Gas & Mining

SUBJECT: Review of Authority to Seek Professional Services forms submitted by ANGDA

You asked us to review several proposed contracts that ANGDA submitted to the Department of Revenue for approval. In particular, you asked whether those contracts are consistent with ANGDA's statutory framework.

Short answer

Our review of the "Authority to Seek Professional Services" forms supplied by your administrative director, as well as a cost recovery agreement between ANGDA and the BLM concludes that these agreements are within the scope of ANGDA's authority.

Background

ANGDA was created in 2002 by voter initiative and codified in Title 41.

Title 41 sets out a broad list of purposes for the Authority, but appears to contain some internal inconsistencies, or at least ambiguities.

AS 41.41.010 sets out the overarching purpose of ANGDA - to bring natural gas from the North Slope to market. Subsumed within that broader purpose are the specific services and functions provided by ANGDA, such as acquiring North Slope natural gas; designing and constructing a pipeline system; designing, constructing and operating other facilities necessary for delivering "the gas" – presumably this article refers to North Slope gas -- to market and to Southcentral Alaska; and acquiring a natural gas share sufficient to ensure the long-term feasibility of the pipeline system.

By comparison, AS 41.41.200 (7) gives the Authority the power to issue bonds or incur indebtedness to pay for the costs of a "project." "Project," in turn, is defined somewhat more narrowly than the purpose described above:

"[P]roject" 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). AS 41.41.990 (3).

AS 41.41.070(d) provides broad authority to ANGDA to "contract for and engage the services of bond counsel, consultants, experts, and financial advisors the authority considered necessary for the purpose of developing information, furnishing advice, or conducting studies, investigations, hearings, or other proceedings."

Finally, ANGDA is given the power "in furtherance of its corporate purpose" to "make and execute contracts and other instruments" without any limiting language as to the project. AS 41.41.200(4).

"It is a basic rule of statutory construction that courts must attempt to harmonize the specific provisions of an act with the legislature's expression of its intent." *Commercial Fisheries Entry Com'n v. Apokedak,* 680 P.2d 486, 490 (Alaska 1984). Because ANGDA's authority to make and execute contracts is broad and not specifically limited to the defined "project," in our view the Authority's power to make and execute such contracts applies to the broader purposes expressed in AS 41.41.010.

With that in mind, we have reviewed the "Authority to Seek Professional Services" forms provided by your director of Administrative Services to determine whether they are consistent with the broad purposes of ANGDA, as expressed in AS 41.41.010.

Analysis

1. **Authority to Seek Professional Services for Pipeline Alignment and Construction Engineer. Agency reference number: Asps 09-0030 RFP 2009-0400-8336.**

This contract involves hiring a contractor to refine alignment of a high pressure gas spur line connecting Delta Junction to Beluga. The form states that this contact is sought "[i]n conjunction with ANGDA's "on-going work to bring natural gas to market."

Entering into a contract related to delivering natural gas to the Alaska market clearly fits within the broad authority of ANGDA if the gas is North Slope natural gas, as

specified in AS 41.41.010. If the gas is not North Slope gas, the connection is more problematic and the Department of Revenue may want to request additional information from ANGDA to determine whether work under this contract will ultimately relate to delivering North Slope natural gas.

2. Authority to Seek Professional Services for Enterprise Coordinator. Agency reference number: Asps 09-0031 RFP 2009-0400-8363.

This contract involves hiring a contractor to develop a business and financial management framework to deliver natural gas to the Alaskan market. This includes management of a financial plan to include a combination of utility rates, bonding and legislative funding to finance the project.

We understand ANGDA's general plan is to tap into a main line to Canada with a spur line that would bring some of the North Slope gas to markets in Southcentral Alaska. The contract's purpose appears consistent with both the broad purposes of ANGDA, set out in AS 41.41.010, as well as the definition of project in AS 41.41.900(4).

3. Authority to Seek Professional Services for Permitting Coordinator. Agency reference number: Asps 09-0029 RFP 2009-0400-8335.

This contract involves hiring a permitting coordinator to execute a pipeline permitting plan to "bring North Slope natural gas to market in Alaska." This purpose appears consistent with both the broad purposes of ANGDA, set out in AS 41.41.010, as well as the definition of project in AS 41.41.900(3).

4. Standard Agreement Form for Professional Services. Agency Encumbrance Number 491017

This is an agreement with EJG Enterprises, awaiting signature of the DOR director of administrative services.

This contract for EJG Enterprises is to revise and update a business plan for ANGDA programs. This contract, under which EJG is to assist ANGDA in, among other things, work with a financial advisor in pursuit of project financing, is within the scope of ANGDA's authority to acquire gas, and design and build a pipeline.

5. Cost Recovery Agreement between ANGDA and the BLM.

Your administrative director also provided us with a copy of a cost recovery agreement between ANGDA and BLM for payment of costs for processing an ANGDA

right-of-way application for a natural gas pipeline between Palmer, Glennallen and Delta Junction and Fairbanks.

We understand that ANGDA's plan is to tap into a main line to Canada with a spur line that would bring some of the North Slope gas to markets in Southcentral Alaska, and, in this case, Fairbanks. This purpose appears consistent with both the broad purposes of ANGDA, set out in AS 41.41.010, as well as the definition of project in AS 41.41.900(4), though not necessarily consistent with the definition of "project" in AS 41.41.990(3). Accordingly, if ANGDA gets to a point where it may issue bonds "in order to pay for costs of the project" we recommend that the definition of project in AS 41.41.990(3) be amended to remove any ambiguity as to whether bonds can be issued for purposes of a line to interior Alaska.

We hope this answers your questions. If you have any questions, or if there are additional authorizations that you would like us to review, please let us know.

cc Harold Heinze

LZO:kp

HOUSE COMMITTEE REPC _ T

4.10.09

(7)

Date Referred to Committee: March 2, 2009

FURTHER REFERRALS: Resources
Finance

Date of Committee Action: APRIL 9 2009

The HOUSE SPECIAL COMMITTEE ON ENERGY considered: **HOUSE BILL NO. 163**

"An Act clarifying the purpose of the Alaska Natural Gas Development Authority; and relating to definitions of certain terms in AS 41.41."

HB 163 ALASKA NATURAL GAS DEVELOPMENT AUTHORITY

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
HSS
LEG
LAW
LWF
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
DNR	1			—
REV	2			—

Signing with recommendations	Printed Last Name	DP	DNP (3)	NR (3)	AM
				X	
	RAMRAS		X		
Pete Peterson	PETERSEN		X		
	Johansen			X	
	Tuck			X	
Co Chair: Bryce Edgmon	Edgmon		X		
Chair:					

2422

HB

164

<target><bill>HB 164</bill><subject>HB
164</subject><comm>HENE26</comm></target>

STATE OF ALASKA

DEPARTMENT OF NATURAL RESOURCES

OFFICE OF THE COMMISSIONER

SARAH PALIN, GOVERNOR

☐ P.O. BOX 111000
JUNEAU, ALASKA 99811-1000
PHONE: (907) 465-2400
FAX: (907) 465-3886

☐ 550 WEST 7TH AVENUE, SUITE 1400
ANCHORAGE, ALASKA 99501-3650
PHONE: (907) 269-8431
FAX: (907) 269-8918

March 16, 2009

Representative Charisse Millett, Co-Chair
House Special Committee on Energy
Capitol Building, Room 412
Juneau, Alaska 99801

Re: House Bill 164 – Relating to relating to noncompetitive leases of state land and for rights-of-way for oil or natural gas pipelines that originate and terminate within the state and to the regulation and certification of those pipelines.

Dear Representative Millett,

Please accept this request for your consideration to schedule HB 164 before the House Special Committee on Energy at your earliest convenience.

HB 164 proposes changes to the Right Of Way Leasing Act and the Pipeline Act addressing technical right-of-way issues for pipelines and clarifies oversight by the Regulatory Commission of Alaska. In conjunction with HB 163 which broadens the responsibilities of the Alaska Natural Gas Development Authority (ANGDA) HB 164 will allow the State to examine and pursue all options to supply Alaskans with affordable, clean-burning natural gas. These bills will facilitate and implement the plan to jump start work immediately on an instate gas pipeline.

This bill would allow common carriers the ability to offer firm transportation service that is not subject to prorated reductions which can stimulate pipeline development under certain circumstances. The assurance of unimpeded access to capacity is a strong inducement to shippers, and will anchor pipeline construction and expansion. Conversely, the lack of assurance to access may discourage development.

Taking action on these bills this Session will help facilitate the evaluation of options for in-state routes, gas resources and potential industrial and residential users; commencement of right of way and permitting work; preliminary engineering; undertaking a firm timetable for accomplishing this effort.

Attached are a Sectional Analysis, and zero fiscal notes. If you have any questions regarding the bill, or to make arrangements for department to respond to questions please feel free to contact Joe Balash, Special Assistant, 465-3500; or Harry Noah, at 269-8656.

Sincerely,

Thomas E. Irwin
Commissioner

STATE OF ALASKA

DEPARTMENT OF NATURAL RESOURCES

OFFICE OF THE COMMISSIONER

SARAH PALIN, GOVERNOR

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HB 164
Sectional Analysis

House Bill 164 – Relating to relating to noncompetitive leases of state land and for rights-of-way for oil or natural gas pipelines that originate and terminate within the state and to the regulation and certification of those pipelines.

Sections 1 and 2 of the bill are technical conforming amendments.

Section 3 of the bill would require that natural gas pipelines that originate and terminate in the state, and that require a state right-of-way lease, will meet conditions that favor expansion, and offer expansion rates that promote new entrants into the line. This section is modeled on many of the conditions required of applicants under AS 43.90.130 of the Alaska Gasline Inducement Act (AGIA). For example, lessees would have to commit to periodic binding open seasons, commit to expanding on commercially reasonable terms, and commit to rolled-in rates on expansions, subject to a ceiling of 15 percent of negotiated rates. Lessees would also have to agree to hire Alaska residents and contract with Alaska businesses to the extent permitted by law, and commit to negotiate a project labor agreement to the extent permitted by law.

Section 4 of the bill contains definitions of "commercially reasonable terms" and "reasonable engineering increment" in order to make more precise the expansion terms in sec. 3 of the bill.

Section 5 of the bill would clarify that the "open season" required of North Slope natural gas pipeline carriers by the Pipeline Act applies only to the extent that lease covenants under the Alaska Right-of-Way Leasing Act do not contain "open season" provisions. The RCA is already empowered under AS 42.06.140(a)(2) to enforce lease covenants, including those that contain an "open season" process, so compliance with the "open season" process in AS 42.06.240(f) would be redundant.

Section 6 of the bill would provide for conditional certification by the RCA for pipelines that are in the public interest, and that otherwise meet the requirements for granting a certificate of public convenience and necessity, but that have not yet obtained financing or do not possess firm transportation commitments, or both. This provision could, in some circumstances, provide greater predictability as to the timing and outcome of the regulatory process, and may reduce the cost and facilitate the development of a project by assuring potential shippers and financing partners of ultimate regulatory approval.

Section 7 of the bill would clarify that the RCA can require an exclusively in-state natural gas pipeline carrier to extend or enlarge its facilities under standards found in the Alaska Right-of-Way Leasing Act. This would enable the RCA to enforce access to pipeline facilities for all prospective shippers as required by DNR in the leasing process.

Section 9 of the bill would modify the definition of "common carrier" as it pertains to natural gas pipelines to include firm transportation service and interruptible transportation service. Coupled with sec. 8 of the bill, which would redefine "firm transportation service," this provision would allow, but would not require, natural gas pipeline carriers to offer, and shippers to arrange, for firm transportation service that would not be subject to curtailment except in the case of reduced pipeline capacity. Currently, common carriers may offer firm transportation service, but if total tendered shipments exceed pipeline capacity, shipments by all shippers must be curtailed pro rata.

STATE OF ALASKA

SARAH PALIN, GOVERNOR

DEPARTMENT OF NATURAL RESOURCES

OFFICE OF THE COMMISSIONER

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Sponsor Statement
HB 164

Relating to noncompetitive leases of state land and for rights-of-way for oil or natural gas pipelines that originate and terminate within the state and to the regulation and certification of those pipelines; relating to conditional certification for certain new natural gas pipelines; relating to definitions of "common carrier" and "firm transportation service" in the Pipeline Act.

Under the authority of Article III, Section 18, of the Alaska Constitution, I am transmitting a bill relating to noncompetitive leases of state land and for rights-of-way for oil or natural gas pipelines that originate and terminate within the state and to the regulation and certification of those pipelines; relating to conditional certification for certain new natural gas pipelines; and relating to definitions of "common carrier," and "firm transportation service" in the Pipeline Act, AS 42.06. The major provisions of the bill relate to covenants attached to state right-of-way leases by the Department of Natural Resources (DNR), certification by the Regulatory Commission of Alaska (RCA), and expanding the definition of "common carrier" with respect to North Slope natural gas pipelines to include carriers that offer both firm and interruptible transportation service.

Under current law, natural gas pipelines that cross state land, and require a state right-of-way under the Alaska Right-of-Way Leasing Act, AS 38.35, are subject to the covenants listed in AS 38.35.120. The covenants include a requirement that those pipelines operate as "common carriers." Generally, common carrier pipelines must accommodate all shippers upon reasonable request, may not show undue preference or discrimination among similarly situated shippers, and, if shippers' requests for service exceed the capacity of the pipeline, must prorate shipper nominations. These requirements can foreclose pipeline carriers and shippers from fashioning long-term capacity commitments.

Allowing common carriers to offer firm transportation service that is not subject to prorated reductions can stimulate pipeline development under certain circumstances. The assurance of unimpeded access to capacity is a strong inducement to shippers, and will anchor pipeline construction and expansion. Conversely, the lack of assurance to access may discourage development.

This proposed legislation, together with HB 163, which broadens the responsibilities of the Alaska Natural Gas Development Authority (ANGDA), will form the initial statutory framework for the development of in state gasline for use by Alaskans. Additionally, the key action to bring a long term stable supply of

Alaska gas to Alaska consumers will be an action plan, and the people that implement that plan to jump start work immediately on an instate gas pipeline including the evaluation of options for routes, gas resources and potential industrial and residential users; commencement of right of way and permitting work; preliminary engineering; and a firm timetable for accomplishing this work.

FISCAL NOTE

STATE OF ALASKA
2009 LEGISLATIVE SESSION

Fiscal Note Number: 1
Bill Version: HB 164
(H) Publish Date: 3/2/09

Identifier (file name):0052-CED-RCA-03-02-09
Dept. Affected: DCCED
Title: Natural Gas Pipelines
RDU: Regulatory Commission of Alaska
Component: Regulatory Commission of Alaska
Sponsor: Rules Committee by Request
Requester: Governor
Component Number: 2417

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 would revise carriage requirements for natural gas pipelines originating and terminating within Alaska, allowing a carrier seeking to obtain a noncompetitive right-of-way lease to provide either common or contract carriage. The legislation would revise certification requirements for natural gas pipelines, establishing a conditional certificate that allows the carrier to become certificated before it obtains or commits financing or receives firm commitments to transport natural gas. The legislation would also allow the carrier to provide firm and interruptible carriage under tariff, contract, or both.

(Continued on Page 2)

Prepared by: Bob Pickett, Chairman
Phone 907-276-6222
Division
Date/Time 03/02/09 9:00am
Approved by: Emil Notti, Commissioner
Date 3/2/2009
Department of Commerce, Community and Economic Development

STATE OF ALASKA
2009 LEGISLATIVE SESSION

BILL NO. HB 164

ANALYSIS CONTINUATION

(Continued from Page 1)
The Regulatory Commission of Alaska (RCA) receives and processes certificate applications for natural gas pipelines that originate and terminate within Alaska, and regulates the rates of those natural gas pipeline carriers.

Since this legislation does not change the RCA's authority or duty to certificate instate natural gas pipelines, the RCA should not incur additional work based on the passage of this legislation.

FISCAL NOTE

STATE OF ALASKA
2009 LEGISLATIVE SESSION

Fiscal Note Number: 2
Bill Version: HB 164
(H) Publish Date: 3/2/09

Identifier (file name): 0052-DNR-OGD-02-26-09
Dept. Affected: Natural Resources
Title: Natural Gas Pipelines that Originate and Terminate In-State
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 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 amend the Alaska Right-of-Way Leasing Act to require intra-state natural gas pipelines, which are over a certain value and require a state right-of-way lease, to offer expansion and expansion rates that promote new entrants into the line. It would also clarify the relationship of common carriage and firm transportation within the Pipeline Act.

These amendments are expected to increase commercial and regulatory predictability, ensure access to gas pipeline capacity, and promote additional industry activity in Alaska resulting in additional state revenues.

Prepared by: Kevin Banks, Director — Phone 269-8802
Division: Oil and Gas — Date/Time February 26, 2009
Approved by: Tom Irwin, Commissioner — Date February 26, 2009
Natural Resources

(Revised 9/10/2008 OMB)

FISCAL NOTE

STATE OF ALASKA
2009 LEGISLATIVE SESSION

Fiscal Note Number: 2
Bill Version: HB 164
(H) Publish Date: 3/2/09

Identifier (file name): 0052-DNR-OGD-02-26-09
Dept. Affected: Natural Resources
Title: Natural Gas Pipelines that Originate and Terminate In-State
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 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 amend the Alaska Right-of-Way Leasing Act to require intra-state natural gas pipelines, which are over a certain value and require a state right-of-way lease, to offer expansion and expansion rates that promote new entrants into the line. It would also clarify the relationship of common carriage and firm transportation within the Pipeline Act.

These amendments are expected to increase commercial and regulatory predictability, ensure access to gas pipeline capacity, and promote additional industry activity in Alaska resulting in additional state revenues.

Prepared by: Kevin Banks, Director — Phone 269-8802
Division: Oil and Gas — Date/Time February 26, 2009
Approved by: Tom Irwin, Commissioner — Date February 26, 2009
Natural Resources

(Revised 9/10/2008 OMB)

#2

Conceptual amendment to HB 164

Sec. 2 P. 2, l. 2-16

Amending AS 38.35.100 dealing with conditional leases.

The amendment would allow the commissioner to consider the public interest in allowing the transfer – as the statute is written – and issue written findings to substantiate a decision to allow the transfer of interest in the right of way,
but then we would amend this section, or amend the statute at the appropriate section, so that the final authority for the decision to authorize the transfer would rest with the legislature.

HB

166

<target><bill>HB 166</bill><subject>HB
166</subject><comm>HENE26</comm></target>

REPRESENTATIVE BILL THOMAS
ALASKA STATE LEGISLATURE DISTRICT 5
e-mail: Representative.Bill.Thomas@legis.state.ak.us
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State Capitol
Juneau AK, 99801-1182
907-465-3732
888-461-3732
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MEMORANDUM

DATE: March 18, 2009

TO: Representative Charisse Millett, Co-Chair House Special Committee on Energy
Representative Bryce Edgmón, Co-Chair House Special Committee on Energy

FROM: Representative Thomas

RE: HB 166 Southeast Alaska Fund

Please schedule HB 166 Southeast Energy Fund for a hearing in the House Special Committee on Energy as soon as possible. HB 166 expands the authority of this already existing fund to allow money in the fund to be used for numerous energy projects in Southeast Alaska.

Please contact Kaci Schroeder Hotch, in my office if you have any questions.

\

REPRESENTATIVE BILL THOMAS

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Sponsor Statement for HB 166 Southeast Energy Fund

In 1993 the Alaska State Legislature established the Southeast Energy Fund as a repository for money that could then later be appropriated to the Swan-Tyee Hydroelectric Project. Since then, the need and fervor for hydroelectric power in Southeast Alaska has grown exponentially. Hydroelectric power is the most readily available source of renewable energy in Southeast Alaska. Southeast Alaska hosts a plethora of lake-tap and run-of-the-river sources of hydroelectricity which have the potential to produce more power than the region could ever hope to use. Southeast Alaska has been called the Saudi Arabia of hydroelectricity.

However, despite this readily available source of renewable energy, many communities in Southeast Alaska remain either totally or heavily dependent on diesel generated electricity seeing rates nearing 70 cents per kilowatt hour. These tremendously high electric rates have crippled these communities in Southeast Alaska resulting in extremely high outmigration and virtually no economic growth despite a large economic potential. Further, other communities already on hydropower will soon need to supplement with diesel generated power as consumption growth exceeds the hydropower generation capacity.

The communities in Southeast have a long history of working together towards the long term goal of energy independence by collaborating on power generation and transmission. However, the state also has a critical role to play in providing low cost energy to all Alaskans. Hydropower projects are extremely capital intensive and state assistance in capitalizing these projects on the front end is crucial.

HB 166 broadens the authority of the Southeast Energy Fund to include all power projects within Southeast Alaska. In doing so, it allows for a funding mechanism for construction of power generation projects in Southeast and for the completion of the regional electrical grid.

I urge your support of HB 166.

Existing Law

Sec. 42.45.040. Southeast energy fund.

The Southeast energy fund is established as a separate fund. The fund consists of money transferred to it under former AS 42.45.050. The authority may make grants from the Southeast energy fund to utilities participating in the power transmission intertie between the Swan Lake and Tyee Lake hydroelectric projects for power projects, for repayment of loans, and for payments on bonds.

	RailBelt Energy Fund AS 37.05.520	Power Project Fund AS 42.45.010	Rural Electrification Revolving Loan Fund AS 42.45.020	Southeast Energy Fund AS 42.45.020
Accounting records are with:	SOA-AKSAS	AEA	AEA	Was AEA-Fund now closed
	Amount (000s) as of 03/02/09	*Amount (000s) as of 02/28/09*	*Amount (000s) as of 02/28/09*	*Amount (000s) as of 02/28/09*
Net Available				
Cash and Invesments	103,353	13,505	31	0
Loan Commitments	0	(7,175)	0	0
Appropriations-unexpended balance plus encumbrances				
Capital Appropriations to AEA	(40,200)	0	0	0
Capital Appropriations to Utilities	(3,647)	0	0	0
FY09 AEA Rural Energy Operating AR	0	(399)	0	0
FY2010 requested appropriations				
See note 1-Electrical Emergencies Capital Appropriation	0	0	(31)	0
FY10 AEA Rural Energy Operating AR	0	(1,000)	0	0
Greater Railbelt Energy & Transmission Corp Capital AR	(6,686)	0	0	0
Net Cash and Investments Available	52,820	4,931	0	0
Other Fund Assets				
Loans Receivable- Principal Payments Due Within 1 Yr	0	912	53	0
Loans Receivable-Principal Payments Due Later Than 1 Yr	0	23,709	593	0
Loan Loss Allowance	0	(957)	(21)	0
Net Loans Receivable	0	23,664	625	0

Note 1:
Per AS 42.45.020 (g) the fund balance is lapsed back to GF on June 30. On July 1, capital AR requested for Electrical Emergencies

FISCAL NOTE

STATE OF ALASKA
2009 LEGISLATIVE SESSION

Fiscal Note Number:
Bill Version: HB 166
() Publish Date:

Identifier (file name): HB 166-CED-AEA-03-30-09
Dept. Affected: DCCED
Title: Southeast Energy Fund
RDU: Alaska Energy Authority
Component: Rural Energy Operations
Sponsor: Representative Thomas
Requester: House Special Committee on Energy
Component Number: 2600

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 166 expands the authority of the Alaska Energy Authority (AEA) to allow grants from the Southeast Energy Fund to include 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."

Depending on the capitalization of this fund, AEA would need to draft regulations and develop a process to administer grants and an allocation method for the various types of eligible projects. Until the fund is capitalized, AEA will be unable to determine the operating costs of this program.

Prepared by: Linda MacMillan, AEA and AIDEA Finance - Project Accountant — Phone 771-3029
Division: Alaska Energy Authority — Date/Time 3/24/09- 4:00pm
Approved by: Emil Notti, Commissioner — Date 3/30/2009
Department of Commerce, Community and Economic Development

(Revised 9/10/2008 OMB)

Potential Power Projects in Southeast Alaska

- Ketchikan-Whitman Lake Hydroelectric Project
- Petersburg-Ruth Lake Hydroelectric Project
- Sitka-Takatz Lake Hydroelectric Project
- Metlakatla Intertie to Ketchikan
- Sitka-Blue Lake Hydroelectric Project
- Prince of Wales Island Intertie
- Reynolds Creek Hydroelectric Project
- Falls Creek Hydroelectric Project
- Kake-Petersburg Intertie
- Metlakatla-Triangle Lake Hydroelectric Project

* These projects have been vetted through a public process and most of them were specifically authorized by Congress as part of the 2001 Southeast Intertie Plan in P.L. 106-511.

P.L. 106-511

TITLE VI

—SOUTHEASTERN ALASKA INTERTIE SYSTEM CONSTRUCTION; NAVAJO ELECTRIFICATION DEMONSTRATION PROGRAM

SEC. 601. SOUTHEASTERN ALASKA INTERTIE AUTHORIZATION LIMIT.

Upon the completion and submission to the United States Congress by the Forest Service of the ongoing High Voltage Direct Current viability analysis pursuant to United States Forest Service Collection Agreement #00CO -111005--105 or no later than February 1, 2001, there is hereby authorized to be appropriated to the Secretary of Energy such sums as may be necessary to assist in the construction of the Southeastern Alaska Intertie system as generally identified in Report #97 -01 of the Southeast Conference. Such sums shall equal 80 percent of the cost of the system and may not exceed $384,000,000. Nothing in this title shall be construed to limit or waive any otherwise applicable State or Federal law.

Southeast Conference Energy Program

Legislative Report – January 2009

Southeast Conference

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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

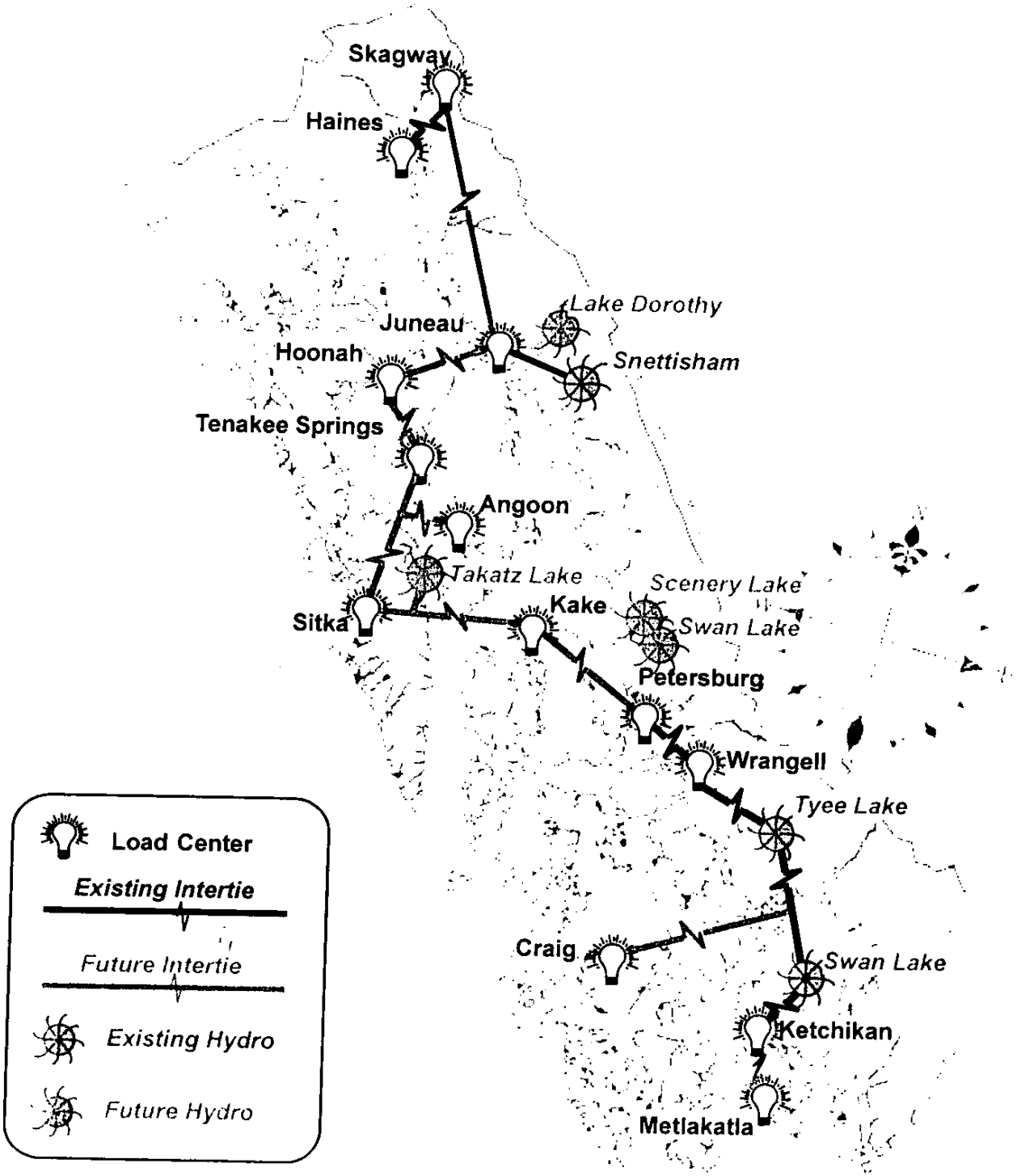
Petersburg – Ruth Lake: This Project would develop the hydro potential at Ruth Lake, with a total installed capacity of the powerhouse of 20 MW. The proposed Ruth Lake Hydroelectric Project would be interconnected to the existing transmission infrastructure currently owned and operated by the FDPPA. 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_Kuprenof Island
Map3_BCVV & Reynolds Creek
Map4_Ruth Lake Hydroelectric Project
Map5_Upper Lynn Canal Regional Energy Infrastructure

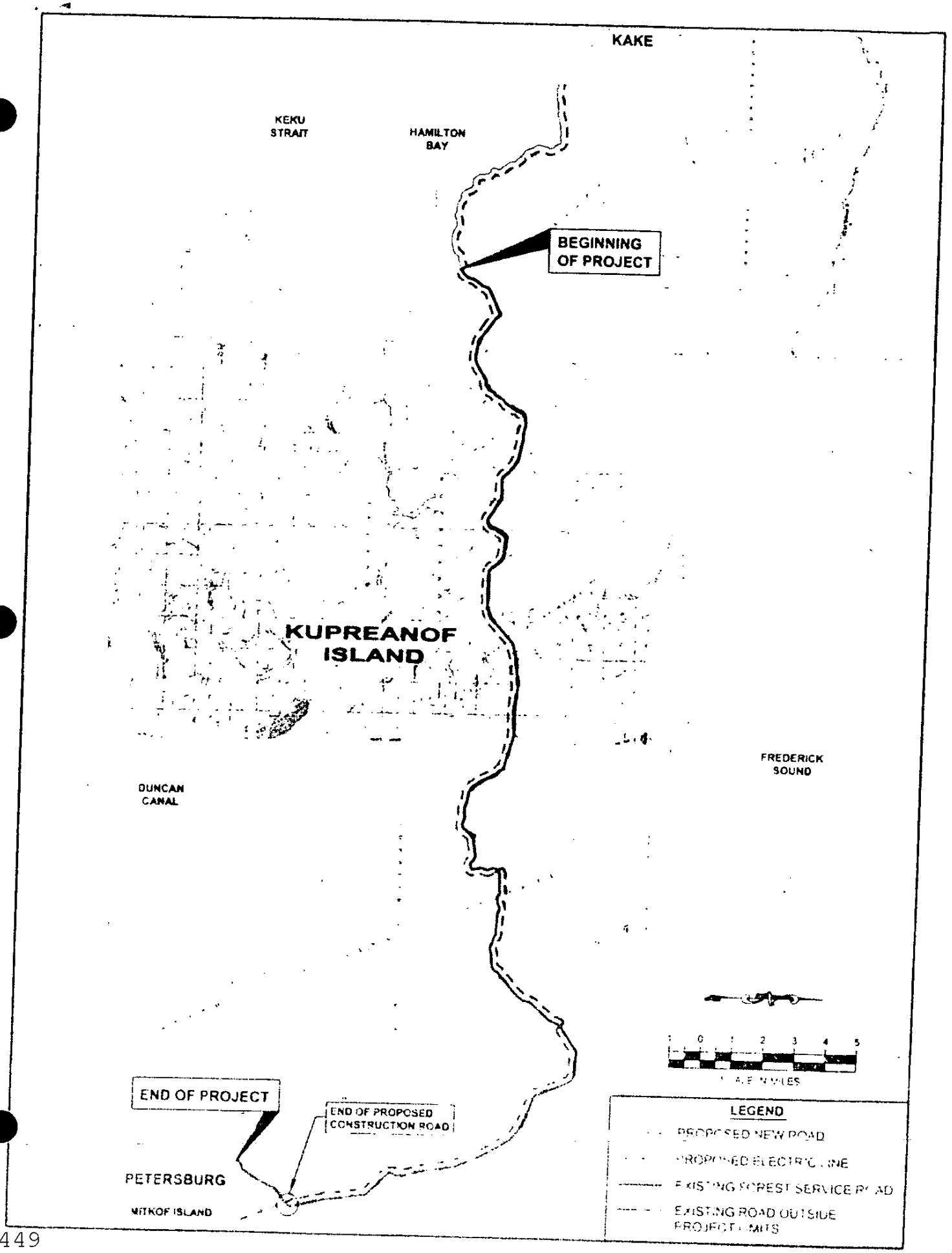


HATCH ACRES

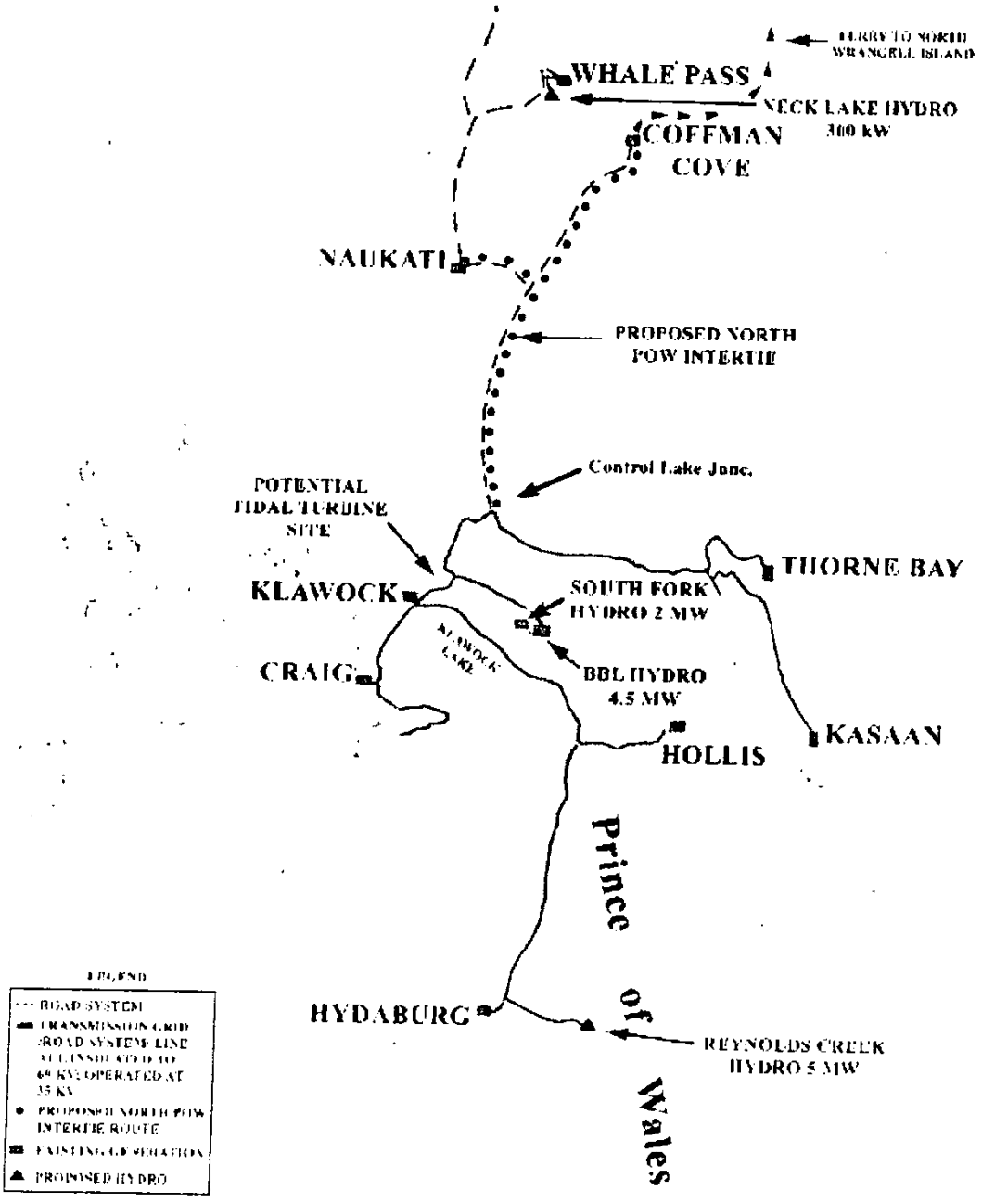
Southeast Alaska Utilities

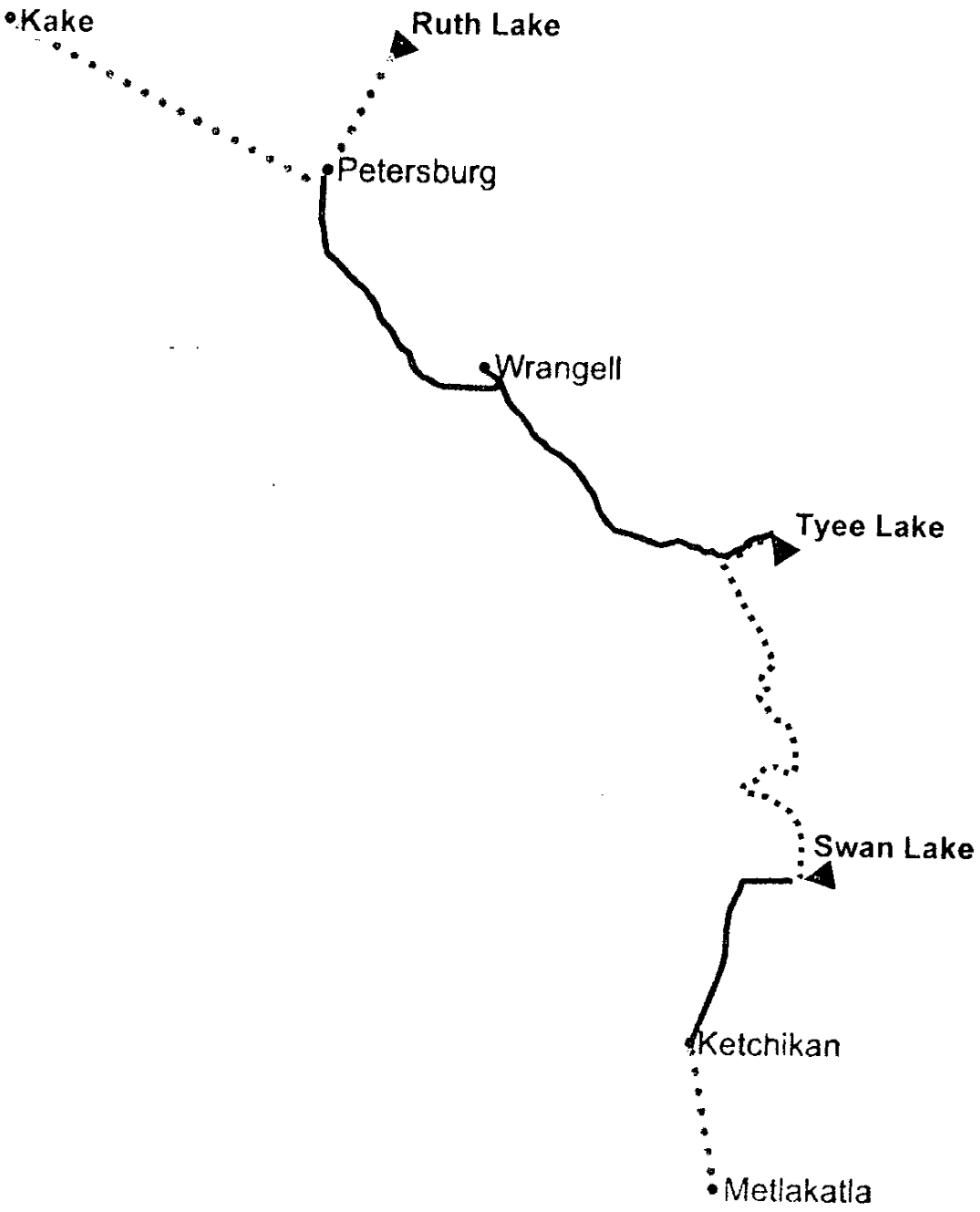
1997 ELECTRICAL INTERTIE SYSTEM PLAN

2448


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
STATUTE 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





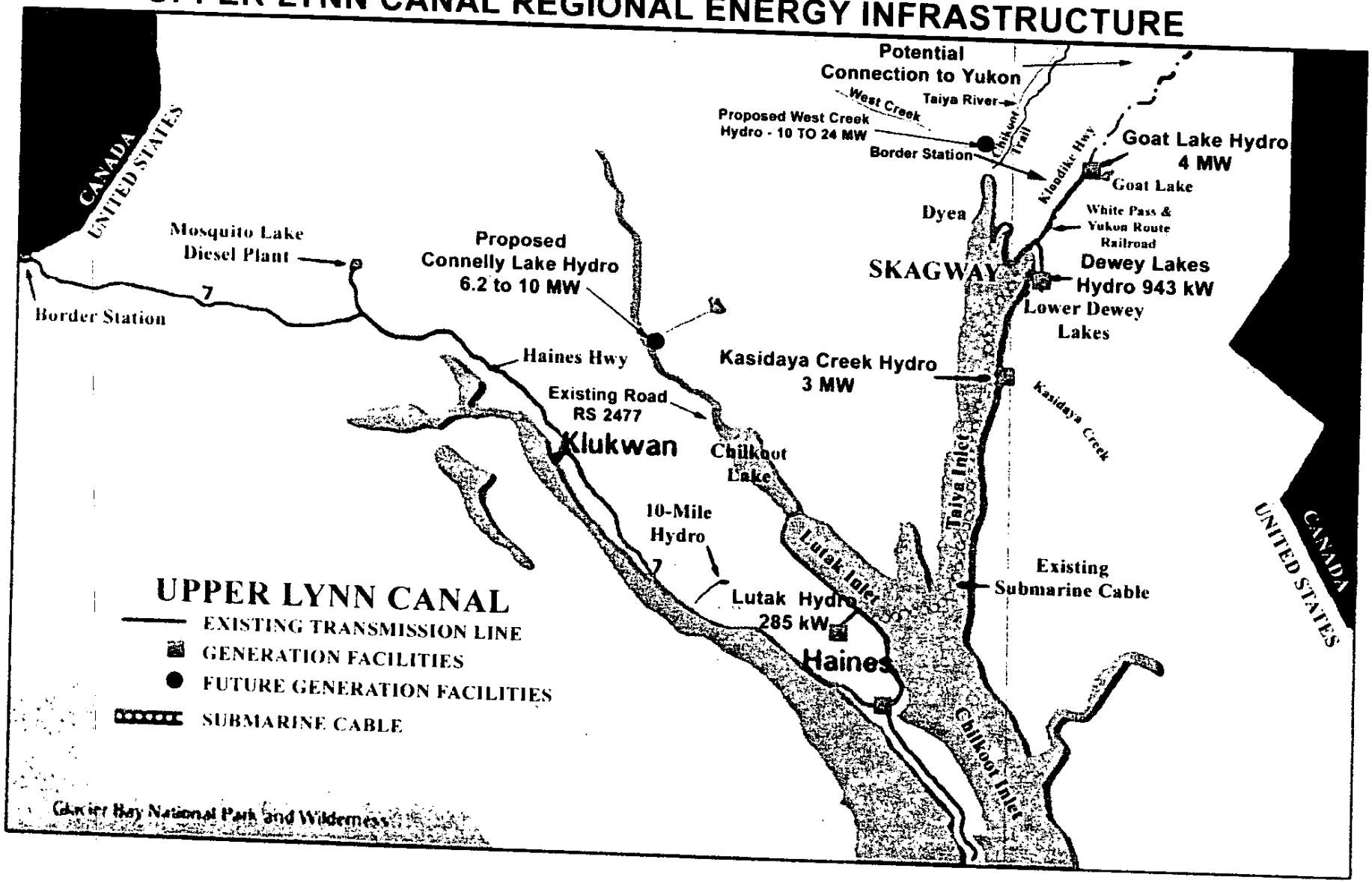
Transmission System Legend

- Existing
- Under Construction
- Proposed

Exhibit F.2
Ruth Lake Hydroelectric Project

Southern SE Alaska Transmission System

UPPER LYNN CANAL REGIONAL ENERGY INFRASTRUCTURE



SOUTHEAST CONFERENCE

213 3rd St. #124 Juneau, AK 99801 Phone (907) 463-3445 FAX 463-5670

March 23, 2009

Dear Representatives:

Thank you for the opportunity to speak in support of HB 166. My name is Robert Venables; I am the Energy Coordinator for Southeast Conference.

SE Conference is 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. The Conference's Mission is to help develop strong economies, healthy communities, and a quality environment in Southeast Alaska.

In 1986, lawmakers created the Railbelt Energy Fund. Between 1986 and 2005 a total of $486 million was appropriated to the Railbelt Energy Fund and appropriations of about $437 million during that time were been made from the Railbelt Energy Fund and invested into a variety of projects (including Susitna, Bradley Lake, the Alaska, Northern and Southern interties and the Healy Cogeneration project). In 1993, lawmakers amended the fund's enabling legislation to include authorization for "programs, projects and other expenditures to assist in meeting Railbelt energy needs."

This is a funding mechanism that can be used as a model for southeast Alaska.

In 1997 Southeast Conference formed its Energy Committee (originally the Intertie Committee) to work toward the development of a regional electrical grid system in southeast Alaska. Such a system was first envisioned by various entities since the 1920's and as recently as 1987 by the Alaska Power (Energy) Authority, who found that an electrical intertie system was both technically and economically feasible and proposed a 20-year planning and construction horizon. Had that work been prioritized and funded, it would be complete today. Instead, after 20 years, we have much work yet to do – although considerable progress is now being made.

The best example of this progress is the 57 mile Intertie connecting Tyee Lake that currently serves Petersburg and Wrangell with Swan Lake which serves the Ketchikan and Saxman areas. This is the first of many phases designed to evolve into an interconnected electrical grid serving southeast Alaska. Southeast Conference commissioned a study done by Acres International in 1997, entitled the "Southeast Alaska Electrical Intertie System Plan" that has been the blueprint for our efforts to date. It was this report that the U.S. Congress cited in its authorization for federal spending of up to $384 million (PL 106-511 was enacted into law on Feb. 1, 2001).

Since the 1997 Acres Report and 2001 Congressional authorization, Southeast Conference has continued to work with its member communities and funding partners such as USDA Rural Development, the Denali Commission and State Legislature to further the development of a regional electrical Intertie system. But while progress is being made, there are many energy needs in the region that are costly to build with no funding mechanism available to develop the southeast intertie system.

Today the intertie system needs that we are focusing on are two-fold. There is the obvious need for the physical links connecting the transmission lines community to community. The Swan-Tyee Intertie will be completed this fall and good progress is being made on the POW Island electrical grid. Thanks to all of you in the State Legislature, additional funding was made available through HB 152 grants to complete the island's intertie system to Coffman Cove and Naukati. Funding was also made available to design the Kake Intertie and the Metlakatla Intertie that will connect into the regional intertie system at Ketchikan. But construction funds are still needed. The estimated cost for constructing these intertie links is approximately $500 million.

The second system need is to develop capacity within the Intertie System to meet an ever increasing growth of electrical use. The spike in oil prices last year quickened the pace toward conversion from diesel-generated space heat to electricity-based heat which will consume the excess capacity of many of the utilities renewable energy resources in the foreseeable future.

There are many projects within the region that can meet these needs. We are most grateful for the Legislative support given recently to further the development of hydro facilities at Reynolds Creek, Whitman Lake, Ruth Lake and Takatz Lake. Reynolds Creek is a 5 MW project on POW Island that will meet the island's needs for electricity as that grid is completed and its economy grows. Whitman Lake is a 4.6 MW hydro near Ketchikan that will help prevent the supplemental use of diesel generated power. Ruth Lake, a proposed 20MW hydro near Petersburg, and Takatz Lake, a 28MW hydro project near Sitka, are in the early stages of reconnaissance and feasibility and will take many years and millions of dollars to bring on line. These facilities will be critical to meet the region's future need for power. It became very apparent during the recent call for "shovel-ready" projects that southeast Alaska is not ready to construct the facilities needed to meet the renewable energy needs of the future. The construction costs for these regional hydroelectric projects continue to climb and will exceed $1 billion.

The communities of southeast Alaska have worked together for many years to forge a vision to develop its vast renewable resources into a regional electrical intertie system, but a funding mechanism to construct such a system still eludes us.

HB 166 can be the mechanism that our region needs to facilitate the construction of critical infrastructure that will provide energy security to southeast Alaska. Please give this bill your fullest consideration and support. Southeast Conference thanks you for the opportunity to testify today and is available as a resource for any questions you might have regarding issues here in southeast.

Thank you.

HB

182

<target><bill>HB 182</bill><subject>HB 182</subject><comm>HENE26</comm></target>

SARAH PALIN
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STATE OF ALASKA
OFFICE OF THE GOVERNOR
JUNEAU

MEMORANDUM

TO: Representative Bryce Edgmon, Co-Chair
Representative Charisse Millet, Co-Chair
House Special Committee on Energy

FROM: Joe Balash, Special Staff Assistant
Office of the Governor

DATE: March 12, 2009

SUBJECT: Scheduling of HB 182

I respectfully request that House Bill 182 be scheduled for a hearing in the House Special Committee on Energy. HB 182 establishes the Greater Railbelt Energy and Transmission Corporation and empowers it to plan for the financing, acquisition, construction, ownership, and operation of necessary electric power generation and transmission assets and services. The mission of the corporation is to provide the Greater Railbelt electric utilities with adequate, reliable, safe, and stable electric power and transmission services, at the lowest feasible long-term cost.

Attached you will find:

- transmittal letter signed by the Governor,
- legislation itself,
- fiscal note from AEA,
- sectional analysis,
- summaries of two AEA assets proposed to be transferred

The legislation is built on the results of the Railbelt Electrical Grid Authority (REGA) Study conducted by Black & Veatch under contract to the Alaska Energy Authority. The study results can be found on the AEA website, but we do have the primary author of the study, Kevin Harper of Black & Veatch, available to provide a summary presentation to the committee.

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STATE OF ALASKA
OFFICE OF THE GOVERNOR
JUNEAU

March 5, 2009

The Honorable Mike Chenault
Speaker of the House
Alaska State Legislature
State Capitol, Room 208
Juneau, AK 99801-1182

Dear Speaker Chenault:

Under the authority of Article III, Section 18, of the Alaska Constitution, I am transmitting a bill that creates the Greater Railbelt Energy and Transmission Corporation and empowers the corporation to plan for the financing, acquisition, construction, ownership, and operation of necessary electric power generation and transmission assets and services that would be necessary to provide the Railbelt with adequate, reliable, safe, and stable electric power and transmission services, at the lowest feasible long-term cost.

The electric power generation assets in the Railbelt are aging, and low-cost Cook Inlet natural gas supplies are not expected to be plentiful in the future. New electric power generation projects with more diverse fuel sources will be needed. The creation and empowerment of a new public corporation will help coordinate the efforts of the interconnected Railbelt electric utilities.

This bill is one component of legislation to implement my statewide energy plan. This bill only initiates necessary efforts regarding the Railbelt. The bill would provide a framework for planning among the corporation, Railbelt utilities, and the state. These planning efforts are anticipated to result in further legislative proposals in 2010 for addressing the Railbelt's electric power needs.

Section 1 of the bill would create and empower the Greater Railbelt Energy and Transmission Corporation (corporation) within AS 42.50. Under AS 42.50.010, the corporation would be a statutory, non-profit corporation, similar in corporate form to the Commercial Fishing and Agriculture Bank. The corporation would have the primary public purpose, and corporate powers, to provide Railbelt utilities with adequate, reliable, safe, and stable electric power and transmission services, at the lowest feasible long-term cost (AS 42.50.010, 42.50.100, 42.50.110, and 42.50.160). The corporation would be governed by a board of directors composed of up to 12 persons from the Railbelt utilities, and one public member appointed by the Governor (AS 42.50.020). The Railbelt utilities would collectively retain control over their future electric power generation and transmission needs, and could exercise that control through the corporation. Members of the corporation would be the

ratepayers of individual Railbelt utilities, with member governance exercised, and member benefits received, solely through the member's electric utility (AS 42.50.050). The corporation would be responsible for planning for the financing, and planning for the acquisition or construction, of electric power generation and transmission assets or services necessary to serve the Railbelt (AS 42.50.120, 42.50.130, and 42.50.140). The corporation would make reports to the Governor, Legislature, members of the corporation, and the public; and would be subject to legislative audit (AS 42.50.200 and 42.50.230). Section 1 of the bill also defines certain terms (AS 42.50.900).

Sections 2 - 7 and 12 of the bill would provide for the contingent removal from participation in the corporation of any individual Railbelt electric utility that did not deliver to the Alaska Energy Authority, on or before January 19, 2010, an acceptable letter of intent under which the utility would commit to enter a phased commitment agreement among the Alaska Energy Authority, the corporation, and the utility. Sections 2 - 7 of the bill would repeal from the definition of "Greater Railbelt electric utilities" individual Railbelt electric utilities. Section 12(a) of the bill would make the individual repeals of sections effective if the individual utility does not deliver an adequate letter of intent. These sections, effectively, would enable individual Railbelt electric utilities to elect not to participate with and through the corporation. Section 12(c) of the bill would require the executive director of the Alaska Energy Authority to notify the Lieutenant Governor and revisor of statutes if any of these conditions are met. Section 12(d) of the bill defines terms used in the section.

Section 8 of the bill would establish obligations on the corporation to organize and, jointly with the Alaska Energy Authority, develop on or before 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 Railbelt electric utilities. The bill recognizes the reality that no new corporation can immediately fulfill the goals set for the corporation. Existing electric power generation and transmission assets and services owned and operated by Railbelt 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 Railbelt electric utilities. Under sec. 8(a), the plan would have to 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 would also have to address financing for necessary new projects, and include provisions that ensure the repayment of existing and new debt, and otherwise ensure that the creation and transition not negatively affect the ability to finance necessary Railbelt electric power generation and transmission assets and services. The plan must address the corporation's acquisition of assets. The plan must propose statutory changes to improve the ability of the corporation to achieve its purposes. Under sec. 8(b), the corporation would

annually report on progress towards implementing the transition and finance plan. Section 8(c) defines terms used in the section.

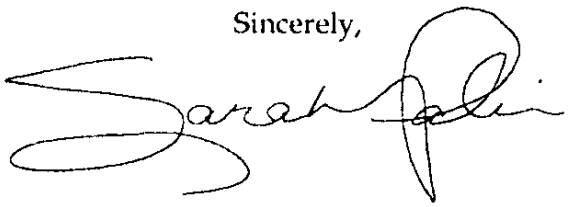
Section 9 of the bill would require the corporation to report to the Governor and Legislature with proposed statutory changes regarding the scope of regulation by the Regulatory Commission of Alaska over the corporation. Section 9(a) identifies principles that the corporation would have to include in its proposed legislation. Section 9(b) defines terms used in the section.

Section 10 of the bill would authorize the Alaska Energy Authority to convey the Bradley Lake Hydroelectric Project and the Alaska Intertie to the corporation. Section 10(a) would authorize the conveyances and would clarify that the Alaska Energy Authority may contract to allow the corporation to operate the projects, or agree to convey the projects in the future after bonds or debt are paid, refinanced, or defeased, or after approvals are obtained. Section 10(b) defines terms used in the section.

Sections 11 and 12(b) of the bill would provide for the contingent repeal of the authorization under Section 10 for the Alaska Energy Authority to convey the Bradley Lake Hydroelectric Project and the Alaska Intertie to the corporation. Section 11 would repeal section 10 of the bill. Section 12(b) would make Section 11 take effect if none of the utilities deliver to the Alaska Energy Authority, on or before 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. Section 12(c) would require the executive director of the Alaska Energy Authority to notify the Lieutenant Governor and revisor of statutes if this condition is met. Section 12(d) defines terms used in the section.

I urge your prompt and favorable action on this measure.

Sincerely,



Sarah Palin
Governor

26-GH1041\R
Bailey/Kane
4/6/09

CS FOR HOUSE BILL NO. 182(ENE)

IN THE LEGISLATURE OF THE STATE OF ALASKA

TWENTY-SIXTH LEGISLATURE - FIRST SESSION

BY THE HOUSE SPECIAL COMMITTEE ON ENERGY

Offered:
Referred:

Sponsor(s): HOUSE RULES COMMITTEE BY REQUEST OF THE GOVERNOR

A BILL

FOR AN ACT ENTITLED

"An Act establishing the Greater Railbelt Energy and Transmission Corporation and relating to the corporation, including transition terms, financial planning, reporting requirements, and planning for the initial business operations of the corporation; authorizing the Alaska Energy Authority to convey the Bradley Lake Hydroelectric Project and the Alaska Intertie to the corporation; and providing for an effective date."

BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF ALASKA:

*** Section 1.** AS 24.20.271 is amended to read:

Sec. 24.20.271. Powers and duties. The legislative audit division shall

(1) conduct a performance post-audit of boards and commissions designated in AS 44.66.010 and of those programs and activities of agencies subject to termination as determined in the manner set out in AS 44.66.020 and 44.66.030, and make the audit, together with a written report, available to the legislature not later than the first day of the regular session of the legislature convening in each year set out

with reference to boards, commissions, or agency programs whose activities are subject to termination as prescribed in AS 44.66; the division shall notify the legislature that the audit and report are available;

(2) audit at least once every three years the books and accounts of all custodians of public funds and all disbursing officers of the state;

(3) at the direction of the Legislative Budget and Audit Committee, conduct performance post-audits on any agency of state government;

(4) cooperate with state agencies by offering advice and assistance as requested in establishing or improving the accounting systems used by state agencies;

(5) require the assistance and cooperation of all state officials and other state employees in the inspection, examination, and audit of state agency books and accounts;

(6) have access at all times to the books, accounts, reports, or other records, whether confidential or not, of every state agency;

(7) ascertain, as necessary for audit verification, the amount of agency funds on deposit in any bank as shown on the books of the bank; no bank may be held liable for making information required under this paragraph available to the legislative audit division;

(8) complete studies and prepare reports, memoranda, or other materials as directed by the Legislative Budget and Audit Committee;

(9) have direct access to any information related to the management of [THE UNIVERSITY OF ALASKA] and have the same right of access as exists with respect to every other state agency**, to each of the following:**

(A) the University of Alaska; and

(B) the Greater Railbelt Energy and Transmission Corporation;

(10) conduct an audit every two years of information found in the annual reports required under AS 42.05.211 and AS 42.06.220 regarding compliance by the Regulatory Commission of Alaska with the requirements of AS 42.05.175(a) - (e) and of the timeline extensions made by the commission under AS 42.05.175(f), and of other performance measures adopted by the commission.

* **Sec. 2.** AS 42 is amended by adding a new chapter to read:

Chapter 50. Greater Railbelt Energy and Transmission Corporation.

Sec. 42.50.010. Greater Railbelt Energy and Transmission Corporation. (a) The Greater Railbelt Energy and Transmission Corporation is established.

(b) The purpose of the corporation is to

(1) plan for and provide adequate, reliable, safe, and stable wholesale electric power to greater Railbelt electric utilities, on a non-discriminatory basis, at the lowest feasible cost;

(2) procure adequate fuel supply, fuel storage, and fuel resources required to meet the short-term and long-term electric power needs of the greater Railbelt region service territory; and

(3) ensure that adequate generation and transmission assets exist to prudently meet the electric power needs of the electrically interconnected greater Railbelt region service territory.

(c) The corporation shall operate on a nonprofit basis.

(d) The corporation is exempt from the provisions of AS 10.15 (Alaska Cooperative Corporation Act), AS 10.20 (Alaska Nonprofit Corporation Act), and AS 10.25 (Electric and Telephone Cooperative Act).

(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 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.

Sec. 42.50.020. Board of directors. (a) The corporation shall be governed by a board of directors consisting of not more than 13 members, including the following:

(1) the chief executive officer of each greater Railbelt utility or the chief executive officer's designee, and

(2) an individual appointed by the governing body of each utility;

(3) a public director appointed by the governor; the public director shall have an electric power background and be familiar with the greater Railbelt

region service territory and public utility financing.

(b) The term of a director representing a utility under (a)(1) or (2) of this section expires on the earlier of the date

(1) the individual no longer holds the position that qualified the individual to be a director; or

(2) the utility notifies the corporation that the utility's representative on the board has been replaced.

(c) The term of the director appointed by the governor under (a)(3) of this section is four years. If a vacancy occurs, the governor shall appoint a public director to serve the remaining term of the director.

(d) The board may remove a director for cause on two-thirds majority vote of the full board. The bylaws must provide a mechanism for a utility to appoint an alternate director if the chief executive officer of the utility is removed from the board.

(e) A majority of the directors 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 a chair and vice-chair and other board officers as may be provided in the corporation's bylaws.

(g) The directors may not receive a salary, but may receive per diem and travel expenses paid by the corporation not to exceed the maximum amounts allowed for members of boards and commissions under AS 39.20.180.

Sec. 42.50.030. Board meetings open; exceptions. (a) A meeting of the board may be attended by the public. The bylaws of the corporation must provide for public participation at board meetings. Except when a voice vote is authorized, a vote shall be conducted in a manner that the public may know the vote of each person 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 public is able to attend the meeting and hear the meeting. This section applies only to a meeting at which a quorum of the board participates.

(b) Before holding an executive session, the board must convene in a regular or special meeting. 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. A subject may not be considered at the executive session except those mentioned in the motion calling for the executive session unless auxiliary to the main question. Formal action may not be taken during the executive session of the board.

(c) The following excepted subjects 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) subjects 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 by law are required 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 in the corporation, but only to the extent that the discussion of the matter in public

(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) Notice shall be given for all regular or special meetings of the board as provided in the bylaws of the corporation.

Sec. 42.50.040. Officers and employees. (a) The board shall employ a chief executive officer. The chief executive officer may not be a member of the board and serves at the pleasure of the board.

(b) The board shall appoint officers of the corporation as required by the corporation's bylaws and as the board determines to be necessary for the effective

operations of the corporation. An executive, operating, administrative, or other salaried officer of the corporation may not be a member of the board.

(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 39.35.

Sec. 42.50.050. Bylaws. The board may adopt bylaws for the corporation for the governance and management of the affairs of the corporation, and may alter, amend, or repeal them. The bylaws shall be consistent with this chapter and other laws that apply to the corporation.

Sec. 42.50.060. Indemnification of directors, officers, and employees. The corporation may indemnify directors, officers, and employees, or may purchase and maintain insurance on behalf of directors, officers, and employees. The indemnification and purchase and maintenance of insurance must comply with AS 10.06.490.

Sec. 42.50.070. General powers of the corporation. The corporation may

(1) sue and be sued in its name;

(2) have perpetual existence;

(3) adopt a corporate seal and alter it;

(4) participate with state departments and agencies in formulating and implementing electric power policy and in planning for the development, construction, and operation of adequate electric power generation and transmission facilities for the greater Railbelt region service territory;

(5) engage in programs to support the efforts of the greater Railbelt electric utilities and affiliated electric utilities in order to enhance the development, efficiency, reliability, safety, and price stability of electric power in the greater Railbelt region service territory;

(6) generate, manufacture, purchase, acquire, accumulate, transmit, meter, and economically dispatch electric power, and sell at wholesale, supply, and dispose of electric power to greater Railbelt electric utilities and affiliated electric

utilities;

(7) procure fuel supplies, fuel storage capacity, and fuel transmission resources;

(8) construct, buy, lease, or otherwise acquire, and 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 purpose for which the corporation is organized;

(9) buy, lease, or otherwise acquire, and use, and exercise and sell, assign, convey, mortgage, pledge, or otherwise dispose of or encumber franchises, rights, privileges, licenses, and easements;

(10) borrow money and otherwise contract indebtedness, issue evidence of indebtedness, and secure the payment of the indebtedness by mortgage, pledge, or deed of trust of, or any other encumbrance on its real or personal property, assets, franchises, or revenue;

(11) construct, maintain, and operate electric transmission lines, along, on, under, and across publicly owned land and public thoroughfares, including, without limitation, all roads, highways, streets, alleys, bridges, and causeways;

(12) exercise the power of eminent domain under AS 42.05.631, except that the corporation may not exercise the power of eminent domain to take an electric power generation or transmission asset, excluding rights-of-way, from an original greater Railbelt electric utility or affiliated electric utility;

(13) 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;

(14) 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;

(15) 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;

(16) undertake and provide for the management, operation, maintenance, use, repair, renovation, and control of all of the property of the corporation;

(17) apply to the state, the United States, and 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;

(18) enter into agreements with the state or a state agency or other instrumentality of the state;

(19) adopt, amend, and repeal bylaws;

(20) make all contracts necessary, convenient, or appropriate for the full exercise of its powers;

(21) conduct its business and exercise its powers inside or outside the state;

(22) do and perform any other act and thing, and have and exercise any other power that may be necessary, convenient, or appropriate to accomplish the purpose for which the corporation is organized; and

(23) create subsidiary corporations, including subsidiary corporations organized under AS 10.20.

Sec. 42.50.080. 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 as follows:

(1) the corporation is not required to obtain a certificate under AS 42.05.221; and

(2) the corporation may not make retail sales of electric power.

Sec. 42.50.090. Integrated resource plan. (a) The corporation shall adopt an integrated resource plan for the corporation to use in conjunction with the long-range fuel supply plan for determining the need for, and selection of, electric generation and

transmission projects to ensure delivery of safe, reliable, and sustainable electric power to greater Railbelt electric utilities at the lowest feasible long-term cost. The corporation, in adopting and updating the plan, shall evaluate and consider recommendations made in any applicable state energy plan or state integrated resource 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 annually review the integrated resource plan and update the plan at least once every five years.

(c) The integrated resource plan and updates to the plans must be made available on the Internet to greater Railbelt electric utilities, the governor, the legislature, and the public.

Sec. 42.50.100. Long-range fuel supply. (a) The corporation must adopt a long-range fuel supply plan for the corporation to use in conjunction with the integrated resource plan for determining the need for and selection of fuel supplies to be used by electric generation projects for delivery of safe, reliable, and sustainable electric power to greater Railbelt electric utilities at the lowest feasible long-term cost. In adopting and updating the long-range fuel supply plan, the corporation shall evaluate recommendations made in any applicable state energy plan or state integrated resource plan. If the corporation deviates from recommendations in a state plan, the adopted or updated long-range fuel supply plan must include a report explaining the reasons for the deviation.

(b) The board shall annually review, and regularly update the long-range fuel supply plan at least once every five years.

(c) The board shall make all long-range fuel supply plans available on the Internet to the greater Railbelt electrical utilities, the governor, the legislature, and the public

Sec. 42.50.110. Long-range capital improvement plan. (a) The corporation shall adopt a long-range capital improvement plan. The plan must describe the manner in which the corporation intends to accomplish the purposes of this chapter and anticipated capital improvements during each of the following 10 years. The plan shall

be based on the principle of providing safe, reliable, and sustainable electric power to greater Railbelt electric utilities at the lowest feasible long-term cost.

(b) The board shall annually review, approve revisions to, and update the long-range capital improvement plan on or before September 30 of each year.

(c) The long-range capital improvement plan and any update shall be made available on the Internet to greater Railbelt electric utilities, the governor, the legislature, and the public.

Sec. 42.50.120. Long-range capital management plan. (a) The corporation shall adopt a long-range capital management plan. The plan must describe the manner in which the corporation intends to accomplish the purposes of this chapter and the corporation's plans for acquisition, accumulation, and issuance of equity and debt for each of the following 10 years. The plan shall be based on the principle of providing safe, reliable, and sustainable electric power to greater Railbelt electric utilities at the lowest feasible long-term cost.

(b) The board shall annually review, approve revisions to, and update the long-range capital management plan on or before September 30 of each year.

(c) The long-range capital management plan and any update shall be made available on the Internet to the greater Railbelt electric utilities, the governor, the legislature, and the public.

Sec. 42.50.130. Pledge of the state. (a) The state pledges to and agrees with any lender to the corporation that the state will not limit or alter the rights and powers given to the corporation by this chapter to fulfill the terms of a contract made by the corporation with the lender to the corporation, or in any way impair the rights and remedies of the lender to the corporation. The corporation is authorized to include this pledge and agreement of the state in a contract with any lender to the corporation.

(b) The pledge of the state is limited to the express provisions of (a) of this section and is not a guarantee, surety, promise, undertaking, or assurance of repayment or performance of any obligation of the corporation.

Sec. 42.50.140. Fuel supply. 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 meet the corporate purpose stated in AS 42.50.010(b). The corporation may acquire long-term fuel supplies under this section in conjunction with other persons acquiring long-term fuel supplies for any lawful purpose.

Sec. 42.50.150. 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 special assessments of the state or a political subdivision of the state.

Sec. 42.50.160. Reports and publications. The board shall publish on the Internet an annual report for the greater Railbelt electric utilities. The report shall be made available to the governor, the legislature, and the public. The report must include financial statements audited by independent outside auditors, a discussion of the corporation's circumstances and operations during the period covered by the report, and any other information that the board believes would be of interest to the governor, the legislature, and the public, or that the legislature requests the board to include. The board may publish other reports considered appropriate to its purposes.

Sec. 42.50.170. Right to examine books and records. (a) Except as provided in (c) of this section, greater Railbelt electric utilities and the public 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 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, municipal charter, or ordinance;

(2) personnel records;

(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;

(5) specific matters that were prepared for or during an executive session of the board and not subsequently made public by the corporation.

Sec. 42.50.180. Audits and examinations of the corporation. (a) At the direction of the Legislative Budget and Audit Committee, the legislative auditor may conduct an audit of the corporation in the manner and under the conditions established under AS 24.20.271.

(b) The legislative auditor and the auditor's employees may not disclose information acquired in the course of an audit of the corporation concerning the particulars of the business or affairs of a borrower of the corporation or another person, unless the information is required to be disclosed by law or under a court order.

(c) The corporation shall be audited annually by an independent outside auditor. The legislative auditor may confer with the outside auditor and review the work papers of the audit. The board shall engage the outside auditor, who shall be responsible to the board. The corporation shall submit copies of each report of the outside auditor to the legislative auditor within 30 days after receipt of the report by the corporation.

Sec. 42.50.190. Dissolution, merger, consolidation, and disposition of assets. Without 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. 42.50.490. Definitions. In this chapter, unless the context otherwise requires,

(1) "affiliated electric utilities" means an electric utility that is wholly owned by one or more greater Railbelt electric utilities and by or through which one or more greater Railbelt electric utilities obtain electric power or electric generation or transmission services;

(2) "board" means the board of directors of the corporation;

(3) "corporation" means the Greater Railbelt Energy and Transmission Corporation;

(4) "electric power" means electric energy and capacity;

(5) "greater Railbelt electric utilities" means

(A) Homer Electric Association, Inc.;

(B) the City of Seward, Electric Utility Department;

(C) Chugach Electric Association, Inc.;

(D) the Municipality of Anchorage d/b/a Municipal Light and Power Utility;

(E) Matanuska Electric Association, Inc.;

(F) Golden Valley Electric Association, Inc.; and

(G) an entity holding a certificate of public convenience and necessity issued by the Regulatory Commission of Alaska, that succeeds to the entity named in (A) - (F) of this paragraph as the result of a merger or acquisition; if two or more of the entities named in (A) - (F) of this paragraph merge or otherwise combine under this subparagraph, the list of entities that make up the greater Railbelt electric utilities is reduced to include only the succeeding entity;

(6) "greater Railbelt region service territory" 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 greater Railbelt electric utilities.

* **Sec. 3.** AS 24.20.271(9)(B); AS 42.50.010, 42.50.020, 42.50.030, 42.50.040, 42.50.050, 42.50.060, 42.50.070, 42.50.080, 42,50.090, 42.50.100, 42.50.110, 42.50.120, 42.50.130,

42.50.140, 42.50.150, 42.50.160, 42.50.170, 42.50.180, 42.50.190, and 42.50.490 are repealed.

* **Sec. 4.** AS 42.50.490(5)(A), enacted by sec. 2 of this Act, is repealed.

* **Sec. 5.** AS 42.50.490(5)(B), enacted by sec. 2 of this Act, is repealed.

* **Sec. 6.** AS 42.50.490(5)(C), enacted by sec. 2 of this Act, is repealed.

* **Sec. 7.** AS 42.50.490(5)(D), enacted by sec. 2 of this Act, is repealed.

* **Sec. 8.** AS 42.50.490(5)(E), enacted by sec. 2 of this Act, is repealed.

* **Sec. 9.** AS 42.50.490(5)(F), enacted by sec. 2 of this Act, is repealed.

* **Sec. 10.** Sections 11 - 13 of this Act are repealed.

* **Sec. 11.** The uncodified law of the State of Alaska is amended by adding a new section to read:

TRANSITION: TRANSITION AND FINANCE PLAN; REPORT; TERM OF INITIAL PUBLIC DIRECTOR. (a) The Greater Railbelt Energy and Transmission Corporation shall organize and, jointly with the Alaska Energy Authority, develop on or before January 19, 2010, a transition and finance plan to enable the corporation to eventually become an all-requirements supplier of electric power and transmission services to greater Railbelt electric utilities. The transition and finance plan must include the following:

(1) a phased commitment agreement among the Alaska Energy Authority, the corporation, and two or more greater Railbelt electric utilities that

(A) identifies commitments by the corporation, the state, and the utilities, that are necessary to enable the corporation to achieve the corporate purpose stated in AS 42.50.010(b); and

(B) includes commitments by which the utilities will, over time, contract to obtain from the corporation electric power and transmission services;

(2) provisions to address the equity and creditworthiness of the corporation and the greater Railbelt electric utilities to secure repayment of existing and new intermediate and long-term financing for the construction or acquisition of electric power generation and transmission assets needed in the greater Railbelt region service territory; the provisions made under this paragraph must include provisions to

(A) repay debt associated with any electric power generation or transmission asset transferred to the corporation;

(B) secure adequate financing for a new electric power generation or transmission asset that becomes necessary before the corporation becomes fully functional; and

(C) create a capital defeasance fund to secure repayment of new or existing debt associated with electric power generation and transmission assets;

(3) a plan to development the business organization of the corporation;

(4) a plan to eventually acquire ownership of, or operational control over, greater Railbelt region service territory electric power generation and transmission assets necessary for the corporation to fulfill its corporate purposes;

(5) provisions to ensure that the transition

(A) does not negatively affect the ability of any greater Railbelt electric utility to operate and generate sufficient revenue to meet all obligations to ratepayers, creditors, and lenders; and

(B) includes adequate mechanisms to build sufficient equity to provide for the financing of and for the construction or acquisition of generation and transmission assets needed in the greater Railbelt region service territory before the corporation becomes the all-requirements supplier of electric power and transmission services to greater Railbelt electric utilities;

(6) reliability standards for electric power generation and transmission services provided by the corporation based on national loss of load probability for forced outage rates and outage duration for the greater Railbelt region service territory; and

(7) recommendations for statutory changes to improve the ability of the corporation to achieve the corporate purpose stated in AS 42.50.010(b), enacted by sec. 2 of this Act.

(b) The Greater Railbelt Energy and Transmission Corporation shall annually report to the governor, the legislature, and, on the Internet, the public on progress made toward implementing the transition and financing plan. The annual report must include a description of

(1) progress made and action taken since the last annual report;

(2) actions taken to acquire existing electric power generation and transmission assets from greater Railbelt electric utilities and affiliated electric utilities;

(3) action taken to plan for acquisition or construction of new electric power generation and transmission assets, including project status relating to design, permitting, construction, and financing;

(4) recommendations for financing the construction or acquisition of necessary electric power generation or transmission assets, which may include the acquisition of those services from independent power producers;

(5) action taken to develop or adopt an integrated resource plan;

(6) action taken to maintain reliability standards by each greater Railbelt electric utility; and

(7) other information requested by the governor or legislature.

(c) Notwithstanding AS 42.50.020(c), enacted by sec. 2 of this Act, the term of the initial public director appointed by the governor under AS 42.50.020(a)(3), enacted by sec. 2 of this Act, expires on June 30, 2012.

(d) In this section,

(1) "Alaska Energy Authority" means the authority created in AS 44.83.020;

(2) "corporation" has the meaning given in AS 42.50.490, enacted by sec. 2 of this Act;

(3) "greater Railbelt electric utilities" has the meaning given in AS 42.50.490, enacted by sec. 2 of this Act;

(4) "Greater Railbelt Energy and Transmission Corporation" means the corporation established in AS 42.50.010, enacted by sec. 2 of this Act;

(5) "greater Railbelt region service territory" has the meaning given in AS 42.50.490, enacted by sec. 2 of this Act.

*** Sec. 12.** The uncodified law of the State of Alaska is amended by adding a new section to read:

REPORT ON PROPOSED LEGISLATION REGARDING THE REGULATORY COMMISSION OF ALASKA AND THE GREATER RAILBELT ENERGY AND TRANSMISSION CORPORATION. (a) The Greater Railbelt Energy and Transmission Corporation shall, on or before January 19, 2010, report to the governor and legislature on proposed statutory changes regarding the scope of regulation of the corporation by the Regulatory Commission of Alaska. The report must address the following:

(1) rates for electric power sales and transmission to enable the corporation to recover its reasonable costs;

(2) a single, system-wide rate for electric power sales and transmission for greater Railbelt electric utilities that become all-requirements purchasers of electric power and transmission services from the corporation;

(3) system-wide rates for electric power sales and transmission and other services for greater Railbelt electric utilities that become partial-requirements purchasers of electric power and transmission and other services from the corporation;

(4) rates for electric power sales and transmission adequate to meet all financial covenants contained in mortgages or other lending instruments of the corporation;

(5) the principles and practices regarding accounts, records, and reports contained in AS 42.05.451 – 42.05.501 to ensure full disclosure of information necessary to determine the revenue requirement of the corporation;

(6) statutory deadlines for the Regulatory Commission of Alaska to consider and issue final orders on regulatory filings required from the corporation;

(7) the scope of Regulatory Commission of Alaska review of the capital management, cash flow, and capital improvement plans of the corporation;

(8) a revenue requirement and rate for electric power sales and transmission to be established annually by the corporation in a simplified rate making process at the end of each rate year; a true-up system will credit or charge amounts to greater Railbelt electric utilities; rate stabilization and renewal and replacement funds may be included in the revenue requirement and rates established for electric power sales and transmission services.

(b) In this section, unless the context otherwise requires,

(1) "corporation" has the meaning given in AS 42.50.490, enacted by sec. 2 of this Act;

(2) "greater Railbelt electric utilities" has the meaning given in AS 42.50.490, enacted by sec. 2 of this Act;

(3) "Greater Railbelt Energy and Transmission Corporation" means the corporation established in AS 42.50.010, enacted by sec. 2 of this Act;

(4) "Regulatory Commission of Alaska" means the commission created in AS 42.04.010.

*** Sec. 13.** The uncodified law of the State of Alaska is amended by adding a new section to read:

LEGISLATIVE AUTHORIZATION TO CONVEY. (a) Notwithstanding AS 44.83.396, the Alaska Energy Authority may convey to the Greater Railbelt Energy and Transmission Corporation the Bradley Lake Hydroelectric Project and the Alaska Intertie, under terms and conditions acceptable to the Alaska Energy Authority, under a phased commitment agreement negotiated and entered among the Alaska Energy Authority, the Greater Railbelt Energy and Transmission Corporation, and two or more greater Railbelt electric utilities. In the phased commitment agreement, the Alaska Energy Authority may agree to convey either the Bradley Lake Hydroelectric Project or the Alaska Intertie after the Alaska Energy Authority obtains necessary approvals, or after outstanding bonds or other outstanding debt associated with the Bradley Lake Hydroelectric Project or with the Alaska Intertie are paid, refinanced, or defeased. Nothing in this section precludes the Alaska Energy Authority from contracting with the Greater Railbelt Energy and Transmission Corporation for the operation or maintenance of either the Bradley Lake Hydroelectric Project or the Alaska Intertie before completion of a conveyance authorized by this section.

(b) In this section, unless the context otherwise requires,

(1) "Alaska Energy Authority" means the authority created in AS 44.83.020;

(2) "Alaska Intertie" means the electric power transmission intertie owned by, or subject to contractual rights of, the Alaska Energy Authority, and located between the Teeland substation near Knik, Alaska, and Healy, Alaska;

(3) "Bradley Lake Hydroelectric Project" means the hydroelectric project owned by the Alaska Energy Authority, and licensed as Project Number 8221 under 16 U.S.C. 792 – 823c (Federal Power Act);

(4) "greater Railbelt electric utilities" has the meaning given in AS 42.50.490, enacted by sec. 2 of this Act;

(5) "Greater Railbelt Energy and Transmission Corporation" means the corporation established in AS 42.50.010, enacted by sec. 2 of this Act;

(6) "phased commitment agreement" means a phased commitment agreement among the Alaska Energy Authority, the Greater Railbelt Energy and Transmission Corporation, and two or more greater Railbelt electric utilities, under which greater Railbelt

electric utilities plan to develop a contract under sec. 11 of this Act to obtain electric power and transmission services from the Greater Railbelt Energy and Transmission Corporation to be developed.

*** Sec. 14.** The uncodified law of the State of Alaska is amended by adding a new section to read:

CONDITIONAL EFFECT. (a) The following sections of this Act take effect only if the listed utility fails to deliver to the Alaska Energy Authority, not later than July 31, 2010, a letter of intent in the form and substance acceptable to the Alaska Energy Authority, under which the listed utility commits to enter a phased commitment agreement among the Alaska Energy Authority, the Greater Railbelt Energy and Transmission Corporation, and the listed utility. The listed utilities and applicable sections of this Act are as follows:

(1) Homer Electric Association, Inc., sec. 4 of this Act;

(2) the City of Seward, Electric Utility Department, sec. 5 of this Act;

(3) Chugach Electric Association, Inc., sec. 6 of this Act;

(4) the Municipality of Anchorage d/b/a Municipal Light and Power Utility, sec. 7 of this Act;

(5) Matanuska Electric Association, Inc., sec. 8 of this Act;

(6) Golden Valley Electric Association, Inc., sec. 9 of this Act.

(b) If fewer than two of the listed utilities in (a) of this section meet the conditions described in (a) of this section, secs. 10 - 13 of this Act take effect.

(c) 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) and (b) of this section are met.

(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 electric utilities" has the meaning given in AS 42.50.490, enacted by sec. 2 of this Act;

(3) "Greater Railbelt Energy and Transmission Corporation" means the corporation established in AS 42.50.010, enacted by sec. 2 of this Act;

(4) "phased commitment agreement" means a phased commitment agreement among the Alaska Energy Authority, the Greater Railbelt Energy and Transmission

Corporation, and two or more greater Railbelt electric utilities, under which greater Railbelt electric utilities plan to develop a contract under sec. 11 of this Act to obtain electric power and transmission services from the Greater Railbelt Energy and Transmission Corporation.

*** Sec. 15.** This Act takes effect immediately under AS 01.10.070(c).

26-GH1041\P
Bailey
4/6/10

CS FOR HOUSE BILL NO. 182( )

IN THE LEGISLATURE OF THE STATE OF ALASKA

TWENTY-SIXTH LEGISLATURE - SECOND SESSION

BY

Offered:
Referred:

Sponsor(s): HOUSE 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.** 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

New Text Underlined [DELETED TEXT BRACKETED]

(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, to the maximum extent possible when doing so is consistent with the goal of providing electric generation and transmission services at the lowest reasonable long-term cost;

(8) integration of renewable energy generation resources into areas electrically connected to the service territory of the corporation in a manner that prevents adverse effects on service quality or price.

(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 Regulatory Commission of Alaska. 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 and approved by the Regulatory Commission of Alaska. The corporation shall apply interconnection standards uniformly to public utility members, electric utilities, and other entities seeking to interconnect.

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 member, 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) seven public directors appointed by the governor to represent ratepayers and other interested groups within the service area of the corporation.

(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, however the governor may remove a director appointed under (a)(2) of this section for cause. 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 a director described in this subsection.

(d) The board may only remove a director representing a public utility member appointed under (a) (1) of this section 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) A state employee may not be appointed as chief executive officer of the

corporation or hired as an employee of the corporation within two years after the state employee's termination date.

(e) 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, except that fuel supplies, fuel storage capacity, and fuel transmission resources may not be procured with state funds;

(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 approved by the Regulatory Commission of Alaska that are applicable to all public utilities electrically interconnected to the service territory of the corporation; and

(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.

(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, ratepayers, and the public.

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, ratepayers, and the public.

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, ratepayers, and the public.

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, ratepayers, and the public.

Sec. 42.50.150. Financing arrangements; state pledge. (a) The corporation may

(1) use any financing arrangements permitted by law in achieving the

purposes and objectives of the corporation;

(2) develop financing arrangements for individual projects;

(3) request that the Alaska Industrial Development and Export Authority issue revenue bonds for the corporation's projects.

(b) The state pledges to and agrees with any lender to the corporation that the state will not limit or alter the rights and powers given to the corporation by this chapter that authorize the corporation to fulfill the terms of a contract between the corporation and a lender, or impair the rights and remedies of the lender to the corporation. The pledge

(1) may be included in a contract between a lender and the corporation;

(2) is not a guarantee, surety, promise, undertaking, or assurance of repayment or performance of an obligation of the corporation.

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. (a) 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.

(b) Nothing in this section exempts

(1) the corporation from payment of taxes, royalties, or assessments of the state applicable to natural gas storage, fuel pipelines, or underground fuel or other natural storage; or

(2) a municipal public utility from payment of an applicable municipal utility service assessment.

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, ratepayers, and the public 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. 2.** 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. 3.** 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. 1 of this Act, if the conditions in sec. 4 of this Act are met.

*** Sec. 4.** The uncodified law of the State of Alaska is amended by adding a new section to read:

CONDITIONAL EFFECT. (a) Sections 1 and 2 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 December 31, 2010, a letter of intent in the form and substance established by regulations adopted by 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 January 31, 2011, 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. 1 of this Act, as authorized by sec. 3 of this Act;

(3) "public utility member" has the meaning given in AS 42.50.900, enacted by sec. 1 of this Act.

*** Sec. 5.** If secs. 1 and 2 of this Act take effect under sec. 4(a) of this Act, they take effect January 31, 2011.

*** Sec. 6.** Sections 3 and 4 of this Act take effect immediately under AS 01.10.070(c).

26-GH1041\S
Chenoweth/Bailey
3/24/10

CS FOR HOUSE BILL NO. 182( )

IN THE LEGISLATURE OF THE STATE OF ALASKA

TWENTY-SIXTH LEGISLATURE - SECOND SESSION

BY

Offered:
Referred:

Sponsor(s): HOUSE 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 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

(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).

26-GH1041\E
Bailey
3/18/10

CS FOR HOUSE BILL NO. 182( )

IN THE LEGISLATURE OF THE STATE OF ALASKA

TWENTY-SIXTH LEGISLATURE - SECOND SESSION

BY

Offered:
Referred:

Sponsor(s): HOUSE 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:

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(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) "cooperative" means an entity organized under AS 10.25;

(4) "commissioner" means the commissioner of commerce, community, and economic development;

(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).

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MEMORANDUM April 7, 2010

SUBJECT: Energy and transmission corporations; sectional summary (CSHB 182( ), Work Order No. 26-GH1041\P)

TO: Representative Charisse Millett
Attn: Jeff Turner

FROM: Dennis C. Bailey
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.
Sec. 42.50.010(a) authorizes the organization of an energy and transmission corporation if the organization is authorized by law; authorizes the corporation to operate power and transmission projects owned by the Alaska Energy Authority, and to plan for power generation and transmission in a specified service area.

Sec. 42.50.010(b) describes the purposes of the corporation.

Sec. 42.50.010(c) lists the topics that the corporation may plan for, recommend, coordinate, or otherwise address.

Sec. 42.50.010(d) states that the corporation shall operate on a nonprofit basis and shall provide services based on uniform rates for like services under standard tariffs or contractual arrangements.

Sec. 42.50.010(e) states that the corporation exists separate and independent from the state, is not a state agency or otherwise related to the state.

Sec. 42.50.010(f) states that the corporation operations are for a public purpose.

Sec. 42.50.010(g) states that the corporation is authorized to interconnect with electric utilities other than the public utility members of the corporation on terms approved by the Regulatory Commission of Alaska; the corporation may decline to interconnect with an entity that fails to meet standards of interconnection; the corporation will apply interconnection standards uniformly.

Sec. 42.50.020 describes the qualifications, appointment, terms, removal and compensation for corporate directors.

Sec. 42.50.030 describes board meetings, including notice of the meeting and conditions for executive sessions.

Sec. 42.50.040 provides for corporate officers and employees of the corporations.

Sec. 42.50.050(a) states that the members of the corporation are the public utility members and other entities that purchase services from the corporation that are approved by the board; the corporation may only supply services to members of the corporation.

Sec. 42.50.050(b) provides defines a public utility member.

Sec. 42.50.050(c) permits an affiliated electric utility to become a member of the corporation if approved by the board of directors.

Sec. 42.50.050(d) - (g) describes requirements relating to withdrawal from the corporation.

Sec. 42.50.060 describes the contents of the articles of incorporation of the corporation.

Sec. 42.50.070 authorizes the corporation to adopt bylaws and describes certain contents that must be in the corporation's bylaws.

Sec. 42.50.080 allows the corporation to indemnify its directors, officers, and employees.

Sec. 42.50.090(a) lists the powers of the corporation.

Sec. 42.50.090(b) prohibits the corporation from requiring its members to enter into certain power purchase agreements.

Sec. 42.50.100 authorizes the corporation to have all the powers and duties of a regulated public utility; the corporation may not make retail sales except to an industrial customer; the corporation is not required to obtain a certificate of public convenience and necessity.

Sec. 42.50.110 requires the corporation to adopt a resource plan.

Sec. 42.50.120 requires the corporation to adopt a long-range fuel plan.

Sec. 42.50.130 requires the corporation to adopt a long-range capital improvement plan.

Sec. 42.50.140 requires the corporation to adopt long-range financial management plan.

Sec. 42.50.150(a) allows the corporation to use any legal financing arrangement to achieve its purposes; the corporation may request that the Alaska Industrial Development Authority issue revenue bonds for corporation projects.

Under sec. 42.50.150(b), the state pledges that it will not limit or alter the rights and powers given to the corporation that authorize the corporation to fulfill the terms of a contract between the corporation and a lender, and will not impair the rights and remedies of the lender to the corporation, however the pledge is not a guarantee of repayment or performance of an obligation of the corporation.

Sec. 42.50.160 allows the corporation to acquire long-term fuel supplies including direct ownership of transportation and storage facilities, and may acquire long-term fuel supplies with other entities that are acquiring long-term fuel supplies.

Sec. 42.50.170 provides that the corporations real and personal property, assets, income, and receipts are exempt from taxation by the state or its political subdivisions subject to certain exceptions.

Sec. 42.50.180 requires the board to publish an annual report on the internet that includes an independently audited financial statement, a discussion of the corporation's operations other information requested by the legislature, and other information the board considers appropriate.

Sec. 42.50.190 allows the corporate records to be examined by members, ratepayers, and the public, subject to certain exceptions.

Sec. 42.50.200 requires the corporation to be audited annually and submit the report to the legislature and the governor.

Sec. 42.50.210 prohibits the corporation from dissolving, merging, consolidating, or disposing of assets other than in the ordinary course of business with out prior legislative approval.

Sec. 42.50.220 requires the corporation to adopt dispute resolution procedures in its bylaws that include specified procedures.

Sec. 42.50.900 defines terms used in chapter 42.50.

Section 2. Requires the Alaska Energy authority to enter into a contract to operate certain power projects when the applicant is the only wholesale power customer to be served by the power project, or if the applicant utility is a generation and transportation corporation and one or more members of the corporation is a wholesale power customer to be served by the power project.

Section 3. Amends the uncodified law to:
(a) authorize six designated public utilities to form the Greater Railbelt Energy and Transmission Corporation if, under bill sec. 4, four of the designated six utilities file a letter of intent with the Alaska Energy Authority agreeing to become a public utility member of the Greater Railbelt Energy and Transmission Corporation.
(b) require the Greater Railbelt Energy and Transmission Corporation, if formed, to conduct a management audit beginning on June 30, 2013, 2016, and 2020 under the direction of the Legislative Budget and Audit Committee, and deliver the results to the Legislative Budget and Audit Committee 180 days after the audit begins.

Section 4. The provisions of sec. 1, describing the creation and operation of an energy and transmission corporation, and the provisions of sec. 2, requiring the Alaska Energy authority to enter into a contract for the operation of a power project, do not become effective unless four of the designated six utilities submit a letter of intent agreeing to become a public utility member of the Greater Railbelt Energy and Transmission Corporation.

Section 5. Provides an effective date for bill secs. 1 and 2, if they take effect under bill sec. 4.

Section 6. Provides for an immediate effective date for bill secs. 3 and 4.

DCB:ljw
10-244.ljw

MEMORANDUM

April 6, 2010

SUBJECT: CS HB 182(ENE) version P

TO: Representative Charisse Millett
Co-Chair, House Special Committee on Energy

FM: Ron Miller
Consultant to House Speaker Mike Chenault & Senate President Gary Stevens

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You requested a sectional summary of the latest version of CSHB 182. Please note, just as Legislative Counsel Dennis C. Bailey advised in a memorandum dated March 19, 2010 regarding CSHB 182 (Work Order No.26-GH1041\E), a sectional summary of a bill is not an authoritative interpretation of the bill—the bill itself is the best statement of its contents.

CS HB 182 provides for the organization of energy and transmission corporations by interconnected public utilities, authorizes the organization of the Greater Railbelt Energy and Transmission Corporation, and authorizes the Alaska Energy Authority ("Authority") to contract with energy and transmission corporations to operate power projects of the Authority

Section 1. This Section, effective January 31, 2011 under Section 5, is contingent on four or more interconnected utilities filing letters of intent under Section 4.

This Section amends AS 42 to add a new chapter, AS 42.50 that establishes in statute the purposes, powers and duties of an energy and transmission corporation. The new corporation may "acquire, operate or maintain" Alaska Energy Authority projects and "plan for, recommend, coordinate and otherwise address power generation and transmission for the electrically interconnected service territories" of utilities that are members of the corporation.

This Section addresses the organization of the energy and transmission corporation including:

- Purposes of the corporation;
- Composition of the board of directors;
- Conduct of board meetings;
- The corporation's officers and employees;
- Corporate membership;
- Articles of incorporation and bylaws; and
- General powers of the corporation;

Section 1 also mandates the adoption of an integrated resource plan, long-range fuel supply plan, long-range capital improvement plan and long-range financial management plan. Other provisions in this section address financing arrangements, the acquisition of fuel supplies, tax exemption, annual reports, examination of the corporation's books and records, audits, corporate dissolution and internal dispute resolution procedures.

Section 2 of the bill authorizes the Alaska Energy Authority to enter into an agreement with an energy and transmission corporation organized under the new chapter to operate a power project of the Authority if one or more of the corporation's public utility members are wholesale customers of the project. As with Section 1, this Section becomes effective January 31, 2011 under Section 5, if four or more of the six identified Railbelt electrical utilities file letters of intent under Section 4.

Section 3 authorizes four or more of the six identified Railbelt electrical utilities to form an energy and transmission corporation under the new chapter. This corporation is to be entitled the Greater Railbelt Energy and Transmission Corporation. This section also mandates that the new corporation conduct a series of three management audits over a period of seven years.

Section 4 requires four or more of the six identified Railbelt electrical utilities sign letters of intent to become members of the Greater Railbelt Energy and Transmission Corporation prior to the end of business on December 31, 2010 or Sections 1 and 2 of the bill do not take effect.

Sections 5 and **6** set the legislation's effective dates.

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MEMORANDUM April 6, 2010

SUBJECT: Energy and transmission corporations; drafting issues (CSHB 182( ), Work Order No. 26-GH1041\P)

TO: Representative Charisse Millett
Co-Chair of the House Special Committee on Energy
Attn: Jeff Turner

FROM: Dennis C. Bailey
Legislative Counsel

This memorandum accompanies the CS requested. Please note the following issues that have arisen during drafting.

The phrase added to AS 42.50.090(24) creates an ambiguity. Do you intend that the operating standards developed by the board and approved by the RCA be applicable to all public utilities?

In the time allotted, I am unable to provide a substantive legal review of the subsection relating to the pledge of the state.

If I may be of further assistance, please advise.

DCB:plm
10-205.plm

Enclosure

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MEMORANDUM March 26, 2010

SUBJECT: Draft CSHB 182( ), draft version "S", authorizing organization of the Greater Railbelt Energy and Transmission Corporation -- sectional analysis (Work Order No. 26-GH1041\S)

TO: Representative Charisse Millett
Co-Chair of the House Special Committee on Energy

FROM: Jack Chenoweth
Assistant Revisor

This measure is based on an administration-initiated bill proposing establishment of the Greater Railbelt Energy and Transmission Corporation ("the corporation") claiming a membership among as many as six identified public utilities.[1]

*

In the draft as provided, an understanding of the effective dates for the measure's various provisions is critical. The authorization of various public utilities to form the transmission corporation (bill section 13) and the conditional effect provisions (section 14) are to take immediate effect. If, under bill section 14, the principal condition is met by the time of the established deadline, then

(1) permanent law provisions bearing on initial organization and operation of the corporation that are set out in bill sections 3, 6, and 11 would take effect August 16, 2010; and

(2) delayed amendments relating principally to deferred adjustment of the Regulatory Commission of Alaska's oversight of the corporation as set out in the remaining codified bill sections and the one repeal section would take effect August 16, 2015.

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[1] The committee is encouraged to review and may rely on the transmittal letter of explanation provided and reprinted at 2009 House Journal 437 - 441 (March 12, 2009) as an authoritative comment and explanation of the bill in the form in which it was introduced.

I

If this measure is enacted into law, these provisions would be given immediate effect:

-- an authorization, spelled out in **bill section 13**, a temporary law provision, by which at least any four of the six utilities identified in subsection (a) would be authorized to incorporate the Greater Railbelt Energy and Transmission Corporation, subject to obligations periodically to complete management audits (subsection (b));

-- a time contingency spelled out in **bill section 14**, another temporary law provision: not later than close of business July 30, 2010, at least four of the identified utilities must sign a letter of intent "in the form and substance acceptable to the Alaska Energy Authority" to meet the requirements of becoming a public utility member of the authorized corporation.

II

If the contingency described in **bill section 14** is met, then these provisions take effect August 16, 2010 --

Bill section 6 is the measure's principal permanent law provision. This section proposes to add a new chapter, AS 42.50, that generally sets out in law the powers, duties, and obligations of the new corporation intended to operate as a Railbelt area energy and transmission corporation "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 . . . , and to plan for, recommend, coordinate, and otherwise address power generation and transmission for the electrically interconnected service territories" of the various utilities that are the corporation's members. The material set out in various sections of proposed AS 42.50, added by **bill section 6**, sets out in detail the organizational form of the corporation; provisions specific to its directors, its officers and employees, and its membership; the content of the corporation's articles of incorporation and bylaws; its general powers; and other corporate matters; authorizes development of an integrated resource plan; specifies that it will have the powers and duties of a regulated electric public utility under the Alaska Public Utilities Regulatory Act (AS 42.05); and prescribes various obligations relating to the corporation's involvement in long-range planning. There are provisions included covering tax exemption, financing arrangements, reports, examination of corporate books and records, and audits, and a separate provision covering internal resolution of disputes.[2]

[2] For the record, we're not at all sure how, under this measure, the proposed corporation may be fairly characterized, or whether it may be held accountable to outside authority. It is not a public entity: proposed AS 42.50.010(e) disclaims its status as a public corporation ("The corporation may not be considered . . . a public corporation of the state . . . or a political subdivision of the state."), even though the next subsection, AS 42.50.010(f), establishes that "[t]he exercise by the corporation of the powers granted

The administration is in better position to respond to questions concerning any or all of these topics.

Other provisions that would take effect August 16, 2010, appear in --

-- **bill section 3**, establishing a limitation on the ability of the Regulatory Commission of Alaska as it sets or reviews rates proposed by the corporation ("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 (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"); and

-- **bill section 11,** amending a section to expand a power of the Alaska Energy Authority in order to allow the corporation and one or more of its constituent members to substitute for the authority in operating a power project held by the authority as successor to the former Energy Program for Alaska.

III

If the contingency described in **bill section 14** is met, then these provisions take effect August 16, 2015 --

-- **bill section 5** extends an exemption to the corporation from regulation under the Alaska Public Utilities Regulatory Act (AS 42.05); **bill section 1** extends the exemption to municipal regulation under AS 29.35.070(a); **bill section 4** makes a conforming amendment;

-- **bill section 2** extends to the corporation's wholesale agreement for the sale of power from a corporation-owned-or-operated project the exemption from commission oversight "until all long-term debt incurred for the project is retired";

---

by this chapter is considered to be for a public purpose." At the same time, while the measure directs that "[t]he corporation shall have all of the powers and duties of a regulated electric public utility," proposed AS 42.50.100(1), because of the corporation's broad exemption under the Public Utilities Regulatory Act, AS 42.05, it cannot fairly be characterized as the equivalent of a private authority otherwise subject to commission oversight. See AS 42.05.711(q), proposed to be added by bill section 5:

> 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.

-- **bill section 7** adds an exemption for the corporation from rate approval by the Regulatory Commission of Alaska and the commission-imposed regulatory cost charge; **bill section 8** belatedly burdens the corporation with principles and requirements contained in AS 42.05.441 - 42.05.491 (property valuation; accounts, records, and reports) as if the corporation were a regulated public utility, and belatedly subjects the corporation to the jurisdiction of the commission under AS 42.05.311 (joint use and interconnection of facilities) and 42.05.321 (failure among utilities to agree to joint use or interconnection) regarding an interconnection or joint use of facilities; **bill section 9** adds additional requirements by which the corporation may enter into agreements and contracts with its member utilities to provide services and add fees and administrative expenses upon its member utilities; and **bill section 10** adds an extensive provision governing procedures and standards applicable to the determination of rates for power, energy, and services that the corporation may recover from its members and customers; and

-- **bill section 12** belatedly repeals AS 42.05.431(i), the subsection enacted by bill section 3 establishing a limitation on the ability of the Regulatory Commission of Alaska to set or review rates proposed by the corporation for the repair, replacement, and retirement of a project owned or operated by the corporation or incurred to permit the corporation to build reasonably necessary equity for future operations.

*

Bill sections 15 - 17 prescribe the measure's effective dates.

JBC:plm
10-187.plm

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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

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MEMORANDUM March 26, 2010

SUBJECT: Drafting comments relating to draft CSHB 182( ), generally applicable to organization of the Greater Railbelt Energy and Transmission Corporation (Work Order No. 26-GH1041\S)

TO: Representative Charisse Millett
Co-Chair of the House Special Committee on Energy

FROM: Jack Chenoweth
Assistant Revisor

Per instruction from your office, CSHB 182( ) substantially replicates CSSB 143( ), previously prepared and delivered to the Senate Resources Committee. The points set out below speak to the work on the Senate-requested version. There is no material difference between the Senate and House versions noted in this paragraph.

The material added, amended, and deleted in the version delivered to the Senate Resources Committee is drawn from nine pages transmitted from your office that as I understand, had been prepared by the Department of Law. 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 I advised the Senate Resources Committee, and also want to advise you, that I can't be certain whether I'm correct. Please check these provisions -- bill sections 15 - 17 -- carefully to make sure that they will operate rationally.

To understand this measure, you should have a 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.

Please take the time to verify that the handling of the effective dates conforms to expectations.

In addition, 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 a set of edits proposed for AS 42.50.050(f) but not at the places instructed because the instruction would have yielded an absurd outcome.

The deletion of material at page 10, lines 24 - 26, of the previous "E" draft of the Senate version 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".

JBC:plm
10-186.plm

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MEMORANDUM March 18, 2010

SUBJECT: Greater Railbelt Energy and Transmission Corporation; drafting issues (CSHB 182( ), Work Order No. 26-GH1041\E)

TO: Representative Charisse Millett
Co-Chair of the House Special Committee on Energy
Attn: Jeff Turner

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
10-175.ljw

Enclosure

LEGAL SERVICES

DIVISION OF LEGAL AND RESEARCH SERVICES
LEGISLATIVE AFFAIRS AGENCY
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MEMORANDUM April 6, 2009

SUBJECT: Draft CSHB 182(ENE), relating to Railbelt Energy corporation: drafting considerations in CSHB 182(ENE)
(Work Order No. 26-GH1041\R)

TO: Representative Bryce Edgmon
Co-Chair of the House Special Energy Committee
Attn: Adam Berg

FROM: Dennis C. Bailey
Legislative Counsel

This memorandum accompanies the draft bill requested. Please note the following:

This draft suffers from insufficient time in which to complete an objective and thorough review.

The proposed bill disclaims the application of the Alaska Nonprofit Act (AS 10.20) under proposed sec. 42.50.010(d), asserts that the corporation will act as a nonprofit under proposed sec 42.50.010(c), and allows subsidiary corporations to be nonprofits under AS 10.20 at proposed sec. 42.50.070(23). Do you want to specify or disclaim what business organization might apply?

Proposed sec. 42.50.020 provides that the corporation has a separate and independent existence from the state and may not be considered the state, a state agency, an administrative unit of the executive branch of state government, a public corporation of the state, a municipal corporation or a political subdivision of the state. I am uncertain how this broad disclaimer would be interpreted or how it may be applied.

Sec. 42.50.030 of the bill omits the second sentence in subsection (c) because it conflicts with the insertion in the amendment.

Adding the phrase to 42.50.020(f) stating that the election is "by ballot" is unnecessary.

In proposed sec. 42.50.030(a), the proposed amendment speaks to "public participation" not "public attendance" which is referred to in the first sentence. Is a difference intended? Also, is the phrase "Except when a voice vote is allowed" necessary? Do you intend that the board must "participate" or be "present"? Since the board may only act when a quorum is present, the last sentence may not be necessary.

Proposed sec. 42.50.050. Do you intend that adoption of bylaws be permissive rather than mandatory? The second section refers to "other laws that apply to the corporation." It is preferable to refer to actual laws that apply to the corporation rather than a general reference. Other laws that apply would apply -- without saying so.

Proposed AS 42.50.130 asserts that the state pledges to and agrees with any lender to the corporation that the state (1) will not limit or alter the rights and powers given to the corporation to fulfill the terms of a corporation contract, and (2) will not impair the rights and remedies of a lender to the corporation. I am uncertain what issues this provision may raise and have not researched the issue in the time allotted.

Proposed sec. 42.50.150 asserts a tax exemption. I have not researched how this section might be applied, what restrictions may exist concerning the tax exemption, how it may be affect by, or affect other sections of the Alaska Statutes, and whether cross references may be required.

Proposed sec. 42.50.180 allows the Legislative Budget and Audit Committee to perform audits under AS 24.20.271. The subsection then seems to qualify or modify the authority of the legislative auditor by specifying some of the powers of the auditor. AS 24.20.271 already grants the auditor access to documents so restating that authority seems unnecessary. The enforcement authority in the subsection says that the auditor may obtain a court order if documents are not produced. That authority is repetitive of the authority of the LB&A Committee under AS 24.20.201 which grants the committee subpoena power, and the authority to compel production of witnesses and documents. To avoid an ambiguity, I suggest either relying entirely on the auditor's authority in AS 24.20.271 to conduct an audit, or to make clear whether the bill is intended to modify the auditors authority. The draft uses the former, by removing sentences describing the auditor's authority.

Proposed sec. 42.50.180(a) incorporates the audit methods of AS 24.20.271. AS 24.20.271(2) requires an audit of all custodians of state funds every three years. Proposed sec. 42.50.180(a) requires the audit at the direction of LB&A. These terms seem to conflict. If you mean for the audit to be discretionary, and only at the direction of LB&A, you might consider using AS 24.20.281 which allows for special audits.

Proposed sec. 42.50.180(b) prohibits disclosure of information acquired by the auditor concerning the affairs of a borrower of the corporation or another person. This broad prohibition prohibits any disclosure to anyone. The prohibition conflicts with the AS 24.20.311 which requires audit reports to be filed with the governor, the agency and the legislature.

Proposed sec. 42.50.490(6) refers to the combined territory of each of the utilities. The draft changed "each" to "all," I believe the combined territory of "all" is intended.

Bill sec. 12 authorizes the Alaska Energy Authority to transfer the Alaska Intertie and the Bradley Lake Hydroelectric Project to the corporation. In the time allotted I have not researched what issues this authorization may raise.

If I may be of further assistance, please advise.

DCB:plm
09-253.plm

Enclosure

Alaska Legislature
House Special Committee on Energy

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Summary of Changes for CS HB 182 (ENE) version P

The legislation was based on CS SB 143 (RES). The following changes made for the house version.

Page 1:
Deleted legislative intent section in CS SB 143 (RES). That deletion makes RCA oversight permanent

Page 2, Line 26:
After "resources" inserted "to the maximum extent possible when doing so is consistent wit the goal of providing electric generation and transmission services at the lowest reasonable long term cost"

Page 2, Line 29:
After "resources" inserted "into areas electrically connected to the service territory of the corporation in a manner that prevents adverse impacts on service or price"

Page 3, Line 12:
Deleted "corporation's board of directors"
After "by the" inserted "Regulatory Commission of Alaska"

Page 3, Line 14:
After "corporation" inserted "and approved by the Regulatory Commission of Alaska. The corporation shall apply interconnection standards uniformly to public members, electric utilities and other entities seeking to interconnect."

Page 3, Line 24:
Deleted "one" and inserted "seven"
After "governor" inserted "to represent ratepayers and other interest groups within the service territory of the corporation"

Deleted the following text:

"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."

Page 3, Line 30:
After "four years" inserted "however, the governor may remove a director appointed under (a) (2) of this section for cause"

Page 4, Line 3:
After "director" inserted "representing a public utility member under (a)(1) of this section"

Page 5, Line 31 continuing through Page 6, Line 2:
Added "(d) a state employee may not be appointed as chief executive officer of the corporation or hired as an employee of the corporation within two years after the state employees termination date"

Page 9, Line 11:
After "resources" inserted "except that fuel supplies, fuel storage capacity, and fuel transmission resources may not be procured with state funds;

Page 10, Line 24:
After "standards" insert "approved by the Regulatory Commission of Alaska that are"
Deleted "create subsidiary corporations"

Page 11, Line 23:
After "legislature," deleted "and"
After "ratepayers" inserted "and the public"

Page 12, Line 5:
After "legislature," deleted "and"
After "ratepayers," inserted "and the public"

Page 12, Line 15:
After "legislature," deleted "and"
After "ratepayers" inserted "and the public"

Page 12, Line 27:
After "legislature" deleted "and"
After "ratepayers," inserted "and the public"

Page 13, Line 3:
Inserted "(3) request that the Alaska Industrial Development and Export Authority issue revenue bonds for the corporation's projects"

Deleted the following text:

(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.

Page 13, Line 5-12:
Included a new subsection
"(b) The state pledges to and agrees with any lender to the corporation that the state will not limit or alter the rights and powers given to the corporation by this chapter that authorize the corporation to fulfill the terms of a contract between the corporation and a lender, or impair the rights and remedies of the lender to the corporation. The pledge

(1) may be included in a contract between a lender and a corporation;

(2) is not a guarantee, surety, promise, undertaking, or assurance of repayment or performance of an obligation of the corporation

Page 13, Line 25:
Added "(b) Nothing in this section exempts
(1) the corporation from payment of taxes, royalties, or assessments of the state applicable to natural gas storage, fuel pipelines, or underground fuel or other natural storage; or
(2) a municipal public utility from payment of an applicable municipal utility service assessment."

Page 14, Line 7:
After "members" deleted "and"
After "ratepayers" inserted "and the public"

Page 18, Line 5:
Deleted "July 30" inserted "December 31"
After "substance" deleted "acceptable to" and inserted "established by regulations adopted by the Alaska Energy Authority"

Page 18, Line 8:
After "effective" deleted "August 16, 2010" and replaced it with "January 31, 2011"

Page 18, Line 27:
After "effect" deleted "August 16, 2010" and replaced it with "January 31, 2011"

Page 18, Line 29:
After "Sections" deleted ""1" and replaced it with "3"
After "and" deleted "5"

Prepared by Jeff Turner, Staff for Rep. Charisse Millett on 4/6/10

ADOPTED

AMENDMENT #1

OFFERED IN HOUSE ENERGY BY: REPRESENTATIVE EDGMON

TO: HB 182 (Work Draft 26-GH1041\P)

Page 4, Line 12 following "Directors"

Insert "shall receive no"

Delete "'may not receive a"

ADOPTED

AMENDMENT #2

OFFERED IN HOUSE ENERGY BY: REPRESENTATIVE EDGMON

TO: HB 182 (Work Draft 26-GH1041\P)

Page 4, Line 12

Insert "reasonable" after "directors a"

WITHDRAWN

AMENDMENT #3

OFFERED IN THE HOUSE BY REPRESENTATIVE PETERSEN

TO: CSHB182 ( ) Version P

In concept: on page 6 line 5, following "director." insert:

(f) For purposes of this section state employee means any employee of the State of Alaska except for persons whose only employement with the state is as a member of the Alaska National Guard, State Defense Forces, or similar military organization of the state.

AMENDMENT

OFFERED IN HOUSE ENERGY BY REPRESENTATIVE _____

TO: HB 182 (Work Draft 26-GH1041\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:

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 not establish or maintain an unreasonable difference between localities or classes of service;

(4) 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;

(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"

FISCAL NOTE

STATE OF ALASKA
2009 LEGISLATIVE SESSION

Fiscal Note Number: 1
Bill Version: SB 143
(S) Publish Date: 3/9/09

Identifier (file name):0041-CED-AEA-03-02-09
Title: Greater Railbelt Energy and Transmission Corporation
Sponsor: Rules Committee by Request
Requester: Governor

Dept. Affected: DCCED
RDU: Alaska Energy Authority
Component: Statewide Project Development
Alternative Energy and Efficiency
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	**6,686.0**						
CHANGE IN REVENUES ( )							

FUND SOURCE (Thousands of Dollars)

1002 Federal Receipts							
1003 GF Match							
1004 GF							
1005 GF/Program Receipts							
1037 GF/Mental Health							
Other Railbelt Energy Fund (1012)	6,686.0						
TOTAL	**6,686.0**	**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 creates a new corporation to own and operate all or a portion of the Railbelt electric power generation and transmission (G&T) system. Under a phased transition, the new company will integrate the existing G&T assets presently owned by the Railbelt utilities and the Alaska Energy Authority (AEA). The company will also have the ability to construct new G&T infrastructure. AEA will develop a plan to allow the new corporation to assume ownership and/or control of its two existing AEA owned Railbelt G&T assets (the Bradley Lake Hydroelectric Project and the Alaska Intertie). The new corporation will ultimately have responsibility as an all-requirements supplier of wholesale power for the Railbelt.

(Continued on Page 2)

Prepared by: Jim Strandberg, Program Manager — Phone (907) 771-3000
Division: Alaska Energy Authority — Date/Time 3/2/09 1:00pm
Approved by: Emil Notti, Commissioner — Date 3/2/2009
Department of Commerce, Community and Economic Development

FISCAL NOTE #1

STATE OF ALASKA
2009 LEGISLATIVE SESSION

BILL NO. SB 143

ANALYSIS CONTINUATION

AEA will provide basic support services to create the new corporation, assist its board members to begin the governance process, coordinate with Railbelt utilities to develop the corporation's bylaws, develop transition and financing plans, establish a detailed regulatory approach, and assist the new corporation in reporting these recommendations to the next legislative session.

AEA as program manager will provide services to form the new corporation, assist its board members to begin the governance process, coordinate with Railbelt utilities to develop the corporation's bylaws, develop transition and financing plans, establish a detailed regulatory approach, and assist the new corporation in reporting these recommendations to the next legislative session.

AEA's services will include procurement of professional and financial service as well as program management. AEA estimates its program services will be needed for a two year period. AEA will need one AIDEA employee for that period to manage this program.

FISCAL NOTE

STATE OF ALASKA
2010 LEGISLATIVE SESSION

Fiscal Note Number:
Bill Version: **CS HB182 (ENE)**
() Publish Date:

Identifier (file name): HB182CS(ENE)-CED-AEA-3-24-10
Dept. Affected: DCCED
Title: Greater Railbelt Energy and Transmission Corporation
RDU: Alaska Energy Authority
Component: Statewide Project Development
Sponsor: Rules Committee by Request of the Governor
Requester: House Energy 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)

(Continued)

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

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**

State of Alaska Energy-Related Divisions and Programs

Agency	Division, Program, or Individual	Function
Administration	Office of Administrative Hearings	Adjudicates energy-related matters, including oil and gas producer tax disputes.
	Division of General Services	Facilities section manages a number of State facilities, including energy efficiency improvements to these facilities.
	Oil and Gas Conservation Commission	Protects the public interest in exploration and development of oil and gas resources, ensuring conservation practices, and increasing ultimate recovery, while protecting health, safety, the environment, and property rights.
Commerce	Division of Community and Regional Affairs	Works with communities and rural villages to provide technical and financial assistance on a variety of issues. Manages the Community Energy Assistance Program and the Rural Utility Business Advisor program.
	Alaska Industrial Development and Export Authority (AIDEA)	Provides financing for power production projects.
	Alaska Energy Authority (AEA)	Primary mission is to reduce the cost of energy in Alaska. AEA projects and programs: 1) provide for the operation and maintenance of existing Authority-owned projects with maximum utility control, 2) assist in the development of safe, reliable, and efficient energy systems throughout Alaska, which are sustainable and environmentally sound, 3) reduce the cost of electricity for residential customers and community facilities in rural Alaska, and 4) respond quickly and effectively to electrical emergencies.
	Regulatory Commission of Alaska (RCA)	Regulates electric and gas utilities.
Environmental Conservation	Divisions of Air Quality, Environmental Health, Water, and Spill Prevention and Response	Regulates oil and gas production and transportation facilities and systems, and energy production facilities.
Fish and Game	Division of Habitat	Issues permits for construction of energy production and transportation facilities.
Office of the Governor		Provides Executive Branch oversight, policy direction and coordination of energy-related programs.
	Gene Therriault	Senior Policy Advisor: in-state energy issues. Assists the Governor with monitoring and coordination of energy programs and issues.
	Joe Balash	Special Assistant: Energy-related assignments include Cook Inlet Gas, GRETC (Railbelt electric utilities), Gas Line Team, and the RCA (Regulatory Commission of Alaska).
Health & Social Services	Division of Public Assistance	Manages the low-income home energy assistance program.
Military & Veterans Affairs	Division of Emergency Services	Provides funding for energy-related disaster response, such as rural power plant fires and flooding.
Natural Resources	Division of Oil and Gas	Oversees leasing and permitting activity for oil and gas development, royalty revenue collection, resource evaluation, and ensures appropriate oversight and maintenance of oil and gas equipment, facilities, and infrastructure.
	Division of Mining, Land and Water	Assists with permitting of oil and gas, and other energy related developments.
	Division of Geological and Geophysical Surveys	Maps and inventories energy resources on state land.
	State Pipeline Coordinator's Office	Oversees the trans-Alaska pipeline and other common carrier pipelines.
Revenue	Tax Division	Administers oil and gas tax laws and collects associated revenues.
	Alaska Housing Finance Authority (AHFC)	Manages the following energy programs: Weatherization Program, Home Energy Rebate program, State Energy Program, the Research and Information Center, Building Energy Efficiency Standards (BEES), and the Builder and Rater Education program.
	Alaska Natural Gas Development Authority	Primary mission is to develop a natural gas pipeline from Prudhoe Bay to tidewater on Prince William Sound, and a spur line to the gas distribution grid in southcentral Alaska.
Transportation		Plans and develops transportation access to energy resources.

Office of Management and Budget
March 16, 2010

FISCAL NOTE

STATE OF ALASKA
2010 LEGISLATIVE SESSION

Fiscal Note Number:
Bill Version: **HB 182**
() Publish Date:

Identifier (file name):HB182-CED-AEA-03-15-10
Dept. Affected: DCCED
Title: Greater Railbelt Energy and Transmission Corporation
RDU: Alaska Energy Authority
Component: Statewide Project Development
Sponsor: Rules Committee by Request
Alternative Energy and Efficiency
Requester: House Energy 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	**6,686.0**						
CHANGE IN REVENUES ( )							

FUND SOURCE (Thousands of Dollars)

1002 Federal Receipts							
1003 GF Match							
1004 GF							
1005 GF/Program Receipts							
1037 GF/Mental Health							
Other Railbelt Energy Fund (1012)	6,686.0						
TOTAL	**6,686.0**	**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 creates a new corporation to own and operate all or a portion of the Railbelt electric power generation and transmission (G&T) system. Under a phased transition, the new company will integrate the existing G&T assets presently owned by the Railbelt utilities and the Alaska Energy Authority (AEA). The company will also have the ability to construct new G&T infrastructure. AEA will develop a plan to allow the new corporation to assume ownership and/or control of its two existing AEA owned Railbelt G&T assets (the Bradley Lake Hydroelectric Project and the Alaska Intertie). The new corporation will ultimately have responsibility as an all-requirements supplier of wholesale power for the Railbelt.

(Continued on Page 2)

Prepared by: Jim Strandberg, Program Manager — Phone (907) 771-3000
Division: Alaska Energy Authority — Date/Time 3/15/10 1:00pm
Approved by: Emil Notti, Commissioner — Date 3/15/2010
Department of Commerce, Community and Economic Development

(Revised 9/10/2008 OMB)

STATE OF ALASKA
2009 LEGISLATIVE SESSION

BILL NO. HB 182

ANALYSIS CONTINUATION

AEA will provide basic support services to create the new corporation, assist its board members to begin the governance process, coordinate with Railbelt utilities to develop the corporation's bylaws, develop transition and financing plans, establish a detailed regulatory approach, and assist the new corporation in reporting these recommendations to the next legislative session.

AEA as program manager will provide services to form the new corporation, assist its board members to begin the governance process, coordinate with Railbelt utilities to develop the corporation's bylaws, develop transition and financing plans, establish a detailed regulatory approach, and assist the new corporation in reporting these recommendations to the next legislative session.

AEA's services will include procurement of professional and financial service as well as program management. AEA estimates its program services will be needed for a two year period. AEA will need one AIDEA employee for that period to manage this program.

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

. . .

(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 **objective** standards for interconnection adopted by the corporation **in advance. The corporation shall apply interconnection standards equally and consistently to public utility members, electric utilities, and other entities seeking to interconnect.**

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] **upon application for membership**. A public utility member

(1) shall be [A MUNICIPAL OR COOPERATIVE] **an** 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) Any [AFFILIATED ELECTRIC UTILITY] **other entity** may become a**n affiliate** member of the corporation under (a) of this section, **but shall not have representation on the Board of Directors in accordance with AS 42.50.020(a)(1).**

(d) Any 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**n affiliate** 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 **as of the effective date of the withdrawal.**

(h) Notwithstanding the foregoing provisions, the corporation, by a majority vote of the board, may waive any notice periods required in this section.

Sec. 42.50.900. Definitions. In this chapter, unless the context otherwise requires,

(10) "public utility member" means a**n** [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 **qualifies as** [THAT BECOMES] a public utility member of the corporation under AS 42.509.050(b), and that does not withdraw from being a member or public utility member under AS 42.50.050(d) or (e);

Sec. 13 adding a new section to the law of the State of Alaska:

AUTHORIZATION TO FORM GREATER RAILBELT ENERGY AND TRANSMISISON 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.;

(7) **Doyon Utilities, LLC.**

Sec. 14 adding a new section to the law of the State of Alaska:

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.; [AND]

(6) Golden Valley Electric Association, Inc.;

(7) **Doyon Utilities, LLC**

AMENDMENT

OFFERED IN HOUSE ENERGY BY REPRESENTATIVE _____

TO: HB 182 (Work Draft 26-GH1041\S)

Page 3, line 11, following "(q)"

Insert "Except as otherwise provided in AS 42.50.100, a"

Delete "A"

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"

U USDA A

HB 182
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.

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

House Energy Committee

House Bill 182

March 18th, 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

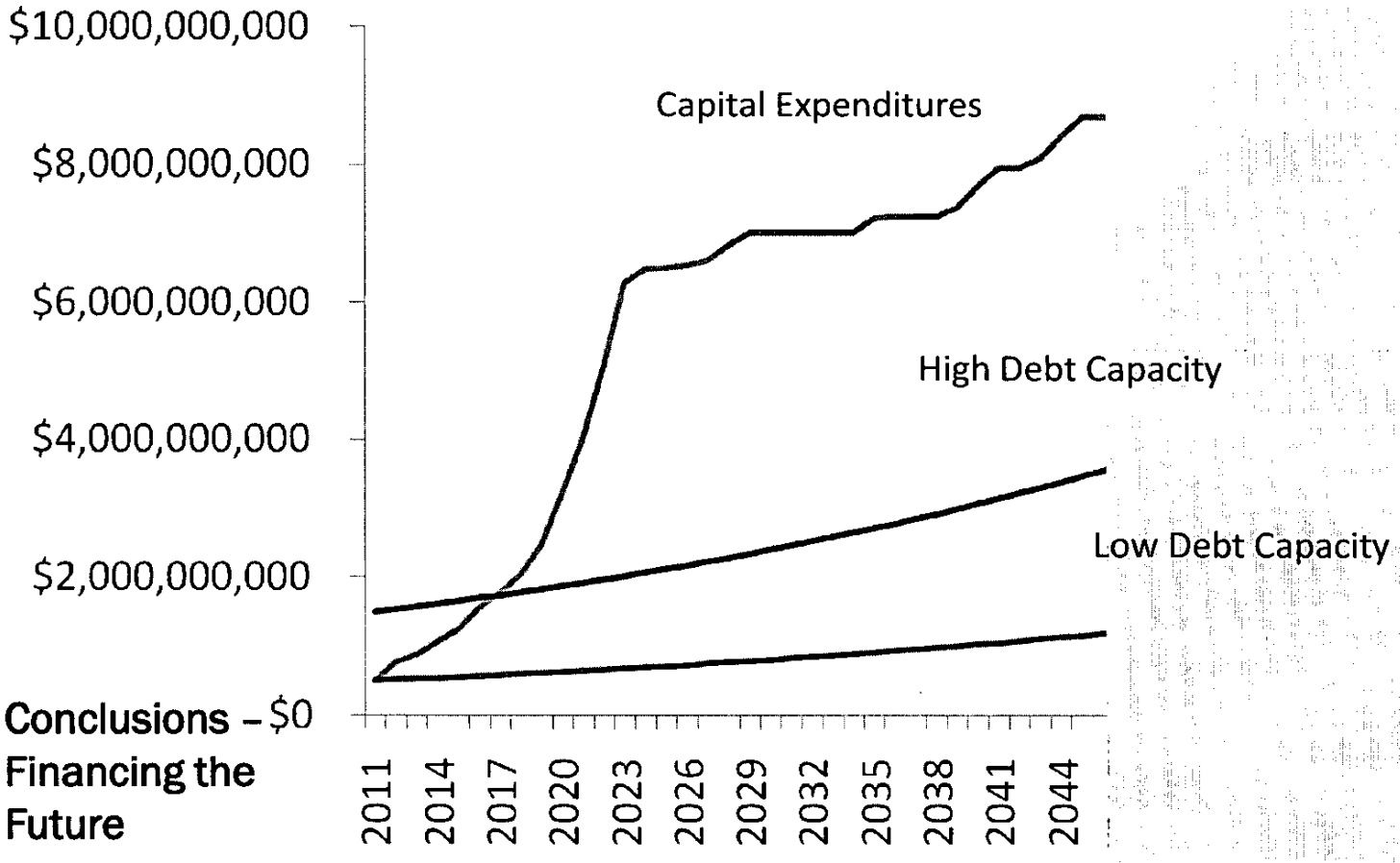
- Economically schedules what, when, and where to build G&T, based on available fuel and energy supplies
- 50-year time horizon

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

RIRP Plan 1A Capital Expenditures and Debt Capacity of the Railbelt Utilities



Conclusions – Financing the Future

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. [illegible]
  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?

APPENDIX B

FINANCIAL ANALYSIS

2616

Regional Integrated Resource Plan

Financial Analysis Summary Report

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Introduction

The Regional Integrated Resource Plan (RIRP) is a 50-year, long-range plan tasked with identifying the optimal combination of generation and transmission capital improvement projects in the Railbelt region of Alaska. The objectives of the financial analysis portion of the plan are threefold:

1. Provide a high-level analysis of the capital funding capacity of each of the Railbelt utilities, given their current financial condition and assuming that each utility will borrow on its own, rather than utilizing a joint-powers structure or receiving assistance from the State of Alaska.
2. Analyze strategies to capitalize selected RIRP assets by integrating State and federal financing resources with debt capital market resources. Specifically, we look at ways to utilize State funding to:
    - mitigate construction risk,
    - lower capital cost prior to placing assets in service, and
    - extend the debt repayment term beyond terms available in the debt capital markets.
3. Develop a spreadsheet-based model that utilizes inputs from the RIRP model, including total capital requirements, demand-side management (DSM), fuel cost, CO_2 cost, and operation and maintenance cost (O&M), and overlays realistic debt capital funding to provide a total cost to ratepayers of the optimal resource plan.

Railbelt Utility Capital Capacity

The non-profit organizational structure of generation and transmission (G&T) and distribution cooperatives makes it difficult for these entities to produce operating margins and build equity to the levels needed to access the public debt markets. Rate setting is designed to recover operating cost with moderate margins, and any capital in excess of minimal reserves is returned to coop members. Nevertheless, some coops, including Chugach Electric, are able to maintain coverage margins sufficient to secure investment grade credit ratings and utilize the debt capital market to fund asset expansion. Likewise, municipal governments face a similar rate-setting challenge in the form of political pressure to keep rates at levels just sufficient to cover operations and maintain net plant and equipment. In the following sections, we take a look at several key financial measures of coop and municipally owned utilities and utilize these measures to estimate the remaining debt capacity of each of the Railbelt utilities.

To develop the framework for this analysis, we retrieved the publicly available financial reports from each utility's website and the annual filings from the Regulatory Commission of Alaska's website. Using these reports, we summarized each of the utilities' current outstanding debt obligations, company equity, total assets and total plant. We used these figures to derive several important financial ratios, discussed in detail below, that are used by the investment community as well as the nationally recognized rating agencies (Moody's, Standard & Poor's, and Fitch) to determine the ability of each organization to manage its current and/or future debt obligations. It's important to point out that, while no single financial ratio by itself is an accurate determinant of a utility's ability to incur additional debt for capital projects, an analysis of a sampling of several ratios in conjunction with other non-financial metrics (*e.g.*, demand growth, rate-setting authority,

political climate, etc.) helps to create some guidelines for how much debt could reasonably be considered and issued in the capital markets.

Debt to Equity Ratio. The debt to equity ratio (or debt as a percentage of total capitalization) is derived by dividing a utility's total debt by its net capital. The rating agencies have developed median debt to equity ratios for each of the different types of utility organizational structures. For example, a G&T cooperative can expect to have a higher debt ratio percentage than a retail power distributer due to the need to finance large and relatively expensive generation and transmission assets. A summary of these utility medians for debt to equity is provided in the following table:

2008 Median Debt to Capitalization % By Utility System Type	
G&T Coop	82%
Municipal Wholesale	93%
Retail Self Generating	60%
Retail Power Purchaser (Distribution)	40%
Source: Fitch U.S. Public Power Peer Study, June 2009	

The table below calculates the remaining debt capacity for each of the Railbelt utilities under varying debt to equity ratios to derive a total debt capacity amount given existing equity capitalization. Debt to equity capitalization for this analysis ranges from 40% to 80%.

Railbelt Utility Additional Debt Capacity Based on Current Debt to Equity Ratios					
	Existing Debt as of 12/31/2008[1]	40%	60%	70%	80%
ML&P	$159,405,791	-	$175,744,945	$362,920,220	730,502,349
Chugach	354,383,506	-	-	9,355,443	260,137,205
MEA	89,128,488	-	48,090,737	129,409,217	277,237,086
HEA	148,257,837	-	-	-	99,152,015
GVEA	301,670,508	-	-	-	131,081,336
Seward	[2]	[2]	[2]	[2]	[2]
		-	$223,835,682	$501,684,880	$1,498,109,991
(1) 2008 Annual reports and 12/31/2008 Annual Reports to the Regulatory Commission of Alaska (2) The City of Seward was not included in this analysis due to lack of information regarding their Electric Enterprise Fund					

Our analysis found that the debt-to-capitalization ratio for each of the utilities is close to or higher than the median ratio for its organizational type. There does appear to be some additional bonding capacity available for each of the utilities under a G&T cooperative-type structure when compared to the Fitch median ratio of 82%. However, given the utilities' existing debt burdens and current conditions in the financial markets, which have made it more difficult for lower rated power utilities to access capital, it is not clear that the six utilities could support debt capitalization much above 70%. Fitch Ratings specifically mentions that higher debt capitalization percentages can result in negative ratings pressure going forward[1]. At approximately 70%

[1] Fitch Ratings, U.S. Public Power Peer Study, June 2009

debt capitalization, the six utilities together could support between $500 and $700 million of additional debt. At 80%, available additional debt capacity for the six utilities combined increases to approximately $1.5 billion. This analysis does not include the City of Seward's capacity. Given its Electric Enterprise Fund asset base of $26 million (as of 2007), the overall borrowing capacity number would not change by a significant amount if the City of Seward were included.

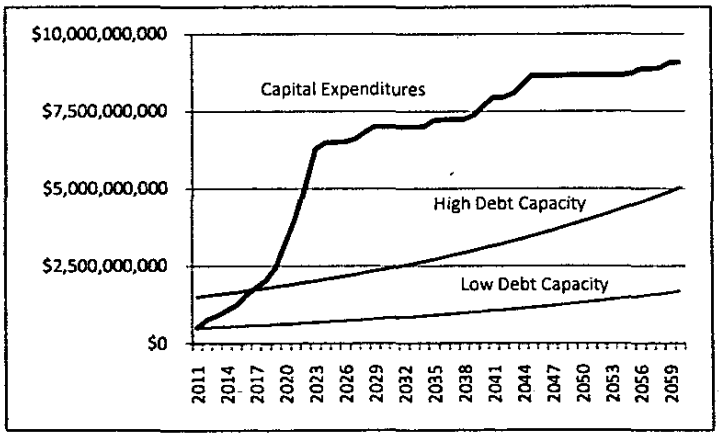
Debt to Funds Available for Debt Service. An important measure of operating leverage is the Debt to Funds Available for Debt Service ratio (Debt/FADS). This ratio measures a utility's ability to handle its current fixed debt burden based on annual operating cash flow. A lower Debt/FADS ratio indicates either a low overall debt burden or a high operating cash flow, with the opposite being true for a higher Debt/FADS ratio. In the "A" rating category and higher, all but one G&T wholesale system rated by Fitch Ratings had a Debt/FADS ratio higher than 8.8 in 2008. For comparison purposes, the average (and median) Debt/FADS ratio for the Railbelt utilities in 2008 was approximately 8.4, with the highest being 13.66. The operating leverage of the six utilities would increase dramatically as capital spending and debt burden increase. An increase in the operating leverage ratio would cause ratings pressure for utilities maintaining a public credit rating and increased scrutiny by creditors including commercial banks and cooperative banks such as CFC or CoBank.

RIRP Capital Requirements Relative to Railbelt Utility Debt Capacity. The preceding debt to equity and Debt/FADS discussions do not take into consideration several additional factors that are relevant to the collective debt capacity of the Railbelt utilities. These factors can impact debt capacity both positively and negatively and include amortization of existing utility debt, the level of new debt required to maintain distribution infrastructure, and potential rate increases.

While these factors are influential, they do not have sufficient positive impact to alter our opinion that the utilities individually do not have the capital capacity to fund the projects recommended by the RIRP. The scope of the RIRP projects is too great, and for certain individual projects, it is reasonable to conclude that there is no ability for a municipality or coop to independently secure debt financing without committing substantial amounts of equity or cash reserves. Specifically, these individual projects would include any that require large capital investment and have any of the following characteristics: exceptionally long construction period, significant construction risk, or significant technological risk. These types of risk are associated with equity rates of return and are rarely, if ever, borne by fixed income investors.

The graphic to the right helps to put into context the scope of required RIRP capital investments relative to the estimated combined debt capacity of the Railbelt utilities. The lines toward the bottom of the graph represent our view of the bracketed range of additional debt capacity

Black & Veatch Plan 1A Capital Expenditures (Cumulative Total)



collectively for the Railbelt utilities, adjusted for inflation and customer growth over time.

Railbelt Utility Debt Capacity Conclusions. The REGA study completed in 2008 concluded that the most cost effective approach to funding necessary Railbelt generation and transmission assets was to form a regional G&T. While SNW was not asked to validate this conclusion, we are of the opinion that a regional entity such as GRETC, with "all outputs" contracts migrating over time to "all requirements" contracts, will have greater access to capital than the combined capital capacity of the individual utilities. To be clear, our conclusion should not be interpreted to mean that a regional G&T agency would be able to execute the RIRP capital plan independent of any State or federal assistance; however, a regional G&T agency will have lower-cost access to debt capital than the utilities would have on their own. This is primarily due to two factors: (1) a regional G&T entity will eliminate the rate pressure/competition that naturally exists under the current Railbelt construct of each of the 6 utilities independently providing generation and transmission services to their customers, and (2) a regional G&T entity executing a utility-approved comprehensive RIRP plan with strong power purchase agreements will be better positioned with the rating agencies and private investors.

Strategies to Lower Capital Cost of RIRP to Ratepayers

As previously noted, the scope of the RIRP is significant. The complexity of the overall capital plan and the size and construction duration of various projects within the plan will necessitate some amount of "equity" capital from ratepayers and/or the State of Alaska. Furthermore, equity capital, in the form of a ratepayer benefits charge or State financial assistance through either loans or grants, is the most efficient source of funding available to GRETC for the RIRP. Capital accruing from the State in the form of grants or from existing ratepayers in any form needs to be balanced with long-term debt capital so that future rate payers who will benefit from the RIRP assets share the cost of funding these assets. The following sections discuss various sources of equity capital funding and methods for involving the State in the execution of the RIRP.

Ratepayer Benefits Charge. A ratepayer benefits charge is a charge levied on all ratepayers within the Railbelt system that will be used to cash fund and thereby defer borrowing for infrastructure capital. A rate surcharge that is implemented prior to construction allows for partial "pay-go" funding of capital projects and reduces the overall cost of the projects by reducing the amount of interest paid for funding in the capital markets. For example, the potential interest cost savings that could be realized if GRETC were to fund some portion of a $2 billion project through rates rather than entirely upfront through bond proceeds are shown in the table below:

$2 billion project		
Rate Surcharge Through Construction	**Funded With Bonds**	**Interest Cost Reduction [1]**
$500 million	$1.5 billion	$1.2 billion
$1.0 billion	$1.0 billion	$2.4 billion

(1) Assumes 30-year debt to fund construction at 7.00% interest.

"Pay-Go" vs. Borrowing for Capital. A "pay-go" capital financing program is one in which ongoing capital projects are paid for from remaining revenue after maintenance and operations (M&O) expenses, and debt service are paid for. As will be discussed in further detail later, we have assumed that any bonds sold in the capital markets will require generation of a 1.25 times debt service coverage ratio. Covenanted coverage would likely be lower than 1.25 times. The cash generated in excess of M&O expense and debt service expense ("coverage") will be used to fund reasonable reserves with the balance going towards ongoing capital projects. For example, in years where debt service on outstanding bond issues is the highest, the 1.25 times debt service coverage ratio creates additional reserves in the amount of nearly $130 million above what is required to pay operating expense and debt service.

There is a tradeoff between the benefits derived from a pay-go financing structure versus one for which all projects are bonded. The benefit to ratepayers and GRETC in the pay-go structure is that it minimizes the total cost of the projects through the reduction of interest costs. On the other hand, the benefit of borrowing for a portion of capital needs is that expenses are spread out over time, and the cost of the debt can be structured to more closely match the useful life of the assets being financed. This is particularly important for some of the larger hydro-electric projects, where the useful life would likely exceed 50 years; these projects have large upfront costs that would be cost-prohibitive if funded entirely through rates. A balance of these two funding approaches appears to be most effective in lowering the overall cost of the project as well as spreading out the costs over a longer period of time.

Construction Work In Progress. Construction Work In Progress (CWIP) is a rate methodology that allows for the recovery of interest expense on project construction expenditures through the rate base during construction, rather than capitalizing the interest until the projects are completed and operating. This concept is important: the overall cost of the projects is significantly reduced through the immediate payment of interest on construction borrowing, versus the alternative of borrowing an additional sum just to pay for the interest while the project is still under construction. The benefit to ratepayers of the CWIP concept is that it significantly lowers both the overall cost of the project as well as the future revenue requirements needed to pay debt service. The use of CWIP in Alaska will most likely need to be vetted and approved by the Regulatory Commission of Alaska.

Both CWIP and pay-as-you-go funding rely on ratepayers to advance dollars for capital projects and thereby convey some project risk to ratepayers. If for example, a generation project were not completed for any reason ratepayers would have paid for a portion of the project even though the asset never produced power. SNW believes that ratepayers in a typical municipal utility structure generally incur this risk regardless of rate setting policies or methodologies. The ability to shift project risk to creditors is both limited and expensive and may not be appropriate for the "System" envisioned by GRETC. Under an Investor Owned Utility (IOU) structure, shareholders are responsible for bearing some of this risk, however shifting risk to shareholders requires higher equity rates of return to those investors. GRETC is not presently contemplated to be structured as an IOU.

State Financial Assistance. State financial assistance could take a variety of forms, but for the purpose of this report, we will focus on State assistance structured similarly to the Bradley Lake project. State financial assistance offers GRETC a number of advantages not available through traditional utility enterprise bond funding or project finance. Similar to a ratepayer benefits charge, State funding, whether in the form of a grant or loan, can be utilized to defer higher cost conventional revenue bond funding. Obviously a grant from the State provides the cheapest form of capital to GRETC, but even when structured as a loan, State assistance can dramatically lower GRETC's overall cost of capital. State funding in the form of a loan has three significant advantages when compared to revenue bonds or a loan from a commercial lender. The advantages of State funding include:

1. *Repayment flexibility.* State funding can be utilized to extend debt repayment beyond the term maturities available in the public or commercial debt capital markets. Additionally, a State loan can easily be restructured or deferred to achieve system rate objectives.
2. *Credit support/risk mitigation.* State funding can be used to mitigate project construction risk. This is particularly relevant for projects with extended construction timelines, such as large hydro-electric projects. Risk mitigation is also relevant in situations where permitting is an issue or a new technology is being used. Generally, fixed income investors will not accept significant construction and permitting risks inherent with the large-scale projects included in the RIRP without some form of support from the State.
3. *Potential interest cost benefit.* State funding can provide a lower cost source of capital. The State's high investment grade credit rating allows it to borrow for less than even the most secure utility enterprise. Assumptions as to the form of State assistance in the financial model are discussed in greater detail below; however, the terms of any loan, agreement, or grant between the State and GRETC will need to be further researched and developed in the next stage of the GRETC formation process.

RIRP Financial Model Summary Results

The development of the RIRP financial model took into account several different goals and objectives. The first goal was to identify ways to overcome the funding challenges inherent with large scale projects, including the length of construction time before the project is online and access to the capital markets. A second goal was to develop strategies that could be used to meet an objective of the RIRP of producing equitable rates over the useful life of the assets being financed. Structures commonly used in the current capital markets would not meet this goal, as certain of the assets required to be financed have longer useful lives than the longest term capital markets transaction could bear. With these challenges in mind, we developed separate versions of the model that would capture the cost of financing under a "*base case*" scenario and an "*alternative*" scenario, both of which are described in greater detail below.

Major Assumptions (Black &Veatch Inputs). The input assumptions for the RIRP financial model were developed around outputs from the Black & Veatch PROMOD/Strategist modeling analysis. The results created a detailed list of the capital costs for the projects chosen over the 50-year RIRP time horizon. The results show both generation unit costs as well as required transmission development costs associated with the

selected projects. Other assumptions used from the Black & Veatch PROMOD analysis include associated fuel costs, fixed and variable O&M, CO_2 charges, and forecasted energy load requirements by year, including DSM energy use reductions.

Major Assumptions (Financing Model Inputs). The assumptions used for capital markets transactions within the financing model are all market-accepted structures for an investment grade utility, cooperative, or joint action agency. Below is a summary of the major structuring assumptions used for both financing scenarios:

- 30-year debt repayment on all bond issues sold in the capital markets
- 7.00% interest rate on all bond issues sold in the capital markets
- Rate generated debt service coverage of 1.25X
- All energy generation developed is used or sold
- Debt Service Reserve Fund (DSRF) for each bond issue funded at 10% of bond issue par amount. The DSRF balance is maintained throughout the 50-year RIRP and earns 3.00% interest, which is used to pay debt service on an annual basis.

Base Case Model: Specific Assumptions. The *base case* financing model was structured such that the list of generation and transmission projects would be financed through the capital markets in advance of construction and that the cost of the financing in the form of debt service on the bonds would immediately be passed through to rate payers (see "Construction Work in Progress" herein). Bond issues are assumed to be sold prior to the required project funding dates, and staggered in approximately three-year intervals over the first 20-years, when the majority of the large capital projects and transmission projects are scheduled. The projects being financed over the balance of the 50-year RIRP period are financed through cash flow created through normal rates and charges ("pay-go"). The pay-go approach works once debt service coverage from previous years has grown to levels that create cash reserve balance amounts sufficient to pay for the projects as their construction costs come due.

The sources of funds for the projects included in the RIRP under the base case model are as follows:

RIRP Plan 1A : Base Case Sources of Funds (dollars in millions)	
Bonds	$5,889
State Funds	$0
Infrastructure Tax	$0
Pay-Go	$3,196

The *base case* model assumes that approximately $5.9 billion of bonds are sold over the RIRP time horizon through five different bond sales ranging in size from $656 million to $2.5 billion. The maximum fixed charge rate on the capital portion alone is estimated to cost $0.13 per kWh, while the average fixed charge rate over the 50-years is $0.07 per kWh.

Alternative Model: Specific Assumptions. The *alternative* model was developed with the goal of minimizing the rate shock that may otherwise occur with such a large capital plan, and levelizing the rate over time so that the economic burden derived from these projects can be spread more equitably over the useful life of the

projects being contemplated. Similar to the *base case* scenario, the first method used was to transfer the excess operating cash flow that is generated to create the debt service coverage level, and use that balance to both partially fund the capital projects in the early years and almost fully fund the projects in the later years. The second method used was the implementation of a Capital Benefits Surcharge that is applied to rate payers starting the day GRETC is formed. For this analysis, it was assumed that a $0.01 rate surcharge would be in place for the first 17 years, during which time approximately 75% of the capital projects in the plan will have been constructed. The third method used to spread out the costs over a longer time period was the use of the State as an equity participant in the execution of the RIRP capital funding plan. In a financing structure that is similar to the Bradley Lake financing model, the State would provide the upfront funding for any large hydroelectric projects, to be paid back by GRETC out of system revenues over an extended period of time, and following the repayment of the potentially more expensive capital markets debt. This analysis assumes that a $2.4 billion hydroelectric project is financed through a zero interest loan to GRETC that is then paid back through a 30-year capital markets take-out bond issue in 2047.

The sources of funds for the projects included in the RIRP under the alternative case model are as follows:

RIRP Plan 1A : Alternative Case Sources of Funds (dollars in millions)	
Bonds	$3,657
State Funds	$2,409
Benefit Surcharge	$883
Pay-Go	$2,135

The *alternative* model assumes that $5.9 billion of bonds are sold over the RIRP time horizon through nine different bond sales ranging in size from $32 million to $2.4 billion, which includes the $2.4 billion take-out financing to repay the State for front-funding of hydroelectric assets. The capital costs not bonded for come from the rate surcharge that is applied from day one and cash flow generated from rates and charges after operations and debt service (pay-go capital). The maximum fixed charge rate on the capital portion alone is estimated to cost $0.08 per kWh, while the average fixed charge rate over the initial 50-year period is $0.06 per kWh, not including the $0.01 consumer benefit surcharge that is in place for the first 17 years. While the average fixed cost is not significantly different between the *base case* and *alternative* scenarios, the difference between the two maximum rates are significant. The lower maximum rate in the alternative scenario benefits the rate payers by smoothing out the rates over a period of time that more closely matches the useful life of the RIRP assets.

Summary, Next Steps, Conclusion. The RIRP presents a number of funding challenges, given the size and scope of the projects being contemplated. It has become evident through the financial modeling and the individual debt capacity analyses of this process that the utilities on their own would not be able to accomplish such an ambitious capital plan. The formation of a regional entity, such as GRETC, that would combine the existing resources and rate-base of the Railbelt utilities, as well provide an organized front in working to obtain private financing and the necessary levels of State assistance would be, in our opinion, a necessary next step towards achieving the goal of reliable energy for the Railbelt now and in the future.

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March 24, 2010

Representative Charisse Millett
Co-chair, House Energy Committee
State Capitol, Room 412
Juneau, AK 99801

Dear Representative Millett:

The Homer Electric Association (HEA) Board of Directors appreciates the unprecedented cooperation of all six (6) Railbelt utilities in setting a path for future large generation and transmission projects. The HEA Board participated in the drafting of the original legislation establishing the Greater Railbelt Energy and Transmission Corporation (GRETC) and was supportive of the legislation submitted by the GRETC Task Force to the Governor earlier this year.

However, recent amendments and changes being proposed will significantly alter the GRETC legislation. The HEA Board cannot support these amendments without a thorough review and consideration of the effect they will have.

The HEA Board continues to see many benefits in establishing a Railbelt Generation and Transmission entity that can plan for and facilitate the construction of efficient new generation, development of a more robust transmission system, and the integration of renewable energy projects. Additionally, the ability of the State to assist in financing these projects has great potential to benefit rate payers and spur economic development.

The HEA Board, at its March 23rd meeting, unanimously directed me to request that the Committee consider the original GRETC legislation that was submitted to the Governor. This legislation is the result of long hours of collaborative work among State and utility representatives. If the original GRETC legislation, which was agreed upon by the Task Force, is not going to be adopted, the HEA Board requests the GRETC legislation be postponed until a thorough review of recent proposed amendments is undertaken. The HEA Board and management are eager to assist in this review so that the final legislation is reflective of the original intent of the GRETC Task Force. Thank you for considering this request.

In closing, HEA continues to believe that the creation of a regional energy organization is the only viable means to efficiently pursue the implementation of large scale renewable energy projects for the Railbelt.

Sincerely,

Deborah Debnam
President, HEA Board of Directors

Response to March 18, 2010, Memorandum: Greater Railbelt Energy and Transmission Corporation; drafting issues (CSHB 182( ), Work Order No. 26-GH104\E)

1. Effective Date provisions, particularly in sec. 11 of the bill. The memorandum interpreted sec. 11 of the bill to not be subject to a contingency, so contingency language was deleted and effective date provisions were consolidated. The memorandum suggested that other effective date provisions also be reviewed.

The intent was to establish a contingent effective date for sections contained in sec. 11 of the bill. That section is intended to make effective on August 16, 2015, statutory sections and amendments that will make energy and transmission corporations exempt from rate regulation. If the contingencies incorporated in sec. 9 of the bill are not met, the statutory provisions related to energy and transmission corporations will not take effect. In that event, there would be no reason to make effective five years later the provisions contained in sec. 11 of the bill. Sec. 11 of the bill therefore should be made subject to the contingencies incorporated in sec. 9 of the bill.

The proposed amendments to the work draft would accomplish this intent by adding sec. 11 (sec. 14 in proposed amendments), to sec. 10 of the work draft (sec. 13 in proposed amendments).

The proposed amendments would also list statutory sections and amendments intended to take effect August 16, 2015, when energy and transmission corporations would become exempt from rate regulations. These statutory sections include amendments to AS 42.50.100 (new sec. 7 in proposed amendments) and AS 42.50.160 and AS 42.50.180 (new sec. 8 in proposed amendments).

2. *AS 42.50.431(i)(1) and (2), bill section 3, work draft uses "cost" rather than "funding for consistency.*

These edits in the work draft improved the bill.

3. *The memorandum referenced inconsistencies in provisions related to rate regulation, including AS 42.05.711(q) added by sec. 5, AS 42.05.431(i) added by sec. 3, and AS 42.50.100(b)(2).*

These inconsistencies are corrected with the proposed amendments to the effective date provisions described in (1) above. The intention is that several statutory changes will take effect on August 16, 2015, under sec. 11 of the work draft (sec. 14 in proposed amendments) when energy and transmission corporations become exempt from rate regulation. AS 42.05.711(q), added by sec. 5, will become effective. AS 42.05.431(i), added by sec. 3, will be repealed by sec. 7 of the work draft (sec. 10 in proposed amendments). And, AS 42.50.100 will be amended to add subsection (b)(2) by sec. 7 in the proposed amendments.

4. *The memorandum questions whether there should be a cross reference between AS 44.83.396 and AS 42.50.010. AS 44.83.396 provides that the Alaska Energy Authority owns and operates projects acquired or constructed as part of the former energy program for Alaska, and AS 42.50.010 references that an energy and transmission corporation is organized, in part, to "acquire, operate, or maintain" these projects.*

The proposed amendments would add new sec. 9 to the work draft to amend AS 44.83.396(c). This amendment would give the Alaska Energy Authority explicit authority to contract with an energy and transmission corporation to operate a former energy program project if one or more public utility members of the corporation are wholesale power customers to be served directly by the former energy program project.

With respect to the Railbelt and GRETC, the original bill included provisions for the Alaska Energy Authority and GRETC to negotiate for GRETC to acquire the Bradley Lake hydroelectric project and the Alaska Intertie. Those provisions were deleted from the proposed CS and work draft due to a perception that the provisions would unnecessarily complicate the bill this legislative session.

While the acquisition of the projects can be accomplished in the future, there is an expectation that GRETC will contract with the Alaska Energy Authority to operate these two projects. This contract will enable GRETC to obtain many of the benefits for Railbelt utilities, and provide many of the public benefits, originally contemplated from acquiring the projects, while avoiding the potential complications this legislative session. The proposed amendments to AS 44.83.396 will more clearly enable the parties to contract.

5. *The memorandum describes how AS 42.50.010(c), which lists various corporation Acts that will not apply to an energy and transmission corporation, may be misinterpreted if other corporation Acts are not disclaimed. The memorandum also points out that "members" is not normally used in corporations.*

The proposed amendments would delete AS 42.50.010(c). That section is in the original bill because that bill was modeled after the Commercial Fishing and Agriculture Bank (CFAB) statutes (AS 44.81). The purpose of the section was to clarify the status of a quasi-public corporation such as CFAB. But, as the memorandum describes, the attempt to clarify might mislead instead. Further, Railbelt Utility Task Force proposed changes to the original bill give the utilities and the energy and transmission corporation more flexibility. These changes make the orientation of the corporation a bit more private, and a bit less quasi-public.

The proposed energy and transmission corporation uses "members" because it is effectively a generation and transmission cooperative. Just as "members" is used by a corporation organized under AS 10.25 (the Electric and Telephone Cooperative Act), we believe it appropriate to use "members" in this bill.

6. *The memorandum questions whether directors may decline to approve a public utility member for any reason under AS 42.50.050(b).*

Yes. It should be noted, however, that this does not apply to the initial public utility members who organize GRETC. It would only apply to public utilities that desire to join GRETC in the future. These public utilities could include (a) any existing Railbelt utility that chooses not to initially join GRETC, (b) any existing Railbelt utility that initially joins, but later withdraws from GRETC, or (c) another public utility that interconnects with the Railbelt some time in the future.

7. *The memorandum questions whether a vote is required to allow an affiliate member to become a member of the corporation.*

The intent was that the board would vote on admitting an affiliate member. A proposed amendment is made to clarify this intent.

8. *The memorandum questions whether AS 42.50.050(f) is intended to mean that a public utility member may withdraw but still be a member.*

Yes, that is the intent of the provision. In order for a public utility member to completely withdraw from the corporation, the member must meet 3 conditions described in subsection (d). In order for a public utility member to withdraw as a public utility member but remain a member, the member only needs to meet the second and third conditions in subsection (d) - - the member need not meet the first condition "pays or provides for the payment of all liabilities owed to the corporation." To help clarify this, the proposed amendments attempt to have subsection (f) follow the format of subsection (d) by putting the two conditions in paragraphs (1) and (2).

9. *The memorandum identifies that AS 42.50.060(d) is the only section which authorizes members to act; members may change the location of the principal corporate office, and suggests removing the reference.*

The proposed amendments remove the reference to "members."

10. *The memorandum describes ambiguities which arise from the phrase "other laws that apply to the corporation" in AS 42.50.070(b), and suggests that other laws be identified by reference.*

The proposed amendments delete the phrase. The language was intended to be a generic statement, but as the memorandum describes, it creates ambiguities.

For further clarity, the proposed amendments state that bylaws must also be consistent with "the articles of incorporation."

11. *The memorandum questions whether AS 42.50.180(b)(4)(B) and AS 42.50.180(b)(5) are duplicative, and whether one may be deleted.*

The two provisions are intended to accomplish opposite purposes. AS 42.50.180(b)(4)(B) is part of a list of costs that may be ***included*** in just and reasonable rates. AS 42.50.180(b)(5) is a cost that must be ***excluded*** from just and reasonable rates.

12. *The memorandum questions whether AS 42.50.180(b)(7) is redundant and should be deleted.*

Half of AS 42.50.180(b)(7) appears to duplicate AS 42.50.180(b)(2) and half is unique. In the proposed amendments, all of AS 42.50.180 is deleted from sec. 6 of the work draft bill because it is not intended to become effective until the corporation becomes exempt from rate regulation on August 16, 2015. The section is included in sec. 8 to be added in the proposed amendments. The substance of the unique half of paragraph (b)(7) is inserted as new paragraph (b)(3), the remainder of (b)(7) is deleted, and other paragraphs are renumbered.

13. *The memorandum questions whether the tax applied to retail sales of electricity by the corporation under AS 42.50.190 should also apply to members of the corporation.*

No. Both municipalities and electric cooperatives are tax exempt entities. Cooperatives, however, already must pay an electric cooperative tax on all retail sales of electricity. This tax is collected by the state, and distributed to local governments. It is effectively a type of payment in lieu of taxes to the local government. Any cooperative utility that is a member of an energy and transmission corporation will necessarily pay the tax for all retail sales of electricity sold by the cooperative utility.

AS 42.50.190 is modeled after a portion of AS 42.45.310(f), applicable to joint action agencies formed under AS 42.45.310. The purpose of these provisions is to ensure that electric sales by these entities will be tax revenue neutral to local governments. The primary concern is that if one of these entities could sell electricity at retail, local governments could lose tax revenues from what otherwise could have been retail sales by an electric cooperative.

In contrast, municipalities are tax exempt governmental entities. The cooperative tax has never applied to retail sales by municipalities. Making municipal utilities subject to the electric cooperative tax would impose a new tax, and would not be tax revenue neutral.

14. *The memorandum questions whether a cross-reference or clarification should be added to AS 42.50.200 and AS 42.50.220. Section 200 requires the board to publish "audited financial statements" on the internet, while 220 requires an audit report to be submitted to the legislature and governor within 30 days of receipt. While the provisions may not be in technical conflict, some cross-reference or clarification might be appropriate.*

We do not believe any statutory change is necessary. As the memorandum mentions, there is no technical conflict between the provisions. AS 42.50.200 requires the board to publish an annual report that includes "audited financial statements" on the internet, while AS 42.50.220 requires the corporation to submit an audit report to the governor and legislature. It should be noted that AS 42.50.200 also requires the corporation board to include within its annual report published on the internet "any other information requested by the legislature." If the legislature believed the audit report, or other information, ought to be published on the internet as part of the annual report, the legislature can require that to happen.

15. *The memorandum suggests that the bill might be subject to challenge as special legislation in violation of art. II, sec. 19 of the state constitution, and provides analysis of case authority.*

Art. II, sec. 19 of the state constitution provides, in relevant part:

> The legislature shall pass no local or special act if a general act can be made applicable. Whether a general act can be made applicable shall be subject to judicial determination.

In analyzing local and special legislation issues, the Alaska Supreme Court follows an analysis that is substantially the same as that used with nonsuspect classifications challenged as violative of equal protection. *Baxley v. State*, 958 P.2d 422, 430 (Alaska 1998). The court will examine "the legislative goals and means used to advance them [to] determine whether the legislation bears a 'fair and substantial relationship' to legitimate purposes." Id., quoting *State v. Lewis*, 559 P.2d 630, 643 (Alaska 1977), *appeal dismissed, cert. denied*, 432 U.S. 901. The court will accept "incidental local or private advantages" and will also accept some unevenness in the application of the legislation. Id.

When legislation is examined as to whether it is "local" or "special," the ultimate question is whether it is "reasonably related to a matter of common interest to the whole state." *Abrams v. State*, 534 P.2d 91, 94 (Alaska 1975). Thus, legislation does not violate the constitution just because it operates only within a limited number of geographic areas. *Id. citing Boucher v. Engstrom*, 528 P.2d 456, 463 (Alaska 1974), *overruled on other grounds, McAlpine v. University of Alaska*, 762 P.2d 81, 85 (Alaska 1986). In addition, the court has twice upheld the constitutionality of allegedly special legislation where that legislation was addressed to unique situations of state-wide import. *Baxley*, 958 P.2d at 422; *Lewis*, 559 P.2d at 644.

We believe that the proposed legislation is not local or special, but rather reasonably relates to a matter of statewide concern for several reasons.

The work draft reflects a significant change from the original bill. In the original bill, one specific corporation would have been formed, with the legislation specifically naming the entities involved with that one corporation. The work draft has transformed AS 42.50

into a piece of general legislation with statewide impact. The bill now establishes statutory provisions related to energy and transmission corporations – not just one corporation. The work draft thereby significantly reduces the potential that the bill could be successfully challenged under art. II, sec. 19 of the state constitution.

The authority given for Railbelt utilities to organize the Greater Railbelt Energy and Transmission Corporation (GRETC) will provide benefits to the broad, Railbelt geographic area, and serve a majority of the population base. An energy and transmission corporation is established to provide public benefits by providing an entity from which electric utilities may establish interconnection and operating standards, plan for, finance, construct, and acquire generation and transmission assets for their electrically interconnected region. Fulfilling these purposes will promote local power generation, strengthen the economy in the region, and benefit the communities and their ratepayers. While primarily focused upon the Railbelt; these economic benefits will inure to the entire state.

Another purpose for establishing an energy and transmission corporation is to create an entity that may acquire, operate or maintain a project the Alaska Energy Authority acquired or constructed as part of the former energy program for Alaska. While the current legislation does not provide for acquisition of any Alaska Energy Authority projects, it does provide means for GRETC to operate projects and fulfill state obligations. This also provides statewide benefits.

However, even if the legislation were considered "local" or "special," more general legislation could not be passed. An energy and transmission corporation is established to provide public benefits within an electrically interconnected region. Many of the public services from one energy and transmission corporation could not be provided outside of its electrically interconnected regions. The bill therefore contains very limited provisions focused upon the Railbelt region alone (e.g., sec. 8 which authorizes utilities to form GRETC). We believe a court would uphold this "incidental local or private advantage."

March 24, 2010

Representative Bryce Edgmon, Co-Chair
Representative Charisse Millett, Co-Chair
House Energy Committee
Alaska State Capitol
Juneau, AK 99801

RE: HB 182

The Alaska State Chamber of Commerce supports HB 182, which would establish the Greater Railbelt Energy and Transmission Corporation. The railbelt energy corporation will ultimately meet the railbelt's long-term electric power needs with stable, reliable and affordable power. The State Chamber believes combining efforts between multiple utilities will provide for long-term sustainable power solutions for the region.

Our economy is dependent upon stable, reliable and affordable energy. A private-public partnership that combines the entrepreneurial aspects of private enterprise with the backing of the state will meet the challenges facing all electric utilities within the railbelt region. HB 182 combines these power efforts and will lead to additional benefits by diversifying energy options from fossil fuels to renewable and other alternative energy sources. We understand the utilities are currently working out their differences with the legislation, but trying to gain 100% conformity to one bill is certainly a challenge.

The future of Alaska's energy future must begin by starting the planning process today. HB 182 moves the region forward in uniting energy needs with commonalities that will ultimately provide cheaper and better alternatives for all of the region's businesses and habitants alike.

We support the legislation and hope you are able to move the concept forward.

Yours in economic prosperity,

Wayne A. Stevens
President/CEO

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ALASKA CONSERVATION ALLIANCE

TO: REPRESENTATIVES CHARISSE MILLETT AND BRYCE EDGMON, CO-CHAIRS,
HOUSE SPECIAL COMMITTEE ON ENERGY
FROM: ALASKA CONSERVATION ALLIANCE
CONTACT: CAITLIN HIGGINS, EXECUTIVE DIRECTOR; CAITLIN@AKVOICE.ORG, 907.258.6175 OR
ELIZABETH OUTTEN, STATEWIDE ENERGY COORDINATOR; ELIZABETH@AKVOICE.ORG, 907.258.6102
SUBJECT: HB 182: GRETC **DATE:** MARCH 30, 2010

On behalf of the conservation community, the Alaska Conservation Alliance respectfully submits the below comments on the proposed draft language to create a unified Railbelt utility, or GRETC. The Alliance and its 40 member organizations representing 38,000 Alaskans acknowledge the Administration's work to find consensus on these issues and appreciate its efforts as well as the positive initial steps taken by Railbelt utilities. We also appreciate the legislature's work to consider the proposed entity. We encourage your continued consideration of the following points so that we may ultimately support legislation to create a consolidated utility.

Energy Efficiency, Demand-Side Management, and Conservation. Energy efficiency and demand-side management are clearly cost-effective. As outlined in the *REEL in Alaska Roadmap*, a central utility that plans and promotes energy efficiency could provide the Railbelt with significant economic gains and job growth, and assist efforts to better plan which generation projects are truly needed. As a result, we encourage that statutory language require the unified utility to evaluate and enact cost effective conservation and demand side measures in the development of its integrated resource plan (IRP). Life-cycle costing needs to become the standard for evaluating all projects. Additionally, renewable energy with a stable long term price is the region's best long term economic interest. This committee has voiced the goal of obtaining at least 50% of its power from renewables. GRETC's statutory language should support the new utility's role in incorporating the goal into its IRP.

Financial and Regulatory Oversight. We support ongoing regulatory and financial oversight of the proposed single, large new entity. Such oversight should be maintained by the Regulatory Commission of Alaska and should not sunset after five years of operation. This ongoing regulation ensures that individual ratepayers, businesses, and industry have access to reliable, safe utility services, an important component of what is and should continue to be required of any energy supplier. RCA regulation of the single entity maintains a system of checks and balances that we consider essential in the oversight of the proposed entity, and we encourage the addition of statutory language to address this issue.

Governance and Public Input. Ratepayers' voices are an essential aspect of utility governance. We encourage that the board of directors of the new utility include a significant portion of citizen representatives above the currently proposed single governor appointee. We would alternatively support a separate citizens' utility board responsible for overseeing the utility's activities. Either of these options ensures fair representation of consumer voices in an entity that would contain great decision-making power affecting the lives of many ratepayers. We support the statutory language that has thus far maintained open meetings provisions and strongly encourage that language be added to ensure that public representation and/or oversight is a meaningful part of the new entity.

Therefore, we recognize that utility consolidation can provide many benefits for the Railbelt region. So that we may support a GRETC proposal, we encourage the legislature to consider including language to better address financial and regulatory oversight, governance and public input, and energy efficiency.

The legislature has an opportunity to create a regional entity that can be the most effective organization to bringing important energy improvements to reality. We are committed to working with utilities, stakeholders, legislators, and the people of Alaska to assist efforts to create this new entity that will meet our public electrical needs for coming generations.

Thank you for your consideration and focus on this important issue, and please do not hesitate to contact us with further 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.

House Energy Committee (March 26, 2009)

Good Afternoon Chair Millet or Edgmon,

My name Brad Janorschke, General Manager for Homer Electric Association. I appreciate the opportunity to testify on HB 182 and will keep my comments brief.

As you are aware, Homer Electric Association is one of the 6 Railbelt electric utilities included in the proposed legislation. Over the last 6 months, HEA's members have experienced rates that have increased from about 14.5 cents to 21.5 cents per kWh, a 48% increase driven primarily by escalating fuel costs. Fuel costs are not our only challenge, nor are we alone. In addition to the need to address future fuel needs, the Railbelt utilities are facing many other challenges that will require cooperation, planning, and capital if we are to ensure three fourths of Alaska's population is to continue to receive reliable, cost effective power.

HB 182 does create the opportunity for the utilities to participate in an organization that will be responsible for addressing and creating the synergies needed to solve the previously mentioned challenges. Many details need to be worked out and it is anticipated these details will be addressed in a yet to be developed transition plan. HEA will work in good faith to assist in the development of such plan.

Although we have a concern about board composition outlined in the current bill, we are working with the administration to resolve that concern. As a result, HEA does support the concept of HB 182 and we support the movement of this bill to the next step.

Thank you for the opportunity to speak today.

Charlene (LIO)

Brad Janorschke
Homer Electric Assn
3977 Lake Street
Homer, Ak 99603

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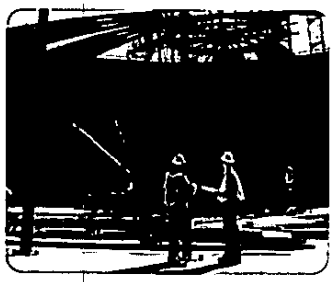
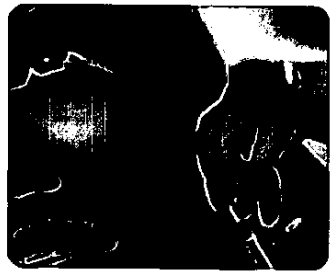


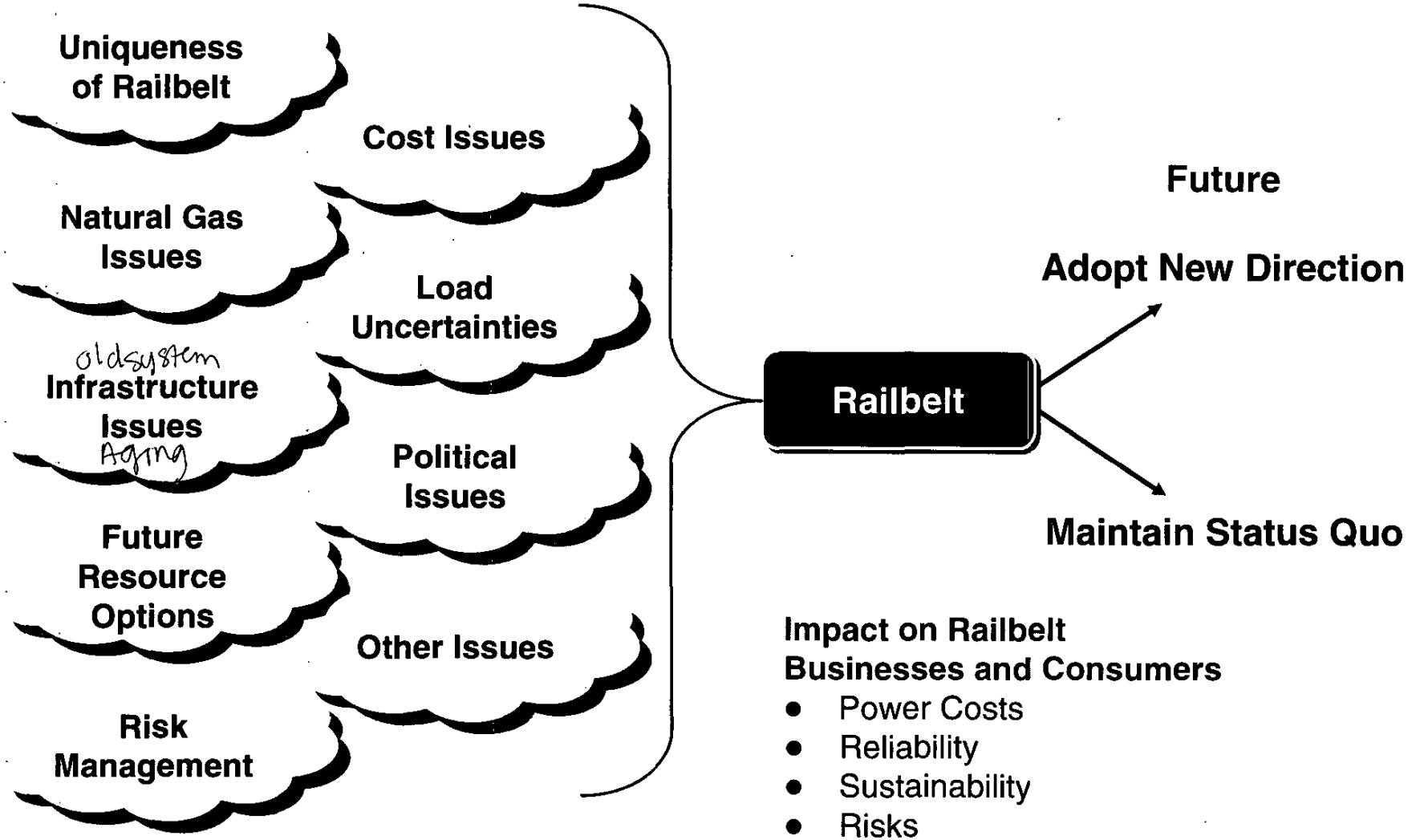


Alaska Railbelt Electrical Grid Authority (REGA) Study

Results and Recommendations

March 26, 2009

Summary of Railbelt Issues



Impact on Railbelt Businesses and Consumers

- Power Costs
- Reliability
- Sustainability
- Risks

Project Overview – Objectives

- Identify and assess a list of business structure options for the future Railbelt generation and transmission system
- For each option, further analyze alternative structures to manage and dispatch electric power throughout the Railbelt region
- Provide a final work product for stakeholders and decision-makers to consider in planning how to meet the Railbelt region's energy needs over the next 30 years

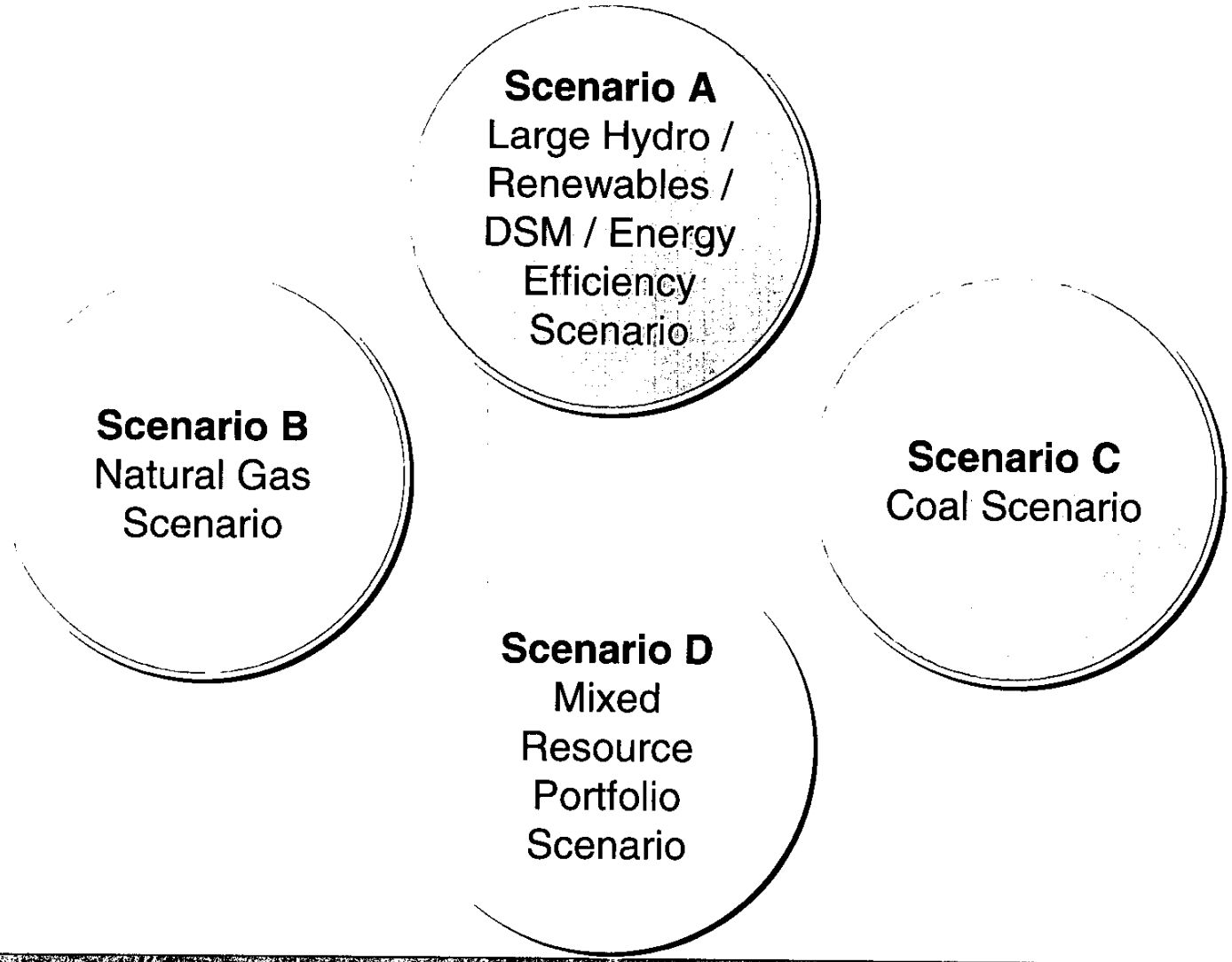
Project Overview - Definitions

- ***Coordinated Grid Operations*** – relates to the coordinated operations of the transmission grid to ensure the reliability of electric service throughout the region.
- ***Economic Dispatch*** – involves the operation of generation facilities to produce energy at the lowest cost to reliably serve consumers, recognizing any operational limits of generation and transmission facilities (Regional View)
- ***Regional Integrated Resource Planning*** – a planning process for electric utilities that evaluates many different generation and transmission supply-side and demand-side options for meeting future electricity demands and selects the optimal mix of resources that minimizes the cost of electricity supply while meeting reliability needs and other objectives.
- ***Joint Project Development*** – involves the development of future generation and transmission projects by multiple parties for the joint benefit of all participants.

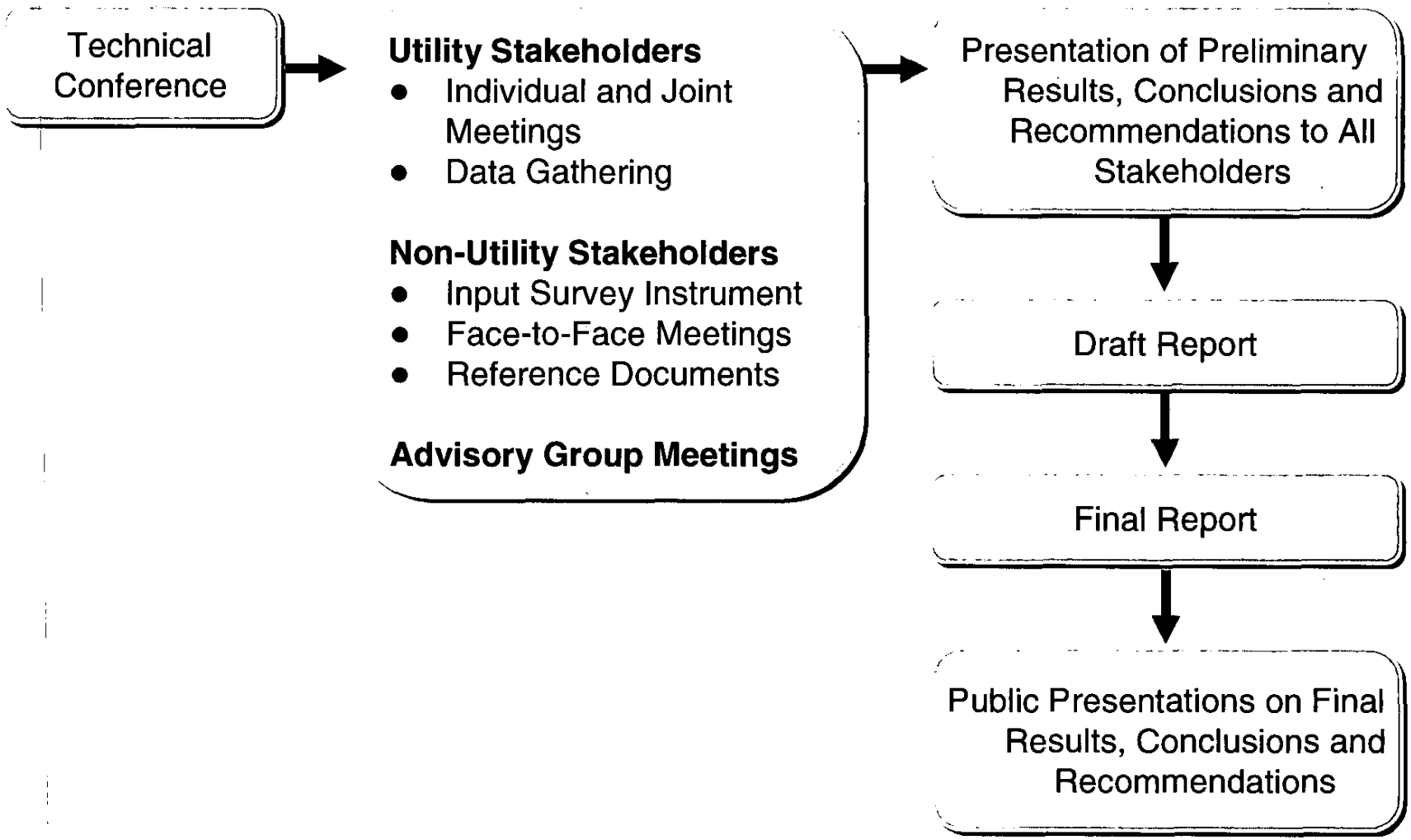
Summary of Organizational Paths

Path 1	Status Quo
Path 2	Form an Entity That Would be Responsible for Independent Operation of the Grid
Path 3	Form an Entity That Would be Responsible for Independent Operation of the Grid and Regional Economic Dispatch
Path 4	Form an Entity That Would be Responsible for Independent Operation of the Grid, Regional Economic Dispatch, Regional Resource Planning and Joint Project Development
Path 5	Form a Power Pool

Summary of Evaluation Scenarios



Stakeholder Involvement Process

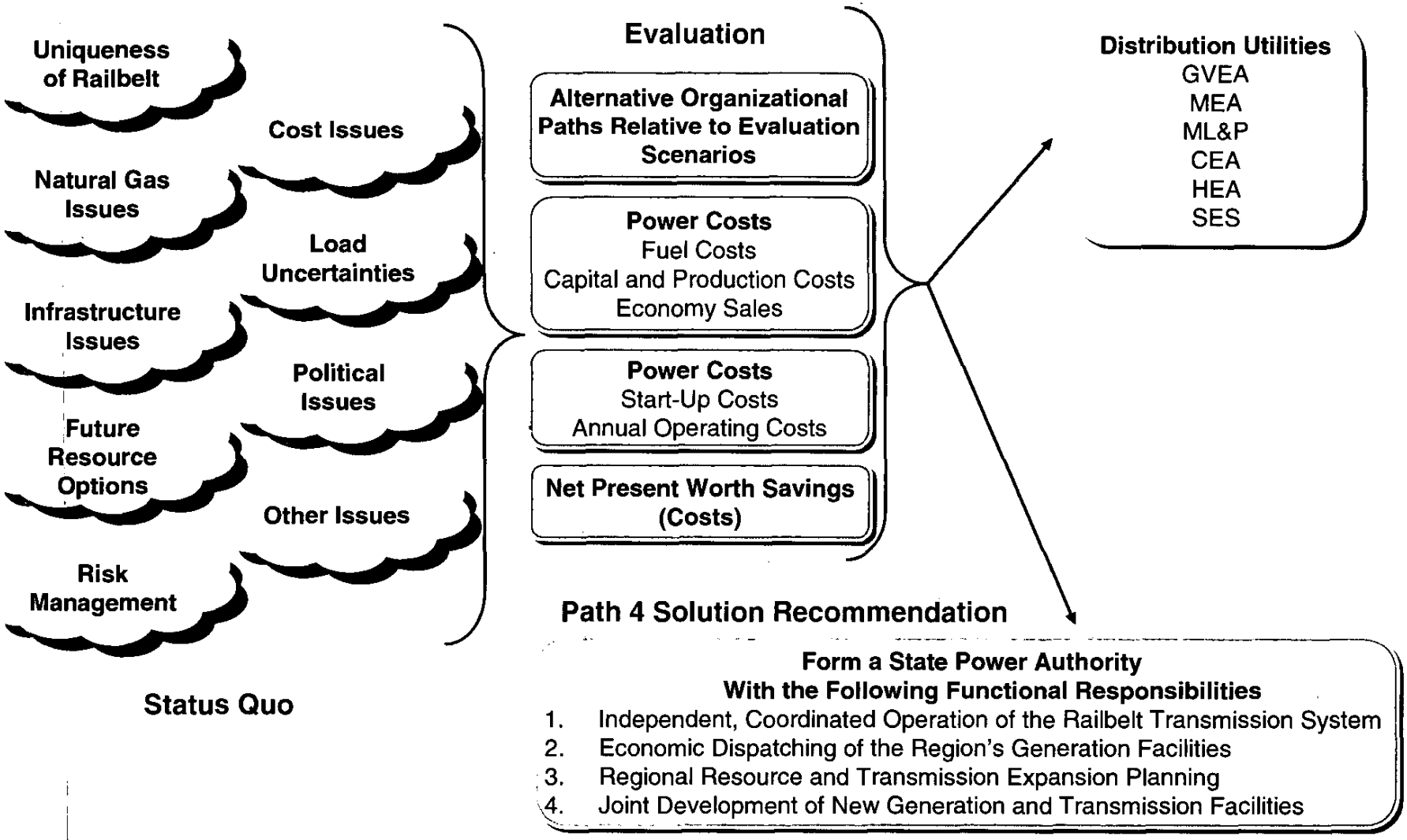


Results – Average Net Savings ($'000)

Scenario	Path 2 Independent Operation	Path 3 Independent Operation / Economic Dispatch	Path 4 Independent Operation / Economic Dispatch / Resource Planning / Project Development	Path 5 Power Pool	Relative Path 4 Results	
					% Savings	Impact on Typical Monthly Residential Bill
Tax-Exempt Debt						
A – Hydro / Renewables / DSM	($1,272)	$8,229	$42,683	$46,097	10.9%	$11.50
B – Natural Gas	($1,272)	$7,199	$12,795	$16,209	4.1%	$4.30
C – Coal	($1,272)	$10,645	$37,177	$40,591	10.8%	$11.30
D – Mixed	($1,272)	$8,804	$34,195	$37,608	9.4%	$9.90
Taxable Debt						
A – Hydro / Renewables / DSM			$28,166		7.9%	$8.30
B – Natural Gas			$10,452		3.6%	$3.70
C – Coal			$30,872		10.1%	$10.60
D – Mixed			$25,114		7.5%	$7.90

Path 5 considered as transition approach and not feasible for long-term solution.

Recommended Organizational Structure



Region's Need to Finance the Future

Scenario	Required Capital Investment Over Next 30 Years – Path 4 ($000'000)
A – Hydro/Renewables /DSM	$8,070
B – Natural Gas	$2,475
C – Coal	$3,769
D – Mixed	$5,840

Combined Railbelt Utility Financial Information – 2007 ($000,000)

- Total Net Electric Plant $1,475
- Total Revenues $729
- Total Long-Term Obligations $1,081

Implementation Steps

- Make Decision Whether to Form Regional Entity and Finalize Functional Responsibilities
- Finalize Legal Form for Regional Entity
- Establish Transition Management Team to Oversee Implementation (Including State Representative)
- Adopt Required Legislative/Regulatory Actions
- Complete Formation of New Entity
- Develop Initial Regional Integrated Resource Plan and Transmission Expansion Plan

Alaska Legislature
House Special Committee on Energy

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February 11, 2010

The Honorable Sean Parnell
Governor of Alaska
Alaska State Capitol Building
Third Floor
Juneau, Alaska 99801

Dear Governor Parnell,

We want to thank you and your staff for all the hard work that's been done on House Bill 182 over the past ten months. The two of us look forward to reviewing the revised draft legislation when it becomes available.

Although we have not seen the draft yet, we understand it will contain language excluding GRETC projects from RCA economic rate regulation.

If it does contain this provision, we want your assurance that you actually support this requirement in the committee substitute. We would appreciate this acknowledgement in writing at your earlier convenience.

We look forward to your response. In the meantime please contact us at any time if you or your staff would like to discuss the legislation in more detail.

Regards,

Rep. Bryce Edgmon

Rep. Charisse Millett

Jeff Turner

From: Gallagher, Gerald L (GOV) [gerald.gallagher@alaska.gov]
Sent: Tuesday, March 16, 2010 9:58 AM
To: Jeff Turner
Cc: Balash, Joseph R (DNR); Nizich, Michael A (GOV)
Subject: RE: GRETC bill

Jeff – To follow up on our phone conversation:

1. The Governor is awaiting testimony from the utilities and others on the proposed CS to finalize his position on RCA jurisdiction. Some form of consumer protection is appropriate and the 5 year sunset is one way to achieve this. We expect the utilities to find this acceptable and we hope to hear of their support during the Energy Committee hearing for this provision.

2. Joe Balash remains the point person on GRETC for both testimony and questions. He will testify on the bill this week in both House and Senate Committees.

3. There is not a revised transmittal letter. Since this is a suggested Committee Substitute, rather than an new introduction by the Governor, a transmittal letter is not necessary. We did, however, provide a sectional analysis which explains the bill in detail.

Thanks. Call me at 465-4021 if you have questions.

Jerry Gallagher
Legislative and Communications Director
Office of Governor Sean Parnell

550 West 7th Ave, Suite 1700
Anchorage, Alaska 99501
PHONE: 907.269.7450

gerald.gallagher@alaska.gov
www.gov.state.ak.us

From: Jeff Turner [mailto:Jeff_Turner@legis.state.ak.us]
Sent: Tuesday, March 16, 2010 9:21 AM
To: Gallagher, Gerald L (GOV)
Subject: GRETC bill

Jerry,

Joe Balash told me you were the person to contact for some additional information about the GRETC bill (HB 182).

1) Last month, Charisse and Rep. Edgmon sent Governor Parnell a letter asking him to clarify his position on RCA oversight. Do you know when the governor will provide them with his written response?
2) Who will be presenting the bill to the committee on Thursday?
3) Will there be a revised transmittal letter?

Thanks,

Jeff Turner
Chief of Staff, Rep. Charisse Millett
Dist. 30
Alaska Legislature
State Capitol Building, Room 412
Juneau, AK 99801
907-465-6588

Alaska Legislature
House Special Committee on Energy

Rep. Charisse Millett
Capitol Building, Room 412
Juneau, AK 99501
Phone (907) 465-3879
Fax (907) 465-2069
Rep_Charisse_Millett@legis.state.ak.us

Rep. Bryce Edgmon
Capitol Building, Room 416
Juneau, AK 99801
Phone (907) 465-4451
Fax (907) 465-3445
Rep_Bryce_Edgmon@legis.state.ak.us

April 7, 2010

Chairman Kurt Olson
House Labor & Commerce Committee
Room 24
State Capitol Building
Juneau, AK 99801

Representative Olson,

Today the House Special Committee on Energy moved out House Bill 182. The legislation creates the Greater Railbelt Energy and Transmission Corporation (GRETC). In its current form the bill limits seats on the board of directors to non-profit electric utilities within the railbelt region of the state.

Doyon Utilities operates power plants on several military bases located within the railbelt region and has expressed an interest in becoming a full member of GRETC. Representatives with Doyon offered an amendment that would make it eligible for full membership in the organization. It also addresses interconnection issues.

Some committee members had doubts about taking a generation and transmission corporation designed for non-profit utilities and mixing in for-profit utilities.

The committee agreed that the issue calls for further research and discussion. We respectfully request that the House Labor & Commerce Committee study this issue when HB 182 is brought before your committee.

We have included a copy of the amendment with this letter. Please contact our offices if you need any additional information.

Sincerely,

Rep. Bryce Edgmon

Rep. Charisse Millett

HOUSE COMMITTEE REPO

(7)

Date Referred to Committee: March 12, 2009

FURTHER REFERRALS: Labor and Commerce
Finance

Date of Committee Action: 4/7/10

The HOUSE SPECIAL COMMITTEE ON ENERGY considered: **HOUSE BILL NO. 182**

"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."

HB 182 RAILBELT ENERGY & TRANSMISSION CORP.

Recommends it be replaced with [ ] HCS *or* **[X] CS** *for* HB 182 (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
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
DCCED	1			

Signing with recommendations	**Printed Last Name**	**DP**	**DNP**	**NR**	**AM**
	Dahlstrom				X
	Peterson				X
	Ivan				X
	RAMRAS				X
	JOHANSEN			X	
Chair:	Millett				X
Chair:	Edgmon				X

HB 191

<target><bill>HB 191</bill><subject>HB 191</subject><comm>HENE26</comm></target>

26-LS0185\E
Kane
4/7/09

CS FOR HOUSE BILL NO. 191( )

IN THE LEGISLATURE OF THE STATE OF ALASKA

TWENTY-SIXTH LEGISLATURE - FIRST SESSION

BY

Offered:
Referred:

Sponsor(s): REPRESENTATIVES JOHNSON, Keller

A BILL

FOR AN ACT ENTITLED

"An Act relating to nuclear energy production and transportation of nuclear waste material; amending the definition of 'power project' or 'project' as it relates to rural and statewide energy programs and the Alaska Energy Authority; relating to the alternative energy revolving loan fund and amending the definition of 'alternative energy system' as it relates to that fund and to the conservation of energy and materials; and providing for an effective date."

BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF ALASKA:

* **Section 1.** 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 **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. 2.** AS 18.45.025 is amended to read:

Sec. 18.45.025. Facilities siting permit required. (a) A person may not construct a nuclear fuel production facility, **nuclear utilization or** 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.

(b) The legislature shall designate by law the land in the state on which a nuclear fuel production **facility**, nuclear 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.

(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

(1) REPEALED

(2) THE MUNICIPALITY WITH JURISDICTION OVER THE PROPOSED FACILITY SITE HAS APPROVED THE PERMIT; AND

(3) REPEALED

(4) THE GOVERNOR HAS APPROVED THE PERMIT.]

* **Sec. 3.** 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. 4.** 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. 5.** 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 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 to develop means of energy production utilizing energy sources [OTHER THAN FOSSIL OR NUCLEAR FUEL], including [, BUT NOT LIMITED TO,] windmills, water**, nuclear fuel,** and solar energy devices.

*** Sec. 6.** AS 45.88.010 is amended by adding a new subsection to read:

(e) The fund consists of

(1) money appropriated to the fund by the legislature;

(2) gifts, bequests, or contributions from other sources; and

(3) principal and interest payments or other income earned on loans or investments in the fund and appropriated to the fund.

*** Sec. 7.** AS 45.88.030 is amended by adding new subsections to read:

(f) A loan must be secured by a mortgage or other security instrument in the

real property to be improved, and a lien on the improvements financed under AS 45.88.010.

(g) The interest rate

(1) may not exceed the maximum rate of eight percent a year and may not be less than five percent a year;

(2) shall be established by the department based on the bank prime rate listed in the Wall Street Journal during the previous quarter plus one percentage point, set to the nearest one-half point for loans made; and

(3) set for a quarter remains in effect until the department changes the rate.

*** Sec. 8.** AS 45.88.090(a) is amended to read:

(a) In AS 45.88.010 - 45.88.090, "alternative energy system"

(1) means a source of thermal, mechanical, or electrical energy **that may be** [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;

(2) includes

(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);

(B) a method of architectural design and construction **that** [WHICH] provides for the collection, storage, and use of direct radiation from the sun;

(C) a woodstove with a catalytic converter or a catalytic converter for a wood stove; and

(D) a steam, hot water, or ducted hot air central heating system that uses wood or coal for fuel;

(3) does not include

(A) a stove that uses only **wood or coal** [WOOD, COAL, OR OIL] for fuel; or

(B) a fireplace or fireplace insert.

*** Sec. 9.** AS 46.11.900(1) is amended to read:

(1) "alternative energy system"

(A) means a source of thermal, mechanical, or electrical energy that **may be** [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. 10.** AS 18.45.027; AS 45.88.010(c), 45.88.030(e), and 45.88.040(a) are repealed.

*** Sec. 11.** This Act takes effect immediately under AS 01.10.070(c).

ALASKA STATE LEGISLATURE

Interim:
716 West 4th Avenue, Suite 640
Anchorage, Alaska 99501
Phone (907) 269-0200
Fax (907) 269-0204
Rep.Craig.Johnson@legis.state.ak.us

Session:
State Capitol, Room 126
Juneau, Alaska
99801-1182
Phone (907) 465-4993
Fax (907) 465-3872

REPRESENTATIVE CRAIG JOHNSON
HOUSE DISTRICT 28

Sponsor Statement
Nuclear Energy
HB 191

The State of Alaska is unmatched in its size and diversity. From the rain forest of SE to the barren tundra in the north, from the boreal forest of the Interior to the windswept Aleutian Islands Alaska's geology is extremely diverse.

The potential for energy projects is just as diverse. Some areas of the State have the potential for Hydroelectric Facilities, other areas have an abundance of gas and/or crude oil, there are areas where Geothermal looks promising, some places where there is wind potential and the possibilities abound.

The important thing is that each community or region has an opportunity to make an informed decision about the alternative that is right for their constituents. Policies that either restrict the options or entice communities into plans that are not financially sustainable do not lead to a stable, sustainable State energy policy.

HB 191 removes the restrictions on the use of Nuclear power. It does not advocate nuclear above other energy sources. It simply levels the playing field so that a community or region may consider this source of power along with other sources. This bill also expands the definition of alternate energy as it applies to the energy loan fund to permit selection of the technology that best applies to each individual situation.

It is imperative that the States energy policy be as diverse as the State. While there are some that advocate a restricted portfolio of energy sources, history shows that this plan of action leads to more volatility and eventually to shortages. Passing this legislation, Alaska is insuring that there are numerous energy solutions.

ALASKA STATE LEGISLATURE

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REPRESENTATIVE CRAIG JOHNSON
HOUSE DISTRICT 28

Changes between HB 191\R and CS for HB191\E

The changes from HB 191\R to CS for HB 191\E incorporate some of Division of Investments recommendations and corrects a drafting error.

Section 1 of the CS amends AS18.45.020 to add the word "facility in a number of places. **No change between HB 191 and CS for HB 191.**

Section 2 of the bill amends AS 18.45.025 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. This section also deletes portions of AS 18.45.025 © that state that a permit may not be issued unless approved by the municipality and the governor. **No change between HB 191 and CS for HB 191.**

Section 3 amends the definition of "power project or "project in AS 42.45.990 (4) to delete the exclusion of nuclear energy from the definition. **No change between HB 191 and CS for HB 191.**

Section 4 amends the definition of "power project" or "project" in AS 44.83.990 (6) **No change between HB 191 and CS for HB 191.**

Section 5 of the bill amends AS 45.88.010(a) to delete the exclusion of nuclear fuel energy sources for possible loans from the alternative energy loan fund and include nuclear fuel to the list of acceptable energy sources. **No change between HB 191 and CS for HB 191.**

Section 6 Adds language allowing a variety of capitalization sources for the Alternative Energy Revolving Loan Fund.

Also stipulates that principal and interest payments and other income on loans or investments in the fund become part of the fund. **This is change between HB 191 and CS for HB 191. The language was taken from HB 196.**

Section 7 Adds new subsections to AS 45.88.030 requiring a loan be secured on he real property to be improved and on the first lien on the improvements financed under the loan.

States that the interest rate will be set between 5% and 8%, declares how the specific rate will be calculated in relation to the bank prime rate, and describes the length of time that the rate remains in effect. **This is change between HB 191 and CS for HB 191. The language was taken from HB 196.**

Section 8 of the bill amends the definition of "alternative energy system" in AS 45.88.090(a) to conform with the changes made in section 5 of the bill. **No change between HB 191 and CS for HB 191 except:**

1. the words "oil or gas or" are deleted on page 4 line 14 of CS to HB 191. The draft of the bill had new technology for oil and gas. When a definition could not be formulated for new technology the decision was made to take it out. The drafter took out new technology but not oil or gas or from page 3 line 27 of HB 191
2. the word oil is removed from page 4 line 29 of the CS to HB 191 shown on page 4 line 10 of HB 191

Section 9 of the bill amends the definition of "alternative energy system" in AS 45.11.900(1) to match the definition, as amended in sec. 8 of the CS. **No change between HB 191 and CS for HB 191 except:**

- the words "oil or gas or" are deleted on page 5 line 3 of CS to HB 191. The draft of the bill had new technology for oil and gas. When a definition could not be formulated for new technology the decision was made to take it out. The drafter took out new technology but not oil or gas or from page 4 line 15 of HB 191.

Section 10 repels AS 45.88.01.0(c), 45.88.030(e) and 45.88.040(a). **This is change between HB 191 and CS for HB 191. The language was taken from HB 196.**

Section 11 sets an immediate effective date. **No change between HB 191 and CS for HB 191.**

FISCAL NOTE

STATE OF ALASKA
2009 LEGISLATIVE SESSION

Fiscal Note Number:
Bill Version: **HB 191**
() Publish Date:

Identifier (file name): HB 191-CED-AEA-04-08-09
Dept. Affected: DCCED
Title: ACT RELATING TO NUCLEAR ENERGY PRODUCTION
RDU: Alaska Energy Authority
Component: AEA Rural Energy Operations
Sponsor: Representatives Johnson and Keller
Requester: House Energy Committee
Component Number: 2600

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)*

The bill changes the definition of a power project relative to the power project fund to include nuclear production.

Alaska Energy Authority's (AEA) fiscal note is zero, because there are currently no projects of this type.

AEA estimates that 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 contractua advisory service in the field.

Prepared by: Linda MacMillan - AEA Project Accountant
Phone 907-771-3029
Division: Alaska Energy Authority
Date/Time 4/7/09 3:30 PM
Approved by: Emil Notti, Commissioner
Date 4/7/2009
Department of Commerce, Community and Economic Development

(Revised 9/10/2008 OMB)

2666

FISCAL NOTE

STATE OF ALASKA
2009 LEGISLATIVE SESSION

Fiscal Note Number:
Bill Version: **HB191**
() Publish Date:

Identifier (file name): HB191-DFG-DAS-04-07-09
Dept. Affected: Fish and Game
Title: An act relating to nuclear energy production and transportation
RDU: Administration and Support
Component: Administrative Services
Sponsor: Johnson, Keller
Requester: House Special Committee on Energy, 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 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)*
No fiscal impact to department.

Prepared by: John White, Procurement Specialist V
Phone 907-465-6178
Division: Administrative Services
Date/Time 4/7/09 1:20 p.m.
Approved by: Tom Lawson, Director of Administrative Services
Date 4/7/2009
Department of Fish and Game

(Revised 9/10/2008 CMB)

Galena Nuclear Project

M:T Solutions LLC

- 2003
  - Initial contact with Toshiba
- 2004
  - DOE report recommended evaluation of 4S as the Galena Energy source (Situational Analysis)
  - City Counsel passed resolution to pursue siting a 4S based facility in Galena.
- 2005
  - Galena's meeting with NRC
  - Request funding for white papers

Galena Continued

M:T Solutions LLC

- 2006
  - White papers funding authorized by State of Alaska
  - White papers completed
- 2007
  - Toshiba meets with the Nuclear Energy Authority to discuss licensing the Toshiba 4S Reactor

Nuclear Energy

M:T Solutions LLC

Questions:

1. What about 3 mile Island

3. What about Terrorists

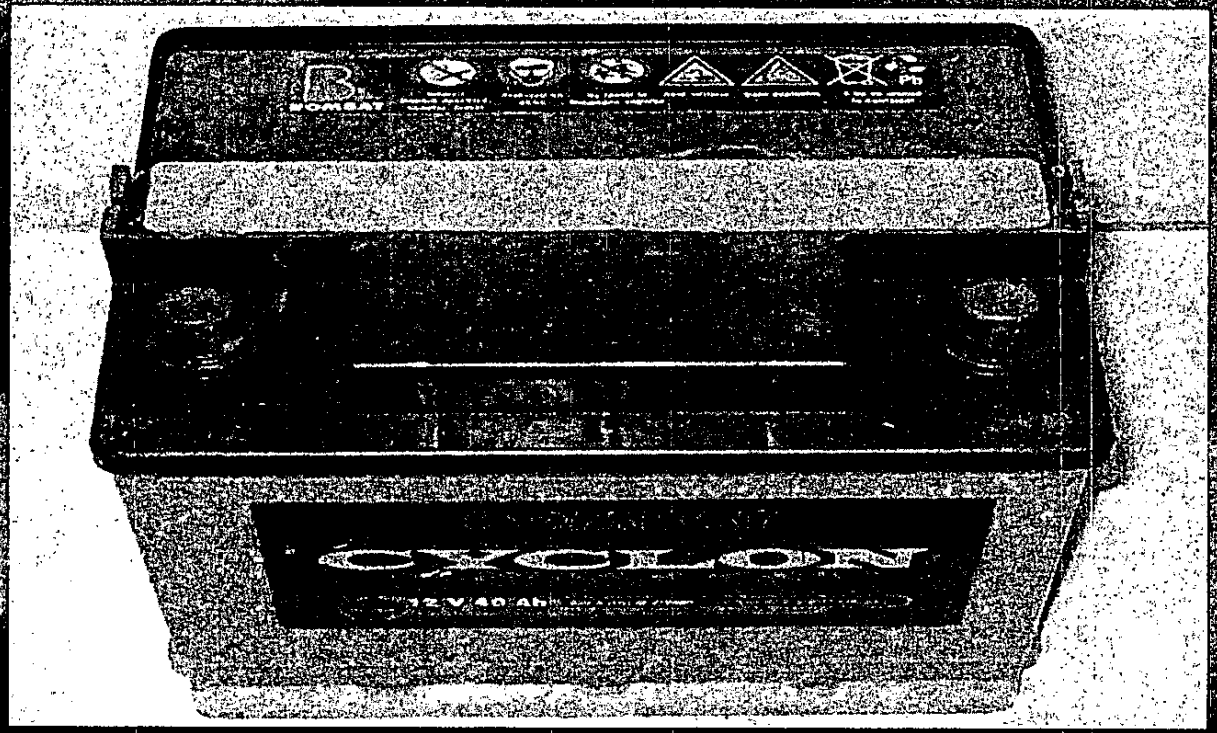
5. What happens to the waste

7. How do you handle an emergency

Nuclear Battery

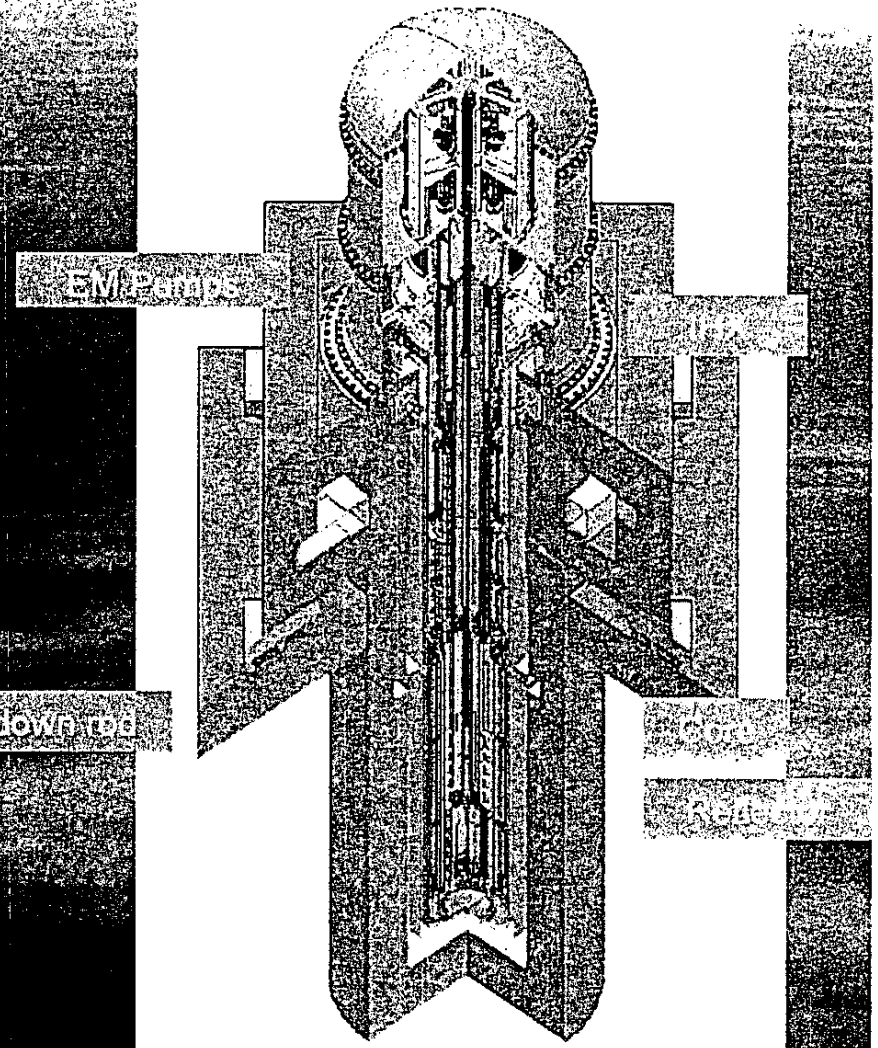
M:T Solutions LLC

- Battery



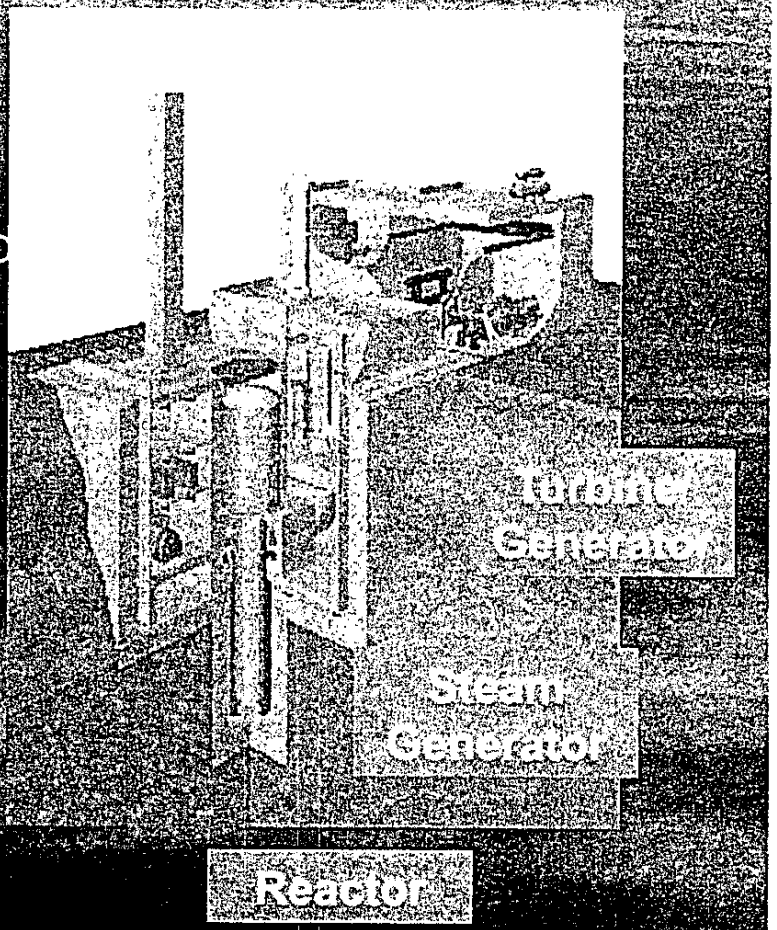
Plant Description

- Core
  - Metallic fuel core (U-10%Zr)
- Reactivity control
  - Movable reflectors
- Shutdown system
  - Shutdown rod and reflectors
- Primary heat transport system
  - Pumps: Annular type
    - Electro-magnetic (EM) pumps
  - IHX: Annular type
    - intermediate heat exchanger



Overview

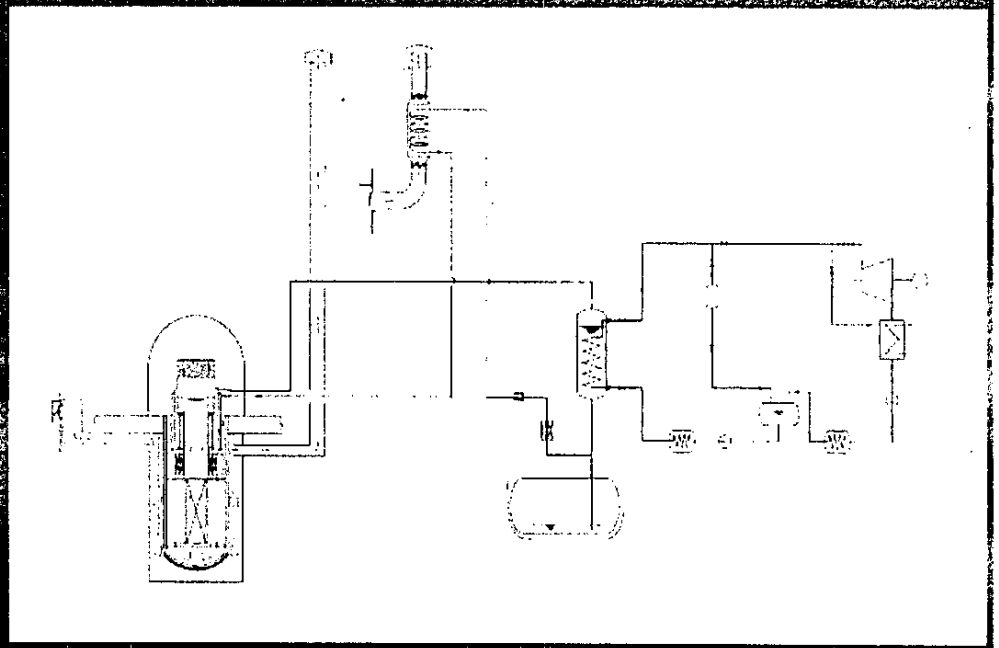
- 30 MWt (10MWe)
- **Application**
  - Remote areas of small power demand (e.g., Galena Alaska)
  - Considered a candidate for GNEP grid-appropriate small and medium reactor design
- **Main features**
  - Passive safety
  - No onsite refueling for 30 years
  - Low maintenance requirement
  - High inherent security



Plant Description

Heat transport systems

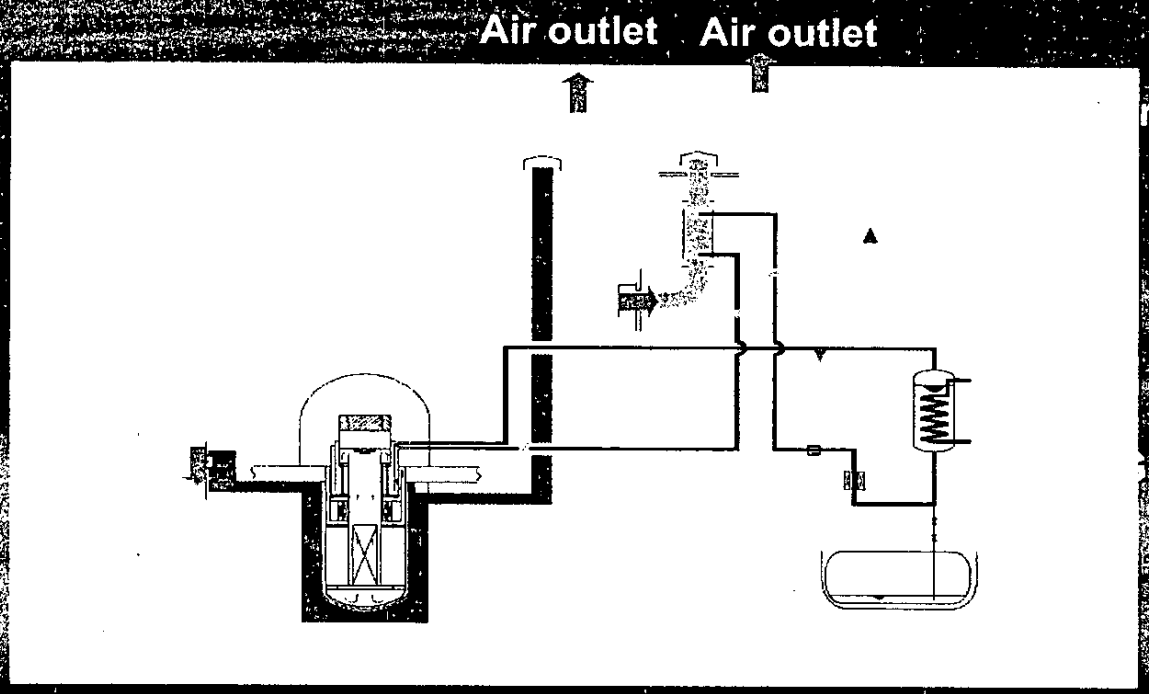
- Primary heat transport system: Inside the reactor
- Intermediate heat transport system
  - Steam generator
  - EM pump
  - Air cooler
  - Dump tank
- Water & steam system
  - Turbine Generator



Passive Decay Heat Removal

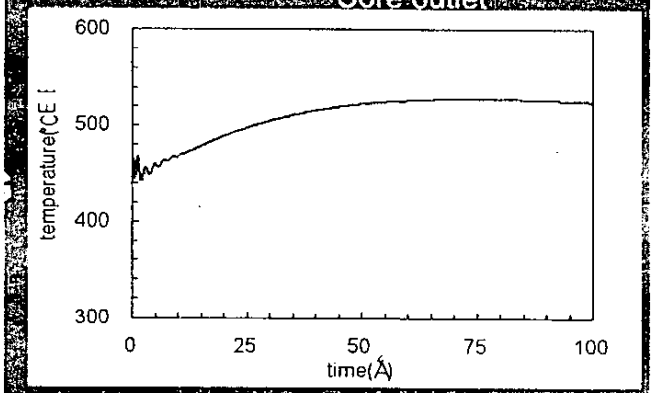
Heat removal by natural circulation & natural air draft

- RVACS : Natural air draft outside the guard vessel
  - Sufficient cooling capacity by only RVACS
- IRACS : Natural circulation of sodium and air draft of air cooler



RVACS

Air flow pass

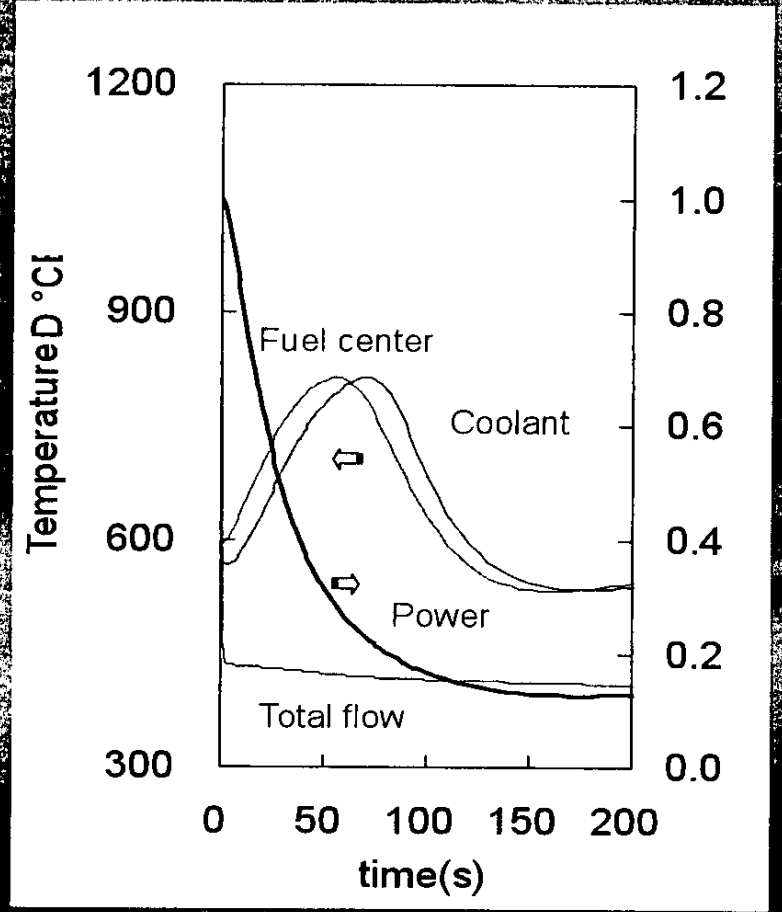


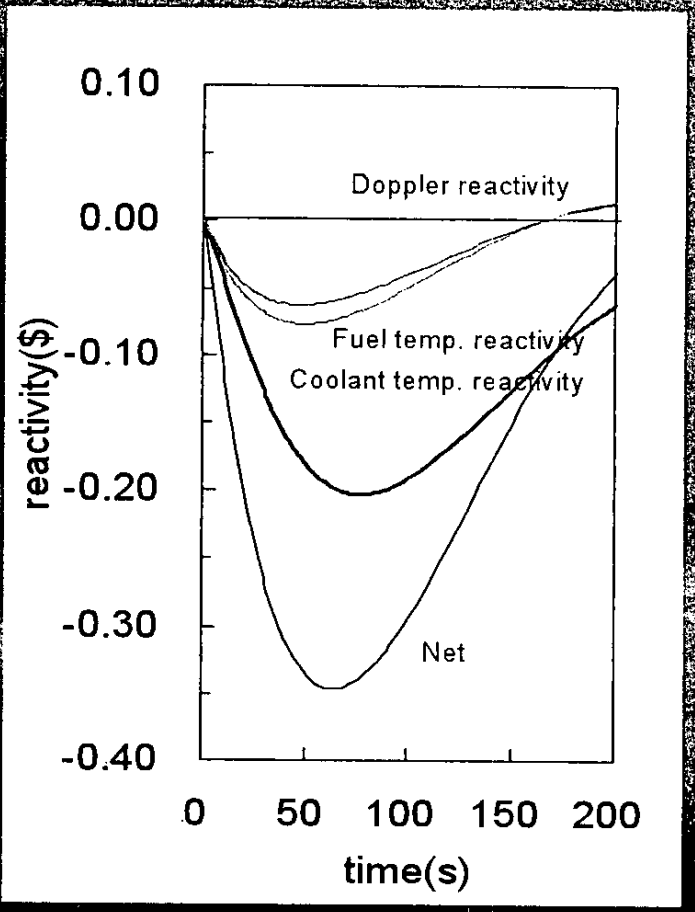
Loss of offsite power
Assumption : Heat removal by only RVACS

Passive Shutdown for Unprotected Events

Safety Analysis of Unprotected sudden loss of flow

Large margin to coolant boiling and fuel melting





Main Design Features

- Key Features of 4S
  - Passive safety
    - No onsite refueling for 30 years
    - Low maintenance requirement
    - High inherent security

Safety Features

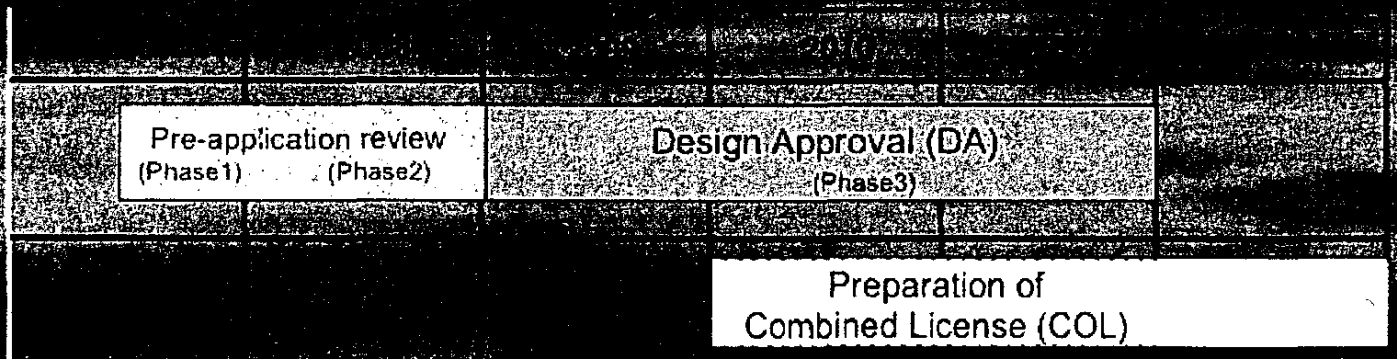
- Vessel
- Negative coolant temperature coefficient promotes safe, stable operation.
- Large margin to coolant boiling or cladding failure
- Reliable, redundant and diverse scram systems
- Smaller excess reactivity with metallic fuel core design – limited potential for reactivity insertion accident
- Passive, reliable, and diverse shutdown heat removal systems

Tests to Support 4S Design

Design Feature	Verification Item	Required Testing	Status
Long cylindrical core with small diameter Reflector controlled core	Nuclear design method of reflector control core with metallic fuel	Critical experiment	Done
High volume fraction metallic fuel core	Confirmation of pressure drop in fuel subassembly	Fuel hydraulic test	Done
Reflector	Reflector drive mechanism with fine movement	Test of reflector drive mechanism	Done
RVACS	Heat transfer characteristic between vessel and air	Heat transfer test of RVACS	Done
EM pump	Structural integrity Stable characteristics	Sodium test of EM pump	Done and Planned
Steam generator (Double wall tubes)	Structural integrity Heat transfer characteristic Leak detection	Sodium test of steam generator Leak detection test	Done and Planned
Seismic isolation	Applicability to nuclear plant	Test of seismic isolator	Done

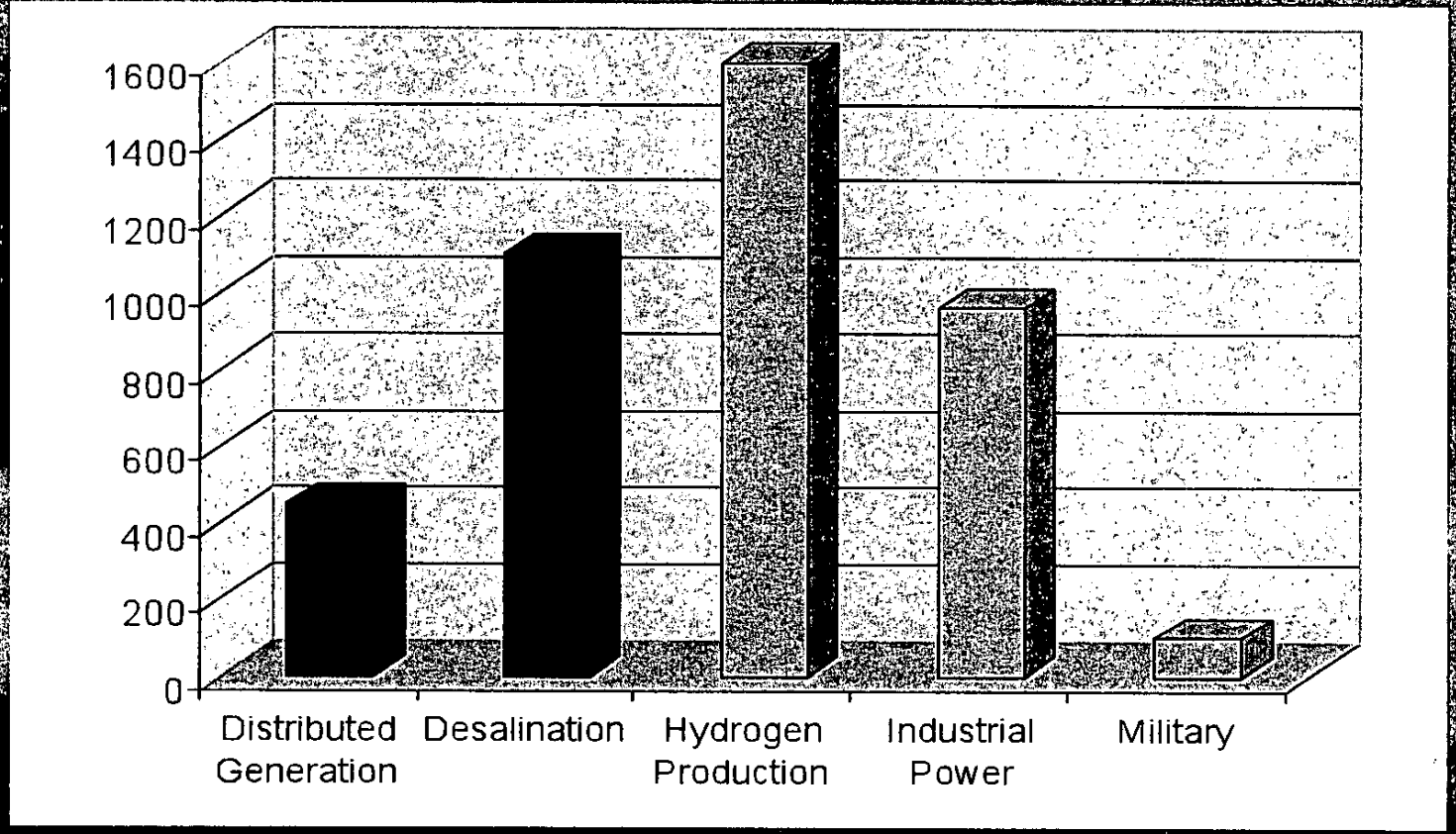
Proposed Licensing Approach

- **Submit Design Approval application in 2009**
  - **Phase 1:** Complete a series meetings with NRC to identify issues to be addressed before Design Approval application
  - **Phase 2:** Submit technical reports and obtain NRC feedbacks to address the issues identified in phase 1
  - **Phase 3:** Submit Design Approval application and obtain FSER
- **Application referencing Design Approval application Toshiba expects U.S. customer will submit a COL**



Small Reactor Market Niche Program Plan

M:T Solutions LLC



Sample Commodity Costs – 10 Megawatts of Electricity Equivalent

M:T Solutions LLC

Commodity	Production Rate	10 MWe Yields:	Comments
Electricity	10 MW	240,000 KW/day	
Oxygen	567 scf/ min	817,071 scf/day	Assume electrolysis process using Teledyne Titan HP generator
Hydrogen	1134 scf/ min	1,634,143 scf/day	Assumes electrolysis process using Teledyne Titan HP generator
Desalinated Water	6,381 gpm	9,188,522 gpd	Assumes Salt Water Reverse Osmosis process with 35,000 ppm TDS input and producing 350 ppm TDS output

Galena Electric Power –a Situational Analysis

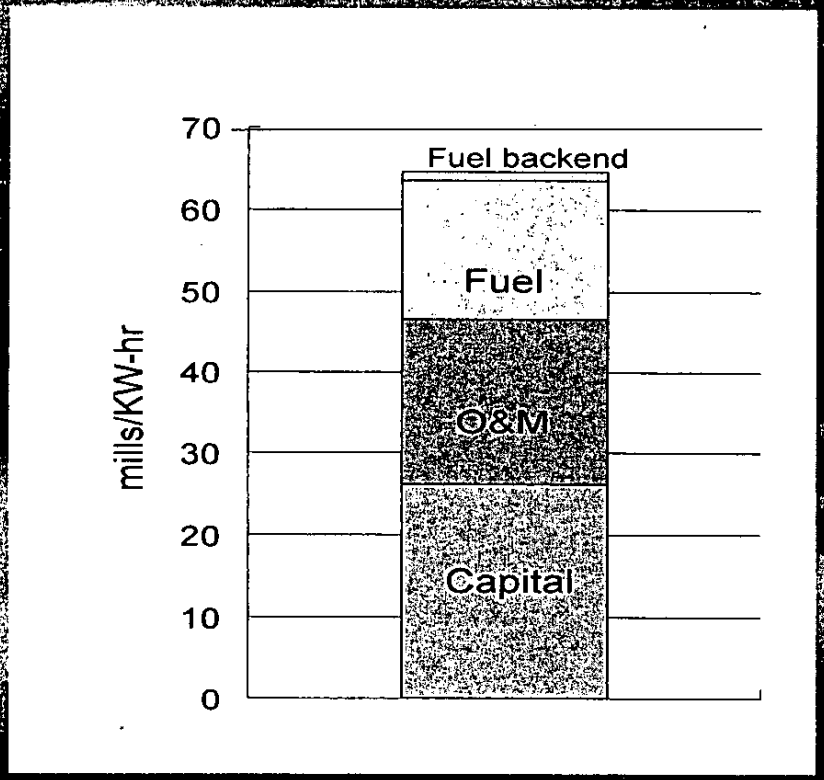
M:T Solutions LLC

Nuclear: Possible Uses of Extra Power

- Hydrogen Production
- Greenhouses
- Aquaculture
- Galena as a test-bed
- Transmission to Neighboring Villages
- Increased use by consumers
- District Heat

4S Preliminary Cost Estimate

M:T Solutions LLC



- 50MWe (135MWt) :
  10 MWE variant
- Commercial plant
  (mass production phase)
- Plant Construction:
  $ 2,500 $3,000/KWe

Busbar Cost:
$.065 mills-$.070 /KW-hr

M:T Solutions LLC

GNEP

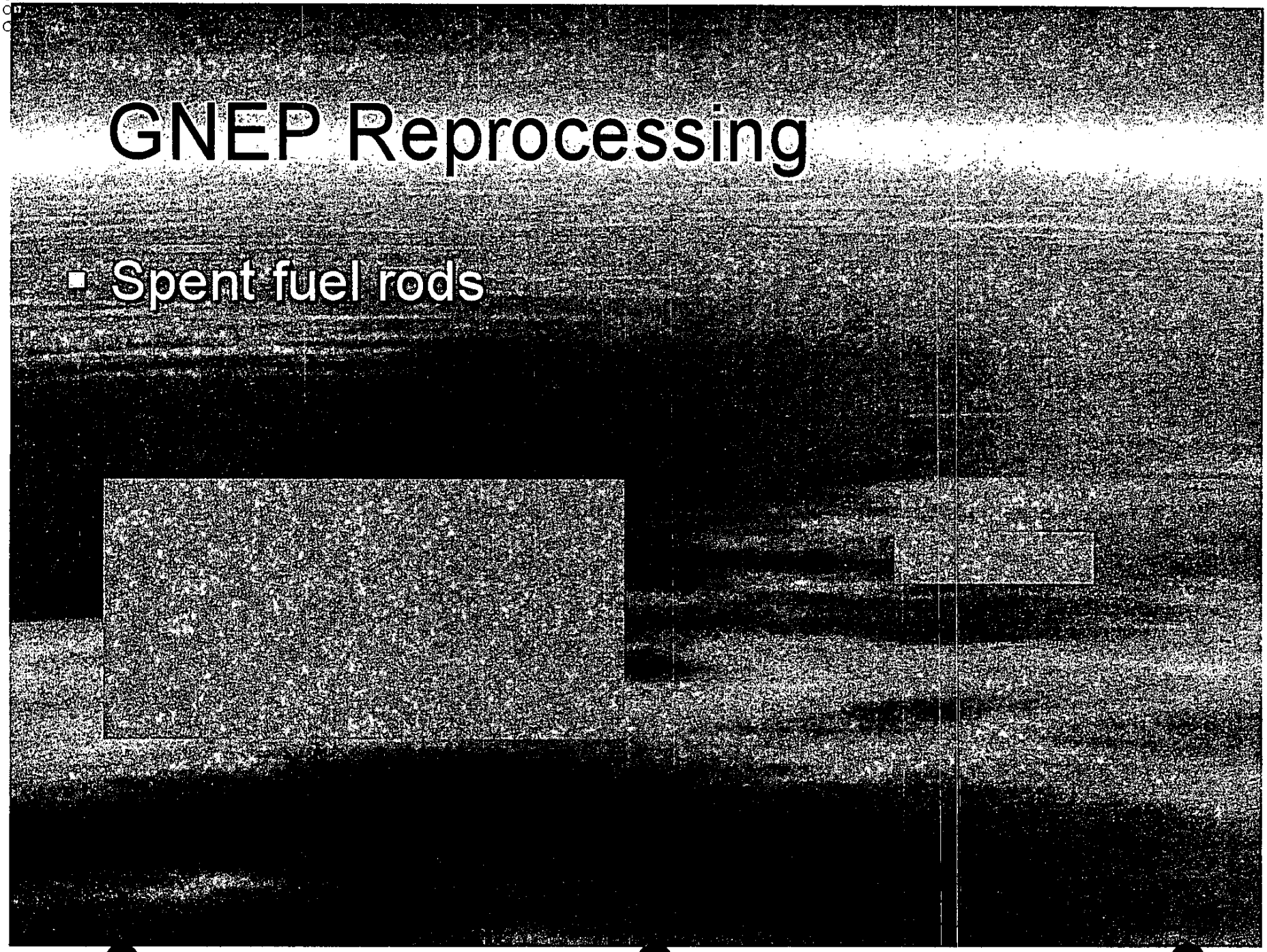
The Global Nuclear Energy Partnership

Greater Energy Security in a Cleaner, Safer World

President George Bush

GNEP Reprocessing

- Spent fuel rods



GNEP Element Demonstrate Small Scale Reactors

M:T Solutions LLC

- In order to expand the use of nuclear energy in these small electricity markets, a small reactor is preferred for small electricity grids. These reactors will be safe, simple to operate, more proliferation-resistant, and highly secure.

  How the reactors would work

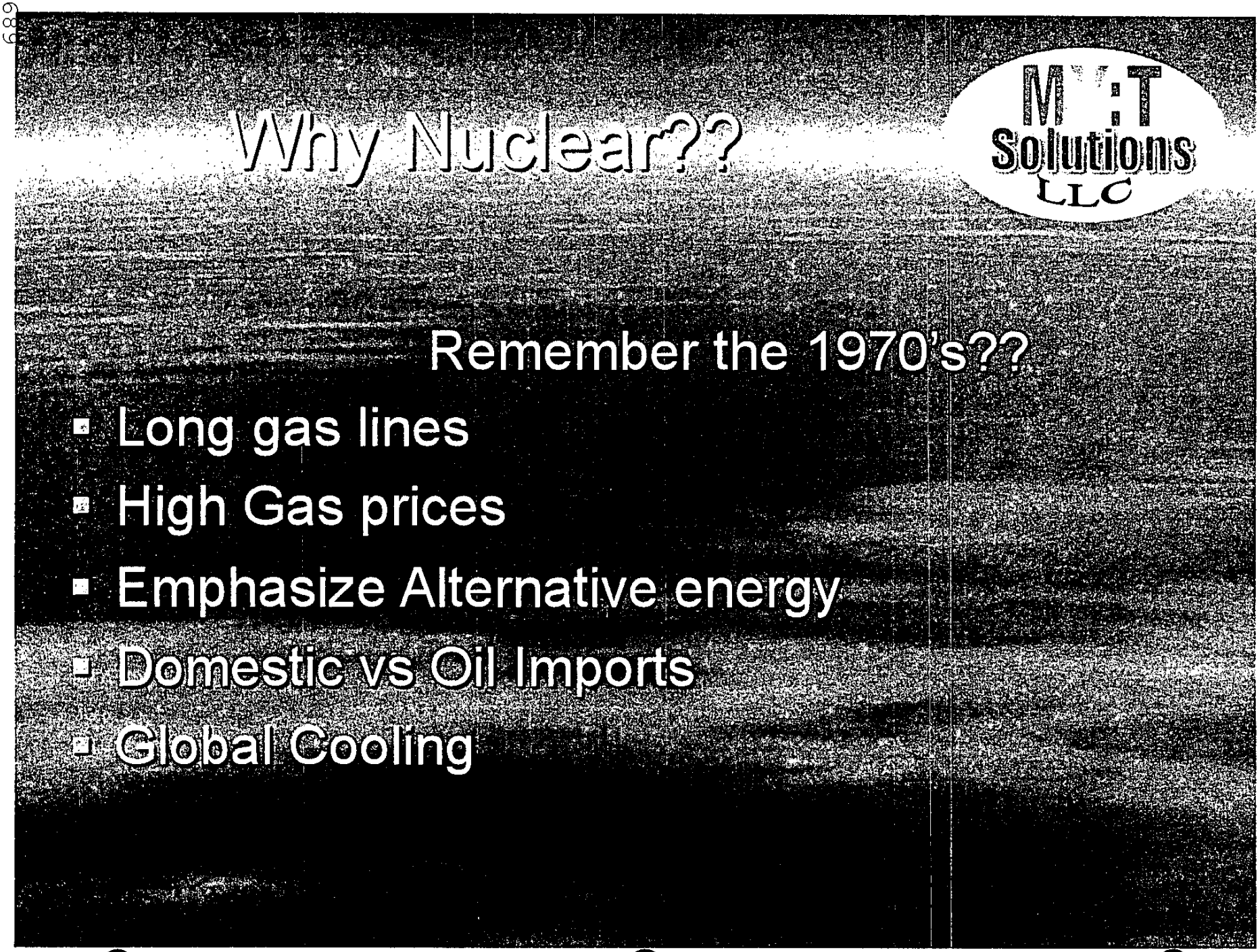
  Small, more proliferation-resistant reactors could incorporate features that would … include fuel designs that offer very long-life fuel loads (that last the entire life of the reactor); effective… safeguards … to promote non-proliferation; potential for district heating and potable water production; fully passive safety systems; simple operation that requires minimal in-country nuclear infrastructure; use of as much existing licensed or certified technology as possible; and use of advanced manufacturing techniques.

Mohamed ElBaradei

M:T Solutions LLC

One potential strategy is to construct hundreds of mini-nuclear power plants that would each serve a single village, said ElBaradei. These plants would be less expensive than their full-size counterparts and could be set up without a need for an extensive power grid. In addition, the small-scale plants could be made with sufficient safety features to prevent meltdown and theft. This includes a passive cooling system that works even if power is shut down, said researchers this summer at Argonne National Laboratory. The reactors could also run for 30 years without the need to refuel, and any theft would require the use of large and conspicuous gear that could be visible by satellite, according to Argonne's senor technical advisor David Wade.

Nobel laureate Mohamed ElBaradei, director general of the International Atomic Energy Agency, gave this year's David J. Rose Lecture on "Nuclear Technology in a Changing World: Have We Reached a Turning Point?" Photo / Donna Coveney


Why Nuclear??
M T
Solutions
LLC
Remember the 1970's??
Long gas lines
High Gas prices
Emphasize Alternative energy
Domestic vs Oil Imports
Global Cooling

Where Will the Hydrogen Come From?

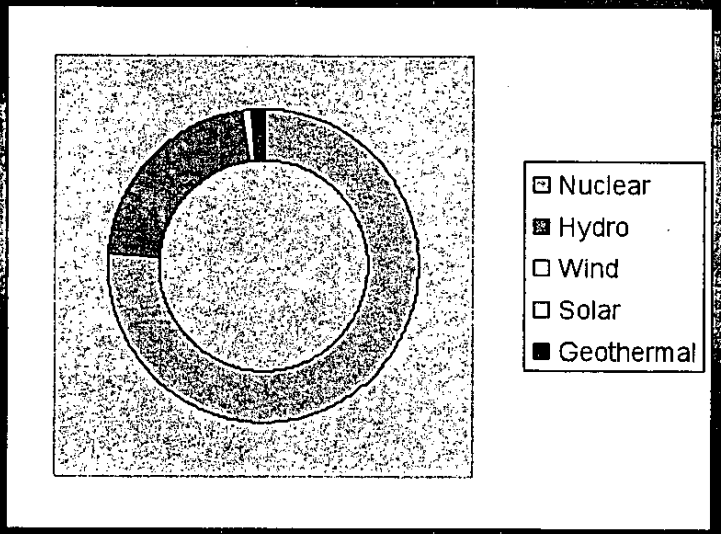
M:T Solutions LLC

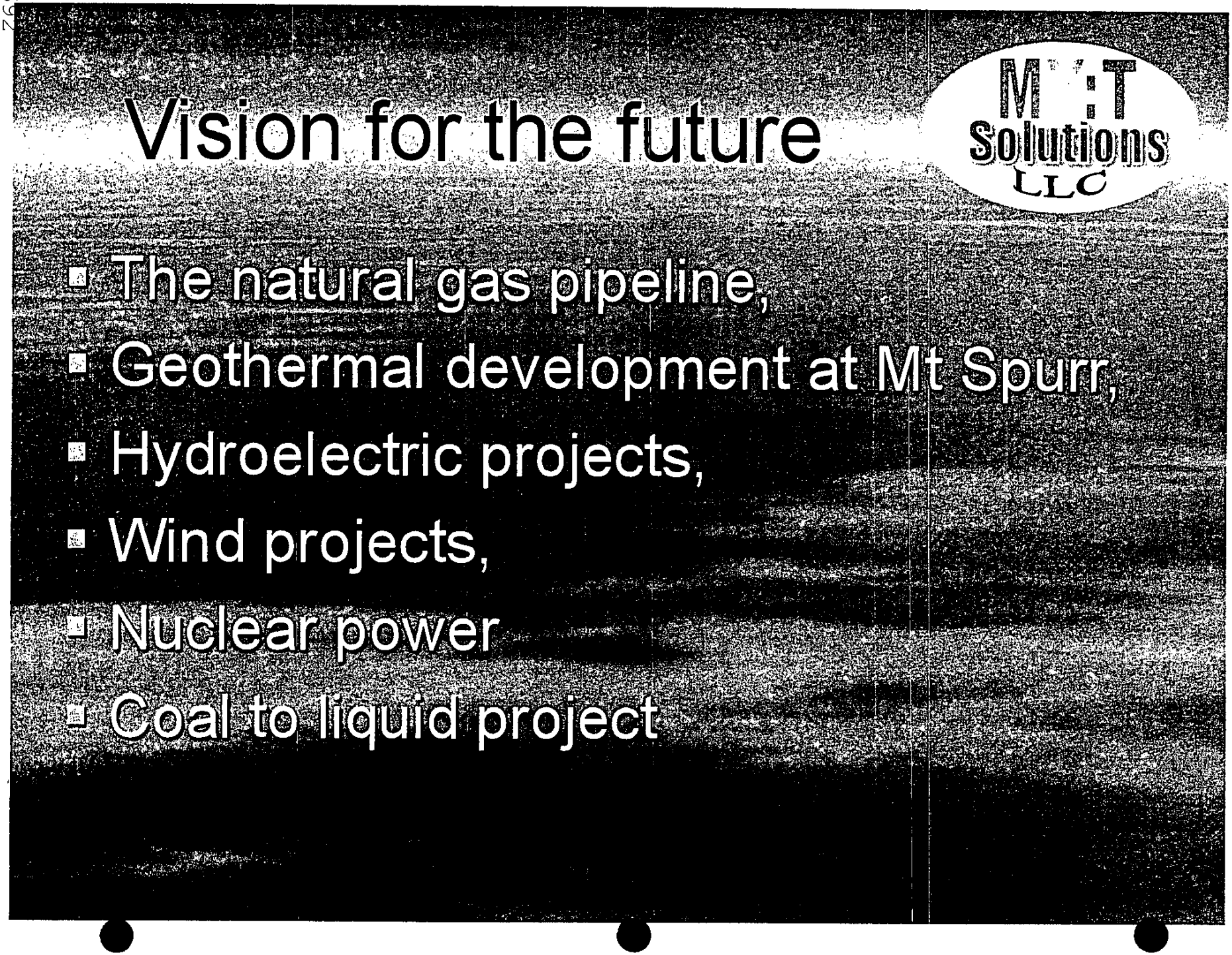
	Natural Gas	Nuclear	Solar	Wind	Biomass	Coal
Facilities	777,000	2,000 x 600mgw	113 mil x 40kw	1 mil x 2mgw	1.5 bil tons	1 bil tons
Cost	$I Trillion	$840 Billion	$22 Trillion	$3 Trillion	$565 Billion	$500 Billion
CO2 Emissions	300 Million tons	0	0	0	500 million tons	500 million tons
Cost per Gal Gasoline Equivalent	$3.00	$2.50	$9.50	$3.00	$1.90	$1.00

Emission Free Energy in the United States

M:T Solutions LLC

Nuclear	Hydro	Wind	Solar	Geothermal
76.20%	21.60%	0.70%	0.10%	1.40%




Vision for the future
M:T
Solutions
LLC
The natural gas pipeline,
Geothermal development at Mt Spurr,
Hydroelectric projects,
Wind projects,
Nuclear power
Coal to liquid project

Conclusions

M:T Solutions LLC

- Nuclear Power -50 years without a fatality
- Secure 19% enrichment -non weapons grade
- Burner Reactor -uses reprocessed fuel
- Auto shut down -no operator error

Toshiba 4S Project

M:T Solutions LLC

- Thank you

Marvin Yoder
907 227-7158
marviny59@gmail.net

Many are licensed but few are built

We built nearly 100 plants in the 50's and sixties until a combination of the reduction in electricity demand, public protest, and regulatory overkill in the 1970's made further building of power reactors too uncertain and expensive. Now over 30 years later we have not completely overcome this lost momentum and actually started building plants again.

The regulatory environment is now more predictable (but way too slow), demand is up, and as people have gotten more familiar with nuclear power their earlier fears have dissipated. Now over 60% of our population wants to expand the use of nuclear power (and virtually all of the technically competent). Of course we still have some techno-phobics and can expect lawsuits attempting to derail almost any energy project. However, nuclear has proven to be the safest, and most healthy heat source for generating significant electrical power.

The licensing process is very slow, but the NRC has set up a regime in which, once construction has started, challenges to prevent operation should be very difficult. The process now consists of a two licenses. The first certifies the design of a type of plant. Four plant designs have been certified and 4 more are under review. A number of others are in a pre-review phase. As long as a builder picks a certified design that portion of the project is exempt from further review except to insure the design is carried out. The second license is the Combined License (COL) which is specific to a site and covers the builder's qualifications, environmental impacts, operation, site safety, design safety, and construction verification. As of March 9, 2009 the NRC has received COL applications for 26 plants at 17 sites. At least 13 of these sites already have operating nuclear plants, so the new reactors represent an expansion.

How many of these new plants will be built is open to question. Since the NRC process takes years, the operators must anticipate future power requirements at least half a dozen years in advance. Current economic conditions might well suppress demand for some years. The effect of a new a administration is also unknown. President Obama has said he favors nuclear power, but his actions seldom correspond to his words. We will have to see.

Meanwhile current developments in small nuclear power plants suggest that small factory produced reactors may be a way to compress the approximately 4 year build time (regulatory matters take many additional years) for a large reactor.

Meanwhile, there are 104 operating power reactors in the United States producing nearly 20% of our power. The utilities operating these reactors are carrying bundles of cash to the bank because their fuel costs are so low and their capital costs have been recovered.

2695

Short, medium and "permanent" storage of nuclear waste

The difference between short term (5-30 years), & medium term (10-500 years) storage of nuclear waste; and permanent storage has become politically huge. I have written a paper on the very long term storage of high level waste which is attached.

The cost of short term and medium term storage is very manageable, but predicting the cost of storage for some forms of very long term storage is more difficult. I would assert that the remaining problems are primarily political and driven by lack of information dissemination. The government has been collecting fees from all U.S. nuclear power generators to provide this long term storage, but so far they have missed every deadline, and Obama just back-burnered the facility that was expected to take the long term storage. Meanwhile most plants have adjusted and can keep the waste on-site for a few hundred years after which it is much safer to handle.

One of the differences between nuclear waste and ordinary chemical waste is that nuclear waste steadily degrades to safer end products and does this on a predictable and very reliable schedule. Unfortunately for some parts of the waste this is a very long time. Chemical waste on the other hand is essentially eternal in the absence of a chemical reaction to change it to a safer material. Compared to the waste from a coal plant the waste from a nuclear plant is also very tiny.

President Carter committed the U.S. to a once through fuel cycle which uses about 3% of the slightly enriched uranium placed in the reactor's fuel rods. He had some reasons, but they were questionable at the time, and have become even less relevant as the years have passed. I'll be glad to describe this at length at our next lunch.

Reprocessing the fuel reduces the waste dramatically and also permits the plutonium (with a very long half-life) to be "burned" as reactor fuel. This in brief is why some of us did not want to see the (slightly) used fuel being "permanently" stored.

Nuclear power in Alaska

Alaska has a different set of power requirements than the other states. The scale of our power is much smaller and in fact electricity for the entire state could be generated by one plant of the type the NRC has certified so far. Of course there would be no reasonable way to transmit the power to the locations where it is needed.

At the same time, nuclear and hydro power offer the only consistent, reliable, significant scale generation capability that will free Bush centers from their reliance on fuel oil generation. Wind can contribute a bit in some communities but is not reliable or cost effective. Wind is usual grouped with solar and geothermal and described in the industry as "piddle" power. I've enclosed an Excel spreadsheet showing the 2007 percentages of power produced using the various fuels.

Planned for Galena is a 10 MWe Toshiba 4S. This is less than 1% of the size of reactors

2696

the NRC has certified. They have had a series of pre-certification meetings and a formal certification application may be submitted this year. If all goes well, it would be possible to have a 4S in Galena in 2015.

A number of other communities around the state should consider these. I have written a letter to the Governor to suggest a few things the state could do that would have vast long term benefits for regional Bush locations. I have enclosed a copy.

In brief, these include helping suppliers and communities deal with federal regulatory issues, helping with technical evaluations, and getting federal security measures adjusted for small and underground reactors.

Nuclear Power in Anchorage

Anchorage has a number of good choices for additional power generation (Wind is a poor choice). The initial implementation may be more natural gas since the area has additional power requirements in a shorter time frame than nuclear or hydro power can be brought on-line. This is indeed unfortunate as it will drive electric rates to high levels and draw on the heating supply for gas that is better used in that venue.

I prepared a report for the Chugach Electric board (attached) and Marvin Yoder and I gave reports to the board. They are currently playing catch-up for past years of weak forward planning. They see a wider variety of fuel sources in their future.

One idea currently being discussed is to order a Toshiba 4S (possibly in the 50 MWe configuration) as a test demonstration of it's viability for the Bush and as an incremental power source for the railbelt.

Alaska State Law

A few sentences in Alaska state law could also slow or stop our progress toward more consistently affordable electricity. Representative Craig Johnson is working up a draft bill to submit (Jeanne Ostnes is currently collecting comments). The draft from the 12th is attached. I hope you can co-sponsor this legislation and push it through.

Good luck with the final push of this session!

Cheers,
Don

Donald N. Anderson, PhD
Manager, Software North LLC
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PS: I will also sent copies (with notes) to Sarah Palin's office, Johnny Ellis, and the Alaska Energy Authority.

High level nuclear waste

(2,090 words)

Donald N. Anderson
http://don.softwarenorth.net/NuclearElectricty.html
Anchorage, Alaska
30 January 2008

When discussing nuclear power in 2008 I am often asked "What about the waste?" The following would be my answer if the niceties of conversation permitted something beyond bumper sticker platitudes. When questioners wanted more detail, I would refer them to the two books mentioned in the footnotes.

Production of electricity using nuclear fission leaves as a troublesome byproduct -- a small amount of highly radioactive waste[1]. Most of this dangerous waste is embedded in fuel rods removed from the reactor core after they reach the end of their productive life. In most of the U.S. light-water reactors these fuel rods start out with about:

- 96% uranium-238, non-fissionable
- 4% uranium-235, fissionable[2]

What's in the radioactive waste?

The radioactive waste consists of a large number of elements and different isotopes. Some waste is formed by splitting uranium-235 or plutonium-239 into smaller elements, often their less stable isotopes. Other waste is formed by neutron bombardment of the uranium-238 that comprises most of the fuel content. Spent fuel rods contains about:

- 95% uranium-238,
- 1 % uranium-235, and
- 1 % plutonium-(mixed isotopes).

The rest is primarily a mixed fission product with some actinides (transuranic elements -- elements heavier than uranium). Most of the material in spent fuel is not waste at all, as we shall discuss below.

Reprocessing?

Spent fuel rods contain much of the original fuel, but the uranium-235 has become too dilute to sustain a fission reaction. They can, however, be reprocessed to recover uranium and plutonium to fabricate new fuel elements. France and many other countries have reprocessed spent fuel for decades, even though it requires working with highly radioactive materials and is quite expensive.

The U.S. stopped reprocessing over 3 decades ago -- a political decision that grew out of the Carter-Ford presidential campaign, and has a once-through fuel cycle. This means our "waste" not only includes the small amount of really nasty products, but also much fuel

---

[1] I am indebted to Scott W. Heaberlin for his detailed and cogent description of reactor waste in chapter 6 of his 2004 book "A Case for Nuclear-Generated Electricity."

[2] I hope technical readers will excuse me if I bypass a lot of complicating detail and variations in fuel load so I can focus on the essentials of storing nuclear waste.

that could be reused. The volume of high-level nuclear waste is extremely small compared to the waste generated by a coal plant, but could be made significantly smaller if reprocessing is resumed and carried as far as economically feasible[3]. The amount of really deadly waste generated while supplying a family with power for 20 years would approximately fill a shot glass (1.5 fl. oz.).

That deadly radiation.

Some fission waste products initially have very high levels of deadly radiation, but have short enough half lives, so that they convert to more stable isotopes in a relatively short time. For example, iodine 131 has a half life of 8 days. Therefore after 2 months only half of 1 percent remains. If fuel rods are to be reprocessed, they are easier to work with if a few years have elapsed since removal from the reactor.

The most troublesome fission products are those with half lives of intermediate length. They emit enough radiation to be dangerous over a much longer period (cesium 137 has a half life of 30 years). They are not, however, going to be around "forever," as will chemical poisons such as mercury or lead.

Short term storage.

Fuel rods are usually changed about every 18 months in a light-water reactor (the majority of the U.S. fleet). One third of the fuel rods are replaced with new fuel rods on each occasion. Thus each fuel rod spends about 4 and a half years in the reactor. One minute after a reactor is shut down its fuel produces 2.5% of its full operating heat. After an hour its fuel produces 1%, after a day 0.5%, and after a year only 0.05%.

Over the first few years, the residual heat from the spent fuel rods is dissipated by placing them in large pools of water. The intent is to move the waste fuel rods to long term dry storage after a few years.

Originally the U.S. government planned to open a long term repository for reactor waste at Yucca Mountain in Nevada. It has collected 20 billion dollars from the nuclear industry, but so far has missed all milestones. Worse, the project has now received a great deal of Nevada political opposition.

Meanwhile the 104 nuclear reactors that produce 20% of our electricity continue to store spent fuel rods on their plant sites. After the high initial heat has bled away many plants have opted for intermediate storage in stainless-steel concrete casks. These casks could store the waste for several hundred years, and longer if necessary.

---

[3] Dr. Phillip J. Finck of Argonne National Laboratory, in testimony before the Energy Subcommittee of the House Committee on Science, 16 June 2005 has an excellent description of the ongoing research into what is called Full Recycle. This has the promise of reducing the dangerous waste still further and virtually eliminating the dangerous transuranics.
http://www.anl.gov/Media_Center/News/2005/testimony050616.html

Seabed storage.

In 1973 Rip Anderson from Sandia Labs and Charles Hollister from Woods Hole Oceanographic Institution put together a team of oceanographic scientists to study deep seabed storage of high-level nuclear waste[4]. Eventually the team grew to 200 members with almost every discipline represented. Most biology team members were selected because they initially opposed the concept and would insure it was properly tested.

Hollister developed a technique for getting long cores from the deep seabed, and found a number of areas in the deep ocean that can only be described as deserts. One of these is at 35N164W about 600 miles north of Hawaii. It is situated in the middle of a tectonic plate under 4 miles of ocean and covers approximately 39 thousand square miles. The ocean floor in that area is a thick blanket of viscous clay about 325 feet deep. No marine life is present – no fish or plants. Currents are feeble and the area has been undisturbed by volcanic or seismic activity for 35 million years.

The clay is a quicksand type material that quickly absorbs any dense material dropping into the area. Thus, any injected waste canisters would be absorbed deeply in the clay. It is ideal for sequestering radioactive products. In spite of this the biologists spent ten years studying what would happen if the radionuclides actually escaped.

After all the research and a high quality risk assessment, the team concluded that seabed disposal was the best possible option and a couple orders of magnitude better than the most widely discussed alternative. Since most of the assessment had been made using retrieved data and models, the scientists proposed a final check. They suggested dropping a couple of pointed steel test canisters into mud at 35N164W to a depth of 100 feet. A twenty year monitoring of the canisters was proposed to calibrate their models.

Politics rather than science ruled, and Congress passed a bill in 1987 that designated Yucca Mountain in Nevada as the nation's long term repository for high level waste. Funding for the seabed storage project was terminated and the final check left undone.

Retrieval of waste fuel for potential reprocessing is not currently feasible from such deep ocean sites.

Yucca Mountain.

Yucca Mountain is located in a geological basin in a remote part of the government's Nevada test site which has been subjected to over 900 nuclear bomb tests. It has been studied intently, has reams of data describing it, and is very dry.

---

[4] Gwyneth Cravens in chapters 16, 17, and 18 of her 2007 book, "Power to Save the World" contains an exceptionally well written description of the seabed studies, the Yucca Mountain repository, and the Waste Isolation Pilot Plant (WIPP).

Unfortunately its geology is quite complex. When one stacked all the researcher's "it couldn't be worse than this" assessments for the next 10,000 years together it sounded as if under some circumstances radiation could escape.

Opponents pounced on every imagined weakness. They even got the State of Nevada to oppose the project. A Las Vegas newspaper had visions of delivery trucks overturning or terrorists attacking them on the highways.

The facility has been built, but never used. Court challenges and a requirement for a licensing report to the NRC have held up its opening. The long, tedious process of doing a high quality risk assessment (as was done for the Seabed Project and the Waste Isolation Pilot Plant) with each data point fully pedigreed is underway. The NRC expects to take 5 years to review the result.

Unless Congress changes the rules it appears operation of Yucca Mountain is still some years off.

Meanwhile it may be instructive to look at the experience we have had with the only long term nuclear waste facility in the world that is now open and fully operational.

Waste Isolation Pilot Plant.

The Waste Isolation Pilot Plant (WIPP) located in the Chihuahuan Desert about 20 miles east of Carlsbad, New Mexico is operated by the Department of Energy. WIPP is not currently licensed to handle power plant waste fuel or any waste generating significant internal heat, although research indicates it could do so.

The storage bays and tunnels are 2,150 feet underground in a 2,000 foot thick salt bed that has been stable for over 200 million years.

The storage facility is designed to permanently isolate both contact-handled and remotely-handled transuranics that have been produced in the nation's nuclear bomb program or in research reactors. Contact-handled waste can be safely moved as long as it is in drums and usually consists of clothing and chemicals that have become contaminated by exposure to significant radiation. The remotely-handled materials require those who move it to be shielded.

This military and research waste came from many locations across the U.S. although by 1999 much had been consolidated at the Idaho National Laboratory in eastern Idaho. The portion currently being transported to WIPP was produced as far back as WWII. Interim storage was in drums and shallow graves in isolated sites.

Planning started in 1974 and operation commenced in 1999 with the first shipments of contact-handled waste. By 2006 over 5 thousand shipments had been received. In 2007 the first shipments of remotely-handled waste were received.

Unlike Yucca Mountain, WIPP has the support of local groups and the state of New Mexico. It also benefited from a thorough high-quality risk assessment with open data and computer codes that eventually brought many possible opponents aboard. The much simpler geology also made the risk assessment much easier.

To ease transport fears the special trucks were equipped with casks and demonstrated in towns along the New Mexico routes.

Could WIPP store high-level commercial power waste? Yes. In spite of claims to the contrary, waste with higher heat content can be stored in the salt. The salt bed is so vast that an extremely large number of storage chambers can be excavated. With reasonable spacing salt conducts heat well enough to accept waste commercial reactor fuel.

To date public fears have prevented the inclusion of high-level commercial power waste. Most of the scientists involved think that as more people observe years of safe operation of the transport and storage at WIPP, fears will dissipate.

Political not technical problems.

Years of exposure to public fears, agonizing court battles, and educating judges in subjects outside their normal areas of expertise have made the nuclear industry extremely safety conscious. This extreme safety orientation, the low fuel cost, plus the small quantities of waste have permitted extraordinary expenditures in the name of safety. Coal power generation simply could not afford a similar attention to waste. Safety procedures that would be rejected as not cost effective by other industries are routinely adopted by the nuclear industry.

This extreme attention to public safety has caused very expensive cleanups. Often the cleaned area becomes less radioactive than its natural surroundings. It has also led to a power generation industry that has a safety track record far better that <u>any</u> alternative.

Radiation levels permitted at a plant's fence are far lower than the natural radiation levels we are exposed to every day. The actual radiation level from an average coal fired plant is about 30 times <u>more</u> than the allowed level from an equivalent nuclear-fueled plant. In addition the coal plant has many other dangerous emissions that are not produced by a nuclear plant.

As with any "new" technology there are many who fear it. But the nuclear industry has gone to extreme lengths to minimize any safety concerns. There is hope that the public will finally allow the nuclear industry's expansion and the gradual opening of suitable long term storage for waste.

Knowledge increases most people's comfort with new technology. By 2007 about 60% of Americans favored expansion of nuclear power. In contrast by 1980 the much more knowledgeable scientists, even after the Three Mile Island incident, were already much more strongly in favor of expanding nuclear power[5]:

- all scientists 89%
- energy scientists 98%
- nuclear scientists 100%

Public perception, the fear of the unknown and the resulting political obstacles have impeded long term storage of high-level waste. The technical problems that remain are site specific and several alternatives exist.

The principal problem that remains is political.

Dr. Anderson is an Anchorage, Alaska businessman and physical chemist. He wishes to thanks Ed Johnson of Sunnyvale, California for his technical fact checking and editorial suggestions and Dana G. Anderson of Anchorage for her many formatting and readability suggestions. He claims ownership of any remaining errors.

[5] Cravens, page 112.

January 29, 2009

Donald N Anderson, PhD
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RE: Small nuclear power generation reactors for Alaska cities.

Governor Palin,

AT PRESENT

I have studied the potential for Chugach Electric to use nuclear reactors to generate stream for their generators. The results were favorable, but involve a long timeline. Their board has the matter under consideration.

The town of Galena has been seeking licensing for a 10 MWe nuclear power reactor [4-S] to generate electricity and provide heat for their city for some time. The 4-S planned for Galena has a 30-year supply of fuel sealed in a volume about the size of 4.5 barrels of oil. It replaces over 500,000 barrels of oil. A 10 MWe reactor produces less than 1% of the power of the large 1,000 plus MWe reactors that are the new generation planned for the S.48. As such they are much smaller and require a great deal less attention.

IN THE FUTURE

I have started a very preliminary study to see what other Alaska cities might benefit from small reactors. The benefit to remote Alaskan communities is the fantastically smaller volume of fuel required.

I first considered cities that were off the railbelt power grid and were Galena's population or larger. I added a few smaller cities that were generating hubs for the their areas. I collected some 2001 Net Capacity figures from that year's ISER report[i] and noted the type of fuel used. This provided a potential list of 41 cities to be considered for small reactors.[ii]

Given the tremendous reduction in the fuel volumes needed, transportation costs and seasonal problems become very minor. It is easy to see that very substantial economies are possible, provided the remote site is able to use the amount of power generated. The current power reactor designs proposed for licensing are still a bit too large for most remote Alaska villages, but a number of regional centers could really benefit. The benefit is likely to be so substantial that in-migration from the surrounding countryside would undoubtedly increase.

In the table below I have selected those cities that appear to be possible initial candidates for a small reactor. Kodiak and Yakutat were added because their fuel oil consumption was quite high. Of course local interest must be the major driving force, but it appears these 13 locations might benefit.

Region	City of	Population[iii]	(MWe) Net Capacity[iv]	Type[v]
Aleutians	Unalaska	4,388	29.5	IC
Bering St	Unalakleet	741	4.1	IC
Bristol Bay	Dillingham	2,373	17.5	IC
	Naknek		20.1	IC
Interior	Tok		11.6	IC
Kodiak	Kodiak	6,138	41.6	IC, 91.9 HY
Kuskokwim	Bethel	5,899	41.2	IC
M Yukon	Galena	763	9.4	IC
NW Arctic	Kotzebue	3,076	20.9	IC
S Central	Copper Valley		16.6	IC, 50.8HY, 22.5GT
	Cordova	2,372	20.8	IC, 2.9 HY
Southeast	Yakutat	691		IC
Seward P	Nome	3,448	27.8	IC

THE ROLE OF STATE GOVERNMENT

The Alaska state government can play a big role in helping to start the implementation of this major improvement in access to electricity for non-railbelt cities specifically in the areas of licensing and security.

LICENSING

Nuclear power is generated in an intense regulatory environment in facilities that are capital intensive but use very low cost fuel. The Federal Nuclear Regulatory Commission is used to working with facilities that are 100 times larger than the 4-S proposed for Galena. Their extremely detailed control does not destroy a large reactor's cost effective generation of electricity. But it could be a "showstopper" for small reactors.

The NRC licenses a reactor design and also licenses each site through a COL (COmbined License) that guides the actual construction and operation. The detail in the COL needs to be lowered to a level that makes sense and makes these small reactors cost effective. The state could well take over this aspect.

If the state and our congressional delegation work together with the NRC to devise regulation, safety, and security standards appropriate to these small reactors they will provide a major step toward powering bush Alaska. At the very least, the state's assistance in obtaining the necessary licenses would place this expertise in one group rather than duplicating it across the state.

CURRENT POTENTIAL LICENSEES

At present it appears that 3 designs will be proposed to the Nuclear Regulatory Commission for the appropriate design license. Each produces steam for a generator. They are:

Toshiba/Westinghouse 4-S, 10 or 50 MWe.[vi]

30 year without refueling for 10MWe unit,
Sodium moderated and cooled,
No accessible parts. Unit replaced after 30 years,
Installed underground,
Has started the regulator approval process and will probably be the first to be licensed,
Size appropriate to some Alaska bush cities.

NuScale Power, a scalable 40 MWe unit.[vii]
Light water moderated and cooled,
Transportable by truck, barge or rail. 300 tons,
24 month, on-site refueling cycle.

Hyperion Power Module, 25 MWe unit.[viii]
Seven to 10 years without refueling,
Installed underground.

SECURITY ISSUES

The large amount of fuel and above-ground design of 1,000 MWe reactors [inappropriate for Alaska] generates fears of terrorist attack and nuclear proliferation. This leads to significant security expenditures.

The state could be of great service in getting these security expenditures reduced to a practical level for the small reactors, particularly since these reactors are designed to be installed well underground.

I believe providing technical and regulatory assistance to these rural communities in the acquisition of new power sources is the most important long-term benefit the state government can provide for bush Alaska.

I can be contacted via email don.anderson@softwarenorth.com or at the phone numbers provided below, and will be glad to provide your staff via regular email the Excel workbook on which this letter is based and additional information on nuclear power and waste disposal.

Best wishes,
Don

Donald N Anderson, PhD
Manager, Software North LLC
Anchorage, Alaska
907-561-4412 / 800-228-3846

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[i] ISER 2001 report of Alaska Electrical Generation, www.iser.uaa.alaska.edu/Publications/akelectricpowerfinal.pdf
[ii] A Excel workbook containing the list of Alaska cities with associated populations, electrical capacity, fuel usage and type is available on request from: don.anderson@softwarenorth.com
[iii] 2005 Municipal Officials Directory.
[iv] ISER 2001 report of Alaska Electrical Generation
[v] IC = Internal Combustion (fuel oil), HY = Hydroelectric, and GT = Gas Turbine.
[vi] A description of the proposed Galena installation is at http://www.alaskajournal.com/stories/122604/loc_20041226003.shtml
[vii] http://www.nuscalepower.com/
[viii] http://www.hyperionpowergeneration.com/

Summary Statistics for the United States 2007

Net Electrical Generation

Energy Information Administration

http://www.eia.doe.gov/cneaf/electricity/epa/epates.html

Report Released: January 21, 2009

Table ES1. Summary Statistics for the United States [2007 extract]

	Fuel	Thousand megawatthours	Percent
1	Coal[1]	2,016,456	48.51%
2	Natural Gas	896,590	21.57%
3	Nuclear	806,425	19.40%
4	Hydroelectric Conventional[4]	247,510	5.95%
5	Other Renewables[5]	105,238	2.53%
6	Petroleum[2]	65,739	1.58%
7	Other Gases[3]	13,453	0.32%
8	Other[9]	12,231	0.29%
9	Pumped Storage[8]	-6,896	-0.17%
	All Sources	4,156,746	100.00%
Other Renewables			
1	Wood and Wood Derived Fuels[6]	39,014	0.94%
2	Wind	34,450	0.83%
3	Other Biomass[7]	16,525	0.40%
4	Geothermal	14,637	0.35%
5	Solar Thermal and Photovoltaic	612	0.01%

[1] Includes anthracite, bituminous, subbituminous, lignite coal, waste and synthetic coal.

[2] Distillate fuel oil (all diesel and No. 1, No. 2, and No. 4 fuel oils), residual fuel oil (No. 5 and No. 6 fuel oils and bunker C fuel oil), jet fuel, kerosene, petroleum coke (converted to liquid petroleum, see Technical Notes for conversion methodology) and waste oil.

[3] Blast furnace gas, propane gas, and other manufactured and waste gases derived from fossil fuels.

[4] Conventional hydroelectric power excluding pumped storage facilities.

[5] Other renewables represents the summation of the sub-categories of Wind, Solar Thermal and Photovoltaic, Wood and Wood Derived Fuels, Geothermal, and Other Biomass.

[6] Wood/wood waste solids (including paper pellets, railroad ties, utility poles, wood chips, bark, and wood waste solids), wood waste liquids (red liquor, sludge wood, spent sulfite liquor, and other wood-based

[7] Biogenic municipal solid waste, landfill gas, sludge waste, agricultural byproducts, other biomass solids, other biomass liquids, and other biomass gases (including digester gases, methane, and other biomass

[8] The generation from a hydroelectric pumped storage facility is the net value of production minus the energy used for pumping.

[9] Non-biogenic municipal solid waste, batteries, chemicals, hydrogen, pitch, purchased steam, sulfur, tire-derived fuels and miscellaneous technologies.

Should Anchorage generate electricity with nuclear power?

Donald N. Anderson – http://don.softwarenorth.net
Anchorage, Alaska — 27 February 2008 – (7,075 words)

This essay provides background for the directors of Alaska's largest electric utility and for those who wish to understand the tremendous superiority of nuclear power for electric power generation.

Sections:

- The 30-year shutdown in U.S. nuclear power plant construction
- The impact of nuclear fearmongers
- How does nuclear power work?
- Features of a nuclear power station
- Cost comparison
- Comparing fuels for generating electricity
- Safety & health while generating electricity
- Alaska's chance for nuclear power
- Glossary

Anchorage should consider generation of a substantial portion of its electric power using a nuclear reactor as the heat source.

The 30-year shutdown in U.S. nuclear power construction

Building nuclear-fueled power plants began with great promise in the 1950's. Some of you will remember the hype of the 1950's when the low fuel costs of nuclear power made some speculate that it would be too cheap to bother metering. By 1980 no new reactor construction was being started in the United States. Only a few much delayed plants were completed after that point.

The public attitude began to change in the late 60's as the newly sensitized environmental movement started lashing out in all directions. Nuclear power was an ideal target because:

- It was new
- Public experience with it was very limited
- People had only a short track record to use in evaluating the enviros' wild claims
- It also was mysterious
- It was connected to those horrendous bombs
- It invisibly could cause cancer and death

In reality more was known about the safety and health effects of nuclear power than any of the more traditional forms of electricity generation. Unfortunately specialists who had this knowledge were quickly marginalized as self-interested participants in the industry.

Even today the health of nuclear power workers and any exposed members of the general public are intensely studied.

Comparable studies into the health effects of coal generation are not nearly so comprehensive, but do show that coal is many orders of magnitude more dangerous to both workers and the general public.

The impact of nuclear fearmongers

In the late 60's and 70's those fearful of the new technology such as Helen Caldicott, and Ralph Nader used the public's ignorance of nuclear physics to sell the idea that nuclear power generation was unreasonably dangerous. These ideas persist into the current era.

Representative of the misinformation used to discourage construction of nuclear plants were:

"Plutonium 239, one of the most dangerous elements known to humans, is so toxic that one-millionth of a gram is carcinogenic." – Helen Caldicott.

Plutonium-239 has about the same toxicity as lead. It is, however, a slightly radioactive alpha emitter and, if inhaled, can damage some cells (see *Radioactive* in

Glossary) and increase the potential for future cancer. A former U.S Senator from Alaska once claimed that Plutonium was the most toxic substance known to man. I hope he has since become better informed.

"[A nuclear accident would result in] up to 100,000 deaths and the destruction of an area the size of Pennsylvania" – Ralph Nader.

Mr. Nader does not specify the type of accident he is postulating. Even a nuclear explosion (impossible for a power reactor) would not damage a major part of Pennsylvania. One would have to violate the physical laws of the universe to get a nuclear explosion using the fuel in a power plant. Anyone with even a little knowledge of the subject wonders what Nader was smoking.

"When things went awry at the Enrico Fermi reactor near Detroit, four million people went about their business in happy ignorance, while technicians tinkered with the renegade's invisible interior. They knew what the public did not – a mistake could trigger a nuclear explosion." – M.E. Gale.

The Fermi 1 plant lost coolant to 2 of its 100 fuel assembles and some fuel melted. The safety systems all worked and the plant was repaired and resumed operation. There was no danger to Detroit (or even the plant operators). No nuclear explosion was possible.

"By the end of the decade our rivers may have reached the boiling point: three decades more, and they may evaporate... One of the causes of this thermal pollution is the spread of nuclear power across the land." – Edwin Newman.

Nuclear plants produce the same amount of waste heat as a fossil fueled plant of the same size and efficiency.

There is no end to the number of inflammatory statements because they can be made up on the spur of the moment and backed with manufactured statistics. Proper replies often require significant research so keeping up is not possible. The above examples were given so you could sample the flavor.

These statements raise fears and very pointedly ignore accurate information that might destroy their emotional potential.

The nuclear fearmongers of both present and past describe any information or research that contradicts their assertions as lies. They succeeded in sowing distrust of anyone with the technical knowledge able to expose <u>their</u> lies.

Spreading fear is a great way to gain notoriety and make money, but does not lead to good public policy.

Unfortunately for public health, fear of the unknown stopped further deployment of nuclear power in the United States for over 30 years. The U.S. -- initiator, developer and onetime technology leader -- is stalled at 104 commercial plants.

Some other nations have had similar opposition to nuclear power. Austria, Australia, Italy, and New Zealand are officially nuclear-free zones and a few countries have committed to closing their nuclear plants. Most are reconsidering.

Meanwhile, deployment worldwide has continued and there are now 334 operating plants in other countries. Nuclear plant operating experience (worldwide) totaled a cumulative 12,000 reactor-years by the end of 2005. The U.S. Navy has run 254 plants (up to 190MWt) accumulating over 5400 reactor-years of experience with no accidents.

U.S. construction was stopped by a combination of:

- lawsuits
- delaying injunctions
- over-regulation
- protests
- high interest rates,
- Three Mile Island

Regulators, under pressure from those fearful of the new technology, forced changes to plant design while

construction was underway. Construction costs went through the roof. The delays generated cost over-runs that bankrupted some utilities and ran capital costs up so high that nuclear power generation became impractical. As a result no new plants have been brought into operation since 1994 (a much delayed holdover of the earlier era). An old plant damaged by fire in 1975 was restarted in 2007. Nuclear generation of electricity has stalled at about 20% of the U.S. total.

Since the 70's the public has seen decades of safe nuclear plant operation. This has destroyed much of the fearmongers influence, but has not removed nagging doubts from the earlier period.

Many people genuinely concerned about the environment have reconsidered their opposition to nuclear power generation. After seeing the environment degraded by coal power generation and the vast superiority of nuclear power, many have become supporters.

Environmentalist James Lovelock says "I am a Green, and I entreat my friends in the movement to drop their wrongheaded objection to nuclear energy."

A founding member of Greenpeace, Patrick Moore said in 1976 that nuclear power plants were "the most dangerous devices that man has ever created. Their construction and proliferation is the most irresponsible, in fact the most criminal, act ever to have taken place on this planet." He now calls for their construction as an essential part of our energy supply.

Meanwhile, improvements in operation and refueling efficiency have made individual plants a good deal more productive during their lifetimes, and the total amount of electricity produced has increased even though a few plants have been shut down.

At the same time the exceptional profitability of nuclear plants in a time of high fossil fuel costs has started a resurgence of applications for nuclear plant construction.

It appears the limiting factors in the near future will be:

- a shortage of nuclear professionals
- the skilled workforce necessary for construction
- a global shortage of high-quality components and materials.

But let's step back and review what allows these plants to produce so much power.

How does nuclear power work?

Fossil fueled plants *burn* (italicized words are further described in the Glossary) fuel to produce heat that is used

- as hot stream of combustion gas and air, or
- as heat for steam production

to turn a turbine connected to a electric generator.

Nuclear stations use a nuclear *fission* reaction that produces approximately 2.7 million times as much heat as burning coal.

This extremely concentrated form of energy is a direct consequence of utilizing natural nuclear forces (rather than molecular reactions at the atoms electron shell) to generate heat. It brings Einstein's equation: $E = mc^2$ dramatically into play. Because the speed of light (c) is 3×10^{10} cm/second, the squared term is very large. Applying his equation to the conversion of a single gram (1/454 of a pound) of matter into energy we get (after converting units) 25 million kilowatt-hours. This is approximately the electrical consumption of one million people in one day.

Since the nuclear reaction releases so much more energy, the quantity of fuel required is a great deal lower. This remarkably small fuel quantity affects:

- extraction costs
- purification
- handling
- waste disposal

- human health
- environmental health

The *fission* reaction most commonly used, splits atoms of uranium-235 into smaller atoms. These fission fragments are often *radioactive* nuclei that decay on many time scales to more stable forms.

In nature uranium-235 is only found as 0.7% of any uranium deposit. The other 99.3% is uranium-238. *Separation* of the two *isotopes* is very difficult since they have the same chemical properties and nearly the same mass.

For military purposes *enrichment* proceeds to about 90% U-235 in order to produce the dense concentration necessary to permit the rapid, self-sustaining, *fission* chain reaction in an atomic bomb. To cause this extreme effect, sufficient U-235 is brought together with explosives at a rate faster than it can heat up and force itself apart.

Enrichment for power purposes – usually to 3-5% U-235 – is sufficient to permit self-sustaining *fission*. It is not concentrated enough to be used for military purposes. Without costly further refinement it is impossible to get power reactor fuel to generate a nuclear explosion.

Viva la différence		
	Bomb	**Power Plant**
U-235 concentration	90%	3-5%
Compression	explosives	none

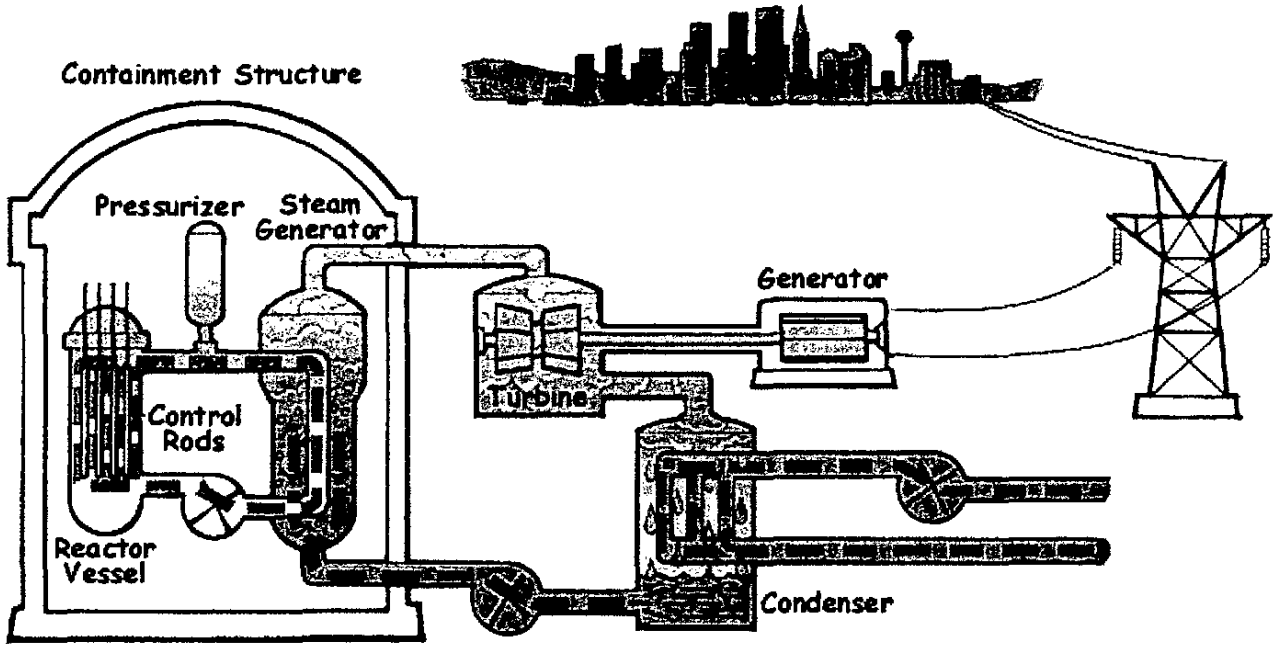
There are a number of reactor designs and new ones are being developed continually. One Canadian reactor type (CANDU) can use un-enriched uranium as fuel but requires the expensive production of deuterium oxide ("heavy water") instead.

The U.S. does have the world's largest number of plants – 104 reactors in 31 states producing about 20% of our electric power. These reactors were ordered prior to the 70's, before nuclear hysteria stopped construction. These plants were initially licensed for 40 years and most will probably be licensed for another 20 years.

The 438 reactors around the world include 2 in Lithuania that produce 83% of its power and 59 in France that produce 78% of its electricity. Even South Korea derives 36% of its electricity from its 16 nuclear reactors.

Features of a nuclear power station.

The pressurized water reactor (PWR) is the most common design in the U.S. (69 reactors) so I will describe its basic layout.



U.S. Nuclear Regulatory Commission

Fuel rods containing encapsulated uranium dioxide pellets are suspended in a matrix inside a heavy steel pressure vessel (usually about 6" thick). The *fission* reaction in the rods heats water to 322 degrees Centigrade at over 2000 psi. The water in this primary loop circulates through a heat exchanger (steam generator) to make steam. *Control rods* of a strong neutron absorber are suspended above a number of open fuel positions in the fuel matrix. They can be partially inserted to control power level or fully inserted to stop the reaction.

Lower pressure steam exits the steam generator (and the containment structure) to drive a turbine linked to a generator to produce electricity. The used steam is condensed and returned to the steam generator.

A very thick reinforced concrete *containment* structure surrounds the reactor and the primary loop to prevent any significant release of *radiation* in the event of a major failure.

This basic description does not mention significant redundancy – a fundamental part of reactor design to keep it in fail-safe mode.

Chernobyl.

All U.S. power reactors are *under-moderated* so any increase in reactor temperature above normal levels causes the reaction to slow down. Since temperature increases expand the moderator and decrease its density, *under-moderation* insures that the number of slow neutrons needed to sustain the chain reaction is reduced. This helps keep the reactor at the correct operating temperature. If a pipe breaks water temperature goes up and the reaction is suppressed.

The Chernobyl design had a "*positive void coefficient*" that violated the under-moderation design constraint. This allowed the reaction to continue as the heat increased until the moderator caught fire and

a chemical (not a nuclear) explosion blew radioactive material into the atmosphere. (Chernobyl had no containment vessel). It is important to understand that western-style power reactors are designed to avoid a Chernobyl type accident.

Three Mile Island.
The incident at Unit 2 of Three Mile Island (an 880 MWe pressurized water reactor) was the worst nuclear power accident in U.S. history. A valve shutting in the line from the condenser to a pump in the *secondary water system* plus four consecutive operator errors caused meltdown of half the reactor's fuel. The fuel never escaped the reactor vessel and the containment building held in almost all the radioactive material. A small radiation release occurred when a tank overflowed before *containment* was shut down. The released radiation did not reach the level we experience from nature in ordinary life. No one was killed and the only danger to the public was unwarranted anxiety.

This incident shows that a significant failure followed by successive incorrect operator actions endangered neither the operators nor the public. The *fission* reaction shut down as the plant design intended and only operator errors in handling the residual heat caused plant damage. The operator information that permitted the errors has been corrected in existing plants. New designs now feature better operator information and make much better use of passive safety systems. The last thing reactor owners want is a damaged core at their plant.

A Comparison of Chernobyl & TMI Designs

	Chernobyl	TMI
Moderation	Over	Under
Effect when overheats	Fission continues	Reaction slows
Residual heat	Fuel rods melt, graphite moderator burns, chemical explosion	Fuel melts in vessel, no explosion
Radiation dispersal	Open to atmosphere	Held in containment

Three Mile Island's real damage was psychological and occurred in subsequent years. It aided the virtual shutdown of nuclear power plant construction and thus exposed the public to the far greater dangers of fossil fuel power generation.

Other reactor designs.
The PWR design discussed above is the most widely used and updated versions have been certified by the Nuclear Regulatory Commission (NRC). A boiling water design (BWR) has also been certified.

The smallest of these certified designs is a 600 MWe unit. Since this is larger than the entire generating capacity of Chugach Electric, other designs must be considered.

Many of these more modern designs promise greater operating efficiency, better fuel utilization, and lower construction cost. They do entail greater political risk however, since certification is by no means assured.

In the 165 to 325 MWe range several High Temperature Gas-cooled Reactors (HTGR) are in the pre-certification stage. One operated in the U.S. from 1974 through 1989 and another in Germany. Some more recent designs use fuel pebbles which are continually cycled in and out of the reactor to check for possible replacement. This should bypass the 20 day refueling period every 1.5 to 2 years that takes most reactors off line.

Many designs exist for liquid-metal-cooled-fast-reactors which greatly extend fuel life. Sodium, lead, or lead-bismuth are the metals of choice. Some of these designs are to be factory built, transported to the site and installed below ground. The one proposed for Galena, Alaska will maintain an outlet coolant temperature of 510 degrees C and have a generating capacity of 10 MWe for 30 years without refueling. It also is designed to have a 50 MWe version.

Many more designs have been proposed and some prototypes built, but commercialization has been slow in an uncertain regulatory environment.

Cost comparison.

Costs for any form of power generation consist of:

1) facility construction
2) fuel price
3) operation

Over the 40 to 60 year life of a plant the ratio of these costs depend strongly on the technology used. Typically a natural gas plant is cheap to construct but the fuel is expensive. A nuclear plant is expensive to construct but has very low fuel costs.

Operations costs are modest for natural gas generation, and higher for coal plant operation. The cost of operating a nuclear plant is high, in part, because of intense government regulation. If coal plants were subject to the same sort of safety and health scrutiny none would be able to operate.

Plant costs.
Nuclear plant utilization has been continually pushed higher and is now over 90 %. This is in spite of shutdowns for refueling that take about 20 days. Shutdown frequency is currently moving from 18 months to 2 years.

Construction figures for nuclear plants in the United States are hard to come by since no plants have been built under the current economic and regulatory regime.

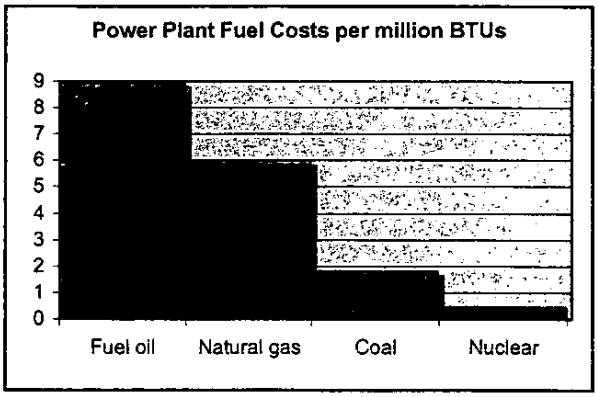
Under the designs and regulation prevalent in the 70's operators saw their costs soar as the anti-technologists of the day used every sort of misinformation to delay construction. The U.S. Nuclear Regulatory Commission (NRC) gave in to far too many uniformed complaints. They often approved a set of plans only to change their mind after construction had started. The operator then had to tear out part of the construction and build again. In at least one notorious case the regulators once again changed their mind mandating demolition and reconstruction in the way it had been originally constructed.

The NRC is now approving standard reactor designs and some designs can have major pieces factory built before moving to the site. Thus there is great hope that late changes and significant plan revisions can be avoided.

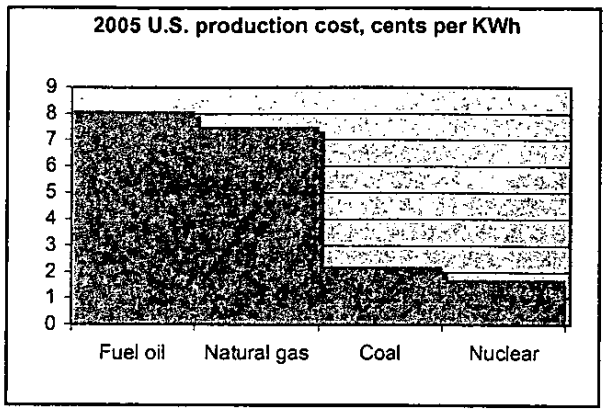
A 2004 estimate suggests that coal fired plants cost about $1100/*kWt* (see glossary) while a modern pressurized water plant built under U.S. regulatory control is expected to cost $1700/kWt.

Fuel costs.
The low fuel costs for nuclear plants mean they are relatively insensitive to changes in the price of fuel. A doubling of the cost of uranium will typically raise electricity costs by 7%. Doubling natural gas prices would add 70% to electricity produced from that fuel.

In these days of rapidly increasing prices of gas and oil, nuclear plant operators across the United States are making great profit margins. Even in the 1990's the Vogtle twin reactor stations (SE of Augusta GA) were producing 15 billion kW-hours per year for 2 cents and selling it for 5 cents. Hauling away $450 million in profit each year is a nice problem for their investors.



Operating costs.
These costs vary all over the map depending on plant type, age, and regulation. Perhaps the best way to look at this uses actual production costs (fuel plus operating costs) across the U.S in 2005:



The numbers have escalated recently for fuel. The trends over time can be seen in the chart on the next page. They suggest that using oil or natural gas could be painfully expensive over the long term.

Fuel supply.
The United States has hundreds of years of coal available at nearly current costs.

Natural gas supply is a more difficult question as price has escalated over 3 times in this decade. Speculation about significant additional supplies is common. The largest methane sources such as the deep ocean, require significant new technology. However, plans for plants with a 40-60 year life must avoid speculation on potential future sources. Estimates must assume escalating costs that likely will make these plants even less competitive than they are today.

The U.S. uses uranium in a "once-through" fuel cycle. That is, we discard the 99.3% of uranium that is U-238, all of the plutonium-239, and the residual uranium-235. This limits the known high-grade supply to several hundred years.

The U.S. supply of nuclear fuel can be greatly expanded if reprocessing is permitted. Breeder reactors would produce more fuel than the U-235 they consume in generating electricity. With reprocessing the available supply could be extended to thousands of years – far in excess of the supplies of any fossil fuels.

The decision to use the once-through fuel cycle was a political one in the emotional period of the 1970's. Other countries made the opposite decision. Perhaps it is now time to try and reclaim our former leadership in this area and assure the world of adequate power into the distant future.

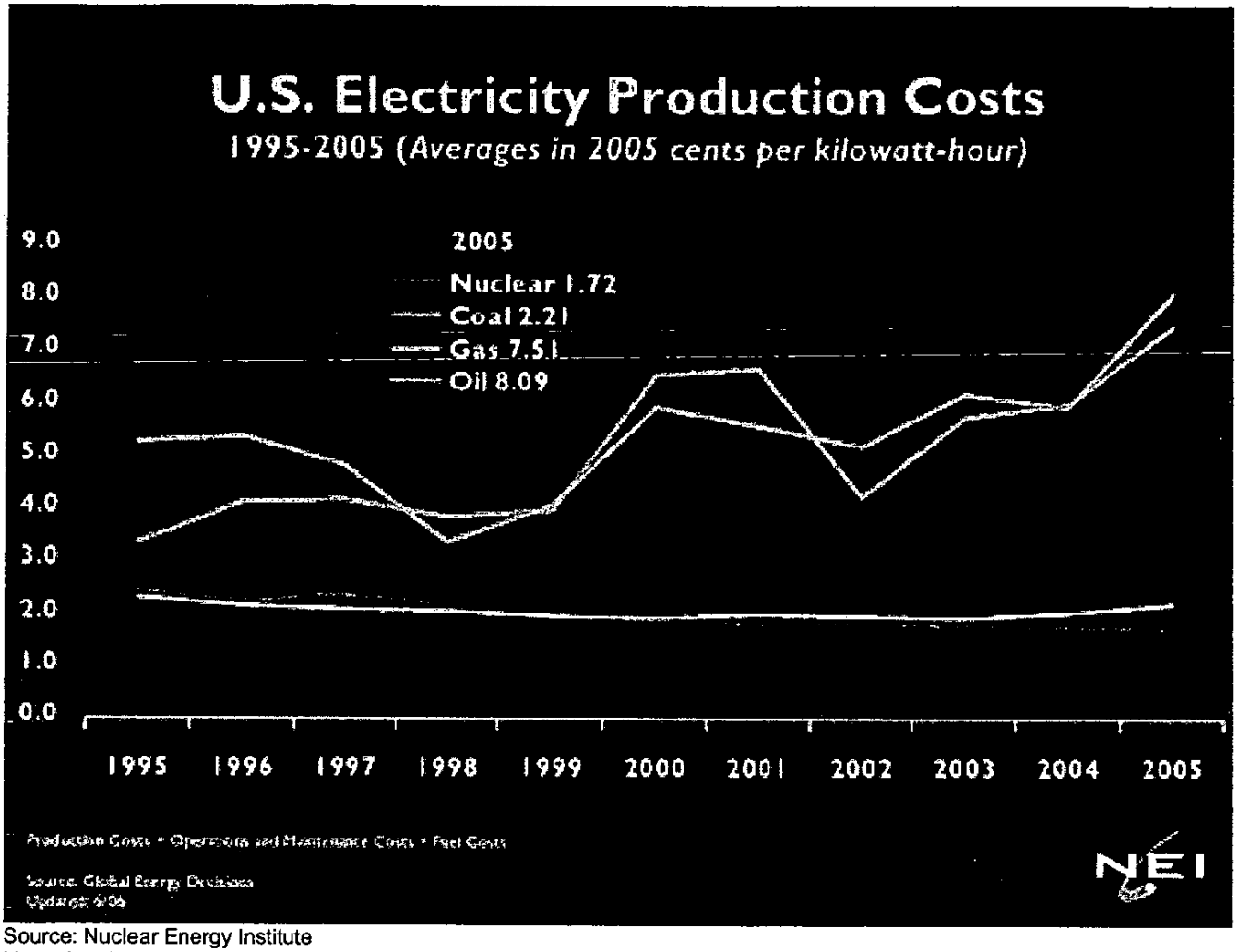
External costs.
Claims have been advanced that nuclear power generation imposes external costs on the public that are not captured in rate-payer charges. This is much less true in the case of nuclear power than in other forms of generation. The intense regulatory environment caused nuclear power generators to provide advance funds for many items (shutdown, waste disposal, catastrophic and health insurance) that are often deferred or foisted on the public by other power generation techniques. Under the current regulatory and tax environment nuclear ratepayers more fully finance (internalize) cost than the other generation techniques. A 2003 study by the Organization for Economic Co-operation and Development (OECD, NEA4372) concluded that although costs estimates for fossil fuels and biomass externalities are rather crude they are at least 10 times higher than for nuclear power.

Once the health and safety concerns for fossil fuel generation are studied/regulated with the attention that nuclear has received, we can expect the internalization of these costs to add significantly to the rate-payers bill.

Overall costs.
In spite of construction cost estimating difficulties in 2005 the OECD did come up with generation cost estimates for a number of countries. For the U.S. they estimated (for 2010) overall generating costs in cents/kWh with a 40 year plant lifetime, a 85% capacity factor, and a 5% discount rate as:

Nuclear	3.01
Coal	2.71
Gas	4.67

Other sources place overall nuclear costs at or slightly below the cost of coal production. If the uncertain initial plant construction is factored out nuclear is significantly cheaper.



Source: Nuclear Energy Institute
Note: the above data refer to fuel plus operation and maintenance costs only, they exclude capital, since this varies greatly among utilities and states, as well as with the age of the plant.

2716

Summarizing the various fuels for generating electricity

We have not previously included solar and wind power in our comparisons because they are not capable of providing the continuous baseload power necessary to a modern society. People who have not done the arithmetic keep hoping that technological advances will make them effective. Such hopes founder on problems of:

- intermittency
- low energy density
- seasonality
- poor integration with existing sources
- environmental impact.

Anyone who retains such hopes should view the very informative DVD "Nobody's Fuel." Solar and wind will remain minor sources, useful where utility power is not available and battery storage can cover the many unproductive periods.

Commodity	Advantages	Disadvantages
Coal	• relatively low costs • plentiful supplies	• produces air and water pollution • produces ash requiring disposal
Hydropower	• low pollution • very low operating costs	• may cause the modification or destruction of ecosystems • most potential hydro locations are already developed
Natural Gas	• low generating costs • low capital costs	• supply and price can fluctuate • produces air pollution, though less than some other sources
Nuclear	• does not produce air or water pollution during operation • low operating costs	• produces radioactive waste requiring carefully controlled storage • high initial capital costs
Oil	• easy to use and transport	• produces air and water pollution • supply and price can fluctuate • relatively expensive
INTERMITTENT SOURCES (potential scale too small for baseload power)		
Solar	• inexhaustible supply • no pollution during operation	• large scale projects require much land • very expensive • requires operating full backup plant
Wind	• inexhaustible supply • no pollution during operation	• large scale projects require much land • wind doesn't always blow when electricity demands are high • requires operating full backup plant • extremely noisy • too small-scale for urban areas

Cameco, 29 June 2006

Safety & health while generating electricity.

Nuclear power generation has tremendous health benefits to the general public. It displaces more polluting fossil fuels for a very significant reduction in illness and death, as well as a drastic reduction in climate altering gases. Nuclear power also has safety benefits to those engaged in the whole fuel preparation and power generation cycle. This would not be apparent if one listened only to opponents who have tried to prevent use of this new advanced technology.

All power has risks although being without power is even more detrimental to one's health. Estimates differ, but in the absence of electricity and fuel-based transportation our planet would see 2/3 of the people starve and the rest live shorter disease ridden lives of constant drudgery.

Therefore any risk estimate must be a comparison between viable technologies capable of significant power production. At present these are only coal, natural gas, nuclear, and hydro.

Hydro safety.
Hydro power generation poses more of a safety problem than a health problem. When dams rupture they affect the general public considerably.

In Vaiont near Belluno, Italy a mountainside collapsed into a reservoir and caused flooding. It killed 2,000 people and made 50,000 homeless. A number of dam breaks in the U.S have each killed hundreds of people. Careful risk calculations indicate major hydro accidents are least 10,000 times more likely than major nuclear accidents.

Health problems are the most significant characteristic of the other three power generation technologies.

Coal safety.

Coal causes, at present, an estimated 24,000 to 70,000 premature deaths in the U.S. each year from air pollution. In addition there are deaths in coal mining, and waste disposal. Even coal transport kills about 100 people a year. Burning coal releases natural radioactivity directly into the biosphere far in excess of that permitted from a nuclear plant. I have seen no estimates for the dangers from the toxicity of mountains of ash produced by burning coal.

Natural gas safety.
Natural gas produces significantly less air pollution than coal but still features many of the same atmospheric pollutants at lower concentrations.

It is also a storage hazard in many cities, particularly where LNG is delivered to tanks near a city's population. Delivery pipelines have ruptured, killed people and caused spectacular fires.

Nuclear regulation mandates a much higher level of public safety than natural gas. While the nuclear regulators were insisting on plant changes that might save one life per year at a cost of 800 million dollars, no one was willing to spend the money to move natural gas storage out of population centers. The cost of this natural gas safety precaution was calculated as less than $1,000 per life saved.

Nuclear safety.
Nuclear power generation has substantially lower risks. In fact it has had to rely on calculated theoretical dangers since no one has yet been killed in U.S. power reactor operation. This exemplary record persists even though we use nuclear generation for about 20% of U.S. power. Some reactors have been operating for several decades. Other countries have not had quite as safe an operating history, but still have far surpassed the safety records amassed by other generating techniques.

Nuclear health and safety concerns revolve around the release of dangerous levels of radiation. The maximum radiation level permitted at the plant's perimeter is less than 4% of natural background radiation.

Underground uranium mining is another matter. That and other underground mining that encounters high radon levels can produce elevated lung cancer risks. Since high-grade uranium mines often have higher radon levels than the average mine, the cancer risk is also higher if ventilation is inadequate. This risk appears to be lower than the other occupational risks of underground mining, but are not stopped by ending the exposure period. This area is subject to a lot of controversy and compensation to former miners is in dispute. Almost all of this exposure occurred in the early mining for WWII and the early cold war. Meanwhile a very much larger number of coal miners developed black lung disease.

Most current uranium mining is open pit with notably lower risks. About one-quarter of world uranium mining is now done by in-situ leaching, so the risks are very much reduced. The remaining problem is potential groundwater contamination.

Estimates of radiation danger used in the industry and in the NRC are very conservative and are known to significantly overstate the problem of low-level radiation.

Canadian experiments in cell biology actually show that cell survival is improved with some low levels of radiation.

An apartment complex in Taiwan was mistakenly built with radioactively contaminated reinforcing rod. The many 20-year residents showed abnormally high resistance to cancer.

Survivors of intense radiation at Hiroshima and Nagasaki have been followed for two generations to look for excess deaths or abnormalities in subsequent generations. The numbers were not changed by the radiation.

Nuclear waste disposal has received a lot of political hype. Unfortunately the government is involved and they have been charging fees to provide a facility for long-term storage. It has become a political football even though the technology is comparatively easy. Industry has paid many times the cost of the storage facility at this point. Meanwhile plants are storing waste fuel assemblies in water pools or in steel and concrete casks. Both protect the public very well but water storage requires some care and the casks will need renewal after a few thousand years.

The big problem is space since land on which some plants were built assumed they could store the waste off-site after 10 or 20 years.

The exceptional safety and health benefits of nuclear plants are a result of the extremely concentrated nature of the fuel. This means that the very little bit that is used can have exceptional care taken in its preparation, use, and disposal.

Alaska's chance for getting nuclear power.

Alaska and particularly Anchorage have a good opportunity to use cheap and plentiful nuclear power for the following reasons:

1) We have a politically powerful congressional delegation that can assist in expediting the path through the onerous federal regulatory requirements.
2) Anchorage citizens have a one of the highest educational levels of major cities across the United States. They are more open to newer technology. These features should reduce the resistance to new technology.

Chugach currently has 499 megawatts of natural gas fired capacity and 66 megawatts of hydro generation. The smallest plant fully certified by the NRC is a 650-megawatt facility. Plants of 180, 360 megawatts are in pre-certification phase and designs have been announced for plants at the 10, and 50 megawatt size. The last three are called nuclear batteries since they are manufactured and sealed with no re-fueling or maintenance for their 30-40 year life. The larger units would require cooperation among all the South-central electric utilities, but do produce the cheapest power.

Recommendations to Chugach Electric:

1) Engage a competent nuclear engineering firm to study the potential for using nuclear generation of electricity to serve south-central utilities.
2) Hold discussions with other utilities about their future power requirements.
3) Start discussions with our Congressional delegation about federal regulatory issues.
4) Investigate the potential for nuclear plants of a size appropriate to the Alaska bush.

Should anyone ask why consider nuclear power generation you can say with full justification –

"Nuclear generation is the safest and cheapest way to provide significant long-term power."

Dr. Anderson is an Anchorage, Alaska businessman and physical chemist. He wishes to thanks Ed Johnson of Sunnyvale, California for his technical fact checking and editorial suggestions and Dana G. Anderson of Anchorage for her many formatting and readability suggestions. He claims ownership of any remaining errors.

(Glossary below)

Glossary

Burn – An exothermic chemical reaction that rapidly oxidizes fuel to produce both heat and various oxides. Since the fuel is impure it also produces unwanted by-products. As a chemical reaction involving only non-nuclear forces it also produces modest amounts of heat per reaction and so requires a large volume of fuel to generate practical amounts of electricity.

Containment – U.S. reactors are built inside an extremely strong reinforced concrete building that houses the reactor vessel, a steam generator (if any) and much of the safety piping necessary to remove the residual heat in a reactor once it is shut down. The number of openings are kept to a minimum and can be blocked to isolate the reaction vessel and nearly all radiation in case of a major failure.

Control rods – Rods that may be inserted into a reactor to slow or nearly stop the fission process by absorbing neutrons. Boron is often used since it absorbs rather than slows neutrons.

Enrichment – The process of increasing the percentage of U-235 in natural uranium (which is a mixture of 0.7% U-235 and 99.3% U-238).

For light water reactors uranium-235 is increased to 3–5 % or 4 to 7 times.

For military applications the enrichment is carried to about 90% U-235.

Fission – Most atoms ignore or absorb free neutrons that come their way, however the uranium-235 nucleus splits instead. The ensuing nuclear reaction breaks a uranium-235, uranium-233 or plutonium-239 (produced when U-238 captures neutrons) into 2 lighter mass fragments generally in the mass range 72 to 160. It also produces on average about 2.4 free neutrons (from U-235) of which one is needed to initiate the next fission.

All fragments possess tremendous kinetic energy. This kinetic energy is absorbed and converted to heat (about 2.7 million times that from chemical burning).

Isotopes – Atoms with the same number of protons, but different numbers of neutrons.

At the first level of subdivision atoms are composed of protons, neutrons and electrons. In a neutral atom the number of protons equals the number of electrons.

The number of protons gives the atom its chemical properties and its atomic number.

Neutrons have no charge and their number varies but usually increases significantly for atoms with large atomic numbers. For example the most common form of hydrogen (1 proton = atomic number 1, $^{1}H_{1}$) has no neutrons. Its less common isotope - deuterium adds one neutron ($^{2}H_{1}$). The most common form of uranium (atomic number 92) has 146 neutrons for a mass number of 238 (92 protons + 146 neutrons, electrons are too light to count).

Seven tenths of one percent of natural uranium has only 143 neutrons and so this isotope is called uranium 235 ($^{235}U_{92}$). While having the same chemical properties as uranium-238, uranium-235 has different nuclear properties and a slightly lighter nucleus. When reacted with fluorine to form UF_6 for separation, the mass difference is less than 1%!

Isotope separation – Since enrichment of natural uranium is needed for most reactor designs several methods of separation have been developed, which depend on the difference in the mass of U-235 and U-238.

Starting in WWII the U.S. used gaseous diffusion to enrich the fraction of U-235. This requires vast plants since each stage only achieves a very slight increase in the percentage of U-235. Since the capital investment has been made, the U.S. continues to use this capability although it will likely be phased out because of high operating costs.

With the development of stronger materials and superior bearings, most other nations use about 3,000 very-high-speed, cascaded, centrifuges to separate the isotopes. Most countries use this technology and the U.S. now has a demonstration plant and will build a full-scale centrifuge separation facility by 2012.

kWt – Kilowatt thermal. In our discussion it is the highest power rating of the heat source. It should be distinguished from kWe which is the power rating of a plant in terms of its highest possible electrical output. It is not possible to convert heat to electricity with 100% efficiency. Conversion efficiencies of 30% or more are considered good. The energy difference is usually dissipated as waste heat. Some plants use the heat directly or a portion of it (such as nuclear submarines), so the kWe term does not describe the entire potential of a electrical generating plant. However, if all possible heat is used for generating electricity the kWe term offers a comparison that incorporates plant efficiency.

Moderator – Since slow moving neutrons are more likely to cause the next fission event rather than escaping the reaction vessel a speed reducer (moderator) is used which slows down the neutrons without absorbing them. Water is such a moderator and is used in many reactor designs. U-238 also assists as a moderator.

Positive void coefficient – Some older Soviet power reactors and some research reactors are designed with a positive void coefficient. In these reactors the reactivity increases if the moderator which is often also the coolant decreases in density or "voids." For a description of a how one achieves a "negative void coefficient" see *under-moderated*.

Radioactive – Many isotopes are not stable and emit radiation in the process of moving toward a stable nucleus. Elements above bismuth (atomic number 81) have no known stable isotopes although the rate at which they decay varies a great deal.

In reactor processes we are concerned with 4 types of radiation:

1) Alpha particles are the nucleus of a helium atom (2 protons and 2 neutrons). The mass of the remaining nucleus is 4 units smaller and its atomic number is lower by 2 units. Alphas are very active and interact with everything so they do not go very far. If you hold an alpha source in your hand the dead layer of skin or a single sheet of paper will stop all alpha particles. They are a health hazard only if ingested or inhaled.

2) Beta particles are high-energy electrons emitted by the nucleus as it converts a neutron to a proton. They penetrate better than the alphas and do mess up the electrical nature of atoms, but have so much smaller mass that they don't knock things around like alphas.

3) Gamma rays are at the high end of the electromagnetic spectrum and carry a lot of energy. They are sufficiently penetrating that they can look through steel to find cracks or voids. They can easily knock an electron out of an atom and create a charged ion. This is great for killing bacteria but has the same effect on human cells. Too much gamma radiation will kill you.

4) Neutron radiation features a neutral particle, so they don't grab electrons. As emitted from a fission reaction they travel at very high speeds and do bump into anything in their path, transferring their kinetic energy to the target. Neutron bombardment can change the properties of materials in unfortunate ways such as making them more brittle. Therefore, careful material selection for reactors is important. Zirconium metal has shown remarkable durability in a high neutron environment. When a neutron is absorbed into an isotope it becomes an isotope with one higher mass number.

Now look at nuclei that produce radiation or are formed by it.

One half life indicates the period in which half the nuclei in a sample will emit radiation and decay to another element or isotope. Nuclei with short half-lives are very radioactive, but are gone in short order so we must deal with their products. Nuclei with long half-lives will be around a long time, but are only weakly radioactive.

For example: Uranium-238 has a half-life of 4.47 billion years, which accounts for its weak radioactivity as well as its continued presence on our planet long after its formation. On the other hand U-239 has a half-life of 23.5 minutes, so the only reason we ever have it is because it is formed routinely from U-238 when that isotope absorbs a neutron. On the other hand U-239 gives off a beta particle leaving behind an additional proton and becoming Neptunium-239. Neptunium-239 is not stable either and has a half-life of 2.35 days. It then does another beta emission gaining the proton needed to become plutonium-239. With a half-life of 24,100 years it's going to be around for a long time unless we put it in a reactor. Plutonium-239 fissions as well as U-235. Plutonium-239 from most power reactors is contaminated by Plutonium-240 making it less suitable for a bomb.

Since many of these fuel elements and products of the fission reactor are unstable and emit radiation, it is important to shield surroundings from the more intense sources. Unlike toxic chemicals, which can often be changed to benign forms via chemical reaction, radiation is a nuclear property and remains, regardless of the chemical compound in which the atom is bound.

Secondary water system – In pressurized water reactors there are two types of water circulation loops. The primary water system circulates the high-pressure water through the reactor and the steam generator. The secondary water system circulates the steam/water from the steam generator through the turbine and condenser and back to the steam generator. Both loops are served by redundant piping.

Under-moderated – As a control and safety feature all U.S. power reactors (and almost all around the world except some old Soviet designs) are designed so an increase in power beyond the optimum is met with negative feedback.

One feedback mechanism is to limit the amount of moderator allowed adjacent to the fuel elements. Since heating a limited moderator (usually water) decreases its density, it also decreases its ability to slow neutrons enough to allow fission. The amount of moderator in the reaction vessel is carefully computed for the desired operating temperature and helps maintain that temperature without any external inputs.

Rupture of a primary pipe also decreases the water slowing the reaction. Of course other provisions are necessary to deal with the residual heat if the primary loop is non-operative since the water is also the heat transfer agent.

HB 196

<target><bill>HB 196</bill><subject>HB 196</subject><comm>HENE26</comm></target>

Alaska Legislature
House Special Committee on Energy

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House Bill 196: Alternative Energy Revolving Loan Fund

SPONSOR'S INTENT

HB 196 amends the Alternative Energy Revolving Loan Fund in order to provide another tool for Alaskans to use in battling volatile fuel costs.

This fund was established in 1978 to make loans of up to $30,000 to individual Alaskans for energy production through small-scale wind, hydroelectric, solar-voltaic, and other alternative systems.

In 1990, the program was mothballed with an amendment that swept any unexpended and unobligated cash in the fund into the general fund at the end of every fiscal year. Lacking annual appropriations from the Legislature, the program has been essentially dormant.

HB 196 eliminates the "sweep" provision, replacing it with a requirement that principal and interest payments and other income earned by the fund stay in the fund. This means that should the Alternative Energy Revolving Loan Fund be capitalized, it will grow.

The bill also will allow sources in addition to appropriations from the Legislature to capitalize the fund. These can include gifts, bequests, or contributions.

Other aspects of the legislation update the loan fund to reflect current policies in the Division of Investments. These include matters concerning collateral and the sale or transfer of mortgages.

The bill also acknowledges the recent development of clean-burning, high-efficiency wood pellet stoves, adding them to a listing of systems permitted for loans under the program in the Definitions section.

We in Alaska must use every means at our disposal to find permanent solutions to high energy costs. Some of those solutions call for large-scale energy projects requiring many years to develop. But we should not discount the cumulative potential of smaller-scale efforts. HB 196 will enable many individual Alaskans to make lasting investments that will help bring their energy costs to acceptable levels soon.

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Sectional Analysis
House Bill 196: Alternative Energy Revolving Loan Fund

Section 1

Adds language allowing a variety of capitalization sources for the Alternative Energy Revolving Loan Fund.

Also stipulates that principal and interest payments and other income on loans or investments in the fund become part of the fund.

Section 2

Adds a new subsection that requires a loan be secured on the real property to be improved and on a first lien on the improvements financed under the loan fund.

States that the interest rate will be set between 5% and 8%, declares how the specific rate will be calculated in relation to the bank prime rate, and describes the length of time that rate remains in effect.

Section 3

Adds high efficiency wood pellet stoves to the program's definitions of "alternative energy system."

Section 4

Repeals the sweep provision from the current revolving loan fund statute; Repeals the current loan rates, which are 5% for the first $15,000 and 15% for sums above that amount; and Repeals the transfers or sales of mortgages and notes.

Section 5

Sets an immediate effective date.

Prepared by the House Special Committee on Energy. *Bill Version: 26-LS0754\R*

26-LS0754\R.1
Kane
3/31/09

AMENDMENT

OFFERED IN THE HOUSE BY REPRESENTATIVE EDGMON

TO: HB 196

Page 1, line 12:

Delete "first"

2727

AMENDMENT 2

OFFERED IN THE HOUSE BY REPRESENTATIVE EDGMON

TO: HB 196

Page 1, following line 9:

Insert a new bill section to read:

"* **Sec. 2.** AS 45.88.020(a) is amended to read:

(a) The department may

(1) make loans for the purchase, construction, and installation of alternative energy systems **that are located in the state**;

(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."

Renumber the following bill sections accordingly.

FISCAL NOTE

STATE OF ALASKA
2009 LEGISLATIVE SESSION

Fiscal Note Number:
Bill Version: HB 196
() Publish Date:

Identifier (file name): HB196-CED-INV-03-26-09
Dept. Affected: DCCED
Title: An act relating to the alternative energy revolving loan fund; and providing for an effective date.
RDU: Investments
Component: Investments
Sponsor: House Special Committee on Energy
Requester: House Special Committee on Energy
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							
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 (Specify Type--Do not abbreviate)						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							
Temporary							

ANALYSIS: *(Attach a separate page if necessary)*
This bill proposes several changes to the Alternative Energy Revolving Loan Fund.

This fund was created in 1978 and was active until FY87 when the Legislature removed funding. In 1990, the Legislature inserted language into the statute that required all cash remaining in the fund at the end of each fiscal year be transferred to the General Fund.

The changes included in this bill would allow the program to receive funding and retain repayments, as well as other earnings generated by the fund. The bill also adds collateral requirements, amends the interest rate to be charged on loans made under the program, and amends the types of systems that qualify to include high efficiency wood pellet stoves.
(Continued below.)

Prepared by: Greg Winegar — Phone 465-2510
Division: Division of Investments, Dept of Commerce, Community, & Econ. Dev. — Date/Time 3/26/09 -4:00pm
Approved by: Emil Notti,.Commissioner — Date 3/26/2009
Department of Commerce, Community and Economic Development

STATE OF ALASKA
2009 LEGISLATIVE SESSION

BILL NO. HB 196

ANALYSIS CONTINUATION

Because this fund would need to be capitalized prior to new loans being made, no additional operating expenditures are requested. If the fund is capitalized and the demand for these loans becomes significant, additional operating expenditures may be requested in the future from the earnings of the loan fund.

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March 25, 2009

Memorandum

TO: Representative Bryce Edgmon
FROM: Patricia Young, Manager
RE: Amendments to the Alternative Energy Revolving Loan Fund
LRS Report 09.211

You asked about statutory changes to the alternative energy revolving loan fund established in AS § 45.88.010. Specifically, you asked about the rational for and the point at which the legislature added the following subsection:

> (c) On June 30 of each fiscal year the unexpended and unobligated cash balance of the fund that is attributable to loans owned by the fund lapses into the general fund.

The language was absent from the statutory provisions relating to the fund until the enactment of SCS CSHB 85 (Rls) am S which became chapter 36 SLA 1990. House Bill 85 was introduced at the request of Governor Steve Cowper to standardize accounting practices in a wide range of state agencies that collected program receipts. The act incorporated a similar requirement into the statutory provisions of a number of programs. The substance of Governor Cowper's transmittal letter, dated January 13, 1989, reads as follows:

> Under the authority of art. III, sec. 18, of the Alaska Constitution, I am transmitting a bill that makes changes in existing law to clarify the status of and accounting for money received for goods and services provided by state agencies.
>
> The purpose of the bill is the same as that of ch. 138, SLA 1986: namely, to expressly authorize setting and receiving fees and other charges by state agencies for the performance of functions prescribed by law. As with ch. 138, SLA 1986, this bill includes provisions requiring separate accounting for these program receipts and provisions suggesting legislative appropriation to the respective programs that produced the receipts. This bill attempts to include the amendments that ch. 138, SLA 1986 missed, and it removes an ambiguity in that Act's amendment of AS 37.10.050(a), making certain that fee regulations meet the same standards as those prescribed by the Alaska Administrative Procedure Act for other regulations.
>
> Perhaps the most significant provisions of this bill are in secs. 1 and 132. Section 1 defines "program receipts" as "fees, charges, income earned on assets, and other state money received by a state agency in connection with the performance of its functions" and identifies those receipts that are not general fund program receipts.
>
> Section 132 is a "grandfather clause" that protects from any unintentional invalidation fees charged by agencies under regulations that were adopted before July 1, 1987, notwithstanding the 1986 amendments of AS 37.10.050(a) which took effect July 1, 1987.
>
> The remaining sections of the bill either (1) expressly authorize the assessment of fees or the provision of services already impliedly authorized by existing law; or (2) prescribe a method of accounting for and using money generated by state programs.
>
> This bill has an immediate effective date, to achieve consistency with ch. 138, SLA 1986's amendments as soon as possible.
>
> **The amendments set out in this bill will make clear the permissible handling of program receipts. Although my Administration believes that the most appropriate use of program receipts is for the expenses**

> **of the activities that earned them, it is within the legislature's discretion to determine the purpose for which those program receipts may be spent. The power of the legislature to appropriate program receipts is no different from its power to appropriate other money in the general fund.**[1]

Although the wording in the original version of the bill was not exactly as it now appears, the concept was intact. The sectional analysis that accompanied the governor's transmittal letter described the provisions relating to the alternative energy revolving loan fund (AS § 45.88.010 – AS § 45.88.090) as follows:

> Enables the Department (1) to establish loan servicing fees and set them by regulation, and (2) to use money in the Alternative Energy Loan Fund to carry out administration of the fund. Requires the Department to deposit all fee and collection charges in the general fund to be treated as general fund program receipts.[2]

Through the same act, similar, standardized language was included in the statutes related to a number of other fund programs. The 1990 act added similar language to the Alaska World War II veteran's revolving fund, the mining loan fund, the child care facility revolving loan fund, the residential energy conservation fund, the historical district revolving loan fund, and the rural electrification revolving loan fund.

In a 1982 opinion, the attorney general discussed the issue of the dedicated funds clause in the state constitution. The opinion specifically addressed the applicability of the dedicated funds clause to interest income that is returned to specific funds. The attorney general acknowledged that there were arguments to be made on both sides of the question but noted as follows:

> A difficulty that arises from the view that the dedicated funds prohibition is not applicable to interest or investment income on separate funds is that it permits steadily increasing amounts of money to be received and used by state departments and agencies without legislative control through the annual budget process. This is precisely the problem posed by the dedication of revenue sources which the drafters sought to avoid. For this reason, while we are not certain about the likely outcome, we doubt that a blanket exception for derivative income would be approved by the courts.[3]

As you may know, prior to around 1993, committee minutes may be relatively sparse. Our review of minutes associated with HB 85 reveal no discussion of the alternative energy revolving loan fund—or any other particular loan or other state program. We believe it likely that the inclusion of the language—requiring that unexpended and unobligated money that is attributable to loans owned by the fund lapses into the general fund on June 30th of each fiscal year—was related to the constitutional prohibition against the dedication of funds (Article IX, Section 7), the need for clear fiscal accounting, and an interest in retaining control of state revenue through the process of annual appropriations.[4]

We hope this is helpful. Please let us know if you have questions or need additional information.

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[1] *House Journal, 16th Legislature*, January 13, 1989, p. 90; emphasis added.

[2] *House Journal Supplement*, No. 2, January 13, 1989, p. 12.

[3] Opinion of the Alaska Attorney General, November 30, 1982. We include a copy of this opinion as Attachment A.

[4] Attachment B includes pages from Gordon Harrison's *Alaska's Constitution: A Citizen's Guide*, 4th Edition that are pertinent to the dedicated of funds prohibition.

Chapter 45.88. ENERGY LOAN AND GRANT PROGRAMS

Article 01. ALTERNATIVE ENERGY REVOLVING LOAN FUND

Sec. 45.88.010. Fund established.

(a) There is established in the Department of Commerce, Community, and Economic Development the alternative energy 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 to develop means of energy production utilizing energy sources other than fossil or nuclear fuel, including, but not limited to, windmills, water and solar energy devices.

(b) Money in the fund may be used by the legislature to make appropriations for costs of administering AS 45.88.010 - 45.88.090.

(c) On June 30 of each fiscal year the unexpended and unobligated cash balance of the fund that is attributable to loans owned by the fund lapses into the general fund.

(d) Notwithstanding any other provision in AS 45.88.010 - 45.88.090, a multifuel heating system that uses the combination of wood or fossil fuel for fuel does qualify under this loan fund.

Sec. 45.88.015. Special account established.

(a) There is established, as a special account within the revolving loan fund established under AS 45.88.010, the foreclosure expense account. This account is established as a reserve from fund equity.

(b) The commissioner of commerce, community, and economic development may expend money credited to the foreclosure expense account when necessary to protect the state's security interest in collateral on loans made under AS 45.88.020 or to defray expenses incurred during foreclosure proceedings after a default by an obligor.

Sec. 45.88.020. Powers and duties of the department in administering the fund.

(a) The department may

(1) make loans for the purchase, construction, and installation of alternative energy systems;

(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.

(b) The department shall develop eligibility standards for loans made under AS 45.88.010 - 45.88.090 and adopt guidelines for the determination of loan terms.

(c) The department may not make a loan under AS 45.88.010 - 45.88.090 to a person who has a past due child support obligation established by court order or by the child support services agency under AS 25.27.160 - 25.27.220 at the time of application.

Sec. 45.88.030. Loan terms.

(a) A loan for the development of an alternative energy system under AS 45.88.010 - 45.88.090 may not exceed $30,000.

(b) The duration for repayment of the loan may not exceed 20 years.

(c) Loans made under AS 45.88.010 - 45.88.090 may be used to finance the cost of purchase, construction, and installation of an alternative energy system or "centralized multifuel heating systems" which is likely to result in energy conservation or energy cost savings.

(d) All principal and interest payments, and money chargeable to principal or interest that is collected through liquidation by foreclosure or other process on loans made under AS 45.88.010 - 45.88.090, shall be paid into the alternative energy revolving loan fund.

(e) The rate of interest for a loan 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. 45.88.040. Sale or transfer of mortgages and notes.

(a) The commissioner may sell or transfer at par value or at a premium or discount to any bank or other private purchaser for cash or other consideration the mortgages and notes held by the Department of Commerce, Community, and Economic Development as security for loans made under AS 45.88.010 - 45.88.090.

(b) [Repealed by Sec. 14 ch 122 SLA 1980].

Alaska Division of Investments
Department of Commerce, Community, and Economic Development

Program Funding Summary
Alternative Energy Revolving Loan Fund

Transfers to the AERLF:		
Appropriation from General Fund	14,345.0	
Appropriation from Residential Energy Revolving Loan Fund	1,000.0	
Appropriation from Fisherman's Mortgage Loan Fund	1,000.0	
Appropriation from Small Business Revolving Loan Fund	1,700.0	
Total Transfers to AERLF		18,045.0
Transfers from the AERLF:		
Transfer to General Fund	-18,775.9	
Transfer to Veterans, Tourism, Fisheries Enhancement Loan Programs	-914.6	
Total Transfers to General Fund and Other Programs	-19,690.5	
Operating Budget Transfers from 1987 to 2004	-4,570.3	
Total Transfers from the AERLF		-24,260.8
Net AERLF Transfers:		-6,215.8

Prepared by Division of Investments
AE Historical 3-25-09 clj

Alaska Division of Investments
Department of Commerce, Community, and Economic Development

Alternative Energy Revolving Loan Fund

Principal, Interest, and Revenues

	Principal	Interest	Other Revenues
FY 90	785.0	390.8	11.3
FY 91	904.3	347.4	14.0
FY 92	815.2	308.4	25.0
FY 93	988.0	261.0	51.4
FY 94	673.0	198.1	33.9
FY 95	641.0	157.5	13.9
FY 96	515.7	123.4	13.8
FY 97	507.8	105.9	12.0
FY 98	444.0	90.6	21.7
FY 99	337.1	58.5	20.5
FY 00	285.7	38.6	20.4
FY 01	193.6	25.8	7.2
FY 02	167.8	15.3	2.8
FY 03	90.5	6.6	0.6
FY 04	42.2	3.5	20.9
FY 05	18.5	1.0	4.5
FY 06	3.5	4.0	1.2
FY 07	0.6	0.0	63.8
FY 08	0.6	0.0	4.7
Total	7,414.1	2,136.4	343.6

Information for repayments received between FY80 through FY89 is not available at this time.

Revenues include: Late Fees, Judgment Interest, Uncollectible Amounts Recovered & Gain on Loans

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Alaska Division of Investments
Department of Commerce, Community, and Economic Development

Alternative Energy Revolving Loan Fund - 21619
Historical Loan Demand

Fiscal Year	Number of Loans Committed	Dollar Amount	Average Loan Amount
1980	1	10.0	10.0
1981	440	2,243.3	5.1
1982	1,172	5,392.3	4.6
1983	503	4,591.8	9.1
1984	392	3,509.5	9.0
1985	258	2,042.4	7.9
1986	168	1,421.6	8.5
1987	10	88.8	8.9
1988	0	0.0	0.0
1989	0	0.0	0.0
Total	2,944	19,299.7	

Term not to exceed 20 years. Actual average term 11 years.

Prepared by Alaska Division of Investments
AE Historical 3-25-09 clj

Alaska Division of Investments
Department of Commerce, Community, and Economic Development

Alternative Energy Revolving Loan Fund - 21619
Historical Paid Off Loan

Fiscal Year	Number of Loans Paid Off	Dollar Amount
FY88	123	294.8
FY89	122	386.6
FY90	92	247.0
FY91	110	398.7
FY92	147	326.1
FY93	130	543.4
FY94	112	432.9
FY95	69	329.5
FY96	44	159.9
FY97	54	204.9
FY98	70	242.2
FY99	47	125.4
FY00	49	109.4
FY01	61	50.6
FY02	47	62.8
FY03	34	32.4
FY04	25	9.6
FY05	10	8.1
FY06	7	0.5
Total	1353	3964.8

As of 3-25-09 there is one remaining AE loan.

Prepared by Alaska Division of Investments
AE Historical 3-25-09 clj

Alaska Division of Investments
Department of Commerce, Community, and Economic Development

Alternative Energy Revolving Loan Fund

	Outstanding Number of Loans	Outstanding Principal Balance	Delinquency	Default
1980	1	10.0		
1981				
1982		3,935.0		
1983	1,726	7,852.2		
1984	1,868	10,806.0		
1985	1,891	11,871.9	11.1%	0.4%
1986	1,792	11,646.5	3.3%	2.9%
1987	1,483	10,156.9	5.1%	4.6%
1988	1,358	9,244.9	3.4%	7.5%
1989	1,188	8,050.0	4.2%	5.0%
1990	1,082	7,189.6	4.4%	6.1%
1991	966	6,236.2	11.1%	6.1%
1992	800	5,270.2	3.8%	5.6%
1993	651	4,175.2	2.5%	4.7%
1994	535	3,305.8	4.1%	3.2%
1995	461	2,626.7	2.9%	2.8%
1996	414	2,143.5	5.7%	3.7%
1997	361	1,646.0	3.1%	4.9%
1998	291	1,153.2	1.5%	2.5%
1999	244	8,210.0	7.3%	3.2%
2000	195	540.6	9.2%	2.4%
2001	134	347.0	11.5%	1.9%
2002	83	181.2	21.0%	2.4%
2003	45	78.5	19.3%	2.4%
2004	18	29.8	45.1%	0.0%
2005	8	11.3	0.0%	0.0%
2006	1	7.7	0.0%	0.0%
2007	1	7.1	0.0%	0.0%
2008	1	6.6	0.0%	0.0%
2009	1	6.1	0.0%	0.0%

2009 information is as of March 19, 2009

Prepared by Alaska Division of Investments
AE Historical 3-25-09 clj

Alaska Division of Investments
Loan Program Funding Summary for Alternative Energy
(In Thousands of Dollars)

Session Laws of Alaska ~ Funding Source Citation	Transfers to GF & Other Programs	Transfers to AE Fund	Operating Budget Funding	Line Total
Established		SLA 1978 Ch 29 d 1		[redacted]
SLA 80 CH. 120 Sec 6		600.0		600.0
RP 08-81- 292X (JV 81-2436)		1,000.0		1,000.0
RP 08-81- 486X (JV 81-13626)		1,700.0		1,700.0
SLA 81CH. 82 Sec 13		500.0		500.0
SLA 81 CH. 90 Sec 36		3,750.0		3,750.0
SLA 81 CH. 90 Sec 37		1,250.0		1,250.0
RP 08-81- 664X (JV 82-0062)	(914.6)			(914.6)
SLA 82 CH. 141 Sec 257 Repealed CH. 90 Sec 37 SLA 81	(1,250.0)			(1,250.0)
SLA 82 CH. 114 Sec 5		4,000.0		4,000.0
RP 08-82- 634X (JV 82-5378)		1,000.0		1,000.0
SLA 83 CH. 107 Sec 22		2,400.0		2,400.0
SLA 84 CH. 171 Sec 306		1,000.0		1,000.0
SLA 85 CH. 98 Sec 20		845.0		845.0
SLA 86 CH. 130 Sec 427	(1,809.0)			(1,809.0)
SLA 86 CH. 129 Sec 16	(2,000.0)			(2,000.0)
SLA 86 CH. 129 Sec 17	(64.0)			(64.0)
SLA 86 CH. 129 Sec 23 FY 87 operating budget			(494.5)	(494.5)
SLA 87 CH. 95 Sec 17	(5,504.2)			(5,504.2)
SLA 87 CH. 95 Sec 26 FY 88 Operating Budget			(251.4)	(251.4)
SLA 88 CH. 154 Sec 15	(610.8)			(610.8)
SLA 88 CH. 154 Sec 29 FY 89 Operating Budget			(340.6)	(340.6)
SLA 88 CH. 173 Sec 2 Supplemental to FY 88 Operating Budget			(23.5)	(23.5)
SLA 89 CH. 87 Sec 1 (a) Supplemental to FY 89 Operating Budget			(8.8)	(8.8)
SLA 89 CH. 116 Sec 15	(727.6)			(727.6)
SLA 89 CH. 116 Sec 29 FY 90 Operating Budget			(357.1)	(357.1)
SLA 90, CH. 45, Sec. 3(a), 9(a) &11(a) Supplemental to FY 90 Operating Budget			(2.6)	(2.6)
SLA 90, CH. 45, Sec. 3(a), 9(a) &11(a) Supplemental to FY 91 Operating Budget			(7.1)	(7.1)
SLA 90, CH. 209, Sec. 18	(908.1)			(908.1)
SLA 90, CH. 209, Sec. 37 FY 91 Operating Budget			(357.1)	(357.1)
FY90 Fiscal Year End Trans to GF	(1,090.9)			(1,090.9)
SLA 91, CH. 73, Sec. 40 FY 92 Operating Budget			(363.5)	(363.5)
SLA 91, CH. 96, Sec. 119 FY 91 COLA Supplemental			(4.3)	(4.3)
FY91 Fiscal Year End Trans to GF	0.0			0.0
SLA 92, CH. 136, Sec. 44 FY 93 Operating Budget			(430.6)	(430.6)
FY92 Fiscal Year End Trans to GF	(804.2)			(804.2)
SLA 93, CH. 65, Sec. 40 FY 94 Operating Budget			(347.3)	(347.3)
FY93 Fiscal Year End Trans to GF	(867.7)			(867.7)
SLA 94, FSS CH. 3, Sec. 42 FY 95 Operating Budget			(290.5)	(290.5)
FY90 Lapsed Funds			171.2	171.2
FY94 Fiscal Year End Trans to GF	(712.4)			(712.4)
FY 95 Fiscal Year End Trans to GF	(509.4)			(509.4)
SLA 95, CH. 94, Sec. 47 pg 28 & 48 96 Operating Budget			(276.2)	(276.2)
FY 96 Fiscal Year End Trans to GF	(399.0)			(399.0)
SLA 96, CH. 117, Sec. 30 FY 97 Operating Budget			(277.5)	(277.5)
FY 97 Fiscal Year End Trans to GF	(330.0)			(330.0)
SLA 97, CH. 98, Sec. 39 & 41 FY 98 Operating Budget			(147.2)	(147.2)

Session Laws of Alaska ~ Funding Source Citation	Transfers to GF & Other Programs	Transfers to AE Fund	Operating Budget Funding	Line Total
SLA 97, CH. 100, Sec. 59 FY 98 Operating Budget salary adjust			(2.3)	(2.3)
FY 98 Fiscal Year End Trans to GF	(397.3)			(397.3)
SLA 98, CH. 137, Sec. 33 FY 99 Operating Budget			(148.6)	(148.6)
SLA 99, CH. 84, Sec. 42, 43 & 45 FY 00 Operating Budget			(148.7)	(148.7)
SLA 99, CH. 137, Sec. 21 FY 99 Operating Budget salary adjust			(0.5)	(0.5)
FY 99 Fiscal Year End Trans to GF	(260.5)			(260.5)
FY 00 Fiscal Year End Trans to GF	(194.4)			(194.4)
FY00 Lapsed Funds			0.0	0.0
SLA 00, CSHB 3001, Sec.1 FY 01 Operating Budget Salary adjust			(3.0)	(3.0)
SLA 00, CH. 133, Sec. 3 FY 01 Operating Budget			(148.7)	(148.7)
FY 01 Fiscal Year End Trans to GF	(75.6)			(75.6)
FY01 Lapsed Funds				0.0
SLA 01, CH. 60, Sec. 3 FY 02 Operating Budget			(151.7)	(151.7)
FY 02 Fiscal Year End Trans to GF	(34.1)			(34.1)
SLA 02, CH. 94, Sec. 2 FY03 DCED/ADI Operating Budget			(141.2)	(141.2)
SSSLA 02, CH. 1, Sec. 2 FY03 Capital Budget Loan Servicing Program			(7.8)	(7.8)
FY 03 Fiscal Year End Trans to GF	(0.7)			(0.7)
FY03 Lapsed Funds			52.7	52.7
SLA 03, CH. 83, Sec. 3 FY04 DCED/ADI Operating Budget			(143.8)	(143.8)
FY 04 Fiscal Year End Trans to GF	(5.0)			(5.0)
FY04 Lapsed Funds			81.9	81.9
FY 05 Fiscal Year End Trans to GF	(28.7)			(28.7)
FY 06 Fiscal Year End Trans to GF	(48.9)			(48.9)
FY 07 Fiscal Year End Trans to GF	(63.5)			(63.5)
FY 08 Fiscal Year End Trans to GF	(80.0)			(80.0)
Totals	(19,690.5)	**18,045.0**	(4,570.3)	(6,215.8)

ALASKA MUNICIPAL LEAGUE
Alaska Conference of Mayors

217 Second Street, Suite 200 • Juneau, Alaska 99801
Tel (907) 586-1325 • Fax (907) 463-5480 • www.akml.org

March 31, 2009

House Energy Committee
State Capitol Building
Juneau, Alaska 99811

RE: HB 196 – Alternative Energy Revolving Loan Fund

Dear Representative Millett and Edgmon,

The Alaska Municipal League would like to offer support for HB 196. This bill would serve as another tool to those communities who are continuing to face high fuel costs.

We feel it is an excellent idea to eliminate the "sweep" provision. This certainly shows a commitment by the State Legislature to not only continue the fund, but to realize financial growth.

We also are very much in favor of expanding the list of systems permitted for loans under this program, to include wood pellet stoves.

Energy has been one of the major issues keeping municipalities from thriving. Cost, distance, quantity of scale, etc. are hurdles that hamper communities from providing affordable, consistent, reliable energy its residents. Every tool that we can find should be left as an option.

Thank you for the opportunity to comment on this bill. We urge passage.

Sincerely,

Kathie Wasserman

Kathie Wasserman
Executive Director

Attachment A

Opinion of the Alaska Attorney General, November 30, 1982

1982 Alaska Op. Atty. Gen. No. 13, 1982 WL 43799 (Alaska A.G.)

Office of the Attorney General
State of Alaska

File No. J-66-785-81
File No. J-66-649-80

November 30, 1982

The dedicated funds prohibition applied to various funds and accounts.

Gerald L. Wilkerson, C.P.A.
Legislative Auditor

Honorable Carole J. Burger
Commissioner

Dear Mr. Wilkerson and Commissioner Burger:

You have both asked for a broad review of the application of the constitutional dedicated funds prohibition to various state funds and accounts. Alaska Const. art. IX, § 7. Because of the factual complexities presented by the various funds, accounts, and appropriations and because of the paucity of judicial precedent, we are not able to advise you with absolute certainty regarding the constitutionality of state practices. However, some of the issues raised by your request may be resolved in litigation which is now pending concerning the administration of certain appropriations and funds by the Alaska Power Authority. [FN1]

In response to your request, we have identified and analyzed several categories of funds, accounts, and transactions which raise dedication questions. Our approach in dealing with these questions will be to first discuss the purpose and meaning of the dedication prohibition. We will then focus on the implications of a recent Alaska Supreme Court case that deals specifically with the dedicated funds prohibition. Next we will consider the probable legal status of several general categories of funds, accounts, and appropriations which raise dedication questions. Lastly, we will consider the dedication prohibition in reference to specific funds and appropriations.

We should point out that the advice given in this opinion could have a significant effect upon the state budget. This results from the recent adoption of [illegible] (the spending limit). Under the reasoning of this opinion, it may be that income earned by a loan fund or public enterprise must be appropriated to that fund or enterprise if that income is to be retained by it. If the Alaska Supreme Court adopts that reasoning, the necessity for these appropriations would have to be considered by the administration and the legislature in developing a state budget which conformed to the spending limit. This concern would also become important if independent authorities for operation of entities like the State Ferry System or the Alaska Railroad were to be considered.

I. THE PURPOSE OF THE PROHIBITION

[illegible] provides:

DEDICATED FUNDS. The proceeds of any state tax or license shall not be dedicated to any special purpose.

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except as provided in section 15 of this article [establishing the Permanent Fund] or when required by the federal government for state participation in federal programs. This provision shall not prohibit the continuance of any dedication for special purposes existing upon the date of ratification of this section by the people of Alaska.

*2 There are essentially two views of the meaning of this provision . Under the first interpretation the dedicated funds prohibition would require that every dollar received by the state be deposited and remain unrestricted in the general fund until it is withdrawn pursuant to an appropriation authorizing the expenditure of a specific dollar amount for a specific purpose (absent a contrary federal requirement or a statutory dedication which existed prior to ratification of the Constitution). This is known as the strict interpretation view.

Under the strict view, the phrase 'proceeds of any state tax or license' would encompass every dollar paid to the state (or to a public corporation or authority established by the state) for whatever purpose. State loan repayments (both principal and interest), enterprise receipts (e.g., airport lease revenues, parking garage receipts, etc.), program receipts (e.g., Ferry System ticket sales, University of Alaska tuition receipts, etc.), as well as all other revenues (e.g., taxes, natural resource revenues such as royalties, etc.), would be required to be deposited in the state treasury and retained there until the expenditure is authorized by appropriation of a specific dollar amount.

An argument can certainly be made that this is the proper interpretation of the dedicated funds prohibition. As set out in 1975 Op. Atty. Gen. No. 9 at 2 (Alaska May 2, 1974), 'Section 7 of Article IX had two interrelated purposes: (1) to prevent any future dedication of revenues for special purposes [i.e., 'earmarking'] and (2) to prevent the creation of new special funds separate from the general fund.' The rationale underlying each of these two purposes is 'that the widespread existence of dedicated revenues lodged in special funds deprives both the governor and the legislature of 'any real control over the finances of the state.'" Id. at 3 (citation omitted). Requiring all monies received by the state to be deposited into the general fund clearly would satisfy both interrelated purposes of the prohibition. The strict interpretation view of the dedication prohibition would preclude the use of public monies to establish a standing or revolving loan fund or any other program which would be self-sustaining. [FN2]

However, a second approach in interpreting the meaning of Article IX, section 7 is also very plausible. Under this view, the dedication prohibition is not to be construed to require a blanket prohibition of self-sustaining programs set up by the legislature. An noted in 1975 Op. Atty. Gen. No. 9 at 6-8 (Alaska, May 2, 1975), the constitutional framers substituted the phrase '[t]he proceeds of any state tax or license' for the phrase '[a]ll public revenues' to avoid having to state a number of intended exceptions to the prohibition on dedicated funds. Examples of these exceptions were pointed out in a January 4, 1956, [FN3] memorandum by the Public Administration Service (PAS) to the Constitutional Convention: 'pension contributions, proceeds from bond issues, sinking fund receipts, revolving fund receipts, contributions from local government units for state-local cooperative programs, and tax receipts which the state might collect on behalf of local government units.' [FN4]

*3 Some of those examples were specifically mentioned by the court in State v. Alex, 646 P.2d 203 (Alaska 1982), which held that the phrase 'proceeds of any state tax or license' was to be broadly construed to include all sources of public revenues. The court noted that the drafters intended to permit the establishment of certain special funds, (e.g., sinking funds for the repayment of bonds), but to prohibit the earmarking of any special tax to such a fund. Alex, supra at 210. The court did not elaborate on the application of the dedicated funds prohibition in these situations.

II. MEANING OF THE PHRASE 'PROCEEDS OF ANY STATE TAX OR LICENSE'

There has been continuing controversy over the proper construction of the phrase 'proceeds of any state tax or license.' In a number of earlier opinions, this office concluded that the dedicated fund prohibition did not reach all public revenues but, under its plain language, only the actual 'proceeds of any state tax or license.' See 1969 Op. Atty. Gen. Nos. 3 (Alaska, April 4, 1969) and 5 (Alaska, April 15, 1969); and 1959 Op. Atty. Gen. No. 7 (Alaska, March 11, 1959). This conclusion also was reached by the Division of Legal Services in the Legislative Affairs Agency. See September 1, 1977 memorandum from Bill G. Berrier, Director, to Subcommittee on Alaska Renewable Resources Development Fund of Alaska Permanent Fund (House).

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Those opinions all concluded that the prohibition did not reach revenues derived from the disposal of state-owned natural resources. Given this conclusion, it followed that the legislature was free to dedicate all or a certain portion of such revenues to specific purposes. An example of this is found in AS 37.11.020, which requires that not less than five percent of state mineral lease receipts be deposited in the Alaska Renewable Resources Development Fund. (This statutory dedication was the subject of Mr. Berrier's September 1, 1977, memorandum).

On the other hand, 1975 Op. Atty. Gen. No. 9 at 24 (Alaska, May 2, 1975) reached the opposite conclusion:

> Section 7 of Article IX of the state Constitution can be given its intended effect and serve its repeatedly expressed purpose only if the words 'proceeds of any tax or license' are interpreted to mean what their framers clearly intended, i.e., the sources of any public revenues.
>
> Accordingly, it is our conclusion that the dedication of any source of Public revenue: tax, license, rental, sale, bonus-royalty, royalty, or whatever is limited by the state Constitution to those existing when the Constitution was ratified or required for participation in federal programs.

(Emphasis added.)

In State v. Alex, 646 P.2d at 210, the Alaska Supreme Court adopted the position set out in 1975 Op. Atty. Gen. No. 9 (Alaska, May 2, 1975). [FN5] It now is clear that the term 'proceeds of any state tax or license' is to be construed broadly to reach all public revenues, including public revenues from the development of state-owned natural resources, and not just the proceeds of taxes and license fees.

*4 After the decision in Alex we can now reach some definite conclusions regarding some of the funds and accounts you have asked us to review. The answers to other questions, however, are not as clear.

III. IMPLICATIONS OF THE ALEX DECISION

There is no question that the dedicated funds prohibition in Article IX, section 7 flatly prohibits the legislature from dedicating future unrestricted general revenues to any particular purpose unless the dedication is required for participation in a federal program or the dedication existed before ratification of the Constitution. Alex, supra at 208-210. This confirms the view expressed in our April 1, 1981 memorandum opinion to the legislative auditor that the requirement in AS 37.11.020 that not less than five percent of state mineral revenues be placed in the Alaska renewable resources development fund is unconstitutional. This would be true of any statutory requirement that a specified percentage of revenues derived from the development of state-owned resources be deposited in a fund or earmarked for a particular purpose.

The Alex decision, however, does not provide answers to a number of additional questions. For example, does the dedicated funds prohibition apply (1) to money received through the sale of bonds (either general obligation bonds of the state or revenue bonds of a public corporation); (2) to receipts from operation of facilities constructed with bond proceeds; or (3) to interest or investment income earned on money appropriated for a specific purpose? In short, are there any exceptions to the prohibition beyond those expressly set out in the Constitution? The section immediately following discusses this question.

IV. POSSIBLE EXCEPTIONS TO THE DEDICATED FUND PROHIBITION

A. Implied Exceptions.

An early draft of what is now Article IX, section 7 (but which was at that time numbered section 8) read as follows: 'All public revenues shall be deposited in the state treasury . . .' Subsequent to this early draft, the Committee on Finance and Taxation of the Constitutional Convention requested comments from the Public Administration Service on this wording. The PAS responded with the January 4, 1956 memorandum in which it warned that a strict interpretation of [illegible] (then section 8) would prohibit the segregation of state money without regard to the source. The PAS then suggested that certain exceptions be identified in [illegible]. These exceptions included pension contribu-

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tions, proceeds from bond issues, sinking fund receipts, revolving fund receipts, contributions from local government units for state-local cooperative programs, and tax receipts which the state might collect on behalf of local government units.

After considering the PAS memorandum, the committee deleted the phrase 'all public revenues shall be deposited . . .' and substituted the phrase 'The proceeds of any state tax or license . . .'. 3 Alaska Const. Conv. Proceed. at 2361. The record of the committee debate makes it clear that the purpose of this change was to meet the problems raised by the PAS in its January 4 memorandum. See 1975 Op. Atty. Gen. No. 9 at 8 (Alaska, May 2, 1975).

*5 Given this drafting history, a very good case can be made that the present language of Article IX, section 7 must be read to include certain implied exceptions, such as those that are set out in the January 4 PSA memorandum, i.e., pension contributions, proceeds from bond issues, sinking fund receipts, revolving fund receipts, contributions from local government units for state-local cooperative programs, and tax receipts which the state might collect on behalf of local government units. We believe this implied exception approach is the better interpretation of the dedicated fund prohibition and would be adopted by the Alaska Supreme Court if the question is presented to it.

B. Dedication of Money to Specific Purposes on a Continuing Basis When Appropriated

A question of the proper application of the dedicated funds prohibition arises when money is appropriated to a revolving loan fund or other special reserve fund or account. Revolving loan funds provide for the return to the fund of repayments by borrowers of the principal (and frequently the interest on that principal) [FN6] which was loaned to them from the fund so that new loans can be made on a continuing basis. Special reserve funds involve essentially the setting aside of money for certain specified future needs or conditions which may or may not occur. [FN7] When this is done, it might be argued that the legislature has made an impermissible dedication with respect to the future use of the money placed in those funds and accounts.

We believe the better view is that the dedication prohibition does not apply to money once appropriated by the legislature, regardless of whether the appropriation contemplates that the money will be expended. Usually appropriations authorize money to be spent . In other cases, however, the legislature may prefer to establish by general law a continuing loan program and finance it through a one-time appropriation or to reserve money in a special fund or account for future use for limited purposes. A strong argument can be made that money one appropriated, regardless of the mechanism utilized, loses its character as revenue for the purpose of the dedicated funds prohibition because the purpose of the prohibition, i.e., that the legislature retain control over state revenues, has been satisfied.

Under this reasoning there would be no unlawful dedication involved in the return to a revolving loan fund of principal payments on loans. The initial appropriation would suffice to authorize the use of that money for other loans until the legislature reappropriates the unobligated assets of the fund or abolishes the fund.

Support for this position is found in the Alaska Supreme Court's analysis in the Alex case. In Alex, the court took note of the drafting change of Article IX, section 7 referred to earlier. This change, said the court, 'did not seek to exempt some sources of revenue from the prohibition, but was intended instead to allow necessary dedication of funds once they were received and placed in the general fund.' State v. Alex, supra at 210.

*6 The Alaska Supreme Court has thus recognized that the dedication prohibition of Article IX, section 7 does not operate to prohibit all dedications whatever their nature. Rather, the court seems to be saying that Article IX, section 7 must be read to allow certain necessary dedications of money by the legislature after that money is received and placed in the state treasury (i.e., general fund). This analysis by the Supreme Court gives support to the argument that the dedication prohibition does not apply to money once it has been lawfully appropriated from the general fund and that the legislature can, without violating Article IX, section 7, create 'necessary dedications' out of that money.

C. Income Generated by Specific Funds or Accounts

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A question separate from that just discussed arises concerning the application of the dedicated fund prohibition to the interest or other income earned by money appropriated to revolving funds and other funds and accounts. Is that derivative income revenue which, under the prohibition, must be deposited in the general fund, or may it accrue directly to the fund or account which 'earned' it, increasing the amount of money in that fund or account which may be spent without further appropriation?

We are advised by the Department of Administration that the National Committee on Governmental Accounting has defined a fund to be:

> A fiscal and accounting entity with a self-balancing set of accounts recording cash and other financial resources, together with all related liabilities and residual equities or balances, and changes therein, which are segregated for the purpose of carrying on specific activities or attaining certain objectives in accordance with special regulations, restrictions, or limitations.

Municipal Finance Officers Association of the United States and Canada, 'Governmental Accounting, Auditing, and Financial Reporting,' 1980, Appendix B.

From the point of view of generally accepted accounting principles, then, income generated by a fund accrues to that fund unless a transfer is authorized. Economic theory also leads to that result, arguing that the interest or investment income on a particular fund is simply an increase in the value of the fund which offsets inflation and reflects the gradual growth of our economy. Under either approach, such derivative income ought not to be considered revenue subject to the dedicated funds prohibition.

Derivative income such as interest and investment income is not a traditional source of public revenue. It is generated by public revenue which has been received and appropriated and would not be generated if the legislature had simply spent the money rather than appropriated it to a separate fund. Thus, a statutory dedication of the interest or investment income of a separate fund would not impair the ability of future legislatures to control the spending of general revenues. Rather, it would create a new pool of resources to be used under the statutory guidelines applicable to a particular fund until a future legislature amended or repealed those guidelines . There is no indication in the minutes of the Constitutional Convention that the drafters considered the treatment of separate funds which are endowed in this manner.

*7 A difficulty that arises from the view that the dedicated funds prohibition is not applicable to interest or investment income on separate funds is that it permits steadily increasing amounts of money to be received and used by state departments and agencies without legislative control through the annual budget process. This is precisely the problem posed by the dedication of revenue sources which the drafters sought to avoid. For this reason, while we are not certain about the likely outcome, we doubt that a blanket exception for derivative income would be approved by the courts.

After all, the Alaska Constitution was not written for accountants and economic theorists. Although not expressly addressed by them, the framers were very much aware of the boom-bust cycle of Alaska's economy. In fact, a driving force behind statehood was the desire of Alaskans themselves to be able to manage the income derived from those brief periods-as Prudhoe Bay bears witness-when the state may receive enormous sums of money which are then immediately available for expenditure or placement, by appropriation, into a variety of funds and accounts for various permissible purposes. Depending on the number and size of those funds and accounts, the interest earned on the money placed in them could itself be substantial and would almost certainly be of a magnitude which is far greater than that likely envisioned by the National Committee on Government Accounting in the above-quoted standard. Moreover, the significance of that interest income in properly managing the state's budget leads us to the conclusion that our framers would have considered it to be within the dedicated fund prohibition. As we have indicated, however, the answer to this question is not free from doubt. Consequently, until the question is ruled on by the courts, we will defend legislative action dedicating, by general law, derivative income to the funds which 'earned' them.

In the absence of valid general law dedications of derivative income, we believe there would still be a way to maintain legislative control over revenues through the budgetary process while achieving the efficient accounting organization

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provided by separate funds. This would be if the legislature appropriated to the separate fund for a fixed period the amount of interest or investment income received by that fund. Since each legislature has implicit budgetary authority for a maximum period of only two years, this practice would not impair the ability of future legislatures to dispose of those derivative revenues. Under this line of reasoning, the interest on a loan fund or other separate fund is public revenue which must be transferred to the treasury, unless the fund is authorized by appropriation to retain it for a specific period. Although it may be possible to argue in favor of a longer period, our recommendation is that these appropriations of derivative income to the fund which 'earns' them be made annually, for each fiscal year.

D. Appropriations Stated in General Terms, Rather than Specific Amounts.

*8 The annual budget has traditionally included certain appropriations not stated in specific dollar amounts but rather in terms of money to be received from certain sources during the fiscal year. Such an appropriation, for example, would authorize the risk management division of the Department of Administration to spend the anticipated proceeds from any insurance settlement or judgment arising from the damage or loss of state property. [FN8] This practice ensures effective legislative control over state finances while, at the same time, it provides for budgeting flexibility which is especially useful for programs like risk management, the needs of which are necessarily unpredictable.

We have consistently advised that an appropriation is valid if it states a public purpose, has a source, states or implies a time period, and states an amount which is ascertainable by reference to specified information. Under this view a 'revolving' loan fund could be established and operated, even if both principal and interest payments on loans are considered to be revenues which may not be dedicated, as long as there is an annual appropriation to the fund of all principal and interest payments received by the fund during the fiscal year. The fund would continue to revolve as long as it was included in the budget.

The practice of appropriating to a separate fund an amount to be ascertained by reference to receipts from a specified source during a definite period accommodates the need and desire of each legislature for budgetary flexibility without impairing the ability of future legislatures to control and dispose of public revenues. In fact, since the legislature maintains control of the appropriation by means of the budget, it could be argued that this practice does not even create a dedication in the first place since a true dedication must function to take control away from the legislature. If legislative control is present, then a dedication does not exist.

We do not think that this practice violates the dedication prohibition.

V. APPLICATION OF DEDICATION PROHIBITION TO SPECIFIC FUNDS, ACCOUNTS AND APPROPRIATIONS

We have identified the following categories of funds, accounts, and appropriations which raise dedicated funds questions.

A. Allocation of a revenue source by statute to a fund or account from which it may be withdrawn only for limited purposes by appropriation.

1. Tobacco Tax (School) Fund (AS 43.50.140). This fund existed before ratification of the Alaska Constitution and is therefore authorized to continue under Article IX, Section 7. This tax and dedication have not been changed, but the legislature has imposed an additional tax on cigarettes which is deposited in the general fund. Although we have issued several opinions on the subject, there has been no judicial review, and it remains unclear to what extent the legislature may change the dedication or the underlying revenue source within the limit of 'continuing' the dedication. [FN9]

*9 2. Fish and Game Fund (AS 16.05.100 et seq.). The dedication of proceeds of fishing and hunting licenses to the operation of a Department of Fish and Game is required by federal law for participation in federal programs and is therefore authorized by Article IX, Section 7. See 16 U.S.C. 669. However, as discussed earlier, it is not clear whether a dedication of interest earned on investments in a fund such as that made by AS 16.05.100 is constitutional.

3. Reserves for Capital Outlay (AS [illegible] and Energy Facilities Development (AS 37.05.158). By statute

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there is allocated to each of these accounts a fixed percentage of annual receipts from minerals on state land. Both of these funds appear to be unconstitutional dedications to the extent that they restrict the purpose for which money may be spent. We are informed that the Department of Administration has recorded the amounts to be allocated to each account but has not retained that money for expenditures related to capital outlay or energy facilities development. We also understand that the legislature has not made any appropriations from these two accounts. We suggest that AS 37.05 .157 and AS 37.05.158 be repealed.

4. Renewable Resources Fund (AS 37.11.010-090). As we advised in our 1975 Attorney General Opinion No. 9, this statutory dedication is unconstitutional. We understand that the Department of Administration has followed our advice and has disregarded AS 37.11.010-090. We suggest that these statutes be repealed.

B. Allocation by Statute of Revenue to a Fund or Account From Which it may be Spent or Used Without Further Appropriation.

1. Public Employees Retirement System Fund (AS 39.35)

This fund receives money from employees and employers who participate in the system. State employer contributions are paid to the fund monthly. AS 39.35.280. State employee contributions are statutorily required to be withheld from wages and transferred to the funds. AS 39.39.170. Participating political subdivisions make similar contributions on behalf of their employees. Benefits are paid to members of the retirement systems according to statute AS 39 .35.370 et seq. Expenses of administering the system are also paid from the fund but are specifically required by statute to be included in the annual operating budget. AS 39.35.100(b)(4). The Teacher's Retirement System is accounted for in the same manner.

Although this is clearly a dedication of money received by the state, we believe that it is permissible under the implied exception theory discussed earlier. It is our opinion that there is an implied exception to the dedicated funds prohibition for pension fund contributions. [FN10]

2. International Airport Funds (AS 37.15.420, 430, 440)

The fund established under AS 37.15.420 contains money received from the sale of general obligation bonds for airport improvements and other grants or money provided for the same purpose for which the bonds were authorized. The fund established under AS 37.15.430 contains revenues received by the state from ownership and operation of its airports. The fund established under AS 37.15.440 contains interest earned on money in the section 420 fund and revenues transferred from the section 430 fund for the purpose of redeeming airport revenue bonds.

*10 Although each fund provides for a dedication of state revenue, we believe that they are permissible under the implied exception theory discussed earlier at pp. 5 and 6. It is our opinion that there is an implied exception to the dedicated funds prohibition for revenue derived from bond issues and for revenue derived from facilities constructed with bond proceeds, at least to the extent that it is necessary to satisfy the debt obligation or maintain the facility so that it continues to generate revenues for that purpose. To the extent that revenues are dedicated for purposes which are not related to satisfying the debt or maintaining the facility [FN11], we believe that dedication would violate Article IX, section 7 unless it either existed prior to ratification of our Constitution or is required by federal law. [FN12]

3. Continuing Debt Service Appropriation ([illegible])

This statute purports to create a continuing annual appropriation from the general fund of the amount necessary to pay debt service on all outstanding general obligation bonds. This may be a dedication of revenues for a specific purpose. [FN13] Even if it is, it is our opinion that there would be an implied exception to the dedicated fund prohibition for bond obligations.

4. Rural Electrification Revolving Loan Fund (AS 44.83.361)

This fund received an initial appropriation from which the Alaska Power Authority is authorized to make loans. Principal and interest payments on loans made from the fund are required by law to return to the fund. As we pointed out above, at n. 1, the questions of whether the principal and/or interest payments are revenues which may

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not be dedicated in this manner is now a matter in litigation in a suit filed by the Trustees for Alaska. We will be defending the legislature's action in making both those dedications. In doing so, we will present in more detail a number of the arguments discussed above in support of the legislature's action. In addition, we will discuss the presumption of constitutionality of statutes and the deference due to the administrative and legislative interpretation of the dedicated funds prohibition. As indicated above, we believe that the return of principal payments to a loan fund does not offend the Constitution and that the return of interest payments to the loan fund may be permissible. However, we cannot predict with certainty the position that the court will adopt.

C. Appropriation of an amount from a specific revenue source (e .g., program receipts).
From time to time the legislature, by means of an annual operating budget appropriation, authorizes an agency to spend money that is generated out of one of the agency's programs. The appropriation also sets an upper limit on the amount that can be spent. Although program receipts are clearly state revenues which may not be dedicated, the practice of identifying program receipts as an appropriation source does not in any way limit legislative control over the expenditure of revenues because the legislature maintains control of the appropriation by means of the budget. Therefore, we believe that this practice is not affected by the dedicated funds prohibition.

D. Appropriation of an amount which is ascertainable only by reference to specified information.
*11 Appropriations are regularly made to the risk management division, Department of Administration, of all proceeds during a fiscal year from claims, settlements or judgments arising from damage to or loss of state property. As pointed out above, at 18, this permits the state to repair or replace damaged property without specific appropriations, which would probably be either more or less than the actual property damage in any fiscal year.

The only difference between this and a typical appropriation is in the determination of the amount appropriated. When a fixed amount is appropriated, obligations incurred against it may be honored as long as there is cash available in the treasury. When an appropriation is made for an amount to be received from a certain source during a specific period, obligations may be honored only if a sufficient amount of money has been received from that source and there is cash available in the treasury. However, the amount of the appropriation remains determinable. Consequently, it is our opinion that these kinds of appropriations do not violate the dedicated fund prohibition. [FN14]

E. Other Miscellaneous Dedications

1. Appropriations to the Permanent Fund. Since the Constitution (Article IX, Section 15) specifically authorizes dedications to the Permanent Fund of 'at least' 25 percent of certain revenues, we believe any additional dedication to the fund by statute [FN15] or by appropriation is also permissible.
2. Rainy day account. As 37.05.179 creates a reserve fund to which money is appropriated and authorizes it to be spent for certain necessary emergency operating expenses at some future time. It is our opinion that this practice is permissible under the theory discussed above beginning at p. 12 that money once it is appropriated loses its character as revenue for purposes of the dedicated funds prohibition. A contrary view would severely restrict flexibility in state budgeting and accounting, and we doubt that such a view would be adopted by the courts.

We hope you find this analysis helpful in determining the nature o the problems presented by the dedicated fund prohibition and the various statutory programs which may or may not run afoul of it. We expect to be able to advise you with greater certainty on some of these questions at the conclusion of the pending litigation described above.

Sincerly,
Wilson L. Condon
Attorney General

[1] The legal issues in this litigation are the validity of the deposit of interest and principal payments on loans in a revolving loan fund and of the appropriation to the Power Development Fund of interest to be received on specific

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amounts appropriated to that fund (§ 1 ch. 90, SLA 1981 as reenacted by § 69 ch. 69 SLA, 1981 and amended by § 236 ch. 141, SLA 1982.). Trustees for Alaska, et al. v. State of Alaska and Alaska Power Authority, No. 3AN-492-82 Civ. (Alaska Super., Jan. 21, 1982)

[FN2] Of course, even under the strict view, there would be some kinds of monies received by the state which it could not, for independent legal reasons, deposit into the general fund. These monies would include trust funds, restricted gifts, and funds subject to restrictions by contract.

[FN3] The actual date shown on the memorandum is 'January 4, 1955'. However, considering the timing of the constitutional convention, this was certainly a typographical error.

[FN4] The Public Administration Service prepared a publication entitled 'Alaska Statehood Commission, Constitutional Studies (1955)' at the request of the Alaska Territorial Legislature for use at the constitutional convention. Ch 108 SLA 1949. This publication collected research papers on other state constitutions. Copies were mailed to all delegates, and it was often referred to in the convention proceedings. Alaska Statehood Committee, 'Handbook for Delegates to the Alaska Constitutional Convention' 4 (1955). Referred to in State v. Alex, 646 P.2d 203, 209 n. 5 (Alaska 1982). The memorandum of January 4, 1956 contained comments by the PAS on the proposed draft of the Finance and Taxation article. Constitutional Convention Finance Committee minutes, Jan. 13, 1956.

[FN5] Alex involved a challenge by commercial fishermen to the collection by a private aquaculture association of a special assessment authorized by statute and imposed on the sale of salmon. The court held that the statute improperly delegated the legislature's taxing authority, and that the assessment constituted 'proceeds of a state tax or license' within the meaning of Article IX, section 7. State v. Alex, 646 P.2d at 210, 213.

[FN6] We discuss the dedication of interest earned by revolving loan funds and other separate funds and accounts in the next portion of this opinion which begins below at p. 14.

[FN7] The 'Rainy Day Account,' AS 37.05.179, is an example of such an account.

[FN8] See, for example, Sec. 7 ch. 113, SLA 1978 which provides:

Amounts equivalent to the amounts to be received in settlement of insurance claims for property losses are appropriated from the general fund to the affected agency for the purpose of replacing the facility or service lost as a result of the incident giving rise to the insurance claim.

Under this language, the state could undertake immediate repair or reconstruction of a school, maintenance facility, or other property damaged by fire or other cause covered by insurance without having to wait for actual settlement and payment by the insurer.

[FN9] See Atty. Gen. Op. Nos. 7, 9, and 14; inf. memo (Alaska, March 10, 1966); Atty. Gen. Op. No. 22 (Alaska, June 2, 1978); inf. memo (June 30, 1981).

[FN10] The constitutional provision for state employee retirement systems supports such an implied exception. Alaska Constitution, Article XII, section 7.

[FN11] AS 37.15.430(a) authorizes use of funds dedicated to the International Airport Revenue Fund for six purposes providing, in pertinent part, as follows:

The money in the revenue fund shall only be used for the purpose of paying or securing the payment of the principal of and interest on the bonds and of and on any other revenue bonds issued by authorization of the legislature to provide

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funds to acquire, equip, construct and install additions and improvements to, and extensions of and facilities for, the airports and to be payable out of the revenue fund, the purpose of paying the normal and necessary costs of maintaining and operating the airports and all of the improvements and facilities of them, the purpose of paying the costs of renewals, replacements and extraordinary repairs to the airports and all of the improvements and facilities of them, the purpose of redeeming before their fixed maturies any and all revenue bonds issued for for the purposes of the airports, the purpose of providing funds to acquire, construct and install necessary additions and improvements to and extensions of and facilities for the airports and all of their facilities, and the purpose of providing funds to pay any and all other costs relating to the ownership, use and operation of the airports.

[FN12] A dedication of airport revenues did exist prior to ratification. § 32-3A-15 ACLA 1949. However, it was repealed in 1968 by § 2 ch. 14, SLA 1968. On the other hand, it may be that 49 U.S.C. § 1718, adopted in 1970 and amended in 1982 by Section 511 of the Tax Equity and Fiscal Responsibility Act of 1982, P.L. 97-760, would be interpreted to require dedication of all airport revenues to construction, maintenance and operation of airports.

[FN13] Our uncertainty on this point arises from the fact that the statute does not purport to dedicate a particular revenue source .

[FN14] The pending litigation discussed earlier (Trustees for Alaska v. State, supra) also includes a claim that an appropriation to the Alaska Power Authority of the interest to be received on money separately appropriated to the Power Development Fund violates the dedicated funds prohibition. § 1 ch. 90, SLA 1980, as reenacted by § 69 ch. 92, SLA 1981 and amended by § 236 ch. 141, SLA 1982. The questioned appropriation does not state a specific time period during which the interest is to be accrued. Consideration by the court of this particular question might not occur since, by informal memo dated April 19, 1982, we advised the Treasury Division of the Department of Revenue that the interest must be returned to the general fund because of a specific statutory requirement, AS 44.83.388(b). We are informed that no interest has accrued to the Power Development Fund.

[FN15] In 1980, the legislature increased the percentage dedication applicable to most new mineral leases to 50 percent. AS 37.13.010(a)(2).

1982 Alaska Op. Atty. Gen. No. 13, 1982 WL 43799 (Alaska A.G.)
END OF DOCUMENT

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Attachment B

(Excerpt) from Gordon Harrison's *Alaska's Constitution: A Citizen's Guide*, 4th Edition, pp. 149-151.

> such finding is arbitrary and without any reasonable basis in fact *(DeArmond v. Alaska State Development Corporation,* 376 P.2d 717, 1962).

The Alaska Supreme Court has yet to find a legislative determination of public purpose arbitrary and without any basis in fact. It has upheld the use of revenue bonds by a public corporation and general obligation bonds of a municipality for industrial development purposes *(DeArmond;* and *Wright v. City of Palmer,* 468 P.2d 326, 1970). It has upheld the use of revenue bonds by a public corporation to purchase home mortgages *(Walker v. Alaska State Mortgage Association,* 416 P.2d 245, 1966). It has upheld state grants to homeowners to pay off the mortgages of property lost in the 1964 earthquake *(Suber v. Alaska State Bond Committee,* 414 P.2d 546, 1966). In *Suber* the court said: "It is not essential that the entire community or any particular number of persons should benefit from remedial legislation in order that a public purpose be served. The purpose of the Program is no less public because its benefits may be limited by circumstances to a comparatively small part of the public." The court found no violation of this section by the Anchorage municipal telephone utility competing with private vendors of telephone equipment *(Comtec, Incorporated v. Municipality of Anchorage,* 710 P.2d 1004, 1985).

A complex issue related to the public purpose safeguard of this section of the constitution concerns the activities of incumbent elected public officials in their quest for reelection. A governor running for reelection, for example, is vulnerable to the allegation that official travel and public appearances are campaign-related and not *bona fide* public business. The courts in Alaska have not been confronted with such a suit, and court decisions elsewhere give little encouragement to those contemplating one.

Section 7. Dedicated Funds

> **The proceeds of any state tax or license shall not be dedicated to any special purpose, except as provided in Section 15 of this article or when required by the federal government for state participation in federal programs. This provision shall not prohibit the continuance of any dedication for special purposes existing upon the date of ratification of this section by the people of Alaska.**

Convention delegates prohibited the dedication, or "earmarking," of funds for specific purposes so that the legislature would not tie its own hands in providing for the public needs of the day. The commentary on this section by the constitutional convention committee that drafted it included this observation:

> Even those persons or interests who seek the dedication of revenues for their own projects will admit that the earmarking of taxes or fees for other interests is a fiscal evil. But if allocation is permitted for one interest the denial of it to another is

> difficult, and the more special funds are set up the more difficult it becomes to deny other requests until the point is reached where neither the governor nor the legislature has any real control over the finances of the state.

The phrase "as provided in Section 15 of this article" in the second sentence was added by an amendment in 1976 to allow creation of the Alaska Permanent Fund (see Section 15). Two exceptions to the prohibition against earmarking were allowed by the convention delegates. One exception is a dedicated fund that was already in existence, such as the school fund of AS 43.50.140, which receives proceeds from the tobacco tax for use of school repair and construction. The other exception allows new earmarking when it is required by federal law to participate in a federal program. This is the case with the Fish and Game Fund of AS 16.05.100, to which sport hunting and fishing license fees are dedicated.

A statutory dedication of revenue may not seem too serious because future legislatures are not bound by it. But a statutory dedication is likely to be self-perpetuating. A governor's veto might block a future legislature's effort to repeal the dedication. The flow of money into and out of the fund may be "off-budget" and shielded from annual review by the finance committees. And the dedication fosters the development of a constituency that benefits from the dedication and resists changes to it.

How comprehensive did the convention delegates mean to be with this prohibition against dedicated funds when they adopted the phrase "proceeds of any state tax or license" in the first sentence? Did they mean all state revenue, or did they want to exclude from the prohibition against dedication those state revenues that are not derived from a tax or license? The question became important when Alaska began to receive substantial income from oil lease bonuses and royalties, which are not proceeds from a tax or license. An opinion of the attorney general of an early administration said that oil lease royalty income was outside the prohibition against earmarking in this section. A later opinion reversed this interpretation and held that the historical record of the convention made it clear that the delegates intended to bar the dedication of all state revenues, whether or not they derive strictly from a tax or license (1975 Opinion Attorney General No. 9, May 2). Consequently, a constitutional amendment was required to create the Alaska Permanent Fund.

The courts have not ruled on the matter, but it is generally understood that the authors of the constitution intended certain exceptions to the prohibition against dedicated revenues, such as pension contributions, proceeds from bond issues, revolving fund receipts and sinking fund receipts (1982 Informal Opinion Attorney General, November 30). Indeed, beyond these practical exceptions to the prohibition on the dedication of revenue, it must be noted that such dedications have a legitimate role in state financial management, despite the public policy problems that caused them to be prohibited in the Alaska Constitution. Dedication allows the benefits of a public program to be directly linked to those who pay for them. Revenues are dedicated in Alaska today in a manner that makes the practice constitutionally acceptable, namely that the pertinent statutes say that the legislature "may" appropriate the money for its designated purpose. It is understood that the legislature will do so, and

failure to do so will abrogate a political agreement. An example of this practice is the fisheries enhancement tax levied under AS 43.76.010. This is a tax on salmon fishermen intended to support salmon hatcheries. The tax receipts are deposited to the general fund, and "the legislature may make appropriations to the Department of Community and Economic Development for the purpose of providing financing to qualified [regional aquaculture] associations" (AS 43.76.025).

Enterprise funds are also examples of de facto dedication of revenues, such as the Marine Highway System Fund, which directs receipts from the sale of tickets on the ferry system to the support of that system. The constitutionality of this fund was challenged in court and upheld because the language of its authorizing statutes is permissive and does not restrict the authority of the legislature to appropriate money from the fund (although parts of the act creating this fund that restricted the authority of the executive branch to request appropriations from the fund were found to violate the prohibition of this section; see *Sonneman v. Hickel*, 836 P.2d 936, 1992).

Section 8. State Debt

> **No state debt shall be contracted unless authorized by law for capital improvements or unless authorized by law for housing loans for veterans, and ratified by a majority of the qualified voters of the State who vote on the question. The State may, as provided by law and without ratification, contract debt for the purpose of repelling invasion, suppressing insurrection, defending the State in war, meeting natural disasters, or redeeming indebtedness outstanding at the time this constitution becomes effective.**

Limitations on the ability of states to incur debt are a common feature of fiscal articles of state constitutions. They are the consequence of well-publicized defaults by some of the older states on bonds issued for overly ambitious public works projects and of scandals arising from corrupt public construction and financing schemes. Some constitutional limitations restrict general debt to specific purposes (only road construction, for example); some limit the amount of debt that may be issued by establishing a ceiling on total allowable annual debt payments (usually expressed as maximum percentage of general fund revenue); some require a supermajority vote of the legislature to contract debt; and others require a referendum for the electorate to approve state indebtedness. The Territorial Organic Act of 1912 originally prohibited the territory of Alaska and its municipalities from acquiring any kind of debt without congressional approval, but this strictures was removed in 1935.

In 1982 a constitutional amendment was ratified that inserted "or unless authorized by law for housing loans for veterans." This allowed the state to incur tax-exempt general obligation debt for veterans' housing loans. The amendment was a response to a 1980 federal law that prevented states or public corporations such as the Alaska Housing Finance Corporation from selling housing bonds in the tax-exempt market, but allowed an exception for general obligation bonds for veterans' housing.

HB

278

<target><bill>HB 278</bill><subject>HB 278</subject><comm>HENE26</comm></target>

Representative Chris Tuck

Alaska State Legislature

District 29 - Representing Dimond Estates, Foxridge, Taku, Southwood Manor, Campbell, and Independence Park

MEMORANDUM

Date: February 3, 2010

To: Representative Charisse Millett, Co-Chair
Representative Bryce Edgmon, Co-Chair
House Special Committee on Energy

From: Representative Chris Tuck

RE: Hearing Request for HB 278 (Home Energy Voucher)

I respectfully request that House Bill 278 (Home Energy Voucher) be scheduled for a hearing in the House Energy Committee.

HB 278 will make it easier for more Alaskans to live more comfortably and save money on their energy bills by participating in the state's home energy efficiency program. The bill will also help stretch State energy subsidies, by ensuring that heating dollars don't literally go out the window.

The following items are included in this packet:

- HB 287;
- Sponsor statement;
- Sectional;
- Affected statute; and
- Background.

Please contact my staffer, Aurah Landau, at 465-2095, aurah_landau@legis.state.ak.us with any questions.

Thank you for your consideration.

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SPONSOR STATEMENT

House Bill 278 – Home Energy Voucher

The existing home energy rebate program is successfully helping some Alaskan families improve their homes and save money on energy bills. Many homeowners, however, are stuck between earning too much to qualify for free weatherization and not having cash available to pay for energy efficiency work up front.

HB 278 will make it easier for more Alaskans to participate in the state's energy efficiency rebate program.

Right now, homeowners spend their own funds up front to pay for energy efficiency work. Up to $10,000 may be reimbursed by the state, as certified by the final energy rating for payment. HB 278 would simply allow the homeowner to get a voucher which says the state is good for that same amount of money. The homeowner can use that voucher to work with contractors and supply shops who want to accept the voucher, to get energy efficiency work done without needing cash in hand.

HB278:

- Adds a voucher option to the current program which will assure that state payment is approved as soon as efficiency improvement requirements are met.
- Does not change the amount of payments, or the state's level of participation in the home energy efficiency program.
- Grants Alaska Housing and Finance Corporation discretion to administer the home energy voucher, just as it does with the current energy rebate program.

Many families have less discretionary cash on hand because of the tough economy, so HB 278 is designed to put energy efficiency opportunities at their fingertips. The payback is huge for Alaskans who can reduce their energy costs and live in more comfortable homes. HB 278 will also help stretch energy subsidies, by ensuring that heating dollars don't literally go out the window.

The home energy rebate program is also keeping Alaska's energy efficiency trades jobs growing. For example, orders for doors, windows and insulation are filling construction supply shops. Alaskan plumbers, electricians, heating suppliers, drywallers, and other contractors are keeping busy year-round with the work coming from residential home energy improvements.

Contact: Aurah Landau, Legislative Aide to Representative Chris Tuck, (907) 465-2095

Representative Chris Tuck

Alaska State Legislature

District 29 - Representing Dimond Estates, Foxridge, Taku, Southwood Manor, Campbell, and Independence Park

HB 278 – HOME ENERGY VOUCHER

SECTIONAL

Section 1 grants Alaska Housing and Finance Corporation the authority to offer home energy efficiency funds via a voucher mechanism.

Page 1, Lines 8-11

Codify the existing home energy rebate program

Page 1, Lines 13-14 and Page 2, Lines 1-4

Add the voucher capability, giving Alaska Housing and Finance Corporation discretion to develop implementing regulations that grant the voucher in a manner that ensures energy improvements are completed and the voucher is fulfilled by the correct parties.

Year-Round
Phone (907) 269-0240
Toll-free (866) 465-2095
Rep.Chris.Tuck@legis.state.ak.us

May-December
716 W. 4th Ave. Rm 370
Anchorage, AK 99501
Fax (907) 269-0242

January-April
State Capitol Bldg. Rm 426
Juneau, AK 99801
Fax (907) 465-3810

Representative Chris Tuck

Alaska State Legislature

District 29 - Representing Dimond Estates, Foxridge, Taku, Southwood Manor, Campbell, and Independence Park

HB 278 – HOME ENERGY VOUCHER

QUESTIONS & ANSWERS

Is there really a need for a voucher system?

- Anecdotally from working with constituents, we know that many homeowners have been hit pretty hard by the 2009 economic collapse. The families make too much too qualify for a low-income state weatherization program, but are dealing with high credit card debt, receding retirement accounts and investments, and, at times, negative equity in their homes.
- Those circumstances can make it pretty tough to pay several thousand dollars up front for efficiency upgrades, even with a state reimbursement likely down the road. Some families are going into high credit card debt and trying to keep afloat until they get reimbursed. That puts people in a dangerous situation. The people who need energy upgrades the most are ones already pinching dimes.
- AHFC is surveying people enrolled in the rebate program, and found that about 1/5 of the homeowners who haven't completed their energy work aren't doing it because they don't have the funds.
- If we extrapolate that out to the 28,000 people who have signed up for the energy rating, we know that we already have about 1620 homeowners who could use the voucher program.
- That doesn't even include the people who haven't applied for the rebate because they don't think they could squeeze a few thousand dollars out of their household budget.

Don't existing programs cover the need?

- No. Weatherization is income limited. Rebate requires people to have money in their pocket, which many folks don't have. The loan program is a second mortgage, and only about 100 people have done it around Alaska. It's understandable that many families might not want to take out a second mortgage, go through the paper work, have the impact to their credit rating, and more to just access a few thousand dollars for 18 months.

How does the home energy efficiency program work right now?

- The homeowner requests an energy rating by signing-up on the AHFC energy rating list. An energy rater will contact the homeowner and perform an As-Is energy rating of the

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home. The rating includes an Improvement Options Report listing specific improvement measures to increase the home's energy efficiency.

- The homeowner pays the rater and submits the completed rating reimbursement form (provided by the rater), with the required documentation, to AHFC, which will reimburse the homeowner up to $325 of the As-Is rating cost. AHFC will set aside funds to cover up to $10,000 for the pending energy-efficiency rebate.
- The homeowner then completes work on measures chosen from the Improvement Options Report within 18 months, and then requests a Post-Improvement rating by signing-up on the AHFC energy rating list.
- An energy rater will contact the homeowner to perform the rating. The homeowner pays the energy rater for the Post-Improvement rating and sends the required rebate documentation to AHFC.
- The homeowner receives a rebate from AHFC for some of the cost of the improvements, including up to $175 for the Post-Improvement rating cost. The amount of the rebate is determined by the points and step increase in the home's energy rating, not to exceed actual expenditures supported.

How would HB 278 change things?

The only change is in giving a voucher to the homeowner which says the state is good for whatever amount of money is certified by the final energy rating for reimbursement. The homeowner can use that voucher to work with contractors and supply shops who want to accept the voucher, to get the work done without needing cash in hand.

How would a voucher system work?

The statute authorizing the energy rebate program is very general, and AHFC has done a great job developing procedures that implement the program to make it accessible and accountable. AHFC would do the same with this concept.

Here's an example of one of many ways that it could work: Once the final rating is done to certify energy gains and the amount available on the voucher, both the contractor/supply house and the homeowner have to sign off and the contractor/supply house gets the funds.

Who qualifies for the home energy rebate right now?

- Individuals who are not in the Weatherization Program.
- Owner-occupied, year-round residences.
- Homeowners pay upfront & are then rebated for making eligible improvements they choose.

- "Before & After" energy ratings required.
- Individuals may not participate in both the Weatherization Program and Home Energy Rebate Program.

Does the State have any liability for energy efficiency work that costs more than the final audit authorizes for voucher fulfillment?

- No. The State maintains the same role it currently has, with the homeowner taking full responsibility for making sound financial decisions on how to maximize energy improvements for the funds available.
- The voucher should certainly include language that spells out roles and responsibilities in a way that's legally clear about liability.

What happens with expenses above those paid by the voucher program?

- Homeowners are responsible for all expenses not reimbursed by AHFC.
- Many homeowners are currently doing more work than is covered by the rebate. Contractors and supply shops will continue to choose which projects to accept. Those are their business decisions, and they're best equipped to make them.
- Alaska House and Finance Corporation is expert at finding creative ways to ensure its programs are successful. As with the existing voucher program, AHFC will work with interested parties to implement a voucher program in the best manner possible.

Will contractors want to work with voucher clients?

- That's up for each individual contractor to decide.
- Some contractors and supply yards would be fine with waiting a few extra days or months. Some wouldn't. That's a business decision that each company is best suited to make on their own.
- We definitely don't want to tell folks how to run their businesses!

How long would it take to get the voucher fulfilled?

Currently, homeowners are reimbursed within 2-8 weeks of filing for the rebate. AHFC would certainly work to keep a voucher fulfillment timeline tight. Contractors or construction supply shops could include a voucher payment timeline in their contracts with homeowners, just as they do in any other contract.

Can we limit the types of contractors who can participate in the voucher program?

- We want to give homeowners the responsibility and latitude to get the energy work done in the way that suits them best. Some homeowners will choose to the work themselves, and use the voucher to cover the cost of supplies. Others will choose contractors who best meet their needs, based on their individual situations.
- In addition, we want to give Alaska Housing and Finance the ability to administer a voucher program in the best way possible.

Do lumber yards and contractors have to become purchasing agents with the state or otherwise do lots of paperwork to get funds, if AHFC decides to set up the voucher program so that they are the ones getting the voucher fulfilled?

- No. For the state's receipt-based refund, including ours here in the Legislature for office accounts and the home energy efficiency program, all receipts are considered valid for payment to whomever they are owed to -- as long as the receipts are included in list of qualified expenses.
- The beauty of the home energy program is that the as-is audit provides a very tight list of what is considered qualified expenses. So, the voucher could be technically be fulfilled by anybody who turns in receipts associated with a particular home project.

How much funding is available for home energy efficiency?

- The Legislature appropriates funds for the home energy efficiency program every year.
- When a homeowner gets the energy rating, $10,000 is encumbered for them. The average rebate to homeowners is roughly $6,000. Once the homeowner completes the work and gets the rebate, then the unspent money goes back into the pool for the program.
- Right now, all current funds are encumbered so AHFC is only dispatching raters when funds become available.

FISCAL NOTE

STATE OF ALASKA
2010 LEGISLATIVE SESSION

Fiscal Note Number:
Bill Version: **HB 278**
() Publish Date:

Identifier (file name): HB278-REV-AHFC-3-8-10
Title: ENERGY EFFICIENT HOME GRANT FUND
Sponsor: Representative Tuck
Requester: (H) Energy

Dept. Affected: Revenue
RDU: Alaska Housing Finance Corp.
Component: Operations
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	486.0		486.0	486.0	486.0	486.0	486.0
Travel	40.0		40.0	40.0	40.0	40.0	40.0
Contractual							
Supplies	5.0		5.0	5.0	5.0	5.0	5.0
Equipment	5.0		5.0	5.0	5.0	5.0	5.0
Land & Structures							
Grants & Claims							
Miscellaneous							
TOTAL OPERATING	**536.0**	**0.0**	**536.0**	**536.0**	**536.0**	**536.0**	**536.0**
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							
1103 AHFC Receipts	536.0		536.0	536.0	536.0	536.0	536.0
TOTAL	**536.0**	**0.0**	**536.0**	**536.0**	**536.0**	**536.0**	**536.0**

Estimate of any current year (FY2010) cost:

POSITIONS

Full-time	**7.0**		7	7	7	7	7
Part-time							
Temporary							

ANALYSIS: *(Attach a separate page if necessary)*

House Bill 278 would establish a voucher system in the Alaska Housing Finance Corporation's current energy efficient home energy rebate program.

The best estimate by the Corporation is that implementing a voucher system between the AHFC, the homeowner and a contractor would require the hiring of four Grants Administrators and three Administrative Assistants. Including travel, equipment and supplies, this totals $536,000.

Prepared by: Bryan Butcher, Director, Governmental Relations/Public Affairs — Phone 330-8445
Division: Alaska Housing Finance Corporation — Date/Time 03-08-10; 2:28pm
Approved by: Ginger Blaisdell, Director — Date 03-08-10; 2:30pm
Administrative Services Division

(Revised 11/6/2009 OMB)

2766

FISCAL NOTE

STATE OF ALASKA
2010 LEGISLATIVE SESSION

Fiscal Note Number:
Bill Version: **HB 278**
() Publish Date:

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Requester: (H) Energy
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Expenditures/Revenues (Thousands of Dollars)

Note: Amounts do not include inflation unless otherwise noted below.

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Travel	40.0		40.0	40.0	40.0	40.0	40.0
Contractual							
Supplies	5.0		5.0	5.0	5.0	5.0	5.0
Equipment	5.0		5.0	5.0	5.0	5.0	5.0
Land & Structures							
Grants & Claims							
Miscellaneous							
TOTAL OPERATING	**536.0**	**0.0**	**536.0**	**536.0**	**536.0**	**536.0**	**536.0**
CAPITAL EXPENDITURES							
CHANGE IN REVENUES ( )							

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Estimate of any current year (FY2010) cost:

POSITIONS

Full-time	**7.0**		7	7	7	7	7
Part-time							
Temporary							

ANALYSIS: *(Attach a separate page if necessary)*

House Bill 278 would establish a voucher system in the Alaska Housing Finance Corporation's current energy efficient home energy rebate program.

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Prepared by: Bryan Butcher, Director, Governmental Relations/Public Affairs — Phone 330-8445
Division: Alaska Housing Finance Corporation — Date/Time 03-08-10; 2:28pm
Approved by: Ginger Blaisdell, Director — Date 03-08-10; 2:30pm
Administrative Services Division

(Revised 11/6/2009 OMB)

KAWERAK, INC. • P.O. Box 948 • Nome, AK 99762

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January 25, 2010

The Honorable Representative Neal Foster
Alaska State Legislature
State Capitol Building, Room 410
Juneau, AK 99801

RE: HB 278

Dear Representative Foster:

Kawerak, Incorporated is the regional Native non-profit organization providing services to 16 communities in the Bering Strait Region. One of the services Kawerak provides is to help each community identify their top priorities. The vast majority of these communities have identified "Housing" as one of their top three priorities. While the Alaska Housing Finance Corporation (AHFC) provides many services to rural Alaska, there are some programs that could be made more accessible.

House Bill Number 278, if passed, would be of benefit to the residents of this region. As you know, many people who would otherwise qualify for AHFC's rebate program are not in a financial position to afford the up to $10,000 in construction costs participate in the program. These are people who typically make too much money to qualify for the low-income programs afforded by AHFC, yet are also not well off enough to afford the initial costs of retrofitting their homes – currently a requirement under the rebate program. We believe that a voucher system would increase the number of retrofitted homes in our region. Kawerak is thus in support of HB 278 and any other initiatives to make the AHFC programs more accessible. We also request that the Alaska State Legislature consider the lack of certified energy raters in our villages and seek a solution to rectify the situation since certified energy ratings are needed to participate in at least two of the AHFC programs.

Thank you for your work to increase the accessibility of the AHFC rebate program. Please keep us informed about the progress of this bill, and let us know if there are any other steps that Kawerak can take to support your efforts.

Sincerely,

KAWERAK, INCORPORATED

Melanie Edwards

Melanie Edwards,
Executive Vice President

AARP Alaska
3601 C Street
Suite 1420
Anchorage, AK 99503

T 1-866-227-7447
F 907-341-2270
TTY 1-877-434-7598
www.aarp.org/ak

March 8, 2010

The Honorable Bryce Edgmon, Co-Chair
House Energy Committee
Alaska State Capitol, Room 416
Juneau, AK 99801-1182

The Honorable Charisse Millet, Co-Chair
House Energy Committee
Alaska State Capitol, Room 412
Juneau, AK 99801-1182

RE: HB 278 (Tuck, Munoz, Peterson, Herron, Joule, Foster)--Support

Dear Co-Chairs Edgmon and Millet:

On behalf of the members of AARP in Alaska, we encourage you and your colleagues on the House Energy Committee to support HB 278, co-authored by Representatives Tuck, Munoz, Peterson, Herron, Joule, and Foster and co-sponsored by Representative Gara.

When the Legislature passed the home energy efficiency program it was a historic effort to enable homes throughout Alaska to be weatherized. Certainly assistance with utility bills is welcome. However, weatherization that permanently reduces those bills is even more desirable and good public policy.

However, there can be significant up-front costs that the homeowner pays before they are eligible for the rebate. There can also be a significant time delay between when the homeowner first makes his/her payment and the house is re-examined to find out if they have met the energy saving goals for the rebate.

HB 278 addresses that issue. We have many Alaskans who are just getting by financially. Their houses need to be weatherized and, as a result, their monthly housing costs will decline. For those Alaskans who simply don't have the capability of paying upfront, HB 278 will provide another option.

AARP requests an "AYE" vote on HB 278.

Should you have any questions about our position, please feel free to contact me (586-3637) or Patrick Luby, AARP Advocacy Director (907-762-3314).

Thank you for your consideration.

Sincerely,

Marie Darlin

Marie Darlin, Coordinator
AARP Capital City Task Force
415 Willoughby Avenue, Apt. 506
Juneau, AK 99801
586-3637 (voice)
463-3580 (fax)

CC: Representative Nancy Dahlstrom
Representative Kyle Johansen
Representative Jay Ramras
Representative Pete Peterson
Representative Chris Tuck
Representative Cathy Munoz
Representative Bob Herron
Representative Reggie Joule
Representative Neal Foster

International Mechanical, Inc.

646 E. DOWLING RD. ANCHORAGE, ALASKA 99518
(907) 563-3044 FAX (907) 561-7689

March 9, 2010

The Honorable Bryce Edgmon, Co-Chair
House Energy Committee
Alaska State Capitol, Room 416
Juneau, AK 99801

The Honorable Charisse Millett, Co-Chair
House Energy Committee
Alaska State Capitol, Room 412
Juneau, AK 99801

Dear Co-Chairs Edgmon and Millett,

I am writing you because my business supports HB 278.

We do many weatherization jobs, about thirty each year, but perform relatively few home energy efficiency rebate jobs. I believe that's because people are having a hard time affording to pay for the work while waiting for a rebate.

HB 278 will let contractors secure more work by opening up the option for more families to do energy upgrades. It will help our business and keep our employees working, and help families.

Please support our jobs and our industry and pass HB 278.

Thank you in advance for sharing my business support with other committee members.

Warm Regards,

Kevin Carey: President

Aurah Landau

From: hilaryh52@gci.net on behalf of Hilary Hardwick [hilaryh52@gci.net]
Sent: Saturday, March 06, 2010 5:14 PM
To: Rep. Chris Tuck
Subject: Home Energy Bill

Follow Up Flag: Follow up
Flag Status: Flagged

Categories: NonConstituent

Dear Rep. Tuck,

Please pass this bill. I am one of those would like to weatherize my home and I know it would make a huge change but I don't have enough extra income to pay for the up front costs - at least not within the timelines. It's taken me 4 years to save enough to get new windows - I have the original windows from 1970 and they are very leaky. I urge you to support this bill.

Thank you for your consideration.

Hilary Hardwick, Anchorage

Aurah Landau

[redacted]m: Hugh Brown [lobbypublic@yahoo.com]
[redacted]t: Friday, March 05, 2010 11:42 AM
To: Rep. Chris Tuck
Subject: Keep Up the Good Work.

I support the energy efficiency bill. Keep up the good work.

Hugh Brown III
907-884-9968
lobbypublic@yahoo.com

Abbott Loop Community Council

7001 Oakwood Dr.
Anchorage, AK 99507

Phone: WK 562-7421 HM 349-1736
Fax: 907-562-1366

Facsimile

To: Members of House Special Committee on Energy
@Fax: 907-465-3810
From: A.L. Tamagni, Sr., President
Date: 03/09/2010
Re: HB 278
Pages: 1, including this

This is to advise the Abbott Loop Community supports this bill as it would be beneficial for a number of families in our area. It would streamline the process and benefit those who cannot afford to front the money up front.

March 9, 2010

Members of the Committee:

I urge your support for House Bill 278, the Home Energy Voucher program.

This proposal will help many homeowners like me, who earn too much to qualify for the existing free weatherization program, but don't have available funds to pay for energy efficiency upgrades. Because of challenging economic times, many homeowners are unable to pay for upgrades up front and are currently excluded from the process. Offering vouchers will extend the benefits of the program to many more Alaskans, increasing both individual quality of life and the positive impacts of responsible energy use on the environment.

The weatherization program is an effective and worthwhile program. The measure has already helped thousands of Alaskans upgrade the energy efficiency of their homes. It has helped spur job growth in related trades industries as businesses work to fill orders. It is moving Alaska into the forefront of cutting-edge environmentally conscious states. By extending all of these benefits to more Alaskans, House Bill 278 makes a good thing better.

Respectfully,

Cindy Lelake

Anchorage

February 9th, 2010

Co-chairs
Honorable Representative Bryce Edgmon
Honrable Representative Charisse Millett

I would like to comment on the need for hb278

While the initial burst of applicants for home energy improvements has greatly subsided, I would like to share this observation. The most organized and "together" and in some cases, yes, "greediest" of Alaksans were the first applicants. Those who actually need this the most, who are less organized, who are less educated on the benefits of energy conservation, and especially those who are less savvy about navigating any beaurocratic process, and less savvy or less capable of navigating bank loans are still living in homes with the perhaps the greatest need for improvement.

What is the greatest impediment to those who have not participated in the process? I believe it is the requirement that they first make the improvement out of their own pocket before they are reimbursed. That requirement limits the program to people who have the cash available, and not many people have 10k kicking around unencumbered, or adds the additional step of securing a loan, which again knocks out a good number of people who are in greatest need of this program.

If you choose to move this bill forward, which I hope you do, you will now be serving those who are the hardest to reach, many of whom have the houses in greatest need of help. Additionally let me add this comment. Our state has a long history of aiding people who have very high heating costs. In stead of giving people heating oil assistance, this is a more cost effective way to reduce their heating costs. This program will spend money in Alaska, on things that will STAY in Alaska. If the owners of the improved houses leave the state, they sure cannot take the improvements they puchased for the house with them.

thanks for your kind consideration

please distribute this letter to your committee members

Thanks again

Bill Rotecki
359 Bunchberry Lane
Ketchikan, Ak 99901
billrotecki@gmail.com
cell 907-617-0409
home 907-247-8189

Bill Rotecki
Rainforest Construction LLC
office 907-225-5078
fax 907-247-6357
cell 907-617-0409
home 907-247-8189

Aurah Landau

From: Kendra Kloster
Sent: Monday, March 08, 2010 2:37 PM
To: Aurah Landau
Subject: FW: HB278 follow up

Follow Up Flag: Follow up
Flag Status: Flagged

FYI – email from Judy Mason at Tlingit & Haida Regional Housing Authority.

Kendra Kloster
Chief of Staff
Rep. Cathy Muñoz
907-465-4712

From: Judy Mason [mailto:jmason@thrha.org]
Sent: Monday, March 08, 2010 2:29 PM
To: Kendra Kloster
Cc: Craig Moore
Subject: RE: HB278 follow up

Thank you. The voucher program won't affect our program or clients since it basically goes hand-in-hand with the rebate program. However we do support the voucher program as it will assist Southeast families that don't qualify for our program. We're looking forward to the new AHFC weatherization rules – hopefully any day now. Thanks! Judy

---

From: Kendra Kloster [mailto:Kendra_Kloster@legis.state.ak.us]
Sent: Monday, March 08, 2010 1:50 PM
To: Judy Mason
Subject: HB278 follow up

Hi Judy,

I was just following up on the conversation we had last week regarding the voucher program, HB278, and wondering if there was any feedback at the housing authority. I still have a note to check in on the "road remote" and will be in touch with you soon regarding that.

Thanks,

Kendra Kloster
Chief of Staff
Rep. Cathy Muñoz
907-465-4712

International Mechanical, Inc.

646 E. DOWLING RD. ANCHORAGE, ALASKA 99518
(907) 563-3044 FAX (907) 561-7689

March 9, 2010

The Honorable Bryce Edgmon, Co-Chair
House Energy Committee
Alaska State Capitol, Room 416
Juneau, AK 99801

The Honorable Charisse Millett, Co-Chair
House Energy Committee
Alaska State Capitol, Room 412
Juneau, AK 99801

Dear Co-Chairs Edgmon and Millett,

I am writing you because my business supports HB 278.

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HB 278 will let contractors secure more work by opening up the option for more families to do energy upgrades. It will help our business and keep our employees working, and help families.

Please support our jobs and our industry and pass HB 278.

Thank you in advance for sharing my business support with other committee members.

Warm Regards,

Kevin Carey: President

Aurah Landau

From: Rebecca Goodrich [scribing@hotmail.com]
Sent: Sunday, March 07, 2010 8:28 PM
To: Rep. Chris Tuck
Subject: RE: Message from Rep. Tuck -- Relief for Anchorage Ratepayers

Dear Rep. Tuck:

I like this voucher idea. Good work!

Thanks,

Rebecca A. Goodrich
Anchorage, Alaska
GHOSTWRITERS
Manuscripts, Editing, Publishing
Ideas rendered with clarity and strength.
907.333.9638 907.243.0159
scribing@hotmail.com

Sample Home Energy Voucher Language for HB 278

Pre-Work Authorization

Alaska Housing and Finance Corporation guarantees up to $____ for the home energy efficiency work to be completed at the property located at _____ and owned by _____.

The actual amount of payment by Alaska Housing Finance Corporation is determined by the increase in home energy ratings by comparing the pre and post-improvement energy audits, and capped at $10,000.

If the amount of the expenditures for the improvements exceeds the amount of the reimbursement authorized by AHFC, the amount owing shall be the sole responsibility of the homeowner.

In any case, the vendor's sole remedy is to pursue payment from the homeowner.

The homeowner and vendor acknowledge their responsibilities and duties before work is begun by signing below.

_____ Homeowner Name	_____ Homeowner signature	_____ Homeowner Address
_____ Vendor 1 Name	_____ Vendor 1 signature	_____ Vendor 1 Address
_____ Vendor 2 Name	_____ Vendor 2 signature	_____ Vendor 2 Address
_____ Vendor 3 Name	_____ Vendor 3 signature	_____ Vendor 3 Address
_____ Vendor 4 Name	_____ Vendor 4 signature	_____ Vendor 4 Address

Post-Work Payment Authorization

Alaska Housing and Finance Corporation will pay $____ for the home energy efficiency work completed at the property located at _____ and owned by _____.

The actual amount of payment by Alaska Housing Finance Corporation is determined by the increase in home energy ratings by comparing the pre and post-improvement energy audits, and capped at $10,000.

If the amount of the expenditures for the improvements exceeds the amount of the reimbursement authorized by AHFC, the amount owing shall be the sole responsibility of the homeowner. The vendor's sole remedy will be to pursue payment from the homeowner.

The homeowner will indicate amount of payment to each vendor and collect signatures within five business days of receiving the post-improvement rating. The homeowner will submit this form to AHFC, along with required supporting documentation within 10 business days of receiving the post-improvement rating.

Alaska Housing and Finance will send payment to each entity listed below.

Homeowner Name	Homeowner signature	Homeowner Voucher Value	Homeowner Address
Vendor 1 Name	Vendor 1 signature	Vendor 1 Voucher Value	Vendor 1 Address
Vendor 2 Name	Vendor 2 signature	Vendor 2 Voucher Value	Vendor 2 Address
Vendor 3 Name	Vendor 3 signature	Vendor 3 Voucher Value	Vendor 3 Address
Vendor 4 Name	Vendor 4 signature	Vendor 4 Voucher Value	Vendor 4 Address

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, effective June 26, 1992, and
ary 1, 1992. AS 44.47.370 —
pealed under § 140, ch. 4,
1, 1992. For the law in
through June 30, 1992,
in the Temporary and Special

. — For transitional provisions
fer of the former housing pro-

the Department of Community and Regional
the Alaska Housing Finance Corporation,
ch. 4, FSSLA 1992 in the Temporary and
cts.

istrative Code. — For AHFC rural hous-
15 AAC 152.

Legislative history reports. — For governor's transmittal letter for ch. 134, SLA 2004 (SB 274), proposing amendments to various housing assistance programs described in this article, see 2004 Senate Journal 1985 - 1986.

. 18.56.400. Powers of corporation related to housing assistance. The board

adopt regulations in accordance with AS 18.56.088 to implement AS 18.56.400 — .600;

make and execute agreements, contracts, and other instruments necessary or nient in the exercise of the powers and functions granted under AS 18.56.400 — .600;

) purchase or participate in the purchase of small community housing mortgage under AS 18.56.400 — 18.56.600;

) purchase or participate in the purchase of loans for building materials for small munity housing under AS 18.56.400 — 18.56.600;

) procure insurance against loss in connection with the corporation's functions under 18.56.400 — 18.56.600;

) acquire real or personal property, or an interest in real or personal property, by chase, transfer, or foreclosure, when the acquisition is necessary or appropriate to tect a loan in which the corporation has an interest; sell, transfer and convey that perty to a buyer; and, if the sale, transfer or conveyance cannot be effected with sonable promptness or at a reasonable price, rent or lease the property to a tenant nding the sale, transfer or conveyance;

(7) do all acts necessary, convenient, or desirable to carry out the powers expressly nted or necessarily implied in AS 18.56.400 — 18.56.600;

(8) originate and service direct loans made to qualified buyers under AS 18.56.400 — 18.56.600. (§ 100 ch 4 FSSLA 1992)

Sec. 18.56.410. Alaska energy efficient home grant fund. (a) There is established in the corporation the Alaska energy efficient home grant fund consisting of money appropriated to it by the legislature and deposited in it by the corporation. The corporation shall administer the Alaska energy efficient home grant fund under the provisions of this section.

(b) Subject to appropriation, the corporation may grant funds from the Alaska energy efficient home grant fund to agencies of the state or federal government, individuals, or businesses that retrofit existing single family dwellings or build new single family dwellings that meet criteria adopted by the corporation.

(c) The corporation shall adopt guidelines and procedures for the fund. (§ 100 ch 4 FSSLA 1992; am § 2 ch 73 SLA 2008)

Effect of amendments. — The 2008 amendment, effective September 2, 2008, deleted "after consultation with the board of directors of the Alaska craftsman home program" at the end of subsection (c).

Sec. 18.56.420. Housing assistance loan program. (a) There is created in the corporation the housing assistance loan program. The corporation shall provide money to originate, purchase, participate in the purchase of, or refinance

(1) small community housing mortgage loans;

(2) loans made for building materials for small community housing;

(3) loans made for renovations or improvements to small community housing; and

Energy

Homeowners are passing on energy rebates

Rena Delbridge
Dec 23, 2009

Massive initial interest in a state program to help people make their homes more energy efficient could be tapering off, even as some areas of the state face the likelihood of increased home heating costs in coming years.

As of Dec. 16, nearly 19,000 Alaskans have started the multi-step Home Energy Rebate Program funded by Gov. Sarah Palin and the Legislature and managed by the Alaska Housing Finance Corp.

They've paid for certified technicians to rate their current home energy efficiency and recommend upgrades that would be eligible for a state refund, up to $10,000. But of about 200 people who had pre-audits done and hit the end of an 18-month deadline, about 152 followed through with improvements and filed their claims. Thousands more started the program but haven't wrapped it up, and the window to do so is closing daily for the flood of folks who jumped at the chance.

If this trend continues during the next several months, the program will end up with a financial cushion of funds set aside for improvements that weren't cashed in on. But it's leaving some to wonder: In a state with some of the highest energy costs in the nation, where homeowners stood to benefit significantly -- exactly what happened?

The home energy rebate program is designed for Alaskans who don't qualify for low-income weatherization assistance. Homeowners start with a pre-rating that also generates a report specifying fixes and their expected efficiency upgrades. Each upgrade has a point value attached, based on how much improvement is likely.

The homeowner, who then has 18 months in which to make improvements, shoulders the upfront repair costs -- labor and materials if done by a contractor, or just materials if done by the homeowner. A post-rating reveals how much energy efficiency was gained, and the points boost the home rating on the scale. The state reimburses costs up to $10,000, depending on how many efficiency levels are gained.

Legislators pushed $100 million to the program during the 2008 session, as oil prices continued an upward spike that would peak at an unprecedented $140 per barrel that summer. While the state treasury was flush with the upturn, Alaskans faced near-catastrophic increases in home heating fuel costs, already the highest in the

BY THE NUMBERS:

As of Dec. 16, here's how the Alaska Housing Finance Corp.'s Home Energy Rebate program is shaping up:

-- Of $160 million allocated to the program, $23.6 million has been spent.

-- Another $139 million has been encumbered, or set aside, to cover homeowners who have had their houses pre-rated, but need to complete upgrades and apply for rebates.

-- So far, 2,313 rebates have been paid out, at an average of $6,114 each.

About 1,282 people are on a waiting list to have their homes pre-rated so they can start the program.

-- The average annual energy savings for people who made upgrades is $1,335.

-- Together, those same people are saving an estimated 197 billion BTUs of energy and nearly 34,000 barrels of crude oil per year and have reduced energy use by 31 percent per home.

nation. By August, much of the Interior was in a state of crisis as winter weather approached. Gov. Sarah Palin and lawmakers infused the program with another $60 million during a special session on energy issues, using some of the state's oil largess to offset high prices paid by its residents.

-- They've also cut, cumulatively, an estimated 11,753 pounds per year of carbon dioxide being emitted into the atmosphere.

Interest was high at first, leaving many on waiting lists as AHFC embarked on a campaign to train raters. An estimated 70,000 to 75,000 homes were eligible. But applications slowed as oil prices took a dive through the winter, especially from homeowners in the Fairbanks area.

Some people followed through right away -- a couple hundred rebates have been paid out, mostly to homeowners in Fairbanks and Anchorage.

The 18-month rebate window started closing on the first applicants in mid-November. About 150 of the 200 or so people whose deadline expired then followed through and filed for rebates. AHFC spokesman Bryan Butcher said he didn't expect that high completion rate to continue, as many of the initial participants were the most committed, especially in the Fairbanks area.

"There was such a focus in that community of getting the ratings up and going," Butcher said. "Here in Southcentral, there wasn't the panic. The natural gas prices are not only considerably less expensive than fuel oil, but the 22 percent spike hadn't occurred yet."

For every pre-rating, AHFC sets aside $10,000, funds that are tied up until the homeowner either cashes in or runs out of time. As of mid-December, only $24 million of the program's $160 million had been spent. The rest is still set aside pending those deadlines.

"Once the session starts (on Jan. 19), we'll have a better snapshot for the Legislature of what percentage of people are taking advantage of it, and where we are," Butcher said. "With every week, the number of people reaching the end of their 18 months increases."

The discrepancy isn't necessarily a cause for concern, Butcher said. A number of people found that their homes already rated four stars or higher on the state's five-star scale, and that improvements wouldn't offer much financial benefit.

Butcher referenced one of a number of notes received from grateful Alaskans with efficient homes who said they appreciate the knowledge gained through the rating process.

"They have the peace of mind of knowing the house is energy efficient," he said. "There's no question the residents of the state will be more educated in energy efficiency than in any other state in the country."

Homeowners can still sign up for the rebate program online at www.akrebate.com, at least until all available funds are reserved.

Contact Rena Delbridge at rena_alaskadispatch.com .

UPDATED: This article was updated on Jan. 15, 2010, to clarify a figure in the third paragraph. Of the 200 homeowners who had a pre-audit and who hit their 18-month deadline, 152 followed through by making upgrades, conducting a post-audit, and claiming a state rebate. As of Dec. 18, 2,857 people have completed the audits and upgrades and have applied for and received rebates.

Summary of Existing Program:

Home Energy Rebate PROGRAM

- For individuals who do not qualify for Weatherization Program.
- No income requirements.
- Owner-occupied, year-round residences.
- Homeowners pay upfront & are then rebated for making eligible improvements they choose.
- "Before & After" energy ratings required.
- Individuals may not participate in both the Weatherization Program and Home Energy Rebate Program.

2786

Summary of Existing Program:

What You Have to Do

to Participate in the Home Energy Rebate Program

1. **Request a home energy rating.** Sign-up at www.akrebate.com or contact the AK-REBATE *Call Center* at 1-877-AK-REBATE.
2. **Get the first rating.** A rater will call to schedule and perform the first energy rating. Rater fees vary, so ask for their rate. Contact the *Call Center* if you would like a different rater.
3. **Fill out and send in the first energy rating paperwork.** You will be entered into the program and reimbursed up to $325 for the rating. ***You have 18 months from the first rating to complete the program.***
4. **Choose and make the energy–efficiency improvements** listed in your energy rating.
5. **Get a second energy rating** after the improvements are done.
6. **Fill out and send in the final rebate paperwork.** You will be reimbursed up to $175 for the rating and receive a rebate based on your home's improved energy-efficiency and your eligible receipts.

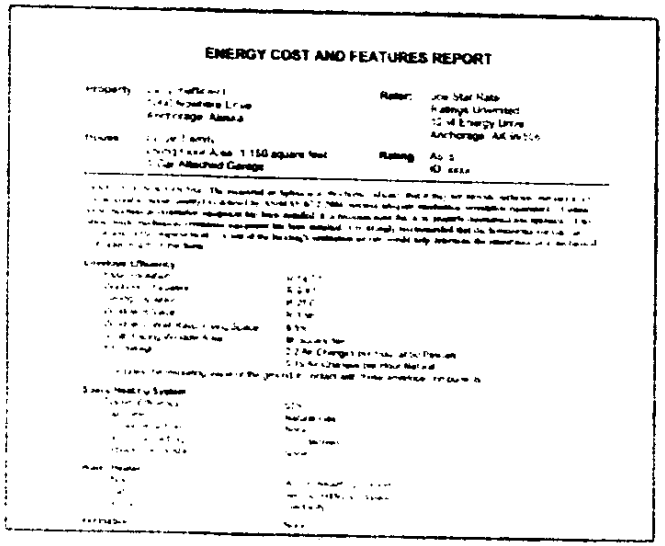
Summary of Existing Program:

Sample
Home Energy Rating

This shows the star rating and points for a home.

This is a 2 Star Home with 57.5 points.

(The rating also reports existing home energy costs & features.)



ENERGY COST AND FEATURES REPORT

Alaska Housing
FINANCE CORPORATION

HOME ENERGY RATING CERTIFICATE

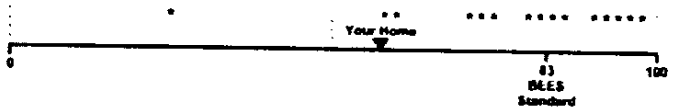
The Home Located At:
1000 Nowhere Drive
Anchorage Alaska

Has Been Energy-Rated As:

★★

Two Stars

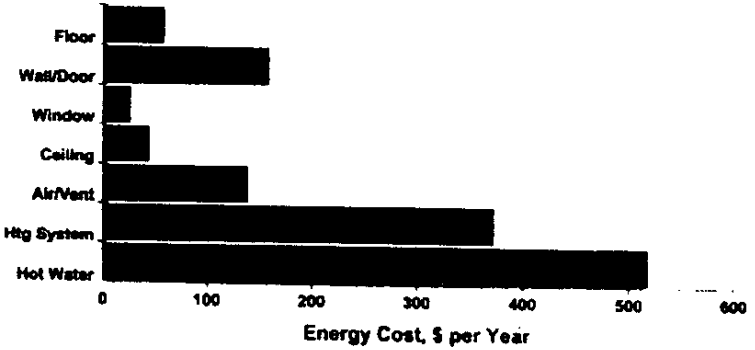
Overall Efficiency of Home
57.5 points



Projected Annual Energy Costs
$1,706 per year

Amount of CO2 Produced by the Home
29,089 pounds per year

BREAKDOWN OF HEATING COSTS



Client: Larry Inefficient Rater: Joe Rater, Bubba's Rating Service Date: 7/20/94

Rater's City: Anchorage, AK 99508 Phone: 330-9999 FAX: 338-1234

ver. 1.03d, library: 7/1/99

Summary of Existing Program:

Sample
Energy Efficiency
Improvement Options report

This comes with the energy rating.

It shows the eligible improvements which may be chosen to improve the home's energy efficiency.

ENERGY EFFICIENCY IMPROVEMENT OPTIONS

Property: Larry Inefficient
1000 Nowhere Drive
Anchorage Alaska

Rater: Joe Rater
Bubba's Rating Service
444 Energy Drive
Anchorage AK 99508

House: Single Family
Living Floor Area 1,150 square feet
1-Car Attached Garage

Rating: As Is
ID xxxx

COST-EFFECTIVE IMPROVEMENTS:

Improvement Description	Location	Savings to Cost Ratio	Installed Cost	Annual Savings	Break-Even Cost	Rating Points Gained	Note
Add R-19 fiberglass batts to masonry wall. Cost does not include studs or furring strips	Below- (part or all) Grade Wall Crawl, Bottom	6.90	$100	$34	$597	2.1	
Install R-19 Fiberglass Batts on the Perimeter 2 feet of the Crawl Space Floor	On- or Below-Grade Floor, Perimeter Crawl	4.59	$95	$25	$434	1.5	
Install 2" of R-10 rigid board insulation on Perimeter of Crawl Space Floor	On- or Below-Grade Floor, Perimeter Garage	2.24	$71	$9	$158	0.0	
Add R-19 fiberglass batts to masonry wall. Cost does not include studs or furring strips	Below- (part or all) Grade Wall Crawl, Top	2.05	$100	$12	$204	0.7	
Caulk and Seal so that Home Air Leakage is Reduced by 500 CFM at 50 Pascals		1.82	$400	$79	$728	4.2	
Install R-10 rigid foam board to exterior. Costs do not include siding	Above-Grade Wall, House	1.26	$1,359	$97	$1,710	5.6	1
Add R-19 to existing insulation	Cathedral Ceiling, House	1.09	$511	$32	$556	1.9	
Total, Cost-Effective Measures		**1.67**	**$2,635**	**$288**	**$4,389**	**16.2**	

New Rating After Measures: Three Stars Plus, 73.7 points
Annual CO2 Reduction: 7,238 pounds per year

General Notes: Here is a general, user-entered note about all improvements

Improvement Notes

1 - Rigid Foam note

Summary of Existing Program:

Although you may choose to do as many improvements as you like, *be sure to* ***look at the "Rating Points Gained" you receive for each listed improvement.***

COST-EFFECTIVE IMPROVEMENTS:

Improvement Description	Location	Savings to Cost Ratio	Installed Cost	Annual Savings	Break-Even Cost	Rating Points Gained	Note
Add R-19 fiberglass batts to masonry wall. Cost does not include studs or firring strips.	Below- (part or all) Grade Wall: Crawl, Bottom	6.00	$100	$34	$597	2.1	
Install R-19 Fiberglass Batts on the Perimeter 2 feet of the Crawl Space Floor	On- or Below-Grade Floor, Perimeter, Crawl	4.59	$95	$25	$434	1.5	

You must **get enough points to move up the energy rating scale** in order to qualify for a rebate!

Summary of Existing Program:

Points	Rating	
0-39	1 Star	
40-49	1 Star +	
50-59	2 Star	1 step
60-67	2 Star +	
68-72	3 Star	
73-77	3 Star +	
78-82	4 Star	
83-87	4 Star +	
88-91	5 Star	
92-100	5 Star +	

- ***For example:*** A home receiving 50-59 points would be a 2 Star home. If the home increased in efficiency to total 60-67 points, it would be a 2 Star Plus home.

- Therefore, **the home moved <u>one step</u> on the star rating** level. *

*A minimum number of points is required.
See the "Home Energy Rebate Program Consumer Guide" for details!
<u>www.ahfc.us/energy</u>

Summary of Existing Program:

Maximum Rebate Amounts

- One Step - Up to $4,000
- Two Steps - Up to $5,500
- Three Steps - Up to $7,000
- Four Steps - Up to $8,500
- Five Steps - Up to $10,000

- Therefore your rebate would be up to $4000, based on your receipts.
- Your rebate will never be more than the amount you have spent.
- Maximum rebate is $10,000.
- For complete details see the "Home Energy Rebate Program Consumer Guide" at www.ahfc.us/energy.

Summary of Existing Program:

More Information

AHFC Energy Programs:

- *For complete details on the **Home Energy Rebate Program**, the **5 Star Plus New Home Energy Rebate Program**, the **Weatherization Program**, the **Second Mortgage for Energy Conservation Loan** and other programs go to: www.ahfc.us/energy or call AHFC at 1-800-478-2432 or 1-907-338-6100.*

Energy Efficiency Improvement Factsheets & Information

- *AHFC Research Information Center (RIC Library) www.ahfc.us/energy/ric.cfm*
- *Energy Efficiency RE, U.S. Department of Energy www.eere.energy.gov/consumer*
- *Energy Star www.energystar.gov*

Federal Tax Credits for Energy Improvements:

- *For information on tax credits for caulking, insulation, windows, doors, water heaters and heating systems go to: www.energytaxincentives.org or www.energystar.gov.*

HB

296

<target><bill>HB 296</bill><subject>HB
296</subject><comm>HENE26</comm></target>

Alaska Housing
FINANCE CORPORATION

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MEMORANDUM

Date: January 21, 2010

To: Representative Bryce Edgmon, Co-Chair
Representative Charisse Millett, Co-Chair
House Special Committee on Energy

From: Dan Fauske, Executive Director/CEO
Alaska Housing Finance Corporation

Re: HB 296, AHFC Energy Efficiency Bonds

This is a request for the scheduling of House Bill 296, An Act authorizing and relating to the issuance of bonds by the Alaska Housing Finance Corporation; establishing the Alaska energy efficiency revolving loan fund and relating to the fund; authorizing municipalities and the State of Alaska to borrow money from the Alaska Housing Finance Corporation for the purposes of the Alaska energy efficiency revolving loan fund; and providing for an effective date.

HB 296 will establish an Alaska energy efficiency loan fund in the Alaska Housing Finance Corporation to work with state and municipal governments as well as school districts to make the their buildings more energy efficient, not only reducing energy usage but also saving money.

The bill will also allow the Corporation to use $18 million in federal State Energy Program funds to leverage up to $250 million in bonds to fund the program.

The way the program will work is that a government or school district would hire an energy performance contractor to give an estimate on what needed to be done to make their buildings more energy efficient and what the annual savings would be. The government or school district would then borrow the funds from the energy efficiency loan program to get the suggested work done to the building. The annual savings as a result of the work would then be used to pay back

the loan. Once the loan is paid back, the annual savings as a result of the energy efficiency work could then be used for other purposes or to reduce their budget.

I would appreciate the scheduling of HB 296 in the House Special Committee on Energy at your earliest possible convenience. If you have any questions or need any further information about the bill, please contact Bryan Butcher in my office at 330-8445.

26-GH2903\A.1
Cook
2/5/10

AMENDMENT 1

OFFERED IN THE HOUSE BY REPRESENTATIVE PETERSEN

TO: HB 296

Page 1, line 3:

Delete "**municipalities**"

Insert "**regional educational attendance areas, municipalities,**"

Page 2, line 7, following "to":

Insert "regional educational attendance areas,"

Page 2, line 9:

Delete "the state or by municipalities in"

Insert "the regional educational attendance areas, municipalities or their subdivisions, or"

Page 2, line 15, following "Before":

Insert "a regional educational attendance area, a"

Page 2, line 16, following "section, the":

Insert "regional educational attendance area"

Page 2, line 24, following "All":

Insert "regional educational attendance areas and"

Page 2, line 25, following "section.":

Insert "The corporation shall set out the terms of a loan to a regional educational

attendance area in a loan agreement or similar document."

Page 3, line 5, following "to":

Insert "a regional educational attendance area or to"

Page 3, line 7, following "that the":

Insert "regional educational attendance area or"

Page 3, line 9, following "and":

Insert "a regional educational attendance area or"

Page 3, line 10, following "from that":

Insert "regional educational attendance area or"

Page 3, line 19, following "state.":

Insert "The superintendent of a regional educational attendance area, at the direction of the regional educational attendance school board, may borrow from the corporation under this section for buildings owned by the regional educational area."

Page 3, line 23, following "A":

Insert "regional educational attendance area or"

Page 4, lines 15 - 16:

Delete "for energy efficiency improvements to state and municipal buildings in the state"

Page 4, line 16, following "finance the":

Delete "other"

26-GH2903\A.2
Cook
2/8/10

AMENDMENT 2

OFFERED IN THE HOUSE BY REPRESENTATIVE PETERSEN

TO: HB 296

Page 1, line 3:

Delete "**municipalities**"

Insert "**Native organizations, municipalities,**"

Page 2, line 7, following "to":

Insert "Native organizations,"

Page 2, line 9:

Delete "state or by municipalities in"

Insert "Native organizations, municipalities or their subdivisions, or"

Page 2, line 15, following "Before":

Insert "a Native organization,"

Page 2, line 16, following the second occurrence of "the":

Insert "Native organization or"

Page 2, line 24, following "All":

Insert "Native organizations and"

Page 2, line 25, following "section.":

Insert "The corporation shall set out the terms of a loan to a Native organization in a loan agreement or similar document."

Page 3, line 5, following "to":
Insert "a Native organization or to"

Page 3, line 7, following the first occurrence of "the":
Insert "Native organization or"

Page 3, line 9, following "and":
Insert "a Native organization or"

Page 3, line 10, following the second occurrence of "that":
Insert "Native organization or"

Page 3, line 19, following "state.":
Insert "The board of directors or council of a Native organization may borrow from the corporation under this section for buildings owned by the Native organization."

Page 3, line 23, following "A":
Insert "Native organization or"

Page 3, line 27, following "section,":
Insert "(1)"

Page 3, line 28:
Delete "(1)"
Insert "(A)"

Page 3, line 30:
Delete "(2)"
Insert "(B)"

Page 4, line 1:

Delete "(3)"

Insert "(C)"

Page 4, line 2:

Delete "(4)"

Insert "(D)"

Page 4, line 5:

Delete "(5)"

Insert "(E)"

Page 4, lines 4 - 5:

Delete "(1) - (4) of this subsection."

Insert "(A) - (D) of this paragraph;

(2) "council" or "Native council" means a council organized under federal law to represent an Alaska Native community or Indian reserve in the state;

(3) "Native organization" means a Native council or nonprofit corporation organized by a Native council."

Page 4, lines 15 - 16:

Delete "for energy efficiency improvements to state and municipal buildings in the state"

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House Bill 296
Sponsor Statement

House Bill 296 will establish an energy efficiency revolving loan fund in the Alaska Housing Finance Corporation and authorize the Corporation to sell up to $250 million in bonds to fund the program.

The federal ARRA bill appropriated $28.3 million to Alaska for the State Energy Program. Of that, Governor Parnell recommended spending $18 million to make energy efficiency improvements to public buildings. Of this, $10 million would go for energy efficient improvements to state facilities and $8 million would go for energy efficient improvements to school and municipal facilities.

HB 296 will use this $18 million to leverage up to $250 million in bonds to fund the program. The bill also establishes an energy efficiency revolving loan fund in AHFC.

As an example, a municipal government or school district would have an energy audit done on their building. Let's say the building needs $120,000 to make it more energy efficient and that those improvements would reduce their energy costs by $20,000 a year. They would take a loan out with AHFC to do the work and then pay the loan back with the funds available due to the savings achieved through the energy efficiency improvements. After the loan is paid back those funds would be available to that government for other purposes or to reduce the size of its budget. This would result in less energy used by public buildings as well as ultimately saving public money.

This type of program has proven to be successful in other states as well as by the Alaska state Department of Transportation and Public Facilities.

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FROM A SUMMARY OF HOW THE FEDERAL ARRA STATE ENERGY PROGRAM FUNDS, THAT WILL BE USED TO LEVERAGE BONDS FOR THE ENERGY EFFICIENCY REVOLVING LOAN FUND IN SB 223, WILL BE ADMINISTERED:

State facilities energy efficiency projects -- $10,000,000: This program will continue and expand DOT/PF's successful energy performance contracting project to further reduce energy costs in State facilities. The list of buildings and specific projects to be included will be determined based on energy audits. High profile buildings that will be included if cost effective are: the Atwood Building, the Governor's residence, and the Fairbanks Regional Office Building.

The $10 million in ARRA energy funds allocated for this program will be leveraged with debt financing to accomplish the maximum number of energy efficiency projects and corresponding energy cost savings to the State. This is similar to the approach the State of Arizona is using for its ARRA energy funds and State buildings. Up to $150 million in energy efficiency projects can be funded, using a combination of the $10 million in ARRA funds and $140 million in debt financing. The debt service will be paid entirely through the cost savings from the energy efficiency projects, and the savings will be guaranteed by the contractor, so there is no financial risk to the State.

Schools and municipal facilities energy efficiency projects -- $8,000,000: Under this program, every school district and municipality in the State will be offered the ability to use the State's energy performance master contract to reduce their energy costs. The suggested approach is that DOT/PF manage the actual contracts, and AHFC provide project management support and outreach efforts to provide a turn-key energy savings program. This approach will avoid the need for school districts and municipalities to reinvent the wheel. As with the State building program described above, the ARRA energy funds will be leveraged with borrowed funds – either private financing or AHFC bonds – to increase the number of projects that can be funded. Using the same ratio as for State buildings, the $8 million in ARRA funds could pay for $118 million in energy projects for schools and municipal facilities. The emphasis in expending the $8 million will be on schools.

FISCAL NOTE

STATE OF ALASKA
2010 LEGISLATIVE SESSION

Fiscal Note Number: 1
Bill Version: HB 296
(H) Publish Date: 1/19/10

Identifier (file name): 0903-DOR-AHFC-1-6-10
Dept. Affected: Revenue
Title: AHFC Energy Efficiency Bonds/Revolving Loan
RDU: Alaska Housing Finance Corp.
Component: Operations
Sponsor: Rules
Requester: Request of Governor
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							
AHFC 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 will set up an energy efficiency revolving loan fund and authorize AHFC 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, Gov't Relations/Public Affairs — Phone 330-8445
Division: Alaska Housing Finance Corporation — Date/Time 12/30/09 12:00 AM
Approved by: Ginger Blaisdell, Director — Date 1/6/10; 11:37am
Administrative Services Division

(Revised 11/6/2009 OMB)

FISCAL NOTE

STATE OF ALASKA
2010 LEGISLATIVE SESSION

Fiscal Note Number: 2
Bill Version: HB 296
(H) Publish Date: 1/19/10

Identifier (file name): 09030-DOT-SPF-01-04-10
Dept. Affected: DOT&P
Title: Establishing Alaska Energy Revolving Loan Fund etc
RDU: Design, engineering & construction
Component: Statewide Public Facilities
Sponsor
Requester
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							
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)*

Since all this bill does is create the ability for DOT&PF to partcipate in loan a program, there is no fiscal impact.

Prepared by: Mary Siroky, Legislative Liaison
Phone 465-4772
Division: DOT&PF, Commissioner's Office
Date/Time 1/4/10 4:00 PM
Approved by: Frank Richards
Deputy Commissioner, DOT&PF
Date 1/4/2010

(Revised 11/6/2009 OMB)

Alaska Housing
FINANCE CORPORATION

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4300 Boniface Parkway
Anchorage, Alaska 99504
(907) 338-6100

Mailing Address
P.O. Box 101020
Anchorage, AK 99510-1020

Internet Web Site
http://www.ahfc.state.ak.us

MEMORANDUM

Date: January 21, 2010

To: Representative Bryce Edgmon, Co-Chair
Representative Charisse Millett, Co-Chair
House Special Committee on Energy

From: Dan Fauske, Executive Director/CEO
Alaska Housing Finance Corporation

Re: HB 296, AHFC Energy Efficiency Bonds

This is a request for the scheduling of House Bill 296, An Act authorizing and relating to the issuance of bonds by the Alaska Housing Finance Corporation; establishing the Alaska energy efficiency revolving loan fund and relating to the fund; authorizing municipalities and the State of Alaska to borrow money from the Alaska Housing Finance Corporation for the purposes of the Alaska energy efficiency revolving loan fund; and providing for an effective date.

HB 296 will establish an Alaska energy efficiency loan fund in the Alaska Housing Finance Corporation to work with state and municipal governments as well as school districts to make the their buildings more energy efficient, not only reducing energy usage but also saving money.

The bill will also allow the Corporation to use $18 million in federal State Energy Program funds to leverage up to $250 million in bonds to fund the program.

The way the program will work is that a government or school district would hire an energy performance contractor to give an estimate on what needed to be done to make their buildings more energy efficient and what the annual savings would be. The government or school district would then borrow the funds from the energy efficiency loan program to get the suggested work done to the building. The annual savings as a result of the work would then be used to pay back

the loan. Once the loan is paid back, the annual savings as a result of the energy efficiency work could then be used for other purposes or to reduce their budget.

I would appreciate the scheduling of HB 296 in the House Special Committee on Energy at your earliest possible convenience. If you have any questions or need any further information about the bill, please contact Bryan Butcher in my office at 330-8445.

Home Energy Rebate Frequently Asked Questions (FAQ)

1. What is the rebate program?
2. What's the difference between the Home Energy Rebate program and the Weatherization program?
3. Can I participate in both the Home Energy Rebate program and the Weatherization program?
4. Do I have to be a homeowner to apply for a rebate?
5. Will the Home Energy Rebate program be available for rentals or businesses?
6. Are mobile homes eligible for a rebate?
7. Are condos eligible for the Home Energy Rebate program?
8. How much time do I have to apply for the rebate program?
9. How do I get a Home Energy Rebate?
10. Where can I get a homeowner Home Energy Rebate application?
11. Who pays for the energy ratings for the Home Energy Rebate program?
12. Who pays the up front cost for the energy-efficiency improvements in the Home Energy Rebate program?
13. What if I don't have the money up front to pay for the energy improvements in the Home Energy Rebate?
14. Where do I get more information on how to make energy efficiency improvements?
15. Should I get an energy rating on my home now so I can participate in the Home Energy Rebate program?
16. If I start working now on my house to make it more energy efficient, will I get a Home Energy Rebate?
17. How long will it take to get my Home Energy Rebate after I submit an application to AHFC?
18. I heard there will be a rebate for buying a new 5 Star Plus home. How do I apply?
19. Are energy-efficient appliances and lighting eligible for the rebate program?
20. I want to become an energy rater for the Home Energy Rebate program. Who do I contact?
21. What is the difference between and "As-Is" rating and a "Post" rating?

Q1. What is the rebate program?

The rebate program assists homeowners in making the best energy-efficiency improvements for their home. The program requires a certified home energy rater to evaluate homes before and after the improvements. The more a home's energy efficiency improves, the greater the possible rebate.

Q2. What's the difference between the Home Energy Rebate program and the Weatherization program?

The Home Energy Rebate program has no income requirements and focuses on owner-occupied homes. Homeowners pay for certain energy-efficiency improvements and are rebated a portion of the cost for doing so. The Weatherization program has income requirements, and the weatherization work is provided for free by specific weatherization agencies and housing authorities.

Q3. Can I participate in both the Home Energy Rebate program and the Weatherization program?

No. You may participate in one or the other program, but not both.

Q4. Do I have to be a homeowner to apply for a rebate?

Yes. The rebate program is only for owner-occupied housing.

Q5. Will the Home Energy Rebate program be available for rentals or businesses?

The Home Energy Rebate program is focused on owner-occupied homes. AHFC intends to make the rebate program available to as wide a range of housing as practical. Condos may qualify.

Currently the rebate program does not include rentals or businesses (such as a Bed and Breakfast).

Q6. Are mobile homes eligible for a rebate?

Yes.

Q7. Are condos eligible for the Home Energy Rebate program?

Yes. Click here for the Condo Factsheet for details. *New!*

Q8. How much time do I have to apply for the rebate program?

The time limit to apply for the rebate has been extended to 18 months from the date of the initial As-Is energy rating.

Q9. How do I get a Home Energy Rebate?

You can sign up for a rater for the energy rebate program via this site or by calling the rebate call center at 1-877-AKRebate (1-877-257-3228). You will be assigned to a certified energy rater who will follow up with you directly and perform your initial As-Is energy rating. The rater will provide you with a list of possible energy improvements, choose from that list the improvements you want to make, do the improvements yourself or hire a contractor, have the rater return to verify the work and provide a new rating showing how much the home's energy efficiency has improved, and apply for the rebate. For more details about the program, rebate amounts, and requirements, click here for the home energy rebate program guidelines.

Q10. Where can I get a homeowner Home Energy Rebate application?

An application is not needed until after you have the required initial energy rating performed and received copies of the recommended energy improvements, which will be provided by the rater. Click here for application form.

Q11. Who pays for the energy ratings for the Home Energy Rebate program?

The homeowner will be reimbursed directly by AHFC a total of $500 for the combined ratings: Up to $325 is allowed for the initial As-Is rating and up to $175 for the Post Improvement rating. Any rating costs over these amounts are the responsibility of the homeowner. The actual cost of ratings may vary by rater and individual house characteristics. We recommend that you ask for price quote before your rater begins work on your As-Is or Post-improvement rating. If you would like a different rater, contact the AKRebate call center and you will be put back at the top of the list.

Q12. Who pays the up front cost for the energy-efficiency improvements in the Home Energy Rebate program?

The homeowner. However, AHFC is offering loans to qualified borrowers up to $30,000 through the Second Mortgage for Energy Conservation. Click here for details.

Q13. What if I don't have the money up front to pay for the energy improvements in the Home Energy Rebate?

AHFC is offering loans to qualified borrowers up to $30,000 through the Second Mortgage for Energy Conservation. Click here for details.

Q14. Where do I get more information on how to make energy efficiency improvements?

Visit the AHFC Research Information Center web page. Please note: only items listed in the AkWarm® Improvement Options Report following your home energy rating will be eligible for the Home Energy Rebate. Talking with your energy rater about the best improvements and what you should do is critical.

Q15. Should I get an energy rating on my home now so I can participate in the Home Energy Rebate program?

An "As-Is" energy rating performed between April 5, 2008, and May 15, 2008, will be accepted as the initial rating for the Home Energy Rebate Program. However, the costs of these ratings are paid by the homeowner and will not be reimbursed by AHFC. The cost of ratings done after May 15, 2008, will be reimbursed by AHFC directly to the homeowner, up to $325 for the As-Is rating and $175 for the Post-improvement rating. You will have 18 months from the date of the As-Is rating to make improvements, have the Post-improvement rating completed, and submit your application to AHFC for a rebate.

Q16. If I start working now on my house to make it more energy efficient, will I get a Home Energy Rebate?

The Home Energy Rebate program requires an AkWarm® energy rating prior to any work. Only items listed in the AkWarm® Improvement Options Report will be eligible for the program.

Q17. How long will it take to get my Home Energy Rebate after I submit an application to AHFC?

It's estimated that there will be a 60-day turnaround time.

Q18. I heard there will be a rebate for buying a new 5 Star Plus home. How do I apply?

There will be a $7,500 rebate available for home buyers purchasing certain 5 Star Plus homes. Click here for the application and guidelines.

Q19. Are energy-efficient appliances and lighting eligible for the rebate program?

Energy Star appliances and lighting are a great idea when upgrading your home and can help reduce your energy bills. However, appliances and lighting are not eligible for a rebate at the present time.

Q20. I want to become an energy rater for the Home Energy Rebate program. Who do I contact?

AHFC trains raters through contracts with other training entities. There have been more than 1,000 requests, and more than 400 applications from people wishing to become energy raters. We anticipate the need at about 50 to 60, most of whom will be trained by the end of July. We have two additional rater training classes scheduled for September and October, although those are wait listed. Unless the legislature allocates additional money, we anticipate that the ratings for the rebate program will be completed in Anchorage, Mat-Su, and Fairbanks by November.

Q21. What is the difference between an "As-Is" and a "Post" rating?

The As-Is rating is the initial rating of your home. The Post-improvement rating is the second rating of your home after you have made some or all of the recommended improvements. You can sign up for both ratings here or call 1-877-akrebate (1-877-257-3228).

Alaska Housing
FINANCE CORPORATION

Home Energy Rebate Program Guidelines

The Home Energy Rebate Program for existing homes will rebate ***up to*** $10,000 to a homeowner, who improves the energy efficiency of his or her home. A qualified homeowner must improve the energy efficiency of the home at least **1 step** using the energy rating system described below in **Energy Rating and Rating Points**. (See also **Additional Requirements**.)

A final rating of a 1 Star Plus (1★+) or greater must be achieved to qualify for a rebate. This is a one-time rebate, for any one family, borrower, or home.

Rebate funds are subject to appropriation by the Alaska Legislature, and are subject to funding availability. If or when funding becomes limited, the Alaska Housing Finance Corporation may terminate the program. Public notice shall be provided on the AHFC website www.ahfc.us .

To participate in this program:

- Request an AkWarm energy rating by signing-up on the waiting list at www.akrebate.com or calling 1-877-AKREBATE (1-877-257-3228).

- The As-Is energy rating generates an *Energy-Efficiency Improvement Options Report* that serves as a guideline for AHFC and the homeowner regarding the energy savings, cost of the improvement and return on the energy improvement investment.

- Submit to AHFC copies of the Home Energy Rating certificate (As-Is), Energy Efficiency Improvement Options report (As-Is), proof of ownership (tax parcel notice, transfer deed or deed of trust, that matches property address on the rating and confirms the homeowners name), energy rater's receipt or check copy, and the As-Is Energy Rating Reimbursement Form, (HER-1 Invoice) signed by the rater and the homeowner. Within 60 days of receipt, AHFC will reimburse the homeowner for the As-Is rating. Submitting this paperwork indicates to AHFC that a homeowner is participating in the rebate program and funds for a possible rebate are encumbered for 18 months from the date of the As-Is rating.

- Make improvements selected from the *Energy-Efficiency Improvement Options Report* (within 18 months, see **Additional Requirements** below). Rating points are listed for each improvement option. Choose the improvements that will gain enough points to increase the energy rating. Homeowners may complete the improvements (rebate is applicable to materials only) or hire a contractor (rebate applicable to materials and labor). Only those items relating to energy efficiency and recommended in the *Energy-Efficiency Improvement Options Report* are eligible for the rebate.

- After the work is completed, request an AkWarm Post-Improvement energy rating by signing-up on the waiting list at www.akrebate.com or calling 1-877-AKREBATE (1-877-257-3228). The rater will verify the improvements and provide the homeowner with a new energy rating certificate. The rebate amount is determined by the increase in the

Post-Improvement rating. (For example, if the As-Is rating was 3 Star+ and the Post-Improvement rating is 4 Star that is a One Step increase, eligible for a rebate of up to $4,000.00).

Maximum Rebate Amounts:

One Step	Up to $4,000
Two Steps	Up to $5,500
Three Steps	Up to $7,000
Four Steps	Up to $8,500
Five Steps	Up to $10,000

- A homeowner is only eligible to receive a rebate of **actual expenses**. For example: A homeowner spends $3,500 on energy efficient improvements and the home's energy rating increases Two Steps. The homeowner will only receive a rebate of the **actual expenses** or $3,500, not $5,500 as a Two Step improvement would indicate above. Submit to AHFC copies of the Post-Improvement Home Energy Rating certificate, the energy rater's receipt or check copy for Post-Improvement energy rating, proof of payment for the eligible improvements completed, and the Post-Improvement Rating Reimbursement & Rebate Form (HER-2 Invoice) within 18 months from the date of the As-Is energy rating. Within 60 days of receipt, AHFC will reimburse the homeowner for the Post-Improvement rating and provide the rebate.

You are not eligible for the Home Energy Rebate for existing homes if:

- You participated in the Weatherization Assistance Program after May 1, 2008.
- You received a Home Energy Rebate after May 1, 2008.
- Your As-Is rating was done before April 5, 2008*.
- Your As-Is rating is more than 18 months old.
- You fail to provide the requested information with your application for a rebate.
- You participated in the 5 Star Plus New Construction Energy Rebate program.

AHFC will reimburse the homeowner for the cost of ratings done after May 15, 2008, up to $500 for the combined cost of the pre-improvement (As-Is) and the Post-Improvement rating. A homeowner is reimbursed up to $325 for the As-Is rating, and up to $175 of the Post Improvement rating.

The homeowner is responsible for submitting all requested paper work for reimbursements & rebates.

**An energy rating done between April 5 and May 15, 2008, can qualify a homeowner for rebate purposes; however, AHFC does not reimburse homeowners for the cost of ratings performed during this period.*

Energy Rating and Rating Points

The amount of the rebate is determined by the increase in the number of steps between the As-Is and Post-Improvement energy ratings.

This chart can help you understand the correlation between your energy rating points and the energy rating stars for your home's energy rating. There are 10 steps between rating levels:

Points	Rating	Points	Rating
0-39	1 Star	73-77	3 Star +
40-49	1 Star +	78-82	4 Star
50-59	2 Star	83-87	4 Star+
60-67	2 Star +	88-91	5 Star
68-72	3 Star	92-100	5 Star+

For example:

A 2 Star Plus (60-67 points) rating, increased to 3 Star (68-72 points) after making energy improvements, would equal one step. A 2 Star (2★) rating, increased to 3 Star (3★) after making energy improvements, would equal two steps.

Additional Requirements:

To be eligible for a rebate, the final energy rating must be at least 1 Star Plus (1★+), and have increased one step and at least five points. This is applicable to all homes with a final rating of 3 Stars (< 3★) or less. For homes with a final rating of 3 Star plus (> 3★+) or more, at least one step and three points increase is required.

The home energy rebate reimbursement & rebate applications must be submitted to the Alaska Housing Finance Corporation at:

Alaska Housing Finance Corporation
ATTN: R2D2
PO Box 101020
Anchorage, AK 99510-1020

The homeowner must be the year-round occupant of the upgraded home and submit the rebate application and required documents within eighteen months of the date on the As-Is rating. Each family and property is eligible for one rebate only. The person to whom the rebate is paid will be required to submit a Social Security number, and the amount of the rebate will be reported to the United States Internal Revenue Service. An IRS Form 1099 will be mailed to the homeowner at the end of the year in which the homeowner received the rebate.

Rebate funds are subject to appropriation by the Alaska Legislature, and are subject to funding availability. If or when funding becomes limited, the Alaska Housing Finance Corporation may terminate the program. Public notice shall be provided on the AHFC website www.ahfc.us .

5 Star Plus New Construction Energy Rebate Program

Requirements for the 5 Star Plus New Construction Energy Rebate program may be found in the "5 Star Plus New Construction Energy Rebate Encumbrance Request (HER-50 Form)" and the "5 Star Plus New Construction Energy Rebate Form (HER-51 Invoice)" available at www.ahfc.us/energy .

For more information contact:

Alaska Housing Finance Corporation
PO Box 101020
Anchorage, AK 99510-1020
907-338-6100 (Anchorage)
1-800-478-2432 (toll free statewide)
www.ahfc.us

Energy Savings Performance Contracting ~ DOT/PF

Phase One

	Facility	Agency	Location
1	State Office Building	Administration	Juneau
2	Alaska Office Building	Administration	Juneau
3	Court Plaza Building	Administration	Juneau
4	Dimond Courthouse	Administration	Juneau
5	Douglass Island Building	Administration	Juneau
6	Aviation Building	Transportation and Public Facilities	Anchorage
7	Annex Building	Transportation and Public Facilities	Anchorage
8	Public Safety Building	Transportation and Public Facilities	Anchorage

Phase Two

	Facility	Agency	Location
9	Anchorage Correctional Center	Corrections	Anchorage
10	Spring Creek Correctional Facility	Corrections	Seward
11	Fairbanks Correctional Center	Corrections	Fairbanks
12	Wildwood Correctional Center	Corrections	Kenai
13	Lemon Creek Correctional Center	Corrections	Juneau
14	Hiland Mt Correctional Center	Corrections	Eagle River
15	Anvil Mt.Correctional Center	Corrections	Nome
16	Yukon-Kushokwim Correctional Center	Corrections	Bethel
17	Anchorage Pioneer Home	Health and Social Services	Anchorage
18	Mclaughlin Youth Facility	Health and Social Services	Anchorage
19	Sitka Pioneer Home	Health and Social Services	Sitka
20	Palmer Pioneer Home	Health and Social Services	Palmer
21	Fairbanks Pioneer Home	Health and Social Services	Fairbanks
22	Fairbanks Youth Facility	Health and Social Services	Fairbanks
23	Juneau Pioneer Home	Health and Social Services	Juneau
24	Anchorage Public Health Lab	Health and Social Services	Anchorage

Note: For DHSS projects, only audits completed; DHSS is implementing the energy savings measures itself.

6.9 GUARANTEED ENERGY SAVINGS SUMMARY

Siemens Building Technologies guarantees energy unit savings. Quantities of guaranteed energy unit savings are shown as follows:

• Electric Consumption Savings	2,788,988	kWh
• Electric Demand Savings	4,743	kW
• Natural Gas	62,313	Therms
• Fuel Oil	55,025	Gallons
• Waste Heat	773,870	Mbtus
• Water Savings	24,374	kGallons

The utility rates of Section 6.6 are used to calculate the annual avoided cost dollar savings. Refer to Section 1 (Executive Summary) and Section 5 for the total annual avoided cost dollar saving amounts.

The measured energy and water savings for the Facility Improvement Measures (FIM's) installed provide $576,956 in actual cost avoidance savings in the third 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 3)
Electrical Consumption (kWh)	2,211,605	2,722,793
Electrical Demand (kW)	322	437
Natural Gas (Therms)	11,168	15,820
Fuel Oil (Gal)	70,216	93,453
Water (Gal)	2,409,000	2,923,000

The annual cost avoidance and operational savings from the water fixture replacements as defined in the original contract guarantee is reported in the table below:

Table B

	Original Annual Energy Savings (Cost Avoidance) *	Reported Cost Avoidance (Year 3)**
Energy & Utility Savings	$284,228	$563,922
Operational Savings	$13,034	$13,034
Total	$297,262	$576,956

**Cost Avoidance calculated using the escalated 2003-2005 base year utility rates*

***Reported Cost Avoidance calculated using the 2008-2009 3rd year utility performance period rates.*

Per the contract, the utility rate used for savings calculations was based on the utility rate currently in effect or the baseline utility rate escalated per the contract whichever is greater. An escalation rate of 3.5% per annual period was applied to the utility rates and an escalation rate of 2.0% per annual period was applied to the operational savings.

Attachment A
State of Alaska ESPC Summary

Phase One

	Facility	Agency	Location	Square Footage	ESPC Contract Value	Payback Term	Guaranteed Year One Monetized Savings	Reported Year One Monetized Savings	Reported Year Two Monetized Savings	Reported Year Three Monetized Savings
1	State Office Building	DOA	Juneau	214426						
2	Alaska Office Building	DOA	Juneau	57652						
3	Court Plaza Building	DOA	Juneau	40128						
4	Douglass Island Building	DOA	Juneau	41974						
5	Dimond Courthouse	DOA	Juneau	79116						
6	Aviation Building	DOT&PF	Anchorage	63000						
7	Annex Building	DOT&PF	Anchorage	24000						
8	Public Safety Building	DOT&PF	Anchorage	43000						
	Summary				$ 4,030,116.00	12 years	$ 277,857.00	$ 365,991.00	$ 561,935.00	$ 570,797.00

Phase Two

	Facility									
9	Anchorage Correctional Center	DOC	Anchorage	296,089						
10	Spring Creek Correctional Facility	DOC	Seward	205,952						
11	Fairbanks CC	DOC	Fairbanks	93,700						
12	Wildwood CC	DOC	Kenai	174,153						
13	Lemon Creek CC	DOC	Juneau	83,368						
14	Hiland Mt/Meadow Creek CC	DOC	Eagle River	147,191						
15	Anvil Mt. CC	DOC	Nome	33,475						
16	Yukon-Kushokwim CC	DOC	Bethel	25,320						
	Summary				$ 9,010,700.00	15 years	$ 660,000.00	TBD		
17	Anchorage Pioneer Home	DH&SS	Anchorage	150,366						
18	Mclaughlin Youth Facility	DH&SS	Anchorage	145,113						
19	Sitka Pioneer Home	DH&SS	Sitka	83,121						
20	Palmer Pioneer Home	DH&SS	Palmer	70,066						
21	Fairbanks Pioneer Home	DH&SS	Fairbanks	59,361						
22	Fairbanks Youth Facility	DH&SS	Fairbanks	55,015						
23	Juneau Pioneer Home	DH&SS	Juneau	42,444						
24	Anchorage Public Health Lab	DH&SS	Anchorage	37,000						
	Summary				$ 128,500.00	N/A*				

*DHSS elected to end the ESPC contract after the energy audit was completed. They believed that they could implement the ECM's through traditional contracting methods for less than the ESCO's proposed cost.

Alaska Legislature
House Special Committee on Energy

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February 23, 2010

Co-chair Rep. Mike Hawker
Co-chair Rep. Bill Stoltze
House Finance Committee
Alaska Legislature
State Capitol Building
Juneau, Alaska 99801

Reps. Hawker and Stoltze,

The House Special Committee on Energy moved House Bill 296 out of committee on Tuesday, February 23, 2010.

After a lengthy debate, committee members decided that it would be a good idea to include language in the bill permitting state owned universities to participate in the Alaska Energy Efficiency Loan Fund.

We respectfully request that this language be inserted into the bill when it comes before the committee this session. Please call one of us if you need additional information.

Sincerely,

Bryce Edgmon

Rep. Bryce Edgmon

Rep. Charisse Millett

Energy Savings Performance Contracting Summary
Prepared by DOT/PF

- Under an Energy Savings Performance Contract (ESPC), an Energy Savings Contractor (ESCO) is selected through a competitive Request for Proposal process to complete an energy audit, recommend, design and implement Energy Conservation Measures (ECM's), and guarantee energy savings.

- The contractor will first complete an investment grade energy audit that identifies conservation measures, along with their payback periods, and present it to the facilities owner or manager. The manager will select a set of conservation measures that meets their desired financial goals, and will negotiate the implementation cost with the ESCO.

- When selecting the ECM's to be implemented, it is critical to avoid "cherry picking" quick payback measures, such as lighting upgrades, and ignoring longer payback items such as heating and ventilation system upgrades. Since lighting upgrades are typically the quickest payback for an ECM, they can help to offset the cost of a longer payback ECM, such as a boiler upgrade, when accomplished under an ESPC.

- Example: Lighting Upgrade will pay back in 3 years. Boiler Upgrade will pay back in 12 years. Combined the payback will be 7 years. It is also common for an owner to package several buildings together under one agreement to leverage savings in one facility towards another, providing that the buildings have the same funding source. This allows for a greater amount of work to be accomplished.

- Capital funding can be used to fund the entire contract; however, more typically, financing is obtained from either the ESCO or third party financing. The amount financed, plus the interest charges, are paid back over time from the dollar savings that are realized from the reduction in energy consumption. The financing period may range from 8 to 25 years, depending upon the ECM's chosen and the owner's financial requirements (our contract with Siemens utilized third party financing with a payback ranging from 12 to 15 years).

- A combination of capital funding – such as the ARRA energy funds – and financing may be chosen to fund the project. Arizona is leveraging $10 million in ARRA energy funds with about $40 million in private financing to accomplish $50 million in energy efficiency projects in state facilities. This approach will also work for Alaska. Under any of these scenarios, a limited amount of capital or operating funding is required to pay personnel cost to implement the contract.

- The ESCO guarantees that the ECM's will reduce the energy consumption in the facility. If the energy savings are less than what the ESCO guarantees, the ESCO will monetize the difference in guaranteed versus actual savings and will reimburse the owner this amount. Example: ESCO guarantees a savings of 30,000 Btu's, but only 25,000 Btu's are saved, the ESCO will write a check for the cost of the missing

5,000 Btu's. Under some performance contracts, if the energy savings are greater than that which the ESCO guaranteed, the owner is required to share the monetized cost of the excess savings with the ESCO. Our contract with Siemens did not have this language, i.e. excess savings belong to the State.

- The U.S. Department of Energy guidance regarding the ARRA energy funds specifically encourages the use of these funds for energy performance contracting, as a method of leveraging and extending the life of the funds.

AHFC Rebate & Weatherization Programs

LEGISLATIVE REPORT

2/9/2010

Weatherization PROGRAM

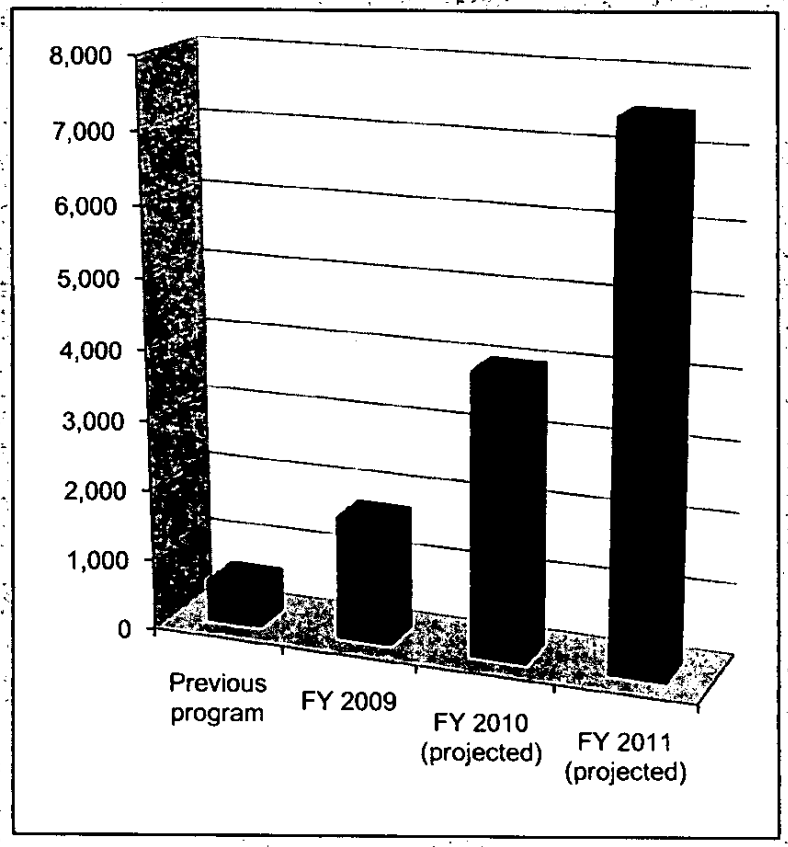
$200 Million

Encumbered: $70 million

Weatherization PROGRAM

Homes Weatherized

- Previous program: **600**
- FY 2009: **1740**
- FY 2010: **4000**
- FY 2011: **7500**
- Statewide weatherization providers and housing authorities continue ramping up.

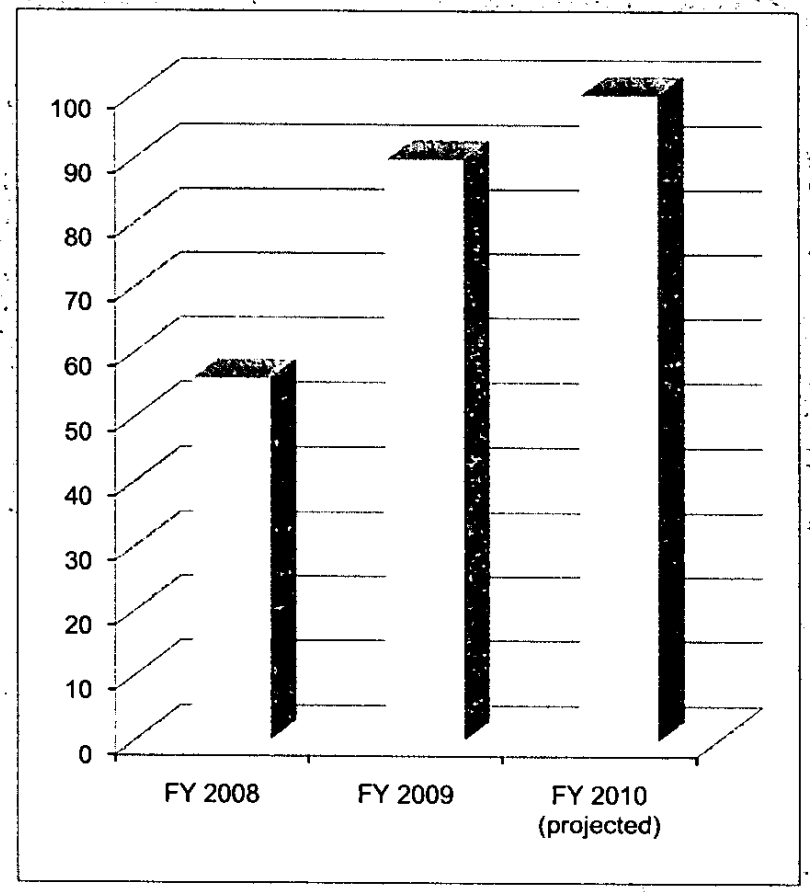


Alaska Housing Finance Corporation www.ahfc.state.ak.us/energy

Weatherization PROGRAM

Communities/Areas Served

- FY 2008: **56**
- FY 2009: **90**
- FY 2010: **100+**



Alaska Housing Finance Corporation

Home Energy Rebate PROGRAM

$160 Million

Funds Fully Encumbered
Expended: $32 million

Home Energy Rebate PROGRAM

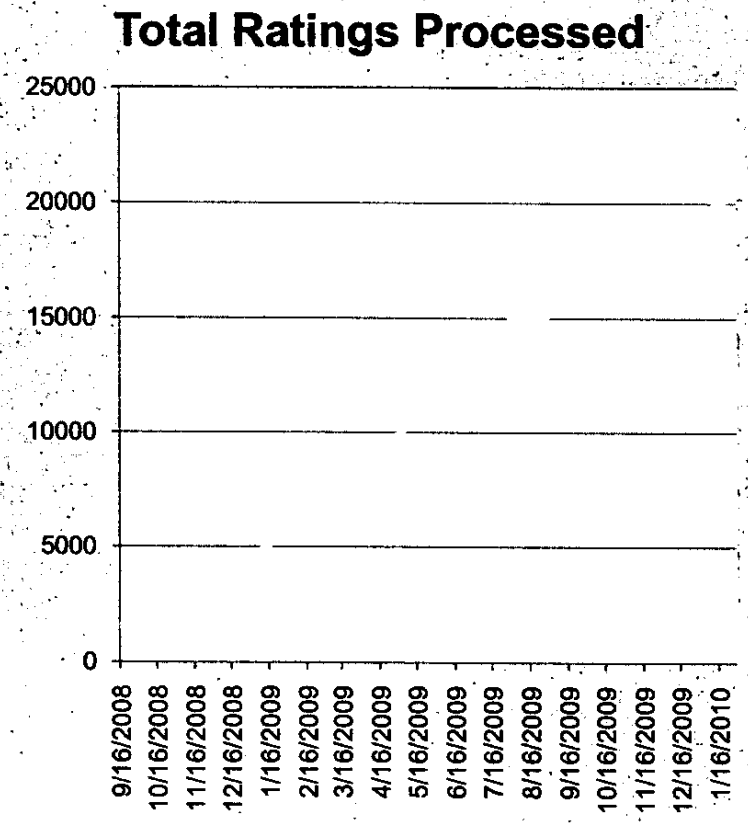
Rebate Rating Activity: 20,281*

Existing Homes*

- **3,418** rebates paid
- **$6,173** average
- 18 month deadline
- **72%** participation rate

New 5 Star Plus Homes

- **532** rebates paid

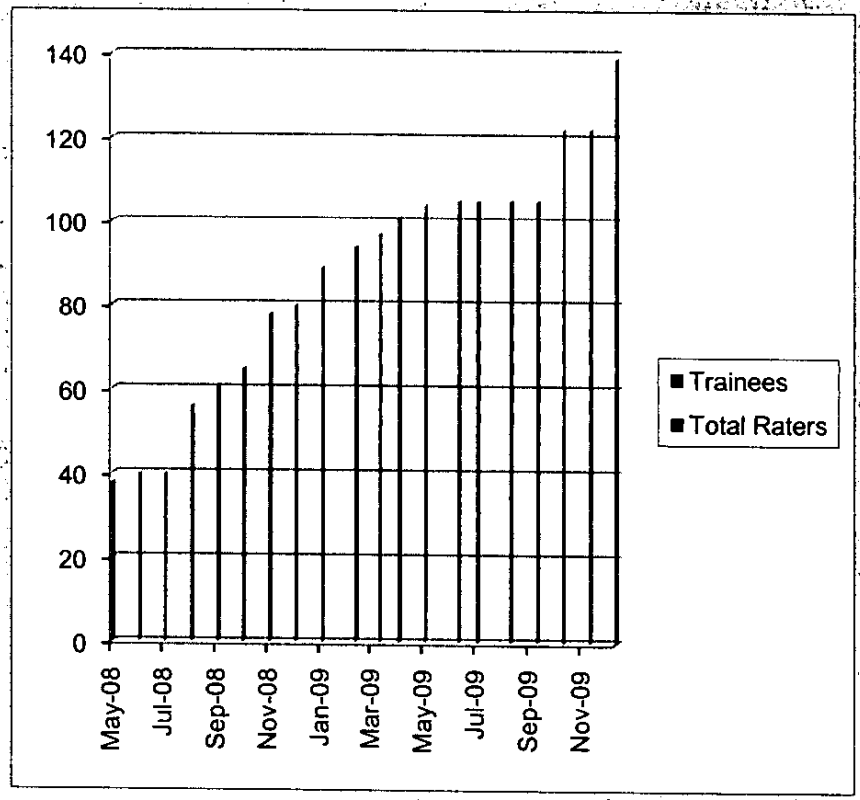


Alaska Housing Finance Corporation www.ahfc.state.ak.us/energy

Home Energy Rebate PROGRAM

Rater Availability

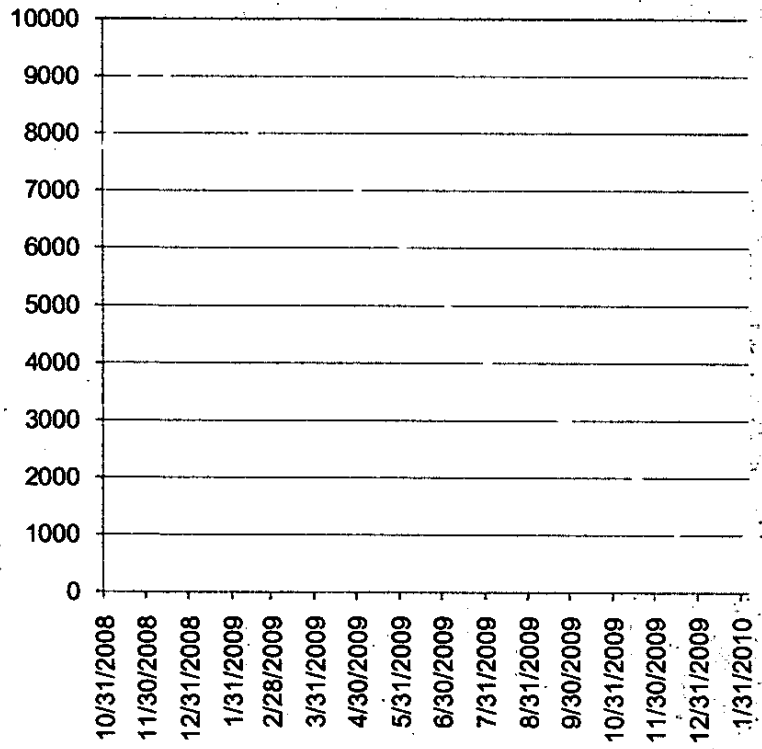
- Raters
  - 38 at program start
  - 123 at present
  - 16 in training status
- Roving rater program
- Centralized sign-up list
  - www.akrebate.com or call 1-877-AK-REBATE
  - Ability to check place on waiting list



Alaska Housing Finance Corporation www.ahfc.state.ak.us/energy

Home Energy Rebate PROGRAM

Wait List



Statewide: 1008

Anchorage: 491

Total Ratings Dispatched
Statewide : 27,743

Alaska Housing Finance Corporation

Home Energy Rebate PROGRAM

Program Snapshot

Approximate Costs of Sampled Homeowners

AHFC Rebate Amount

$6100 average rebate

Homeowner Paid Costs

$10,500 average spent

-$6100 average rebate

=$4400 homeowner investment

$1499 annual energy savings
3 year payback

Alaska Housing Finance Corporation www.ahfc.state.ak.us/energy

Home Energy Rebate PROGRAM

Energy & CO2 Impacts

[illegible]	Before	After	Total Savings	Per Home
3129				
Energy Cost	$17,497,879	$12,808,396	$4,689,483	**$1,499 /year**
CO2 lbs/year	140,980,134	102,342,552	38,637,581	**12,352 lbs/yr**
Rating Stars	3	4		2 steps

Average energy use reduced 31.9%

Total energy saved in BTUs = 297 billion

Equivalent energy savings: 51,213 barrels of crude oil

2.14 million gallons of fuel oil

Alaska Housing Finance Corporation www.ahfc.state.ak.us/energy

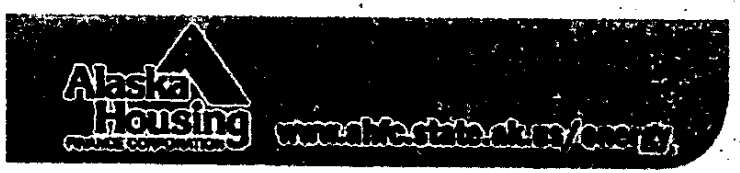
Home Energy Rebate PROGRAM

Average Savings per Home by Fuel Type

Electric	711 kwh
Natural Gas	931 ccf
#2 Oil	692 gallons
Propane	96 gallons
Wood	2.4 cords

3192 sampled homes

Projected average energy cost reduced 26.8%



Second Mortgage for Energy Conservation

- 2nd Mortgage up to $30,000
  - 15 Year Loan at the Taxable Rate
  - Current loan activity: **104**

Training Progress Report

*2009**

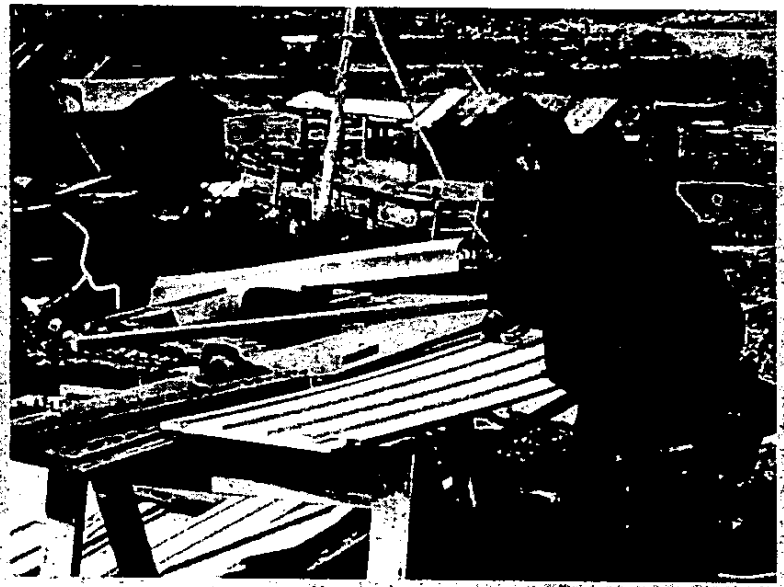
Professional Classes: 98

Professional Students: 1384

Consumer Classes: 317

Consumer Students: 3908

23 regional communities



Alaska Housing Finance Corporation www.akhfc.state.ak.us/energy

Weatherization PROGRAM

Home Energy Rebate PROGRAM

HOUSE COMMITTEE REPORT

(7)
Date Referred to Committee: January 19, 2010 FURTHER REFERRALS: Finance

Date of Committee Action: 2/23/10

The HOUSE SPECIAL COMMITTEE ON ENERGY considered: HB 296

HOUSE BILL NO. 296
"An Act authorizing and relating to the issuance of bonds by the Alaska Housing Finance Corporation; establishing the Alaska energy efficiency revolving loan fund and relating to the fund; authorizing municipalities and the State of Alaska to borrow money from the Alaska Housing Finance Corporation for the purposes of the Alaska energy efficiency revolving loan fund; and providing for an effective date."

HB 296 ENERGY EFFICIENCY BONDS; LOANS; FUND

Recommends it be replaced with [ ] HCS *or* [X] CS *for* HB 296 (ENE)
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
DOT	2			✓
REV	1			✓

Signing with recommendations	Printed Last Name	DP	DNP	NR	AM
	Dahlstrom			X	
	Peterson	X			
	Johansen			X	
	Tuck				X
Chair:	Edgmon	✓			
Chair:	Millett	X			

HB

303

<target><bill>HB 303</bill><subject>HB
303</subject><comm>HENE26</comm></target>

ALASKA STATE LEGISLATURE

REPRESENTATIVE KURT OLSON

- Chair, Labor and Commerce
- Member: Rules, Resources

Session: January – April
State Capitol
Juneau, AK 99801-1182
Phone: 907-465-2693
Fax: 907-465-3835

Interim: May – December
145 Main Street Loop, Ste 221
Kenai, AK 99611
Phone: 907-283-2690
Fax: 907-283-2763

Official Business

Hearing Request
HB 303 - Energy Efficient Small Business Grant Fund and Program

February 4, 2010

Representative Charisse Millett, Chair
Representative Bryce Edgmon, Co-Chair
House Energy Special Committee
Room 124, State Capitol
Juneau, Alaska 99801

At your earliest convenience, I respectfully request a hearing on House Bill 303 "An Act establishing the Alaska energy efficient small business grant fund and program".

This legislation expands the concept of the Alaska Housing Finance Corporation's Home Energy Rebate Program to include small businesses. The small business energy rebate program would allow small business owners wishing to make energy efficiency improvements on their businesses to receive a rebate for some of their expenditures. House Bill 303 will improve energy efficiency throughout the state and will provide energy savings for small business owners.

Please do not hesitate to contact me or my staff, Jennifer Senette, at 465-4530 with any questions or concerns about this legislation. I look forward to hearing from you and discussing this bill in further detail.

Thank you for your consideration.

Email: Representative_Kurt_Olson@legis.state.ak.us

26-LS1060\R.1
Kane
2/22/10

AMENDMENT #1

OFFERED IN THE HOUSE BY REPRESENTATIVE PETERSEN

TO: HB 303

Page 2, lines 2 - 13:

Delete all material and insert:

"(b) Subject to appropriation and for the purpose of improving energy efficiency in small businesses in the state, the corporation may make a grant from the Alaska energy efficient small business grant fund to the owner of a qualifying business in the state for the purpose of

(1) retrofitting an existing business structure or building a new business structure in the state if

(A) the assessed value of the structure to be retrofitted or constructed with the proceeds of the grant does not exceed $1,000,000;

(B) the structure to be retrofitted or constructed with the proceeds of the grant is owned and occupied by the qualifying business; and

(C) the retrofit or construction meets other criteria that are adopted by the corporation in regulation; or

(2) improving energy efficiency of equipment of a qualifying business or upgrading to more energy efficient equipment of a qualifying business if the equipment is located in the state and the value of the equipment does not exceed $1,000,000."

Page 2, line 20, following "AS 18.56.410":

Insert "and must include a provision for requiring an applicant to show a quantifiable increase in energy efficiency for the proposed retrofit"

2837

Page 2, following line 20:

Insert new subsections to read:

"(d) A grant may not be made under this section to a qualifying business if any of the applicants for the grant has outstanding liabilities to the state at the time of making application for the grant under this section.

(e) In this section, "qualifying business" means a business that

(1) is owned by a person who is licensed to do business under AS 43.70 and not licensed in a state other than Alaska or by persons all of whom are licensed to do business under AS 43.70; and

(2) employs not more than 50 total employees, including the employees of a parent company, sister company, or subsidiary of the business."

ALASKA STATE LEGISLATURE

REPRESENTATIVE KURT OLSON

- Chair, Labor and Commerce
- Member: Rules, Resources

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State Capitol
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Official Business

Sponsor Statement

HB 303 - Energy Efficient Small Business Grant Fund and Program

Rising energy costs in Alaska mean that energy expenditures have an increasingly substantial impact on the bottom line of small businesses in the state. As such, building energy efficient business structures is in the interest of any small business owner who wishes to save energy and money.

Currently, the state provides an incentive for homeowners to improve the energy efficiency of their homes through the Alaska Housing Finance Corporation's Home Energy Rebate Program. House Bill 303 expands the current Home Energy Rebate Program to help small business owners optimize energy usage at the lowest possible cost.

The Small Business Energy Rebate Fund and Program would allow small business owners wishing to make energy efficiency improvements on their businesses to receive a rebate for some of their expenditures. The program requires an energy rater to evaluate the business structure before and after the improvements. Rebates would then be dependent on the relative amount of efficiency gained and receipts from eligible improvements chosen by the business owner from the energy rating's improvement options list.

There are over 16,000 small employers in Alaska today. Extending the energy efficiency grants that homeowners enjoy to small business owners is one way to encourage energy efficiency and to help the small business owners that are such an important source of employment and opportunity in Alaska.

I respectfully ask for your consideration of this bill and look forward to hearing your questions and concerns.

Email: Representative_Kurt_Olson@legis.state.ak.us

ALASKA STATE LEGISLATURE

REPRESENTATIVE KURT OLSON

- Chair, Labor and Commerce
- Member: Rules, Resources

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Official Business

Sectional Summary
HB 303 - Energy Efficient Small Business Grant Fund and Program

The following is a sectional summary of HB 303 and is not an authoritative representation of the bill. For an authoritative interpretation, please refer to the bill itself.

Section 1: amends AS 18.56.010 which establishes the purpose for the Alaska Housing Finance Corporation

Subsection (h) is added enabling the Alaska Housing Finance Corporation to expand the concept of the Alaska energy efficient home grant fund to include small businesses

Section 2: amends AS 18.56 by adding new section titled Alaska Energy Efficient Small Business Grant Fund

Subsection (a) establishes the Alaska energy efficient small business grant fund in the corporation

Subsection (b) permits the corporation to make a grant from the fund to qualifying businesses provided that

1) the assessed value of the structure to be retrofitted or constructed with the grant does not exceed $1,000,000.00
2) the structure is owned by a person who is licensed to do business in the state or by persons who are licensed to do business in the state, and that none of the grant applicants have outstanding liabilities to the state,
3) the structure meets other criteria adopted by the corporation - AHFC

Subsection (c) requires the corporation to adopt guidelines and procedures setting out the criteria for administration of the Alaska energy efficient small business grant fund

Email: Representative_Kurt_Olson@legis.state.ak.us

NFIB

The Voice of Small Business®

ALASKA

February 17, 2010

The Honorable Kurt Olson
State Capitol Building
Juneau, Alaska 99801-1182

RE: Houser Bill 303

Dear Representative Olson:

On behalf of the National Federation of Independent Business/Alaska, I wish to respectfully share our support for House Bill 303. The National Federation of Independent Business is the largest small-business advocacy group in Alaska.

The cost of energy is a critical issue to the many small businesses in Alaska as it has a direct impact on the profitability of the business. Thus, building energy efficient business structures is in the interest of small business owners.

The Small Business Energy Rebate Fund and Program, proposed in House Bill 303, would allow small business owners wishing to make energy efficiency improvements on their businesses to receive a rebate for some of their expenditures. The program requires an energy rater to evaluate the business structure before and after the improvements. Rebates would then be dependent on the relative amount of efficiency gained and receipts from eligible improvements chosen by the business owner from the energy rating's improvement options list.

This approach will assist many Alaskan small business owners improve their operational efficiency by reducing the use of energy and lower the cost of operations.

We appreciate your concern with the viability of many of Alaska's small businesses.

Sincerely yours,

Dennis L. DeWitt
Alaska State Director

Cc: NFIB/AK Leadership Council
House Energy Committee

Alaska State Legislature

State Capitol, Suite 422
Juneau, AK 99801-1182
Phone: 465-4939
Fax: 465-2418
Toll Free: (800) 465-4939
Representative_Pete_Petersen@legis.state.ak.us

716 W. 4th Ave, Suite 380
Anchorage, AK 99501-2133
Phone: 269-0265
Fax: 269-0264

Representative Pete Petersen

Serving Northeast Anchorage and Muldoon

MEMORANDUM

DATE: February 22, 2010

TO: House Energy Committee Members

CC: Rep. Kurt Olson

FROM: Rep. Pete Petersen

RE: Amendment to House Bill 303

My amendment to HB 303 would make the following changes to the original version of the bill:

- Explicitly add that grants under this bill must be for improving energy efficiency, and any regulations or guidelines issued under this bill must require a quantifiable increase in energy efficiency,
- Allow grants for business equipment, not just for structures,
- Clarify that grants must be for projects in Alaska,
- Limit eligibility for grants to Alaskan businesses, and
- Limit eligibility to businesses with 50 or fewer employees.

Thank you for your consideration. Please feel free to call me, or my aide David Dunsmore, at 465-4939 with any questions or concerns.

FISCAL NOTE

STATE OF ALASKA
2010 LEGISLATIVE SESSION

Fiscal Note Number: 1
Bill Version: **HB 303**
() Publish Date:

Identifier (file name): HB303-DOR-AHFC-2-11-10
Dept. Affected: Revenue
Title: SMALL BUSINESS ENERGY EFFICIENCY GRANTS
RDU: Alaska Housing Finance Corp.
Component: Operations
Sponsor: Representative Olson
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 2011**	**FY 2011**	**FY 2012**	**FY 2013**	**FY 2014**	**FY 2015**	**FY 2016**
Personal Services	145.0		145.0	145.0	145.0	145.0	145.0
Travel	10.0		10.0	10.0	10.0	10.0	10.0
Contractual							
Supplies							
Equipment							
Land & Structures							
Grants & Claims							
Miscellaneous							
TOTAL OPERATING	**155.0**	**0.0**	**155.0**	**155.0**	**155.0**	**155.0**	**155.0**
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							
1103AHFC Receipts	155.0		155.0	155.0	155.0	155.0	155.0
TOTAL	**155.0**	**0.0**	**155.0**	**155.0**	**155.0**	**155.0**	**155.0**

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)*

HB 303 would establish an Alaska Energy Efficient Small Business Grant Fund in the Alaska Housing Finance Corporation. Making the assumption that this program would be funded at between $1 million and $10 million annually, the Corporation would need one Grants Administrator I and one Administrative Assistant I along with $10,000 in travel to monitor the program.

A larger amount of funding would likely require a larger number of staff for the administration of the program.

Prepared by: Bryan Butcher, Director, Governmental Relations/Public Affairs — Phone 330-8445
Division: Alaska Housing Finance Corporation — Date/Time 2-12-10; 5:06pm
Approved by: Ginger Blaisdell, Director — Date 2-14-10; 4:33pm
Administrative Services Division

(Revised 11/6/2009 OMB)

2843

HB

305

<target><bill>HB 305</bill><subject>HB
305</subject><comm>HENE26</comm></target>

26-LS1223\E
Kane
3/5/10

CS FOR HOUSE BILL NO. 305(ENE)

IN THE LEGISLATURE OF THE STATE OF ALASKA

TWENTY-SIXTH LEGISLATURE - SECOND SESSION

BY THE HOUSE SPECIAL COMMITTEE ON ENERGY

Offered:
Referred:

Sponsor(s): HOUSE SPECIAL COMMITTEE ON ENERGY

A BILL

FOR AN ACT ENTITLED

"An Act relating to energy; relating to construction plans, operating costs, and energy efficiency standards for school construction and major maintenance by the Department of Education and Early Development, to energy efficiency, energy conservation, and alternative energy, to the renewable energy grant fund, to an emerging energy technology fund, to a renewable energy refundable tax credit, and to the board of directors of the Alaska Energy Authority; creating a Department of Energy; amending the size and composition of the board of directors of the Alaska Energy Authority by removing the members of the Alaska Industrial Development and Export Authority as directors of the Alaska Energy Authority and providing for designation or appointment of other members; amending the quorum requirement for the board of directors of the Alaska Energy Authority; relating to the alternative energy revolving loan fund; and relating to nuclear energy production and facilities and nuclear waste material."

BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF ALASKA:

*** Section 1.** AS 14.07.020(a) is amended to read:

(a) The department shall

(1) exercise general supervision over the public schools of the state except the University of Alaska;

(2) study the conditions and needs of the public schools of the state, adopt or recommend plans, administer and evaluate grants to improve school performance awarded under AS 14.03.125, and adopt regulations for the improvement of the public schools;

(3) provide advisory and consultative services to all public school governing bodies and personnel;

(4) prescribe by regulation a minimum course of study for the public schools; the regulations must provide that, if a course in American Sign Language is given, the course shall be given credit as a course in a foreign language;

(5) establish, in coordination with the Department of Health and Social Services, a program for the continuing education of children who are held in detention facilities in the state during the period of detention;

(6) accredit those public schools that meet accreditation standards prescribed by regulation by the department; these regulations shall be adopted by the department and presented to the legislature during the first 10 days of any regular session, and become effective 45 days after presentation or at the end of the session, whichever is earlier, unless disapproved by a resolution concurred in by a majority of the members of each house;

(7) prescribe by regulation, after consultation with the state fire marshal and the state sanitarian, standards that will assure healthful and safe conditions in the public and private schools of the state, including a requirement of physical examinations and immunizations in pre-elementary schools; the standards for private schools may not be more stringent than those for public schools;

(8) exercise general supervision over pre-elementary schools that receive direct state or federal funding;

(9) exercise general supervision over elementary and secondary

correspondence study programs offered by municipal school districts or regional educational attendance areas; the department may also offer and make available to any Alaskan through a centralized office a correspondence study program;

(10) accredit private schools that request accreditation and that meet accreditation standards prescribed by regulation by the department; nothing in this paragraph authorizes the department to require religious or other private schools to be licensed;

(11) review plans for construction of new public elementary and secondary schools and for additions to and major rehabilitation of existing public elementary and secondary schools and, in accordance with regulations adopted by the department, determine and approve the extent of eligibility for state aid of a school construction or major maintenance project; for the purposes of this paragraph, "plans" include educational specifications, schematic designs, **an operations and maintenance cost report,** and final contract documents;

(12) provide educational opportunities in the areas of vocational education and training, and basic education to individuals over 16 years of age who are no longer attending school;

(13) administer the grants awarded under AS 14.11;

(14) establish, in coordination with the Department of Public Safety, a school bus driver training course;

(15) require the reporting of information relating to school disciplinary and safety programs under AS 14.33.120 and of incidents of disruptive or violent behavior;

(16) establish by regulation criteria, based on low student performance, under which the department may intervene in a school district to improve instructional practices, as described in AS 14.07.030(14) or (15); the regulations must include

(A) a notice provision that alerts the district to the deficiencies and the instructional practice changes proposed by the department;

(B) an end date for departmental intervention, as described in AS 14.07.030(14)(A) and (B) and (15), after the district demonstrates three consecutive years of improvement consisting of not less than two percent

increases in student proficiency on standards-based assessments in math, reading, and writing as provided in AS 14.03.123(f)(2)(A); and

(C) a process for districts to petition the department for continuing or discontinuing the department's intervention;

(17) notify the legislative committees having jurisdiction over education before intervening in a school district under AS 14.07.030(14) or redirecting public school funding under AS 14.07.030(15)**;**

(18) adopt regulations that set standards for energy efficiency for school construction and major maintenance to provide energy efficiency benefits for all school locations in the state and that address energy efficiency in design and energy systems that minimize long-term energy and operating costs.

*** Sec. 2.** AS 14.11.135(6) is amended to read:

(6) "major maintenance" means a project described in AS 14.11.013(a)(1)(C)**,** [OR] (D)**, or (E)**;

*** Sec. 3.** AS 14.11.135(7) is amended to read:

(7) "school construction" means a project described in AS 14.11.013(a)(1)(A), (B), [(E),] (F), or (G).

*** Sec. 4.** 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. 5.** AS 18.45.025 is amended to read:

Sec. 18.45.025. Facilities siting permit required. (a) A person may not construct a nuclear fuel production facility, **nuclear utilization or** 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.

(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.

(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

[(1) REPEALED

(2)] the municipality with jurisdiction over the proposed facility site has approved the permit [; AND

(3) REPEALED

(4) THE GOVERNOR HAS APPROVED THE PERMIT].

* **Sec. 6.** AS 18.56.090(c) is amended to read:

(c) The corporation may not provide money or another form of housing assistance authorized by (b) of this section unless the board identifies in the corporation's proposed operating budget the money available to the corporation, including the corporation's own assets, for the proposed housing assistance. The provisions of this subsection apply to

(1) subsidies authorized by the home ownership assistance program under AS 18.56.091;

(2) mortgage subsidies authorized by the graduated payment mortgage loan program under AS 18.56.098(c);

(3) interest rate deductions authorized in the housing development fund under AS 18.56.100(b)(1) and (*l*);

(4) money or another form of housing assistance payable from corporate earnings or assets of the corporation, other than money appropriated to the corporation for the specific purpose, for a program set out in **AS 18.56.400 - 18.56.810** [AS 18.56.400 - 18.56.850].

*** Sec. 7.** AS 18.65.340(f)(1) is amended to read:

(1) "department" means a department of state government listed in **AS 44.17.005(2) - (16)** [AS 44.17.005(2) - (15)];

*** Sec. 8.** AS 22.05.025(a) is amended to read:

(a) The supreme court has authority over

(1) all matters relating to the

(A) maintenance, occupancy, and operation of all court facilities;

(B) rent or lease of facilities for court system purposes, subject to AS 36.30.080(c); and

(C) acquisition of facilities for court system purposes by lease-purchase or lease-financing agreements, subject to AS 36.30.085; and

(2) the planning, design, and construction of court facilities but, in the exercise of its authority under this paragraph, the supreme court shall cooperate and coordinate with the Department of Transportation and Public Facilities so that court facility construction projects are carried out in accordance with the statutes and regulations applicable to state public works projects **and comply with the state energy use reduction plan under AS 44.42.067**.

*** Sec. 9.** 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) 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 will not cost more than a fossil fuel fired system to purchase, install, maintain, and operate.

(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. 10.** AS 39.50.200(b) is amended by adding a new paragraph to read:

(64) the board of directors of the Alaska Energy Authority (AS 44.83.030).

*** Sec. 11.** AS 41.41.010(b) is amended to read:

(b) The authority is a public corporation and an instrumentality of the state within the Department of **Energy** [REVENUE].

*** Sec. 12.** 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) for each project funded, require activity reports at intervals determined by the authority.

*** Sec. 13.** AS 42.45.045 is amended by adding a new subsection to read:

(m) The authority shall enter into a contract or agreement 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. 14.** AS 42.45 is amended by adding a new section to read:

Article 7A. Emerging Energy Technology.

Sec. 42.45.375. Emerging energy technology fund. (a) The emerging energy technology fund is established. The authority shall administer the fund as a fund distinct from other funds of the authority. The fund consists of

(1) money appropriated to the fund by the legislature to provide grants and loans for energy projects;

(2) gifts, bequests, contributions from other sources, and federal money appropriated to the fund;

(3) interest earned on the fund balance; and

(4) investments to be managed by the Department of Revenue, which shall be the fiduciary of the fund under AS 37.10.071.

(b) The fund is not a dedicated fund.

(c) The authority, in consultation with the advisory committee established under (e) of this section, may make grants or loans 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 and loans under this section, the authority, in consultation with the advisory committee established under (e) 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) An advisory committee is established and consists of five members. Each member of the committee shall have a degree in science or engineering 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) a department or agency of the state.

(f) A member of the advisory committee appointed under (e) of this section serves without compensation but is entitled to per diem and travel expenses as provided in AS 39.20.180.

(g) A member of the advisory committee or a business or organization to which the advisory member belongs may not receive a loan or grant from the fund during that member's term on the advisory committee or for a period of one year after the termination of the member's service on the advisory committee.

(h) 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. 15.** 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. 16.** AS 43.20 is amended by adding a new section to article 1 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. 17.** 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 provide a form 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. 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. 18.** AS 44.17.005 is amended to read:

Sec. 44.17.005. Offices and departments. There are in the state government the following principal offices and departments:

(1) Office of the Governor

(2) Department of Administration

(3) Department of Law

(4) Department of Revenue

(5) Department of Education and Early Development

(6) Department of Health and Social Services

(7) Department of Labor and Workforce Development

(8) Department of Commerce, Community, and Economic Development

(9) Department of Military and Veterans' Affairs

(10) Department of Natural Resources

(11) Department of Fish and Game

(12) Department of Public Safety

(13) Department of Transportation and Public Facilities

(14) Department of Environmental Conservation

(15) Department of Corrections

(16) Department of Energy.

*** Sec. 19.** AS 44 is amended by adding a new chapter to read:

Chapter 38. Department of Energy.

Sec. 44.38.010. Commissioner of energy. The principal executive officer of

the Department of Energy is the commissioner of energy.

Sec. 44.38.020. Duties. The Department of Energy shall

(1) develop and administer a comprehensive energy plan for the state, addressing energy production, distribution, conservation, and consumption statewide;

(2) promote cost-effective energy efficiencies in construction, renovation, and maintenance of public buildings and commercial and residential structures, including the adoption and management of energy-efficiency standards;

(3) encourage the development of new technologies and alternative energy sources to reduce energy use and costs to consumers;

(4) lead the implementation of statewide energy strategies to ensure reliable, stable supplies of electricity, heating fuels, renewable and alternative energy, and other energy resources at reasonable costs to consumers;

(5) serve as the state's designated energy office for all United States Department of Energy funds.

Sec. 44.38.030. Home energy conservation and weatherization program. (a) The Department of Energy shall plan, study, implement, and assist programs for home energy conservation and weatherization, including, without limitation,

(1) a home energy loan program;

(2) a rural capital retrofit program; and

(3) an energy efficiency and weatherization program.

(b) In the development of a home energy conservation or weatherization program under (a) of this section, the department may not consider the value of Alaska longevity bonus payments under AS 47.45 or permanent fund dividends under AS 43.23 in determining whether a person meets income guidelines established in regulation by the department for a state conservation or weatherization program or, to the extent permitted by federal law, a federal energy conservation or weatherization program.

*** Sec. 20.** AS 44.42 is amended by adding a new section to read:

Sec. 44.42.067. Retrofits for energy efficiency and energy efficiency report. (a) Not later than January 1, 2020, the department shall 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, new construction, or deferred maintenance of a public facility performed under this section shall, to the extent feasible, 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) 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.

(d) 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 that is not a legislative building or court building.

*** Sec. 21.** AS 44.83.020 is amended to read:

Sec. 44.83.020. Creation of authority. There is created the Alaska Energy Authority. The authority is a public corporation of the state in the Department of **Energy** [COMMERCE, COMMUNITY, AND ECONOMIC DEVELOPMENT] but with separate and independent legal existence.

*** Sec. 22.** AS 44.83.030 is amended to read:

Sec. 44.83.030. Membership of the authority. The directors of the **authority** [ALASKA ENERGY AUTHORITY] are

(1) the **commissioner of revenue to serve as an ex officio member;**

(2) the commissioner of energy to serve as an ex officio member;

(3) one other person appointed by the governor who serves as the head of a principal department of the executive branch to serve as an ex officio member; and

(4) four public members appointed by the governor to serve overlapping terms of two years [MEMBERS OF THE ALASKA INDUSTRIAL

DEVELOPMENT AND EXPORT AUTHORITY].

*** Sec. 23.** AS 44.83.040(a) is amended to read:

(a) The chair and vice-chair of the **authority shall be elected by the directors of the authority** [ALASKA INDUSTRIAL DEVELOPMENT AND EXPORT AUTHORITY SHALL SERVE AS OFFICERS OF THE ALASKA ENERGY AUTHORITY]. The powers of the **authority** [ALASKA ENERGY AUTHORITY] are vested in the directors, and **four** [THREE] directors of the authority constitute a quorum. Action may be taken and motions and resolutions adopted by the **authority** [ALASKA ENERGY AUTHORITY] at a meeting by the affirmative vote of a majority of the directors. The directors of the **authority** [ALASKA ENERGY AUTHORITY] serve without compensation, but they shall receive the same travel pay and per diem as provided by law for board members under AS 39.20.180.

*** Sec. 24.** 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. 25.** 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. 26.** AS 45.88.010 is amended by adding a new subsection to read:

(e) The alternative 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 appropriated to 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 and appropriated to the fund.

* **Sec. 27.** 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. 28.** 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) be an individual and physically reside in the state and maintain a domicile in the state during 12 consecutive months prior to 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. 29.** 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. 30.** 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. 31.** 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. 32.** 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. 33.** 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. 34.** AS 18.45.027; AS 18.56.850; AS 45.88.010(c), 45.88.030(c), 45.88.030(d), and 45.88.040(a) are repealed.

*** Sec. 35.** AS 43.20.046, enacted by sec. 16 of this Act, and AS 43.98.040, enacted by sec. 17 of this Act, are repealed January 1, 2025.

*** Sec. 36.** The uncodified law of the State of Alaska is amended by adding a new section to read:

INITIAL APPOINTMENT OF DIRECTORS. Notwithstanding the terms set in AS 44.83.030(4), enacted by sec. 22 of this Act, the governor shall make initial appointments so that two public directors of the Alaska Energy Authority shall be appointed to one-year terms and two shall be appointed to two-year terms.

*** Sec. 37.** 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. 38.** The uncodified law of the State of Alaska is amended by adding a new section to read:

REVISOR'S INSTRUCTION. The revisor of statutes shall change the heading of art. 1 of AS 45.88 from "Alternative Energy Revolving Loan Fund" to "Alternative Energy Conservation Revolving Loan Fund."

Alaska Legislature
House Special Committee on Energy

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SPONSOR STATEMENT – HB 305

"An Act relating to energy; relating to the board of directors of the Alaska Energy Authority; amending the size and composition of the board of directors of the Alaska Energy Authority by removing the members of the Alaska Industrial Development and Export Authority as directors of the Alaska Energy Authority and providing for designation or appointment of other members; amending the quorum requirement for the board of directors of the Alaska Energy Authority; and relating to nuclear waste material."

The 2010 Omnibus Energy Bill is the result of a year-long effort by the House Special Committee on Energy to have meaningful energy legislation pass this session. The bill ties together nine bills that were introduced last session into one bill that will help establish the overall framework necessary to make affordable and reliable energy available to all Alaskans.

The following bills were incorporated into the omnibus energy bill:

- HB148 – Energy Efficiency Standards for Public Buildings (Gara)
- HB191 – Nuclear Power Production (Johnson)
- HB196 – Alternative Energy Revolving Loan Fund (HENE)
- HB218 – State Dept of Energy (HENE)
- HB219 – Renewable Energy Grant Requirements (HENE)
- SB31 – Renewable Energy Tax Credits (McGuire)
- SB71 – Alternative Energy Systems for Public Works (Therriault)
- SB121 – Energy Efficiency Standards for Public Buildings (SRES)
- SB150 – Emerging Energy Technology Fund (McGuire)

House Bill 305 is the product of about a dozen field hearings held outside of Juneau, in communities on and off the road system. Hundreds of Alaskans testified about energy issues in their region and how the state can help the communities to help themselves.

Co-chairs Rep. Bryce Edgmon, D-Dillingham, and Rep. Charisse Millett, R-Anchorage, believe the omnibus bill is the critical first step to addressing the long-term energy needs of all Alaskans.

All the materials submitted at the field hearings and to create the omnibus energy bill are posted on the House Energy Webpage:

http://www.housemajority.org/coms/hene/hene_background.php

The legislation was referred to the House Special Committee on Energy and the House Resources and Finance Committees.

Sec. ⏭18.45.027⏮. Transportation of nuclear waste material.

(a) The transportation of high level nuclear waste material, except for purposes of disposal outside the state, is prohibited.

(b) For purposes of this section, "high level nuclear waste material"

(1) means

(A) used nuclear reactor fuel;

(B) waste produced during the reprocessing of used nuclear reactor fuel; and

(C) elements having an atomic number greater than 92 and containing 10 or more nanocuries per gram;

(2) does not include radioactive materials used in medicine, education, or scientific research that are stored or disposed of in conformity with procedures established by the Department of Environmental Conservation by regulation adopted under AS 46.03.250 (3).

Sec. ⏩18.45.900⏪. Definitions.

In this chapter,

(1) "atomic energy" means all forms of energy released in the course of nuclear fission or nuclear transformation;

(2) "by-product material" means radioactive material, except special nuclear material, yielded in or made radioactive by exposure to the radiation incident to the process of producing or utilizing special nuclear material;

(3) "nuclear fuel production facility" means a facility that purifies radioactive mineral concentrates and fabricates fissionable material to be used for producing energy in a nuclear reactor;

(4) "nuclear utilization facility" means an apparatus, device, or equipment in which nuclear fission is sustained in a self-supporting and controlled chain reaction; the term does not include an apparatus, device, or equipment used exclusively for educational, medical, or research purposes;

(5) "production facility" means equipment or a device capable of the production of special nuclear material in quantity of significance to the common defense and security, or to affect the health and safety of the public; or any important component part especially designed for the equipment or device;

(6) "radiation" means gamma rays and X-rays, alpha and beta particles, high-speed electrons, neutrons, protons, and other nuclear particles; but not sound or radio waves, or visible, infrared, or ultra-violet light;

(7) "special nuclear material" means plutonium, uranium 233, and uranium enriched in the isotope 233 or in the isotope 235, and any other material that the governor declares by order to be special nuclear material after the Nuclear Regulatory Commission has determined the material to be special nuclear material; or material artificially enriched by any of the foregoing material;

(8) "utilization facility" means equipment or a device, except an atomic weapon, capable of making use of special nuclear material in a quantity significant to the common defense and security, or in a manner affecting the health and safety of the public, or peculiarly adapted for making use of atomic energy in a quantity significant to the common defense and security, or in a manner affecting the health and safety of the public; or an important component part especially designed for the equipment or device.

Sec. ⏩18.56.850⏪. Home energy conservation and weatherization program.

(a) The corporation shall plan, study, implement, and assist programs for home energy conservation and weatherization including, without limitation, the

(1) home energy loan program;

(2) rural capital retrofit program; and

(3) energy efficiency and weatherization program.

(b) In the development of a home energy conservation or weatherization program under (a) of this section, the corporation may not consider the value of Alaska longevity bonus payments under AS 47.45 or permanent fund dividends under AS 43.23 in determining whether a person meets income guidelines established under AS 18.56.088 and (a) of this section for a state or, to the extent permitted by federal law, a federal energy conservation or weatherization program.

Sec. ⏩35.10.010⏪. Standard plans and specifications and limitation on cost.

The department shall prepare and adopt plans and specifications and determine standards for the construction of each public work. Each public work shall be limited in cost to the amount of the appropriation made for that purpose. The plans and specifications may be amended from time to time as the department considers advisable. This section does not apply to the construction of school buildings.

Sec. ⏩45.88.010⏪. Fund established.

(a) There is established in the Department of Commerce, Community, and Economic Development the alternative energy 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 to develop means of energy production utilizing energy sources other than fossil or nuclear fuel, including, but not limited to, windmills, water and solar energy devices.

(b) Money in the fund may be used by the legislature to make appropriations for costs of administering AS ⏩45.88.010 ⏪- 45.88.090.

(c) On June 30 of each fiscal year the unexpended and unobligated cash balance of the fund that is attributable to loans owned by the fund lapses into the general fund.

(d) Notwithstanding any other provision in AS ⏩45.88.010 ⏪- 45.88.090, a multifuel heating system that uses the combination of wood or fossil fuel for fuel does qualify under this loan fund.

Sec. 45.88.030. Loan terms.

(a) A loan for the development of an alternative energy system under AS 45.88.010 - 45.88.090 may not exceed $30,000.

(b) The duration for repayment of the loan may not exceed 20 years.

(c) Loans made under AS 45.88.010 - 45.88.090 may be used to finance the cost of purchase, construction, and installation of an alternative energy system or "centralized multifuel heating systems" which is likely to result in energy conservation or energy cost savings.

(d) All principal and interest payments, and money chargeable to principal or interest that is collected through liquidation by foreclosure or other process on loans made under AS 45.88.010 - 45.88.090, shall be paid into the alternative energy revolving loan fund.

(e) The rate of interest for a loan 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. 45.88.040. Sale or transfer of mortgages and notes.

(a) The commissioner may sell or transfer at par value or at a premium or discount to any bank or other private purchaser for cash or other consideration the mortgages and notes held by the Department of Commerce, Community, and Economic Development as security for loans made under AS ⏭45.88.010⏮ 45.88.090.

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Rep_Bryce_Edgmon@legis.state.ak.us

March 10, 2010

Governor Sean Parnell
State Capitol Building
Juneau, Alaska 99801

Dear Governor Parnell,

On behalf of the Alaska House of Representatives' Special Committee on Energy we request your Administration provide the Committee with—

1. An organizational chart showing all state agencies and advisors involved in energy policy and projects. This chart should include, but not be limited to: the Alaska Energy Authority; Alaska Housing Finance Corporation (AHFC); the Alaska Department of Natural Resources; the Alaska Department of Commerce, Community and Economic Development; and, Governor's Special Assistants Gene Therriault and Joe Balash.

   This chart should also include a description of duties and responsibilities related to energy of each agency, department and individual identified and how their respective functions are coordinated as part of an overall energy plan.

2. An analysis demonstrating the fiscal impacts on the state budget from establishing an Alaska Department of Energy that will serve as a "one-stop shop" for all state energy programs and services. This analysis should reflect the increment that would be created with the formation of the new agency and decrements created in the budgets of other agencies resulting from consolidating state energy programs within the new department.

3. An explanation of why, in light of AO 230 which identifies the Alaska Energy Authority as the State of Alaska's Energy Office, AHFC's Research and Rural Development Department claims to be the state energy office? This is a source

of confusion to the U.S. Department of Energy and gives the appearance that the Alaska state government is disorganized or given to bureaucratic in-fighting.

Given the compressed time schedule we are facing until adjournment, the Committee wishes to receive the requested information by March 16, 2010 at 12:00 p.m.

Sincerely,

Representative Charisse Millett
Co-Chair

Representative Bryce Edgmon
Co-Chair

FISCAL NOTE

STATE OF ALASKA
2010 LEGISLATIVE SESSION

Fiscal Note Number: 1
Bill Version: **CSHB 305, version E**
() Publish Date:

Identifier (file name):CSHB305-DOR-AHFC-3-15-10
Title: OMNIBUS ENERGY BILL
Sponsor: House Energy Committee
Requester:

Dept. Affected: Revenue
RDU: Alaska Housing Finance Corp.
Component: Operations
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	(3,145.0)						
Travel	(62.9)						
Contractual	(385.3)						
Supplies	(25.2)						
Equipment	0.0						
Land & Structures	0.0						
Grants & Claims	(830.0)						
Miscellaneous							
TOTAL OPERATING	**(4,448.4)**	**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	(176.0)						
1003 GF Match							
1004 GF							
1103 AHFC Receipts	(2,028.3)						
1061 CIP Receipts	(1,444.1)						
Other Interagency Receipts	(800.0)						
TOTAL	**(4,448.4)**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**

Estimate of any current year (FY2010) cost:

POSITIONS

Full-time	**(24.0)**						
Part-time							
Temporary							

ANALYSIS: *(Attach a separate page if necessary)*

This fiscal note gives an estimate of the effects of moving all of the Alaska Housing Finance Corporation's energy efficiency staff into a new Department of Energy. This includes a total of 24 PFT employees that are funded with a combination of AHFC Receipts, Federal Receipts, CIP Receipts and Interagency Receipts.

These programs include the Weatherization program, the Home Energy Rebate program, the State Energy Program, the Research and Information Center, Building Energy Efficiency Standards (BEES), Low-Income Home Energy Assistance program and the Builder and Rater Education program.
Attached is another fiscal note that will list out the increment in general funds of these positions going into this new department.

Prepared by: Bryan Butcher, Director, Governmental Relations/Public Affairs — Phone 330-8445
Division: Alaska Housing Finance Corporation — Date/Time 3/15/10 12:00 AM
Approved by: Ginger Blaisdell, Director — Date 03-16-10; 12:37pm
Administrative Services Division

(Revised 11/6/2009 OMB)

FISCAL NOTE

STATE OF ALASKA
2010 LEGISLATIVE SESSION

Fiscal Note Number:
Bill Version: **CSHB 305, version E**
() Publish Date:

Identifier (file name): HB306-GOV-OMB-3-16-10
Dept. Affected: Energy
Title: Omnibus energy bill
RDU
Component
Sponsor: House Energy Committee
Requester: House Energy 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	199.5						
Travel	7,748.2						
Contractual	56.0						
Supplies	15.0						
Equipment							
Land & Structures	36,100.0						
Grants & Claims	0.0						
Miscellaneous							
TOTAL OPERATING	**44,118.7**	**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	571.9						
1003 GF Match	0.0						
1004 GF	13,558.4						
1005 GF/Program Receipts	0.0						
1037 GF/Mental Health	0.0						
Other Interagency Receipts	29,988.4						
TOTAL	**44,118.7**	**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 fiscal note is the second note that reflects the increments associated with the transfer of the Alaska Energy Authority from the Department of Commerce, Community and Economic Development into the newly created Department of Energy. The corresponding decrements are shown in a separate fiscal note. There are no personal services expenses involved with this transfer because the bill does not change the current prohibition of having direct employees within Alaska Energy Authority.

Prepared by: Jack Kreinheder, Senior Analyst — Phone 465-4676
Division: Office of Management and Budget — Date/Time 3/16/10 8:30 AM
Approved by: Karen Rehfeld, Director — Date 3/16/2010
Office of Management and Budget

(Revised 11/6/2009 OMB)

FISCAL NOTE

STATE OF ALASKA
2010 LEGISLATIVE SESSION

Fiscal Note Number:
Bill Version: CSHB 305, version E
() Publish Date:

Identifier (file name): HB306-GOV-OMB-3-16-10 note 2
Dept. Affected: Energy
Title: Omnibus energy bill
RDU
Component
Sponsor: House Energy Committee
Requester: House Energy 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	626.7		626.7	626.7	626.7	626.7	626.7
Travel	50.0		50.0	50.0	50.0	50.0	50.0
Contractual	378.0		378.0	378.0	378.0	378.0	378.0
Supplies	30.0		30.0	30.0	30.0	30.0	30.0
Equipment	287.0						
Land & Structures							
Grants & Claims							
Miscellaneous							
TOTAL OPERATING	**1,371.7**	**0.0**	**1,084.7**	**1,084.7**	**1,084.7**	**1,084.7**	**1,084.7**
CAPITAL EXPENDITURES							
CHANGE IN REVENUES ( )							

FUND SOURCE (Thousands of Dollars)

1002 Federal Receipts							
1003 GF Match							
1004 GF	1,371.7						
1005 GF/Program Receipts							
1037 GF/Mental Health							
Other Interagency Receipts							
TOTAL	**1,371.7**	**0.0**	**1,084.7**	**1,084.7**	**1,084.7**	**1,084.7**	**1,084.7**

Estimate of any current year (FY2010) cost:

POSITIONS

Full-time	6		6	6	6	6	6
Part-time							
Temporary							

ANALYSIS: *(Attach a separate page if necessary)*

This fiscal note estimates the costs for a commissioner and associated commissioner's office staff for a new department of energy (6 positions total). In addition, this note includes the costs for leasing and equipping office space for a total department staff of 30, including the 24 energy-related positions to be transferred from AHFC to the new department.

Note: moving costs for AHFC staff are not included. See next page for details.

Prepared by: Jack Kreinheder, Senior Analyst — Phone 465-4676
Division: Office of Management and Budget — Date/Time 3/16/10 8:30 AM
Approved by: Karen Rehfeld, Director — Date 3/16/2010
Office of Management and Budget

(Revised 11/6/2009 OMB)

FISCAL NOTE

STATE OF ALASKA
2010 LEGISLATIVE SESSION

BILL NO. CSHB 305, version E

ANALYSIS CONTINUATION

Dept. of Energy Cost Estimate

Commissioner's Office Staff	Salary and benefits ($000)
Commissioner	190.8
Special Assistant	116.1
Secretary	87.5
Administrative Assistant	63.9
Accountant III	82.9
Micro/Network specialist	85.5
Personal Services total	626.7
Office lease cost (contractual)	378.0
Travel	50.0
Commodities/Supplies	30.0
TOTAL	1,084.7

Note: Moving costs for AHFC energy staff are not included.

Lease cost estimate for staff of 30: 9,000 square feet X $3.50 per square foot per month
= $31,500/mo, $378,000/yr

Furnishings:

$232,000 = 29 x 8,000 (workstation/ea)
$10,000 = 1 (conventional furniture)
$6,000 = conference room
$248,000 furnishings total

Equipment:
$9,000 = 30 x $300 (phones)
$30,000 = computers, printers, copier
$39,000 equipment total

$287,000 furnishings and equipment total

FISCAL NOTE

STATE OF ALASKA
2010 LEGISLATIVE SESSION

Fiscal Note Number:
Bill Version: **HB305**
() Publish Date:

Identifier (file name): HB305-EED-ESS-3-15-10
Dept. Affected: Education & Early Development
Title "An Act relating to energy; relating to the Board of Directors of the Alaska Energy Authority; ..."
RDU Education Support Services
Component School Finance & Facilities
Sponsor House Special Committee on Energy
Requester House Energy
Component Number 2737

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	150.0						
Travel							
Contractual							
Supplies							
Equipment							
Land & Structures							
Grants & Claims							
Miscellaneous							
TOTAL OPERATING	**150.0**	**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	150.0						
1005 GF/Program Receipts							
1037 GF/Mental Health							
Other Interagency Receipts							
TOTAL	**150.0**	**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
Part-time							
Temporary							

ANALYSIS: *(Attach a separate page if necessary)*
Section 1 of the legislation requires the department to reveiw cost information for proposed facilities. It is anticipated that this review will not result in additional cost to the department. Section 1 also requires the department to adopt regulations setting standards for energy efficiency. The cost associated with section one would include the costs adopting regulations (estimated at $150,000).

Prepared by: Eddy Jeans, Director — Phone 465-8679
Division School Finance — Date/Time 3/15/10 12:00 AM
Approved by: Larry LeDoux — Date 3/15/2010
Commissioner

(Revised 10/13/2009 OMB)

2880

FISCAL NOTE

STATE OF ALASKA
2010 LEGISLATIVE SESSION

Fiscal Note Number:
Bill Version: CSHB 305
() Publish Date:

Identifier (file name): HB305CS(ENE)-CED-AEA-3-15-10
Dept. Affected: DCCED
Title: Energy Omnibus
RDU: Alaska Energy Authority
Component:
Sponsor: House Energy Committee
Requester: House Energy 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	(199.5)						
Contractual	(7,748.2)						
Supplies	(56.0)						
Equipment	(15.0)						
Land & Structures							
Grants & Claims	(36,100.0)						
Miscellaneous							
TOTAL OPERATING	**(44,118.7)**	**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	(571.9)						
1003 GF Match							
1004 GF	(13,558.4)						
1005 GF/Program Receipts							
1037 GF/Mental Health							
Other Interagency Receipts	(29,988.4)						
TOTAL	**(44,118.7)**	**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)*

Section 21 of this bill moves the Alaska Energy Authority from the Department of Commerce, Community and Economic Development into the newly created Department of Energy. There are no personal services expenses involved with this transfer because the bill does not change the current prohibition of having direct employees within Alaska Energy Authority.

Prepared by: Sara Fisher-Goad, Deputy Director — Phone 771-3012
Division: Alaska Energy Authority — Date/Time 3/15/10 12:00 AM
Approved by: Emil Notti, Commissioner — Date 3/15/2010
Commerce, Community and Economic Development

(Revised 11/6/2009 OMB)

FISCAL NOTE

STATE OF ALASKA
2010 LEGISLATIVE SESSION

Fiscal Note Number:
Bill Version: CS HB 305 (ENE)
() Publish Date:

Identifier (file name): HB305CS(ENE)-DEC-CO-3-10-10
Title: Omnibus Energy Bill
Sponsor: House Energy Committee
Requester: House Energy Committee

Dept. Affected: Environmental Conservati
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 5 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 3/10/10 2:00 PM
Approved by: Larry Hartig — Date 3/10/2010
Commissioner

(Revised 11/6/2009 OMB)

FISCAL NOTE

STATE OF ALASKA
2010 LEGISLATIVE SESSION

Fiscal Note Number:
Bill Version: **CSHB 305,version E**
() Publish Date:

Identifier (file name):CSHB305-DOR-AHFC-3-15-10
Title: OMNIBUS ENERGY BILL
Sponsor: House Energy Committee
Requester: House Energy Committee

Dept. Affected: Energy
RDU: Energy Efficiency
Component: Operations
Component Number: n/a

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	3,145.0						
Travel	62.9						
Contractual	385.3						
Supplies	25.2						
Equipment	0.0						
Land & Structures	0.0						
Grants & Claims	830.0						
Miscellaneous							
TOTAL OPERATING	**4,448.4**	**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	176.0						
1003 GF Match							
1004 GF	2,028.3						
1005 GF/Program Receipts							
1061 CIP Receipts	1,444.1						
1007 I/A Receipts	800.0						
TOTAL	**4,448.4**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**

Estimate of any current year (FY2010) cost:

POSITIONS

Full-time	**24.0**						
Part-time							
Temporary							

ANALYSIS: *(Attach a separate page if necessary)*

This second fiscal note shows the increment for the 24 PFT positions that would be transferred from the Department of Research and Rural Development into a new state Department of Energy.

These programs include the Weatherization program, the Home Energy Rebate program, the State Energy Program, the Research and Information Center, Building Energy Efficiency Standards (BEES), Low-Income Home Energy Assistance program and the Builder and Rater Education program.

Prepared by: Bryan Butcher, Director, Governmental Relations/Public Affairs — Phone 330-8445
Division: Alaska Housing Finance Corporation — Date/Time 3/15/10 12:00 AM
Approved by: Ginger Blaisdell, Director — Date 03-16-10; 8:36am
Administrative Services Division

(Revised 11/6/2009 OMB)

FISCAL NOTE

STATE OF ALASKA
2010 LEGISLATIVE SESSION

Fiscal Note Number: 1
Bill Version: **CSHB 305, version E**
() Publish Date:

Identifier (file name):CSHB305-DOR-AHFC-3-15-10
Title: OMNIBUS ENERGY BILL
Sponsor: House Energy Committee
Requester:

Dept. Affected: Revenue
RDU: Alaska Housing Finance Corp.
Component: Operations
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	(3,145.0)						
Travel	(62.9)						
Contractual	(385.3)						
Supplies	(25.2)						
Equipment	0.0						
Land & Structures	0.0						
Grants & Claims	(830.0)						
Miscellaneous							
TOTAL OPERATING	**(4,448.4)**	**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	(176.0)						
1003 GF Match							
1004 GF							
1103 AHFC Receipts	(2,028.3)						
1061 CIP Receipts	(1,444.1)						
Other Interagency Receipts	(800.0)						
TOTAL	**(4,448.4)**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**

Estimate of any current year (FY2010) cost:

POSITIONS

Full-time	**(24.0)**						
Part-time							
Temporary							

ANALYSIS: *(Attach a separate page if necessary)*

This fiscal note gives an estimate of the effects of moving all of the Alaska Housing Finance Corporation's energy efficiency staff into a new Department of Energy. This includes a total of 24 PFT employees that are funded with a combination of AHFC Receipts, Federal Receipts, CIP Receipts and Interagency Receipts.

These programs include the Weatherization program, the Home Energy Rebate program, the State Energy Program, the Research and Information Center, Building Energy Efficiency Standards (BEES), Low-Income Home Energy Assistance program and the Builder and Rater Education program.
Attached is another fiscal note that will list out the increment in general funds of these positions going into this new department.

Prepared by: Bryan Butcher, Director, Governmental Relations/Public Affairs — Phone 330-8445
Division: Alaska Housing Finance Corporation — Date/Time 3/15/10 12:00 AM
Approved by: Ginger Blaisdell, Director — Date 03-16-10; 12:37pm
Administrative Services Division

(Revised 11/6/2009 OMB)

FISCAL NOTE

STATE OF ALASKA
2010 LEGISLATIVE SESSION

Fiscal Note Number:
Bill Version: **HB305**
() Publish Date:

Identifier (file name): HB305-DOA-DGS-03-12-10
Title "An act relating to energy..."
Sponsor (H) ENE
Requester (H) ENE

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 bill does not have a direct fiscal impact on the Department of Administration.

Prepared by: Vern Jones, Chief Procurement Officer — Phone 907-465-2250
Division General Services — Date/Time 3/12/10 2:00 PM
Approved by: Kevin Brooks, Deputy Commissioner — Date 3/12/2010
Department of Administration

(Revised 11/6/2009 OMB)

2885

FISCAL NOTE

STATE OF ALASKA
2010 LEGISLATIVE SESSION

Fiscal Note Number:
Bill Version: CSHB305
() Publish Date:

Identifier (file name):HB305CS(ENE)-CED-AEA-3-12-10
Dept. Affected: DCCED
Title: Omnibus Energy Bill
RDU: 453
Component: Statewide Project Development
Sponsor: House Energy Committee
Requester: House Energy 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	37.9		37.9	37.9	37.9	37.9	37.9
Contractual	358.5		276.5	276.5	276.5	276.5	276.5
Supplies							
Equipment							
Land & Structures							
Grants & Claims							
Miscellaneous							
TOTAL OPERATING	**396.4**	**0.0**	**314.4**	**314.4**	**314.4**	**314.4**	**314.4**
CAPITAL EXPENDITURES							
CHANGE IN REVENUES ()							

FUND SOURCE (Thousands of Dollars)

1002 Federal Receipts							
1003 GF Match							
1004 GF	396.4		314.4	314.4	314.4	314.4	314.4
1005 GF/Program Receipts							
1037 GF/Mental Health							
Other Interagency Receipts							
TOTAL	**396.4**	**0.0**	**314.4**	**314.4**	**314.4**	**314.4**	**314.4**

Estimate of any current year (FY2010) cost:

POSITIONS

Full-time							
Part-time							
Temporary							

ANALYSIS: *(Attach a separate page if necessary)*

HB 305, titled the "Omnibus Energy Bill," financially impacts the Alaska Energy Authority as follows:

Sec 12,13) amending the Renewable Energy Fund grant recommendation program by a) 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 experts to assist in conducting an independent economic analysis for each project recommended for funding. AEA does not anticipate increased costs with these changes.

(Continued)

Prepared by: Sara Fisher-Goad, Deputy Director-Operations
Phone 907-771-3012
Division: Alaska Energy Authority
Date/Time 3/12/10 12:00 AM
Approved by: Emil Notti, Commissioner
Date 3/12/2010
Commerce, Community and Economic Development

ANALYSIS CONTINUATION

Sec 14) establishing the "Emerging Energy Technology Fund" and requiring the authority to administer the fund by making grants or loans to eligible applicants. Cost Assumptions:
Approximately **$82,000** in one-time start up costs to develop program ciriteria, RFA process, review process, grant/loan agreements, etc. (Contractual)
Approximately **$14,400** per year to cover Advisory Committee expenses (travel)
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)

Sec 15,24) changing the definition of a power project relative to the power project fund to include nuclear production. AEA's fiscal note is 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 pwer 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.

Sec 18,19,21) Creates the Department of Energy and moves AEA to the Department of Energy; however, this bill does not change AEA's responsibilities for the management of energy programs. HB 305 designates the new Department of Energy as the State energy office for all USDOE funds. Currently AHFC is the designated energy office and AEA receives funds via RSA from AHFC for non-residential energy efficiency programs. This analysis assumes AEA will continue to manage energy efficiency programs and receive funding from the new Department rather than AHFC. Therefore, AEA's fiscal impact due to the creation of the Department is zero.

Sec 24,25) changing the composition of the AEA Board of Directors. Cost assumptions based on six one day meetings per year for seven board members. $560 per member, per meeting for travel and per diem. **($23,500 for travel)**

FISCAL NOTE

STATE OF ALASKA
2010 LEGISLATIVE SESSION

Fiscal Note Number:
Bill Version: CSHB 305
() Publish Date:

Identifier (file name): HB305CS(ENE)-CED-AIDEA-3-12-10
Dept. Affected: DCCED
Title: Omnibus Energy Bill
RDU: 125
Component: AIDEA operations
Sponsor: House Energy
Requester: House Energy
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)*

HB 305, "An Act relating to energy" impacts the Alaska Industrial Development and Export Authority by increasing needed positions for Alaska Energy Authority requirements.

HB 305 establishes the "Emerging Energy Technology Fund" and requires AEA 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 3/12/10 12:00 AM
Approved by: Emil Notti, Commissioner
Date 3/12/2010
Commerce, Community and Economic Development

(Revised 11/6/2009 OMB)

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MEMORANDUM

February 5, 2010

SUBJECT: State constraints on construction and operation of nuclear power facilities and on transportation, disposal, and storage of nuclear wastes (HB 305 -- Work Order No. 26-LS1223\R)

TO: Representative Pete Petersen

FROM: Brian Kane BJK
Legislative Counsel
and
Jack Chenoweth
Assistant Revisor

This is by way of response to a set of recent questions submitted by David Dunsmore.

1. Is it possible to legally construct a nuclear power plant in Alaska?
State law does not now affirmatively prohibit nuclear power plant construction in the state.

2. Is it possible to legally transport nuclear waste within or through Alaska or to store nuclear waste in the state?
State law purports to prevent transportation of nuclear waste within the state except for the purpose of disposal outside the state. The applicable statute is AS 18.45.027[1] and its prohibition is expressed in terms of one involving the transport of "high level nuclear waste material."[2]

---

[1] The text of AS 18.45.027(a) provides

(a) The transportation of high level nuclear waste material, except for purposes of disposal outside the state, is prohibited.

[2] The definition of this phrase reads, in relevant part:

(b) For purposes of this section, "high level nuclear waste material"

(1) means

(A) used nuclear reactor fuel;

(B) waste produced during the reprocessing of used nuclear reactor fuel; and

State statutes are silent on the permissibility of in-state storage of nuclear waste (that is, of used nuclear reactor fuel or of waste associated with the reprocessing of that fuel). Nonetheless, by implication arising out of the reading of AS 18.45.027(a) ("except for purposes of disposal outside the state"), the better argument is that state statutes permit transportation only to final storage outside Alaska -- that any transportation for the purpose of storage within the state is not authorized.

3. If construction of a nuclear power plant is permitted, what permitting or other requirements must be met to legally build the plant?

State statutes set out two principal permitting requirements that appear to be applicable to new nuclear power plant construction.[3] The first, AS 18.45.020,[4] requires the party intending to construct the nuclear power plant to first obtain a license or permit from the appropriate federal regulatory agency, the Nuclear Regulatory Commission. The second, AS 18.45.025,[5] imposes specific facility siting permit requirements.

(C) elements having an atomic number greater than 92 and containing 10 or more nanocuries per gram; . . . .

[3] The threshold question as to whether these two statutes apply at all turns on the definition of "nuclear power plant," the specific term that you used in your inquiry. It is likely, though by no means certain, a "nuclear power plant" would fall within the parameters of the definition of a "nuclear utilization facility," defined, for purposes of AS 18.45 as

> . . . [a place containing] an apparatus, device, or equipment in which nuclear fission is sustained in a self-supporting and controlled chain reaction; the term does not include an apparatus, device, or equipment used exclusively for educational, medical, or research purposes;

AS 18.45.900(4). If a "nuclear power plant" fits the terms of this definition, the licensing, permitting, and siting requirements mentioned in the two statutes apply.

[4] This section reads, in relevant part:

> **United States licenses or permits required.** A person may not . . . construct . . . a . . . utilization facility, or act as an operator of a . . . 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.

[5] The text of this section reads, in relevant part,

There are, of course, other considerations, apart from the standards of AS 18.45.025, that apply.

4. Must there be in place a plan to dispose of and store the nuclear waste that a nuclear power plant generates before the plant can be built or operate?

State statutes do not now specifically so require.

*

That said, let me add the following so as to reduce (if not eliminate) any confusion on the major point of regulating nuclear activity.

This state's initiatives touching upon nuclear power regulation may not be as effective in practice as they may appear as set out in the set of statutes.

In the nuclear energy field, the federal Atomic Energy Act of 1954, 42 U.S.C. 2011 et seq., and its amendments are the particular statutory enactments as to which general preemption rules must be applied. The 1954 Act was passed to encourage private sector involvement in the nuclear energy production field. A 1959 amendment to the Act, commonly referred to as the "cooperation with the states" amendment, set out procedures by which the principal federal regulator of that day, the Atomic Energy Commission,

---

> **Facilities siting permit required.** (a) A person may not construct a . . . utilization 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.
>
> (b) The legislature shall designate by law the land in the state on which a . . . nuclear utilization . . . may be located. In designating the land in the state on which a . . . nuclear utilization . . . may be located, the legislature shall act to protect the public health and safety.
>
> (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
>
> (1) -- *repealed* --
>
> (2) the municipality with jurisdiction over the proposed facility site has approved the permit; and
>
> (3) -- *repealed* --
>
> (4) the governor has approved the permit.

For reasons discussed in the remaining text of this memo, the involvement of the legislature in the siting decision made under subsection (a) and the standards on which the legislature may base its decision, as set out in (b), are questionable.

could transfer its regulatory authority over certain types of nuclear material to the states. The Commission was prohibited, however, from ceding its authority over especially hazardous activities and materials. The 1959 amendment's operative sections do not focus on the subjects preempted by federal law. Instead, the amendment details the regulatory duties which the Commission may or may not wholly surrender to the states. As a result, the preemptive intent of Congress was not expressly set out but, instead, it is to be implied.[6]

In matters related to nuclear facility siting, two significant decisions predominate.

In *Northern States Power Co. v. Minnesota*, 447 F.2d 1143 (8th Cir. 1971), aff'd mem. 405 U.S. 1035 (1972),[7] the Eighth Circuit Court of Appeals held that state regulations setting strict limits on the release of radioactive effluents from nuclear power plants were preempted by the Atomic Energy Act. The court implied preemption on the grounds that the federal government had exclusive authority to regulate radiation hazards under the 1959 amendment noted above.[8]

Northern States remained the leading decision on the scope of federal preemption in the area of radiation hazards until 1983 when the United States Supreme Court delivered its opinion in *Pacific Gas & Elec. Co. v. State Energy Resources. Conservation & Dev. Comm'n*, 461 U.S. 190, 75 L.Ed.2d 752, 103 S. Ct. 1713 (1983). The *Pacific Gas* decision involved a challenge to a California Act that imposed a moratorium on the certification of new nuclear power plants in the state. That moratorium was to last until the Nuclear Regulatory Commission finally approved and adopted a permanent disposal technique for the high level nuclear waste generated by the plants. The statute's purpose, according to its legislative history, was to regulate the economics of nuclear power, not its safety aspects. Without assurance of technology for disposing of the waste, the state maintained that the plants would have to shut down when their interim on-site storage

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[6] To complete the history: In 1974, Congress passed the Energy Reorganization Act, 88 Stat. 1233, 42 U.S.C. §§ 5801 et seq., which abolished the Atomic Energy Commission and transferred its regulatory and licensing authority to the Nuclear Regulatory Commission. 42 U.S.C. § 5841(f). The 1974 Act also expanded the number and range of safety responsibilities under the Nuclear Regulatory Commission's charge.

[7] The United States Supreme Court's affirmance of the Court of Appeals decision reads in full: "Affirmed on appeal from C.A. 8th Cir. . . . MR. JUSTICE DOUGLAS and MR. JUSTICE STEWART dissent from affirmance."

[8] A set of 1977 amendments to the federal Clean Air Act, Pub. L. No. 95-95, 91 Stat. 685 (1977) (codified in scattered sections of 42 U.S.C. (1982)), has had the effect of statutorily overruling the *Northern States* decision. These amendments have brought all radioactive effluents within the definition of "air pollutant" under the Clean Air Act. 42 U.S.C. § 7602(g). Thus, 42 U.S.C. § 7416 now allows states to regulate effluent emissions more strictly than does the Nuclear Regulatory Commission.

capacity was filled. As a result, plant construction constituted an economic risk since the cost and timing of the permanent disposal technique could not be reasonably estimated in advance.

The utilities affected by the California Act brought the challenge on the ground that the Atomic Energy Act preempted the state imposed moratorium, even if the state law was enacted for economic motives. However, the Supreme Court unanimously held the state law valid. "In doing so," one commentator has written

> . . . the Court purported to explore and define the preemptive scope of the Atomic Energy Act. The Court found that "the federal government maintains complete control of the safety and 'nuclear' aspects of energy generation . . ." while the states retained authority in non-nuclear areas. In reaching its decision, the Court concluded that, ***though a moratorium imposed because of safety concerns would have been struck down, the economic purpose of the California ban saved it from preemption.*** The Court confined its examination of the statute to whether any non-safety rationale existed for the California law. . . . Finally, the Court emphasized the consistency of its holding with its summary affirmation of *Northern States*. The Court distinguished *Northern States* by noting that then a state had attempted to directly legislate in the preempted field of nuclear safety. Similar state efforts, according to the Court, would be preempted under its holding in *Pacific Gas*.

"Note and comment: Federal preemption of the state regulation of nuclear power," 60 Chicago-Kent. L. Rev. 989, 1000-1001 (emphasis added).

Another commentary considering the effect of the *Pacific Gas* decision drew this conclusion as it relates to the continuing role of the states:

> [A s]tate statute [the California statute that was challenged in the *Pacific Gas* decision] imposing moratorium on certification of new nuclear plants until state energy commission finds that there exists demonstrated technology or means for disposal of high-level nuclear waste is not pre-empted by Atomic Energy Act of 1954 (42 USCS §§ 2011 et seq.); [the Atomic Energy] Act does not expressly require states to construct or authorize nuclear power plants or prohibit states from deciding, as absolute or conditional matter[,] not to permit construction of any further reactors; under Act, Federal Government maintains complete control of safety and nuclear aspects of energy generation and state's exercise their traditional authority over need for additional generating capacity, type of generating facilities to be licensed, land use, ratemaking, and like; state cannot completely prohibit new construction of nuclear power plants until its safety concerns are satisfied by Federal Government, since state safety regulation is not pre-empted only when it conflicts with

> federal law, but rather, Federal Government has occupied entire field of nuclear safety concerns, except limited powers expressly ceded to states.

One other decision warrants mention. In *United States v. Kentucky*, 252 F.3d 816 (6th Cir. 2001), cert. den. 534 U.S. 973, 122 S. Ct. 396, 151 L. Ed.2d 300 (2001), the United States Department of Energy successfully challenged Kentucky's imposition of permit conditions imposed by the state environmental agency relating to the disposal of radioactive waste in a landfill operated by the federal department:

> The [Kentucky Natural Resources and Environmental Protection] Cabinet's arguments are not well-taken. As the Supreme Court unequivocally stated in *Pacific Gas & Electric*, "the federal government has occupied the entire field of nuclear safety concerns, except the limited powers expressly ceded to the states." 461 U.S. at 212. ***Accordingly, the A[tomic] E[nergy] A[ct] preempts any state attempt to regulate materials covered by the Act for safety purposes.*** See *id.* Here, the challenged permit conditions specifically limit the amount of "radioactivity" and "radionuclides" that [the United States Department of Energy] may place in its landfill. The sources of such "radioactivity" and "radionuclides" are materials covered by the AEA, i.e., source, special nuclear, and byproduct materials. The Cabinet seeks to impose these conditions to protect human health and the environment. The permit conditions therefore represent an attempt by the Cabinet to regulate materials covered by the AEA based on the Cabinet's safety and health concerns, and are thus preempted.
>
> . . . .
>
> . . . [In addition,] the Cabinet's assertion that it has the "right under state law" to prohibit any radioactive materials from being placed in the landfill is incorrect. The Supreme Court rejected a similar argument in *Pacific Gas & Electric*:
>
> > Respondents . . . argue . . . that although safety regulation of nuclear plants by states is forbidden, a state may completely prohibit new construction until its safety concerns are satisfied by the federal government. We reject this line of reasoning. State safety regulation is not preempted only when it conflicts with federal law. Rather, the federal government has occupied the entire field of nuclear safety concerns . . . .
>
> [*Pacific Gas & Electric*,] 461 U.S. at 212.

252 F.3d at 823 - 824 (emphasis added)

The decision in *Pacific Gas* also endorses the Nuclear Regulatory Commission's preeminent role in matters relating to health: the opinion refers back to an earlier decision, *Vermont Yankee Nuclear Power Corp. v. Natural Resources Defense Council, Inc.*, 435 U.S. 519, 55 L.Ed.2d 460, 98 S. Ct. 1197 (1978), to reiterate this critical distinction:

> There is little doubt that under the Atomic Energy Act of 1954, state public utility commissions or similar bodies are empowered to make the initial decision regarding the need for power. 42 U.S.C. § 2021(k). The Commission's prime area of concern in the licensing context, on the other hand, is national security, public health, and safety. [42 U.S.C.] §§ 2132, 2133, 2201.

435 U.S. at 550. Arguably, while recognizing in *Pacific Gas* that one of the primary purposes of the Atomic Energy Act is, and always has been, to promote the development of nuclear power, the Court concluded that this promotion was not to proceed at all costs. Specifically, the Court found that a state could halt the development of nuclear power if it did so for economic reasons (or presumably for any non-safety or non-public health-related based purpose), thereby narrowing the earlier *Northern States* holding.

These decisions are relevant to atomic energy facility regulation under the laws of Alaska. Under AS 18.45.025(b), cited earlier, the legislature retains to itself authority to "designat[e] the land in the state on which a nuclear fuel production, nuclear utilization, nuclear reprocessing, or nuclear waste disposal facility may be located. . . ." In doing so, however, the last part of subsection (b) recites that "the legislature shall act to protect the public health and safety." However, state regulation, including imposition of a moratorium on development and operation of new facilities, for purposes relating to safety considerations is preempted under the Atomic Energy Act, as the Eighth Circuit concluded in the *Northern States* decision and as the Sixth Circuit has related in its more recent Kentucky decision. The same objection may also apply to public health considerations under a reading of *Vermont Yankee*. In other words, if the legislature is planning to rely on AS 18.45.025(b), it may want, first, to revisit the statute and to reformulate the standard set out in the subsection's last sentence in order to ensure compliance with federal preemption considerations.

The point of this analysis is simply to underscore the need for caution in considering state authority with respect to nuclear power facilities and the transportation, disposal, and storage of nuclear wastes. The current state statutes are "dated" -- they largely pre-date the decision in *Pacific Gas* and, by application of that key decision, in some circumstances, they may have been made obsolete by the intervening court decisions concerning preemption -- and ought not to be relied upon as providing accurate guidance on what a state may or may not now do.

BJK:JBC:plm
10-054.plm

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MEMORANDUM March 11, 2010

SUBJECT: Sectional summary of CSHB 305(ENE)
(Work Order No. 26-LS1223\E)

TO: Representative Bryce Edgmon
Co-Chair of the House Special Committee on Energy
Attn: Adam Berg

FROM: Brian J. Kane BJK
Legislative Counsel

You have requested a sectional summary of CSHB 305(ENE), a bill relating to energy.

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 requires the Department of Education and Early Development to provide an operations and maintenance cost report for construction and adopt regulations regarding energy efficiency for construction and maintenance.

Sections 2 and 3 of the bill amend the definitions of "major maintenance" and "school construction" relating to achieving an operating cost savings.

Section 4 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 5 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. The section 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. The section 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.

Sections 6 and 7 of the bill make conforming amendments to statutory changes within the bill.

Section 8 of the bill requires the Alaska Supreme Court, in relation to court facilities, to comply with the state energy use reduction plan.

Section 9 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 10 of the bill adds the board of directors of the Alaska Energy Authority to the definition of "state commission or board" in AS 39.50, the chapter that requires financial disclosure by the state's public officials.

Section 11 of the bill states that the ~~Alaska Energy Authority~~ AVEDA is a public corporation and instrumentality of the state within the Department of Energy.

Section 12 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 13 of the bill amends the renewable energy fund statute by requiring the Alaska Energy Authority to hire an economist or financial analyst to prepare a written evaluation of each recommended grant application.

Section 14 of the bill creates the emerging energy technology fund.

Section 15 of the bill amends the definition of "power project" or "project" in AS 42.45.990(4) as it applies to rural and statewide energy programs that are subject to AS 42.45 to delete the phrase "other than nuclear energy production."

Section 16 of the bill adds the renewable energy production tax credit as an exception to a tax credit limitation set for corporations.

Section 17 of the bill establishes a renewable energy production tax credit as part of the Alaska Net Income Tax Act (AS 43.20).

Section 18 of the bill adds the Department of Energy to the list of state government offices and departments.

Section 19 of the bill establishes the Department of Energy and, within that department, creates the home energy conservation and weatherization program.

Section 20 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 21 states that the Alaska Energy Authority is a public corporation of the state within the Department of Energy, transferring it from the Department of Commerce, Community, and Economic Development.

Section 22 of the bill reconstitutes the membership of the board of directors of the Alaska Energy Authority and removes the members of the Alaska Industrial Development and Export Authority as board members.

Section 23 of the bill amends AS 44.83.040(a) to conform to the changes of the Alaska Energy Authority board of directors.

Section 24 of the bill amends the definition of "power project" or "project" in AS 44.83.990(6) as it applies to power projects subject to the Alaska Energy Authority to delete the phrase "other than nuclear energy production."

Sections 25 - 32 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 33 of the bill amends the definition of "alternative energy system" in AS 46.11.900(1) by removing reference to "nuclear fuel," thereby including that as an alternative energy system electrical energy source.

Section 34 of the bill repeals AS 18.45.027, AS 18.56.850, AS 45.88.010(c), AS 45.88.030(c), AS 45.88.030(d), and AS 45.88.040(a).

Section 35 of the bill repeals the renewable energy production tax credit (AS 43.20.046) on January 1, 2025.

Section 36 of the bill specifies the manner of initial appointment of directors for the board of directors of the reconstituted Alaska Energy Authority.

Section 37 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 38 of the bill directs the revisor of statutes to change the heading of article 1 of AS 45.88 to "Alternative Energy Revolving Loan Fund."

BJK:ljw
10-160.ljw

26-LS1223\E.1
Kane
3/11/10

AMENDMENT

OFFERED IN THE HOUSE BY REPRESENTATIVE [redacted]

TO: CSHB 305(ENE), Draft Version "E"

Page 1, line 5, following "**credit,**":

Insert "**to the Alaska heating assistance program,**"

Page 19, following line 16:

Insert new bill sections to read:

"* **Sec. 34.** AS 47.25.621 is amended to read:

Sec. 47.25.621. Alaska affordable heating [ASSISTANCE] program. (a) The Alaska **affordable** 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 **available in the Alaska affordable heating fund** [APPROPRIATED BY THE LEGISLATURE FOR THAT PURPOSE].

(b) The **Alaska affordable** 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. 35.** 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. 36.** AS 47.25.622 is amended to read:

Sec. 47.25.622. Duties. The **Department of Health and Social Services**

2899

[DEPARTMENT] shall

(1) administer the Alaska **affordable** 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. 37.** 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. 38.** 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. 39.** 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. 40.** 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. 41.** 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."

Renumber the following bill sections accordingly.

Page 20, line 5:

Delete "INSTRUCTION."

Insert "INSTRUCTIONS. (a) The revisor of statutes shall change the heading of art. 6 of AS 18.56 from "Article 6. Energy Conservation" to "Article 6. Energy Efficiency and Conservation Programs."

(b)"

26-LS1223\E.2
Kane
3/11/10

AMENDMENT

OFFERED IN THE HOUSE BY REPRESENTATIVE [redacted]

TO: CSHB 305(ENE), Draft Version "E"

Page 7, following line 7:

Insert a new bill section to read:

"* **Sec. 10.** 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

2904

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."

Renumber the following bill sections accordingly.

Page 13, line 28, through page 14, line 16:

Delete all material and insert:

"* **Sec. 21.** 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."

Page 19, line 19:

Delete "sec. 16"

Insert "sec. 17"

Page 19, lines 19 - 20:

Delete "sec. 17"

Insert "sec. 18"

Page 19, following line 20:

Insert a new bill section to read:

"* **Sec. 37.** AS 44.42.067(d), enacted by sec. 21 of this Act, is repealed January 1, 2021."

Renumber the following bill sections accordingly.

Page 19, line 24:

Delete "sec. 22"

Insert "sec. 23"

Page 20, following line 2:

Insert a new bill section to read:

"* **Sec. 40.** 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. 10 of this Act."

Renumber the following bill section accordingly.

26-LS1223\E.4
Kane
3/11/10

AMENDMENT

OFFERED IN THE HOUSE BY REPRESENTATIVE [redacted]

TO: CSHB 305(ENE), Draft Version "E"

Page 20, following line 2:

Insert a new bill section to read:

"* **Sec. 38.** 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. 35 of this Act, an unused portion of a tax credit acquired under AS 43.98.040, enacted by sec. 17 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.

2909

26-LS1223\E.5
Kane
3/11/10

AMENDMENT

OFFERED IN THE HOUSE BY REPRESENTATIVE [redacted]

TO: CSHB 305(ENE), Draft Version "E"

Page 4, line 29:

Delete "**or**"

Insert "**facility,**"

Page 8, lines 2 - 3:

Delete all material and insert:

"**(4) require activity reports for each project funded at intervals determined by the authority**"

2910

26-LS1223\E.6
Kane
3/11/10

AMENDMENT

OFFERED IN THE HOUSE BY REPRESENTATIVE [redacted]

TO: CSHB 305(ENE), Draft Version "E"

Page 8, line 9, through page 10, line 9:

Delete all material and insert:

"* **Sec. 14.** 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;

(2) amounts deposited under (f) of this section; and

(3) 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 (g) 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 (g) 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 (g) of this section and a review of the projects awarded grants.

(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.

(g) 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.

(h) A member of the advisory committee appointed under (g) of this section serves without compensation but is entitled to per diem and travel expenses as provided in AS 39.20.180.

(i) If a member of the advisory committee appointed under (g)(4), (g)(5), or (g)(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 (g)(4), (g)(5), or (g)(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.

(j) 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."

26-LS1223\E.7
Kane
3/11/10

AMENDMENT

OFFERED IN THE HOUSE BY REPRESENTATIVE [redacted]

TO: CSHB 305(ENE), Draft Version "E"

Page 11, line 21, following "energy":

Insert "or $30,000,000 for each project, whichever is less"

Page 12, following line 6:

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.

2914

26-LS1223\E.9
Kane
3/11/10

AMENDMENT

OFFERED IN THE HOUSE BY REPRESENTATIVE [redacted]

TO: CSHB 305(ENE), Draft Version "E"

Page 19, line 20:

Delete "2025"

Insert "2018"

2915

26-LS1223\E.8
Kane
3/11/10

AMENDMENT

OFFERED IN THE HOUSE REPRESENTATIVE [redacted]

TO: CSHB 305(ENE), Draft Version "E"

[redacted]

Page 16, line 28:

Delete "prior to"

Insert "before"

2916

26-LS1223\E.10
Kane
3/12/10

AMENDMENT

OFFERED IN THE HOUSE BY REPRESENTATIVE [redacted]

TO: CSHB 305(ENE), Draft Version "E"

Page 1, line 12:

Delete "**and nuclear waste material**"

Page 19, line 17:

Delete "AS 18.45.027;"

2917

26-LS1223\E.3
Kane
3/11/10

AMENDMENT

OFFERED IN THE HOUSE BY REPRESENTATIVE [redacted]

TO: CSHB 305(ENE), Draft Version "E"

Page 1, line 12, following "**material**":

Insert "**; 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**"

Page 20, following line 2:

Insert a new bill section to read:

"* **Sec. 38.** 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 June 30, 2011. The department shall notify the legislature when the report is available."

Renumber the following bill section accordingly.

26-LS1223\E.11
Kane
3/12/10

AMENDMENT

OFFERED IN THE HOUSE BY REPRESENTATIVE PETERSEN

TO: CSHB 305(ENE), Draft Version "E"

Page 2, following line 1:

Insert a new bill section to read:

"* **Section 1.** The uncodified law of the State of Alaska is amended by adding a new section to read:

LEGISLATIVE FINDINGS. For the purpose of sec. 5 of this Act, the legislature finds that a provision requiring a binding contract for the disposal or storage of nuclear waste before a permit may be issued is necessary for regulating the economics of nuclear power and that having a contract in place is a needed sign of the economic viability of a project."

Page 2, line 2:

Delete "**Section 1**"

Insert "**Sec. 2**"

Renumber the following bill sections accordingly.

Page 5, line 15:

Delete "[(1)"

Insert "(1) ["

Page 5, line 17:

Delete "[; AND"

Insert "; and

(2) a person has provided evidence satisfactory to the department

2920

that a binding contract is in place for the disposal and storage of any nuclear waste"

Page 5, line 18:

Delete "(3)"

Insert "[(3)"

Page 19, line 19:

Delete "sec. 16"

Insert "sec. 17"

Page 19, lines 19 - 20:

Delete "sec. 17"

Insert "sec. 18"

Page 19, line 24:

Delete "sec. 22"

Insert "sec. 23"

26-LS1223\E.12
Kane
3/12/10

AMENDMENT

OFFERED IN THE HOUSE BY REPRESENTATIVE PETERSEN

TO: CSHB 305(ENE), Draft Version "E"

Page 5, lines 12 - 19:

Delete all material and insert:

"(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

(1) [REPEALED

(2)] the municipality with jurisdiction over the proposed facility site has approved the permit; **or**

(2) for a facility that is not within a municipality, [AND

(3) REPEALED

(4)] the governor has approved the permit."

26-LS1223\E.13
Kane
3/12/10

AMENDMENT

OFFERED IN THE HOUSE BY REPRESENTATIVE PETERSEN

TO: CSHB 305(ENE), Draft Version "E"

Page 7, following line 13:

Insert a new section to read:

"* **Sec. 12.** AS 42.45.010 is amended by adding a new subsection to read:

(k) A loan may not be made under this section for a project involving the production of power from nuclear energy unless the authority determines that no other available power source is as cost-effective as the proposed project involving power production from nuclear energy."

Renumber the following bill sections accordingly.

Page 19, line 19:

Delete "sec. 16"

Insert "sec. 17"

Page 19, lines 19 - 20:

Delete "sec. 17"

Insert "sec. 18"

Page 19, line 24:

Delete "sec. 22"

Insert "sec. 23"

2923

26-LS1223\E.14
Kane
3/12/10

AMENDMENT

OFFERED IN THE HOUSE BY REPRESENTATIVE PETERSEN

TO: CSHB 305(ENE), Draft Version "E"

Page 2, following line 1:

Insert a new bill section to read:

"* **Section 1.** The uncodified law of the State of Alaska is amended by adding a new section to read:

LEGISLATIVE INTENT. For sec. 21 of this Act, it is the intent of the legislature that the Department of Transportation and Public Facilities engage in a partnership with the University of Alaska, nonprofit organizations, and other organizations to assist in maintaining the energy audit database in order to lower the cost to the state."

Page 2, line 2:

Delete "**Section 1**"

Insert "**Sec. 2**"

Renumber the following bill sections accordingly.

Page 13, following line 27:

Insert a new bill section to read:

"* **Sec. 21.** AS 44.42.065 is amended by adding a new subsection to read:

(d) The department shall

(1) create and maintain a database of the results of the energy audits of public buildings performed under (a) of this section; and

(2) make the information in the database available to the legislature and the public."

2924

Renumber the following bill sections accordingly.

Page 19, line 19:

Delete "sec. 16"

Insert "sec. 17"

Page 19, lines 19 - 20:

Delete "sec. 17"

Insert "sec. 18"

Page 19, line 24:

Delete "sec. 22"

Insert "sec. 24"

26-LS1223\E.15
Kane
3/12/10

AMENDMENT

OFFERED IN THE HOUSE BY REPRESENTATIVE PETERSEN

TO: CSHB 305(ENE), Draft Version "E"

Page 18, line 8, following "**pellet**":

Insert "**or grain**"

2926

26-LS1223\E.16
Kane
3/12/10

AMENDMENT

OFFERED IN THE HOUSE BY REPRESENTATIVE RAMRAS

TO: CSHB 305(ENE), Draft Version "E"

Page 13, line 19:

Delete "and"

Page 13, line 20, following "program":

Insert "; and

(4) a residential solid fuel burning device change out program"

2927

26-LS1223\E.17
Kane
3/15/10

AMENDMENT

MILLER 3

OFFERED IN THE HOUSE BY REPRESENTATIVE EDGMON

TO: CSHB 305(ENE), Draft Version "E"

Page 1, line 1:

Delete ", **operating costs,**"

Page 4, lines 12 - 17:

Delete all material.

Renumber the following bill sections accordingly.

Page 19, line 19:

Delete "sec. 16"

Insert "sec. 14"

Page 19, lines 19 - 20:

Delete "sec. 17"

Insert "sec. 15"

Page 19, line 24:

Delete "sec. 22"

Insert "sec. 20"

2928

26-LS1223\E.18
Kane
3/15/10

AMENDMENT

MILLETT 1

OFFERED IN THE HOUSE BY REPRESENTATIVE EDGMON

TO: CSHB 305(ENE), Draft Version "E"

Page 14, line 16:

Delete "or court building"

2929

26-LS1223\E.19
Kane
3/15/10

AMENDMENT

MCCARTT 1

OFFERED IN THE HOUSE BY REPRESENTATIVE EDGMON

TO: CSHB 305(ENE), Draft Version "E"

Page 1, line 1:

Delete "**construction plans**"

Insert "**energy consumption and costs**"

Page 3, lines 13 - 14:

Delete "**an operations and maintenance cost report**"

Insert "**projected energy consumption and costs**"

2930

26-LS1223\E.20
Kane
3/16/10

AMENDMENT

OFFERED IN THE HOUSE BY REPRESENTATIVE EDGMON

TO: CSHB 305(ENE), Draft Version "E"

Page 1, line 11, following "**fund;**":

Insert "**relating to the bulk fuel bridge loan fund; relating to the bulk fuel revolving loan fund and moving administration of the fund from the Alaska Energy Authority to the Department of Commerce, Community, and Economic Development;**"

Page 6, following line 22:

Insert new bill sections to read:

"* **Sec. 9.** AS 29.60 is amended by adding a new section to article 5 to read:

Sec. 29.60.655. Bulk fuel revolving loan fund. (a) The bulk fuel revolving loan fund is established in the department to assist communities, utilities providing power to communities, and fuel retailers in communities in purchasing bulk fuel to generate power or to supply the public with fuel for use in communities. A community, or a person generating power or selling fuel in a community that has a written endorsement from the governing body of a community for which a loan from the fund is sought, is eligible for a loan from the bulk fuel revolving loan fund for a purchase of an emergency supply or a semiannual or annual supply of bulk fuel to be used in the community.

(b) The legislature may use money in the fund to make appropriations for costs of administering this section.

(c) The foreclosure expense account is established as a special account within the bulk fuel revolving loan fund. This account is established as a reserve from fund equity.

(d) The department may spend money credited to the foreclosure expense

account when necessary to protect the state's security interest in collateral on loans made under this section or to defray expenses incurred during foreclosure proceedings after a default by an obligor.

(e) Loans made from the bulk fuel revolving loan fund to one borrower in any fiscal year

(1) may not exceed $750,000, or, if the borrower is a cooperative corporation organized under AS 10.15 or an electric cooperative organized under AS 10.25 and uses the loan to purchase bulk fuel on behalf of more than one community, may not exceed the lesser of $750,000 multiplied by the number of communities on whose behalf the bulk fuel is to be purchased, or $1,800,000;

(2) shall be repaid in one year or less; and

(3) may not exceed 90 percent of the wholesale price of the fuel purchased.

(f) The department may charge interest on a loan made from the bulk fuel revolving loan fund. The department shall charge interest on a loan at a rate equal to the percentage of the average weekly yield of municipal bonds for the 12 months preceding the date of the loan, as determined by the department from municipal bond yield rates reported in the 30-year revenue index of The Bond Buyer. However, if the department finds that a community cannot afford to repay a portion of interest on a loan, and makes a determination in writing, the department may reduce or eliminate the interest rate applicable to the loan.

(g) Repayments of the principal, the interest, and the money chargeable to principal or interest that is collected through liquidation by foreclosure or other process on a loan made under this section shall be paid into the bulk fuel revolving loan fund. The fund is not a dedicated fund.

(h) The department may contract for the administration of the bulk fuel loan program established in this section.

(i) The department shall dispose of property acquired through default or foreclosure of a loan made under this section. Disposal shall be made in a manner that serves the best interests of the state, and may include the amortization of payments over a period of years.

(j) The department

(1) may adopt regulations necessary to carry out the provisions of this section, including regulations to establish reasonable fees for services provided and charges for collecting the fees; and

(2) shall prescribe a loan application form, which may be used for applications for loans from the fund under this section and for the bulk fuel bridge loan fund and program under AS 29.60.660.

(k) The department may collect the fees and collection charges established in regulation under (j) of this section and shall deposit the money in the general fund.

(*l*) In this section,

(1) "community" means an organized municipality or an unincorporated village that is a social unit with a population of less than 2,000;

(2) "person" has the meaning given in AS 01.10.060 and includes a corporation, a cooperative, a joint venture, and a governmental entity.

*** Sec. 10.** AS 29.60.660(b) is amended to read:

(b) A community, utility, fuel retailer, or other person generating power or supplying fuel in a community as described in (a) of this section is eligible to receive a loan from the bulk fuel bridge loan fund for a purchase of bulk fuel to be used in the community if the community, utility, fuel retailer, or other person

(1) has a written endorsement from the governing body of the community for which a loan from the fund under this section is sought; and

(2) first applied for and has been denied a loan from

(A) the bulk fuel revolving loan fund **(AS 29.60.655)** [(AS 42.45.250) ADMINISTERED BY THE ALASKA ENERGY AUTHORITY];

(B) any other funding source used by the community, utility, fuel retailer, or other person in the past three years to finance purchases of bulk fuel for the community; and

(C) any other funding source that the department determines is available to the community, utility, fuel retailer, or other person to purchase bulk fuel.

* **Sec. 11.** AS 29.60.660(d) is amended to read:

(d) Interest may not be charged on a loan made from the bulk fuel bridge loan fund**, except that a person receiving a loan from the fund**

(1) in two consecutive years shall pay an interest rate of two percent for the second year; and

(2) in three consecutive years shall pay an interest rate of four percent for the third year."

Renumber the following bill sections accordingly.

Page 19, line 17, following "AS 18.56.850;":

Insert "AS 42.45.010(b)(3), 42.45.250;"

Page 19, line 19:

Delete "sec. 16"

Insert "sec. 19"

Page 19, lines 19 - 20:

Delete "sec. 17"

Insert "sec. 20"

Page 19, line 24:

Delete "sec. 22"

Insert "sec. 25"

Page 20, following line 2:

Insert a new bill section to read:

"* **Sec. 41.** BULK FUEL REVOLVING LOAN FUND TRANSFER: TRANSITION. On the effective date of secs. 9 - 11 of this Act, the Alaska Energy Authority shall transfer the personnel responsible for fund management, and the assets, liabilities, and balance of the bulk fuel revolving loan fund to the Department of Commerce, Community, and Economic

Development."

Renumber the following bill section accordingly.

Page 20, line 5, following "INSTRUCTION.":

Insert "(a)"

Page 20, following line 7:

Insert a new subsection to read:

"(b) The revisor of statutes shall change the heading of art. 5 of AS 29.60 from "Bulk Fuel Bridge Loan Fund and Program" to "Bulk Fuel Loan Funds and Programs."

Written testimony of Kawerak Incorporated for the
House Special Committee on Energy Hearing
Thursday, February 11, 2010

Ladies and Gentlemen:

Thank you for this opportunity to present comments and recommendations on various energy bills now up for consideration within the Alaska State Legislature.

HB305 Omnibus Energy Bill

It is difficult to plan for the future when you're scrambling to meet your short term needs. Long term planning and economic development are best conducted in an environment of stability. The recent past is a good predictor of what might happen again, we need to consider what we have learned and move forward better prepared.

Failure to prepare in advance of energy crises puts all of Alaska at risk. Measures that automatically activate and counter the impact of rising energy costs need to be put in place and funded now, while we have some breathing room. HB305, the Omnibus Energy Bill, gives us the perfect opportunity to do this. Rural Alaska is going to have a difficult time making the long term transition to conservation, efficiency and renewable energy without short term energy security. We ask the State Legislature to provide this today.

The House Special Committee on Energy has traveled extensively to hear input from Alaskans from throughout the State. Rep. Edgmon, Rep. Millett, and four other members of the Energy Committee visited Nome in February 2009. Later, in October, they heard testimony at the AFN Convention. Many voices called for measures to provide immediate relief when fuel prices rise; no such measures are currently included in the Omnibus bill, they need to be added.

Measures such as SB162 "Heating Fuel Energy Relief," which, when world oil prices rise beyond a certain point automatically kick in at the retail level, to put a ceiling on the price of heating fuel at $2.50/gallon is an example of the type of measure we need. It is efficient. It operates at the retail level thus avoiding the cost of administering a program to individuals. SB162 is good but it is not perfect. We recommend SB162 be added to the Omnibus Bill with the following note:

- The quantity of low priced fuel made available under this program needs to be limited to a reasonable amount, and this amount should probably decline over time. This encourages conservation and efficiency.

In some ways the PCE program, currently in place, resembles SB162. In October, 2009, Robert Keith, President of the Native Village of Elim and Chairman of Kawerak Inc., recommended the State of Alaska fully fund and continue the PCE program; we agree. Further we recommend that municipalities, businesses, and schools be brought under the umbrella of PCE.

In February, the Bering Straits Native Corporation cited the high cost of fuel due to shipping costs and the high cost of electrical power as some of the primary energy problems we face in our communities. In October of 2009, Tim Towarak, President/CEO of the Bering Straits Native Corporation opined the state has enough money to be able to keep the PCE program going while simultaneously investing in alternative energy. We agree with those comments and add that, because it is activated by rising fuel prices, at a time when the State's revenue is up, the state can afford HB305 as well.

Both HB148 and SB121 mandate "Energy Efficiency Standards for Public Buildings." SB71 focuses on "Alternative Energy Systems for Public Works." While HB148 and SB121 share the same title they are quite different. We support HB148 with enthusiasm. It establishes an energy efficiency grant fund in the Alaska Housing Finance Corporation which gives preference to projects with the highest energy savings for each dollar spent, favors projects leveraged with outside funds, and focuses on communities with populations of less than 15,000. This will be good for both our region and the State of Alaska. It will create jobs, new energy related skills will develop in our Villages, our buildings will become more efficient and we will save money.

SB121 does not create a grant fund. It sets the goal of a 20% reduction in energy consumption by public buildings by 2020 then lays down the strategy, using energy performance contracts, to achieve that goal. It mandates an energy use index for public buildings aimed at establishing baselines so that improvements can be demonstrated down the road. It directs the AEA to produce an Energy Performance Report for the three years following the date of the act that deals with the effectiveness of energy efficiency measures provided by the act. While SB121 would be good for the State we question the effect it will have in our region. HB148 promises to be more beneficial.

We support HB196, the "Alternative Energy Revolving Loan Fund." Evacuated tube solar hot water and space heating, after assistance from the Emerging Technology Grant program, will be ready to take off in our villages. High efficiency stoves and other types of wood heating have similar potential. Residential wind and perhaps even photovoltaic solar are likely to follow with net metering.

While supporting HB196, we regret that it will not be able to help everybody. Only homeowners and landlords with sufficient collateral qualify. Landlords who do not provide electricity or heating will be uninterested. Renters who pay for their own electricity or fuel oil might save money through alternative energy but cannot take advantage of this program.

We feel HB219, which modifies the Renewable Energy Grant Requirements, does not go far enough. A periodic reporting requirement makes sense. Verifying matching funds are actually available should be part of the process.

We feel priority should be given to projects where energy costs are high and viable renewable resources are known to exist. Investments in areas where energy is already affordable come at the expense of locations where affordable reliable energy is badly needed. Giving priority to locations where energy costs three to five times more than the State average promises the most

effective use of Renewable Energy Grant funds. We recommend these projects be given additional weight in the rating process.

The Renewable Energy Grant Requirements should include competitive bidding, provide for a preference to local and/or Native contractors, and stimulate local employment and skills. A Native owned company employing local labor has demonstrated their capacity to install, operate, and maintain wind turbines for a very competitive price in Nome. The AEA recently funded wind turbines in Unalakleet, Savoonga, and Gambell. Wind studies in Teller and Stebbins have been recommended. Despite their competitiveness they have not been invited to bid on or participate in any of these projects. We look forward to improvements in this area.

We support SB150 "Emerging Energy Technology Fund" and applaud the fact that tribal councils, housing authorities, and nonprofit organizations are included in the list of eligible applicants. We recommend that the act be amended to prioritize projects in locations where energy costs are high and abundant resources are known to exist. Many such locations exist in our region. Numerous technologies are likely to become commercially viable with just a little push.

We support SB31 "Renewable Energy Tax Credits" that incorporate a tiered or sliding system favoring investment in regions with high energy costs. Mechanisms allowing for credits to be sold and traded, and allowing credits to be carried forward to future years are innovative and should enhance this programs effectiveness considerably.

We note that production tax credits alone may not be sufficient to spur private investment in our region. Independent power producers, while they may be attracted by the incentive, will not go forward with projects without a power purchase agreement in place. The primary power provider in our region appears reluctant to negotiate such agreements. We hope this entity will accept the inevitable and come to the table. Investments from the private sector, encouraged by renewable energy tax credits, can be expected to start bringing down energy costs across the region as soon as this hurtle is overcome.

In conclusion, we need an Energy Bill that benefits our region. Energy is very expensive here and, due to our climate, we consume more energy per capita than anywhere else in the Nation. At the same time our per capita income is well below the rest of the Nation. Efficiency, conservation, and renewable energy all promise to be part of a solution. An energy bill is needed that furthers these objectives in Rural Alaska as well as throughout the state.

Regarding HB191 "Nuclear Power Production:" Given the magnitude of the risks as we understand them, we encourage the State of Alaska to expend their resources in developing safe, renewable, alternative energy resources rather than setting in place Nuclear Power options.

Quianna for your Time. We look forward to a future whereby the State of Alaska, its people and communities, are world leaders in the development and implementation of technologies which minimize our dependence on fossil fuels.

MEA

MEMORANDUM

DATE: November 23, 2009

TO: Joe Griffith
Interim General Manager

FROM: James L. Walker
Senior Counsel

SUBJECT: Alaska Railbelt RIRP preliminary results presentation November 19, 2009

Summary Conclusion:
For the reasons discussed below, the Alaska Railbelt Regional Integrated Resource Plan (RIRP) cannot serve the purposes for which it was undertaken.

Background:
On March 8, 2009, the Alaska Energy Authority (AEA) entered into a professional services contract with Black & Veatch Corporation (B&V) with a not-to-exceed expenditure limit of $599,369. As stated in Appendix C, Section C.1: "The purpose of this contract is to develop a single comprehensive Regional Integrated Resource Plan (RIRP) for the Railbelt. The plan will identify and schedule a combination of generation and transmission (G&T) capital projects over a 50-year time horizon." According to Section C.2: "The plan is intended to provide:

- An assessment of loads and demands for the Railbelt Electrical Grid for a time horizon of 50 years including new potential industrial demands.
- Projections for Railbelt electrical capacity and energy growth, fuel prices, and resource options.
- An analysis of the range of potential generation resources available, including costs, time for construction, and long-term operating costs.
- A schedule for existing generation project retirement, new generation construction, and construction of backbone redundant transmission lines that, by year 10, will allow the future Railbelt Electrical Grid to operate reliably under open access tariffs, and with a postage stamp rate for electricity and demand for the entire Railbelt as a whole.
- A long-term schedule for developing new fuel supplies that will provide for reliable stable priced electrical energy for a 50-year planning horizon.
- A short-term schedule that coordinates immediate network needs, i.e. increasing penetration level of non-dispatchable generation such as wind within the first ten years of the planning horizon with the long term goals.
- A short-term plan addressing a 10-year transition from the present decentralized ownership and control to a unified G&T entity that identifies unified actions between utilities that must occur during this transition period.

- A diverse portfolio of power supply, that includes in appropriate portions, renewable and alternative energy projects, and fossil fuel projects, some which could be provided by independent power producers.
- A comprehensive list of current and future generation, transmission and electric power infrastructure projects. Each project will include a project description, narrative, location, fuel source, estimated annual fuel consumption, power output capacity, and energy output, both annual and monthly.
- A dataset that the utilities/AEA/REGA can use for future planning studies and analysis.
- A target set by the State that the Alaska Railbelt would secure 33% of its electric energy from renewable resources.

Since March, MEA and the other Railbelt electric utilities have provided B&V with all available information responsive to B&V's requests. The utilities have also participated in many technical meetings with B&V and AEA. On November 19, 2009, AEA and B&V presented the preliminary results of their RIRP to the Governor's office and then later to representatives of the Railbelt electric utilities. A copy of the power point slides used at this presentation is attached hereto.[1]

As stated above, the seventh contractual purpose of this RIRP was to develop a 10-year plan for transitioning from the current decentralized generation and transmission (G&T) system ownership pattern to unified ownership. However, the RIRP analysis is based on the assumption that unified ownership exists for the entire study period.[2]

An assumption not shown in the slides, but clearly stated during the November 19, 2009 presentation, was that *all modeling runs were required to meet former Governor Palin's announced goal of having 50% of generation in Alaska come from renewable energy resources by 2025.*[3] This assumption does not coincide with the eleventh contractual purpose of this RIRP as stated above.

According to the slide presentation, the capital costs for new Railbelt generation facilities are included in the analysis, and the capital costs of existing generation facilities are not included in the analysis.[4] During the November 19 presentation, the utilities questioned AEA and B&V extensively about this. The utilities were specifically concerned about their existing debt obligations, and about generation plant that the utilities are currently in the process of acquiring.

According to AEA and B&V, the RIRP's preliminary results are fundamentally driven by their decision to not include the natural gas-fueled generation plant additions currently planned for construction by HEA, MEA, Chugach, and ML&P in the analysis. Nor was

[1] AEA stated that it are not specifically asking that these slides, and the information therein, be kept confidential, but it is asking that this information not be presented to the public prior to AEA's public presentation currently scheduled for December 10, 2009.
[2] See the slide numbered 19, and the definition of GRETC on the slide number 2.
[3] B&V stated at the presentation that the modeling runs for the "A" scenarios shown on the slide numbered 13 would be identical to the modeling runs for the "B" scenarios due to this assumption. See the slide numbered 79.
[4] See the slides numbered 20 and 21.

the Healy Clean Coal Plant (HCCP) being acquired by GVEA included. However, the planned retirement of existing natural gas generation units was included in the analysis.

When asked about this seeming anomaly, B&V stated that the analytical model was run with the planned new units[5] and planned retirements[6] included. With the planned new units available, the model showed insufficient requirements for additional new generation resources to justify construction of the large hydroelectric generation plants needed to meet the goal of having 50% of generation in Alaska come from renewable energy resources by 2025.[7]

The presentation slide numbered 22 states the renewable resources considered in the RIRP includes Tidal resources. However, B&V stated that they did not include Tidal resources in their analysis due the lack of technological maturity in that field.[8]

With regards to B&V's preferred Scenario 1A, shown on the slide numbered 80, a number of questions were asked. With regards to the Anchorage Municipal Solid Waste (MSW) project in 2011, and the GVEA MSW project in 2012, B&V is projecting 26 MW of renewable energy capacity. None of the utilities have heard anything about either of these projects.[9] It was suggested that a 3.5 – 5 MW landfill gas project could come on line at the Anchorage Landfill during that time period, but unlikely that projects totaling 22 MW would be constructed that soon.

B&V stated that the Anchorage 1X1 6FA project they show on the slide numbered 80 as coming on line in 2013 would be replaced by the Chugach/ML&P South Anchorage Power Project. B&V offered no justification for modeling a plant different from the one that the utilities are actually planning.

B&V was asked about scheduling the Glacier Fork Hydro project coming on line in 2017. They admitted that was extremely unlikely to occur, given the fact that virtually no evaluation of the project has occurred to date.

With regards to the GVEA 1X1 6FA project scheduled for 2020, GVEA's representative stated that they planned on closing the purchase of Healy Clean Coal Project within one

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[5] The planned new resources considered in this run are shown on the slide numbered 38.

[6] The planned resource retirements used are shown on the slides numbered 39, 40, and 41.

[7] The results of this run are shown on the slide numbered 84. B&V was specifically asked why the modeling results on the slide numbered 84 shows that the cumulative present value of costs for Scenario 1A with the "committed units" is nearly a billion dollars higher than Scenario 1A without these units, if the capital costs for these units are excluded. B&V was unable to answer that question, but speculated that this was the extra cost incurred by the utilities going their individual way instead of combining under GRETC.

[8] Also excluded from consideration were Nuclear and Combined Heat & Power alternatives. See the slide numbered 55.

[9] Anchorage Solid Waste Services has indicated that it is interested in developing an MSW project for disposal of woody and paper debris, so as to extend the life of their landfill in Eagle River. However, they have stated that due to pressure from the U.S. Environmental Protection Agency, they have to concentrate resources on making beneficial use of the landfill gas they are currently flaring off before they can spend limited available management resources on development of an MSW project. According to its website, the Fairbanks-North Star Borough Landfill has an existing waste-to-energy project, but only for space heating purposes.

week, and having that project on line within 18 months. With that project on line, GVEA would need no new generation to meet its loads for at least twenty years. B&V had no response.

B&V admitted that the 100 MW of power from the Mount Spurr Geothermal Project they project to come on line in 2020 and 2021 is highly speculative, given that the project developer has not yet started investigation of the geothermal resource there. B&V also admitted that it was highly speculative to project having the Chakachamna Hydro Project on line by 2025 given the lack of geotechnical investigation conducted for that project to date and the licensing risk for that project. B&V indicated their belief that some version of the Susitna Hydro Project was more likely to come on line by 2025 than the Chakachamna Project.[10]

AEA and B&V specifically cited to the proposed Susitna, Chakachamna, and Glacier Fork hydro projects as the only projects capable of meeting the 50% renewable generation goal. However, they then discounted the possibility of constructing the Chakachamna and Glacier Fork projects due to the lack of actual engineering data existing for these projects. They implied that addition of some version of the Susitna Hydro project was predetermined to be the only acceptable outcome for the RIRP.[11]

Utility representatives asked about State grant funding for hydro projects. AEA's representative stated clearly that grant funding was not an option, although long-term loans on favorable terms might be made available by the State. Utility representatives indicated that they did not have the uncommitted borrowing capacity to pay for $2-7 billion hydro project.[12] AEA's representative stated that they estimated the Railbelt utilities to have between $500 and 1,000 million of uncommitted borrowing capacity.

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[10] The Susitna Hydro Project alternatives considered by B&V are shown on the slide numbered 44.

[11] B&V stated that they believed that timely licensing of the Susitna Hydro Project was more likely achievable than timely licensing of the Chakachamna Project, because Chakachamna was taking water from one drainage and disposing it in another. It is unlikely that licensing of either project can be accomplished in less than ten years, including administrative appeals. Review of the records shows that FERC has not issued an original license for a major hydro project (250 MW or larger capacity) since 1982. That project was the New Melones Dam project on the North Fork Stanislaus River. Construction of the project was authorized by Congress in 1944, the first litigation was initiated by water rights activists, including people wanting to preserve water in the stream for fish, began in 1947. Construction of the project was begun in 1970, prior to issuance of the FERC license but with FERC approval. In January 1972, the U.S. Second Circuit Court of Appeals held that the National Environmental Policy Act of 1969 (NEPA) required FERC to do an EIS on hydro project license actions. The EIS for the New Melones Project was initially approved by FERC later in 1972. Litigation over that EIS was finally resolved in 1982 and the reservoir was filled in 1983. Since 1972, when FERC was required to prepare an EIS for hydro licenses, FERC has only issued five other original licenses for major hydro projects. Four of those, one in 1976 and three in 1977, were for pumped-storage projects substantially different from either the Susitna or Chakachamna Projects. The other was issued in 1978 for the California Aqueduct Project, a mixture of typical hydro projects and pumped-storage projects. Construction of the California Aqueduct Project was completed in 1971, but license issuance was held up until 1978 due to NEPA litigation. Since 1982, the laws governing preparation of an EIS for hydro projects have changed substantially, giving the U.S. Secretaries of the Army, Commerce, Interior, and Agriculture the right to impose mandatory conditions on hydro licenses. It is entirely unclear at this point in time how long, and at what cost, it would take to license a new major hydro project in wilderness areas.

[12] The slides numbered as 44 and 45 show B&V's cost projects for the Chakachamna and Susitna projects.

One of Chugach's representatives pointed out that the Railbelt electric utilities will be spending $600 – 700 million of their borrowing capacity on the "committed units" during the next six years. One of GVEA's representatives pointed out quite clearly that the utility's borrowing capacity was directly tied to rates, and that even borrowing from the State to pay for the proposed hydro projects would result in a significant rate increase for consumers.[13] AEA had no response to this concern other than to repeat that State grant funding would not be an available option.[14]

Fatal Flaws in the RIRP:

Several fundamental flaws exist in the RIRP including ignoring the utilities investments needed before 2015 of $912M in 662 MW of new generation, which the State is proposing to replace with $398M in 195 MW of new generation plus $353M in substation and transmission support facilities. A careful analysis will reveal that the utilities are not overstating the generation need in the Railbelt, regardless of whether or not a unified system operator is created.

As shown on the slides numbered 39, 40, and 41, ML&P, Chugach, and GVEA plan on retiring approximately 600 MW of generation capacity between 2011 and 2020. As shown on the slides numbered 23 and 24, base case Railbelt peak loads are expected to grow by approximately 25 MW during this time period.[15]

The Railbelt utilities are currently planning on offsetting planned retirements and meeting load growth by constructing, or acquiring, approximately 660 MW's of new generation capacity during the next ten years to meet load and reserve requirements.[16] If you take out the unplanned MSW units and the Glacier Fork Hydro Project that B&V admits cannot be brought online during this time, B&V is effectively recommending that only 320

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[13] One of Chugach's representatives did a 'back-of-the-envelope' type of calculation, and commented that using B&V's economic parameters shown on the slides numbered 31 and 32, construction of the smallest Susitna Hydro alternative would result in a 37% rate increase to consumers. One of GVEA's representatives stated his opinion that voluntarily undertaking a rate increase of that magnitude might not be acceptable to GVEA's Board.

[14] AEA did note that it would not be economically possible to capitalize the cost of financing during construction of a Susitna Hydro project, and that advance funding of such costs by consumers would have to be approved by the Regulatory Commission of Alaska (RCA) for any such project to proceed. The RCA, and its predecessors, have long held that advance funding of construction projects by consumers is a violation of the cost-causer/cost-payer principle of regulatory rate making, and have consistently rejected applications for approval of advance funding.

[15] The RIRP preliminary results are also based upon achievement of DSM/EE savings of 84 MW, as shown on the slide numbered 54. The utilities have an obligation to serve the load in their respective service territories, and although they can educate their members about the benefits of energy conservation and energy efficiency, they have no authority to enforce conservation or efficiency targets. Thus, in the absence of legislation granting the utilities or GRETC authority to impose energy conservation or efficiency standards, it s speculative to include DSM/EE benefits in a long-range generation plan. It should be noted that the reported experience elsewhere is that DSM/EE only results in slowed load growth and not in load decline.

[16] See the slide numbered 38.

MW of new generation be brought on line in the next ten years, all of which is in Anchorage.[17] This is not enough to meet load requirements.

If you consider B&V's preferred Scenario 1A (slide numbered 80), the model predicts 472 MW of new generation is available for dispatch to meet load by 2020. This 472 MW includes the unplanned 26 MW MSW project and the admittedly unavailable 75 MW Glacier Fork project, resulting in a net of 371 MW of new capacity. This compares to the 660 MW of new capacity mentioned above that Railbelt utilities plan on using to offset planned retirements and load growth. The B&V Model does not analyze the benefits of distributed generation achieved through the utility's planning efforts, and yet 154 MW (of the RIRP's 472 MW of new generation by 2020) is placed in the GVEA service area, seemingly in contrast to GVEA's statements that with the 50 MW HCCP their system generation requirements are met for the next 20 to 30 years.

Utility representatives pointed out that construction of the planned new natural gas generation units, and bringing the 50 MW HCCP into production, could not be avoided if reliable electric utility service was going to be available in the Railbelt during the long lead period before any large hydroelectric projects could be permitted and constructed. AEA and B&V acknowledged the truth of this assertion. However, they were generally unwilling to include the new units required to provide near term electric service in their analysis because doing so meant that achieving the State's renewable energy goal would appear uneconomical.[18]

Based upon these statements, it appears that the RIRP is fatally flawed in that it is designed to make one specific scenario appear economical and the only way to achieve that design is to ignore current realities. Additionally, the CO2 allowance costs escalate at an unrealistic rate, which favors renewable projects and could be considered biased.[19] Due to the biases apparently built into it, the RIRP as presented November 19, 2009 cannot be considered a reliable planning tool.

Proposed Cures:
First, the RIRP should conform to the contract requirements. By failing to address the range of natural gas options actually being considered for construction by the utilities in the next ten years, the preliminary results do not provide the information requested in the third contract bullet listed above.

The RIRP should be re-configured to include the "committed units" as if they are actually built, with runs exploring options should various proposals not be built. By leaving out the "committed units" the RIRP fails to realistically provide the information requested in

[17] See the slides numbered 51 and 80. B&V is recommending that 1X1 6FA be brought online in Fairbanks in 2020, of approximately 160 MW capacity. However, GVEA has clearly stated that once Healy Clean Coal Project is on line in 2011, it has no need for additional new generation in Fairbanks until at least 2030. Given the 75 MW capacity limit on the Alaska Intertie shown on the slide numbered 37, less than half of the capacity of this 6FA could be utilized, and thus it is highly unlikely that it will be built.
[18] They did state that they would reconsider including the Healy Clean Coal Project in their preferred analysis.
[19] See the slide numbered 42.

the fourth bullet. Also, the transmission portion of the RIRP, at the slides numbered 57 through 64 would basically require upgrading the existing 115-138 kV utility backbone systems, including distribution substations, to 230 kV. This is a very expensive capital investment undertaking with significant operational ramifications, which is supported with no analysis in the preliminary RIRP. Therefore, the RIRP fails to comply with the transmission requirements of the fourth contract bullet listed above.

The fifth and sixth contract bullets listed above appear to have been completely ignored, as no schedules have been provided. The seventh and possibly most important for short term Railbelt grid operations, contract bullet listed above was addressed only by assuming that GRETC is already in place. This is completely unresponsive to the needs of the Railbelt.

Although some renewable energy portfolio options are discussed in response to the eighth contract bullet, there is no discussion of how such options can be reliably integrated into the Railbelt Grid, and no discussion about how the grid is to interact with Independent Power Producers who might develop such options.

The RIRP does provide a listing of currently planned generation projects in the Railbelt as required by the ninth contract bullet. However, there is a significant lack of information responsive to the second sentence of that bullet. The dataset called for in the tenth contract bullet listed above may be present in the preliminary RIRP, but is not clearly set out in the results. Establishing a format for consistent application in future regional studies would be an appropriate product for this RIRP.

The eleventh contract bullet listed above was superseded with the 50% by 2025 goal announced by former Governor Palin. There is no justification provided for this change. The RIRP should clearly acknowledge, if such is the result, that meeting the 50% renewable energy portfolio goal announced by former Governor Palin is uneconomic. The RIRP should then investigate options that the State or GRETC can pursue under which the renewable energy portfolio goal can be reached if that goal is indeed a public policy of the State.

Financing of projects is clearly an issue. If the utilities will exhaust their borrowing capacity under current rates with construction or acquisition of the "committed units" shown on the slide numbered 38, and if achieving a 50% renewable energy portfolio by 2025 is a public policy goal of the State, then the State needs to determine how it will achieve this goal. One way would be for the legislature to adopt as law a renewable energy tax on electric utility consumers to advance fund renewable energy projects. Another way would be to fund such projects through State grants, or even State ownership. Many other options exist, none of them painless.

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January 7, 2010

Mr. James S. Strandberg, P.E., Project Manager
Alaska Energy Authority
813 W. Northern Lights Blvd.
Anchorage, AK 99503-2495

RE: ML&P's Comments on the Alaska Railbelt Regional Integrated Resource Plan (RIRP) Study Draft Report

Dear Mr. Strandberg,

Attached are ML&P's comments on the Alaska Railbelt RIRP Study Draft Report. While ML&P tried to be thorough in its review, the short period of review allowed between the draft release date of December 4, 2009 and the required comment due date of January 6, 2010, coupled with the press of other business, has made it difficult to provide as thorough a review as we believe a study of an issue of this magnitude deserves. In any case, ML&P hopes that you and Black & Veatch will find these comments useful. If you have any questions regarding them, you may reach me at 263-5826 or at helmickdb@muni.org.

Sincerely,

Daniel B. Helmick
Manager, Regulatory Affairs

cc: James M. Posey, GM

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Following are ML&P's comments regarding the Alaska Railbelt Regional Integrated Resource Plan (RIRP) Study Draft Report. Where the comments relate to specific sections of the report, they will be referenced to page numbers. Some comments may be more general, and therefore have no page reference.

General Comment:
We may have missed it, but we did not find any tables of the resource actions taken in the sensitivity scenarios. ML&P believes that this would be one of the most important results. In particular, we would like to see what resources are chosen if gas prices are very high. One possible justification for the Susitna projects is if gas becomes so expensive it becomes economic to substitute electric energy for gas used in low grade (heat) applications. However, we do not have modeling results to show this.

P 1-3 (Table 1-1 Political Issues)
The report lists "Historical dependence on State funding" as an issue facing the Railbelt Region. ML&P believes that this is a mischaracterization of the State's historical role in the Railbelt utility industry. It is a common practice not only in Alaska, but also in the United States in general for the government (state or federal) to undertake very large development projects. Most of the large hydroelectric projects in the country were developed by some combination of state and federal government involvement, as were many of the largest transmission projects. It is true that government developed projects in Alaska have not been of the same scale, but that is because Alaska is a frontier state with a small population and economy. This comment is not intended to suggest that the role of the State in utility projects is not an important issue, only that the State's past involvement is not indicative of any unusual dependence on State funding.

(1.2 Project Overview)
Re: Objective Function. ML&P recognizes that the objective function explicitly ignores questions relating to who pays what costs, and that this abstraction is useful for planning purposes. However, it should not be forgotten that GRETC may fail to create conditions in which the system can be developed as if there were only a single interest to satisfy. GRETC will necessarily change the conditions facing individual utilities, and the changes may not all be positive.

P 1-4
The bullet continuing from the previous page connotes a conclusion that GRETC should operate under open access tariffs and postage stamp rates. ML&P does not see why an open access tariff would be required under an organization in which there is only one owner of generation resources. Since GRETC (as envisioned in this RIRP) would have only one purpose, the provision of power to its member-directors at minimum cost, it is not clear how open access tariffs would be necessary. We do not see any reason why GRETC should need to be forced to allow access to its transmission facilities where that refusal is in the interests of the members, and we do not believe that GRETC should be required by its tariff to do things that are not in the interests of its members. With regard to postage stamp rates, ML&P does not see the need for them as self evident; indeed, we could envision situations where they would not be useful or appropriate.

P 1-12 (1.7.1.1 DSM/EE Resources)
ML&P is generally skeptical of modeling results that show energy efficiency and DSM investments by utilities for the direct benefit of individual customers as being cost effective. M&LP proceeds from the general proposition that we expect people to make investments for their own benefit that they believe are advantageous, without special incentives. ML&P also believes that the rates charged per kW and kWh by utilities are generally higher than the marginal cost of the underlying energy and capacity. Therefore, ML&P believes that it is reasonable to expect that retail customers are already investing more than is socially optimal in energy efficiency and DSM. ML&P is certainly open to persuasion on these points, but believes that any assertion that it is cost effective to subsidize customer investments should be supported by convincing analysis. We are aware that Black & Veatch has stated that the model selects all of the EE/DSM that is allowed to it by an arbitrary user imposed restriction of approximately 8% of load, but as far as we could tell, there was no real explanation of the economic characteristics of the measures on which those selections are based. ML&P believes that model results that purport to show that EE/DSM incentives funded by utilities are cost effective should be explained in depth.

P 1-14 (1.7.2 Sensitivity Cases Evaluated)
ML&P believes that either Black & Veatch has failed to explain the significance of its "With Committed Units Included" sensitivity case, or it has seriously mis-specified it. Without explanation, it would be natural to assume that the purpose of the sensitivity case is to determine whether it is reasonable to proceed with the units that utilities have represented that they are committed to. However, if that is the purpose, there are two obvious flaws in the model specification.

First, it treats sunk costs as if they were avoidable. It is obviously necessary to consider only those costs that are not currently sunk, and that the utilities will not have been required by prudent utility practice to sink prior to the time at which investment decisions can be made in reliance on GRETC. Utilities with reliability issues, or with aging, high cost generating units cannot necessarily afford to wait to see whether there will be a GRETC, and whether, if it is created, it will be able to meet their immediate needs, before they commit to the development of critical new resources, which will take years to build. The RIRP must recognize this reality, and not treat as optional resources that utilities either are already committed to or will have to commit to before GRETC can be relied upon.

Second, it lumps all of the committed resources together, as if they all had the same cost characteristics. Since the committed resources include projects in two different fuel markets, using different fuels and different technologies, in three different transmission areas, with different load-resource balances, and different opportunities for import and export, this is a major distortion.

On the other hand, if the purpose is to give an indication of the sub-optimality of individual utility decision making, it is necessary to account for new information between

the time when the units became committed and the time of RIRP modeling. Note that Healy II has been more or less committed for a long time.

P 1-15 (Table 1-4)
Sensitivity 1A Without DSM/EE Measures. How are the EE/DSM measures costed?

Sensitivity 1A with Committed Units Included. How are the committed units costed?

Sensitivity 1A with Susitna (all). With all of the large hydro projects, what is the capital recovery period, and how are end effects modeled?

Sensitivity 1A with Modular Nuclear (and Tidal). Unless we have missed something, the results seem to show that the PV of cost is reduced by including each of these projects, and yet the model does not select them. Why?

P 1-16 (Table 1-5)
This table is filled with errors. Also, in Sensitivity Case 1A with nuclear, why is SO_2 higher than in Case 1A without nuclear?

P 1-19
Mobile Substation: Could also provide redundancy in the event of a substation failure.

Re: BESS. If BESS is required in order to provide regulating margin for a particular project, it is, at least partially, a cost of that project. Is it modeled that way?

Re: transmission projects not justified by economics, but required for reliability: Why is reliability not economics?

P 1-20 Figure 8)
One of the Scenario 1A's should be 1B.

Re: "Develop a spreadsheet model that utilizes inputs from this RIRP analysis and overlays realistic debt ..." It is wrong to assume that debt is the only financing vehicle.

Re: last line. Equity could be supplied by investors or governments under some circumstances.

P 1-21

Re: first bullet. Why would this be, other than as a vehicle for state assistance?

Ratepayer Benefits charge, "PAY_GO", and CWIP in Rates: These appear to be variations on strategy of including investments not yet in service in rates. These devices do not really lower the cost of capital (paying a cost earlier reduces its nominal value, but also reduces the discounting), but there are good economic reasons for doing it. Harold Hotelling presented the basic argument with his example of first building, then expanding a bridge across a river separating two towns (Hotelling posed the question: what is the economically correct toll just after the first bridge is built, just before the bridge is

expanded, and just after the bridge is expanded, as traffic steadily increases). Opportunity cost of the service is at a maximum just prior to new investment going into service, then declines. It is desirable for opportunity cost to be reflected in rates as much as possible, so including investment costs before the in-service date is desirable, although generally frowned on by regulators.

State assistance: State assistance will not, in general lower the cost of capital, it will shift some of it from the utilities/GRETC to the state. It always reduces your costs when someone else pays them.

P 1-22
There is no magic in reducing GRETC's costs through state subsidies. Each dollar of subsidy will reduce GRETC's costs by (hopefully) about a dollar.

Re: Fixed charge rate per kWh results. If we have understood this correctly, it is saying that the average fixed charge cost in the alternative case is about 1¢/kWh lower than in the base case, but adding in the 1¢/kWh "Capital Benefits Surcharge and the state subsidy would bring it back to parity. What is the point?

The last bullet in Subsection 1.7 does not appear to be a sentence.

P 1-22 (1.8.1 General Risks and Issues) The second hollow bullet states that the Railbelt utilities have not been able to take full advantage on economies of scale. This is probably true. However, it is worth remembering that, by lower 48 standards, Railbelt generating units are already huge in relation to the system to which they are connected. A 1,000 MW unit in the lower 48 is likely to be about 1% of the capacity on its interconnected system. Compare that to a 100 MW unit in the Railbelt, which is close to 10% of the capacity on its interconnected system. While economies of scale certainly involve more than just unit size, it is possible that the Railbelt has achieved a surprising portion of the physically available economies of scale.

P 1-23 (1.8.1 General Risks and Issues)
Re: "Market development risks and issues, including the need to implement a competitive power procurement process ..." Why is this a need? Is there any reason to suppose that IPP's would be an optimal source of new generation but would not be selected by the management of GRETC absent special rules?

Re: The text box, third bullet in **"Transmission"**: the statement: "Desired grid cannot be justified solely on economics" implies an inappropriately narrow understanding of the term "economics" Reliability is obviously an economic good.

P 1-26 (1.9.1 Conclusions 6.)
The analysis of the committed units sensitivity case is incorrect if the objective is to determine whether they should be built. The error is that it makes no distinction between sunk (not avoidable) and not sunk (avoidable) costs. If the objective was to compare the cost of individual utility responsibility and decision making to collective responsibility

and decision making, it is incorrect in that it does not control for the many differences in decision making environment other than whether the decision is regional or local.

P 1-27 (1.9.1 Conclusions 9.)
If additional regulating margin is necessary because of the output characteristics of a particular type of resource (e.g. wind), the increase is a cost of the resource, not of the transmission system.

P 1-28 (1.9.2.1)
Re: DSM/EE targets. Why should there be targets? Why should we not figure out why we want DSM/EE, and then determine the optimal amount?

Re: renewable targets. Same question.

Re: System benefit charge to fund DSM/EE subsidies. Why do we assume that this is necessary? Do we actually believe that power consumers are incapable of making reasonable economic choices? If not, do we believe that the opportunity cost of power is higher than our retail rates? If we think that, why would we go to such effort (and cost shifting) to try to force the rates lower than they will naturally be?

P 1-29 (1.9.2.1. 4.)
No basis has been presented to select Scenario 1B over Scenario 1A. Before we adopt a target for some particular category of resource, we should determine our reasons for doing so. Having done that, we should be able to assign values to those reasons, and determine the optimal level of the resource, given those values.

P 1-34 (1.9.2.3. Recommendations - Other)
11. There is no need for a study report to recommend the essentially political action of spending state funds to promote actions not justified by the study. The study basically assumes that we should subsidize EE/DSM. It does not justify the assumption.

14. The same comment applies to renewable resources. The study contributes nothing to our understanding of why we should meet any particular renewables target, so the study provides no basis for a recommendation that any particular level of renewables should be attained, or how.

15. The same comment applies.

21. ML&P is aware of no reason why there should be a standardized competitive procurement process, or a standard power purchase agreement, or why IPP's need any special opportunity to submit proposals.

P 1-36 (Table 1-11)
ML&P does not believe that the study provides any basis for the recommendation that a system benefits charge be imposed to subsidize either EE/DSM programs or renewable energy projects.

ML&P does not believe that the study provides any basis for the recommendation to establish the Scenario 1B plan as opposed to the Scenario 1A plan. If a reason to encourage renewables beyond what is selected by the model can be articulated, it should be assigned a value that the model can respond to, and the resulting plan should be adopted.

P 1-38(Table 1-12)
Re: comprehensive region-wide portfolio of DSM/EE programs within 6 years. ML&P believes that the reason for sponsoring programs at all should be established before efforts are made to do it.

P 1-39 (Table 1-13)
Re: first bullet. ML&P does not object to research, but part of the research should be a clear understanding of what we are trying to accomplish with the program, and why.

Re: second to last bullet. ML&P does not understand the need for this. There is no basis in the study.

Re: last bullet. ML&P does not understand the need for this. There is no basis in the study.

P 1-40 (Table 1-14)
Re: bullet 1. This should not be done without a reason. There is none in the study.

Re: third bullet: This could make sense for large scale or high risk projects, but surely not all renewable projects are large scale or high risk.

Re: fourth bullet: Why would we rely on IPP's to identify renewable projects?

P 2-1 (Project Overview)
Re: fifth bullet: ML&P does not understand the importance, or really even the concept, of "open access" tariffs in a single G&T world. If GRETC is the all-requirements power provider, what market for transmission will exist? Also, ML&P does not believe that it is self-evident that postage stamp rates are appropriate. Given the very significant differences in the supply-demand relationships in what are now the separate transmission areas, should we assume that it is cost effective to build enough transmission to eliminate these differences?

Re: next to last bullet: ML&P does not see the need to single out IPP's as a potential form of supply organization. To ML&P, it seems self evident that if an IPP is the best source of some resource, GRETC will choose it, and if some other type of organization (or self supply) is the best source, GRETC will choose that.

P 2-5 (2.3.2 PROMOD)
For clarification, is "Debt service" in the last sentence intended as a proxy for cost of capital (as in required return and depreciation) or is it an estimate of literal debt service that would be likely to be associated with capital investments?

P2-6 (2.3.3 Benchmarking)
Re: Next to last paragraph, on Hydroelectric generation. The restriction on generation available in each month appears to be an ad hoc response to an inability to model forward looking hydro-thermal co-ordination. This may be a reasonable simplification, but ML&P would point out that it could be optimal to exhaust most of the water storage at times of high value, holding back only enough water to preserve the capacity value of the project.

P 3-12 (3.6 Future Resource Options)
Re: "Limited Development - Renewables, DSM/EE". This discussion implies that Alaska has failed to develop Renewable resources and DSM/EE resources that it should have developed. Lacking any analysis that shows this, we could also assume that Alaska's development of these resources (or "resources", in the case of DSM/EE) has been appropriate, and no special action is necessary to increase it. In an IRP, we should identify the values that we are trying to maximize, and let the results determine the plan. If the model does not select as much renewable resource as we think it should, we should identify (and quantify) the values that we think the model is ignoring or under-selecting. The obvious way to do that is to assign monetary values to the desired attributes, and re-run the model in light of the new monetary values. Then we would have some basis for the selection of whatever renewables we decide to develop.

Re: the supposed need for DSM/EE programs. Do we have actual evidence that market forces do not produce the appropriate levels of DSM/EE investment by consumers? If so, have we identified the market failures that cause that result? In general, in this economy, we assume that users of resources invest appropriately in the efficient use of those resources. Why do we assume that users of energy do not do likewise? If the answer is that we suppose that the price charged for energy is inadequate, ML&P would point out that most electric energy consumers in the Railbelt pay more than 10¢/kWh (up to 20¢/kWh, in some cases). The results of the modeling do not show the average cost of power being that high, even including an assumed cost for CO_2. The IRP should be rigorous on the analytical basis of its recommendations, or it should at least state clearly why it has departed from that standard.

P 4-1 (4.1.1 Anchorage Municipal Light & Power)
The statement "Units 1, 2, and 4 are unavailable for commercial operation ... ." is incorrect. Units 1 and 2 are not available for normal dispatch, but are available if needed in an emergency, and Unit 4 is dispatched on a normal, although infrequent, basis.

P 4-3 (4.1.7 Hydroelectric Resources)
Black & Veatch has persistently misrepresented the capabilities of the Bradley Lake project. Clearly, the project could not be counted as spinning reserve for the last 27 MW

of its capability if that capacity were not available for operation. The facts are that Bradley Lake is dispatchable up to 120 MW (at full pool), but because of transmission losses and other transmission related issues, is rarely dispatched above 90 MW. The 27 MW spinning reserve is an upper limit adopted by the Bradley Lake O & D subcommittee, whose significance is that no more than 27 MW of Bradley Lake may be treated as spinning reserve even if the actual reserve capacity is more than that. The reason for this limitation is that for responses larger than that, Bradley Lake responds rather slowly, and the system can have inadequate frequency response if too much of the spinning reserve is Bradley Lake. This problem has been at least partially mitigated by recent governor upgrades. This error in treatment of Bradley Lake should be corrected in each place where it appears in the report, and in the modeling.

P 4.2.1 (Southcentral Power Project)
ML&P proposes several detail corrections: The project was previously known as the South Central Alaska Power Project. Its expected capacity is 180 MW. Its expected capital cost is $370 million in current dollars, which would be far more than $281 million in 2009 dollars. ML&P would note that much of this cost has already been sunk, and is not avoidable. An IRP should not, therefore, model this project on the same basis as a project all of whose cost is avoidable.

4.2.2 (ML&P Units)
ML&P expects the output of its proposed LM2500 SCCT to be 30 MW, and the output of its proposed LM6000 CCCT to be 58 MW.

P 4-6 (Table 4-8)
ML&P does not believe that SPP, with its dry cooling system could possibly have a lower heat rate (7,091 Btu/kWh) than ML&P's proposed CCCT (7,326 Btu/kWh) with an evaporative cooling tower.

P 4-7 (4.2.3 Healy Clean Coal Project)
The second paragraph seems to imply that the sunk cost of the project is $50 million, from GVEA's point of view. In any case, if GVEA avoids paying that cost, it will become a $50 million cost to the state. Therefore, HCCP should be treated as having an avoidable cost of $40 million. Even if the purpose of assigning the $50 million is to show the relative effect of individual vs. collective decision making, it is inappropriate because the $50 million was part of a legal settlement, and does not necessarily represent an estimate of the sunk cost of the plant.

4.2.4 HEA Units
As with HCCP, as well as with ML&P's committed units, any of the costs of the HEA committed units that are already committed should not be modeled as avoidable.

P 4-8 (4.3 Existing Transmission Grid)
The third paragraph from the bottom of the page describes interconnections between the MEA and Anchorage load centers. ML&P does not believe that the paragraph adequately, or even accurately, describes the system. In addition, ML&P has no idea

what the assumed 50 MW MEA to Anchorage transfer capability is intended to refer to. From ML&P's perspective, there is 250 MW transfer capability in each direction on the 230kV circuit plus 120 MW in each direction on the Eklutna circuit.

P 5-1 (5.2 Financing Rates)
ML&P would argue that 7% nominal is a little low. ML&P's estimated cost of capital (required return on combined debt and equity) is consistently above 8%, and we do not believe that the Railbelt cooperatives actually have a lower cost of capital than ML&P does. It is not easy to observe the cost of capital for cooperatives, but we do not believe that any Railbelt cooperative could refund its entire assets with borrowed funds at an average rate of 7%, unless some agency were willing to offer some subsidy, like, for example, a debt guarantee.

5.5 Fixed Charge Rates
ML&P does not object, in principle, to this form of recognition of cost of capital. However, fixed charge rates based on nominal interest rates produce a distorted comparison of capital costs of projects whose useful lives will occur at different time periods. This is not a serious issue where the comparison is in terms of the NPV of total costs over a fixed (long) time period, but it will seriously distort comparisons of "levelized" unit costs between units.

In general, long lived assets (e.g. hydro projects) are penalized by using nominal fixed charge rates instead of real fixed charge rates. For example, the 100 year fixed charge rate for hydro actually recovers very little of the capital cost during the second 50 years because dollars spent during that period are discounted by 50-100 years.

6-10 (6.4.2 Electric Space and Water Heating Loads)
ML&P is a little bit disconcerted by this discussion. Unless so much really low cost renewable power is developed that the region stops burning gas for generation during the heating season (would a two dam development of Susitna do this?), it is difficult to see how burning gas to produce electric power to produce heat could be either economically or thermally more efficient than burning gas to produce heat. It is also not obvious (although admittedly possible) that burning gas in a turbine to produce electric power to drive an electric compressor is more efficient or reliable than burning gas in the same turbine to drive the compressor directly.

6.4.3 Economic Development Loads
ML&P would only note that not everyone would automatically assume that large scale economic development of Alaska would be an unmitigated good thing. It is reasonable to consider developments of this nature as sensitivity scenarios, but we do not think "opportunity" is necessarily the word that should be used.

7-1 (7.1.1.1 Description of Risk-Based Assessment Methodology)
ML&P would suppose that if the object were to establish a point estimate of the expected natural gas price for each year, the obvious choice would be expected value (summation of the products of possible outcomes multiplied by their probabilities of occurrence). The

whole point of a risk based estimation is risk avoidance or compensation. ML&P has no specific recommendation on that subject, but strongly feels that expected value is a better point estimator than P50.

P 7-4 (Table 7-1)
ML&P is a little confused by the large variation in estimates for the 2000 - 2009 period, most of which has already occurred. This seems like large variation even if the period is really 2000 - 2009, a good part of which would presumably have occurred by the time the report was drafted.

7-5 (7.1.1.4.2.2 Instate Gas Pipeline)
ML&P believes that it would have been useful to model a larger pipeline as a sensitivity case. It appears to ML&P that a capacity of 350 MMcf/d could be uneconomically small.

P 8-1 (8.2.1 Spinning Reserves)
This is one of several places where Black & Veatch must correct its misunderstanding of Bradley Lake spinning reserves.

P 8-2 (Table 8-2)
ML&P units 4, 5, 7, and 8 should be included in this table.

P 9-2 (Figure 9-1 - 9-6)
These figures would be more useful with grid lines.

10-3 (10.1.3.2 CT Capital Cost Assumptions)
ML&P has a compressor on its Unit 3 and SPP will have compression.
The assumption of dry cooling seems unnecessary.

10-4 (10.1.3.6)
Next to last bullet: Station net output based on fired operation. Is this a capacity number, or is it an energy number? It seems obvious to ML&P that duct firing would not be used to produce a large amount of energy because of the high heat rate.

10.1.3.7 Coal O&M
It does not seem reasonable that a coal facility would have the same number of starts as a CT. ML&P wonders why the dispatch modeling does not give some estimate of the number of starts.

P 10-17 (10.3.1 Hydroelectric Project Options)
The projects are listed with associated utilities. ML&P assumes that the intention is to indicate the service area in which the project would be located, but the report does not say that anywhere that we noticed.

P 10-21 (Table 10-15)
These "average cost of electricity per kWh" numbers illustrate the difficulty of understanding average costs over long time periods. ML&P would prefer a real levelized

cost over the first 50 years, and a real levelized cost over the full project life. The costs over the second 50 years, after the total project cost has already been recovered, is pretty much irrelevant.

P 10-22 (Table 10-16)
The Firm Capacity and Minimum Capacity numbers do not seem useful to ML&P. Definition Question: Is "minimum capacity" the capacity at minimum pool? Considering the elevations, this seems like too much of a difference from Nameplate Capacity. Also, ML&P believes that Firm Capacity should be the capacity that the utility can count on, not on a continuous basis, but on a peak basis. Energy over the winter is a different issue.

P 10-31 (Capital Costs)
Something looks wrong by an order of magnitude. If the project is 100 MW, doesn't the cost/kW have to be $25,000 if the project cost is $2.5 billion?

P 10-36
Why would we consider only projects that could be "prepared for construction by the end of 2010"? Do we apply this standard to thermal projects?

P 10-40 (10.3.5 Modular Nuclear Option)
If ML&P has correctly understood the cost data, this project is very cheap. Why is it not selected?

P 10-45 (10.3.7) Central (Combined?) Heat and Power
ML&P thinks it might have been instructive to take the most attractive known site and model a co-gen project at that site.

ML&P is perplexed by the statement that standard purchase agreements under GRETC would obviate the need to be a QF. In ML&P's experience, projects choose to be QF not because of lack of a contract alternative, but because QF rates are higher than would be obtainable in an arms length transaction.

P 11-1 (11.1 Introduction)
ML&P understands that this position is not popular, but we begin with the assumption that customers, faced with a price above marginal cost (as we believe most electric consumers normally are) would invest more than the socially optimal amount on EE/DSM. We have to ask why the study assumes that electric customers do not follow this behavior. The question is especially relevant where, as in this study, we have simultaneous recommendations to try to push the price lower than its natural level and to try to push consumption lower than its natural level given prevailing prices.

P 11-9
Re: description of Table 11-4. What is the meaning of the phrase "target kWh savings per customer"?

In general, without a detailed discussion of the cost and benefit modeling, ML&P is skeptical of the analysis. ML&P believes that without compelling evidence of specific market failures that would justify deviation from the principle, investments in efficient use of resources should be made by the users of those resources. Where the resource is delivered electric power, the user is the electric customer, not the utility.

ML&P is not saying that the justifying market failures do not exist. However, if they do, they should be discussed in the report.

P 11-16 (11.5 DSM/EE Program Delivery)
The first sentence states that the models selected all DSM/EE measures in each of the resource plans. It is critical to understand the basis on which these selections were made. ML&P suspects (but does not believe it is stated explicitly in the report) that the basis was total utility spending on measures plus power supply. If so, it ignores the associated customer spending on the measures, and it probably ignores issues such as free ridership. It may also ignore the cost of verification, and of distortions of customer behavior resulting from the distortion of incentives inherent in the programs. Finally, it may ignore the interaction between heating load and electric efficiency (consideration of the similar interaction between cooling load and electric efficiency is common, but we have not seen discussion of this more or less opposite effect).

It may be that the models would select the same amount of EE/DSM even taking all of these issues into account, but we cannot tell from the report.

P 12-20 (Table 12-1)
As far as ML&P noticed, the text of Section 12 discusses categories of project (as to function or purpose) but not priority, while the table shows priority, but not category. ML&P would like the table to show both category and priority. It would also be nice to see some discussion of priority in the text.

ML&P believes that if Project 15 (new build Lucas - Teeland) is built, Project 14 (upgrade, Lucas - Teeland) should not be necessary. The projects should be presented as alternatives, rather than as independent.

ML&P believes that Project 16 (Pt. Mackenzie - Plant 2) would make sense only if major new generation is installed north of Cook Inlet.

ML&P wonders why this RIRP ignores the possibility of a 230 kV circuit from Fairbanks to Glenallen to Palmer. This circuit would admittedly be expensive, but to ML&P, it seems to be the obvious next step in extending the Railbelt grid, and would produce large redundancy benefits.

13-1 (13.1.1 Results - DSM/EE Resources)
As explained in its comments on Section 11, ML&P is skeptical of this result and believes that it requires a much more detailed discussion than is included in the report.

13-10 (Table 13-1)
ML&P believes that the column **Average Cost (¢ per kWh)** is calculated incorrectly. We believe that Black & Veatch has said that it made the calculation by dividing the present value of total cost by the total 50 year energy production. This would be incorrect in that it discounts costs but not benefits, while the time-value principle obviously applies equally to costs and benefits (it makes no difference whether the benefits are in the form of money or in the form of goods. In economic terms, money is nothing more than an index of the value of all goods). Correcting this error would increase all of the costs/kWh, (i.e. they would be discounted cost/discounted kWh, instead of discounted cost/gross kWh), but more importantly, it would remove a bias in favor of long lived resources.

Sensitivity - no DSM/EE As mentioned above, ML&P is unsure of the meaning of this result, as well as being skeptical. Does it mean that the utilities spend less, or that the region (utilities plus their customers) spends less?

Sensitivity - forced committed units How much of the difference is HCCP? As mentioned above, the assumptions in the study relating to HCCP are clearly unreasonable for any purpose that has been explained in the study. There are probably also other sunk costs that this result ignores.

Sensitivity -Fire Island This result seems to indicate that Fire Island increases regional costs by approximately $1 million per MW! If that is true, it says a lot about wind power!

Sensitivity - no Chackachamna This result shows Chackachamna saving close to $350 million, which seems pretty good. ML&P wonders whether this result assumes that the total cost of the project is recovered in the first 50 years? If so, is there any credit for the remaining value of the project at the end of the period?

Sensitivity - Modular Nuclear and Tidal Both of these resources would apparently be selected, if available to the model. This being the case, it would seem that the RIRP should recommend a vigorous effort to develop reliable cost and feasibility for them so that they can be included in the plan, if feasible. (**note:** ML&P suspects that the result for Tidal Power is incorrect, by an order of magnitude)

P 13-11 (Table 13-2)
Sensitivity - no DSM/EE There is an obvious error in the numbers.

Sensitivity - Committed Units This result must be driven primarily by Healy II. If that is true, it might be more appropriate not to group all of the committed units in one case.

Sensitivity - Fire Island This appears to indicate that including Fire Island increases NO_X and SO_X, which makes no sense to ML&P.

Sensitivity - Chackachamna This appears to indicate that Chackachamna increases SO_X. Makes no sense to ML&P.

Sensitivity - Tidal and Nuclear These results suggest that the cases include a lot more tidal power than nuclear. We don't really see a reason for that, unless it is a minimum scale issue with tidal facilities.

P 13-12 (13.4 Results of Transmission Analysis
ML&P did not see whether transmission projects required by the construction of a power project were included in the cost of the power project for economic analysis. Clearly, with some projects, this could be a major issue.

P 13-14
ML&P hopes that if a BESS was rendered necessary by the existence of a wind project, at least some of the cost of the BESS was treated as a cost of the wind project for analysis.

It is a semantic issue, but the remark in the last bullet that recommended system expansions and enhancements can not be justified based solely on economics suggests that Black & Veatch does not believe that reliability and power quality are economic variables. This restricted view of what is an economic variable makes economic analysis difficult, and, to a large extent, useless.

Second bullet ML&P believes that investments that are genuinely cost effective can be funded. Often the impression that an investment is too large to finance is driven by unrealistic expectations of what it should cost. It may be necessary to find a way to involve additional equity, or to find lenders willing to accept large risks. Both of these things involve costs that exceed the level generally considered normal by consumer owned utilities, but that doesn't mean that they are not possible.

Bullets four and five The comment above is relevant to these bullets.

P 13-16
Second bullet ML&P would ask whether it really makes sense to simultaneously invest in EE/DSM and use subsidies to lower a price of power that must already be too low if EE/DSM programs are necessary.

Hollow bullets one - three These bullets all describe some plan to advance payment for investment projects to some period prior to the projects' in-service dates. This is distasteful to regulators, but entirely appropriate economically. To the extent possible, prices should reflect marginal costs. As Harold Hotelling demonstrated with his bridge example, the marginal cost of an investment driven commodity (like electric power) will be at a maximum during the period just prior to the operation of a new investment (*ceteris paribus)*, and will fall when the investment goes into service. It is therefore counterproductive for the retail price of electric power to be falling during the entire period prior to the investment and then to suddenly rise, just when the marginal cost of

the power falls due to the new investment. To the extent that funding for the new investment can be advanced ahead of the actual investment, this problem will be reduced.

Hollow bullet four As ML&P reads this bullet, it is simply saying that if the state provides capital formation services for free, or assumes some of the risk, the costs remaining to the utilities (or GRETC) will be commensurately reduced. That is the nature of subsidies.

P 15-2 (15.1 Conclusions)
Obviously, given its many questions about, and exceptions to, the modeling assumptions and results, ML&P has many reservations about the conclusions. Because the fundamental reservations are explained elsewhere, comments on this section will be brief.

2. Last bullet In this bullet, the report lists as a factor driving the results, the question of whether the Railbelt utilities develop a number of currently proposed projects that were selected outside of the regional planning process. ML&P would point out that this study includes no credible analysis that would show that the utilities either should or should not develop those projects. The defects explained in prior comments (failure to recognize sunk costs, failure to recognize inability to rely on GRETC in the near term, and lumping of disparate units in the same group) make it impossible to draw any reasonable conclusion from the sensitivity case. ML&P would point out that the project most affected by this failure is the Healy II coal plant. The $50 million sunk cost that the report fails to recognize will very likely end up accruing to the state, if the project is not developed as a result of this RIRP.

3. fourth bullet The report asserts that a benefit of the RIRP will be a more effective spreading of risks among all areas of the region. This may be true, but that implies a transfer of risk from some parties to others. Obviously, these risk transfers have not been discussed in the RIRP, and will be major issues in the formation of GRETC.

P 15-3
4. ML&P does not believe that the study has really established that the cost of greater reliance on DSM/EE is lower than the cost of power production. It may be true, but the report does not make it clear.

6. As explained at length above, ML&P does not believe that the case has really been made with regard to the committed units. In addition, ML&P strenuously objects to the statement: "[w]while this sensitivity case does not fully capture the incremental cost of the utilities acting independently over the 50 year planning horizon, it does provide an indication of the relative cost differential." ML&P would argue that at least with regard to some of the committed resources, the sensitivity case exaggerates the incremental cost of those resources. It cannot be said whether the 50 year incremental costs are understated or overstated.

ML&P would also argue that there is no way that GRETC can get new resources built in time to meet the immediate needs of the Railbelt. If that is the case, utilities must build something, and they certainly will not build something that will not meet their own needs.

P 15-4
9. ML&P agrees that increased reliance in non-dispatchable resources will require a higher degree of frequency regulation. The report does not make clear, however, whether the incremental cost of this requirement is treated as a cost of the resources that create the requirement.

15-5 (15.2.1)
2. second bullet ML&P does not believe that a case has been made for any particular DSM/EE targets.

2. third bullet ML&P does not believe that a case has been made for any particular renewable target. If the externalities are properly priced, the model should be able to select the appropriate level of renewable resource.

2. fourth bullet If DSM/EE programs and uneconomic projects are to be funded, they will be funded, one way or another, out of rates. It might as well be called a "system benefit charge".

4. ML&P does not believe that the analysis supports the selection of Scenario 1B over Scenario 1A. There should be more work done on DSM/EE and committed units. With regard to renewables, there should be some articulation of what value is sought that is not reflected in the economic analysis that selected 1A. Because there is plenty of time before the two scenarios diverge, there is time to do this work before a decision between Scenario 1A and Scenario 1B is required.

Committed Units ML&P believes that because of modeling defects described above, the case with regard to committed units has not been made.

HCCP ML&P has commented above that as far as it can tell, the analysis fails to recognize the sunk costs of HCCP (i.e. it treats $50 million of sunk costs as avoidable). This renders any conclusions regarding HCCP suspect until the analysis is corrected.

P 15-10
DSM/EE programs As stated above, ML&P does not believe that a case has been made.

15-11 (15.2.3 Recommendations - Other)
1. ML&P does not oppose state funded studies of DSM/EE potential, but believes that it would be premature to design specific programs, or to commit to any level of investment.

2. ML&P believes that it could be useful to develop a regional DSM/EE program measurement and evaluation protocol well in advance of deployment of any programs.

3. ML&P does not believe that a case has been made for any large DSM/EE program, and therefore does not see a need at this time for a region wide organization to deliver programs.

4. The comment above is also applicable to renewable energy projects.

5. ML&P agrees that DSM/EE programs should be coordinated between electric provider and gas providers.

7. - 10. ML&P agrees with these recommendations.

11. ML&P does not see a need for any particular process or standard agreement for procurement from IPP's. GRETC can purchase from IPP's without these. We do not see an equal opportunity issue.

12. Always.

A-1
At the time when ML&P downloaded the draft report, the appendices to Appendix A did not appear to be included. ML&P has not seen these appendices, and any lack of comment indicates neither acceptance nor exception.

A-2 (Table 1)
ML&P believes that the definition of Firm Capacity (we think it is the level of output that can be maintained continuously during the Nov-April winter season with 100% certainty) is so restrictive as to be misleading. Certainly, we do not actually operated any hydro resource that way. ML&P believes that we are more interested in several values that are commonly discussed in the Pacific Northwest: (1) capacity, defined as the level of output that can be reliably produced at any time, with reasonable planning, (2) heavy load hour energy, defined as the amount of energy that can be reliably produced during the hours of the year with above average loads, (3) firm energy, defined as the amount of energy that can be reliably produced during the year, and (4) nonfirm energy, defined as the energy in excess of firm energy that is expected to be produced.

P A-9 (Table 2)
ML&P would like to know how the Minimum Pool Elevation is determined. Is it a technical limitation, a statistical limitation having to do with refill and preservation of H/K, or an economic limitation? Would further drawdown be possible?

P A-11 (Figure 2)
This chart illustrates the very high cost of the last few percentage points of reliability. It suggests that costs would be minimized by accepting a significantly less than 100% probability of meeting a given level of reliable output and dealing with any shortfall through some combination of alternative supply and demand reduction.

Appendix C Financial Analysis

The lack of page and/or section numbering on this document makes it difficult to attach specific comments. In general, the Appendix proceeds with an argument that consumer owned utilities are unable to fund investments that are large in relation to their existing assets. ML&P would argue that the question is really more one of will than of ability. Large investments result in large leverage, high risk, and, accordingly, high cost. Consumer owned utilities are not used to acquiring capital at high cost, but that doesn't necessarily mean that it should not be done. It just means that the investment must justify a higher cost than we are used to.

One of the two strategies advocated in the Appendix is to advance recovery of the investments from rate payers ahead of the actual investment. SNW has somewhat mischaracterized the economic effects of this strategy, but it is, nonetheless, economically appropriate. ML&P supports all three of the mechanisms proposed by SNW, and notes that the traditional regulatory reluctance to advance recovery of investments is one reason supporting proposals to exempt GRETC from economic regulation.

The second major strategy advocated is for the state to assume, in one way or another, part of the cost of the investments. This could be done through outright grant, subsidized loan, or loan guarantee (a form of loan subsidy). Clearly, any investment by the state reduces the remaining cost of investment to the utilities. Whether the state should provide this kind of assistance is a political question, and ML&P would only remark that there is a long tradition, not only in Alaska, but also in the other states, and in the United States, of this kind of government investment in very large utility investments that have many of the attributes of infrastructure.

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) 283-5851
FAX (907) 283-7122

December 2, 2009

Jim Strandberg
813 W. Northern Lights Blvd.
Anchorage, AK 99503

RE: RIRP draft presented by B&V – 11/19/09

Dear Jim:

Thank you for providing the Railbelt utilities an opportunity to review the preliminary results of the Railbelt Integrated Resource Plan (RIRP). I am pleased to see that we are having good discussions on the possibility of having a centralized authority providing for the electrical needs of the Railbelt. As with any viable analysis, it is important that costs and benefits of the various scenarios be properly modeled so that the results form a strong foundation for future decisions.

I remain concerned about some of the assumptions and methods of the present modeling. In my opinion they can lead to potentially misleading conclusions. There are a number of technical critiques that I can provide in order to enhance accuracy, but at a more fundamental level, I feel that there is a potential for a fatal flaw in the methodology of comparisons.

To illustrate the flaw I offer this example. If NASA were to fire a rocket at the moon by aiming directly at their target, it would miss because the moon would have moved by the time the rocket arrived. In order to be successful, NASA must factor in movement and aim for the anticipated location.

The present RIRP makes a similar mistake. The basis for the comparison of the scenarios (1A, 2A, 1B and 2B) takes as a starting point conditions that will not exist in the Railbelt generation when GRETC is expected to be a reality. The appropriate approach is to establish a time that we can reasonably assume GRETC will come into existence and use the circumstances expected to exist at that time as a starting point for the modeling. I believe this was the method originally expressed to the Railbelt utilities on how the IRP was going to proceed (our current power supply plans would be integrated and form the first 10 year transition period). The conditions of that future starting point should be the basis of all comparisons; which should include <u>all</u> units that are likely to be in existence at that time. To assume that none of the committed units will be in existence, as currently modeled, is incorrect at best and misleading at worst.

For HEA, the modification of the Nikiski unit and the addition of two units at Soldotna will happen, a fact that has been disclosed at numerous meetings. The pre-bidding for aforementioned projects has been held and contracts will be signed during the first quarter of 2010. Money is being committed. Likewise with the South Anchorage Power Project (SAPP),

Healy Clean Coal Project (HCCP) and others, monies are being spent and these projects will be well on their way to being a reality before a bill concerning GRETC can even be introduced to the Legislature.

As you are well aware, HEA has given Chugach Electric Association (CEA) notice of the cessation of their contract for electrical supply; which comes to an end on December 31, 2013. With only four (4) short years to develop our resources, we do not have the luxury of abdicating the responsibility of meeting the electrical energy needs of our members. As a result and as mentioned above, we are actively implementing the most economical and realistic solutions, as identified in our Power Supply Plan, in order to provide generation resources for our members.

Once again, it is my opinion that the failure to include a realistic formulation starting point and omitting committed future assets is a fatal flaw in the plan. On the other hand, the inclusion of all planned units will offer a more realistic picture of the actual costs associated with the various scenarios. Without that, I cannot in good faith support the conclusions of the study.

Based on the preliminary results presentation, I have a detailed list of comments that I am happy to share with you in an effort to improve the reliability of this planning activity. If you are interested, please let me know.

Thank you for the hard work you've put into this project. I look forward to hearing from you soon.

Sincerely,

Bradley P. Janorschke
General Manager

cc: Harvey Ambrose, HEA Director of Power Production & Transmission
Bob Day, HEA Power Production Manager

HB

306

<target><bill>HB 306</bill><subject>HB 306</subject><comm>HENE26</comm></target>

4/17/10
Adopted

26-LS1049\N
Kane
4/14/10

SENATE CS FOR CS FOR HOUSE BILL NO. 306(FIN)

IN THE LEGISLATURE OF THE STATE OF ALASKA

TWENTY-SIXTH LEGISLATURE - SECOND SESSION

BY THE SENATE FINANCE COMMITTEE

Offered:
Referred:

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 and alternative 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 and 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 and alternative energy resources, including geothermal, wind, solar, hydroelectric, hydrokinetic, tidal, and biomass energy, for use by Alaskans;

(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 alternative and 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 emissions, renewable and alternative energy, and energy production targets.

Alaska Legislature
House Special Committee on Energy

Rep. Charisse Millett
State Capitol, Room 412
Juneau, AK 99801
Phone (907) 465-3879
Fax (907) 465-2069
Rep_Charisse_Millett@legis.state.ak.us

Rep. Bryce Edgmon
State Capitol Building, Room 416
Juneau, AK 99801
Phone (907) 465-4451
Fax (907) 465-3445
Rep_Bryce_Edgmon@legis.state.ak.us

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.

###

12973

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

3:11 – 3:24

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

Foundation

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**

2979

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

2980

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

2981

Thank You!

26-LS1049\C.2
Kane
1/26/10

AMENDMENT 1

OFFERED IN THE HOUSE BY REPRESENTATIVE PETERSEN

TO: HB 306

Page 2, following line 18:

Insert a new subparagraph to read:

"(D) encouraging the use of public transportation and assisting communities in developing public transportation options in an effort to decrease fuel usage by motor vehicles."

2982

26-LS1049\C.1
Kane
1/26/10

AMENDMENT 2

OFFERED IN THE HOUSE BY REPRESENTATIVE PETERSEN

TO: HB 306

Page 1, line 13, following "projects":

Insert ";

(5) the state remain a leader in petroleum and natural gas production and become a leader in renewable energy development;

(6) consumer fuel and electricity prices in the state be comparable to those prices in other leading energy producing regions"

2983

PASSED

26-LS1049\C.3
Kane
1/27/10

AMENDMENT 3

OFFERED IN THE HOUSE BY REPRESENTATIVE TUCK

TO: HB 306

Page 3, line 2, following "programs":

Insert "that will help create jobs for Alaskans and"

26-LS1049\C.4
Kane
2/1/10

AMENDMENT 5

OFFERED IN THE HOUSE BY REPRESENTATIVE JOHANSEN

TO: HB 306

Page 2, line 22, following "export":

Insert "of power that is surplus to the needs of Alaska communities"

L

2985

FISCAL NOTE

STATE OF ALASKA
2010 LEGISLATIVE SESSION

Fiscal Note Number: 1
Bill Version: **HB306**
() Publish Date:

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 — Phone 465-4451
Division: House Energy Committee Staff — Date/Time
Approved by: Rep. Bryce Edgmon and Rep. Charisse Millett — Date 2/2/2010
House Energy Committee Co-Chairs

(Revised 11/6/2009 OMB)

2986

b —

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
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
4. 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
	RAUKAS	X			
	Dahlstrom	X	n.o.		
Pete Peterson	Peterson	X	PP.		
	Millett	X			
	Ivck	X			
	Johansen	X			
Chair: Bya Edgmon	Edgmon	X			
Chair: Millett					

CO

HB 411

<target><bill>HB 411</bill><subject>HB 411</subject><comm>HENE26</comm></target>

STATE CAPITOL
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Governor@alaska.gov

Governor Sean Parnell
STATE OF ALASKA

February 25, 2010

The Honorable Mike Chenault
Speaker of the House
Alaska State Legislature
State Capitol, Room 208
Juneau, AK 99801-1182

Dear Speaker Chenault,

Under the authority of Art. III, Sec. 18, of the Alaska Constitution, I am transmitting a bill relating to the power project fund; authorizing the Alaska Energy Authority (AEA) to charge and collect fees relating to the power project fund; authorizing AEA to sell and authorizing the Alaska Industrial Development and Export Authority (AIDEA) to purchase loans of the power project fund; and providing legislative approval for the sale and purchase of loans of the power project fund under the memorandum of understanding dated February 17, 2010.

This bill deals with the power project fund (AS 42.45.010) and would accomplish two things. First, the bill would authorize the sale of power project fund loans from AEA to AIDEA as an investment of AIDEA's revolving fund. The sale of loans will recapitalize the power project fund and be accomplished under a memorandum of understanding. Second, the bill would authorize AEA to charge fees related to administration of the power project fund.

AEA can make loans out of the power project fund to help finance energy generation and transmission projects, or to fund the bulk fuel revolving loan fund under AS 42.45.250(*l*). Borrowers currently use loans from the power project fund as a financing tool to help finance match requirements of renewable energy projects funded by the renewable energy grant fund (AS 42.45.045). The power project fund currently holds less than $4.2 million, an amount inadequate to fund all reasonable loan needs arising out of the renewable energy grant fund and recommendation program and other purposes of the power project fund. The proposed sale of existing loans in the power project fund will recapitalize the fund with an additional sum, estimated to be approximately $21 million.

To maximize the price paid to AEA for the sale of loans of the power project fund, the bill and memorandum of understanding include provisions for AEA to repurchase from AIDEA loans which later default. This repurchase provision substantially reduces financial risk to AIDEA from default, and enables AIDEA to purchase the loans without significant

discount for such risk. The result is that AEA will obtain more from the sale to capitalize the power project fund.

Several sections of the bill authorize the sale of power project fund loans from AEA to AIDEA. Section 1 of the bill would amend AS 42.45.010(a) and allow proceeds from the sale of power project loans to be deposited into the power project fund. Section 3 of the bill would add a new subsection (*l*) to AS 42.45.010, and authorize AEA to sell power project fund loans with legislative approval, allow AEA to repurchase defaulted loans, and direct that sale proceeds be deposited into the power project fund. Section 4 of the bill would add a new paragraph (30) to AS 44.88.080 and authorize AIDEA to purchase loans of the power project fund with legislative approval. And, sec. 5 of the bill would provide necessary legislative approval for AEA to sell and AIDEA to purchase the loans under the memorandum of understanding dated February 17, 2010. A copy of this memorandum of understanding is available on both AEA and AIDEA internet websites.

The bill would also authorize AEA to charge and collect fees in administering the power project fund, similar to authority that AEA has under AS 42.45.250(j) and (k) for the bulk fuel revolving loan fund. Section 2 of the bill would amend AS 42.45.010(d) which currently provides statutory authority for AEA to adopt regulations regarding the power project fund, and specifically authorize AEA to establish reasonable fees for applications and loan origination, and charges for reimbursement of the costs of analyzing the feasibility of a project. Section 3 of the bill would add subsection (k) to AS 42.45.010, and authorize AEA to collect the power project fund fees and charges established in the regulations, and direct deposit of those fees and charges into the general fund. Currently, AEA only requires an applicant to pay the costs of analyzing the feasibility of a project.

Finally, Sec. 6 of the bill would make the bill immediately effective, if it is enacted into law.

I urge your prompt and favorable action on this bill.

Sincerely,

Sean Parnell
Governor

Enclosure

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

AIDEA Alaska Industrial Development and Export Authority

ALASKA ENERGY AUTHORITY

March 8, 2010

The Honorable Charisse Millett
The Honorable Bryce Edgmon
Co-Chairs, House Special Committee on Energy
Alaska State Legislature
State Capitol, Room 412
Juneau, Alaska 99801-1182

RE: HB 411, "An Act relating to the Power Project Fund"

Dear Representatives Millett and Edgmon:

On February 26, 2010, HB 411 (Companion Bill SB 301) was introduced by the Governor through the House Rules committee and referred to your committee. Thank you for scheduling this bill for a hearing on Tuesday, March 9, 2010. 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.

HB 411 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.

HB 411 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 appreciate your scheduling HB 411 this week and we urge favorable action on this bill. A copy of HB 411, the related 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

Steve Haagenson
Executive Director

Attachments (5)

cc: Ted Leonard, AIDEA Executive Director

HB 411

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

Overview of Federal Energy Funding for Alaska

The Alaska Housing Finance Corporation (AHFC) has been operating energy efficiency programs since the merger with the Alaska State Housing Authority (ASHA) in 1992. At that time, the Weatherization Assistance Program and the State Energy Conservation Program were moved to AHFC under 1992 HB 595- sec 144. Also included in this were Petroleum Violation Escrow funds, Stripper Well, Diamond Shamrock and other oil overcharge funds.

In 1996 the US Department of Energy (US DOE) began to merge two federal programs. These were the Institutional Conservation Program (ICP) and the State Energy Conservation Program, (SECP). The US DOE asked the Governor of the State of Alaska to designate one agency as lead to receive the State Energy Program funding. On June 18, 1996, then Governor Tony Knowles designated AHFC as the lead agency to receive the combined funding of these programs, now named the State Energy Program(SEP). **This designation is only applicable for funds received through the State Energy Program and has usually only included approximately two hundred thousand dollars of federal funds annually.**

Subsequently, on November 25, 1996, AHFC and the Department of Community and Regional Affairs (DCRA) Energy Division signed a memorandum of agreement acknowledging AHFC as lead agency and agreeing to split funding. This agreement was revised in 2001 after DCRA was dissolved and the division of energy programs was transferred to the Alaska Energy Authority (AEA).

Since that time, AEA and AHFC have equally split funding between the two agencies. AEA can receive direct grants from US DOE for renewable energy and power systems, but competitive renewable energy and energy efficiency /conservation grants would be applied for through AHFC. This has been done successfully several times, with several Rebuild America grants, and some wind power and geothermal projects.

Although the 2001 Memorandum of Agreement is still in place, the increase in federal energy funds under ARRA has reallocated the available SEP funds to address specific program initiatives. This resulted in $28.2 million in State Energy Program funding specifically to address program priorities. HB223 was introduced to take advantage of the additional federal funds. $18 million of the federal stimulus funds will be used to develop a loan program to address energy efficiency needs of public buildings throughout the state.

Prepared by AHFC, AEA, and OMB
March 16, 2010

State of Alaska Energy-Related Divisions and Programs

Agency	Division, Program, or Individual	Function
Administration	Office of Administrative Hearings	Adjudicates energy-related matters, including oil and gas producer tax disputes.
	Division of General Services	Facilities section manages a number of State facilities, including energy efficiency improvements to these facilities.
	Oil and Gas Conservation Commission	Protects the public interest in exploration and development of oil and gas resources, ensuring conservation practices, and increasing ultimate recovery, while protecting health, safety, the environment, and property rights.
Commerce	Division of Community and Regional Affairs	Works with communities and rural villages to provide technical and financial assistance on a variety of issues. Manages the Community Energy Assistance Program and the Rural Utility Business Advisor program.
	Alaska Industrial Development and Export Authority (AIDEA)	Provides financing for power production projects.
	Alaska Energy Authority (AEA)	Primary mission is to reduce the cost of energy in Alaska. AEA projects and programs: 1) provide for the operation and maintenance of existing Authority-owned projects with maximum utility control, 2) assist in the development of safe, reliable, and efficient energy systems throughout Alaska, which are sustainable and environmentally sound, 3) reduce the cost of electricity for residential customers and community facilities in rural Alaska, and 4) respond quickly and effectively to electrical emergencies.
	Regulatory Commission of Alaska (RCA)	Regulates electric and gas utilities.
Environmental Conservation	Divisions of Air Quality, Environmental Health, Water, and Spill Prevention and Response	Regulates oil and gas production and transportation facilities and systems, and energy production facilities.
Fish and Game	Division of Habitat	Issues permits for construction of energy production and transportation facilities.
Office of the Governor		Provides Executive Branch oversight, policy direction and coordination of energy-related programs.
	Gene Therriault	Senior Policy Advisor: in-state energy issues. Assists the Governor with monitoring and coordination of energy programs and issues.
	Joe Balash	Special Assistant: Energy-related assignments include Cook Inlet Gas, GRETC (Railbelt electric utilities), Gas Line Team, and the RCA (Regulatory Commission of Alaska).
Health & Social Services	Division of Public Assistance	Manages the low-income home energy assistance program.
Military & Veterans Affairs	Division of Emergency Services	Provides funding for energy-related disaster response, such as rural power plant fires and flooding.
Natural Resources	Division of Oil and Gas	Oversees leasing and permitting activity for oil and gas development, royalty revenue collection, resource evaluation, and ensures appropriate oversight and maintenance of oil and gas equipment, facilities, and infrastructure.
	Division of Mining, Land and Water	Assists with permitting of oil and gas, and other energy related developments.
	Division of Geological and Geophysical Surveys	Maps and inventories energy resources on state land.
	State Pipeline Coordinator's Office	Oversees the trans-Alaska pipeline and other common carrier pipelines.
Revenue	Tax Division	Administers oil and gas tax laws and collects associated revenues.
	Alaska Housing Finance Authority (AHFC)	Manages the following energy programs: Weatherization Program, Home Energy Rebate program, State Energy Program, the Research and Information Center, Building Energy Efficiency Standards (BEES), and the Builder and Rater Education program.
	Alaska Natural Gas Development Authority	Primary mission is to develop a natural gas pipeline from Prudhoe Bay to tidewater on Prince William Sound, and a spur line to the gas distribution grid in southcentral Alaska.
Transportation		Plans and develops transportation access to energy resources.

Office of Management and Budget
March 16, 2010

FISCAL NOTE

STATE OF ALASKA
2010 LEGISLATIVE SESSION

Fiscal Note Number:
Bill Version: HB 411
() Publish Date:

Identifier (file name): HB411-CED-AEA-3-2-10
Title: Power Project Fund Loan Portfolio Sale
Sponsor: Rules by Request of the Governor
Requester: House Energy Committee

Dept. Affected: DCCED
RDU: 453
Component: Statewide Project Development
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

(Revised 11/6/2009 OMB)

2999

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.

FISCAL NOTE

STATE OF ALASKA
2010 LEGISLATIVE SESSION

Fiscal Note Number:
Bill Version: HB 411
() Publish Date:

Identifier (file name): HB411-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: House Energy 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)

3001

FISCAL NOTE

STATE OF ALASKA
2010 LEGISLATIVE SESSION

BILL NO. _____

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.

HOUSE COMMITTEE REPO

(7)
Date Referred to Committee: February 26, 2010

FURTHER REFERRALS: Resources
Finance

Date of Committee Action: MARCH 16, 2010

The HOUSE SPECIAL COMMITTEE ON ENERGY considered: **HOUSE BILL NO. 411**

"An Act relating to the power project fund; authorizing the Alaska Energy Authority to charge and collect fees relating to the power project fund; authorizing the Alaska Energy Authority to sell and authorizing the Alaska Industrial Development and Export Authority to purchase loans of the power project fund; providing legislative approval for the sale and purchase of loans of the power project fund under the memorandum of understanding dated February 17, 2010; and providing for an effective date."

HB 411-POWER PROJECT FUND

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
CED	1			X
REV	2			X
DOT	3			X
CED	4			X

PREVIOUS **FISCAL NOTES**				
List by Dept(s):	FN#	Fiscal	Indet.	Zero

Signing with recommendations	Printed Last Name	DP	DNP	NR	AM
	RAMRAS	X			
		X			
Peterson	Peterson	X			
	Millett	X			
	Tuck	X			
Chair: Bryce Edgmon	Edgmon	✓			
Chair:					

HCR

2

<target><bill>HCR 2</bill><subject>HCR
2</subject><comm>HENE26</comm></target>

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. 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.

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.

Representative_Jay_Ramras@legis.state.ak.us

HOUSE COMMITTEE REPC T

2.4.09

(7)

Date Referred to Committee: January 21, 2009

FURTHER REFERRALS: Resources

Date of Committee Action: 2/3/09

The HOUSE SPECIAL COMMITTEE ON ENERGY considered:

HOUSE CONCURRENT RESOLUTION NO. 2

Requesting the governor to provide energy security for all Alaskans 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 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 a bullet pipeline project.

HCR 2 IN-STATE GAS PIPELINE

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
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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

Signing with recommendations	Printed Last Name	~~DP~~ (6)	DNP	~~NR~~ (1)	AM
	KAWASS	X			
	Peterson	X			
	Olsten	X			
	Tuck	X			
	Johanson			X	
	Edgmon	X			
Chair: Chrissa Mullett	Chrissa Mullett	X			
Chair: co-chair Edgmon	Edgmon				

3007

HCR

3

<target><bill>HCR 3</bill><subject>HCR
3</subject><comm>HENE26</comm></target>

Chair, Judiciary
Chair, Economic Development, Trade & Tourism
Energy
Military & Veteran Affairs
Joint Armed Services
1292 Sadler Way, Suite 324
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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. 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.

Representative_Jay_Ramras@legis.state.ak.us

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.

Representative_Jay_Ramras@legis.state.ak.us

HOUSE COMMITTEE REPORT

2-4-09

(7)

Date Referred to Committee: January 21, 2009

FURTHER REFERRALS: Resources

Date of Committee Action: 2/3/09

The HOUSE SPECIAL COMMITTEE ON ENERGY considered:

HOUSE CONCURRENT RESOLUTION NO. 3

Requesting the governor to provide energy security for all Alaskans by taking and encouraging all action that would support a natural gas bullet pipeline from the North Slope to the Cook Inlet region, including initiating any necessary negotiations to reopen the Agrium plant in Kenai.

HCR 3 IN-STATE GAS PIPELINE

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.:
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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

Signing with recommendations	Printed Last Name	DP (6)	DNP	NR (1)	AM
	Petersen	X			
	Dahlstrom	X			
	RAMRAS	X			
	Tuck	X			
	Johansen			X	
	Edgmon	X			
CO Chair:	Millett	X			
CO Chair: Edgmon	Edgmon				

3011

HCR

4

<target><bill>HCR 4</bill><subject>HCR
4</subject><comm>HENE26</comm></target>

3012

export license

Chair, Judiciary
Chair, Economic Development, Trade & Tourism
Energy
Military & Veteran Affairs
Joint Armed Services
1292 Sadler Way, Suite 324
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Fax: (907) 452-1146

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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.

Representative_Jay_Ramras@legis.state.ak.us

- 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.

Representative_Jay_Ramras@legis.state.ak.us

2.4.09

(7)

Date Referred to Committee: January 21, 2009

FURTHER REFERRALS: Resources

Date of Committee Action: 2/3/09

The HOUSE SPECIAL COMMITTEE ON ENERGY considered:

HOUSE CONCURRENT RESOLUTION NO. 4

Requesting the governor to provide energy security for Alaskans by taking and encouraging all action to support development of a natural gas bullet pipeline from the North Slope to the Cook Inlet region including advocating an increase in the amount of natural gas that may be exported under authority granted by the United States Department of Energy.

HCR 4 IN-STATE GAS PIPELINE

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

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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

Signing with recommendations	Printed Last Name	DP (2)	DNP	NR (1)	AM
	Johansen			X	
	TUCK	X			
	Dahlstrom	X			
	Peterson	X			
	RAMRAS.	X			
CO Chair:	Millett	X			
CO Chair:	Edgmon	X			

3015

HCR

5

<target><bill>HCR 5</bill><subject>HCR
5</subject><comm>HENE26</comm></target>

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.

Representative_Jay_Ramras@legis.state.ak.us

- 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.

Representative_Jay_Ramras@legis.state.ak.us

HOUSE COMMITTEE REPC [illegible]

2.4.09

(7)

Date Referred to Committee: January 21, 2009 **FURTHER REFERRALS: Resources**

Date of Committee Action: 2/3/09

The HOUSE SPECIAL COMMITTEE ON ENERGY considered:

HOUSE CONCURRENT RESOLUTION NO. 5

Requesting the governor to provide energy security for all Alaskans by working on significant elements and components to support the timely construction of a natural gas bullet pipeline from the North Slope to the Cook Inlet region and to take necessary action to assist and facilitate the process for a private entity to make a final investment decision to commit to the pipeline before November 1, 2010.

HCR 5 IN-STATE GAS PIPELINE

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

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***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

Signing with recommendations	Printed Last Name	~~DP~~ (6)	DNP	~~NR~~ (1)	AM
	Johansen			X	
	Tuck	X			
	Peterson	X			
	Dahlstrom	X			
	Ramras	X			
CO Chair:	Miller	X			
CO Chair:	Edgmon	X			

3019

HCR

12

<target><bill>HCR 12</bill><subject>HCR 12</subject><comm>HENE26</comm></target>

Representative Jay Ramras
Chair, House Judiciary
House Labor & Commerce
House Oil & Gas
House Military & Veteran Affairs
1292 Sadler Way, Suite 324
Fairbanks, Alaska 99701
Phone: (907) 452-1088
Fax: (907) 452-1146

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House District 10

House of Representatives

Memo

To: Representatives Charisse Millet and Bryce Edgmon
Co-Chairs House Special Committee on Energy

Cc: Jeff Turner, House Special Committee on Energy Committee Aide

From: Representative Jay Ramras

Date: March 12, 2009

Re: HCR 12 - URGING REEVALUATION OF AGIA LICENSE

Please schedule House Concurrent Resolution 12 - URGING REEVALUATION OF AGIA LICENSE, for a House Energy Committee hearing as soon as possible.

Attached to this memo please find the bill packet.

Margaret Dowling, 465-6841, in my office will be the staff person assigned to HCR 12

Thank you.

Representative_Jay_Ramras@legis.state.ak.us

26-LS0156\C
Bullock
3.18.09

CS FOR HOUSE CONCURRENT RESOLUTION NO. 12( )

IN THE LEGISLATURE OF THE STATE OF ALASKA

TWENTY-SIXTH LEGISLATURE - FIRST SESSION

BY

Offered:
Referred:

Sponsor(s): REPRESENTATIVES RAMRAS, Johnson

A RESOLUTION

Requesting that the governor and the attorney general review and reevaluate the project proposed by TransCanada Alaska Company, LLC, and Foothills Pipe Lines Ltd., jointly as licensee, under the Alaska Gasline Inducement Act to determine whether the project proposed by the licensee fails to maximize the benefits to the people of the state or is uneconomic, taking into consideration economic changes affecting project financing, the availability of liquefied natural gas and natural gas from nonconventional sources, the state's risk of paying treble damages associated with an in-state gas pipeline, and the expected budget deficit; and requesting that the governor and the attorney general report the outcome of the review and reevaluation within six months.

BE IT RESOLVED BY THE LEGISLATURE OF THE STATE OF ALASKA:

WHEREAS the state of the national and global economy has been officially declared a "recession," and current energy markets and credit markets are in turmoil, thereby creating new uncertainties for the economic feasibility of the large diameter gas pipeline contemplated

by the licensee under AS 43.90 (Alaska Gasline Inducement Act) as well as the ability of the licensee to finance the construction; and

WHEREAS aggressive developments of shale and other nonconventional gas resources in the Lower 48, such as the Barnett shale formation in Texas, estimated at 30,000,000,000,000 cubic feet of recoverable gas; the Haynesville shale formation across East Texas, Louisiana, and Arkansas, estimated to have 20,000,000,000,000 to 35,000,000,000,000 cubic feet; and the Marcellus shale formation stretching from West Virginia into upstate New York, with recoverable reserves estimated at 50,000,000,000,000 cubic feet, have brought substantial new domestic natural gas production to market and will continue to produce for years into the future; and

WHEREAS technological advancements in the field of shale gas recovery have lowered costs and prompted increased production, adding to the competition for a long-distance, large diameter pipeline; and

WHEREAS shale gas in the continental United States is closer to large markets and already enjoys thousands of miles of pipe and transmission lines where the construction of risk and cost have already been mitigated; and

WHEREAS the cost of incremental production gains in shale gas are less costly and less risky than a multibillion-dollar large diameter pipeline; and

WHEREAS increased availability of liquefied natural gas from points around the world also present growing competition in the United States market for a gas pipeline from Alaska; and

WHEREAS there is significant capacity available at existing, expanded, new, and proposed liquefied natural gas receiving terminals to serve the United States market; and

WHEREAS new liquefied natural gas production facilities are coming online worldwide, in search of a market, with the United States being the largest natural gas market in the world; and

WHEREAS the commissioner of revenue and the commissioner of natural resources, acting jointly, determined that the joint application of TransCanada Alaska Company, LLC, and Foothills Pipe Lines Ltd. proposed a natural gas pipeline project that will sufficiently maximize the benefits to the people of the state and merits issuance of a license under AS 43.90 (Alaska Gasline Inducement Act); and

WHEREAS the commissioner of revenue and the commissioner of natural resources, acting jointly, published a notice of intent to issue a license to TransCanada Alaska Company, LLC, and Foothills Pipe Lines Ltd., jointly, under AS 43.90 (Alaska Gasline Inducement Act) and forwarded the published notice along with the findings, supporting documentation, and determination to the presiding officer of each house of the Alaska State Legislature; and

WHEREAS the Alaska State Legislature approved the issuance of the license to TransCanada Alaska Company, LLC, and Foothills Pipe Lines Ltd., jointly as licensee, by passing HB 3001 during the Fourth Special Session of the Twenty-Fifth Alaska State Legislature; and

WHEREAS the commissioner of revenue and the commissioner of natural resources, acting jointly, have issued the license approved by the Alaska State Legislature; and

WHEREAS AS 43.90.440 entitles TransCanada Alaska Company, LLC, and Foothills Pipe Lines Ltd., jointly as licensee, to a payment from the state of an amount equal to three times the total amount of the expenditures incurred and paid by the licensee that are qualified expenditures for the purposes of AS 43.90.110 that the licensee incurred in developing the licensee's project if, before the commencement of commercial operations,

(1) the state extends to another person preferential royalty or tax treatment or grant of state money for the purpose of facilitating the construction of a competing natural gas pipeline project in this state; and

(2) the licensee is in compliance with the requirements of the license and with the requirements of state and federal statutes and regulations relevant to the project; and

WHEREAS the people of the state have a present need for natural gas produced from the North Slope, and it is in the best interests of the state to pursue a means for delivering natural gas produced from the North Slope to the people of the state before the commencement of commercial operations of the project proposed by TransCanada Alaska Company, LLC, and Foothills Pipe Lines Ltd., jointly as licensee; and

WHEREAS the development of a project for the delivery of natural gas from the North Slope before the commencement of commercial operations of the project proposed by TransCanada Alaska Company, LLC, and Foothills Pipe Lines Ltd., jointly as licensee, may require the state to consider fiscal issues related to facilitating the construction of a natural gas pipeline; and

WHEREAS current revenue projections for Alaska indicate that Alaskans will be facing a budget deficit in the years ahead, further jeopardizing the state's ability to pay treble damages to the licensee should the state become liable to the licensee for violating the assurance to the licensee in AS 43.90.440; and

WHEREAS the licensee's ongoing work, including field work, continues to increase the state's liability for reimbursing the licensee; and

WHEREAS a project other than the project proposed by TransCanada Alaska Company, LLC, and Foothills Pipe Lines Ltd., jointly as licensee, that receives preferential royalty or tax treatment or a grant of state money may be considered a competing natural gas pipeline project to the project pursued under the license issued to TransCanada Alaska Company, LLC, and Foothills Pipe Lines Ltd., jointly as licensee; and

WHEREAS it is in the best interest of the state that the state have maximum flexibility to take any action necessary to develop its natural gas and to meet the energy needs of the people of the state; and

WHEREAS the entitlement of TransCanada Alaska Company, LLC, and Foothills Pipe Lines Ltd., jointly as licensee, to a payment by the state of an amount equal to three times the total amount of certain qualified expenditures incurred and paid by the licensee handicaps the state from pursuing reasonable alternatives for the development of a project to deliver natural gas from the North Slope to the people of the state or for export from the state for the benefit of the people of the state; and

WHEREAS it is in the best interest of the state to eliminate the risk of a payment of an amount equal to three times the total amount of certain qualified expenditures incurred and paid by the licensee so that the state may pursue all reasonable means for the development of the state's natural gas and to meet the energy needs of the people of the state; and

WHEREAS the dilemma for Alaska is whether or not a large diameter gas pipeline into a North American hub market is commercially viable; and

WHEREAS it is unclear if there is a value for the state to spend up to $500,000,000 to create competition when it is uncertain, even if there are two or more competing projects, whether or not those projects will ultimately be commercially viable;

BE IT RESOLVED that the Alaska State Legislature requests that the governor and the attorney general review and reevaluate the project proposed by TransCanada Alaska

Company, LLC, and Foothills Pipe Lines Ltd., jointly as licensee, under AS 43.90 (Alaska Gasline Inducement Act) to determine whether the project proposed by the licensee fails to maximize the benefits to the people of the state or is uneconomic, taking into consideration economic changes affecting project financing, the availability of liquefied natural gas and natural gas from nonconventional sources, the state's risk of paying treble damages associated with an in-state gas pipeline, and the expected budget deficit; and be it

FURTHER RESOLVED that the governor and the attorney general are requested to report the outcome of their review and evaluation within 180 days after this resolution is passed by the legislature.

CHANGES FROM HCR 12 TO CS FOR HCR 12 (ENE)

TITLE CHANGE:

FROM:

Requesting that the governor and the attorney general review and reevaluate the license issued to TransCanada Alaska Company, LLC, and Foothills Pipe Lines Ltd., jointly as licensee, under the Alaska Gasline Inducement Act to determine whether the project proposed by the licensee sufficiently maximizes the benefits to the people of the state and merits continuing the license, taking into consideration economic changes affecting project financing, the availability of liquefied natural gas and natural gas from nonconventional sources, the state's risk of paying treble damages associated with an in state gas pipeline, and the expected budget deficit; and requesting that the governor and the attorney general report the outcome of the review and reevaluation within six months.

TO:

Requesting that the governor and the attorney general review and reevaluate the project proposed by TransCanada Alaska Company, LLC, and Foothills Pipe Lines Ltd., jointly as licensee, under the Alaska Gasline Inducement Act to determine whether the project proposed by the licensee fails to maximize the benefits to the people of the state or is uneconomic, taking into consideration economic changes affecting project financing, the availability of liquefied natural gas and natural gas from nonconventional sources, the state's risk of paying treble damages associated with an in-state gas pipeline, and the expected budget deficit; and requesting that the governor and the attorney general report the outcome of the review and reevaluation within six months.

SECOND "WHEREAS" CHANGED FROM:

WHEREAS aggressive developments of shale and other nonconventional gas resources in the Lower 48, such as the Barnett shale formation in Texas, thought to be the largest onshore natural gas field in the United States, with some experts estimating that it contains up to 30 trillion cubic feet of gas, and the Bakken shale formation of the Williston Basin Province, Montana and North Dakota, which is thought to contain 1.85 trillion cubic feet of associated/dissolved natural gas, and 148,000,000 barrels of natural gas liquids, have brought substantial new domestic natural gas production to market; and

TO:

WHEREAS aggressive developments of shale and other nonconventional gas resources in the Lower 48, such as the Barnett shale formation in Texas, estimated at 30,000,000,000,000 cubic feet of recoverable gas; the Haynesville shale formation across East Texas, Louisiana, and Arkansas, estimated to have 20,000,000,000,000 to

35,000,000,000,00 cubic feet; and the Marcellus shale formation stretching from West Virginia into upstate New York, with recoverable reserves estimated at 50,000,000,000,000 cubic feet, have brought substantial new domestic natural gas production to market and will continue to produce for years into the future; and

THIRD WHEREAS CHANGED FROM:

WHEREAS technological advancements in the field of shale gas recovery have called Into question the economic viability of a long distance, large diameter pipeline; and

TO:

WHEREAS technological advancements in the field of shale gas recovery have lowered costs and prompted increased production, adding to the competition for a long distance, large diameter pipeline; and

FIFTH WHEREAS: Deleted

NEW WHEREAS' :

5) Whereas the cost of incremental production gains in shale gas are less costly, and less risky, than a multibillion-dollar large diameter pipeline; and

6) Whereas increased availability of liquefied natural gas from points around the world also present growing competition in the U.S. market for a gas pipeline from Alaska; and

7) Whereas there is significant capacity available at existing, expanded, new and proposed LNG receiving terminals to serve the U.S. market; and

8) Whereas new LNG production facilities are coming online worldwide, in search of a market, with the U.S. the largest natural gas market in the world;

FIFTEENTH WHEREAS FROM:

WHEREAS the development of a project for the delivery of natural gas from the North Slope before the commencement of commercial operations of the project proposed by TransCanada Alaska Company, LLC, and Foothills Pipe Lines Ltd., jointly as licensee, may require the state to extend to another person preferential royalty or tax treatment or grant of state money for the purpose of facilitating the construction of a natural gas pipeline; and

TO:

WHEREAS the development of a project for the delivery of natural gas from the North Slope before the commencement of commercial operations of the project proposed by TransCanada Alaska Company, LLC, and Foothills Pipe Lines Ltd., jointly as

licensee, may require the state to consider fiscal issues related to facilitating the construction of a natural gas pipeline; and

TWENTIETH WHEREAS CHANGED FROM:

WHEREAS the entitlement of TransCanada Alaska Company, LLC, and Foothills Pipe Lines Ltd., jointly as licensee, to a payment by the state of an amount equal to three times the total amount of certain qualified expenditures incurred and paid by the licensee handicaps the state from pursuing **all** reasonable alternatives for the development of a project to deliver natural gas from the North Slope to the people of the state or for export from the state for the benefit of the people of the state; and

TO:
"all" deleted

BE IT RESOLVED CHANGED FROM:

BE IT RESOLVED that the Alaska State Legislature requests that the governor and the attorney general review and reevaluate the license issued to TransCanada Alaska Company, LLC, and Foothills Pipe Lines Ltd., jointly as licensee, under AS 43.90 (Alaska Gasline Inducement Act) to determine whether the project proposed by the licensee sufficiently maximizes the benefits to the people of the state and merits continuing the license, taking into consideration economic changes affecting project financing, the availability of liquefied natural gas and natural gas from nonconventional sources, the state's risk of paying treble damages associated with an in-state gas pipeline, and the expected budget deficit;

TO:

BE IT RESOLVED that the Alaska State Legislature requests that the governor and the attorney general review and reevaluate the project proposed by TransCanada Alaska Company, LLC, and Foothills Pipe Lines Ltd., jointly as licensee, under AS 43.90 (Alaska Gasline Inducement Act) to determine whether the project proposed by the licensee fails to maximize the benefits to the people of the state or is uneconomic, taking into consideration economic changes affecting project financing, the availability of liquefied natural gas and natural gas from nonconventional sources, the state's risk of paying treble damages associated with an in-state gas pipeline, and the expected budget deficit;

State of Alaska Oil and Gas Lease Sales

North Slope Areawide 2009
North Slope Foothills Areawide 2009

Call for New Information
March 3, 2009

Alaska Department of Natural Resources
Division of Oil and Gas

The Alaska Department of Natural Resources (ADNR), Division of Oil and Gas (DO&G), is requesting new information regarding its proposal to offer all available state acreage in the North Slope and North Slope Foothills Areawide 2009 oil and gas lease sales. Through this request for new information, DO&G provides an opportunity for interested parties to submit new information to DO&G that has become available since the issuance of the most recent best interest findings for these areas. The current North Slope Areawide final best interest finding was issued on July 15, 2008. The current North Slope Foothills Areawide final best interest finding was issued on February 7, 2001. A supplement to this finding was issued in January of 2002. These documents are available on DO&G's website: www.dog.dnr.state.ak.us. ADNR will either issue a supplement to the findings or a decision of no substantial new information for these sales.

What is a Call for New Information?

North Slope Areawide 2009 North Slope Foothills Areawide 2009	opens	closes
Call for New Information	3/03/09	5/04/09
Supplement to the best interest finding or decision of no substantial new information	July 2009	
Proposed Sale	October 2009	

Before an oil and gas lease sale, ADNR issues a call for new information that has become available since the most recent best interest finding for the sale area. Agencies and the public are given an opportunity for comment. Based on the comments received, ADNR will determine whether there is "substantial new information" that justifies a supplement to the finding. Either a supplement to the finding, or a "decision of no substantial new information," will be issued not later than 90 days before the sale. Any person that has commented during the comment period will have the reconsideration and appeal rights as described in AS 38.05.035.

Mitigation measures developed in the current North Slope and North Slope Foothills Areawide best interest findings will be carried on leases sold during the 10-year life of the findings unless, as a result of substantial new information, ADNR deems it necessary to change or add measures through a supplement to the finding. A new coastal management consistency review is done whenever the commissioner determines that new information or conditions suggest the proposed lease sale may no longer be consistent with ACMP standards.

DO&G is requesting new information concerning:

- fish and wildlife species and their habitats in the area;
- current and projected uses in the area, including uses and value of fish and wildlife such as subsistence and recreation;
- potential geophysical hazards within the proposed sale area;
- reasonably foreseeable cumulative effects of exploration, development, production, and transportation for oil and gas on the sale area, including effects on subsistence uses, fish and wildlife habitat and populations and their uses, and historic and cultural resources;
- lease stipulations and mitigation measures, including any measures to prevent and mitigate releases of oil and hazardous substances, to be included in the leases, and a discussion of the protections offered by these measures;
- reasonably foreseeable fiscal effects of the lease sale and the subsequent activity on the state and affected municipalities and communities, including the explicit and implicit subsides associated with the lease sale, if any;
- air and water quality;
- reasonably foreseeable effects of exploration, development, production, and transportation involving oil and gas on municipalities and communities within or adjacent to the lease sale area.

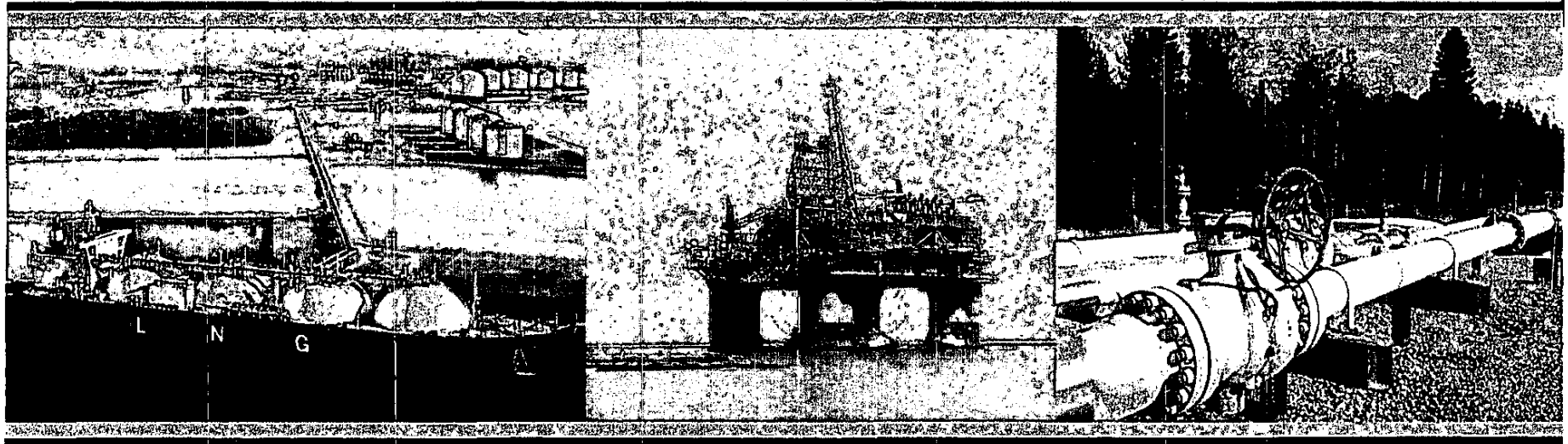
3031

Hyundai S Korea.

NARUC Winter Meeting

LNG in a Renewable World

February 17, 2009



J. Mark Robinson, Director

OFFICE OF ENERGY PROJECTS

FEDERAL ENERGY REGULATORY COMMISSION

Why Natural Gas

- ⇨ It is doable
- ⇨ Issues with Coal, Nuclear, Renewables

Coal: Carbon Capture and Sequestration (CCS)

- It's the S
- CO_2 is a colorless, odorless gas which is lethal to humans in a concentration of 10-11%.
- To sequestrate CO_2
  - ⇨ Many miles of pipe are needed.
    - Up to 23,000 miles of CO_2 pipeline will be needed between 2010 and 2050 for CCS. (PNNL)
  - ⇨ Permanent, non-cycling storage sites must be found.
- Regulatory Environment Does Not Exist
  - ⇨ Current CO_2 pipes are for enhanced oil recovery
  - ⇨ Regulatory regime for large scale CO_2 pipeline siting would need to consider: environmental impacts, safety, eminent domain, landowner impacts with the added concern of CO2 as an asphyxiant gas.

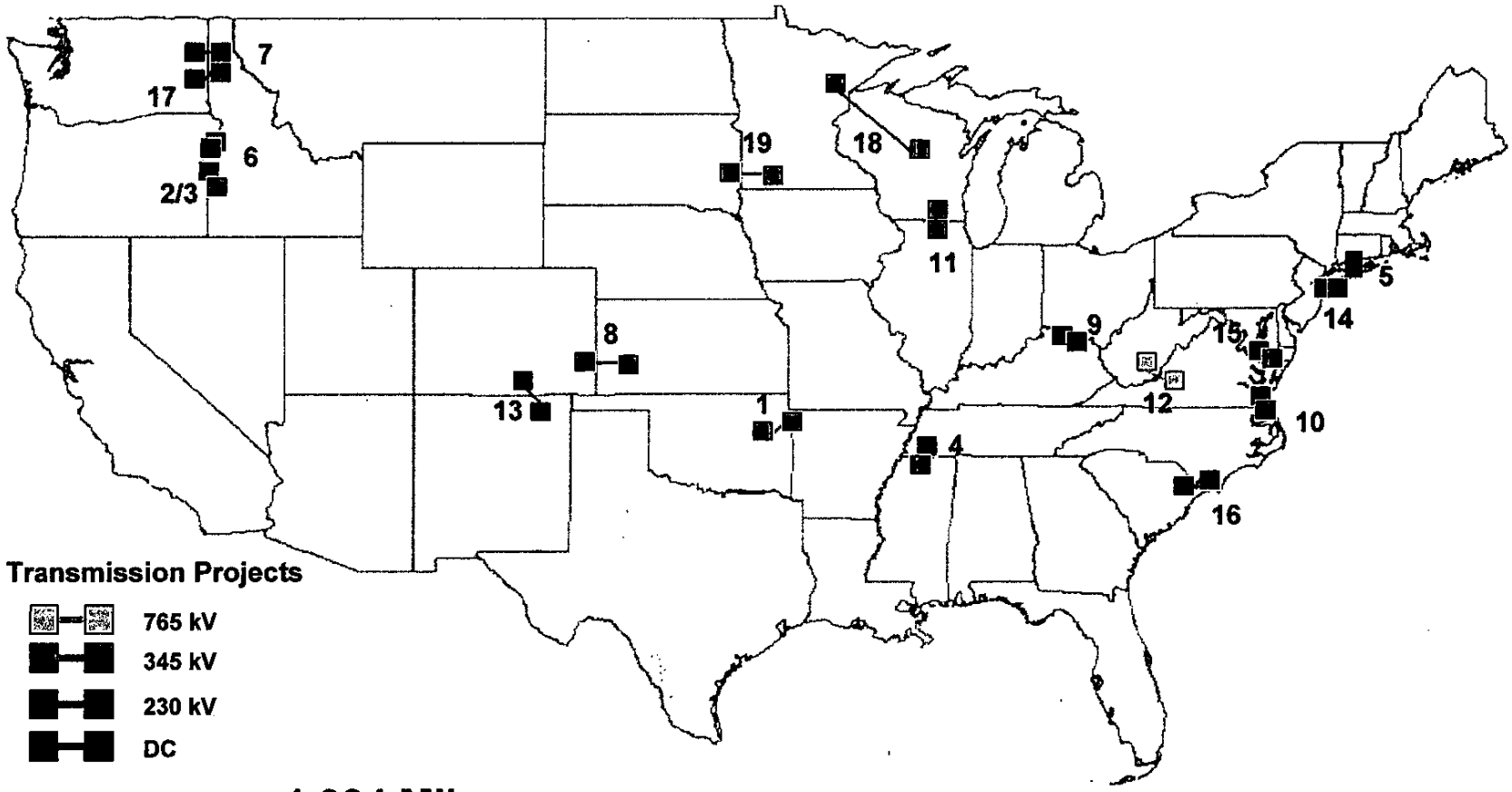
Nuclear Power: Time

- EIA analysis of the Climate Security Act of 2007 estimated a need for 200 new nuclear plants by 2030.
  - The NRC expects to receive 23 new nuclear power plant applications representing 34 units between 2007-2010.
- The NRC's new licensing process for nuclear power plants takes about 10 years to complete.
- The capital cost to build a new nuclear plant is conservatively estimated to range from $4,000/kW to $6,000/kW.
- The United States currently has 56,000 metric tons of spent nuclear fuel from nuclear reactors. By the year 2035 it is expected to have 119,000 metric tons.
  - Yucca Mountain statutory capacity limit is 77,000 metric tons. The country's waste inventory will exceed this limit by 2010.

Wind and Solar Energy: Transmission and Land Use

- Renewables sources are not near the market
  - ⇨ Electric transmission must be built.
- Reliability?
  - ⇨ Wind energy available, on average, 30% to 45% of the time.
  - ⇨ Conversion efficiency of Solar PV cells range between 8% and 17%
- Land use for a 500 MW plant
  - ⇨ Natural Gas: 20 to 40 acres
  - ⇨ Wind: 25,000 to 37,500 acres, 250 to 500 acres are under concrete
  - ⇨ Solar: approximately 3,500 acres

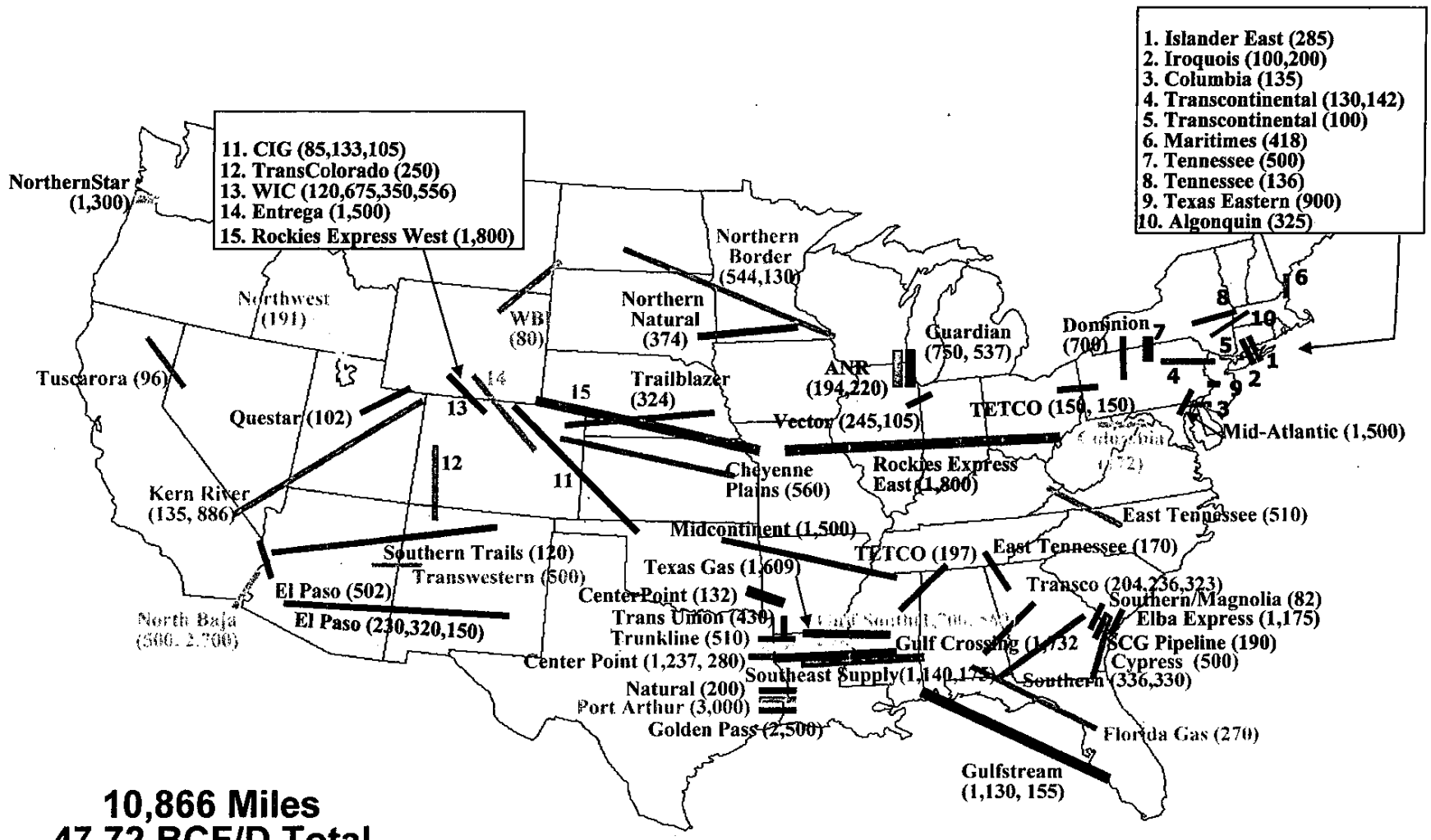
Since 2000, 19 transmission lines have been built that physically cross state borders



1,004 Miles
230 kV and higher

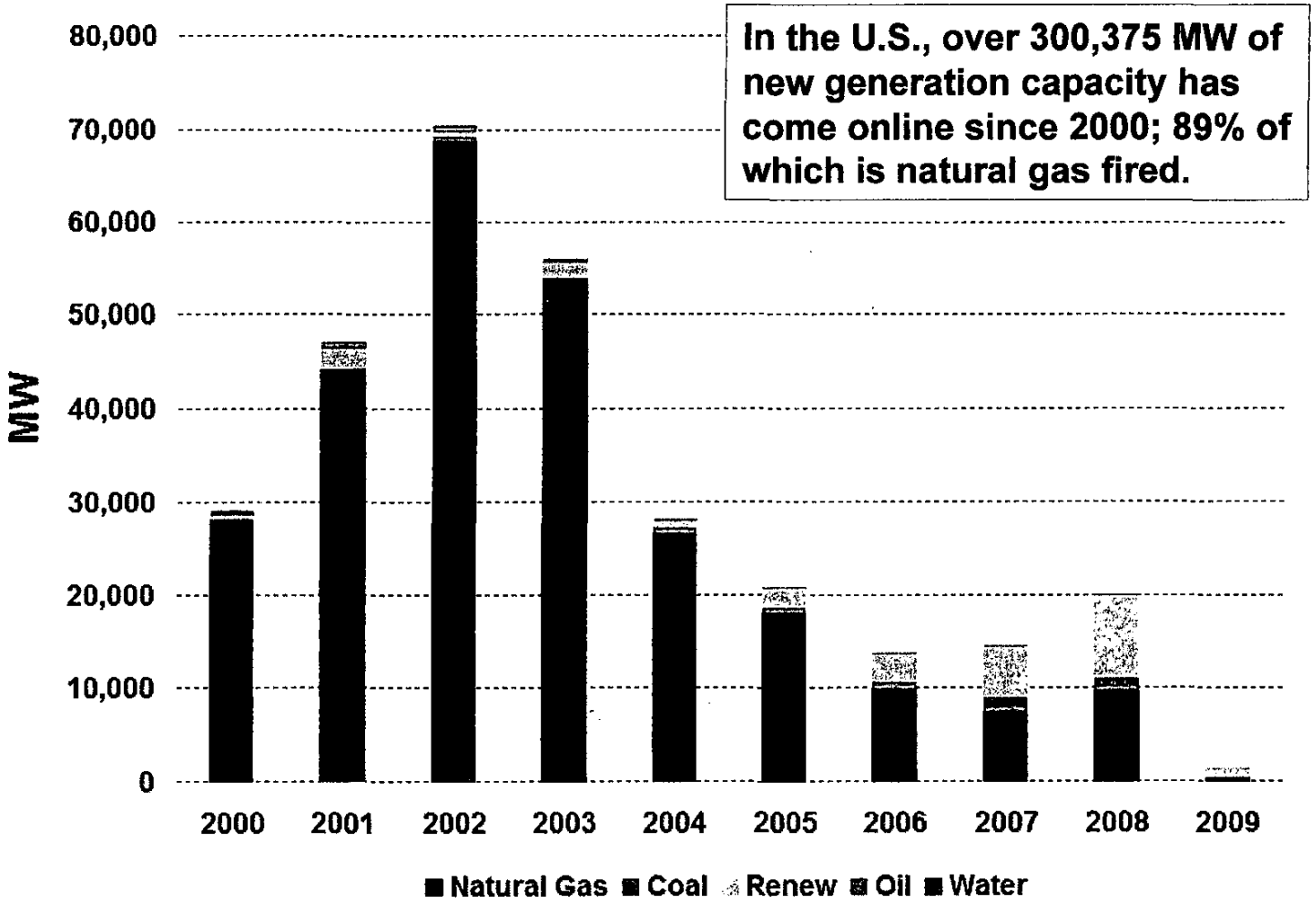
Sources: Derived from Ventyx Velocity Suite, the C Three Group's U.S. Electric Transmission Database and FERC's Transmission Database

Since January 2000, 84 natural gas pipeline projects have been certified that physically cross state borders.



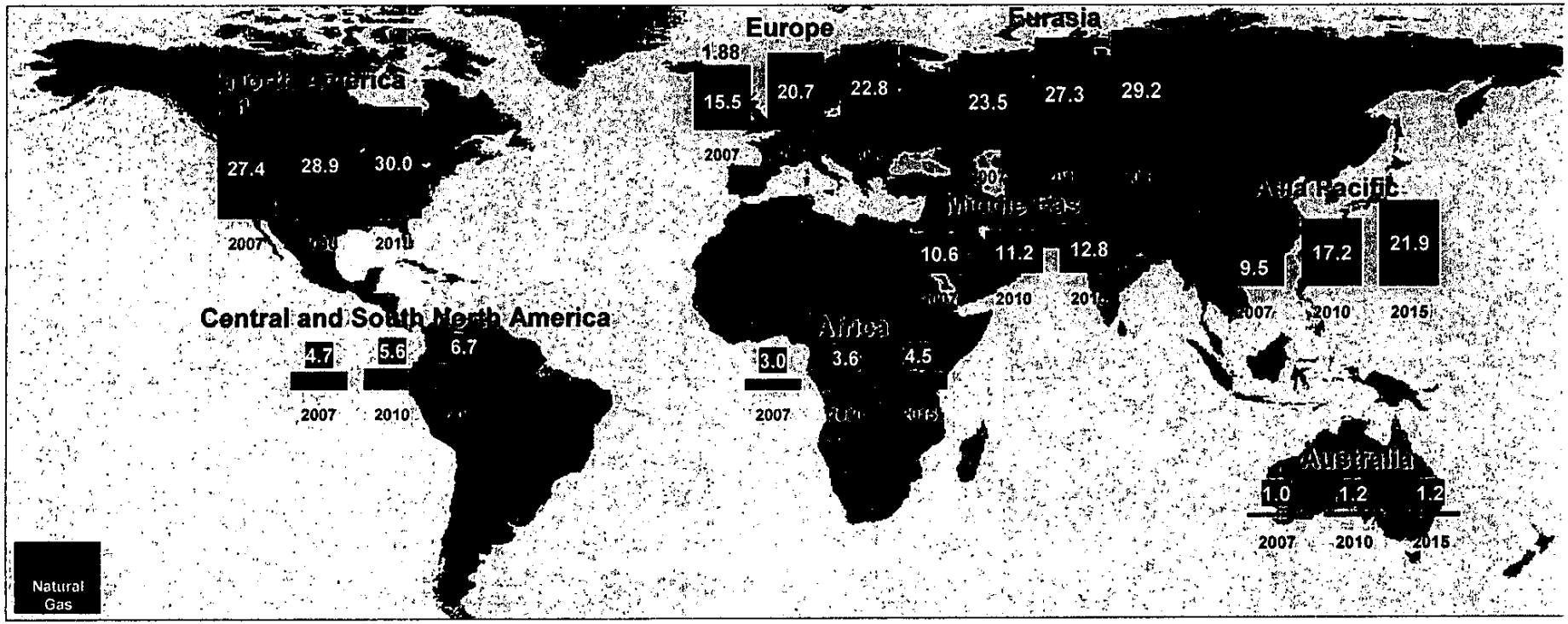
Sources: FERC's Database

Gas-fired generation has dominated recent U.S. expansion of generation capacity



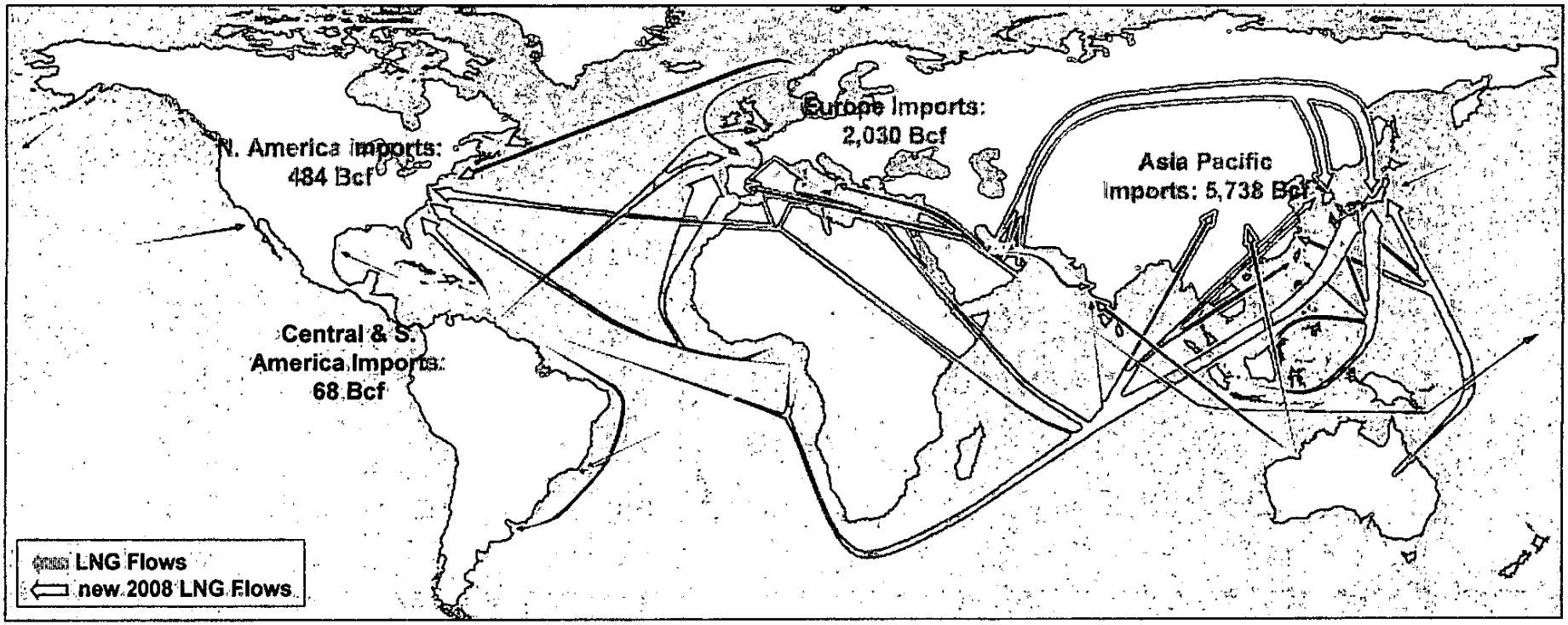
Source: Based on data from Ventyx Global Energy, LLC, Velocity Suite, February 2009.

World Gas Consumption (in Tcf)



Source: Based on data from BP Natural Gas Consumption 2007, EIA's International Energy Outlook 2008, Table A6, and Ventyx Global Decision LLC, Velocity Suite.

2008 LNG Flow Movements

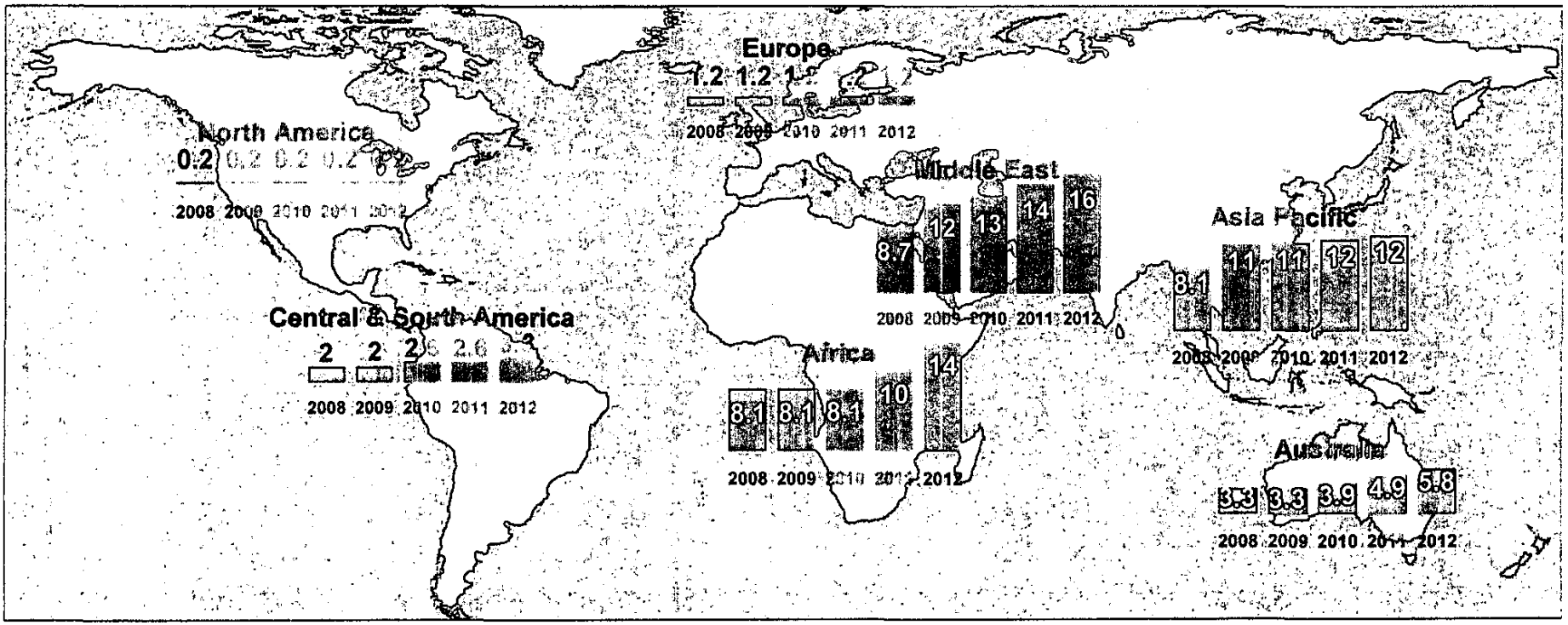


Source: Based on data from CERA Global LNG Balance, February 2009, and Ventyx Global Decision LLC, Velocity Suite.

Variables Affecting LNG Movement

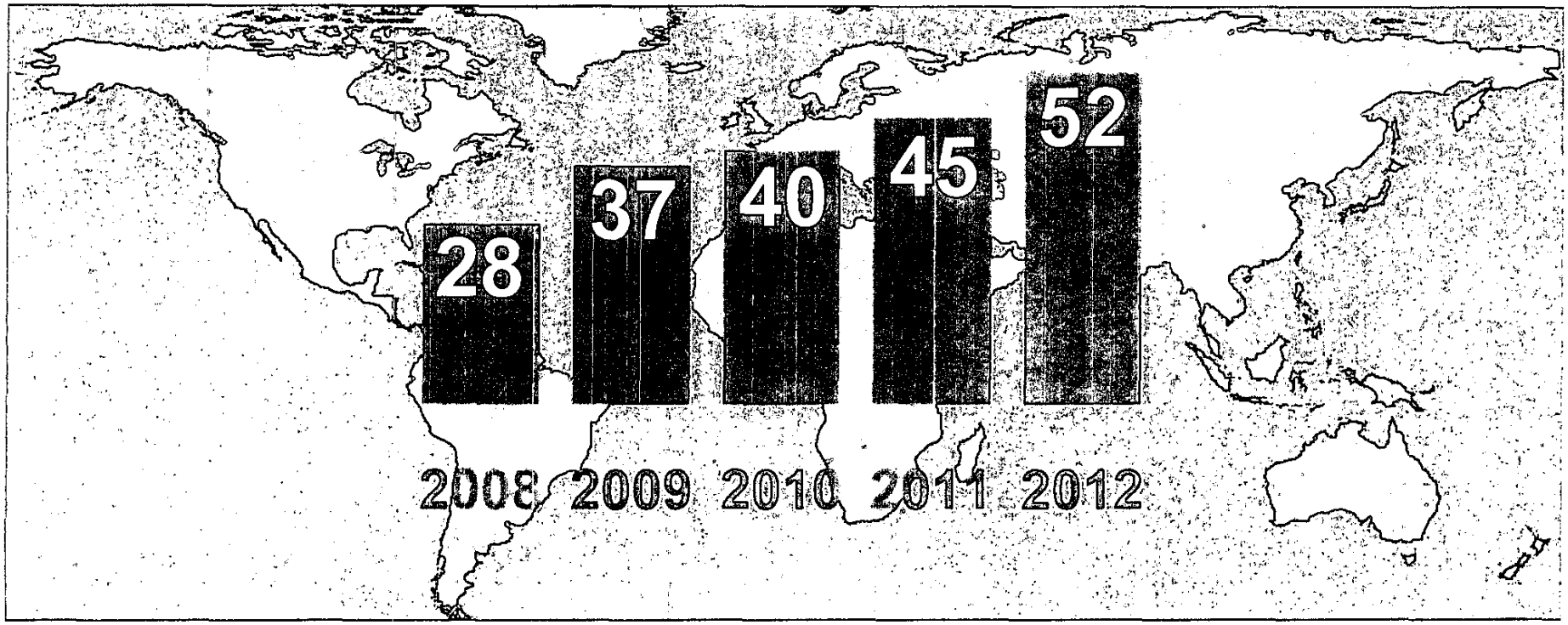
- Market Structure
- Domestic Supplies
- Liquefaction Capacity
- Storage

LNG Liquefaction Capacity by Region (Bcf/d)



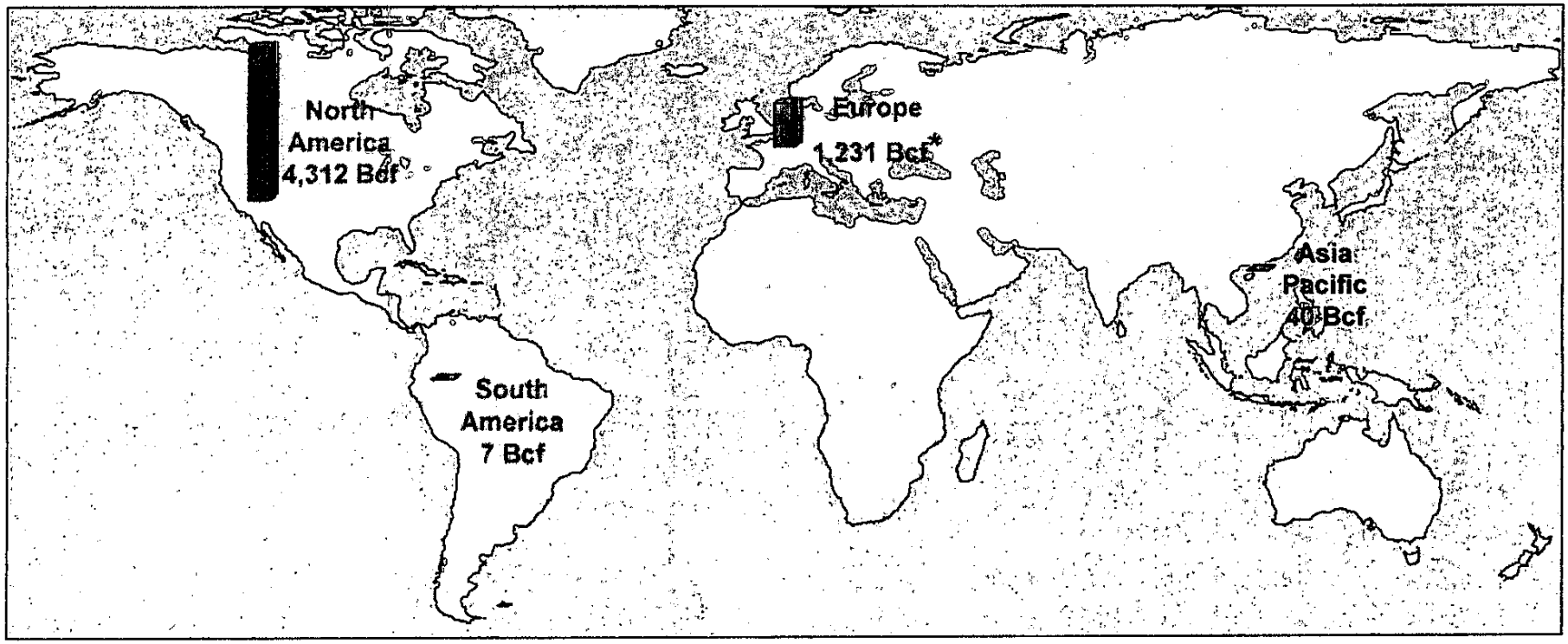
Source: Based on data from Platts LNG Daily's Terminal Trackers, Ventyx Global Decision LLC, Velocity Suite.

Global LNG Liquefaction Capacity (Bcf/d)



Source: Based on data from Platts LNG Daily's Terminal Trackers, Ventyx Global Decision LLC, Velocity Suite.

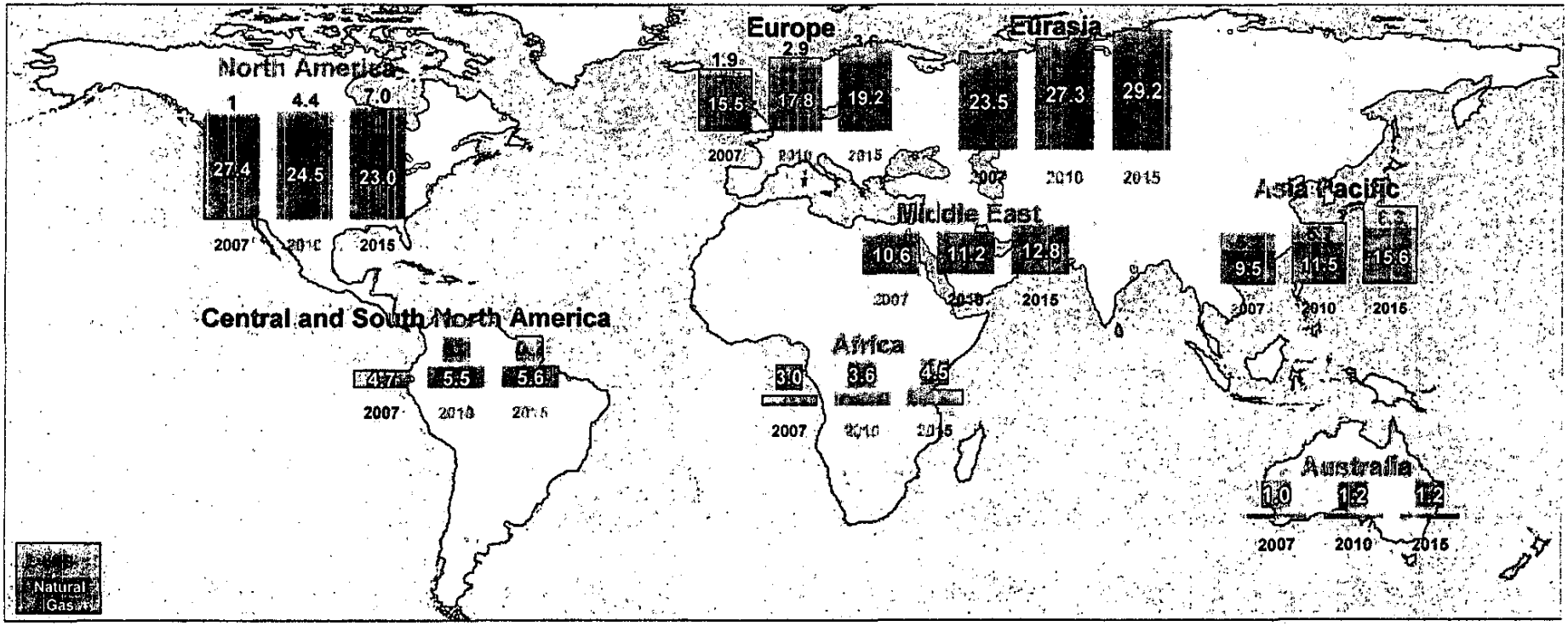
Worldwide Working Gas Storage Capacity



* This represents those European countries that have regasification facilities.

Source: Based on data from IGU 23rd World Gas Conference-WGC 2006, EIA's Estimate of Peak Underground Working Gas Storage Capacity in the US, and Ventyx Global Decision LLC, Velocity Suite.

World Gas Consumption by 2015 (Tcf)



Source: Based on data from BP Natural Gas Consumption 2007, EIA's International Energy Outlook 2008, Table A6, CERA's Global Demand Outlook and Ventyx Global Decision LLC, Velocity Suite.

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 March 17, 2009

SUBJECT: Request by HCR 12 that the governor and the attorney general review and reevaluate the license issued under the Alaska Gasline Inducement Act (AS 43.90) (Work Order 26-LS0156\S)

TO: Representative Pete Petersen
Attn: David Dunsmore

FROM: Donald M. Bullock Jr.
Legislative Counsel

HCR 12 requests the governor and the attorney general to review and reevaluate the license issued to TransCanada Alaska Company, LLC and Foothills Pipe Lines, Ltd. (licensee) to determine whether the project proposed "maximizes the benefits to the people of the state and merits continuing the license[.]" You asked whether any authority exists for the state to unilaterally revoke or modify the terms for the license, whether the state would be exposed to any liability if the state unilaterally revoked or modified the license, and whether there are any other potential legal consequences of revoking or modifying the license.

The license issued under AS 43.90 (Alaska Gasline Inducement Act (AGIA)) is a contract between the state and the licensee. Under the contract, the state commits to make matching contributions of up to $500,000,000 for qualified expenditures incurred by the licensee and to provide the benefits of the Alaska Gasline Inducement Act coordinator.[1] The state also granted the licensee the assurances in AS 43.90.440 that the inducements provided to the licensee would not also be given to a competing natural gas pipeline; if the state provides inducements to a competing pipe line, the licensee is entitled to the payment described in AS 43.90.440(a). In return for the state's commitment, the licensee agrees to the conditions and commitments in AS 43.90.130, the requirements generally referred to as the "must haves" during the consideration of AGIA. Because the license is a contract, if the state unilaterally revokes or modifies the contract, the state would be liable for damages resulting from the breach.

I will not speculate on the amount of the damages for which the state would be liable if the state breaks the contract. However, the amount of damages may be significant based on the fact that AS 43.90.440 entitles the licensee to a payment by the state of three times the total amount of the qualified expenditures incurred and paid by the licensee if the

[1] AS 43.90.110.

state violates the contract by providing inducements to a competing gas pipeline. If the state makes the payment under AS 43.90.440, the project is deemed to be abandoned under AS 43.90.240(d).

Within AGIA, there are provisions that allow for the abandonment of the license or a modification of the project. Under AS 43.90.240, the project may be abandoned if it is found to be uneconomic. AS 43.90.240(a) addresses the situation where the licensee and the commissioner of revenue and the commissioner of natural resources all agree that the project is uneconomic. That subsection reads as follows, with emphasis added:

> (a) ***If the commissioners and the licensee agree that the project is uneconomic***, the project shall be abandoned, the inducement provided for in AS 43.90.110 shall be terminated, and, except for requirements imposed on the licensee under (e) of this section and AS 43.90.220, the state and the licensee no longer have an obligation under this chapter with respect to the license.

AS 43.90.240(b) and (c) address the situation where the commissioners and the licensee disagree that the project is uneconomic. AS 43.90.240(b) and (c) read as follows, with emphasis added:

> (b) **If the commissioners or the licensee determines that the project is uneconomic and the other party disagrees**, the disagreement shall be settled by arbitration administered by the American Arbitration Association under the substantive and procedural laws of this state, and judgment on the award rendered by the arbitrators may be entered in superior court in the state. In the event of arbitration, each party shall select an arbitrator from the American Arbitration Association's National Roster, and the two arbitrators shall appoint a third arbitrator from the American Arbitration Association's National Roster who shall serve as the chair of the three-member arbitration panel. If the arbitration panel determines that the project is
>
> (1) uneconomic, the state and the licensee no longer have an obligation under this chapter with respect to the license, except for requirements imposed on the licensee under (e) of this section and AS 43.90.220; or
>
> (2) not uneconomic, the obligations of the licensee and the state continue as provided under this chapter and the license.
>
> (c) The arbitration panel in (b) of this section shall make a determination that the project is uneconomic only if the panel finds that the party claiming the project is uneconomic has proven by a preponderance of the evidence that the
>
> (1) project does not have credit support sufficient to finance construction of the project through firm transportation commitments, government assistance, or other external sources of financing; and

> (2) predicted costs of transportation at a 100 percent load factor, when deducted from predicted gas sales revenue using publicly available predictions of future gas prices, would result in a producer rate of return that is below the rate typically accepted by a prudent oil and gas exploration and production company for incremental upstream investment that is required to produce and deliver gas to the project.

As you can see, if the licensee and commissioners disagree on whether the project is uneconomic, the dispute is resolved through an arbitration process.

Many of the facts presented in HCR 12 relate to whether the project proposed by the licensee is uneconomic. The administration could avail itself of AS 43.90.240(a) - (c) and explore whether the project is uneconomic and decide its next course action.

The licensee also has the option of seeking an amendment or modification of its project plan under AS 43.90.210. That section reads as follows:

> Subject to the approval of the commissioners, a licensee may amend or modify its project plan if the amendment or modification improves the net present value of the project to the state, is necessary because of an order or requirement by a regulatory agency with jurisdiction over the project or by the Alaska Oil and Gas Conservation Commission, or is necessary because of changed circumstances outside the licensee's control and not reasonably foreseeable before the license was issued. An amendment or modification approved under this section must be consistent with the requirements of AS 43.90.130 and, except for an amendment or modification required because of an order or requirement of a regulatory agency with jurisdiction over the project or by the Alaska Oil and Gas Conservation Commission, may not substantially diminish the value of the project to the state or the project's likelihood of success.

Although the grounds for modification or amendment are limited, the facts alleged in HCR 12 may constitute "changed circumstances outside the licensee's control and not reasonably foreseeable before the license was issued" that necessitate a change in the project. If so, the commissioners and the licensee could work together to reach agreement on acceptable modifications and amendments. This approach would not end the project and but would allow the project to continue with changes and modifications.

The requests to the governor and to the attorney general in HCR 12 do not address abandonment as uneconomic or modification of the project. Instead, the resolution asks the administration to reconsider the decision made by the commissioners before the licensee was recommended for approval to the legislature. Specifically, on page 4, lines 25 - 26, HCR 12 requests the governor and the attorney general to "determine whether the project proposed by the licensee sufficiently maximizes the benefits to the people of the state and merits continuing the license[.]" This provision could be read to encourage

a unilateral revocation outside of the contract termination provisions within AGIA. If the contract is unilaterally terminated by the state, the state could be found by a court to be liable for damages to the licensee arising out of the state's breach.

If I may be of further assistance, please advise.

DMB:ljw
09-161.ljw

20080625-3024 FERC PDF (Unofficial) 06/25/2008

FEDERAL ENERGY REGULATORY COMMISSION
WASHINGTON, D.C. 20426

OFFICE OF ENERGY PROJECTS

In Reply Refer To:
OEP/DG2E/Gas 1
Denali - Alaska Gas Pipeline LLC
Docket No. PF08-26-000

June 25, 2008

Bud E. Fackrell, President
Denali – Alaska Gas Pipeline LLC
MB 4-3
PO Box 196612
Anchorage, AK 99519

Re: Approval of Pre-Filing Request

Dear Mr. Fackrell:

Thank you for your letter, filed June 16, 2008, requesting use of the Federal Energy Regulatory Commission's (FERC or Commission) pre-filing review process for Denali - Alaska Gas Pipeline LLC's (Denali) planned Denali Project. We encourage natural gas pipeline companies to use this voluntary process because we believe that beginning the Commission's review of most proposals prior to the receipt of the application will greatly improve our ability to identify issues early and address them in our environmental review document. Because an Alaska natural gas transportation project will likely require multiple field seasons to develop an application, use of the pre-filing process will ensure completion of the environmental impact statement (EIS) within the legislated timeframe. Therefore, I am granting Denali's request and instructing staff to begin working on your proposal.

Denali plans to construct an Alaska natural gas transportation system, as defined by Section 103 of the Alaska Natural Gas Pipeline Act, which would consist of a 48- to 52-inch-diameter pipeline system between the Alaska North Slope and Alberta, Canada, capable of transporting about 4.0 billion cubic feet per day of natural gas. Denali also plans to construct a new gas treatment plant on the Alaska North Slope.

Your letter states your intention to file an application in August 2011. The complexity of this project calls for initiating the Commission's pre-filing process as early in the development of the application as possible. Commission staff and stakeholder involvement early in the process should help to identify issues and study needs that would

20080625-3024 FERC PDF (Unofficial) 06/25/2008

otherwise potentially delay submittal of the application. Therefore, I am waiving the filing requirements and timelines stipulated in section 157.21(d) and (f).[1/] During the pre-filing process, we will work with Denali and all stakeholders to resolve issues as they arise, ensure the collection of necessary information, and develop the appropriate timeframes for the submittal of that information and the application.

When Denali files its application with the Commission, we will evaluate the progress made during the pre-filing process, based in part on our success in resolving the issues raised during scoping. Once we determine that your application is complete we will establish a schedule for issuance of the EIS, consistent with Section 104 of the Alaska Natural Gas Pipeline Act, and for the issuance of all other federal authorizations.

Denali has committed to fund a third-party contractor to assist the Commission in the development of the EIS. Our staff will notify Denali when it requires the assistance of a contractor. At that time, we will select a third-party contractor to work under the direct supervision and control of the Commission staff. If you have any questions, please contact Michael Boyle at (202) 502-8839.

Sincerely,

J. Mark Robinson
Director
Office of Energy Projects

cc: Public File, Docket No. PF08-26-000

1 Under section 375.308 (z) of the Commission's regulations, the Director of the Office of Energy Projects can make modifications to and grant waivers of the pre-filing procedures on a case-specific basis.

adn.com
Anchorage Daily News

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Lynn Canal road to receive cost analysis

The Associated Press
(02/06/09 00:25:37)

JUNEAU -- State transportation officials say they will get an outside cost analysis for a prospective road project along Lynn Canal.

Transportation Commissioner Leo von Scheben says the Federal Highway Administration's Western Federal Lands Division will conduct the study.

The review will cost about $300,000.

State estimates peg the project at about $350 million. With $24 million already spent on the project, the costs could be $374 million.

Gov. Sarah Palin has not signed off on the project yet because she wants legal issues surrounding it resolved first.

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Anchorage Daily News

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Prison costs raise concern

MAT-SU FACILITY: Lawmakers take new look at privatizing amid budget crunch.

By SEAN COCKERHAM
scockerham@adn.com
(03/15/09 04:59:31)

JUNEAU -- Legislators are cringing at the cost of the planned new jumbo state prison in the Matanuska-Susita Borough and want to look at turning it into a private prison. That's a topic that in the past proved to be one of the most contentious in Alaska politics.

State representatives are also reluctant to pony up an additional $20 million the Palin administration has requested for the $240 million project. Enthusiasm for the project isn't what it used to be before oil prices plummeted, dragging state revenues down with them.

Fairbanks Republican Rep. Mike Kelly took over the corrections budget in the state House this year and said that -- if he could -- he would slow the project down. But the bonds for construction have already been sold. That's left lawmakers with few options.

One is to privatize operations of the prison when it opens. So Kelly put language in the budget that passed the House on Friday asking the corrections department to investigate doing just that.

"The intent says, hey, take a look at what we might save in this (expensive) hill to climb and see if we have a private operator -- if that would make sense," Kelly said.

Private prisons have been hugely controversial in Alaska.

"They've figured prominently into a lot of the problems we've had," said Eagle River Republican Rep. Bill Stoltze, an influential supporter of keeping the project in state hands.

The ongoing federal corruption investigation, which has resulted in indictments or guilty pleas from 12 lawmakers, lobbyists and others, began with inquiry into a push to build a private prison in the state. Bill Weimar, once king of Alaska's private halfway houses, pleaded guilty to corruption charges last year after funneling $20,000 in 2004 to help a state legislative candidate, knowing that if elected the candidate would support his interest in building a private prison.

NUMBER OF PRISONERS DOWN

Political battles over private prisons in Alaska kept the state's jail-building efforts on hold for a decade. In the meantime, the lack of space in Alaska's correctional system has the state sending hundreds of Alaska prisoners to a private prison in Arizona.

Using both raw political muscle and arguments about saving money and bringing Native prisoners home, backers of the private prisons won legislative support for successive plans aimed at facilities in Anchorage, Delta Junction, Kenai and Whittier. Among the members of the consortium that pushed for private prisons was Veco, the now-defunct construction firm that is at the heart of Alaska's political corruption scandal. But each private plan eventually died in the face of local opposition, resistance from prison guard unions and skepticism from governors of both parties.

The prison fight appeared to be over after Senate President Lyda Green, who is now retired, pushed through the new state prison to be built in her home area of the Mat-Su. The planned Goose Creek Correctional Center, about nine miles north of Point Mackenzie, will be the largest prison in Alaska at 1,536 beds. The Mat-Su Borough sold the $240 million in construction bonds for it earlier this year.

The state is to lease the prison for 25 years, covering the borough's bond payments.

Fairbanks Rep. Kelly said the number of Alaska prisoners is down, at least for the moment, and it would have been a lot cheaper for the state to leave the prisoners in Arizona. But that's not going to happen, with the Mat-Su construction going ahead.

The top budget writer in the state House, Rep. Mike Hawker, also supports a privatization study.

"It's something that always has to be considered as we look at declining state revenues and an inability to meet our spending levels," the Anchorage Republican said.

REPORT DUE BACK IN 2010

The Mat-Su prison is estimated to have over 350 staff jobs after it opens in 2012. Hawker said that's going to be a problem unless state government figures out a way to deal with its gap between expenses and income as oil production steadily declines.

"Adding and keeping those employees on the state is not something we're going to be able to sustain into the very near term future here," Hawker said. "Whether it's operated on a (private) contract basis or operated on a state-owned basis, we frankly don't have the money to do either one in the future for very long."

Corrections officials are asked to report back with their findings on privatization by next spring.

State corrections officials have never been big fans of privatizing their work. Deputy Corrections Commissioner Dwayne Peeples said officials haven't come up with a position on the potential of privatizing the Mat-Su prison. But he said any savings would "probably be fairly marginal." Costs of the construction bonds, the utilities and food would all be basically the same whether it is a private or public prison, he said.

"The only cost difference you would really have would be in staff operating. And that's really hard to come up with what the private sector could do versus the state," he said.

He said the only way to get good cost numbers would be to put the contract out to bid and then sit down and negotiate. "Because everybody off the cuff will spin you theories and cost estimates and everything else that are probably meaningless until you sit down and say 'hey you've got to sign the contract and actually do it," he said.

Peeples said has hasn't figured out exactly how he's going to do the privatization study other than "do some literature research and say, this is what the literature says."

Rep. Kelly said he knows it's difficult but plans to work with Peeples to figure out how to get meaningful information. He said the cost to the state of paying the bonds and running the Mat-Su prison is going to combine for around $30 million a year.

Kelly also put language in the budget limiting the state spending on the project. Peeples said that looks to impede the Palin administration from getting up to $20 million it has requested to deal

with higher interest rates in the project. That's not going to stop construction, he said, but could pose a problem depending on cost overruns.

The governor could still get the additional $20 million through the separate state House construction budget, which is being crafted by Rep Stoltze of Chugiak -- a prison supporter. The state Senate also has not had its crack at the budget yet this year.

Sean Cockerham is covering the legislative session from Juneau. Read more on our Alaska Politics blog at adn.com/alaskapolitics.

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Federal Energy Regulatory Commission
Docket Sheet
Docket PF08-26 (ALL Subdockets)

Applicant(s)/Docket: Denali - The Alaska Gas Pipeline LLC

Sub Docket: 000

Docket Description: request for approval to use the pre-filing procedures pursuant to 18 CFR 157.21(b0 and consistent with 157.21(d) and (f) as otherwise specified by FERC. rm

Issued By: SECRETARY OF THE COMMISSION, FERC

Filed Date: 1/4/2008

Accession No: 20080104-3033

Description: Notice of technical conference and request for a statement of interest re an Alaska Natural Gas Transportation Project under AD08-3 et al.

Source: eLibrary

Federal Register Citation: 73 FR 2244 Date: 1/14/2008

Issued By: ENERGY PROJECTS, OFFICE OF

Filed Date: 1/29/2008

Accession No: 20080129-4004

Description: Agenda and sign-in sheet (see FILE list) from the 1/29/08 technical conference regarding Alaska Natural Gas Transportation Project under AD08-3 et al.

Source: eLibrary

Issued By: ENERGY PROJECTS, OFFICE OF

Filed Date: 2/25/2008

Accession No: 20080225-4018

Description: Letter responding to State of Alaska's questions concerning FERC's process for evaluating a proposal for an Alaska Natural Gas Transportation Project under AD08-3 et al.

Source: eLibrary

Filed By: DENALI - THE ALASKA GAS PIPELINE LLC

Filed Date: 6/16/2008

Accession No: 20080617-0080

Description:	Denali - The Alaska Gas Pipeline LLC requests approval to use the pre-filing procedures re their initial consultation on the Denali Project under PF08-26.
Source:	eLibrary
Issued By:	ENERGY PROJECTS, OFFICE OF
Filed Date:	6/25/2008
Accession No:	20080625-3024
Description:	Letter order granting Denali - Alaska Gas Pipeline LLC's request for use of the pre-filing review process and instructing staff to begin working on their proposal under PF08-26.
Source:	eLibrary
Issued By:	ENERGY PROJECTS, OFFICE OF
Filed Date:	7/25/2008
Accession No:	20080725-3072
Description:	Letter informing Denali -The Alaska Gas Pipeline LLC's to file a complete response within 10 days re Data Request Regarding Resource Data-Gap Analysis under PF08-26.
Source:	eLibrary
Filed By:	Denali - The Alaska Gas Pipeline, LLC
Filed Date:	8/5/2008
Accession No:	20080805-5015
Description:	Supplemental Information Request/ Response of Denali - The Alaska Gas Pipeline, LLC under PF08-26.
Source:	eLibrary
Issued By:	ENERGY PROJECTS, OFFICE OF
Filed Date:	8/19/2008
Accession No:	20080819-3034
Description:	Letter to Dot Lake Native Corporation and list of recipients re the Pre-filing Process for Denali-the Alaska Gas Pipeline LLC's planned Denali Pipeline Project under PF08-26.
Source:	eLibrary

Issued By:	ENERGY PROJECTS, OFFICE OF
Filed Date:	8/19/2008
Accession No:	20080819-4005
Description:	Letter to the Native Village of Tetlin IRA establishing contact to begin open dialogue re the review of the Denali Pipeline Project under PF08-26.
Source:	eLibrary

Issued By:	ENERGY PROJECTS, OFFICE OF
Filed Date:	8/19/2008
Accession No:	20080819-4006
Description:	Letter to the Native Village of Tanacross IRA establishing contact to begin open dialogue re the review of the Denali Pipeline Project under PF08-26.
Source:	eLibrary

Issued By:	ENERGY PROJECTS, OFFICE OF
Filed Date:	8/19/2008
Accession No:	20080819-4007
Description:	Letter to the Tanana Chiefs Conference establishing contact to begin open dialogue re the review of the Denali Pipeline Project under PF08-26.
Source:	eLibrary

Issued By:	ENERGY PROJECTS, OFFICE OF
Filed Date:	8/19/2008
Accession No:	20080819-4008
Description:	Letter to the Native Village of Stevens IRA establishing contact to begin open dialogue re the review of the Denali Pipeline Project under PF08-26.
Source:	eLibrary

Issued By:	ENERGY PROJECTS, OFFICE OF
Filed Date:	8/19/2008
Accession No:	20080819-4009
Description:	Letter to Qinuyang Limited discussing FERC's pre-filing process and review of

Denali - The Alaska Gas Pipeline, LLC's planned Denali Pipeline Project under PF08-26.

Source: eLibrary

Issued By: ENERGY PROJECTS, OFFICE OF

Filed Date: 8/19/2008

Accession No: 20080819-4010

Description: Letter to Ugashik Native Corporation discussing FERC's pre-filing process and review of Denali - The Alaska Gas Pipeline, LLC's planned Denali Pipeline Project under PF08-26.

Source: eLibrary

Issued By: ENERGY PROJECTS, OFFICE OF

Filed Date: 8/19/2008

Accession No: 20080819-4011

Description: Letter to Yak-Tat Kwaan, Incorporated discussing FERC's pre-filing process and review of Denali - The Alaska Gas Pipeline, LLC's planned Denali Pipeline Project under PF08-26

Source: eLibrary

Filed Date: 8/19/2008

Accession No: 20080819-4012

Description: Letter to Cantwell Yedatene-Na Corporation discussing FERC's pre-filing process and review of Denali - The Alaska Gas Pipeline, LLC's planned Denali Pipeline Project under PF08-26

Source: eLibrary

Issued By: ENERGY PROJECTS, OFFICE OF

Filed Date: 8/19/2008

Accession No: 20080819-4020

Description: Letter to Village of Red Devil and list of recipients discussing FERC's pre-filing process and review of The Alaska Gas Pipeline, LLC's Denali Pipeline Project under PF08-26.

Source: eLibrary

Filed By:	OFFICE OF THE FEDERAL COORDINATOR
Filed Date:	11/19/2008
Accession No:	20081119-4015
Description:	Alaska Natural Gas Transportation Projects, Office of the Federal Coordinator submits their request for Draft Implementation Plans under PF08-26.
Source:	eLibrary

Issued By:	ENERGY PROJECTS, OFFICE OF
Filed Date:	12/17/2008
Accession No:	20081217-4003
Description:	Response to Office of the Federal Coordinator's 11/19/08 request for agency draft implementation plans under PF08-26.
Source:	eLibrary

Filed By:	Denali - The Alaska Gas Pipeline, LLC
Filed Date:	12/22/2008
Accession No:	20081222-5007
Description:	Denali - The Alaska Gas Pipeline, LLC submits its Denali Field Study Plan under PF08-26.
Source:	eLibrary

AGIA

HCR 12 Presentation

March 19, 2009

Revisiting the AGIA Decisions

AGIA
The Alaska Gasline Inducement Act

- Has anything happened since the AGIA decisions to justify revisiting them?
  - Commissioners' Findings and Conclusions
  - Passage of AGIA Itself

The World Today

AGIA
The Alaska Gasline Inducement Act

- How have things changed since the legislature approved the AGIA license?
  - Global economic downturn
  - Continued development of new unconventional (shale) gas supplies
  - Continued development of LNG import capacity

  - Increased likelihood of carbon regulation
  - Decrease in project cost indexes

Pipeline Project Today

AGIA

The Alaska Gasline Inducement Act

Before AGIA

***No** active major gasline projects*

After AGIA

***Two** active major gasline projects*

3064

Revisiting the AGIA Decisions

AGIA
The Alaska Gasline Inducement Act

- Has anything happened since the AGIA decisions to justify revisiting them?
  - Commissioners' Findings and Conclusions
  - Passage of AGIA Itself

Commissioners' Findings and Conclusions

AGIA
The Alaska Gasline Inducement Act

- Does Issuing the AGIA License Sufficiently Maximize Benefits to Alaskans
  - Net Present Value of anticipated cash flows to the state from the Project
  - Project's Likelihood of Success

3066

AGIA Analysis

AGIA
The Alaska Gasline Inducement Act

- Net Present Value (NPV)
  - Natural Gas Price Expectations (2018 – 2043)
    - Supply vs Demand
  - Pipeline Transportation Costs (Tariff)
  - Project Schedule
- Likelihood of Success
  - Project Economics
  - Technical Development Plan
  - Financing Plan

Changes in Context

AGIA
The Alaska Gasline Inducement Act

- How have things changed since the legislature approved the AGIA license?
  - Global economic downturn (Demand down in short term, financial markets tightened in short term)
  - Continued development of new unconventional (shale) gas supplies (supplies up?)
  - Continued development of LNG import capacity (supplies up?)

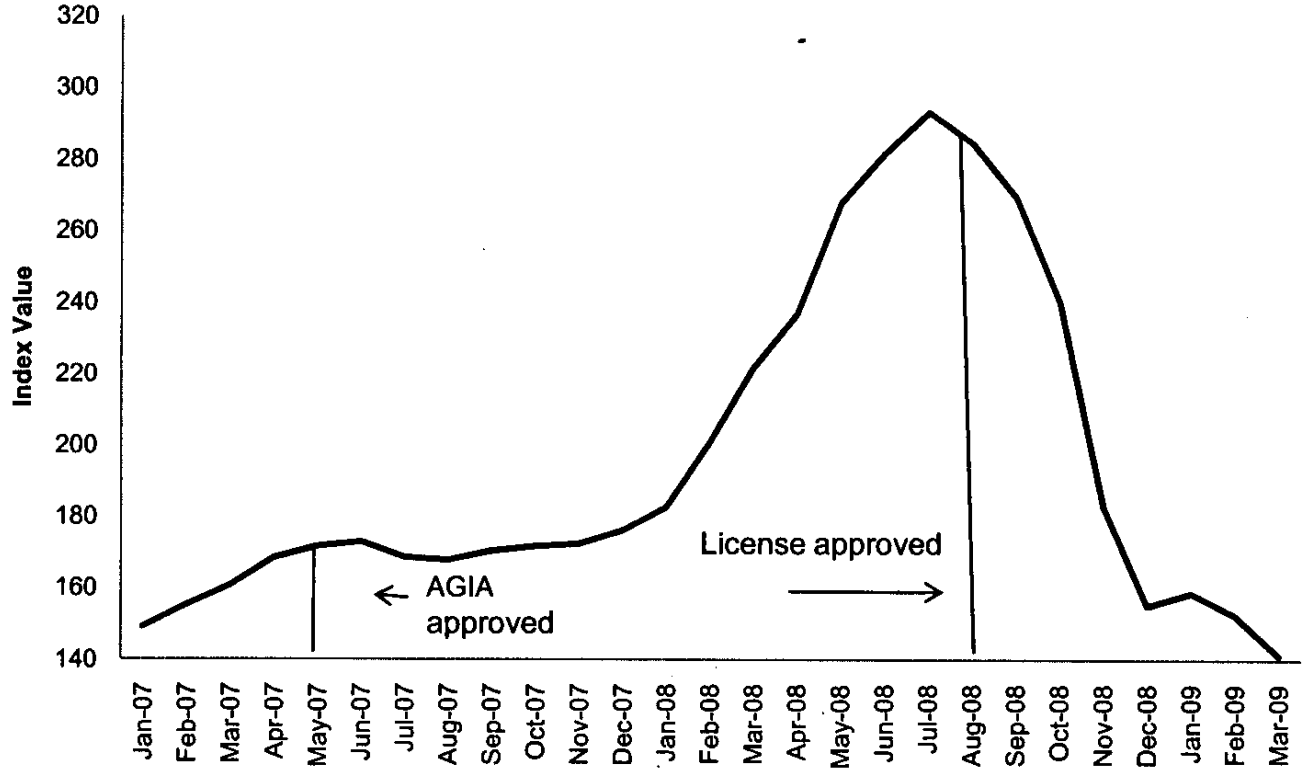
  - Increased likelihood of carbon regulation (demand up)
  - Decrease in project cost indexes (tariff down)

3068

Steel costs are falling

AGIA
The Alaska Gasline Inducement Act

Global Steel Price Index
(CRU Price Index)



Which of These Changes are Truly New and Relevant?

AGIA
The Alaska Gasline Inducement Act

- Additional shale and LNG supplies were factored into price assumptions.
- Alaska natural gas competes with both shale and LNG very well.
- Short term demand slow-down and tightened financial markets are currently not viewed as long term effects.
- Overall effect of changes is just as likely to be positive as negative.

Findings - Development of New Unconventional Gas Resources

AGIA
The Alaska Gasline Inducement Act

"US gas production … is expected to grow in the near term at between 3 and 4 Bcfd from 2007 through 2011. This near-term growth and subsequent production gains stem from follow-on, unconventional plays in the Arkoma basin (gas shale) and in the Rockies and ArkLaTex basins (tight gas)."

- Findings and Determination; Appendix N – *Briefing paper on Wood Mackenzie Long Term Outlook (pg. 1)*

Findings - Development of New Unconventional Gas Resources

AGIA
The Alaska Gasline Inducement Act

"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 (pg. 88)*

3072

Findings - Technological Advancement on Development of Shale and other Gas

AGIA
The Alaska Gasline Inducement Act

Additional technological innovation was assumed as part of the AGIA analysis

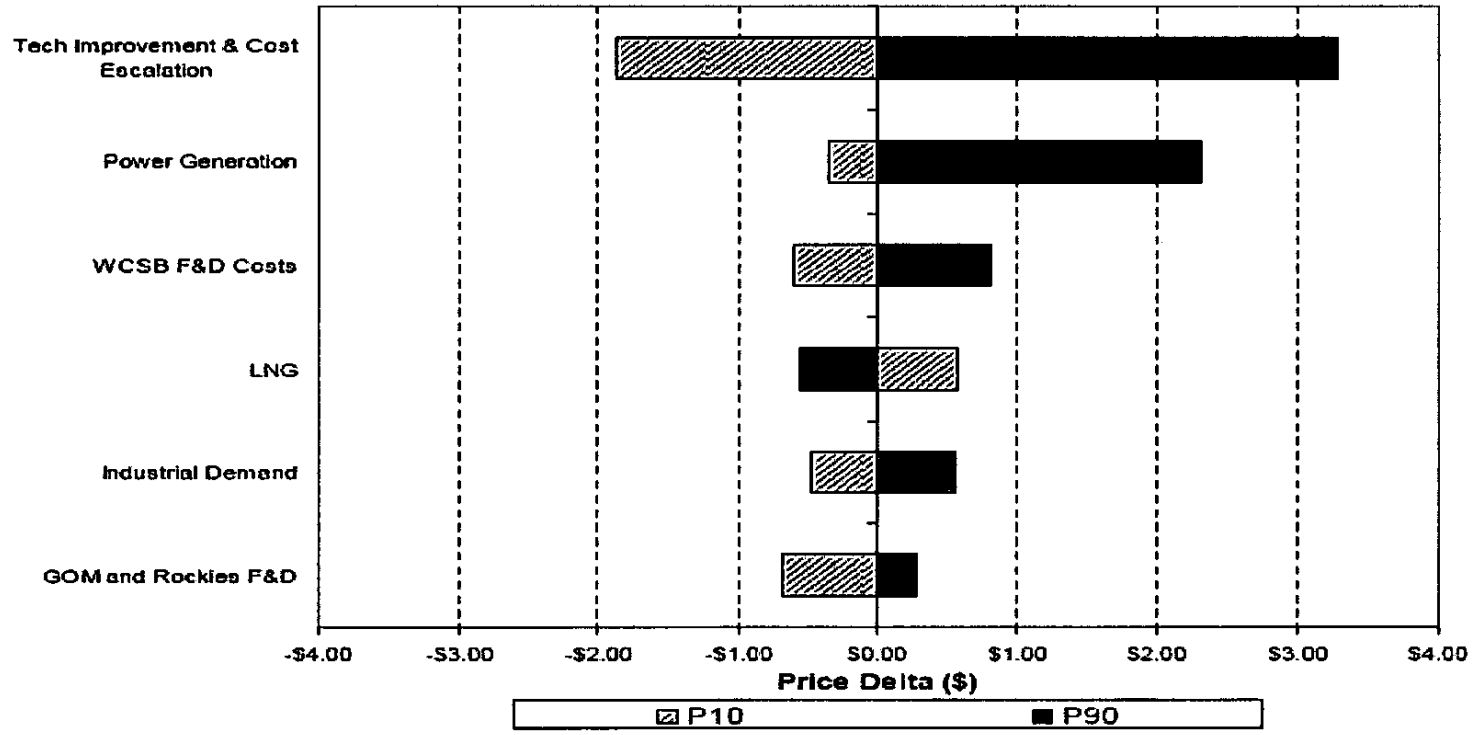
"Black & Veatch identified the following fundamental market factors and assumed an uncertainty range for each factor: F&D cost at WCSB, F&D cost at Rockies and GOM, LNG import volumes, power generation demand and industrial demand in the U.S. and Canada and ***technical innovation***. The uncertainty range of each factor is generated from a log-normal distribution."

Source: AGIA Findings and Determination; Appendix G1 – *AGIA NPV Report*

Findings - Technological Advancement on Development of Shale and other Gas

AGIA
The Alaska Gasline Inducement Act

Figure 4-28: Impact of Fundamental Drivers on AECO Price 2022 (Nominal $)



Illustrates the P10 and P90 price impact of technological improvement and cost escalation, along with the comparable probabilistic outcomes resulting from new power generation, F&D costs, LNG imports, and changing industrial demand

Source: AGIA Findings and Determination; Appendix G1 – *AGIA NPV Report*

3074

Findings - LNG

AGIA
The Alaska Gasline Inducement Act

- Extensive analysis on global LNG markets was presented in the Findings document.
  - Findings and Determination, Chapter 4
  - Appendix I
  - Appendix R2
  - Appendix R3
- Also, the North American price assumptions included the expectation of significant growth in LNG imports

Findings – LNG Import Capacity Expansion

AGIA
The Alaska Gasline Inducement Act

"Wood Mackenzie assumes twelve new LNG receiving facilities with aggregate capacity of 12 billion cubic feet per day (Bcfd) for North American imports will be in service between 2008 and 2017. LNG imports are assumed to grow at a strong average annual rate of 13%, rising from 2.1 Bcfd in 2008 to 17.0 Bcfd or about 23% of total US Demand in 2025. By 2017, the four existing receiving facilities currently serving North American LNG imports will account for only about 35% of total imported LNG."

- Findings and Determination; Appendix N – *Briefing paper on Wood Mackenzie Long Term Outlook (pg. 2)*

3076

LNG – Import Capacity Does not Mean More 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

Which of These Changes are Truly New and Relevant?

AGIA
The Alaska Gasline Inducement Act

- Additional shale and LNG supplies were factored into price assumptions.
- **Alaska natural gas competes with both shale and LNG very well.**
- Short term demand slow-down and tightened financial markets are currently not viewed as long term effects.
- Overall effect of changes is just as likely to be positive as negative.

Alaska Gas vs Shale

AGIA
The Alaska Gasline Inducement Act

- Because Alaska Gas will likely have a lower cost basis when it gets to the North American market, it can be profitable at a lower price and displaces shale gas rather than the other way around.

Which of These Changes are Truly New and Relevant?

AGIA
The Alaska Gasline Inducement Act

- Additional shale and LNG supplies were factored into price assumptions.
- Alaska natural gas competes with both shale and LNG very well.
- Short term demand slow-down and tightened financial markets are currently not viewed as long term effects.
- Overall effect of changes is just as likely to be positive as negative.

3080

Long-term vs Short term Outlook

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."

Revisiting the AGIA Decisions

AGIA
The Alaska Gasline Inducement Act

- Has anything happened since the AGIA decisions to justify revisiting them?
  - Commissioners' Findings and Conclusions (NO)
  - Passage of AGIA Itself

3082

Revisit AGIA Itself?

AGIA
The Alaska Gasline Inducement Act

- Does AGIA Restrict the State's Ability to Meet In-State Gas Needs?
- Are the Underlying Purposes of AGIA still valid?

Revisit AGIA Itself?

AGIA
The Alaska Gasline Inducement Act

- Does AGIA Restrict the State's Ability to Meet In-State Gas Needs?
- Are the Underlying Purposes of AGIA still valid?

3084

In-State Gas and AGIA Treble Damages

AGIA
The Alaska Gasline Inducement Act

Nothing in AGIA prevents or restricts the legislature from providing preferential royalty or tax treatment, or from granting state money, for the purpose of facilitating the construction of a gasline that will serve in-state needs (Maximum expected to be needed is 250MMcf/d).

In-state Gas and AGIA Treble Damages

AGIA
The Alaska Gasline Inducement Act

- An in-state needs bullet line would not trigger the treble damages clause, even if it carried North Slope gas.
- 500 MMcf/day far exceeds any reasonable projections for total natural gas consumption in state during the foreseeable future.

3086

Revisit AGIA Itself?

AGIA
The Alaska Gasline Inducement Act

- Does AGIA Restrict the State's Ability to Meet In-State Gas Needs? (NO)
- Are the Underlying Purposes of AGIA still valid?

Purposes of AGIA

AGIA
The Alaska Gasline Inducement Act

- Move the Project Forward with an Enforceable Timeline
- Obtain a Lower Tariff
- Obtain Open Access Provisions
  - Predictable Low-cost expansion for Explorers
- Provide Leverage for the State
  - Maximize Chance of Getting a Pipeline
  - Minimize Need to Provide Excessive Concessions

3088

3089

Revisiting the AGIA Decisions

AGIA
The Alaska Gasline Inducement Act

- Has anything happened since the AGIA decisions to justify revisiting them?
  - Commissioners' Findings and Conclusions (NO)
  - Passage of AGIA Itself (NO)

Shale Gas and Carbon Emissions Regulation

Mark Myers

March 19, 2009

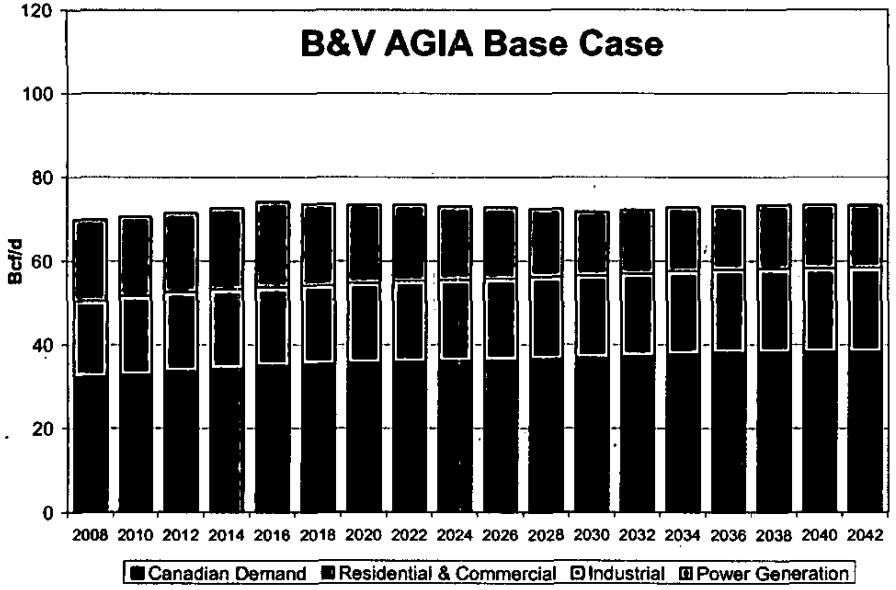
3090

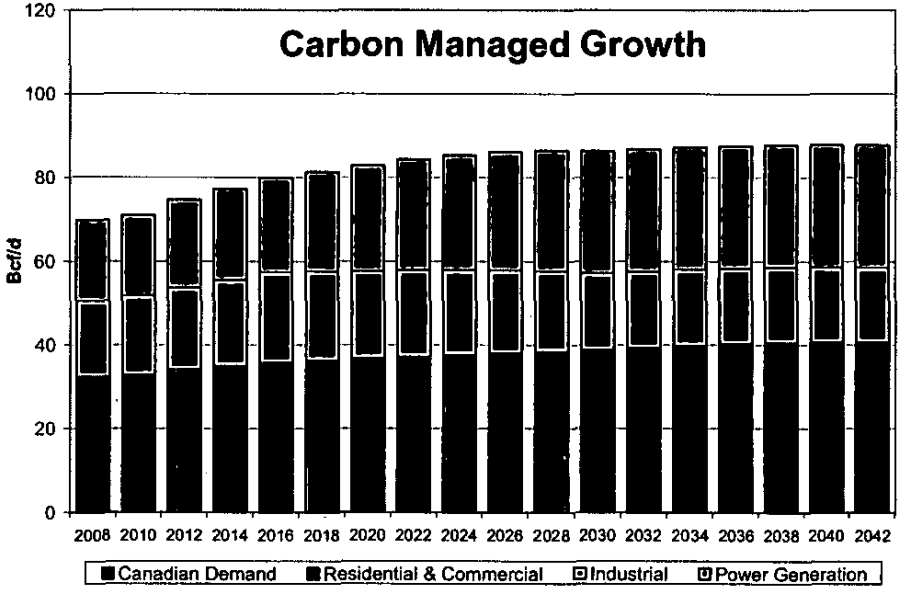
Impact of Carbon Regulation on Natural Gas Demand

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





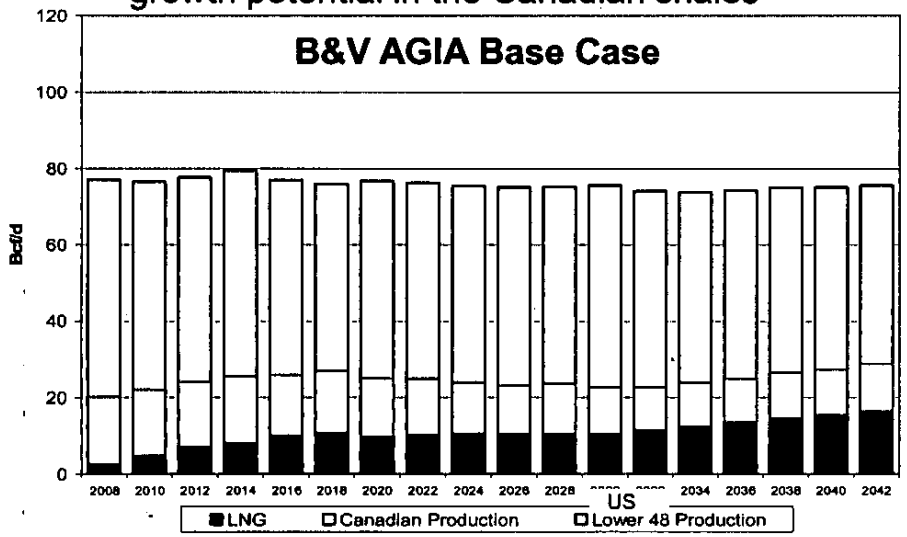
Source: Black & Veatch Analysis

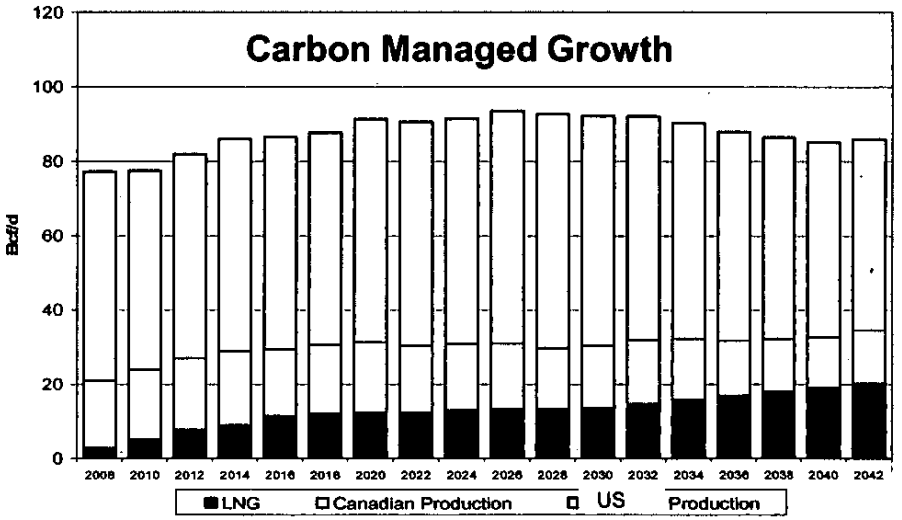
AGIA

The Alaska Gasline Inducement Act

Additional LNG imports and more unconventional productions from the US lower 48 will meet 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





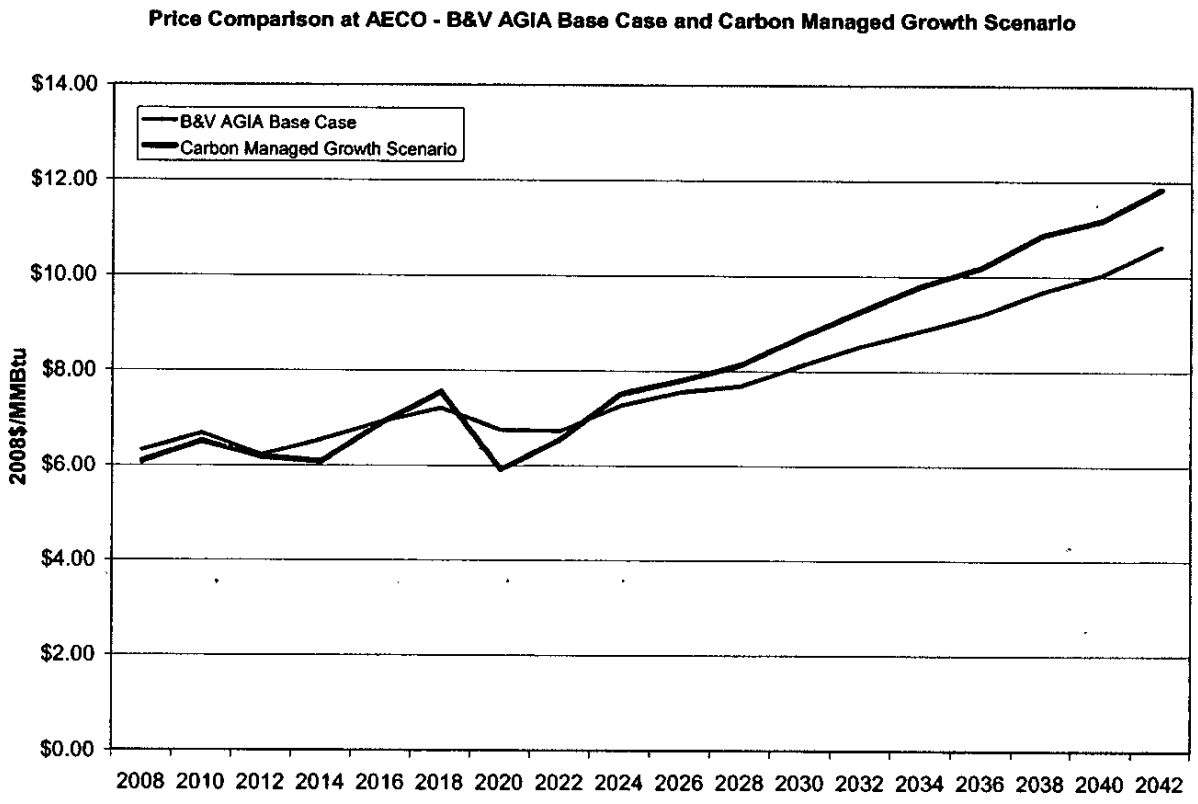
Source: Black & Veatch Analysis

3092

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

How Horizontal Drilling & Fracturing Technologies Are Changing Natural Gas Markets

Presented to:
The Energy Council's
2009 Federal Energy & Environmental Matters Conference

March 7, 2009

32045 Castle Court, Suite 200
Evergreen, Colorado 80439
(888) 257- 4398
www.bentekenergy.com

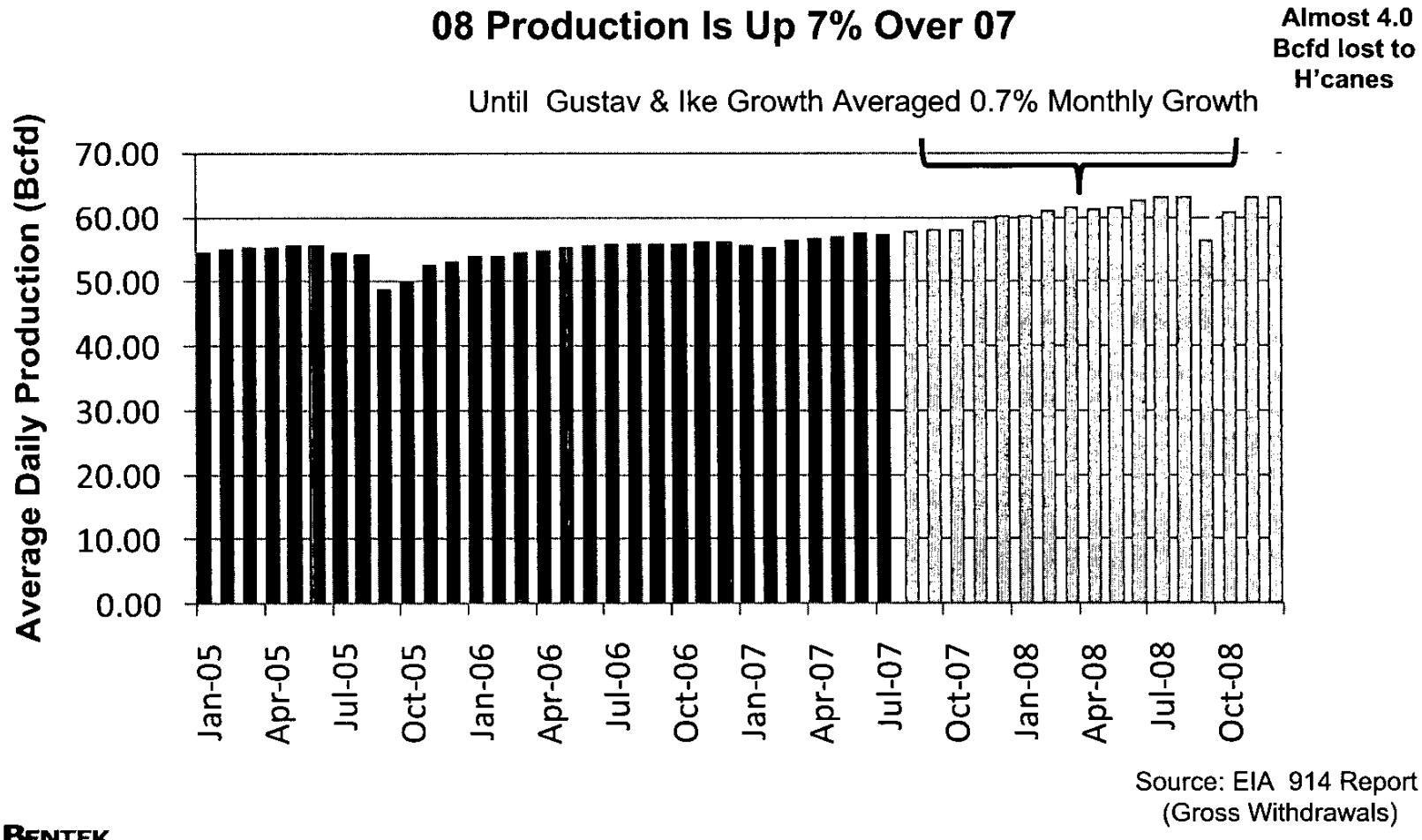
Key Points

- The Energy World has changed. Technology has unlocked unconventional gas resources.
- Natural gas should no longer be viewed as unavailable, unreliable or too expensive.
- Due to unconventional gas production, the US has become supply long, prices are falling and consumers will benefit.
- Burgeoning supplies are overwhelming the nation's pipeline capacity, driving prices even lower.
- The production growth creates an historic opportunity to use gas to quickly and significantly reduce our GHGs and reduce our consumption of oil and other high emission fuels.

Presentation Outline

- US Supply Explodes: What happened in 2008
- Why It Happened: Impact of technology innovation
- What are the Impacts?
- Recent Activity
- Conclusions and Implications

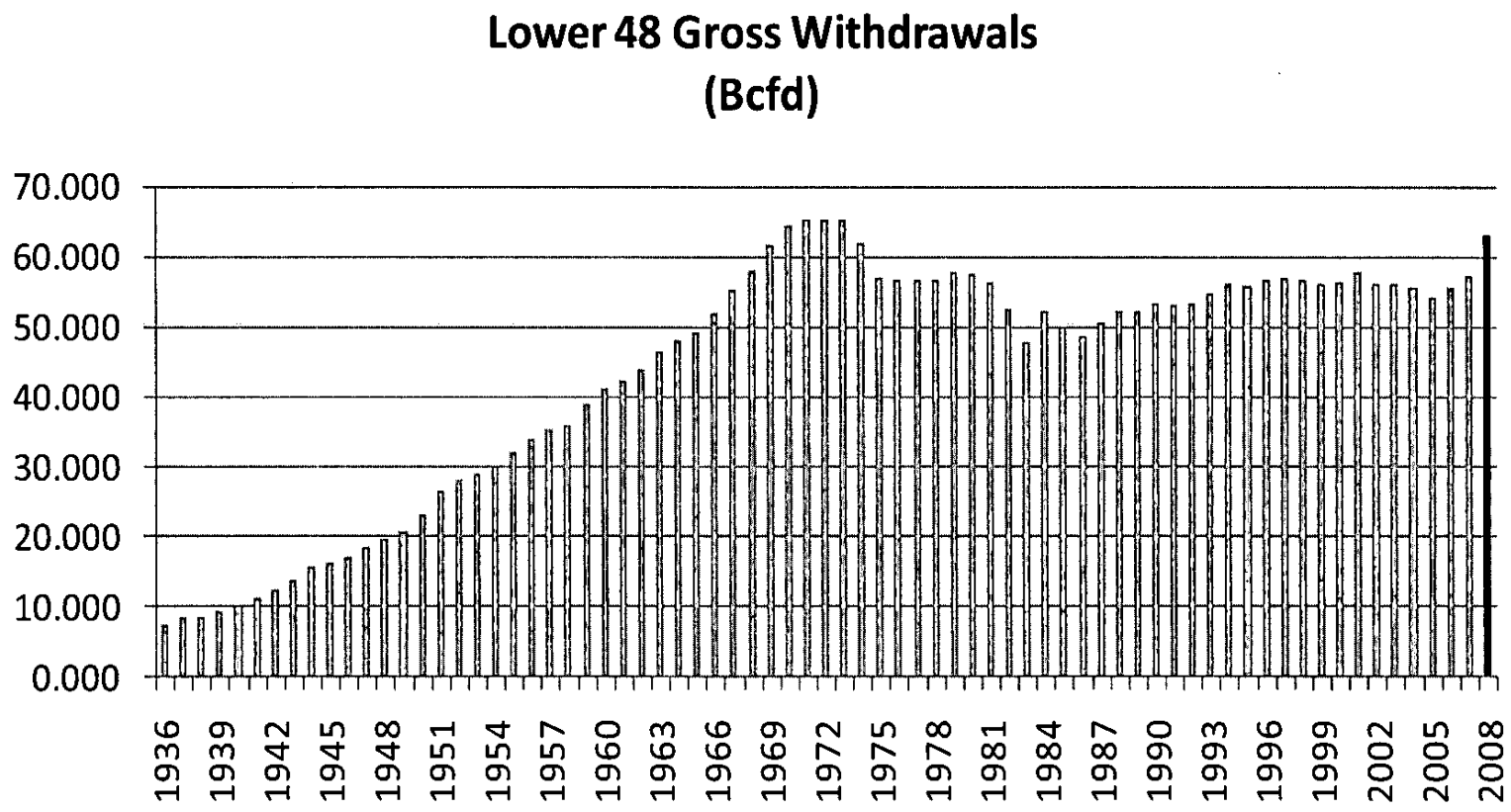
Production Grew In 2008 By 4 Bcfd



Source: EIA 914 Report (Gross Withdrawals)

BENTEK Energy

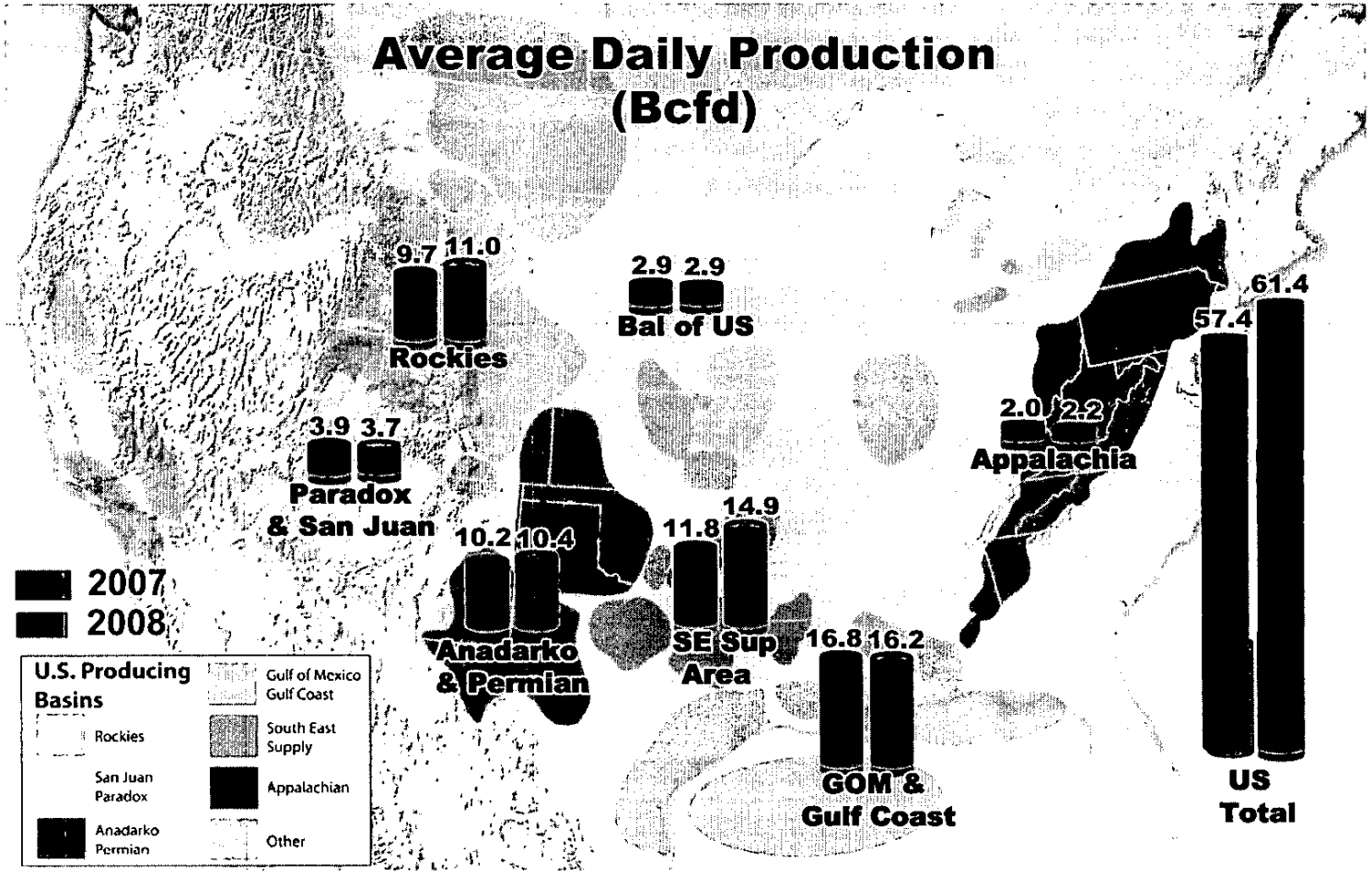
Production Is Nearing Historic Highs



Source: EIA, BENTEK

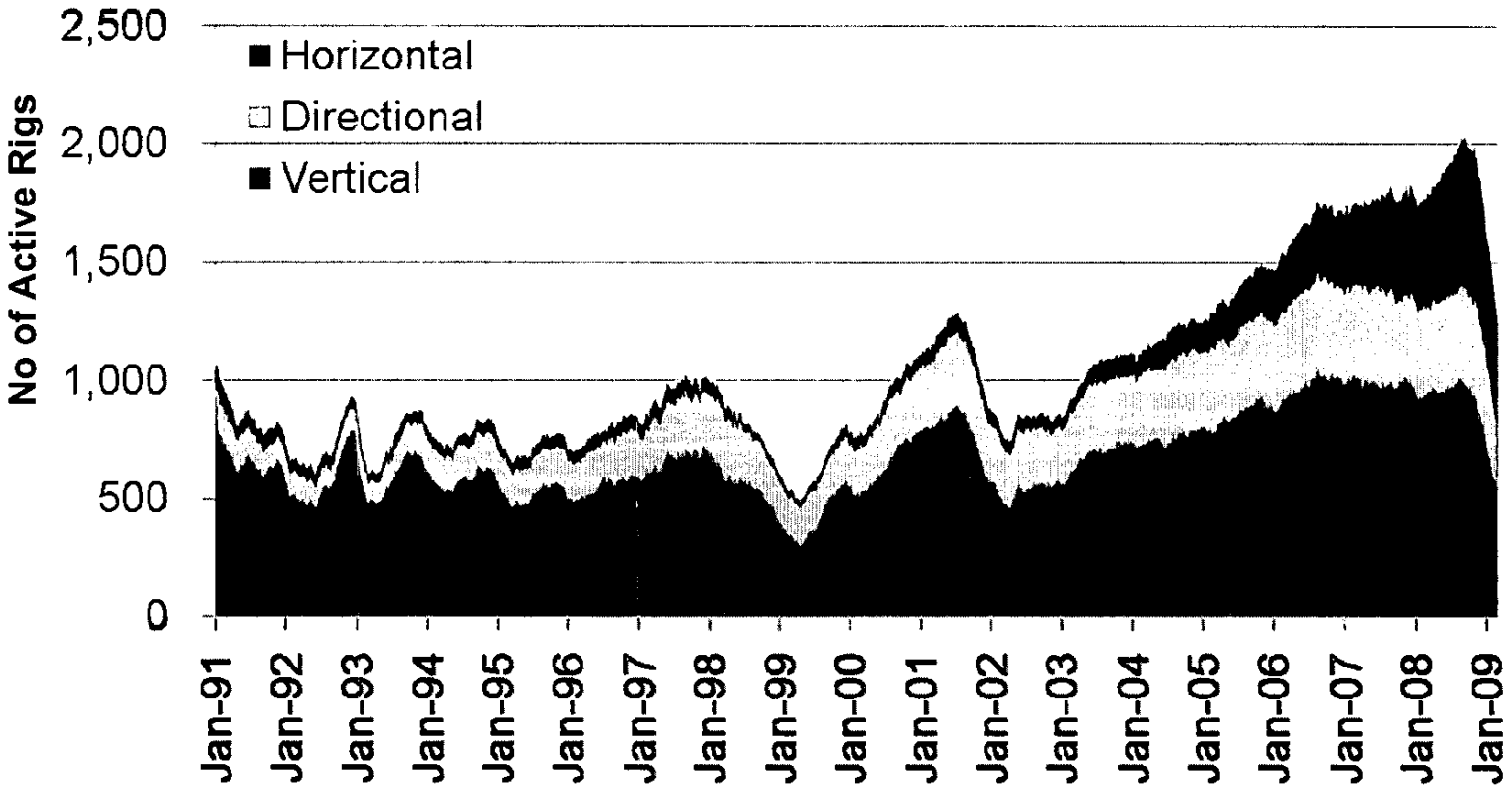
BENTEK Energy LLC

Growth Was Greatest In The Non-Conventional Supply Regions



BENTEK Energy LLC

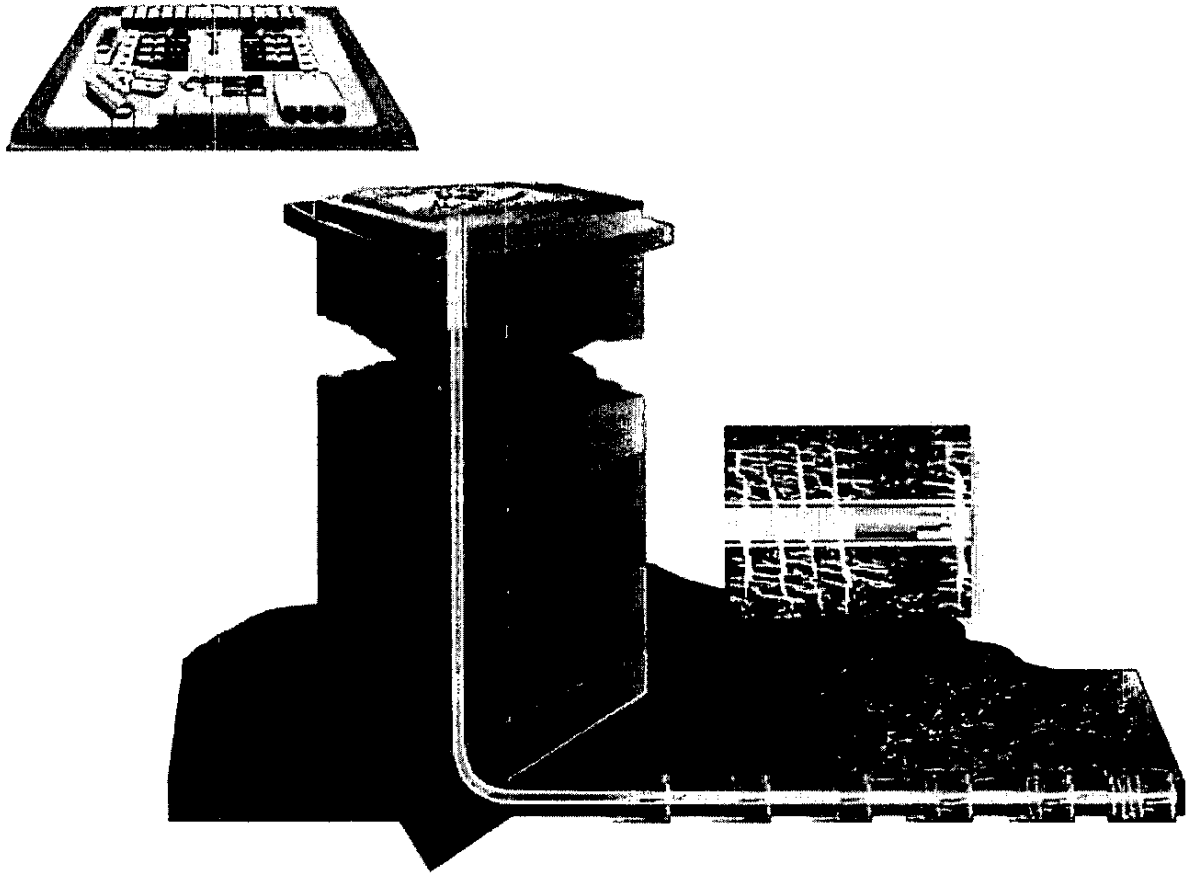
Drilling Reflects The Shift To Unconventional Production



BENTEK Energy LLC

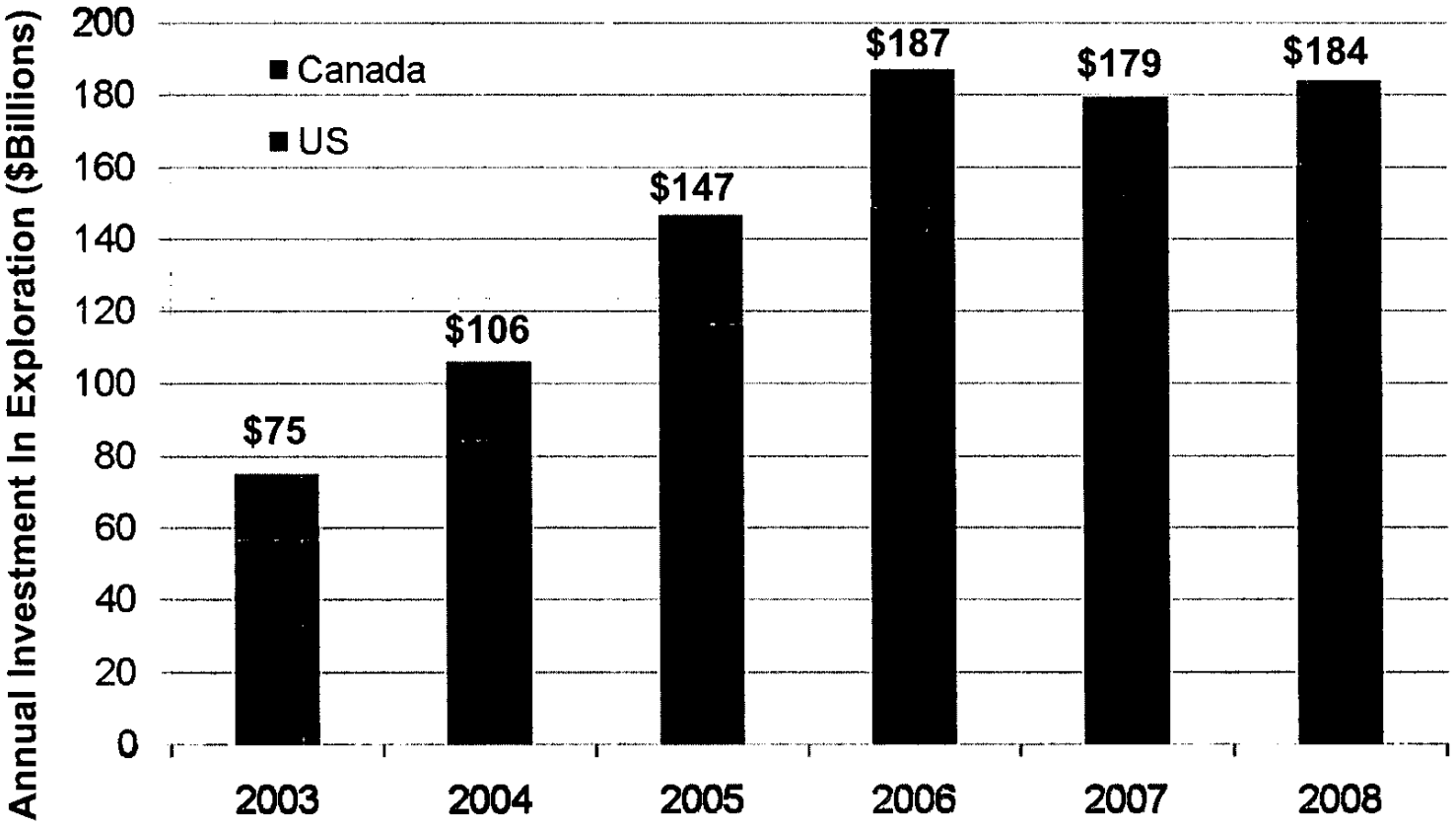
Source: Baker Hughes Direct

Innovative Fracing Technology Is Driving The Growth



Source: *Hydraulic Fracturing Factsheet,* prepared by Chesapeake Energy, February 2009

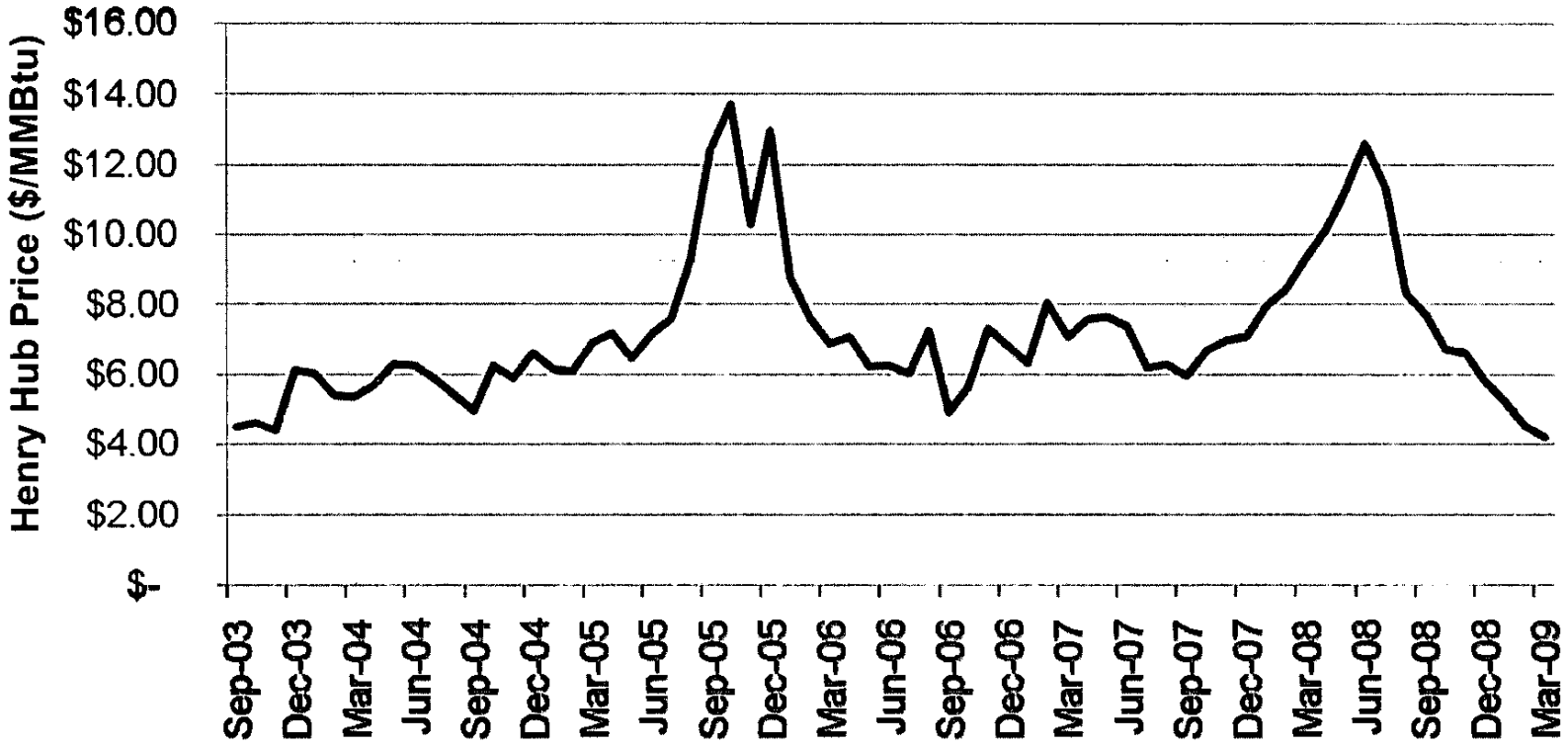
Producers Have Invested Nearly $1 Trillion On Exploration Since 03



Source: Oil and Gas Journal, Penwell Publications

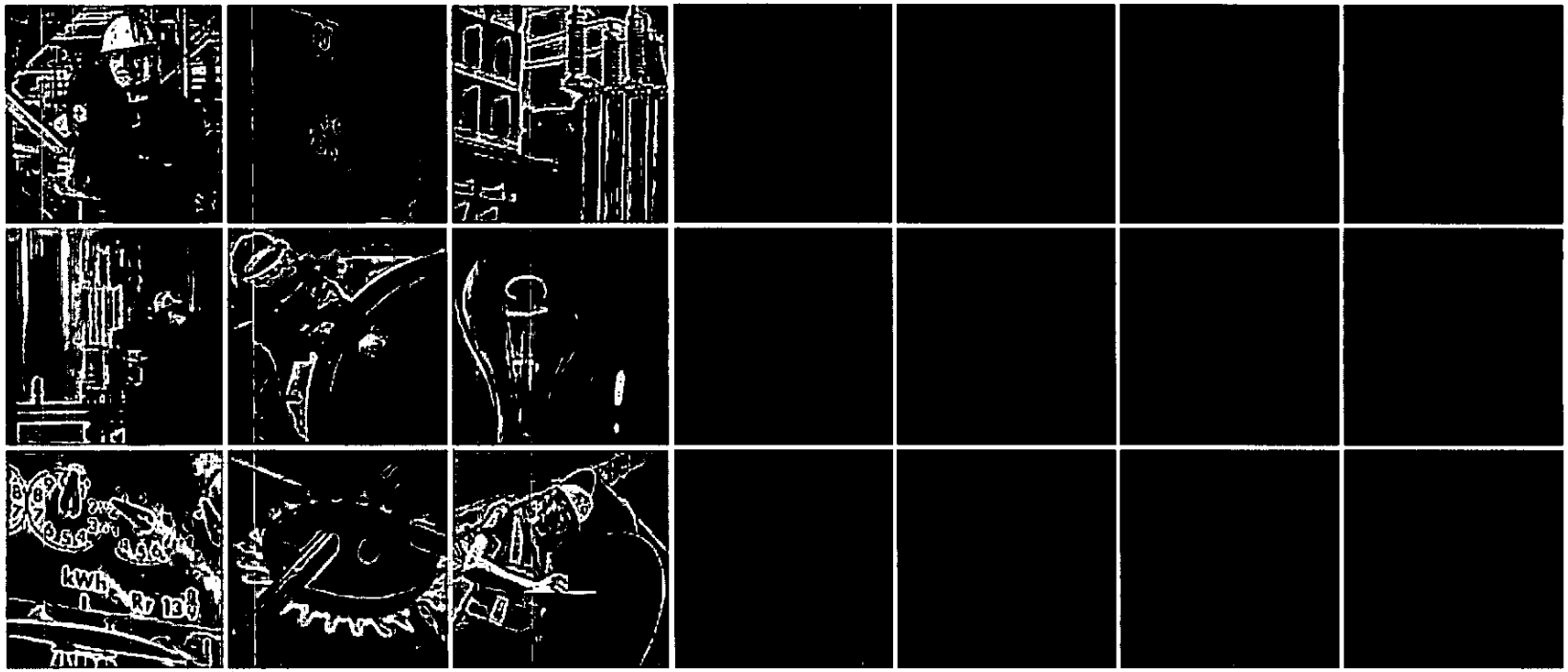
BENTEK Energy LLC

Natural Gas Prices Are Falling Precipitously



Source: ICE

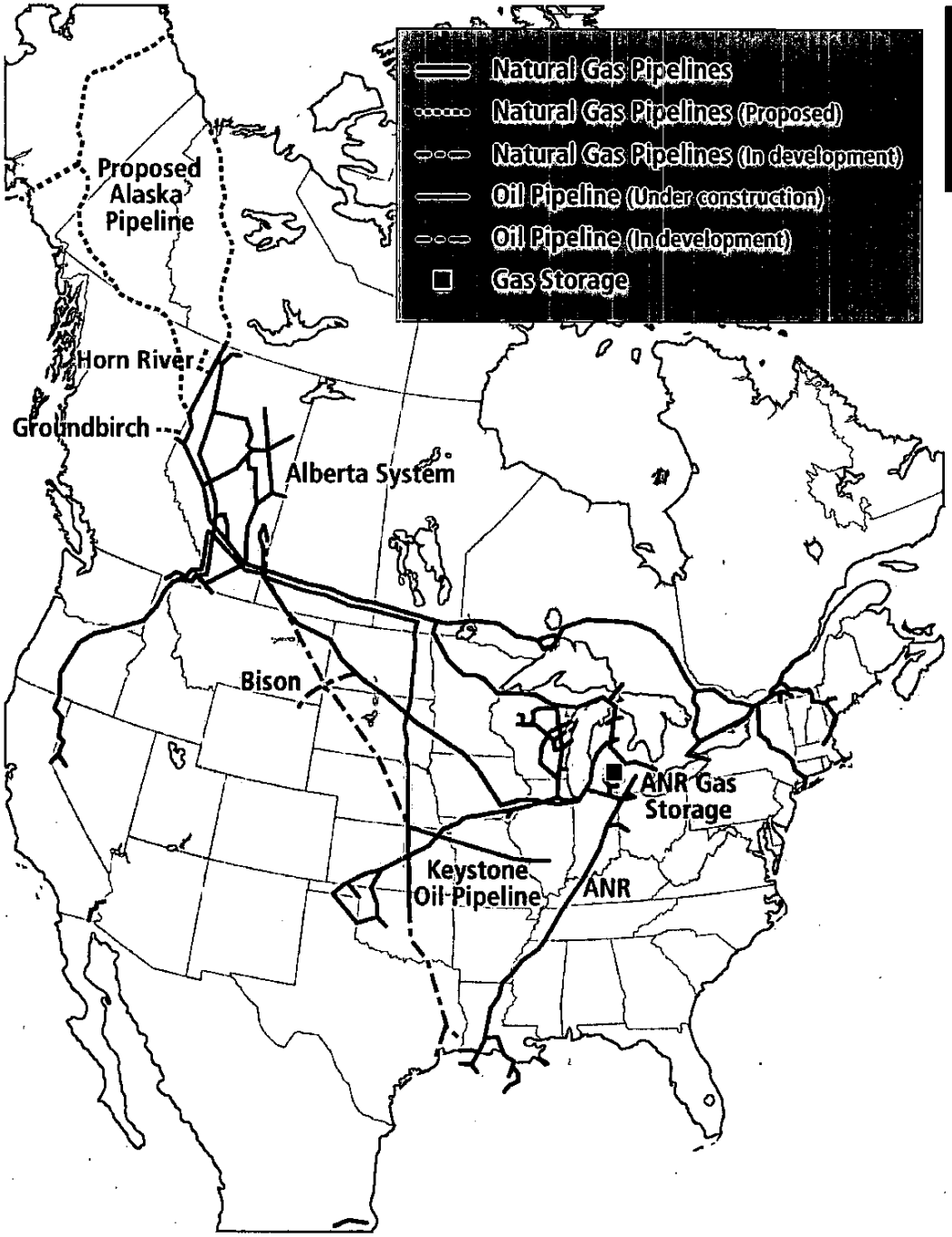
BENTEK Energy LLC



TransCanada's Alaska Pipeline Project

Alaska Legislature
House Energy Committee
March 19, 2009

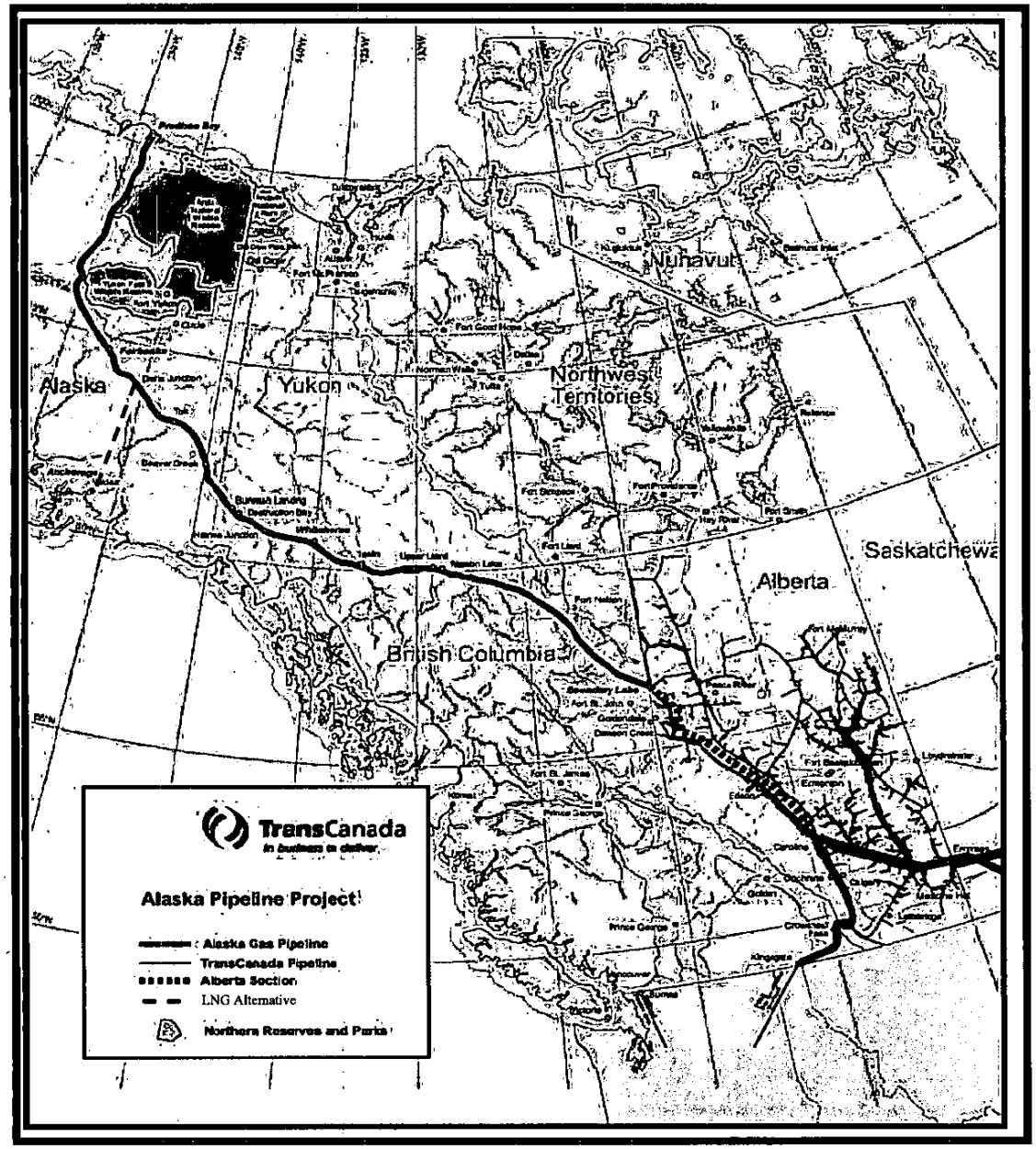
TransCanada
In business to deliver



2008 Pipeline Accomplishments

- Keystone Oil Pipeline
  - Expanded system to 1.1 MMBbl/d, 83 per cent contracted
- ANR Regulated Natural Gas Storage
  - Increased capacity to 250 Bcf
- Alberta System
  - NCC under construction
  - Federal jurisdiction approved
- Rockies Basin Initiatives
  - Proceeding with Bison project
- Alaska Pipeline Project
  - AGIA license received
- Northeast BC Shale Gas
  - Proceeding with Groundbirch
  - Proceeding with Horn River

TransCanada



TransCanada's Alaska Pipeline Project

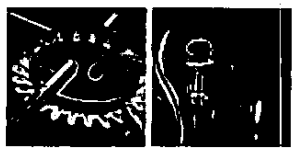
TransCanada

Elements of a Successful Project

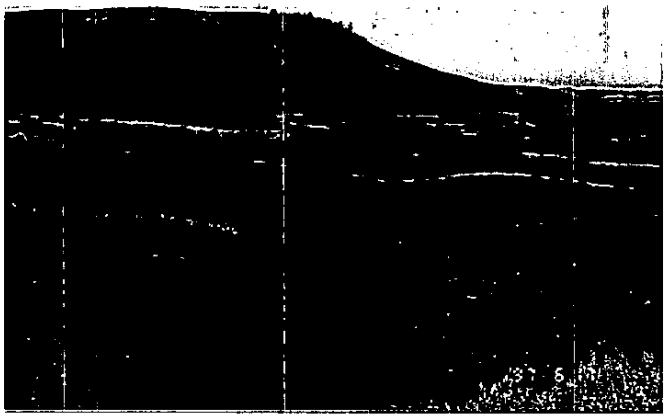
- **Attractive project economics**
  - Natural gas prices are volatile and difficult to forecast
  - Conventional Lower 48 and WCSB, LNG, shale and coalbed methane all competing for market share
  - Project supporters must focus on factors that affect tolls
    - Commercial terms
    - Commercial and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

TransCanada

Elements of a Successful Project



- **Government and community support**
  - U.S. / Canada
- **Commercial contracts with Shippers**
  - Discussions with potential shippers for deliveries:
    - within Alaska,
    - to Asia/Lower 48 via Valdez, &
    - to Lower 48 via Alberta Hub



- **Project Execution**
  - Proven project developer
    - TransCanada has 50 year successful track record as developer of long-distance multi-jurisdictional pipeline projects

TransCanada

Review of Project Economics

- Access to capital markets
- Pipe prices
- Crude oil price forecasts
- Natural gas price forecasts
- Impact on project economics

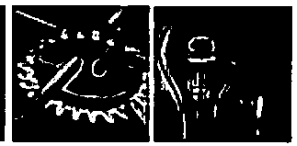
TransCanada

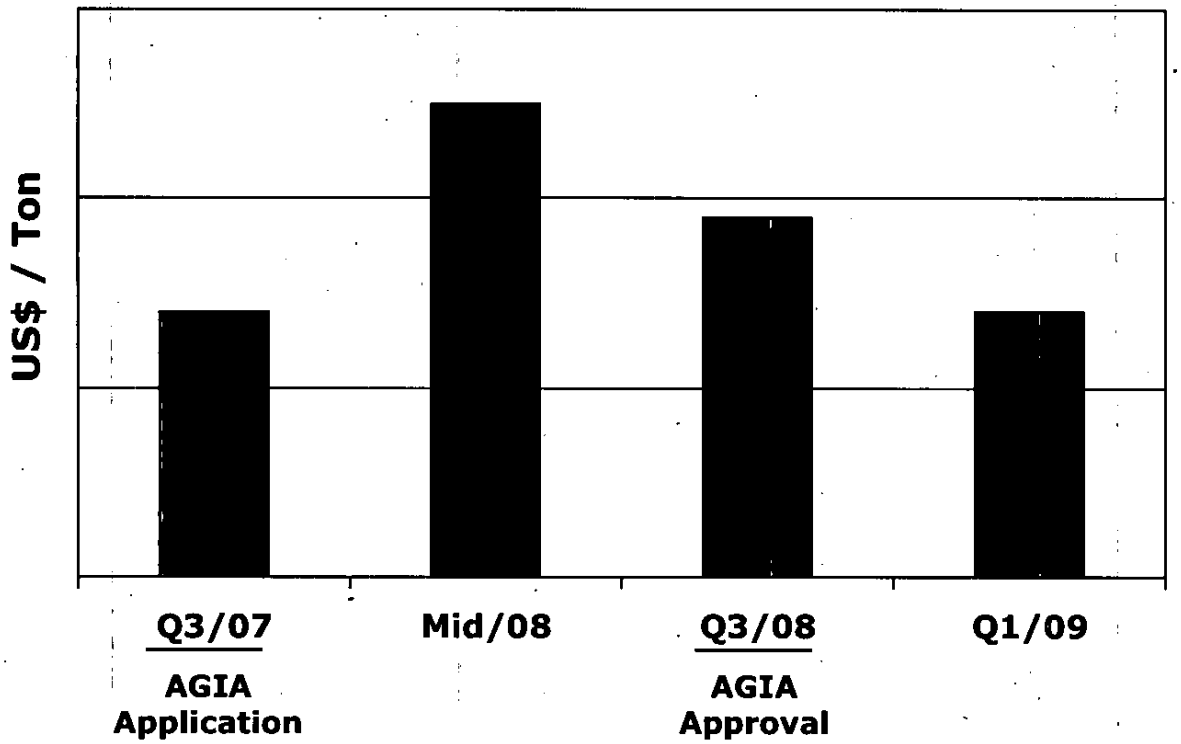
TransCanada's Access to Capital Markets

- Raised C$5.5 billion in capital since November 2008
  - Raised C$1.157 billion in common equity through a public offering
  - Issued US$1.25 billion 30-year Senior Unsecured Notes at 7.625 per cent
  - Issued US$750 million 10-year Senior Unsecured Notes at 7.125 per cent
  - Secured a US$1.0 billion bank facility dedicated to funding the Keystone Pipeline system
  - Issued C$400 million 30-year Medium Term Notes at 8.05 per cent
  - Issued C$300 million 5-year Medium Term Notes at 5.05 per cent
- Alaska Pipeline Project will have access to US$18 billion Federal Loan Guarantee
  - **Commence financing at decision to proceed (2014/15)**

TransCanada

Pipe Prices

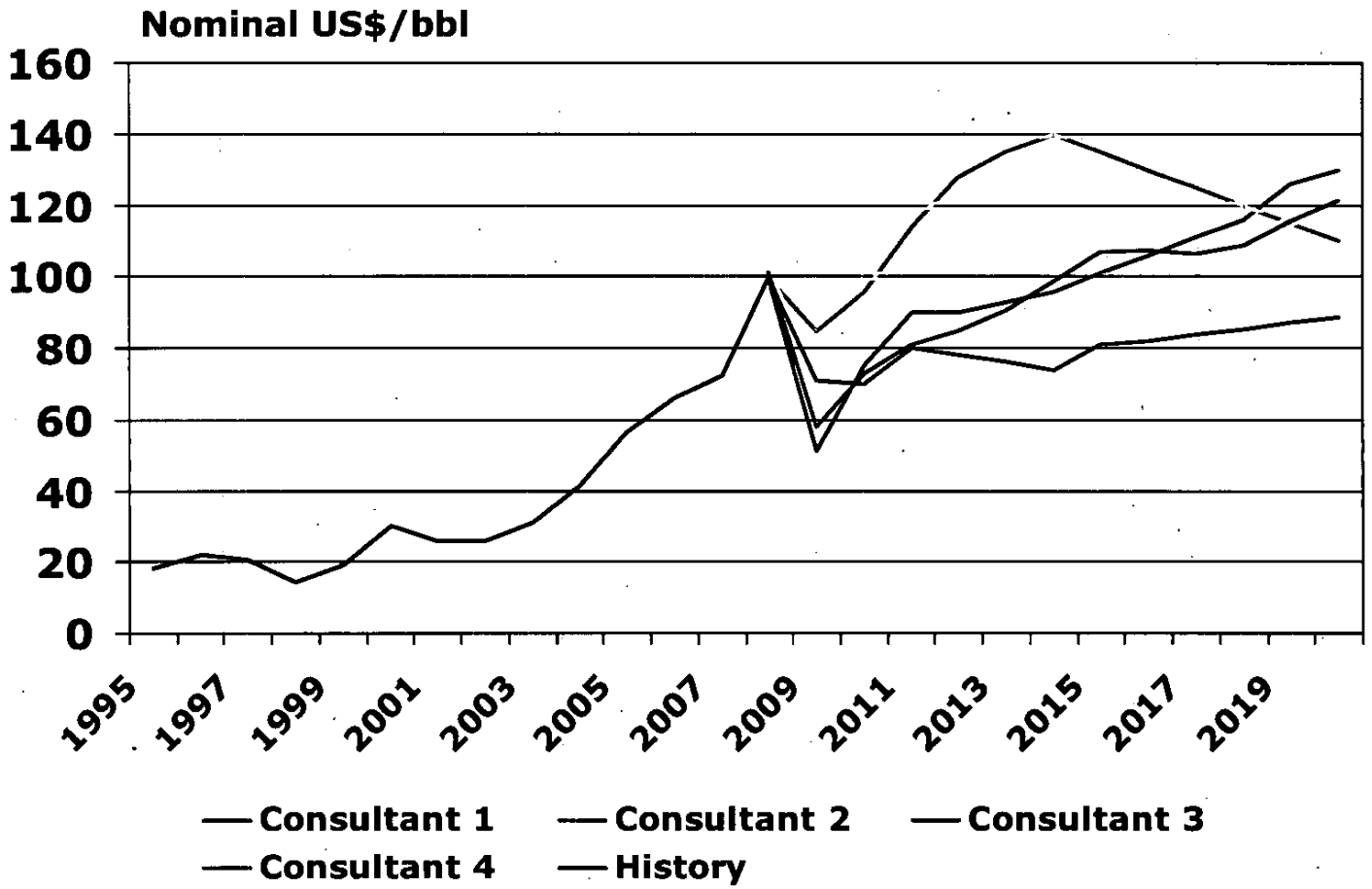




Q1 2009 pipe prices at same level as TransCanada's AGIA Application

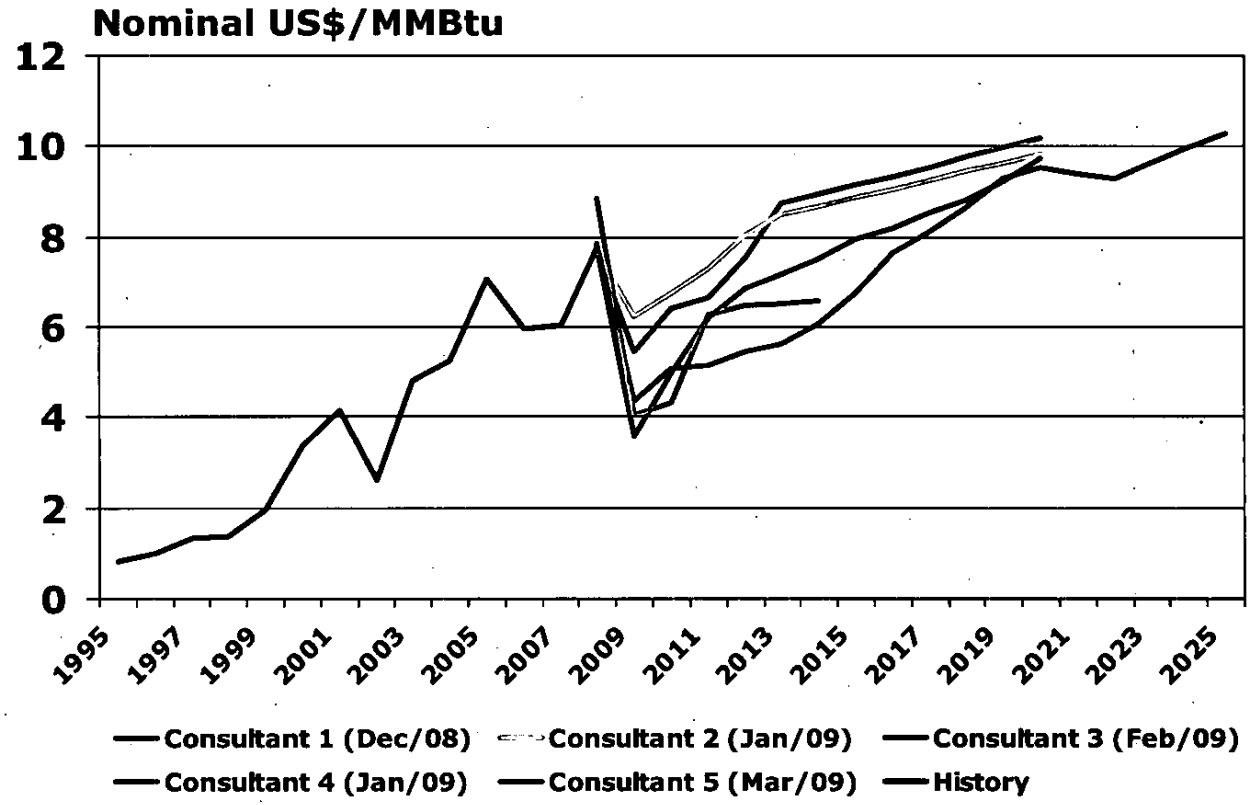
TransCanada

Recent Crude Oil (WTI) Price Forecasts – Jan/09



TransCanada

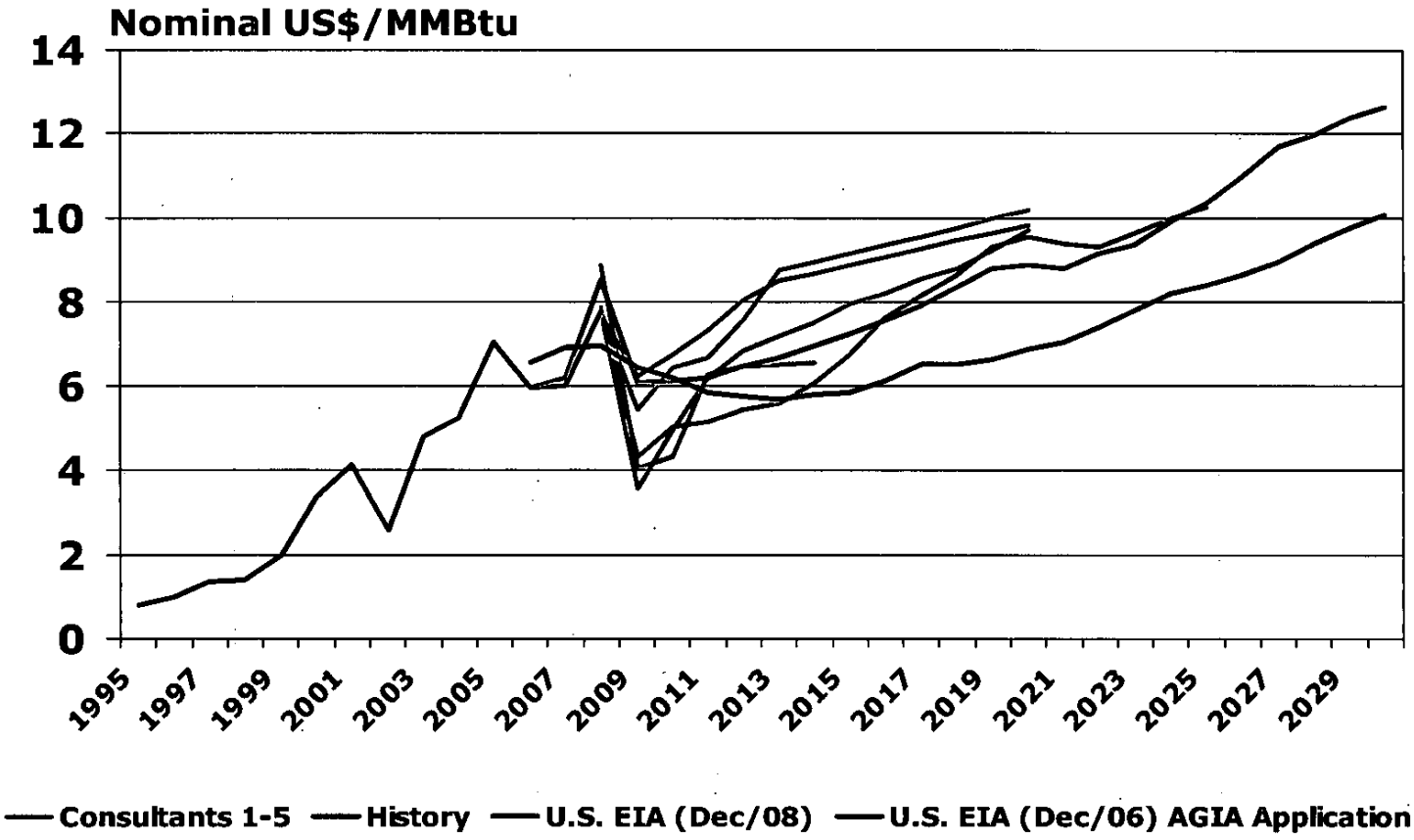
Recent Alberta Hub Gas Price Forecasts



Alaska Pipeline economics remain attractive based on recent forecasts (2018 and beyond)

TransCanada

U.S. EIA Alberta Hub Gas Price Forecasts



Current EIA Forecast approx. $2/MMBtu higher than projections used in TC's AGIA Application

TransCanada

Impact on Project Economics

	AGIA Application		March 2009	
	2018 1st Yr	25-Yr Annual Avg	2018 1st Yr	25-Yr Annual Avg
U.S. EIA Gas Price Forecast ($/MMBtu)	$6.53	$9.92	$8.37	$12.43
Pipeline + GTP Tolls [1] ($/MMBtu)	$2.76	$3.03	$2.76	$3.03
Netback (pre-tax) ($/MMBtu)	$3.77	$6.89	$5.61	$9.40
Producer/Govts Total Revenue [2] ($Billions)		$350		$475

Current U.S. EIA forecast results in extra $125 B to producers/governments

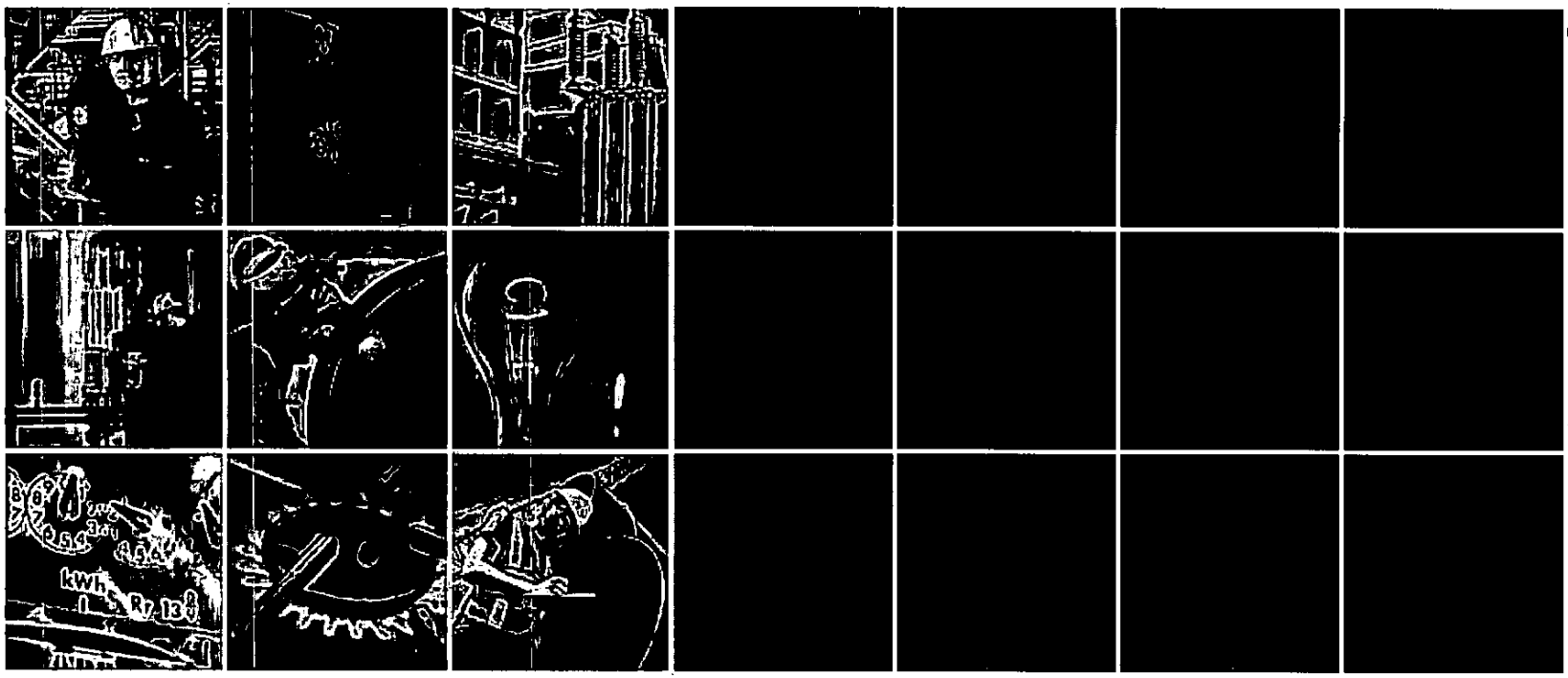
[1] Includes fuel
[2] Direct revenue only – no indirect impacts from additional E&P activity and spin-offs

TransCanada

Summary

- AGIA Bill approved and License issued
- TransCanada aggressively advancing the project
  - Engineering / Cost Estimation, Environmental, Administrative
  - Commercial, Regulatory and First Nations
- Project activities and schedule unaffected by recent turbulence in financial markets
- TransCanada has solid access to capital markets
- Current gas price forecasts result in an increase of $125 Billion revenue to producers/governments as compared to projections in TransCanada's AGIA Application
- Major projects like the Alaska Pipeline Project succeed or fail based on long-term project economics (i.e. 25-50 years commencing in 2018), not short-term swings in natural gas prices
- TransCanada will continue to focus on costs, schedule and attracting customers

TransCanada



Thank You

TransCanada
In business to deliver

How Horizontal Drilling & Fracturing Technologies Are Changing Natural Gas Markets

Presented to:
The Energy Council's
2009 Federal Energy & Environmental Matters Conference

March 7, 2009

BENTEK Energy LLC
32045 Castle Court, Suite 200
Evergreen, Colorado 80439
(888) 257- 4398
www.bentekenergy.com

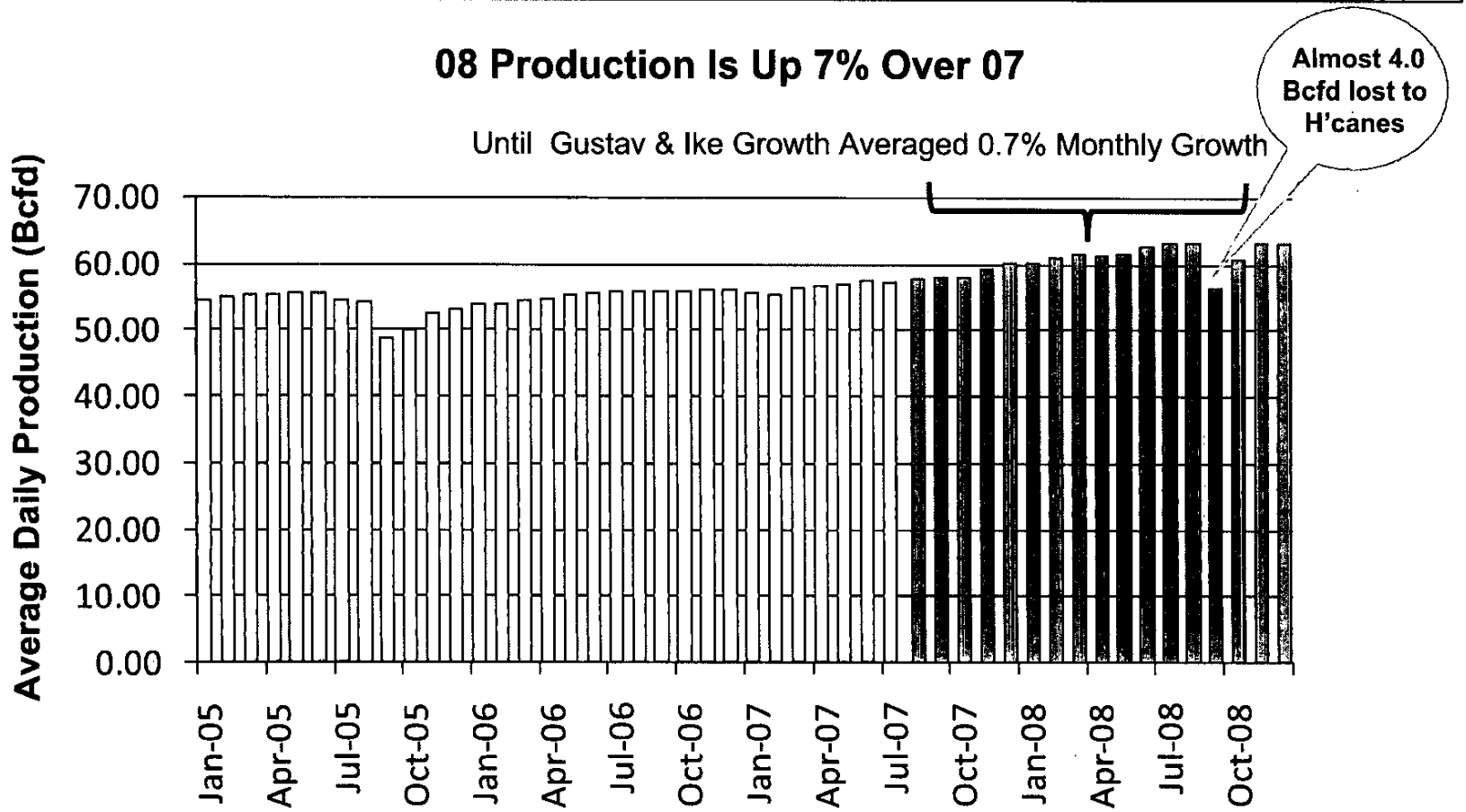
Key Points

- The Energy World has changed. Technology has unlocked unconventional gas resources.
- Natural gas should no longer be viewed as unavailable, unreliable or too expensive.
- Due to unconventional gas production, the US has become supply long, prices are falling and consumers will benefit.
- Burgeoning supplies are overwhelming the nation's pipeline capacity, driving prices even lower.
- The production growth creates an historic opportunity to use gas to quickly and significantly reduce our GHGs and reduce our consumption of oil and other high emission fuels.

Presentation Outline

- US Supply Explodes: What happened in 2008
- Why It Happened: Impact of technology innovation
- What are the Impacts?
- Recent Activity
- Conclusions and Implications

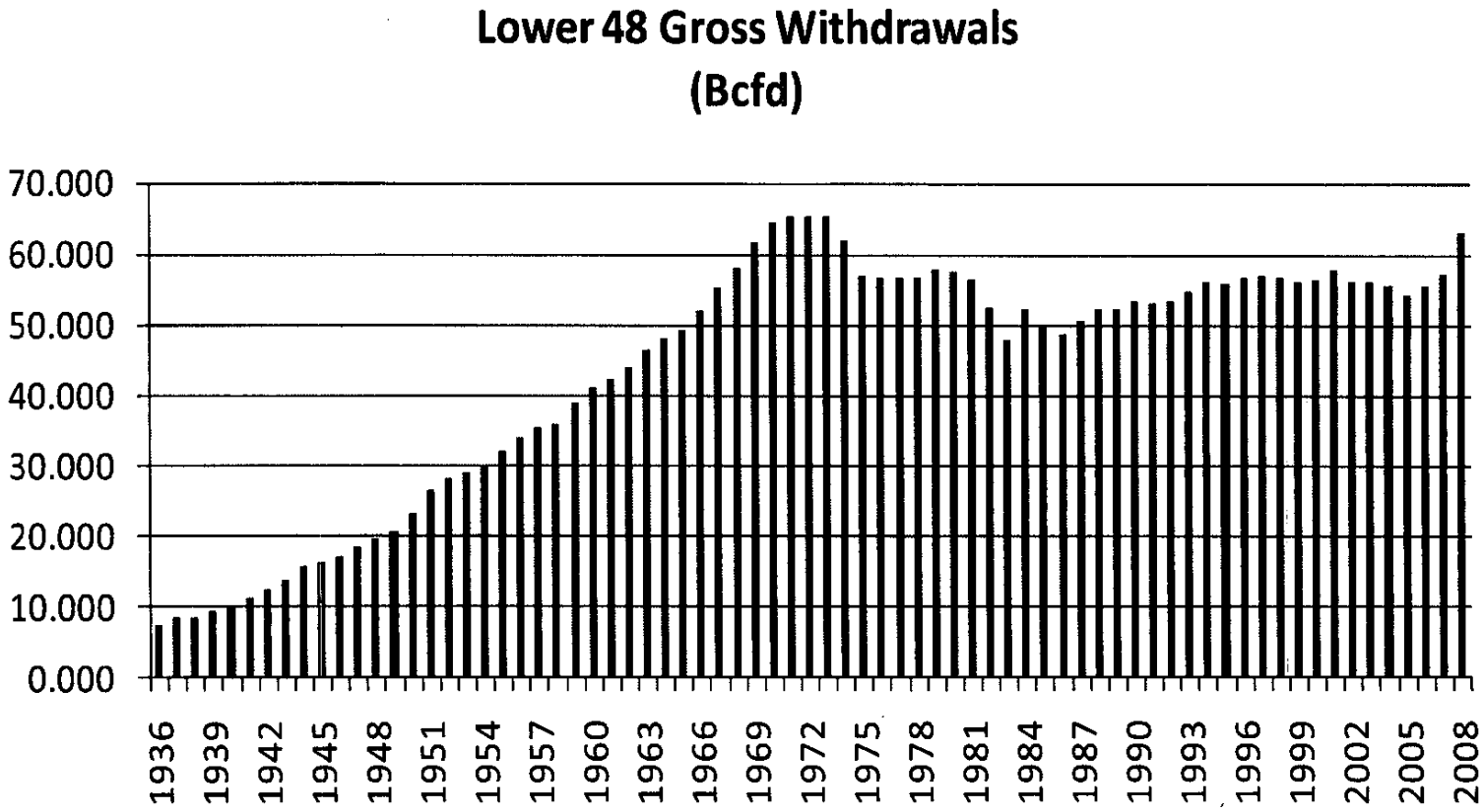
Production Grew In 2008 By 4 Bcfd



Source: EIA 914 Report (Gross Withdrawals)

BENTEK Energy LLC

Production Is Nearing Historic Highs



Source: EIA, BENTEK

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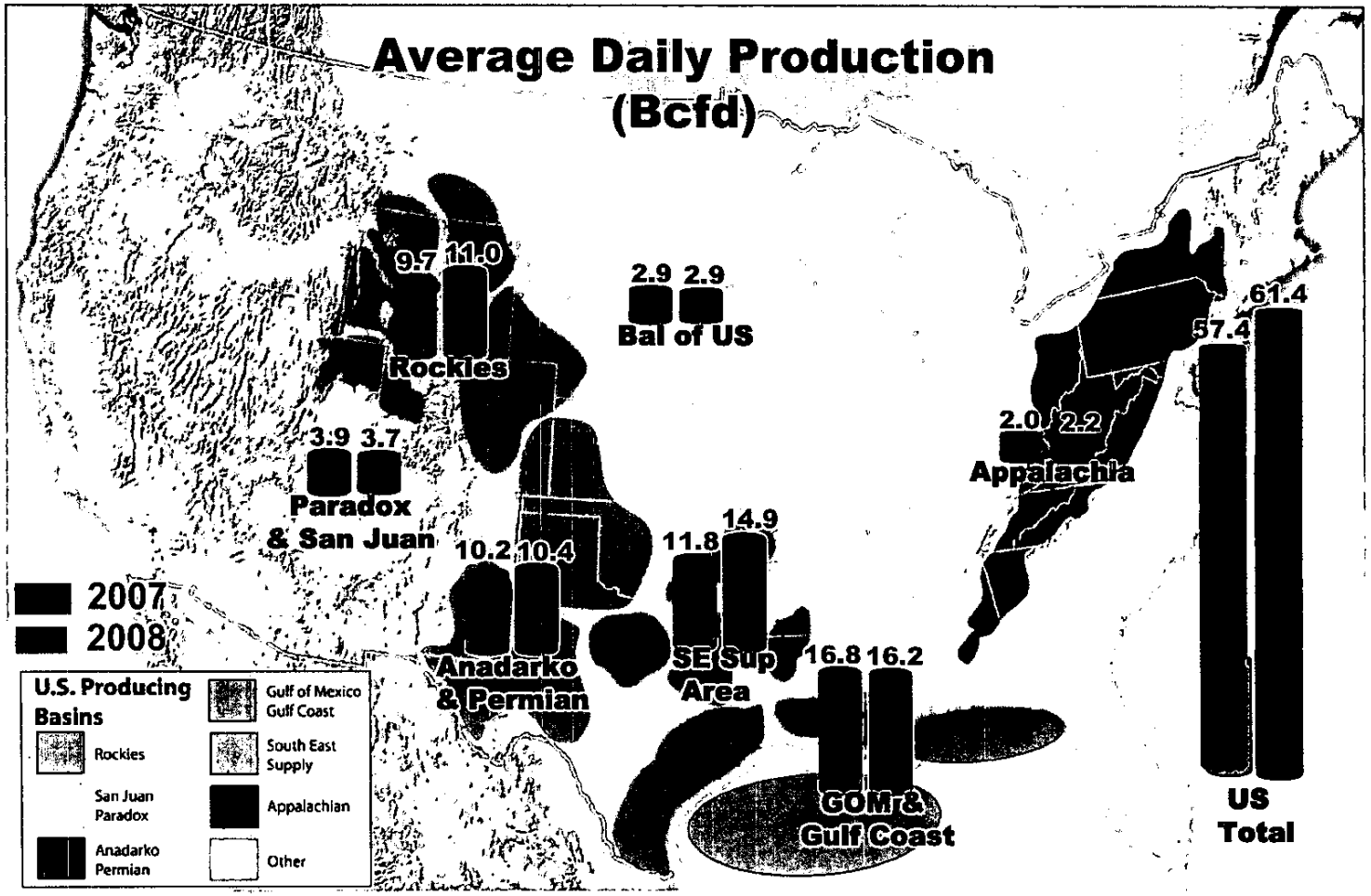
Growth Was Greatest In The Non-Conventional Supply Regions



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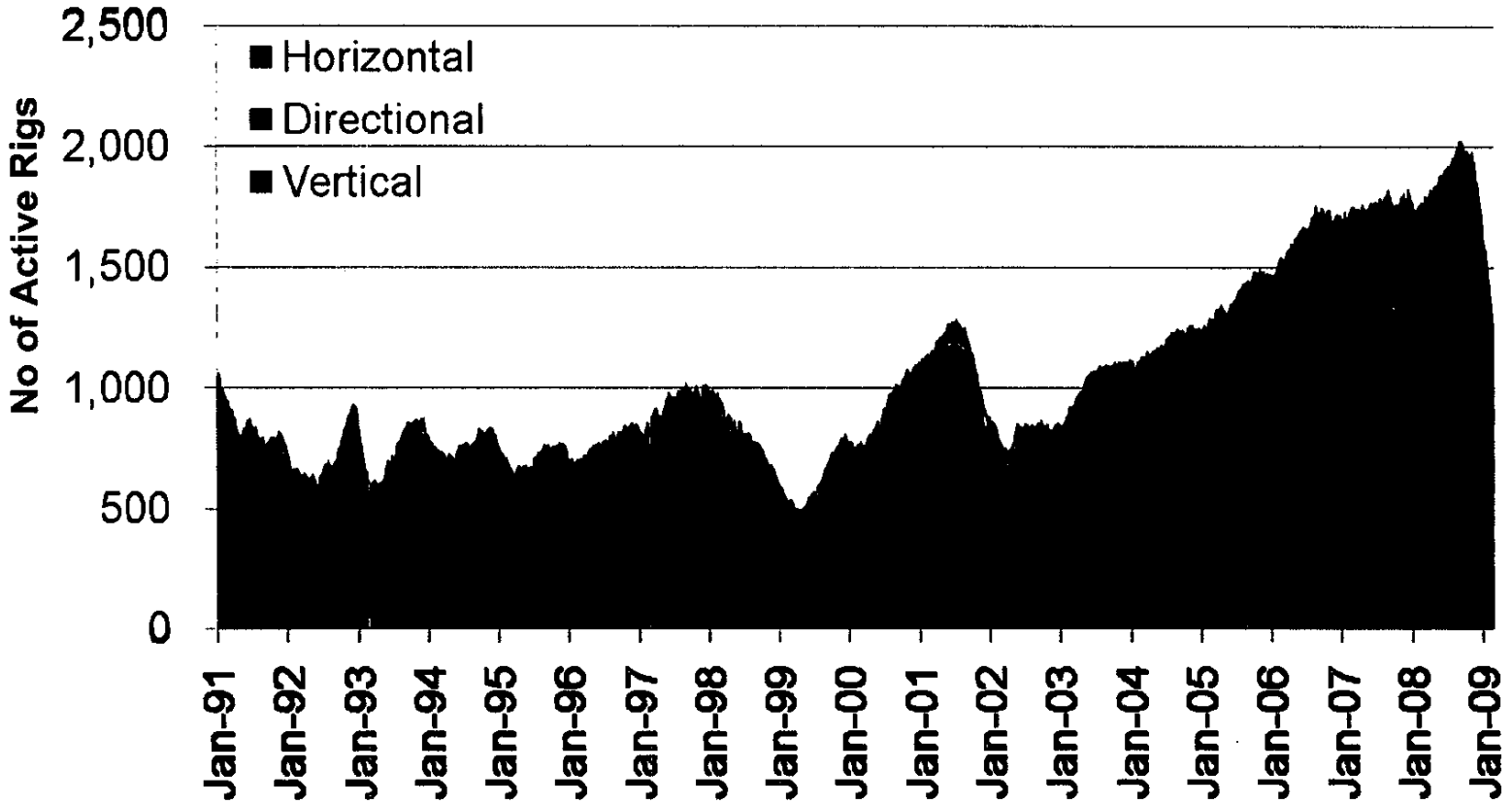
Drilling Reflects The Shift To Unconventional Production



Source: Baker Hughes Direct

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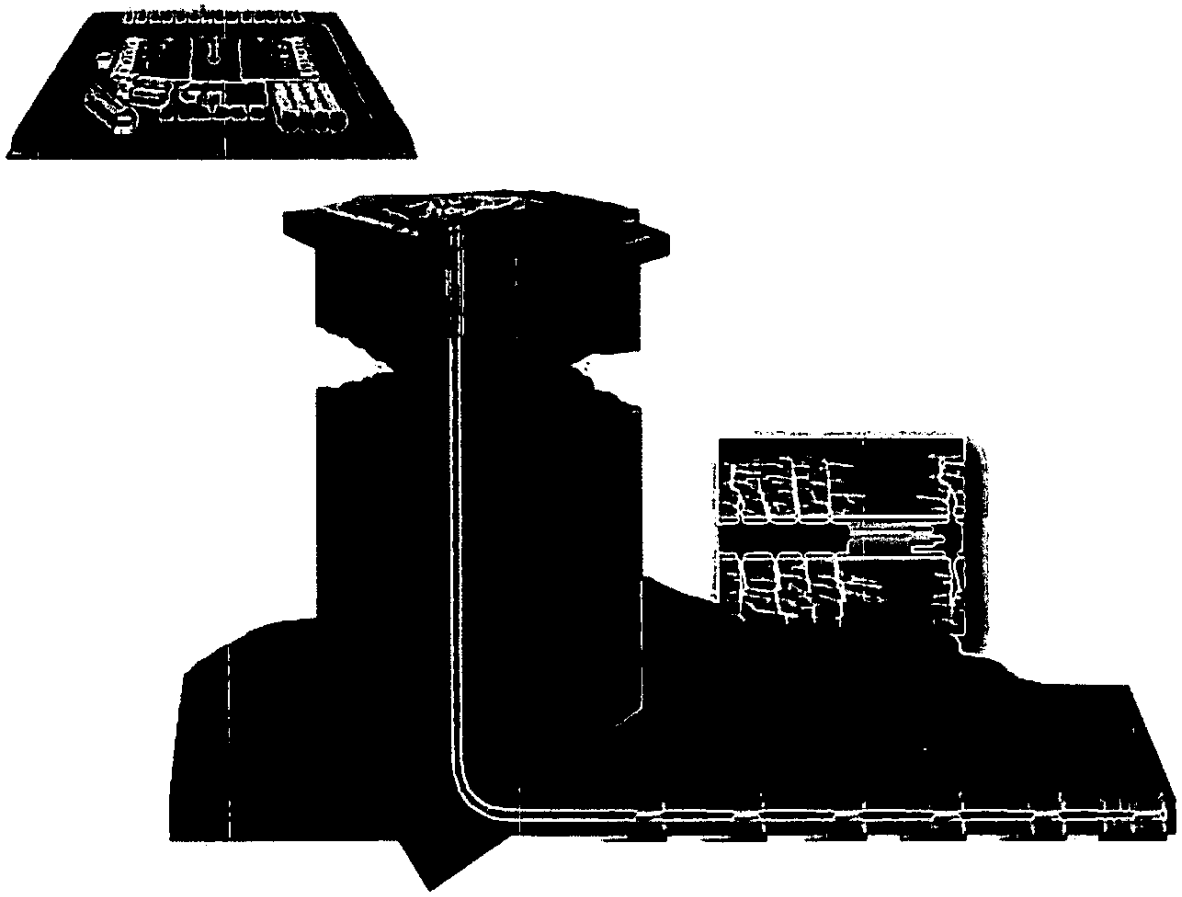
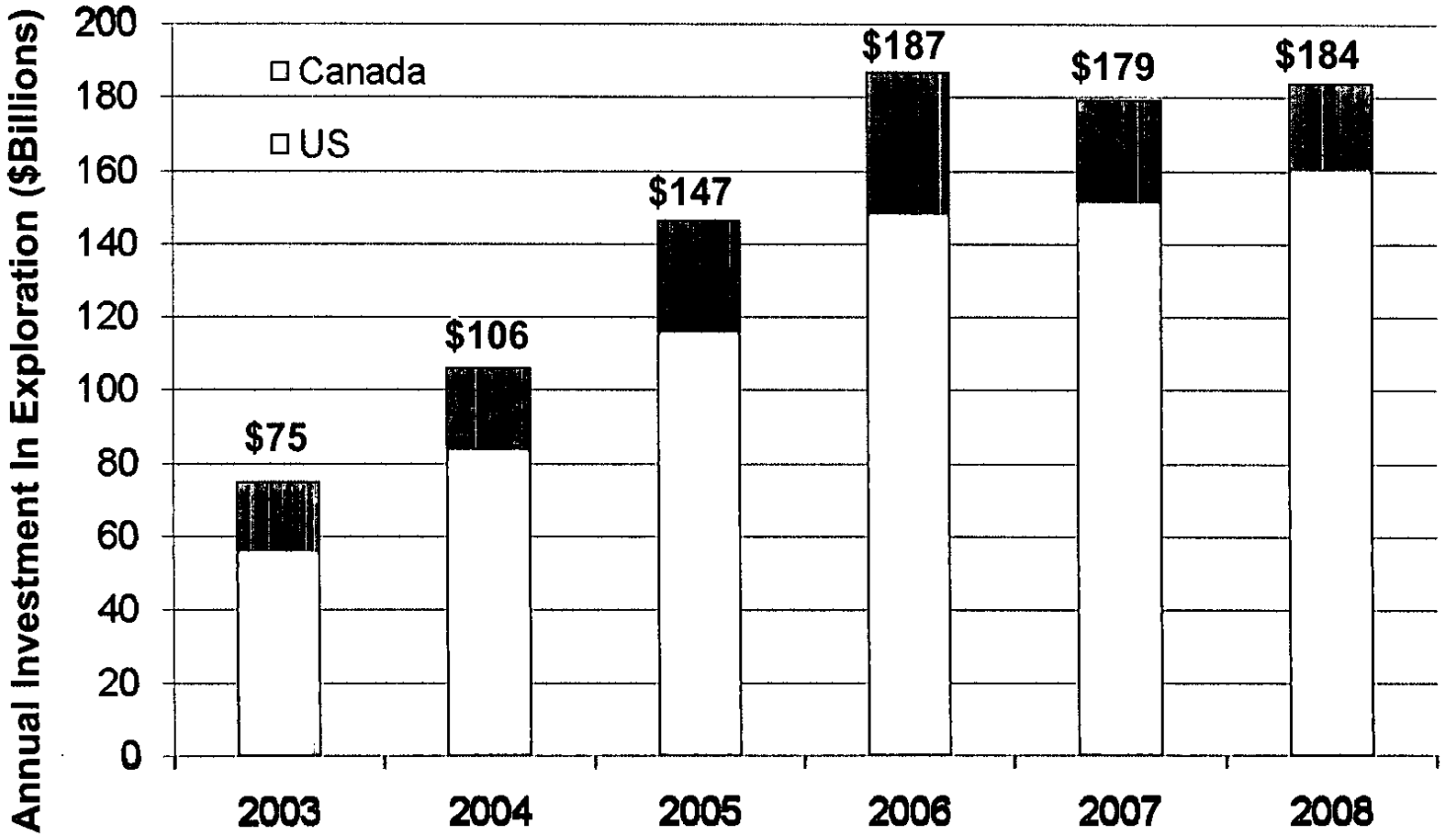
Innovative Fracing Technology Is Driving The Growth



Source: *Hydraulic Fracturing Factsheet,* prepared by Chesapeake Energy, February 2009

Producers Have Invested Nearly $1 Trillion On Exploration Since 03



Source: Oil and Gas Journal, Penwell Publications

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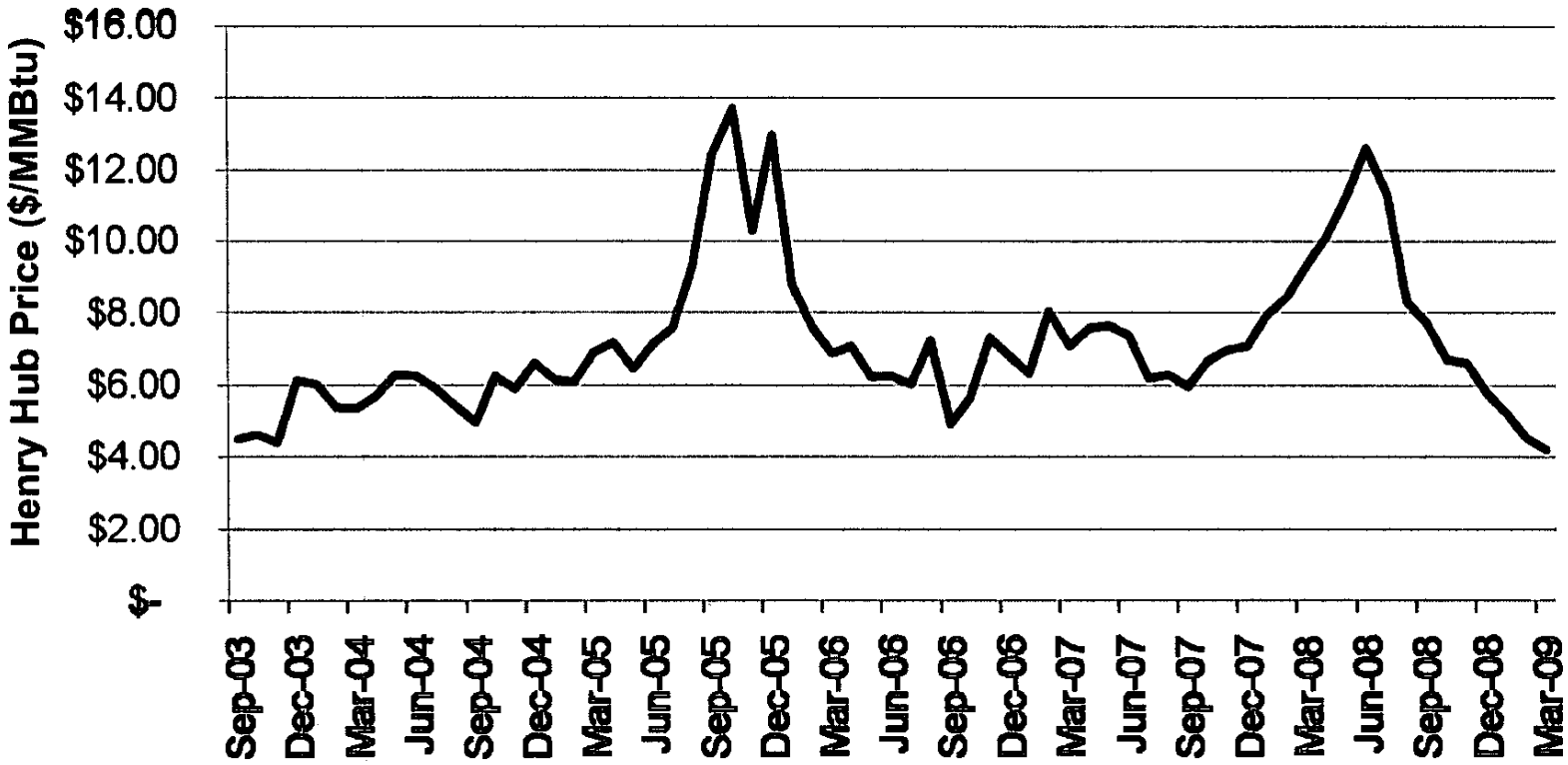
Natural Gas Prices Are Falling Precipitously



Source: ICE

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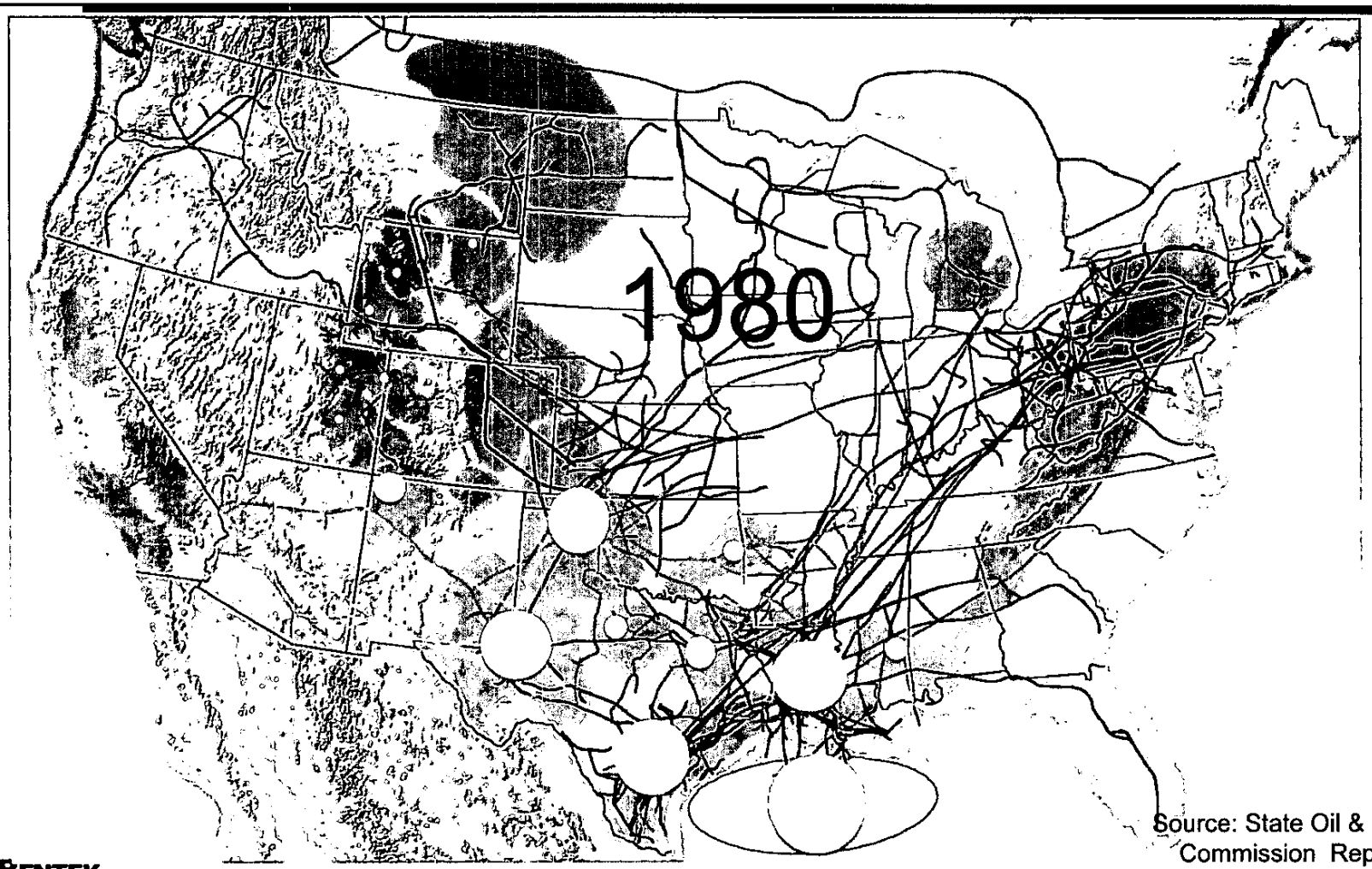
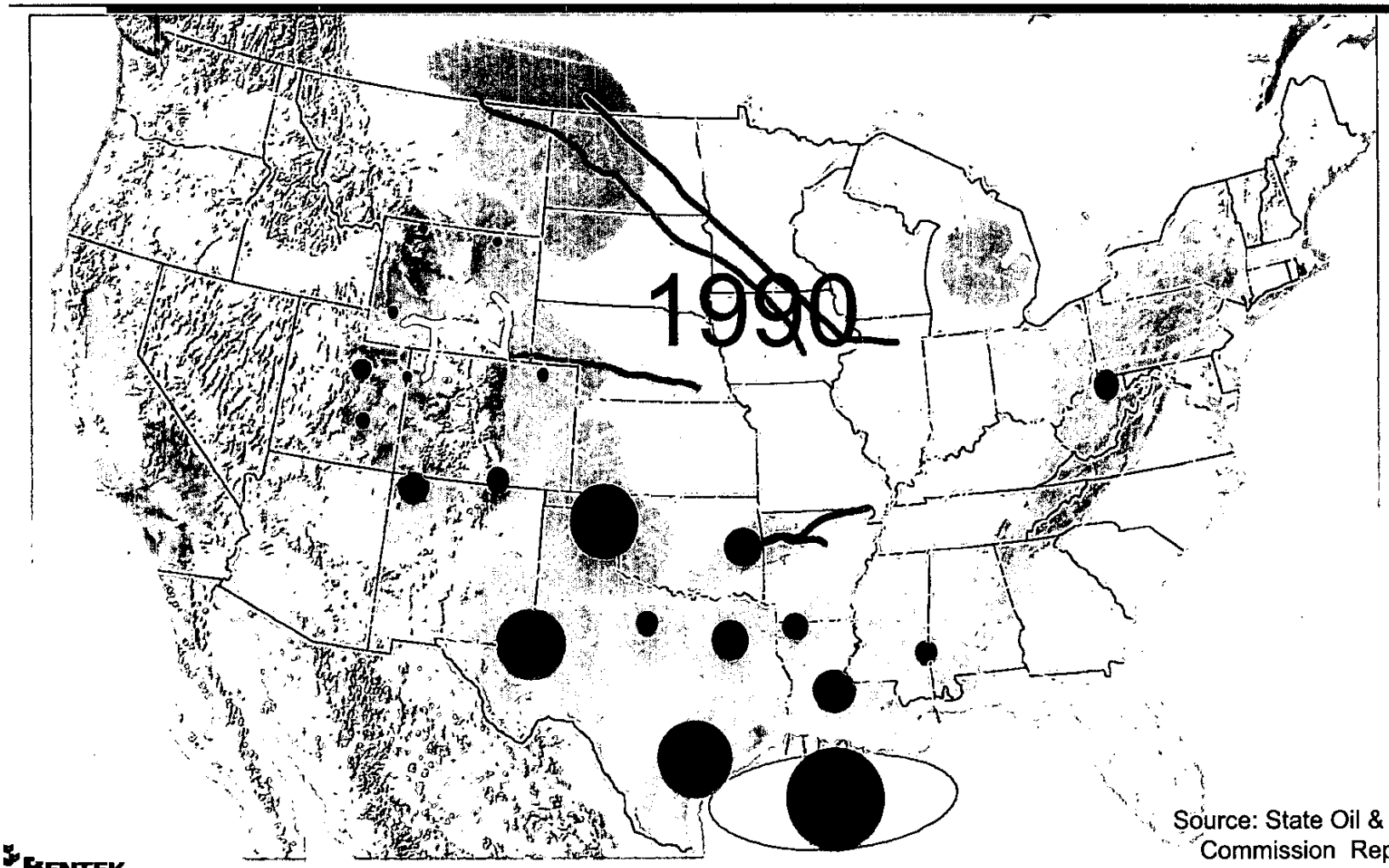
The Geography of Production Is Changing



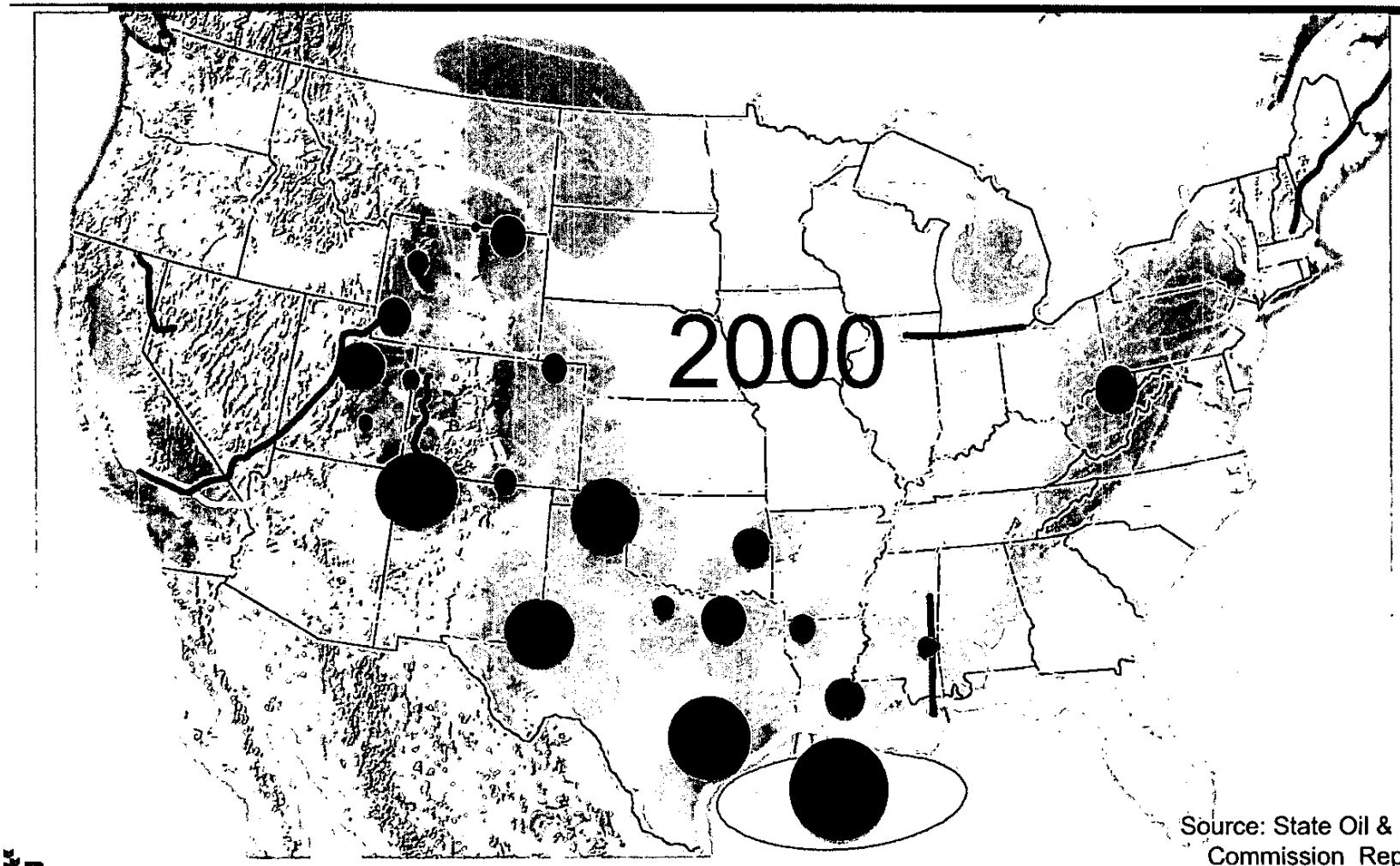
Source: State Oil & Gas Commission Reports

The Geography of Production Is Changing



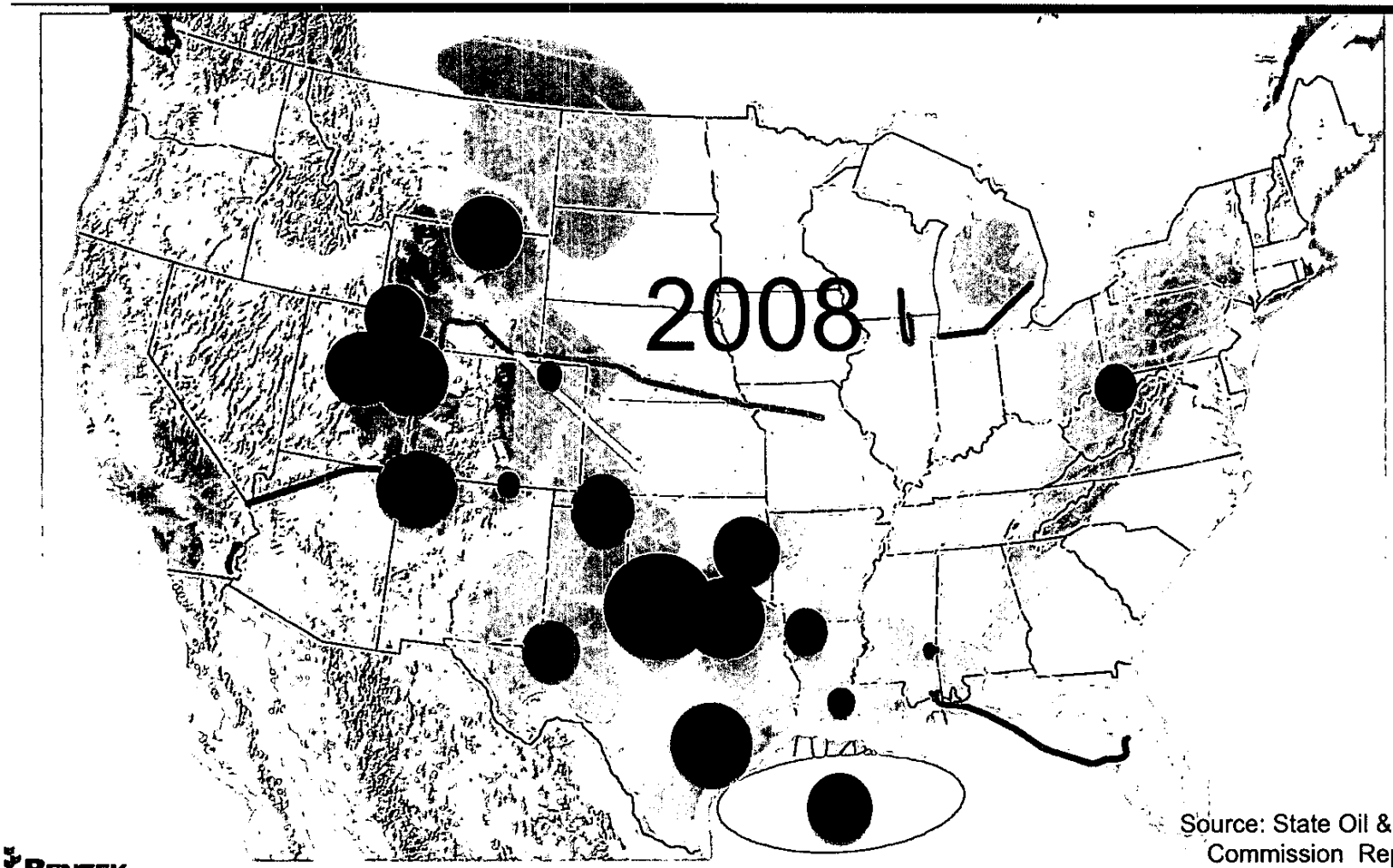
Source: State Oil & Gas Commission Reports

The Geography of Production Is Changing



Source: State Oil & Gas Commission Reports

The Geography of Production Is Changing



Source: State Oil & Gas Commission Reports

HJR 25

<target><bill>HJR 25</bill><subject>HJR 25</subject><comm>HENE26</comm></target>

26-LS0740\E
Kane
3/24/09

CS FOR HOUSE JOINT RESOLUTION NO. 25( )

IN THE LEGISLATURE OF THE STATE OF ALASKA

TWENTY-SIXTH LEGISLATURE - FIRST SESSION

BY

Offered:
Referred:

Sponsor(s): REPRESENTATIVES THOMAS, Johansen, Edgmon, Millett, Austerman, Kerttula, Muñoz, Wilson, Johnson, Dahlstrom, Gruenberg, Crawford, Gardner, Tuck

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;

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. Concept — Add Honorable Barak.

COPIES of this resolution shall be sent to 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.

(LIMITED RUN SHOWING ALL ADDITIONAL SPONSORSHIPS)

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

SENATORS McGuire, Stedman, Meyer, Ellis, Paskvan, Wielechowski, Menard, Kookesh, French, Davis, Thomas, Therriault, Wagoner, Stevens

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:

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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.

REPRESENTATIVE BILL THOMAS
ALASKA STATE LEGISLATURE DISTRICT 5
e-mail: Representative.Bill.Thomas@legis.state.ak.us
webpage: www.akrepublicans.org/thomas/

State Capitol
Juneau AK, 99801-1182
907-465-3732
888-461-3732
FAX 907-465-2652

Changes Made to HJR 25 in the Blank CS

Page 2, Line 2

Removed references to specific areas of the state (northwest, southeast, etc.). Hydro projects can be found in the majority of the areas in Alaska so the resolution was changed to reference the state as a whole instead of delineating certain areas.

Page 2, Lines 3-4

Removed references to dams. This resolution is not meant as a statement against dams, but just to point out that Alaska has various other methods available to it when developing hydroelectric projects. Therefore, in consultation with AIDEA, the decision was made to avoid commenting on dams.

REPRESENTATIVE BILL THOMAS
ALASKA STATE LEGISLATURE DISTRICT 5
e-mail: Representative.Bill.Thomas@legis.state.ak.us
webpage: www.akrepublicans.org/thomas/

State Capitol
Juneau AK, 99801-1182
907-465-3732
888-461-3732
FAX 907-465-2652

Sponsor Statement for
HJR 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.

HJR 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 HJR 25.

26-LS0740\R.1
Bullock/Kane
3/20/09

AMENDMENT

OFFERED IN THE HOUSE BY REPRESENTATIVE PETERSEN

TO: HJR 25

Page 1, line 2, following "**source**":

Insert "**for Alaska projects**"

Page 2, following line 10:

Insert new material to read:

"**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 all areas of Alaska have ample water supplies that are capable of providing a renewable energy source for hydroelectric projects in the state; and"

Page 2, line 15, following "source":

Insert "for Alaska projects"

3139

FISCAL NOTE

STATE OF ALASKA
2009 LEGISLATIVE SESSION

Fiscal Note Number: 1
Bill Version: HJR 25
() Publish Date: 3/23/2009

Identifier (file name):
Title: Urging Congress to classify hydroelectric power as renewable and
Sponsor: Representatives THOMAS, Johansen, Millett, Dahlstrom, Tuck...
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: Jeff Turner — Phone 465-6588
Division: Committee Aide, House Special Committee on Energy — Date/Time 3/23/2009 10:30 a.m.
Approved by: Representative Charisse Millett, Co-Chair, House Special Committee on Energy — Date 3/23/2009

(Revised 9/10/2008 OMB)

3140

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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 for

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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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NHA
National Hydropower Association

"Assessment of Waterpower Potential and Development Needs" By the Numbers

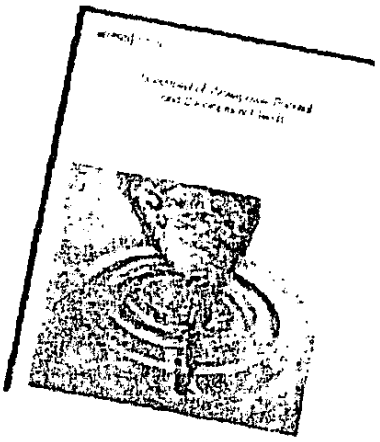
A quick look at the growth potential of hydropower by the year 2025, as detailed in the March 2007 report released by the Electric Power Research Institute.

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 Flowing Water

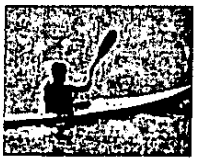
National Hydropower Association
1 Massachusetts Ave. Suite 850
Washington DC 20001
p: 202-682-1700 f: 202-682-9478
www.hydro.org

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.

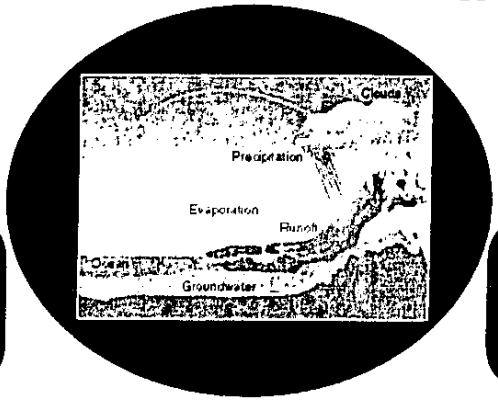
Clean

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

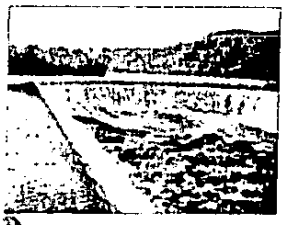
Hydropower can go from zero power to maximum output rapidly and predictably. This makes hydropower exceptionally good at meeting changing demands for electricity and providing ancillary electrical services that maintain the balance between supply and demand.

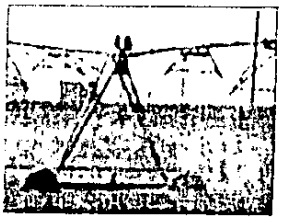
Flexible

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.





NHA
National Hydropower Association
1 Massachusetts Avenue, NW • Suite 850 • Washington, DC • 20001 • Phone: 202.682.1700 • Fax: 202.682.9478 • www.hydro.org

- **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 RFS 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

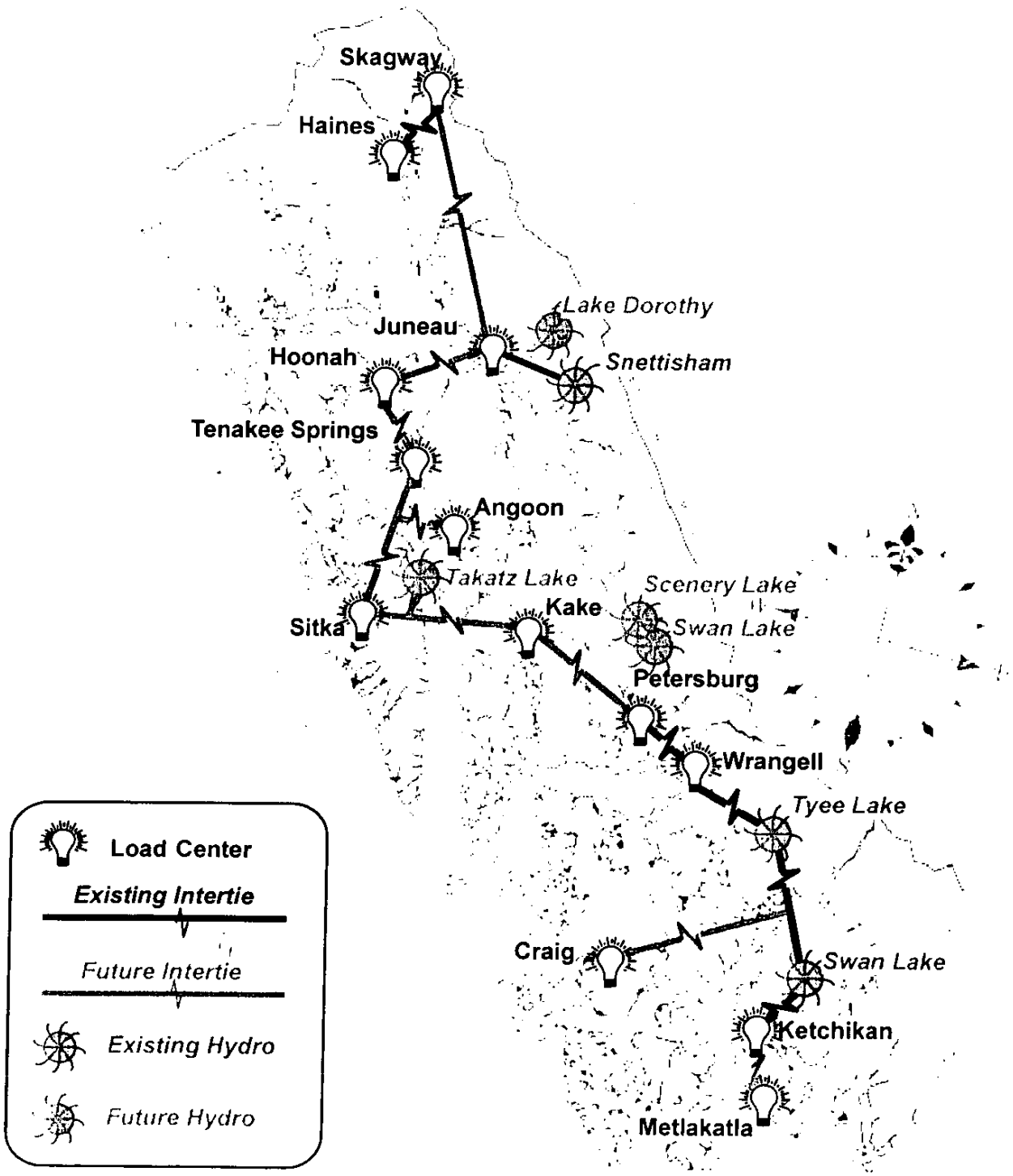
Petersburg – Ruth Lake: This Project would develop the hydro potential at Ruth Lake, with a total installed capacity of the powerhouse of 20 MW. The proposed Ruth Lake Hydroelectric Project would be interconnected to the existing transmission infrastructure currently owned and operated by the FDPPA. 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_Kuprean of Island
Map3 POW & Reynolds Creek
Map4 Ruth Lake Hydroelectric Project
Map5 Upper Lynn Canal Regional Energy Infrastructure

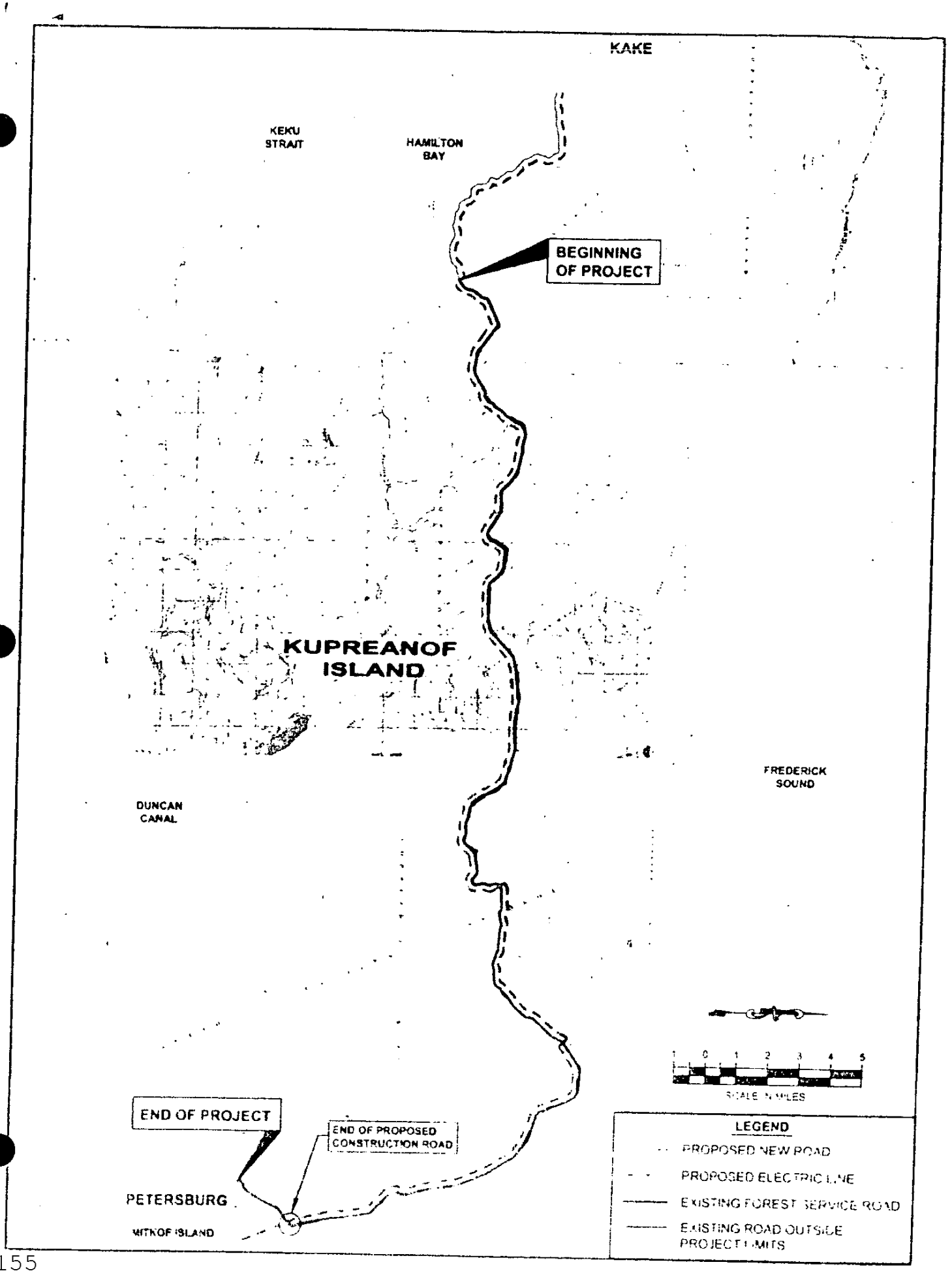


HATCH ACRES

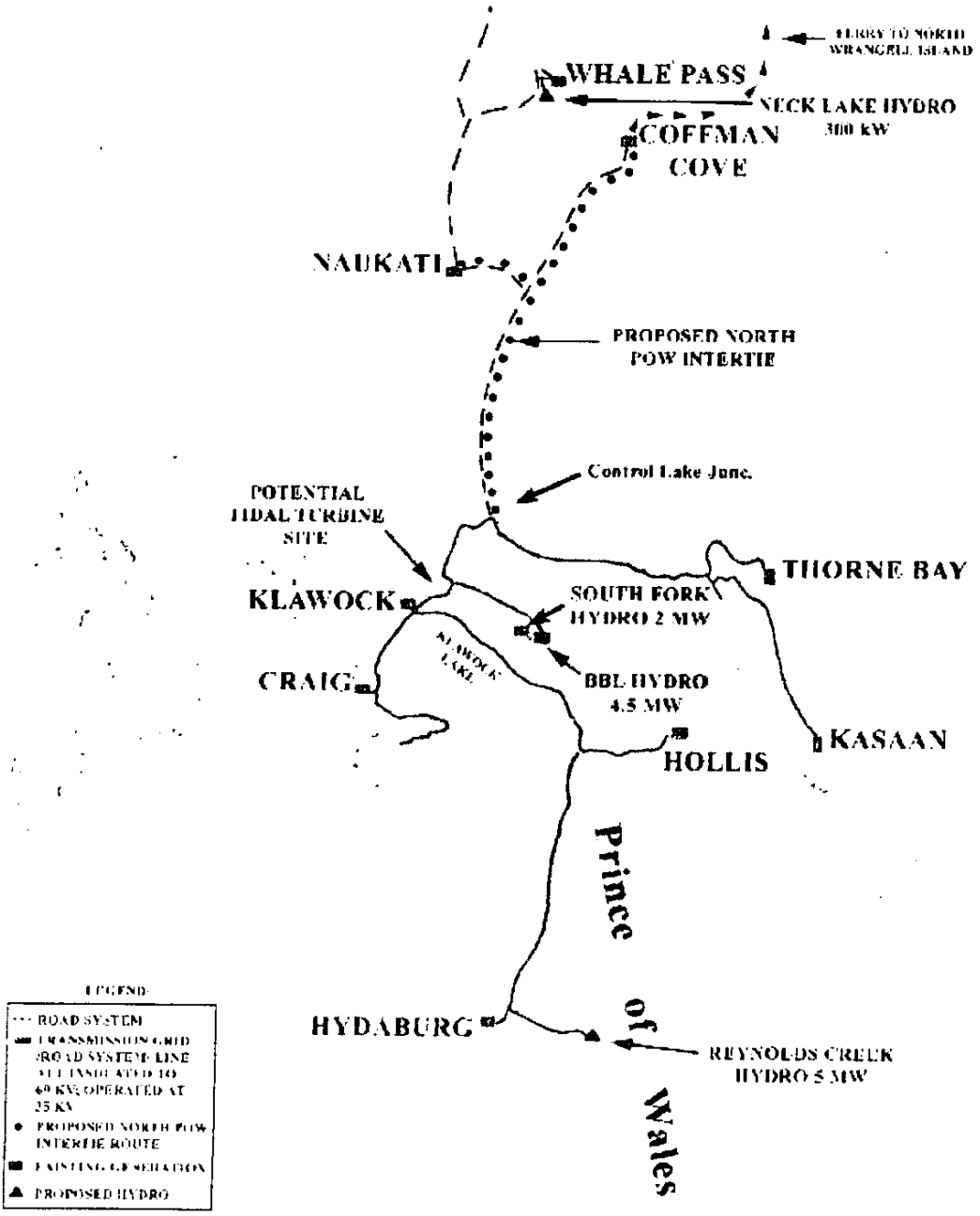
Southeast Alaska Utilities

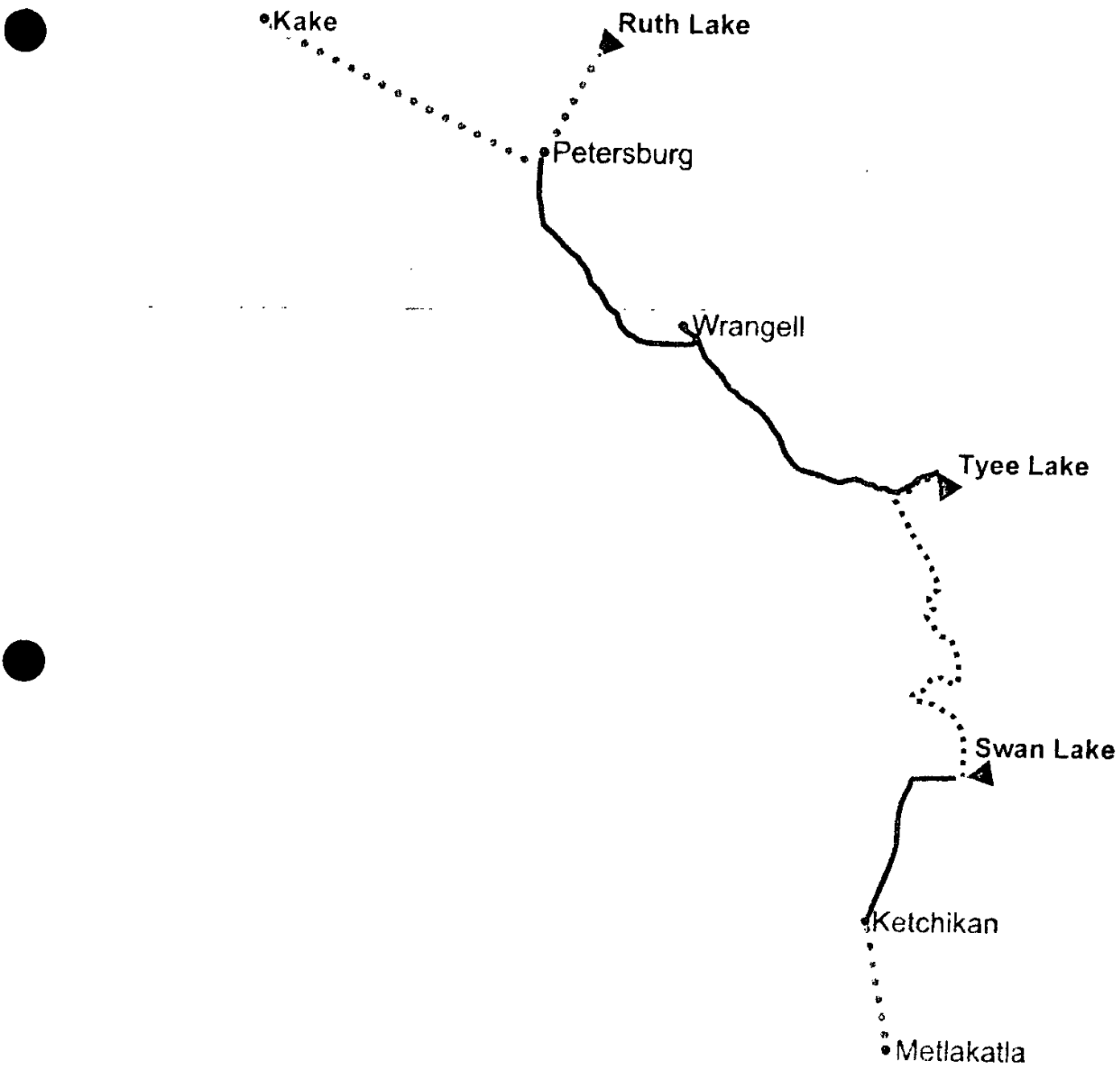
1997 ELECTRICAL INTERTIE SYSTEM PLAN

3154


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





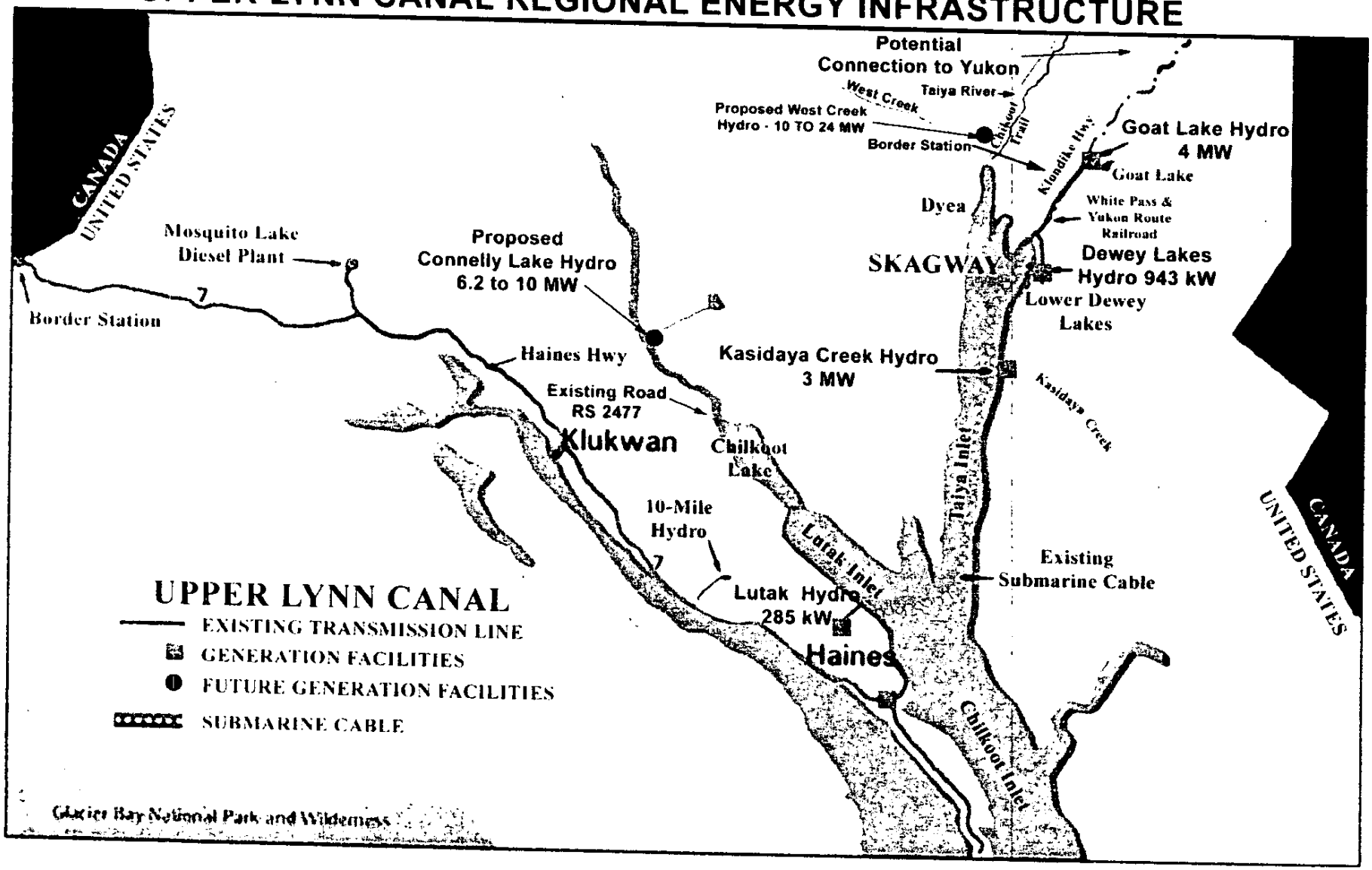
Transmission System Legend

- Existing
- Under Construction
- Proposed

Exhibit F.2
Ruth Lake Hydroelectric Project

Southern SE Alaska Transmission System

UPPER LYNN CANAL REGIONAL ENERGY INFRASTRUCTURE



HOUSE COMMITTEE REPO

D

3-25-0C

(7)

Date Referred to Committee: March 13, 2009 **FURTHER REFERRALS: Resources**

Date of Committee Action: 2/24/09

The HOUSE SPECIAL COMMITTEE ON ENERGY considered: **HOUSE JOINT RESOLUTION NO. 25**

Urging the United States Congress to classify hydroelectric power as a renewable and alternative energy source.

HJR 25 HYDROELECTRIC POWER; RENEWABLE ENERGY

Recommends it be replaced with [ ] HCS *or* [X] CS *for* HJR 25 (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
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
ENE	1			X

***PREVIOUS* FISCAL NOTES**

List by Dept(s):	FN#	Fiscal	Indet.	Zero

Signing with recommendations	Printed Last Name	~~DP~~ 5	DNP	NR	AM
	RAMUCAS				
	Paull	X			
	Tuck	X			
	Johansen	X			
Chair	Millett	X			
Chair:					

CO

HJR

28

<target><bill>HJR 28</bill><subject>HJR 28</subject><comm>HENE26</comm></target>

ALASKA STATE LEGISLATURE

Interim:
716 West 4th Avenue, Suite 640
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Rep_Craig_Johnson@legis.state.ak.us

Session:
State Capitol, Room 126
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99801-1182
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FAX (907) 465-3872

REPRESENTATIVE CRAIG JOHNSON
HOUSE DISTRICT 28

MEMORANDUM

To: Representative Charisse Millett and Rep. Bryce Edgemon, Co-chairs, House Energy Committee

From: Representative Craig Johnson

Date: March 24, 2009

Subject: Request for Bill Hearing

I respectfully request that House Joint Resolution 28, encouraging President Obama, his administration and the United States Congress to support drilling in the outer continental shelf, be heard in the House Special Committee on Energy.

House Joint Resolution 28 will encourage President Obama, his administration and the US Congress to avoid enacting any rules, legislation, administrative actions or policies that would restrict energy exploration, development and production in federal or state waters around Alaska and the continental United States.

Please feel free to contact me, or my aide, Jon Bittner, with questions or thoughts at 465-4993.

ALASKA STATE LEGISLATURE

Interim:
716 West 4th Avenue, Suite 640
Anchorage, Alaska 99501
(907) 269-0200
FAX (907) 269-0204
Rep_Craig_Johnson@legis.state.ak.us

Session:
State Capitol, Room 126
Juneau, Alaska
99801-1182
(907) 465-4993
FAX (907) 465-3872

Representative Craig Johnson
House District 28

Sponsor Statement

House Joint Resolution No. 28

"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 50 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.

HJR 28 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 50 miles of shore or elsewhere in the continental United States. HJR 28 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 Fisheries, State Affairs, Transportation Committees

FISCAL NOTE

STATE OF ALASKA
2009 LEGISLATIVE SESSION

Fiscal Note Number:
Bill Version: HJR 28
() Publish Date:

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					
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)

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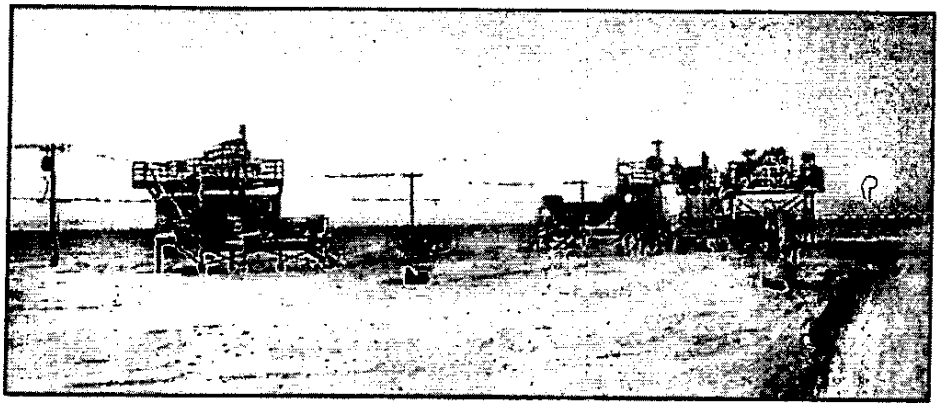

By Tim Bradner, Alaska Journal of Commerce

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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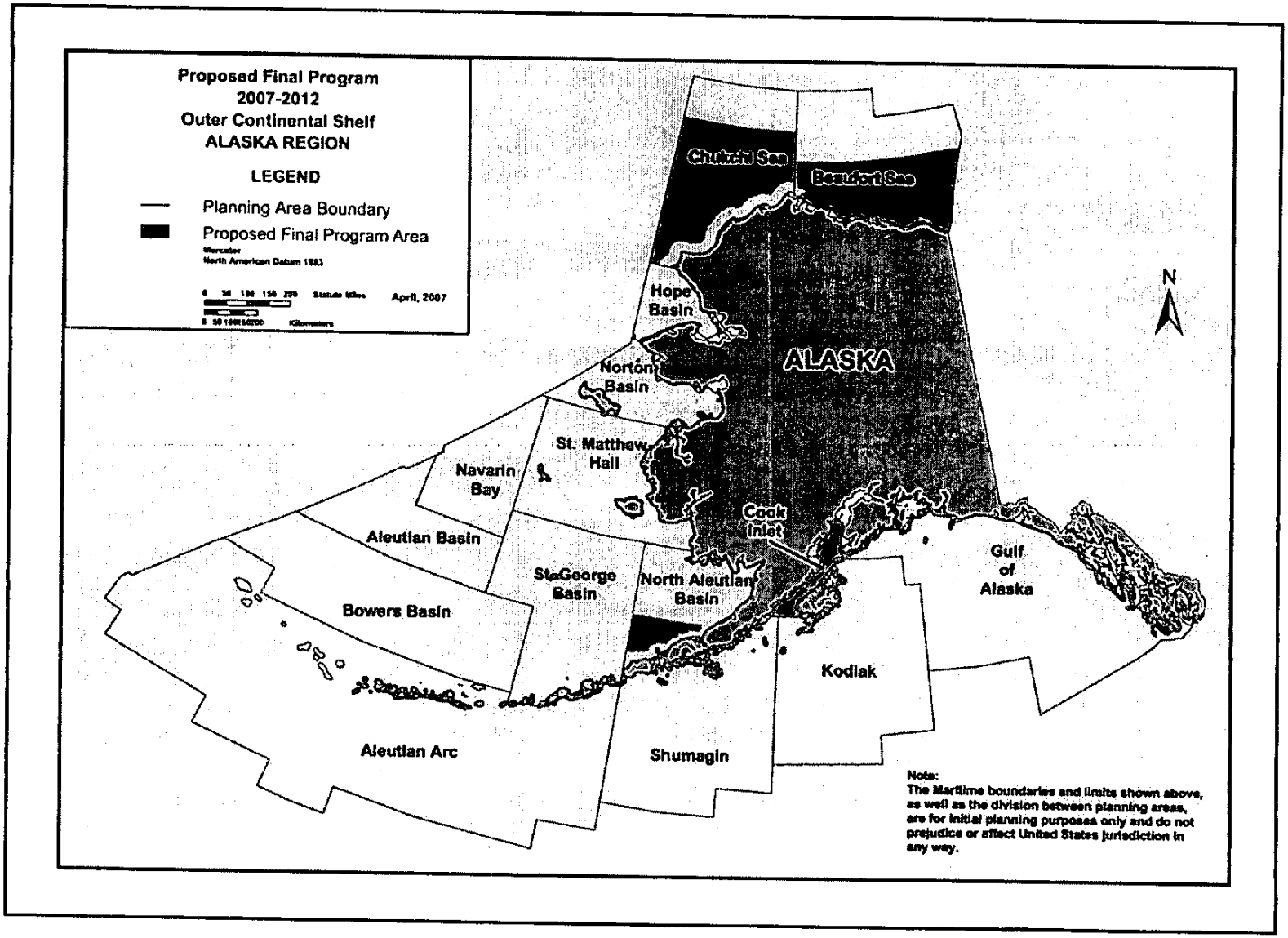
Proposed Final Program
2007-2012
Outer Continental Shelf
ALASKA REGION
LEGEND
Planning Area Boundary
Proposed Final Program Area
Mercator
North American Datum 1983
April, 2007
Chukchi Sea
Beaufort Sea
Hope Basin
ALASKA
Norton Basin
St. Matthew-Hall
Navarin Bay
Aleutian Basin
Cook Inlet
Gulf of Alaska
St. George Basin
North Aleutian Basin
Bowers Basin
Kodiak
Aleutian Arc
Shumagin
N
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

Upcoming Events
Region's Update
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Leasing Activities
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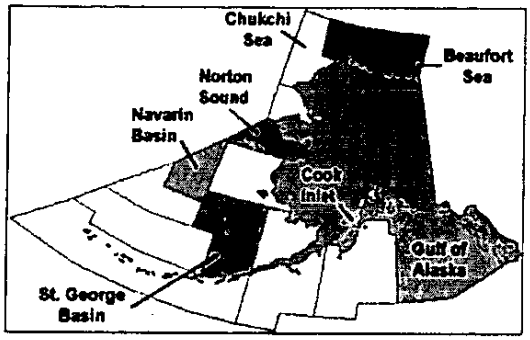
Alaska Region Public Information

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.

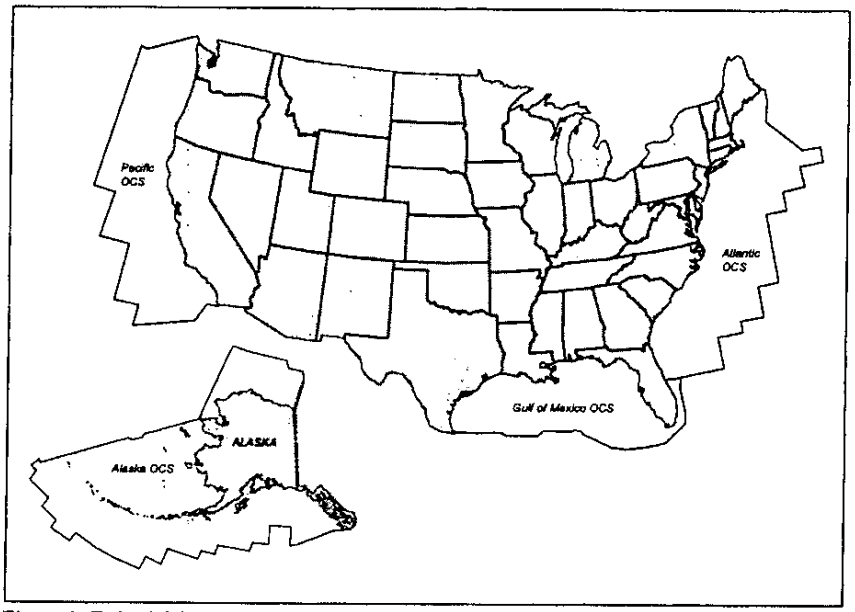


Figure 1. Federal OCS Areas of the United States.

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

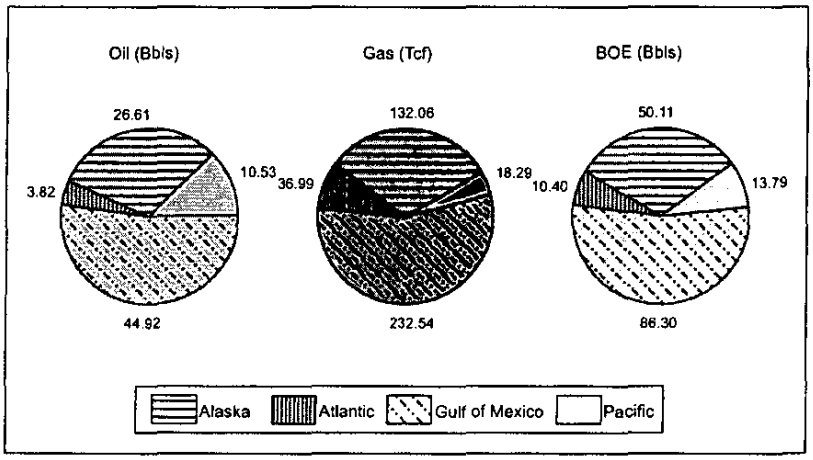


Figure 2. Undiscovered Technically Recoverable Resources by type and region.

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

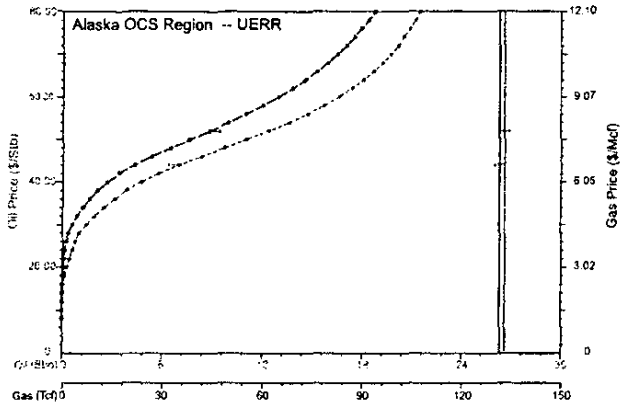
(Bbo, billion barrels of oil, Tcf, trillion cubic of gas. F95 indicates a 95 percent chance of at least the amount listed, F5 indicates a 5 percent chance of at least the amount listed. Only mean values are additive.)

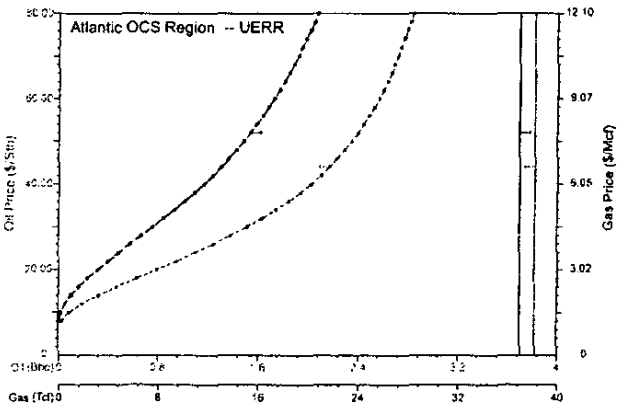
Region	Oil (Bbo)			Natural Gas (Tcf)			BOE (Bbo)		
	95%	Mean	5%	95%	Mean	5%	95%	Mean	5%
Alaska OCS	8.66	26.61	55.14	48.28	132.06	279.62	17.25	50.11	104.89
Atlantic OCS	1.12	3.82	7.57	14.30	36.99	66.46	3.67	10.40	19.39
Gulf of Mexico OCS	41.21	44.92	49.11	218.83	232.54	249.08	80.15	86.30	93.43
Pacific 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.





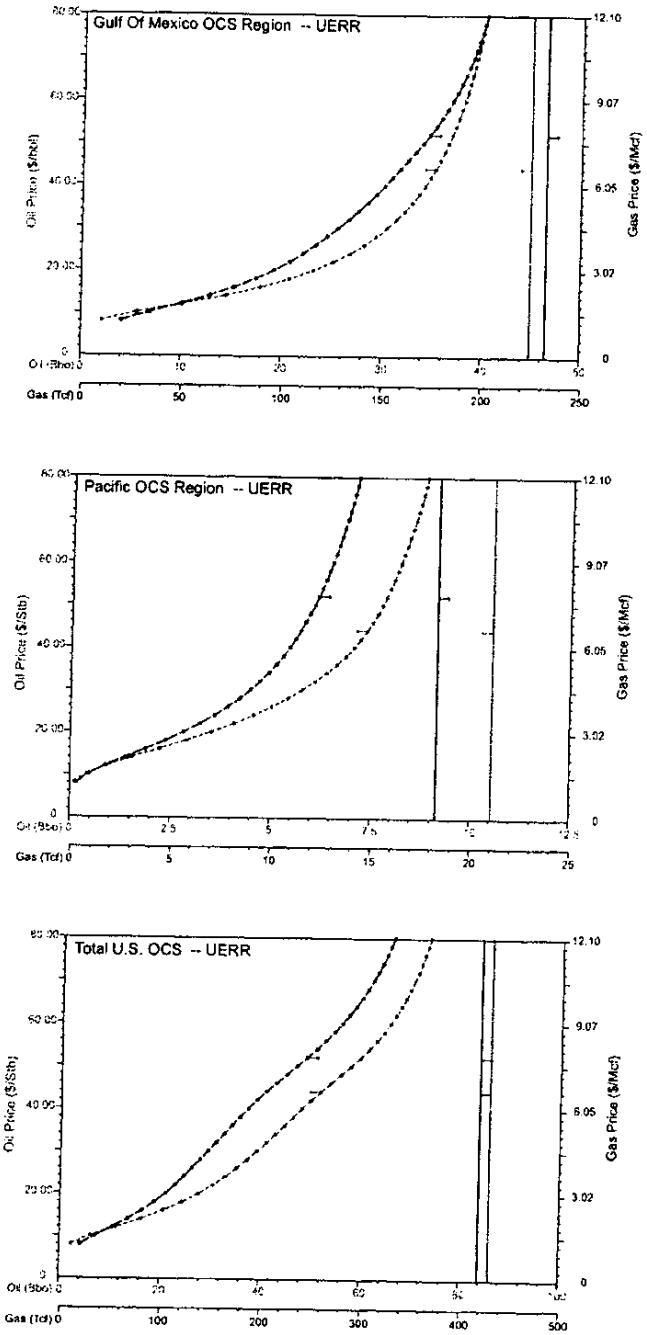


Figure 3. Price Supply Curves for Federal OCS Regions and Total Federal OCS.

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.

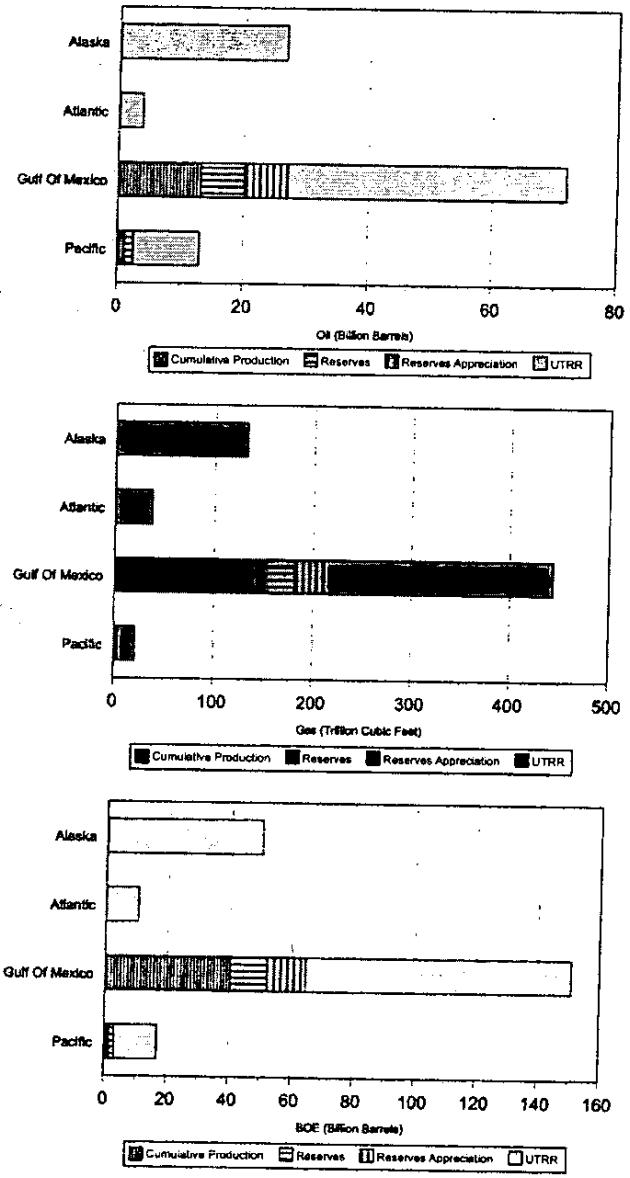


Figure 4. Distribution of total hydrocarbon endowment by type, region and resource category.

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.

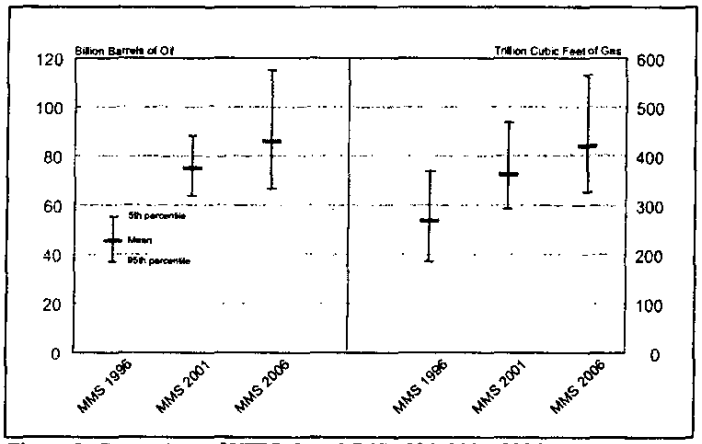


Figure 5. Comparison of UTRR from MMS 1996, 2001, 2006 assessments.

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:
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gary.lore@mms.gov

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Gulf of Mexico OCS:	Dave Marin, 504-736-2710 *david.marin@mms.gov*
Pacific OCS:	Drew Mayerson, 805-389-7707 *drew.mayerson@mms.gov*

HOUSE COMMITTEE REPO T

3-27-09

(7)

Date Referred to Committee: March 23, 2009 **FURTHER REFERRALS: Resources**

Date of Committee Action: _____

The HOUSE SPECIAL COMMITTEE ON ENERGY considered: **HOUSE JOINT RESOLUTION NO. 28**

Urging the President of the United States and the United States 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 outer continental shelf within 50 miles of shore, and elsewhere in the continental United States; urging the President of the United States and the United States Congress to encourage and promote continued exploration, development, and production of domestic oil and gas resources.

HJR 28 OPPOSE RESTRICTIONS ON OIL/GAS ACTIVITIES

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

PREVIOUS **FISCAL NOTES**				
List by Dept(s):	FN#	Fiscal	Indet.	Zero

Signing with recommendations	Printed Last Name	DP	DNP	NR	AM
Chair:					
Chair:					

3175

HJR

45

<target><bill>HJR 45</bill><subject>HJR 45</subject><comm>HENE26</comm></target>

ALASKA STATE LEGISLATURE

Co-Chair:
House Finance Committee

Chair:
House Finance Subcommittees for;
Department of Public Safety
Department of Law

Member:
Legislative Council
Legislative Budget & Audit

BILL STOLTZE
STATE REPRESENTATIVE
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MEMORANDUM

TO: Representative Charisse Millett, Co-Chair
House Special Committee on Energy

FROM: Bill Stoltze

DATE: February 18, 2010

SUBJECT: Hearing Request

I respectfully request a hearing be scheduled for House Joint Resolution 45, urging the United States Congress not to enact Cap and Trade legislation.

Thank you for your consideration.

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Governor Sean Parnell
STATE OF ALASKA

November 3, 2009

The Honorable Barbara Boxer
Chairman
Environment and Public Works Committee
United States Senate
112 Hart Senate Office Building
Washington, DC 20510

The Honorable James Inhofe
Ranking Member
Environment and Public Works Committee
United States Senate
453 Russell Senate Office Building
Washington, DC 20510

Re: Clean Energy Jobs and American Power Act (S. 1733)

Dear Chairman Boxer and Ranking Member Inhofe,

The State of Alaska wishes to comment on the Clean Energy Jobs and American Power Act (S. 1733). This legislation, which aims to drastically modify U.S. fossil fuel consumption, stimulate greater use of renewable energy resources, and address the challenges of climate change adaptation, involves some of the most important issues facing the State of Alaska.

Alaska supports the transition to lower-carbon and renewable energy. However, as a major exporter of carbon-based energy, producing approximately 13 percent of the nation's oil supply and receiving more than 80 percent of its unrestricted general fund revenues directly from oil and gas operations, the State cannot ignore the potential economic consequences of a "cap-and-trade" system. We are currently preparing analyses that assess the possible impacts of this legislation on State revenues, the economic viability of our oil refineries, and future construction of an Alaska natural gas pipeline. The State fears this act may disadvantage domestic fossil fuel producers and shift production overseas, resulting in lost revenues and jobs while reducing our nation's energy security.

While climate change legislation could pose economic threats to our state, Alaska is also primed to help lead a clean energy economy. In the Alaska natural gas pipeline, the State of Alaska offers a promising low-carbon energy option, which could provide a vital bridge to other clean energy alternatives. Alaska also holds vast renewable energy potential, from hydropower, to biomass, wind, geothermal, solar, and ocean power.

In the area of adaptation, Alaska is already facing a host of serious developments related to climate change. This includes addressing the impacts to critical infrastructure associated with accelerated coastal erosion, increased storm effects, sea ice retreat, and permafrost melt. Efforts to protect and relocate Alaskan communities are already underway and the State values the partnerships we have formed with many federal agencies and other entities. More resources, however, are needed along with a designated federal agency lead to coordinate the federal efforts.

Coupled with climate change impacts are opportunities, including the potential for increased marine access to Arctic waters and the resources they contain. The United States is slowly waking to the fact it is an Arctic nation and the importance of the Arctic in general. It is imperative that this legislation not foreclose possible opportunities in the Arctic.

Enclosed you will find the State's analysis of provisions in S. 1733. This document identifies key priorities for Alaska and a number of areas for improvement. Some of the items the State advocates for in this bill include:

- **Adequate funding for climate change adaptation:** the State supports sufficient funding to address Alaska's pressing adaptation needs on various fronts, including protecting critical and valuable infrastructure.

- **Measures to preserve domestic refineries:** Alaska calls for provisions aimed to protect Alaska's refineries, which are essential to our economy and cold weather fuel needs, as well as uniquely vulnerable to increased costs posed by cap-and-trade legislation.

- **Fair allocations for Alaska:** the State is concerned that the Environmental Protection Agency (EPA) has underestimated emissions in Alaska, based on estimates provided to Senator Feingold by EPA. This could disadvantage the state as a whole in the distribution of allowances.

- **Avoidance of unfunded mandates:** Alaska opposes burdensome and unrealistic unfunded mandates that may be created through new climate change programs.

- **Respect for states' rights:** the State supports the protection of states' rights and notably recognition of the State of Alaska's role as primary trustee over fish and wildlife.

- **Exclusion of problematic broad policy statements:** Alaska opposes broad policy statements that open the door to stricter enforceable regulations and future litigation.

- **Emphasis on domestic production:** the State supports expanding access and incentives for responsible domestic onshore and offshore oil and gas exploration as part of a strategy for creating a secure energy future.

- **Promotion of the natural gas pipeline:** the State seeks to promote the Alaska natural gas pipeline as a clean and reliable fuel source which would provide significant economic benefits for the nation, consistent with the Alaska Natural Gas Pipeline Act of 2004 (P.L. 108-324, 118 Stat. 1220).

- **Carbon capture and sequestration incentives:** Alaska supports the commercial deployment of carbon capture and sequestration (CCS) technologies, and in particular, sequestration as a result of Enhanced Oil Recovery (EOR) projects.

- **Program flexibility:** The State believes that effective mitigation and adaptation programs must acknowledge regional differences. Alaska has particular concerns regarding the proposed natural resources adaptation framework.

- **Focus on monitoring and research:** Alaska supports collaborations among federal, State, and other partners in monitoring and research that will lead to better decisions in the management of land and marine resources.

- **Exclusive role of climate change legislation:** We believe climate change legislation should be the sole instrument for addressing climate change mitigation, not the strained use of existing statutes such as the Endangered Species Act or the Clean Air Act.

We appreciate the opportunity to share our views and hope the committee will give them its fullest consideration.

Sincerely,

Sean Parnell
Governor

Enclosure

cc: The Honorable Lisa Murkowski, United States Senate
The Honorable Mark Begich, United States Senate
The Honorable Don Young, United States Congress
The Honorable Thomas Carper, Chairman, Subcommittee on Clean Air and Nuclear Safety
The Honorable David Vitter, Ranking Member, Subcommittee on Clean Air and Nuclear Safety
The Honorable Bernard Sanders, Chairman, Subcommittee on Green Jobs and the Economy
The Honorable Christopher Bond, Ranking Member, Subcommittee on Green Jobs and the Economy
The Honorable Frank Lautenberg, Chairman, Subcommittee on Superfund, Toxics, and Environmental Health
The Honorable Max Baucus, Chairman, Subcommittee on Transportation and Infrastructure
The Honorable George Voinovich, Ranking Member, Subcommittee on Transportation and Infrastructure
The Honorable Benjamin Cardin, Chairman, Subcommittee on Water and Wildlife
The Honorable Mike Crapo, Ranking Member, Subcommittee on Water and Wildlife

State of Alaska Comments on Clean Energy Jobs and American Power Act (S. 1733)
Senator Boxer's Chairman's Mark

INTRODUCTORY NOTES:

This document describes the positions of the State of Alaska on notable elements of Senator Barbara Boxer's Chairman's Mark of the Clean Energy Jobs and American Power Act (S. 1733), which was introduced by Senators John Kerry and Barbara Boxer. The Alaska Departments of Environmental Conservation, Fish and Game, Law, Natural Resources, Revenue, Transportation and Public Facilities, and the Governor's Washington, DC office contributed to the analysis of this bill.

While particular design elements of "cap-and-trade" legislation, like S. 1733 and the American Clean Energy and Security Act of 2009 (H.R. 2454), raise broad concerns about the economic interests of Alaska, this document focuses instead on specific provisions of S. 1733. The State is currently preparing separate analyses of the possible impacts of this legislation on State revenues, the economic viability of Alaska's oil refineries, and future construction of an Alaska natural gas pipeline.

In many ways, Alaska is ground zero for obvious and costly climate change impacts. Alaska is currently experiencing coastal erosion, increased storm effects, sea ice retreat and permafrost melt. The villages of Shishmaref, Kivalina, and Newtok have already begun relocation plans and the U.S. Army Corps of Engineers has identified over 160 additional rural Alaskan communities threatened by erosion.

The effects of climate change are expected to occur most rapidly and be most pronounced at higher latitudes. Thus, no discussion about climate change is complete without recognition of the issues facing the Arctic. Surprisingly, in the 925-page bill, offered as a U.S. response to climate change, the word "Arctic" appears only once.

The State of Alaska strongly encourages that the following key components be incorporated in any climate change legislation:

- Mitigation and adaptation strategies that account for regional differences and avoid a "top-down" approach, likely to produce inflexible and inefficient policy;
- avoidance of broad policy statements that open the door to stricter enforceable regulations and future litigation;
- an effort to spare states from burdensome and unrealistic unfunded mandates;
- emphasis on climate change legislation as the sole instrument for addressing climate change mitigation, rather than the strained use of existing statutes, such as the Endangered Species Act or the Clean Air Act;
- incentives for a diverse spectrum of clean energy alternatives;
- respect for states' rights, and notably recognition of a state's role as primary trustee over fish and wildlife;
- a focus on studying the Arctic climate and environment;
- appropriate funding for adaptation efforts in Alaska where there is a pressing need to respond on numerous fronts, including the protection of critical infrastructure;
- aid for consumers burdened by climate change-related regulations;
- provisions aimed to protect Alaska's refineries, which are essential to our economy and cold weather fuel needs, as well as uniquely vulnerable to increased costs posed by cap-and-trade legislation; and
- promotion of Alaska's natural gas pipeline as a clean, reliable, long term fuel source.

In the remainder of this document, the State considers how S. 1733 addresses these and other priorities important to Alaska.

STATE POSITIONS AND ANALYSIS OF S. 1733:

Section 1. Short Title; Table of Contents

Findings. (Sec. 2)

- Alaska Natural Gas Pipeline Projects. The State supports the addition of a finding, that the completion of the Alaska Natural Gas Transportation Projects is vital to the country to provide a clean fuel alternative to coal and petroleum as a bridge to power generation that does not involve the combustion of fossil fuels. This finding would be consistent with the Alaska Natural Gas Pipeline Act of 2004 (P.L. 108-324, 118 Stat. 1220).

- Arctic Impacts. The State supports the addition of a finding that the impacts of climate change are expected to occur first and be most severe in the Arctic and in the higher latitudes, creating unique adaptation needs in these areas.

Division A – Authorizations for Pollution Reduction, Transition, and Adaptation

Title I – Greenhouse Gas Reduction Programs

Subtitle A – Clean Transportation

Greenhouse Gas Reductions through Transportation Efficiency; Transportation Greenhouse Gas Emission Reduction Program Grants. (Sec. 112-113)

- Funding. The State fears Section 112 would create a substantial unfunded mandate and shift resources away from Alaska's transportation priorities. S. 1733 would amend Title VIII of the Clean Air Act to require the EPA Administrator, in consultation with the Alaska Department of Transportation and Public Facilities (DOT), to establish national greenhouse gas (GHG) emission reduction goals. States and metropolitan planning organizations (MPOs) would, in turn, be required to develop targets consistent with the national goals. The State would need to perform extensive data gathering and modeling, compute baseline emissions, and develop new strategies and programs to meet their goals. Section 113, which outlines a grant program for transportation GHG reduction, does not clearly provide funding to states for planning. If Alaska is unable to secure sufficient funding, it would be forced to divert resources from other programs, such as transit and road improvements, in order to absorb the new costs. The State supports a funding mechanism that will ensure adequate assistance to states working to comply with this new mandate.

- Adequate Time Frame. The State has concerns about the time requirements for data production and analysis. Adequate time is necessary to produce data on local conditions. Default national data does not accurately reflect Alaska's environmental conditions and emissions. The State believes this legislation should contain provisions ensuring states have sufficient time to collect and incorporate local data.

The State also supports inclusion of a statutory process to extend State target deadlines should federal agencies fail to meet deadlines or should there be legal changes to models or methodologies. New standardized models and methods adopted may differ from those used to establish the 2005 emissions reduction baseline. If this is the case, analysis would be necessary to properly compare new results with the 2005 baseline. If EPA and DOT lag in making this adjustment, it will shorten the timeframe states have to meet their deadlines.

Furthermore, the State fears the timeline for new regulations in this section is not realistic. Regulations must be proposed within 12 months and promulgated within 18 months of enactment. Preparing regulations and completing the public process for adopting the regulations can take months under ideal circumstances. If the regulation process is not completed on schedule, states and MPOs would be left with insufficient time to achieve emission reduction targets.

- Authority. The State also questions whether states possess the requisite authority to carry out their new duties under this section. State transportation programs generally do not operate transit, rail, or intercity bus systems, control land use, or regulate the amount of driving or method of vehicular propulsion. This authority is traditionally reserved for local government planning and zoning departments. Yet it will be impossible to meet ambitious emissions targets without regulating these activities. Furthermore, Section 112 holds MPOs to a lesser standard than states, though MPO emission plans are central to meeting state targets.

- Public Health. The State also has reservations about use of the term "public health," which has certain connotations within the Clean Air Act. A provision may be necessary to ensure the term does not invoke actions related to the Clean Air Act Section 109(b)(1), which directs EPA to set ambient air quality standards to "protect the public health" and allow for an adequate margin of safety. Recent EPA actions have shown an increased propensity for moving beyond the agency's traditional authority.

- Surface Transportation. The State believes the language of this section should be clarified to describe "surface" transportation-related greenhouse gas emissions reduction targets in all cases. Further, the term "surface transportation-related" should be defined to specifically exclude maritime (except ferries), rail, and off-road vehicles.

- Lead Planning/Modeling Agency. The State supports establishing the U.S. Department of Transportation, not the EPA, as the lead agency regarding the development of transportation planning and modeling tools. S. 1733 does this.

- Vehicle Miles Traveled. The State is concerned by provisions creating goals for reduced "vehicle miles traveled." Construction of the natural gas pipeline may create large short-term increases in vehicle miles traveled, but will generate benefits that far outweigh these increases. The State supports an exception for large construction projects promoting clean energy.

- Clean Air Act Incorporation. Section 112 also raises concern because of its incorporation into the Clean Air Act. The provision could subject planning and activities to burdensome Clean Air Act statutes and regulations.

Subtitle F – Energy Efficiency and Renewable Energy

Renewable Energy. (Sec. 161)

- Grants for Renewable Resource Programs. The State supports the nation's transition to increased reliance on renewable energy. Alaska possesses vast renewable energy potential, including hydro, biomass, wind, geothermal, solar, and ocean power. S. 1733 authorizes EPA grants for projects that increase the quantity of energy that a state uses from renewable resources, with priority to applicants in states with a binding Renewable Portfolio Standard. The State approves of the provision's goal.

  The State, however, has concerns about the definition of "qualified hydropower," used in Section 102. It appears hydropower can be considered "qualified" in two ways. First, incremental gains or capacity additions to projects in place before 1988 are considered qualified hydropower. Second, energy produced from capacity added after 1988 to a dam that was originally in place for reasons other than power generation qualifies. This narrow definition would exclude large portions of existing hydropower, making it difficult for Alaska to meet a Renewable Portfolio Standard and compete for grants under Section 161, despite having an abundance of hydropower. The definition would also leave out new hydro projects. The State supports the expansion of the definition of "qualified hydropower."

Energy Efficiency in Building Codes. (Sec. 163)

- National Building Codes. The State opposes setting national energy efficiency building codes. S. 1733 would create national codes for residential and commercial buildings, in order to meet national energy efficiency targets. The EPA Administrator would publish an annual report on energy efficiency building code adoption and compliance by states. Though penalties for noncompliance are not defined in S. 1733, Alaska opposes the existence of national standards in this area. A federally mandated, universal energy code is a poor fit for a state with Alaska's vast size and varied conditions.

Subtitle H – Clean Energy and Natural Resources

Clean Energy and Accelerated Emission Reduction Programs. (Sec. 181)

- Clean Energy Incentives. The State supports Section 181, which rewards companies that switch from power sources with higher emissions than the 2007 power sector average to cleaner fuels, including natural gas, and Section 182, which would establish a new federal grant program encouraging investment in advanced natural gas technologies.

Title III – Transition and Adaptation

Part 1 – Domestic Adaptation

Subpart A – National Climate Change Adaptation Program

National Climate Change Adaptation Program. (Sec. 341)

- Existing Programs. The State supports the inclusion of language to clarify that the proposed National Climate Change Adaptation Program (NCCAF) will not replace existing federal programs already providing state and local governments and tribes with funds for projects that will assist in adaptation. The NCCAF should be a supplemental source of funding that prioritizes meeting urgent needs.

Climate Services. (Sec. 342)

- Coordination. The State believes a lack of specificity in the bill's natural resources adaptation strategy could hamper coordination and produce a duplication of efforts. In this section, the Department of Commerce (NOAA) is tasked with developing a National Climate Service. Section 365 creates a Natural Resources Climate Change Adaptation Panel, chaired by the Council for Environmental Quality. Section 367 establishes a National Climate Change and Wildlife Science Center. These provisions leave ambiguity as to how the bodies will interact. At the State level, federal agencies have competed for leadership and funds in the climate change arena. The vagueness in these provisions could produce a similar dynamic.

Subpart B – Public Health and Climate Change

National Strategic Action Plan; Advisory Board. (Sec. 353-354)

- Public Health. The State supports the inclusion of a section dedicated to addressing public health. However, the bill calls for development of a Health Impact Assessment. The requirement that Health Impact Assessments be conducted by the federal government within the National Environmental Policy Act (NEPA) process has produced challenges in Alaska. Additionally, no funding mechanism is provided to develop these assessments or the strategic plan called for by the bill. The section also lacks a mandate for State or Native representation on the Advisory Board.

Subpart C – Climate Change Safeguards for Natural Resources Conservation

Natural Resources Climate Change Adaptation Plan; Natural Resources Climate Change Adaptation Strategy; Natural Resources Adaptation Science and Information. (Sec. 365-367)

- Mission of Panel. The State believes the purpose of the Natural Resources Climate Change Adaptation Panel should be expanded to address other forms of adaptation, such as infrastructure. As introduced, the bill lacks a strategy for coordinating federal policy on climate change effects outside of the natural resources area.

Federal Natural Resource Agency Adaptation Plans; State Natural Resources Adaptation Plans. (Sec. 368-369)

- Flexibility. The State fears the natural resource adaptation framework in S. 1733, like that in H.R. 2454, is too top-down driven for success. The bill calls for each federal agency to develop a natural resource adaptation plan, with which subsequently-formed state plans must be consistent. Climate impacts, however, differ regionally and locally, requiring maximum flexibility. Development of a national plan will hamstring local identification and prioritization of issues and associated strategies to address them, stifle innovation, and prevent the local "buy-in" vital to effective implementation. A national focus also impedes the development of regional strategies.

  States should be allowed to negotiate cooperative natural resource agreements with the federal government on a state-by-state basis with maximum flexibility. In the face of significant intrusion by the federal government on a state's authority to regulate fish and game, states may reasonably prefer departing from the national strategy. If a state does so, however, it will be penalized through denial of funding under programs in this subtitle and potentially other federal programs. The scenario is counterproductive and could be alleviated with greater flexibility.

- Competing Interests. The State fears efforts to assist species in adapting to climate change and ocean acidification will require controlling human activities to reduce other stressors on these species. Large new conservation units may be carved out and human activities in migration corridors could be substantially limited. The bill does not state how the adaptation strategy and planning called for is to be reconciled with human population growth, resource development, commercial, and other human activities. With this approach, other competing interests of importance to the people of Alaska will be marginalized.

National Resources Climate Change Adaptation Account. (Sec. 370)

- Other Statutes. The State believes the bill should specifically de-link existing statutes, such as the Endangered Species Act (ESA), from the climate change policy process. The State opposes use of the ESA as a vehicle for carrying out climate change policy. Section 370 provides for an expansion of ESA programs, which, without further guidance, could result in significant increases in listings that provide little benefit to those species. The bill should include language affirming that climate change legislation is the appropriate instrument for responding to climate change and that ESA should retain its traditional role of conserving species most at risk.

- Corps of Engineers. The State also believes this section should be modified to explicitly grant the U.S. Army Corps of Engineers the authority to use Natural Resources Climate Change Adaptation Account funding for coastal erosion reduction projects and infrastructure adaptation.

- Funding Allocation. The State appreciates that, of the funds made available to states in this account, a portion (six percent) is set aside for coastal agencies. Coastal states will have unique adaptation needs. To ensure adequate funding where climate change impacts are most severe, though, the State advocates for a separate allocation for Arctic adaptation efforts.

National Wildlife Habitat and Corridors Information Program. (Sec. 371)

- State's Role. The State fears this section undermines the State's role as primary trustee over fish and wildlife. The proposed National Fish and Wildlife Habitat and Corridors Information Program centers around developing Geographic Information System (GIS) databases and maps to support decision-making in this area. The State approves of this approach. The stated purpose of the effort, however, is to allow the Secretary of the Interior to recommend how the information developed "may be incorporated" into relevant State and federal plans that affect fish and wildlife including land management plans, and the State Comprehensive Wildlife Conservation Strategies. Further, the Secretary is granted authority to "ensure that relevant State and federal plans that affect fish and wildlife (1) prevent unnecessary habitat fragmentation and disruption of corridors; (2) promote the landscape connectivity necessary to allow wildlife to move as necessary to meet biological needs, adjust to shifts in habitat, and adapt to climate change; and (3) minimize the impacts of energy, development, water, transportation, and transmission projects and other activities expected to impact habitat and corridors." The State is leery of this expansion of federal authority. To be successful, adaptation efforts must respect the primary roles and authorities of State fish and wildlife agencies in managing fish and wildlife and be built on this precept.

- Landscape Conservation Planning Programs. The relationship of this program to existing landscape conservation planning programs (such as the Landscape Conservation Cooperatives) should also be clarified.

Subpart D – Additional Climate Change Adaptation Programs

Coastal and Great Lakes State Adaptation Program. (Sec. 384)

- Funding Formula. The State approves of this program's focus on coastal states. By factoring in the proportion of shoreline miles, the formula also acknowledges that a state's amount of coastline is an important consideration in assessing adaptation needs. Once again, however, the State feels the formula should account for the unique needs experienced in the Arctic and high latitudes.

Division B – Pollution Reduction and Investment

Title I – Reducing Global Warming Pollution

Subtitle A – Reducing Global Warming Pollution

Reducing Global Warming Pollution. (Sec. 101)

"International Offset Credits." (Clean Air Act [CAA] Sec. 744)

- International Offsets. The State supports the inclusion of international offsets (the ability for companies to reduce emissions outside the U.S. and have it count towards domestic reductions). Like H.R. 2454, S. 1733 allows international offsets, though the portion of overall offsets comprised by international offsets is smaller in S. 1733 than in H.R. 2454.

Definitions. (Sec. 102)

"Definitions." (CAA Sec. 700)

- Alaska Refineries. Alaskans are uniquely dependant on in-state refineries for their fuel needs. Alaska has limited fuel storage and is located thousands of miles from the nearest non-Alaskan refinery. The state's refineries are particularly vulnerable to increased costs because they are relatively simple on the Nelson Complexity Index, meaning they operate at lower levels of economic efficiency than more sophisticated refineries which can extract more refined product from a barrel of crude oil. If Alaska's refineries are disadvantaged to the point of closing, it would likely produce a wide range of negative consequences across the state. These may include higher costs associated with importing fuel by tanker and building storage tanks in addition to increased economic burdens on Alaska's rural communities.

  The Chairman's Mark includes provisions granting small business refiners additional time to comply with the Pollution Reduction and Investment program and distributes additional allowances to small business and medium refineries. These provisions could help Alaska's refineries, but may not be sufficient to protect them from substantial costs.

  The State would support an exemption for certain domestic refineries to prevent regional market failures and promote the interest of regional energy security. One way of achieving this is through modifications to the definition of "covered entities" in the Clean Air Act. First, the language in S. 1733 could be amended to match the corresponding language in H.R. 2454, requiring that a stationary source producing petroleum products do so in "interstate commerce" to be covered under CAA Section 700(13)(B). Second, CAA Section 700(1)(F) subsection (viii) for "petroleum refining" could be removed. These modifications would exempt refineries, like those in Alaska, that sell virtually all of their saleable product in-state.

- Embedded Emissions, Direct Emissions, and Fossil Fuel Based Carbon Dioxide. The State supports adding definitions for Embedded Emissions, Direct Emissions, and Fossil Fuel Based Carbon Dioxide to clarify that natural gas produced at the wellhead or flowing through a pipeline will not be burdened with the requirement of emission allowances for the carbon dioxide that may one day be produced when the natural gas is burned.

- Natural Gas Liquids. The State seeks clarification on this section, which differs from H.R. 2454 in its definition of natural gas liquids as being "ready for commercial sale or use." This change raises concern given the value natural gas liquids bring in a major gas sale scenario.

Disposition of Allowances for Global Warming Pollution Reduction Program. (Sec. 111)

- Fair Allocation of Allowances. The State is very concerned about the disposition of allowances for Alaska under a cap-and-trade regime. An EPA memo provided to Senator Feingold indicated that the agency drastically underestimated emissions in Alaska. The document gave the false impression that Alaska would be sufficiently accommodated through the provision of free allowances under H.R. 2454. EPA's estimates for capped emissions in 2012 appear to have been based exclusively on Alaska's electric generation, primarily electricity generated for retail electricity sales, leaving out all facilities that generate their own power, such as oil and gas fields and some military bases. As a result, EPA estimated the state's emissions at three million tons per year (MMt/yr). For the same year, the State's models estimated capped emissions at 24.2 MMt/yr. This inaccuracy could substantially disadvantage Alaska in the distribution of allowances.

- Emission Allowances for Alaska Natural Gas Transportation Projects. The State supports specific free emission allowances for the operation of Alaska Natural Gas Transportation Projects. The 1,700 mile Alaska Gas Pipeline will be a source of substantial CO2 emissions, estimated to be between 20-50 percent of total Alaskan capped emissions.

"Electricity Consumers." (CAA Sec. 772)

- Regulatory Commission Approval. This section describes an allocation process for allowances to electric utilities with a requirement that applicants first seek approval from the Regulatory Commission of Alaska. This requirement could create a costly unfunded mandate for the State as regulatory proceedings have become contentious and expensive.

- Hydropower Projects. See discussion for section 161.

"Home Heating Oil and Propane Consumers." (CAA Sec. 774)

- Heating Oil Allocation. CAA Section 774 addresses allocations to states based on domestic oil and propane consumption and, as written, is unfavorable to Alaska. Free allowances for heating oil and propane would be allocated to the states based on each state's relative share of total domestic heating oil and propane consumption. Alaska consumes a significant amount of oil due to heating degree days and the prevalence of heating oil use across the state. Heating oil and propane, however, appear to be weighted equally. Thus, states like California and Texas that may consume more propane for barbecue grills and hot tubs than Alaska consumes heating oil, would receive larger shares. The State believes heating oil and propane should be separated for allocation purposes.

"Exchange of State-Issued Allowances." (CAA Sec. 777)

- State-Issued Emission Allowances. Although Alaska is only an observer of the Western Climate Initiative (WCI), it supports WCI's position that the work of the states should be integrated into a new climate regime, rather than completely preempted. This bill would integrate state efforts by exchanging regional allowances for federal allowances.

"Commercial Deployment of Carbon Capture and Sequestration Technologies." (CAA Sec. 780)

- CCS in High-Cost Locations. The State supports the commercial deployment of carbon capture and sequestration (CCS) technologies, and in particular, sequestration as a result of Enhanced Oil Recovery (EOR) projects. CCS is afforded special treatment through the "bonus allowance value," which is essentially a subsidy when compared to the value of purchased or freely distributed allowances.

  The State supports EOR activities in Alaska, especially on the North Slope. This activity produces multiple benefits. Sequestration of CO2 in a known, well-defined hydrocarbon reservoir and trap is inherently safer than in those that are less defined. Furthermore, increased production due to EOR will lengthen oil field life. Since a gas pipeline from the North Slope is economically dependent on the oil field facilities, increasing oil field life improves the economics of a gas pipeline. Gas, as a fuel source, is more environmentally friendly than other carbon fuel sources.

  The costs of CCS on the North Slope may still be prohibitive, however, even with a boost from these allowances and incentives through carbon costs. Costs have been found to be significantly higher for CCS on the North Slope than the averages published for the Lower 48, primarily due to the North Slope's location and weather. The State supports inclusion of provisions that account for greater expenses in high-cost locations in order to make CCS economically feasible in these areas.

Ensuring Real Reductions in Industrial Emissions. (Sec. 141)

"Definitions; Eligible Industrial Sectors." (CAA Sec. 762, 763)

- Foreign Competition for Domestic Refineries. These sections protect certain manufacturing industries from "off-shoring" and foreign competition, but specifically exclude domestic refineries. The State believes domestic refineries should be protected as well.

Title II – Program Allocations

State and Local Investment in Energy Efficiency and Renewable Energy. (Sec. 202)

- Allocation Formula. The allocation method in this section unfairly disadvantages Alaska. While 30 percent of the allowances are granted to states on an equal basis, 30 percent is allocated based on population and another 40 percent is allocated based on state energy consumption as a share of total domestic consumption. By these standards, Alaska would receive fewer allowances than almost any other state. This proposal is unfair to Alaska because the state has more heating degree days and thus Alaskans use more energy on average than residents of other states, costs are highest in rural Alaska where incomes are typically lowest, and switching to other fuel sources is not possible or cost effective in most cases for rural Alaskans. The State would support an increased percentage distributed equally among states, measuring energy consumption per capita rather than as a share of total consumption, or allocating some allowances based on energy costs as a share of per capita income using Census data.

- Indian Tribes. In addition, the State supports Section 202, which provides for the distribution of allowances to Indian tribes, which may benefit some rural areas of Alaska.

Additional Issues:

Domestic Production. The State believes S. 1733 should be modified to expand access and incentives for responsible domestic onshore and offshore oil and gas exploration and production. The U.S. Department of Energy's recent forecast for growth in the energy sectors shows demand for fossil energy continuing to increase in the nation, and to remain above 80 percent of the total portfolio of energy supply through 2030 and beyond. Therefore, it is clear that fossil fuels will be needed as a bridging fuel in the coming decades, and access to domestic production, and specifically clean-burning natural gas, is imperative. Increased domestic production, carbon mitigation, expanded development of renewables, and long-term nuclear energy planning is the only viable path to a secure energy future.

OMB Funding Criteria. The State believes the Office of Management and Budget should be tasked with developing common criteria federal agencies can use to prioritize funding to state and local governments and tribes for infrastructure and other projects addressing climate change vulnerabilities. Existing funding criteria may not be appropriate for this purpose. For example, in sparsely populated but more vulnerable areas like western Alaska, federal assistance may be withheld despite great vulnerability if the primary criterion for funding is the number of people or the dollar value of infrastructure at risk.

EPA Limitation Provision. S. 1733 does not include important language related to the Environmental Protection Agency that appeared in H.R. 2454. The House bill contains language preventing the EPA from requiring performance standards on stationary sources under the federal cap. The State feels limitation language like that in the House bill should be included in S. 1733 and that EPA officials should not set climate change policy.

Adaptation Priorities. The State has identified the following as high priorities and areas of need with respect to adaptation:

- Changing Risks. The State supports collaboration between the states, federal agencies, and academia to challenge traditional assumptions on weather and climate. This effort should focus on data collection and analysis, forecasting models, hydrology, flood plains and inundation, coastal and riverine erosion, critical infrastructure, and related topics.

- Community Profile. The State believes the initial focus and study on adaptation should be on Alaskan coastal and riverine communities. These communities are currently threatened due to climate change and cannot relocate without extreme disruption and costs.

- Evacuation Routes. The State seeks federal assistance in identifying, designing, constructing, and maintaining all-weather evacuation routes from endangered communities to safe havens from approaching storms.

- Safe Havens. The State seeks federal assistance in selecting and equipping safe havens near the endangered communities, with full consideration of the hydrology, geology, and current and more accurate digital mapping. These safe havens should be outfitted with sufficient housing, water and fuel sources, and communications capabilities.

- Shoreline Protection and Stabilization. The State supports a program of shoreline protection and stabilization and considers such projects as the most effective means of protecting against the sudden onslaught of storms.

- Science, Analysis, and Informed Decisions. The State calls for creating and sustaining a program of coordinated, collaborative scientific examination and study of the Arctic climate and environment.

- Other Key Areas. Alaska's needs will also encompass other key areas such as consequences to natural resources, national security, infrastructure, emergency response capacity, etc., resulting from climate change impacts due to diminishing Arctic sea ice and from ocean acidification.

FISCAL NOTE

STATE OF ALASKA
2010 LEGISLATIVE SESSION

Fiscal Note Number: 1
Bill Version: HJR 45
() Publish Date:

Identifier (file name):
Dept. Affected:
Title: Urging U.S. Congress not to enact Cap and Trade legislation
RDU
Component
Sponsor: Rep. Bill Stoltze
Requester
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) 565-6588
Division
Date/Time
Approved by:
Date 2/23/2010

(Revised 11/6/2009 OMB)

3192

HOUSE COMMITTEE REPOI

2-24-10

(7)
Date Referred to Committee: February 17, 2010 **FURTHER REFERRALS: Finance**

Date of Committee Action: 2/23/10

The HOUSE SPECIAL COMMITTEE ON ENERGY considered: **HOUSE JOINT RESOLUTION NO. 45**

Urging the United States Congress not to enact Cap and Trade legislation.
HJR 45-OPPOSE FEDERAL CAP AND TRADE LEGISLATION

Recommends it be replaced with [ ] HCS *or* [X] CS for HJR 45 (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
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
ENE	1			✓
CMTE				

PREVIOUS **FISCAL NOTES**				
List by Dept(s):	FN#	Fiscal	Indet.	Zero

(6)

Signing with recommendations	Printed Last Name	DP	DNP	NR	AM
	Dahlstrom	X			
	Peterson	X			
	Johansen	X			
	TUCK	X			
Chair: Bryan Edgmon	Edgmon	X			
Chair:	Millett	X			

CO

SB 220

<target><bill>SB 220</bill><subject>SB 220</subject><comm>HENE26</comm></target>

CS FOR SENATE BILL NO. 220(FIN)

IN THE LEGISLATURE OF THE STATE OF ALASKA

TWENTY-SIXTH LEGISLATURE - SECOND SESSION

BY THE SENATE FINANCE COMMITTEE

Offered: 4/10/10
Referred: Today's Calendar

Sponsor(s): SENATE RESOURCES COMMITTEE

A BILL

FOR AN ACT ENTITLED

"An Act relating to energy efficiency, energy conservation, and alternative energy, to an emerging energy technology fund, to the lease of state land to a public electric utility, to the Alaska heating assistance program, to state energy use data, to the Southeast energy 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, and to the definition of 'alternative energy system'; 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; relating

to a report regarding a municipal energy improvements financing program and to an energy report by the Office of the Governor; 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 Alaska Sustainable Energy Act.

*** Sec. 2.** 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. 3.** 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. 4.** 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. 5.** 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. 6.** 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. 7.** 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. 8.** 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. 9.** 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. 10.** AS 38.05.810(e) is amended to read:

(e) The lease, sale, or other disposal of state land at appraised fair market value may be negotiated with a licensed public utility or a licensed common carrier by the director with the approval of the commissioner if the utility or carrier reasonably requires the land for the conduct of its business under its license. **A lease with a licensed public utility that is an electric utility entered into under this subsection may not include, as part of the rent or other fee that is negotiated or charged, an amount that is based on or determined by a percentage of gross revenue for renewable energy produced by the electric utility.**

*** Sec. 11.** 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

(1) money appropriated to the fund by the legislature;

(2) money transferred to it under former AS 42.45.050;

(3) gifts, bequests, contributions from other sources, and federal money;

(4) interest earned on the fund balance; and

(5) investments, to be managed by the Department of Revenue, which shall be the fiduciary of the fund under AS 37.10.071.

(b) The fund is not a dedicated fund.

(c) The authority may make grants from the Southeast energy fund to a municipality of the state, a joint action agency established under AS 42.45.300, or a member-owned electric cooperative established under AS 10.25, 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.

(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 seven years after the effective date of the appropriation.

* **Sec. 12.** 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) In order to promote the expansion of energy sources available to Alaskans, 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 demonstration projects of technologies that have a reasonable expectation to be commercially viable within five years and that are designed to

(1) test emerging energy technologies or methods of conserving energy;

(2) improve an existing energy technology; or

(3) deploy an existing technology that has not previously been demonstrated in the state.

(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;

(3) projects supported by matching funds or in-kind partnerships; and

(4) projects with potential for widespread deployment in the state.

(e) In administering the fund, the authority may enter into a contract or agreement with the University of Alaska to provide technical and economic review

and analysis for the advisory committee established under (f) of this section and data acquisition and analysis 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), (5), or (6) of this section 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), (5), or (6) of this section 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) A business or organization represented by a member of the advisory committee under (f) of this section is not eligible to receive a grant from the fund.

(j) 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. 13.** 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. 14.** 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. 15.** 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. 16.** 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. 17.** AS 47.25.621 is amended to read:

Sec. 47.25.621. Alaska <u>affordable</u> heating [ASSISTANCE] program. (a)

The Alaska **affordable** 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 **available in the Alaska affordable heating fund** [APPROPRIATED BY THE LEGISLATURE FOR THAT PURPOSE].

(b) The **Alaska affordable** 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. 18.** 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. 19.** AS 47.25.622 is amended to read:

Sec. 47.25.622. Duties. The **Department of Health and Social Services** [DEPARTMENT] shall

(1) administer the Alaska **affordable** 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. 20.** 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. 21.** 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. 22.** 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. 23.** 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. 24.** 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,

(1) 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;

(2) the department may require the contractor

(A) to operate and administer the contract in a manner consistent with the organization's federally approved energy assistance grant and plan; or

(B) to apply the provisions of AS 47.25.623 to determine eligibility for home heating assistance to a person for whom assistance may be paid under the contract or may allow the contractor to use other criteria to determine that eligibility.

*** Sec. 25.** AS 42.45.375, enacted by sec. 12 of this Act, is repealed January 1, 2015.

*** Sec. 26.** 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 January 31, 2011, 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. 9 of this Act.

*** Sec. 27.** 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 January 31, 2011, 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. The report must also include an examination of existing powers and duties and the structure of the Alaska Energy Authority and its board of directors, specifically analyzing the relationship between the Alaska Energy Authority and the Alaska Industrial Development and Export Authority.

And to develop an organizational chart energy related

*** Sec. 28.** 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 January 31, 2011. The department shall notify the legislature when the report is available.

*** Sec. 29.** 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. 8 of this Act, and to finance the purposes permitted by AS 18.56.855, enacted by sec. 8 of this Act. AS 18.56.110 - 18.56.190 and 18.56.855, enacted by sec. 8 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. 8 of this Act.

*** Sec. 30.** The uncodified law of the State of Alaska is amended by adding a new section to read:

MUNICIPAL ENERGY IMPROVEMENTS FINANCING PROGRAM RECOMMENDATION. Not later than January 31, 2011, the Department of Revenue shall submit to the legislature a report and recommendations regarding the feasibility of a municipal energy improvements financing program. The report must

(1) address financing programs for energy efficiency and renewable energy projects on residential, commercial, and industrial property through property tax assessments; and

(2) identify the costs and benefits of a municipal energy improvements financing program in the state.

*** Sec. 31.** The uncodified law of the State of Alaska is amended by adding a new section to read:

TRANSITION: REGULATIONS. (a) To the extent consistent with secs. 17 - 24 of this Act, regulations of the Department of Health and Social Services adopted under the authority of AS 47.25.622 that are in effect on the effective date of secs. 17 - 24 of this Act remain in effect until the department adopts regulations consistent with secs. 17 - 24 of this Act.

(b) A state agency affected by this Act with the authority to adopt regulations under state law may proceed to adopt regulations necessary to implement the changes made by this Act. The regulations take effect in accordance with applicable state law but not before the effective date of the law implemented by the regulation.

*** Sec. 32.** The uncodified law of the State of Alaska is amended by adding a new section to read:

REGULATIONS: ATTORNEY INSTRUCTION. Throughout the Alaska Administrative Code, the regulations attorney is instructed to change the phrase "Alaska Heating Assistance Program" to "Alaska Affordable Heating Program," as appropriate, if

consistent with the changes made in secs. 17 - 24 of this Act.

*** Sec. 33.** 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 "Energy Conservation" to "Energy Efficiency and Conservation Programs."

(b) The revisor of statutes is instructed to change the heading of art. 4 of AS 47.25 from "Alaska Heating Assistance Program" to "Alaska Affordable Heating Program."

*** Sec. 34.** Section 31(b) of this Act takes effect immediately under AS 01.10.070(c).

ALASKA STATE LEGISLATURE

Senate Resources Committee

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SPONSOR STATEMENT

Senate Bill # 220: *Alaska Sustainable Energy Act*

During the summer and fall of 2010, the Senate Special Committee on Energy and Senate Resources Committee held hearings across the state on the energy challenges and opportunities facing Alaskans. Starting from the premise that Alaskans want to live and work where energy is available, reliable and affordable; we took testimony and learned firsthand about the impacts high energy costs have had on businesses, communities and families. The diverse range of ideas we received were integrated into a broad *Draft State Energy Policy and Program Recommendations* document that is available on the Alaska Senate Energy Policy Group's website: www.energy.aksenate.org

Working together as chairs of the Senate Resources Committee, we drafted the *Alaska Sustainable Energy Act* (SB 220) as an omnibus bill to address the challenges we heard from Alaskans. In addition to the omnibus energy bill, we also released a detailed list of funding recommendations that are available on the website. Where the *Alaska Sustainable Energy Act* breaks new ground, the funding recommendations are intended to build on previous efforts by the Legislature.

The *Alaska Sustainable Energy Act* starts by establishing a statewide energy policy that recognizes the importance of Alaska's fossil fuel resources but also identifies Alaska's vast renewable energy potential. With largely under-explored wind, wave and geothermal resources, Alaska can become a global leader in renewable energy. The policy also seeks to find ways to use energy more wisely and sets goals for energy efficiency. Finally, the policy states that cost-effective solutions need to be found for every community. Despite our vast distances and unique local challenges, energy is a basic need in Alaska and the foundation of our economy. Finding ways to meet the energy needs of our neighbors will make all of Alaska stronger. Therefore, we drafted the *Alaska Sustainable Energy Act* to provide the tools to move Alaska forward into a sustainable future.

Tools in the Toolbox

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.

Near Term Solutions: Plan and Assist

- **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. SB 220 authorizes the Alaska Housing Finance Corporation to issue $250 million in bonds to capitalize this critical new loan fund.

- **Help for Alaskan Families When Fuel Prices Soar**: SB 220 links benefits from the state's Heating Assistance Program to the price of oil, providing additional assistance to low-income families when fuel prices are high, Alaskans need help the most, and the state enjoys significant surpluses. This program is a supplement to the federal Low-Income Heating Assistance Program (LIHEAP).

- **Retrofit State Buildings:** 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 and to construct any new buildings to high efficiency standards. It also mandates that renewable energy systems be considered when constructing new public works projects.

- **Energy Policy for Alaska**: SB 220 adopts an energy policy for Alaska, including the goal to increase energy efficiency by 15% and generate 50% of the state's electricity using renewable energy sources by 2020.

- **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.

- **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.

- **Purchase Energy Efficient Vehicles and Equipment**: SB 220 mandates that the state consider long-term energy costs when purchasing vehicles for its fleet and equipment for its operations. It also requires the state to study the feasibility of using compressed natural gas to power vehicles in Alaska.

- **Public Education Campaign**: SB 220 tasks the Alaska Energy Authority and the Alaska Housing Finance Corporation (AHFC) with educating Alaskans about low-cost ways they can cut their energy consumption and costs. Using energy more efficiently helps not only individual households, but also assists the state in containing the cost of new power generation facilities. In addition, the bill directs the AHFC to provide technical assistance to municipalities interested in adopting local energy codes.

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 provides a refundable tax credit to investors 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.

- **Nuclear Energy:** SB 220 levels the playing field for nuclear energy projects in Alaska, ensuring that as new technologies are developed, Alaska can consider them alongside other options. It also enables proponents of small-scale nuclear energy projects to apply for funding from the state's Power Project Fund.

- **Southeast Energy Fund**: SB 220 expands the purposes for which this fund may be used, providing an improved mechanism for constructing generation and transmission projects in Southeast Alaska. Many communities in the region are still powered by high-cost diesel systems, despite the region's enormous hydropower potential.

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

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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 CS SB 220 (RES) in CS SB 220 (FIN)

The following changes reference the "O" version of SB 220 and are not necessarily an authoritative list of changes. The bills themselves are the best

Section 2 establishing a state energy policy (page 2, line 9 – page 3, line 29) has been removed from the bill.

Section 10 directing the DOT/PF to consider alternative energy when constructing a public facility (page 9, lines 10-28) has been removed.

Section 11 requiring the DOA to consider energy efficiency when purchasing equipment (page 9, line 29 – page 10, line 2) has been removed.

Section 14 amending AS 42.50.040 (the Southeast Energy Fund) has been changed to (1) make the department of revenue the fiduciary of the fund, (2) specify that only municipalities, joint action agencies, or member owned cooperatives can receive grants from the fund, (3) that grants may be used to finance generation or transmission projects, (4) that projects must be wholly owned by the grantee, and (5) that extending the laps date for grants from 5 to 7 years.

Section 15 amending AS 42.45.045 (d) requiring renewable energy grant fund project to have a financial benefit that exceeds the amount of the grant funds received, has been removed.

Section 16 amending AS 42.45.045 (m) directing the AEA to enter into contracts with experts to review renewable energy grant fund projects, has been removed.

Section 17 amending AS 42.45 directing the AEA to facilitate a statewide fuel cooperative, has been removed.

Section 18 adding a new section to AS 42.45.375 to establish the Emerging Energy Technology Fund has been changes by (1) narrowing the focus of the fund to demonstration projects, (2) instructing the University to provide data and analysis of projects, (3) removing the language in subsection (f) directing AEA to require a reasonable return on grants issues, (4) prohibiting advisory board members from awarding grants to themselves, (5) adding a four year sunset in new section 25 of the Senate Finance version.

Section 20 amending AS 43.20.046 to include the renewable energy production tax credit has been removed.

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Section 21 amending AS 43.98.040 to establish a renewable energy production tax credit has been removed.

Section 23 amending AS 44.42.067 to require DOT/PF to retrofit 25% of public facilities and setting standards for new construction, has been removed.

Section 24 amending AS 44.83.080 to require AEA and AHFC to conduct a public education campaign, has been removed.

Section 26-33 creating the alternative energy conservation revolving loan fund have been removed.

The following changes reference the "B" version.

Section 10 a new section 10 was added on page 9 that refers to the contractual agreements between the state and a lessee of state land and prohibits the state from negotiating an increased lease rate based on a percentage of gross revenue.

Section 26-28 were amended to give the OMB, the office of the governor and the department of transportation sufficient time to develop the reports required by the sections. Section 27 was amended to expand the requirements of the report examining the powers and duties and structure of the Alaska Energy Authority and Alaska Industrial Development and Export Authority.

Section 30 a new section 30 was added directing the department of revenue to submit a report to the legislature with recommendations regarding the feasibility of a municipal energy improvements financing program.

Section 31-32 are new sections that give the Department of Health and Social Services the authority to adopt transitional regulations, and instructs the department to replace the name "Alaska Heating Assistance Program" with "Alaska Affordable Heating Program" wherever it appears in the administrative code.

Sectional for SB 220 (version B)

Section 1 of the bill provides for the short title of the bill.

Sections 2 allows a regional school board to apply for and use the proceeds of a loan from the Alaska energy efficiency revolving loan fund.

Section 3 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 4 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 5 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 6 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 7 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 8 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 9 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 10 of the bill stipulates that a state lease with an electric utility may not include a fee based on a percentage of gross revenue for renewable energy produced by the utility.

Section 11 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 12 of the bill creates the emerging energy technology fund.

Section 13 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 14 of the bill requires the Department of Transportation and Public Facilities to purchase energy efficient cars whenever practicable.

Section 15 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.

Section 16 of the bill 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 17 - 24 converts the Alaska heating assistance program into the Alaska affordable heating program and makes substantive and conforming changes to that program.

Section 25 repeals the emerging energy technology fund is 2015.

Section 26 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 27 of the bill requires the Office of the Governor to, not later than January 31, 2011, submit a report to the legislature regarding the structuring of state energy programs.

Section 28 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 29 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 30 of the bill requires the Department of revenue to submit a report to the legislature by January 31, 2011, regarding the feasibility of a municipal energy improvements financing program.

Section 31- 32 of the bill concern Department of Health and Social Service regulations for the Heating Assistance Program.

Section 33 of the bill directs the revisor of statutes to make two changes to article headings to conform with statutory changes.

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)

3224

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
Phone 465-5847
Division: Public Assistance
Date/Time 3/3/10 10:51 AM

Approved by: Alison Elgee, Assistant Commissioner
Date 3/5/2010
DHSS Finance & Management Services

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)

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
Title: Omnibus Energy Bill
Sponsor: Senate Resources Committee
Requester: Senate Finance Committee

Dept. Affected: DCCED
RDU: Alaska Energy Authority
Component: Statewide Project Development
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

(Revised 11/6/2009 OMB)

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
Title: ENERGY EFFICIENCY/ ALTERNATIVE ENERGY
Sponsor: Senate Resources Committee
Requester: Senate Finance Committee

Dept. Affected: Revenue
RDU: AK Municipal Bond Bank Authority
Component: AMBBA Operations
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)

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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
Division General Services
Approved by: Kevin Brooks, Deputy Commissioner
Department of Administration

Phone 907-465-2250
Date/Time 4/9/10 5:00 PM
Date 4/9/2010

(Revised 11/6/2009 OMB)

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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)

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ADOPTED

26-LS1197\B.1
Chenoweth\Kane
4/11/10

AMENDMENT

OFFERED IN THE HOUSE

BY REPRESENTATIVE EDGMON

TO: CSSB 220(FIN)

Page 1, line 9:

Delete "**owned or operated**"

Insert "**owned, operated, or paid for in whole or in part**"

Page 1, line 11:

Delete "**owned or operated**"

Insert "**owned, operated, or paid for in whole or in part**"

Page 19, line 31, through page 20, line 1:

Delete "owned or operated"

Insert "owned, operated, or paid for in whole or in part"

3234

FAILED

26-LS1197\B.2
Kane
4/11/10

AMENDMENT

OFFERED IN THE HOUSE BY REPRESENTATIVE EDGMON

TO: CSSB 220(FIN)

Page 7, following line 13:

Insert a new bill section to read:

"* **Sec. 9.** 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."

Renumber the following bill sections accordingly.

Renumber internal references to bill sections in accordance with this amendment. Below are all internal bill section references in this bill:

Page 18, line 29

Page 19, line 4

Page 20, lines 28, 29, and 30

Page 21, lines 4, 18, 20, and 21

Page 22, lines 1, 9

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FAILED

26-LS1197\B.3
Kane
4/11/10

AMENDMENT

OFFERED IN THE HOUSE BY REPRESENTATIVE EDGMON

TO: CSSB 220(FIN)

Page 14, following line 7:

Insert a new bill section to read:

"* **Sec. 15.** 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

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energy consumption and costs and carrying out the duties listed in AS 44.42.020 as they relate 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."

Renumber the following bill sections accordingly.

Page 18, following line 29:

Insert a new bill section to read:

"* **Sec. 26.** 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."

Renumber internal references to bill sections in accordance with this amendment. Below are all internal bill section references in this bill:

Page 18, line 29

Page 19, line 4

Page 20, lines 28, 29, and 30

Page 21, lines 4, 18, 20, and 21

Page 22, lines 1, 9

FAILED

26-LS1197\B.4
Kane
4/11/10

AMENDMENT

OFFERED IN THE HOUSE BY REPRESENTATIVE EDGMON

TO: CSSB 220(FIN)

Page 14, following line 7:

Insert a new bill section to read:

"* **Sec. 15.** 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."

Renumber the following bill sections accordingly.

Renumber internal references to bill sections in accordance with this amendment. Below are all internal bill section references in this bill:

Page 18, line 29

Page 19, line 4

Page 20, lines 28, 29, and 30

Page 21, lines 4, 18, 20, and 21

Page 22, lines 1, 9

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ADOPTED

26-LS1197\B.5
Kane
4/11/10

AMENDMENT

OFFERED IN THE HOUSE BY REPRESENTATIVE EDGMON

TO: CSSB 220(FIN)

Page 1, line 4, following "**fund,**":

Insert "**to the alternative energy revolving loan fund,**"

Page 14, following line 17:

Insert new bill sections to read:

"*** Sec. 16.** 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. 17.** AS 45.88.010 is amended by adding a new subsection to read:

(e) The alternative 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

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liquidation by foreclosure or other processes on loans made under AS 45.88.010 - 45.88.090.

*** Sec. 18.** 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. 19.** 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. 20.** 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. 21.** 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. 22.** 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. 23.** 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."

Renumber the following bill sections accordingly.

Page 18, following line 29:

Insert a new bill section to read:

"* **Sec. 26.** AS 45.88.010(c), 45.88.030(c), 45.88.030(d), and 45.88.040(a) are repealed."

Renumber the following bill sections accordingly.

Renumber internal references to bill sections in accordance with this amendment. Below are all internal bill section references in this bill:

Page 18, line 29

Page 19, line 4

Page 20, lines 28, 29, and 30

Page 21, lines 4, 18, 20, and 21

Page 22, lines 1, 9

WITHDRAWN

26-LS1197\B.6
Kane
4/11/10

AMENDMENT

OFFERED IN THE HOUSE BY REPRESENTATIVE EDGMON

TO: CSSB 220(FIN)

Page 1, line 1, following the third occurrence of "**energy**":

Insert "**, to energy consumption, energy costs, and energy efficiency standards for school construction and major maintenance by the Department of Education and Early Development**"

Page 2, following line 6:

Insert a new bill section to read:

"*** Sec. 2.** AS 14.07.020(a) is amended to read:

(a) The department shall

(1) exercise general supervision over the public schools of the state except the University of Alaska;

(2) study the conditions and needs of the public schools of the state, adopt or recommend plans, administer and evaluate grants to improve school performance awarded under AS 14.03.125, and adopt regulations for the improvement of the public schools;

(3) provide advisory and consultative services to all public school governing bodies and personnel;

(4) prescribe by regulation a minimum course of study for the public schools; the regulations must provide that, if a course in American Sign Language is given, the course shall be given credit as a course in a foreign language;

(5) establish, in coordination with the Department of Health and Social Services, a program for the continuing education of children who are held in detention facilities in the state during the period of detention;

(6) accredit those public schools that meet accreditation standards prescribed by regulation by the department; these regulations shall be adopted by the department and presented to the legislature during the first 10 days of any regular session, and become effective 45 days after presentation or at the end of the session, whichever is earlier, unless disapproved by a resolution concurred in by a majority of the members of each house;

(7) prescribe by regulation, after consultation with the state fire marshal and the state sanitarian, standards that will assure healthful and safe conditions in the public and private schools of the state, including a requirement of physical examinations and immunizations in pre-elementary schools; the standards for private schools may not be more stringent than those for public schools;

(8) exercise general supervision over pre-elementary schools that receive direct state or federal funding;

(9) exercise general supervision over elementary and secondary correspondence study programs offered by municipal school districts or regional educational attendance areas; the department may also offer and make available to any Alaskan through a centralized office a correspondence study program;

(10) accredit private schools that request accreditation and that meet accreditation standards prescribed by regulation by the department; nothing in this paragraph authorizes the department to require religious or other private schools to be licensed;

(11) review plans for construction of new public elementary and secondary schools and for additions to and major rehabilitation of existing public elementary and secondary schools and, in accordance with regulations adopted by the department, determine and approve the extent of eligibility for state aid of a school construction or major maintenance project; for the purposes of this paragraph, "plans" include educational specifications, schematic designs, **projected energy consumption and costs,** and final contract documents;

(12) provide educational opportunities in the areas of vocational education and training, and basic education to individuals over 16 years of age who are no longer attending school;

(13) administer the grants awarded under AS 14.11;

(14) establish, in coordination with the Department of Public Safety, a school bus driver training course;

(15) require the reporting of information relating to school disciplinary and safety programs under AS 14.33.120 and of incidents of disruptive or violent behavior;

(16) establish by regulation criteria, based on low student performance, under which the department may intervene in a school district to improve instructional practices, as described in AS 14.07.030(14) or (15); the regulations must include

(A) a notice provision that alerts the district to the deficiencies and the instructional practice changes proposed by the department;

(B) an end date for departmental intervention, as described in AS 14.07.030(14)(A) and (B) and (15), after the district demonstrates three consecutive years of improvement consisting of not less than two percent increases in student proficiency on standards-based assessments in math, reading, and writing as provided in AS 14.03.123(f)(2)(A); and

(C) a process for districts to petition the department for continuing or discontinuing the department's intervention;

(17) notify the legislative committees having jurisdiction over education before intervening in a school district under AS 14.07.030(14) or redirecting public school funding under AS 14.07.030(15)**;**

(18) adopt regulations that set standards for energy efficiency for school construction and major maintenance to provide energy efficiency benefits for all school locations in the state and that address energy efficiency in design and energy systems that minimize long-term energy and operating costs."

Renumber the following bill sections accordingly.

Conform internal references to bill sections in accordance with this amendment. Below are all internal bill section references in this bill:

Page 18, line 29

Page 19, line 4

Page 20, lines 1, 2, and 3

Page 21, lines 4, 18, 20, and 21

Page 22, lines 1 and 9

ADOPTED

26-LS1197\B.7
Kane
4/11/10

AMENDMENT

OFFERED IN THE HOUSE BY REPRESENTATIVE EDGMON

TO: CSSB 220(FIN)

Page 3, following line 13:

Insert a new bill section to read:

"* **Sec. 3.** AS 14.40.170(b) is amended to read:

(b) The Board of Regents may

(1) adopt reasonable rules, orders, and plans with reasonable penalties for the good government of the university and for the regulation of the Board of Regents;

(2) determine and regulate the course of instruction in the university with the advice of the president;

(3) set student tuition and fees;

(4) receive university receipts and, subject to legislative appropriation, expend university receipts in accordance with AS 37.07 (Executive Budget Act)**;**

(5) apply for and use the proceeds of a loan from the Alaska energy efficiency revolving loan fund (AS 18.56.855)."

Renumber the following bill sections accordingly.

Page 5, line 2, following the second occurrence of "governments,":

Insert ", to the University of Alaska,"

Page 5, line 4, following "areas,":

Insert "by the University of Alaska,"

Page 5, line 10, following "area,":
Insert "the University of Alaska,"

Page 5, line 12, following "area":
Insert ", the University of Alaska,"

Page 5, line 15, following "area,":
Insert ", the University of Alaska,"

Page 5, line 21, following "state":
Insert "and the University of Alaska"

Page 5, line 24, following "area":
Insert ", the University of Alaska,"

Page 6, line 6, following "area,":
Insert ", to the University of Alaska"

Page 6, line 7, following "area,":
Insert ", the University of Alaska,"

Page 6, line 11, following "area,":
Insert ", the University of Alaska,"

Page 6, line 12, following "area,":
Insert ", the University of Alaska,"

Page 6, line 24, following "area.":
Insert "the president of the University of Alaska, or the director of the Board of Regents, may borrow from the corporation under this section for buildings owned by the University of Alaska."

Page 6, line 28, following "area":

Insert ", the University of Alaska,"

Renumber internal references to bill sections in accordance with this amendment. Below are all internal bill section references in this bill:

Page 18, line 29

Page 19, line 4

Page 20, lines 28, 29, and 30

Page 21, lines 4, 18, 20, and 21

Page 22, lines 1, 9

ADOPTED

26-LS1197\B.8
Kane
4/11/10

AMENDMENT

OFFERED IN THE HOUSE : BY REPRESENTATIVE EDGMON

TO: CSSB 220(FIN)

Page 1, line 2, following "**utility,**":

Insert "**to an exemption from taxation by a municipality of certain residential renewable energy systems,**"

Page 7, following line 13:

Insert a new bill section to read:

"*** Sec. 9.** AS 29.45.050(b) is amended to read:

(b) A municipality may by ordinance

(1) classify and exempt from taxation

(A) the property of an organization not organized for business or profit-making purposes and used exclusively for community purposes if the income derived from rental of that property does not exceed the actual cost to the owner of the use by the renter;

(B) historic sites, buildings, and monuments;

(C) land of a nonprofit organization used for agricultural purposes if rights to subdivide the land are conveyed to the state and the conveyance includes a covenant restricting use of the land to agricultural purposes only; rights conveyed to the state under this subparagraph may be conveyed by the state only in accordance with AS 38.05.069(c);

(D) all or any portion of private ownership interests in property that, based upon a written agreement with the University of Alaska, is used exclusively for student housing for the University of Alaska; property may be exempted from taxation under this subparagraph for no longer than 30 years

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unless the exemption is specifically extended by ordinance adopted within the six months before the expiration of that period;

(E) a residential renewable energy system that is used to develop means of energy production using energy sources other than fossil or nuclear fuel, including windmills and water and solar energy devices located in the municipality;

(2) classify as to type and exempt or partially exempt some or all types of personal property from ad valorem taxes."

Renumber the following bill sections accordingly.

Renumber internal references to bill sections in accordance with this amendment. Below are all internal bill section references in this bill:

Page 18, line 29

Page 19, line 4

Page 20, lines 28, 29, and 30

Page 21, lines 4, 18, 20, and 21

Page 22, lines 1, 9

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TELLER
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WALES
WHITE MOUNTAIN

March 24, 2010

Senate Finance Committee
Honorable Co-Chair Senator Burt Stedman
Honorable Co-Chair Senator Lyman Hoffman
Alaska State Capitol
Juneau AK, 99801-1182

RE: - CSSB220(RES) Sec 15(d)(1) Pg 12, Ln 21 - Renewable Energy project preference

Honorable Senate Finance Committee:

Kawerak, Inc. is a regional Native non-profit organization providing services to 15 Native Villages in the Bering Strait Region. Energy consumes from 40-60% of per-capita income in these small remote communities. The Renewable Energy Grant Fund offers hope for some long term relief. Please think carefully about proposed changes in the project ranking method.

We oppose the proposed amendment to AS 42.45.045(d) found in Section 15 of CSSB220(RES) that would give Renewable Energy Grant preference to "*projects that are likely to have financial benefit that exceeds the amount of grant funds received*" because it would divert renewable energy grant funding away from small isolated rural communities, where it is needed most, and into regional hubs and big cities. Financial analysis is bound to favor places where construction costs are low and projects can capture economies of scale.

We recommend the Renewable Energy Grant Fund AS 42.45.045(d) continue to give preference "*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.*"

Respectfully,

Loretta Bullard, President, Kawerak Inc

CC: Honorable Co-Chair Senator Bert Stedman, Room 516
CC: Honorable Co-Chair Senator Lyman Hoffman, Room 518
CC: Honorable Senator Donald Olson, Room 508

Denali Commission Emerging Energy Technology Grant: Final Project Descriptions

Alaska Sealife Center: Seawater Heat Pump Demonstration Project

The Alaska SeaLife Center's overall goal for this project is to demonstrate a heat pump system that will "lift" latent heat from raw seawater and transfer the energy into building heat.

Cordova Electric Cooperative: Psychrophiles for Generating Heating Gas

This research and application project will deploy the use of psychrophiles (cold loving microbes) to improve efficiency in biogas digestors for generating cooking and heating gas for Alaskan households. The first phase will compare the efficiencies of mesophiles (conventional digestor microbes) and psychrophiles on common household and rural Alaska feedstock at various temperatures. The second phase will deploy digestor(s) in practical houseghold scale project(s) to operate appliance and an electrical generator to evaluate feasibility and sustainability in an applied setting for widespread use in Alaska.

Kotzebue Electric Association: Feasibility of Solar Hot Water Systems

Assess the feasibility of solar hot water heating systems on residential units in the NANA region.

Kotzebue Electric Association: Flow Battery Energy Storage Systems

Analyze and demonstrate flow battery systems and their potential for energy storage in rural wind systems.

Kotzebue Electric Association: Wales Diesel-Off High Penetration Wind System

Retrofit the Wales Wind-Diesel Hybrid Power System by adding remote web access monitoring and control systems, getting the two Entegrity turbines back online and allowing for increased data logging capabilities and developing long term operations and maintenance strategies for replicating diesel-off configurations in other communities. Kotzebue Electric Association's overall goal for this project is to demonstrate diesel-off configuration for a remote wind-diesel hybrid power system through the retrofit of existing equipment and controls.

Ocean Renewable Power Corporation: Nenana Hydrokinetic Turbine

Build, install and test the RivGenTM Power System, a hydrokinetic energy unit, at the Nenana hydrokinetic test bed, and analyze resource and technology results.

Sealaska Corporation: Commercial Scale Wood Pellet Fired Boiler

This project will convert Sealaska's corporate headquarters building from a diesel fired boiler to a wood pellet fired boiler. The overall goal of this project is to demonstrate that wood heat can be cost effective and feasible for larger commercial, industrial, and municipal buildings, and has the potential to effect demand for Southeast Alaska second growth wood fiber.

Tanana Chiefs Conference: Organic Rankine Cycle Heat Recovery System

Tanana Chiefs Conference's goal for this project is to demonstrate the potential improved fuel efficiency of the diesel power plant in a village in the TCC region through the use of an Organic Rankine Cycle (ORC) system for heat recovery from engine jacket water and exhaust.

University of Alaska Fairbanks, WiDAC: High Penetration Hybrid Power System

The Wind Diesel Application Center will analyze state of the art power electronics to assess options for wind-diesel hybrid power systems to operate in a diesel-off mode.

HOUSE COMMITTEE REPORT

4·12·10

(7)

Date Referred to Committee: April 10, 2010 **FURTHER REFERRALS:** Finance

Date of Committee Action: APRIL 12, 2010

The HOUSE SPECIAL COMMITTEE ON ENERGY considered: **CS FOR SENATE BILL NO. 220(FIN)**

"An Act relating to energy efficiency, energy conservation, and alternative energy, to an emerging energy technology fund, to the lease of state land to a public electric utility, to the Alaska heating assistance program, to state energy use data, to the Southeast energy 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, and to the definition of 'alternative energy system'; 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; relating to a report regarding a municipal energy improvements financing program and to an energy report by the Office of the Governor; and providing for an effective date."

SB 220-ENERGY EFFICIENCY/ ALTERNATIVE ENERGY

Recommends it be replaced with [✓] **HCS** *or* [ ] **CS** *for* CSSB 220 (ENE) ( )

For Senate Bills with new title: [ ] *Technical Title* [X] *New Title: HCR* ____ [ ] Same Title [X] New Title

Pending ↑ INTRO

[ ] 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
DEC	3			X
DHS	6		X	
CED	7	X		
CED	8	X		
REV	9			X
REV	10			X
ADM	11			X
DOT	12	X		

(7)

Signing with recommendations	Printed Last Name	DP	DNP	NR	AM
	RAMRAS	X			
	PETERSEN	X			
	DAHLSTROM	X			
	TUCK	X			
	JOHANSEN	X			
CO Chair:	CMILLETT	X			
CO Chair: Bye Edgmon	EDGMON	X			

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SB 223

<target><bill>SB 223</bill><subject>SB 223</subject><comm>HENE26</comm></target>

Alaska Housing
FINANCE CORPORATION

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Senate Bill 223
Sponsor Statement

Senate Bill 223 will establish an energy efficiency revolving loan fund in the Alaska Housing Finance Corporation and authorize the Corporation to sell up to $250 million in bonds to fund the program.

The federal ARRA bill appropriated $28.3 million to Alaska for the State Energy Program. Of that, Governor Parnell recommended spending $18 million to make energy efficiency improvements to public buildings. Of this, $10 million would go for energy efficient improvements to state facilities and $8 million would go for energy efficient improvements to school and municipal facilities.

SB 223 would use this $18 million to leverage up to $250 million in bonds to fund the program. The bill also establishes an energy efficiency revolving loan fund in AHFC.

As an example, a municipal government or school district would have an energy audit done on their building. Let's say the building needs $120,000 to make it more energy efficient and that those improvements would reduce their energy costs by $20,000 a year. They would take a loan out with AHFC to do the work and then pay the loan back with the funds available due to the savings achieved through the energy efficiency improvements. After the loan is paid back those funds would be available to that government for other purposes or to reduce the size of its budget. This would result in less energy used by public buildings as well as ultimately saving public money.

This type of program has proven to be successful in other states as well as by the Alaska state Department of Transportation and Public Facilities.

FISCAL NOTE

STATE OF ALASKA
2010 LEGISLATIVE SESSION

Fiscal Note Number: 1
Bill Version: SB 223
(S) Publish Date: 1/19/10

Identifier (file name): 0903-DOR-AHFC-1-6-10
Dept. Affected: Revenue
Title: AHFC Energy Efficiency Bonds/Revolving Loan
RDU: Alaska Housing Finance Corp.
Component: Operations
Sponsor: Rules
Requester: Request of Governor
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							
AHFC 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 will set up an energy efficiency revolving loan fund and authorize AHFC 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, Gov't Relations/Public Affairs — Phone 330-8445
Division: Alaska Housing Finance Corporation — Date/Time 12/30/09 12:00 AM
Approved by: Ginger Blaisdell, Director — Date 1/6/10; 11:37am
Administrative Services Division

(Revised 11/6/2009 OMB)

3258

FISCAL NOTE

STATE OF ALASKA
2010 LEGISLATIVE SESSION

Fiscal Note Number: 2
Bill Version: SB 223
(S) Publish Date: 1/19/10

Identifier (file name): 09030-DOT-SPF-01-04-10
Dept. Affected: DOT&P
Title: Establishing Alaska Energy Revolving Loan Fund etc
RDU: Design, engineering & construction
Component: Statewide Public Facilities
Sponsor
Requester
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							
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)*

Since all this bill does is create the ability for DOT&PF to partcipate in loan a program, there is no fiscal impact.

Prepared by: Mary Siroky, Legislative Liaison
Phone 465-4772
Division: DOT&PF, Commissioner's Office
Date/Time 1/4/10 4:00 PM
Approved by: Frank Richards
Deputy Commissioner, DOT&PF
Date 1/4/2010

(Revised 11/6/2009 OMB)

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FROM A SUMMARY OF HOW THE FEDERAL ARRA STATE ENERGY PROGRAM FUNDS, THAT WILL BE USED TO LEVERAGE BONDS FOR THE ENERGY EFFICIENCY REVOLVING LOAN FUND IN SB 223, WILL BE ADMINISTERED:

State facilities energy efficiency projects -- $10,000,000: This program will continue and expand DOT/PF's successful energy performance contracting project to further reduce energy costs in State facilities. The list of buildings and specific projects to be included will be determined based on energy audits. High profile buildings that will be included if cost effective are: the Atwood Building, the Governor's residence, and the Fairbanks Regional Office Building.

The $10 million in ARRA energy funds allocated for this program will be leveraged with debt financing to accomplish the maximum number of energy efficiency projects and corresponding energy cost savings to the State. This is similar to the approach the State of Arizona is using for its ARRA energy funds and State buildings. Up to $150 million in energy efficiency projects can be funded, using a combination of the $10 million in ARRA funds and $140 million in debt financing. The debt service will be paid entirely through the cost savings from the energy efficiency projects, and the savings will be guaranteed by the contractor, so there is no financial risk to the State.

Schools and municipal facilities energy efficiency projects -- $8,000,000: Under this program, every school district and municipality in the State will be offered the ability to use the State's energy performance master contract to reduce their energy costs. The suggested approach is that DOT/PF manage the actual contracts, and AHFC provide project management support and outreach efforts to provide a turn-key energy savings program. This approach will avoid the need for school districts and municipalities to reinvent the wheel. As with the State building program described above, the ARRA energy funds will be leveraged with borrowed funds – either private financing or AHFC bonds – to increase the number of projects that can be funded. Using the same ratio as for State buildings, the $8 million in ARRA funds could pay for $118 million in energy projects for schools and municipal facilities. The emphasis in expending the $8 million will be on schools.

Energy Savings Performance Contracting Summary
Prepared by DOT/PF

- Under an Energy Savings Performance Contract (ESPC), an Energy Savings Contractor (ESCO) is selected through a competitive Request for Proposal process to complete an energy audit, recommend, design and implement Energy Conservation Measures (ECM's), and guarantee energy savings.

- The contractor will first complete an investment grade energy audit that identifies conservation measures, along with their payback periods, and present it to the facilities owner or manager. The manager will select a set of conservation measures that meets their desired financial goals, and will negotiate the implementation cost with the ESCO.

- When selecting the ECM's to be implemented, it is critical to avoid "cherry picking" quick payback measures, such as lighting upgrades, and ignoring longer payback items such as heating and ventilation system upgrades. Since lighting upgrades are typically the quickest payback for an ECM, they can help to offset the cost of a longer payback ECM, such as a boiler upgrade, when accomplished under an ESPC.

- Example: Lighting Upgrade will pay back in 3 years. Boiler Upgrade will pay back in 12 years. Combined the payback will be 7 years. It is also common for an owner to package several buildings together under one agreement to leverage savings in one facility towards another, providing that the buildings have the same funding source. This allows for a greater amount of work to be accomplished.

- Capital funding can be used to fund the entire contract; however, more typically, financing is obtained from either the ESCO or third party financing. The amount financed, plus the interest charges, are paid back over time from the dollar savings that are realized from the reduction in energy consumption. The financing period may range from 8 to 25 years, depending upon the ECM's chosen and the owner's financial requirements (our contract with Siemens utilized third party financing with a payback ranging from 12 to 15 years).

- A combination of capital funding – such as the ARRA energy funds – and financing may be chosen to fund the project. Arizona is leveraging $10 million in ARRA energy funds with about $40 million in private financing to accomplish $50 million in energy efficiency projects in state facilities. This approach will also work for Alaska. Under any of these scenarios, a limited amount of capital or operating funding is required to pay personnel cost to implement the contract.

- The ESCO guarantees that the ECM's will reduce the energy consumption in the facility. If the energy savings are less than what the ESCO guarantees, the ESCO will monetize the difference in guaranteed versus actual savings and will reimburse the owner this amount. Example: ESCO guarantees a savings of 30,000 Btu's, but only 25,000 Btu's are saved, the ESCO will write a check for the cost of the missing

5,000 Btu's. Under some performance contracts, if the energy savings are greater than that which the ESCO guaranteed, the owner is required to share the monetized cost of the excess savings with the ESCO. Our contract with Siemens did not have this language, i.e. excess savings belong to the State.

- The U.S. Department of Energy guidance regarding the ARRA energy funds specifically encourages the use of these funds for energy performance contracting, as a method of leveraging and extending the life of the funds.