

AK LEGISLATURE SPECIAL COMMITTEE FILES SCOMM 155 3307¹⁸¹

model has not been adopted to date by the NEB, although it has permitted pipelines the flexibility to respond to market conditions when setting interruptible service rates.

Likewise, the concept of levelized rates has not become a common practice before the NEB. Notwithstanding, the Board has allowed new pipelines to charge less than a Cost of Service rate in the early years (due to market constraints) and then charge above Cost of Service rates in later years (when the market can accommodate the increases). In short, there is a willingness on the part of the NEB to accept various methods of meeting its underlying legislative requirements; and we are of the view that a number of reasonable alternatives would be acceptable to the Board. We note that, in the context of the Project, there are certain rate making issues addressed in the NPA that may influence the final outcome of this issue.

4. Open Season

While not a common occurrence regarding NEB regulated pipelines, the Board has experience with the Open Season concept regarding a number of new pipeline projects. The fundamental underpinning for the conduct of an Open Season is the requirement that all potential shippers be offered the service under the same Terms and Conditions. Therefore, should an initial Open Season result in follow-up negotiations with certain Interested Parties, and amendments to the slate of services/benefits being offered shippers to induce them to execute Long-Term Firm Transportation Service Agreements, it would be necessary for TransCanada to conduct a supplementary Open Season (in order to ensure that all parties were offered the transportation service on precisely the same Terms and Conditions). Such a supplementary Open Season could be conducted quite expeditiously and should not delay the process in a material way. In our view, as long as these fairness requirements were met, the NEB would be prepared to accept the results of the Open Season process and consider the results as support for the subject pipeline proposal.

5. Import and Export Requirements

In recent years parties exporting natural gas from Canada to the United States have chosen to rely upon Short-Term Export Orders (maximum two year duration) instead of seeking approval for Long-Term Export Licenses (maximum term twenty-five years). The move away from Long-Term Licenses, which was prevalent up to the mid-1980s, was largely influenced by two factors. First, the process for obtaining Long-Term Licenses had become quite complex because of the involvement of Intervenor Groups who sought to expand the scope of the investigation conducted by the NEB into a consideration of upstream environmental impacts. While a standard approach was developed to deal with these applications, many parties opted to simply rely upon Short-Term Orders and avoid the more lengthy and complex process. The second reason was a fundamental change in the approach utilized by the NEB and shippers with respect to the requirements to make long-term commitments to support pipeline expansions and downstream projects. In the past, buyers relying upon the gas supply to support their projects (such as downstream pipeline facilities or cogeneration plants) required a demonstration of long-term approvals in order to be comfortable with the security that the supply would in fact be there. Additionally, pipelines required a long-term license as a demonstration of supply availability to meet the long-term commitments being made by shippers for pipeline transportation service. Finally, financial institutions viewed the long-term approval as confirmation of the economic viability of the proposed venture and support for the funding they would advance to either the pipeline or the downstream project proponent.

Over time, as the gas supply supporting export transactions moved more to a spot market, or hub, pricing approach (versus long-term Purchase and Sale Agreements) and pipeline expansions (which were decreasing over this time period) were supported by corporate warranty type agreements, parties concluded that short-term approvals were adequate for these purposes. Additionally, the stability of the NEB's regulatory regime and the comfort that short-term Orders would be renewed without any significant measure of difficulty reinforced the view that the short-term

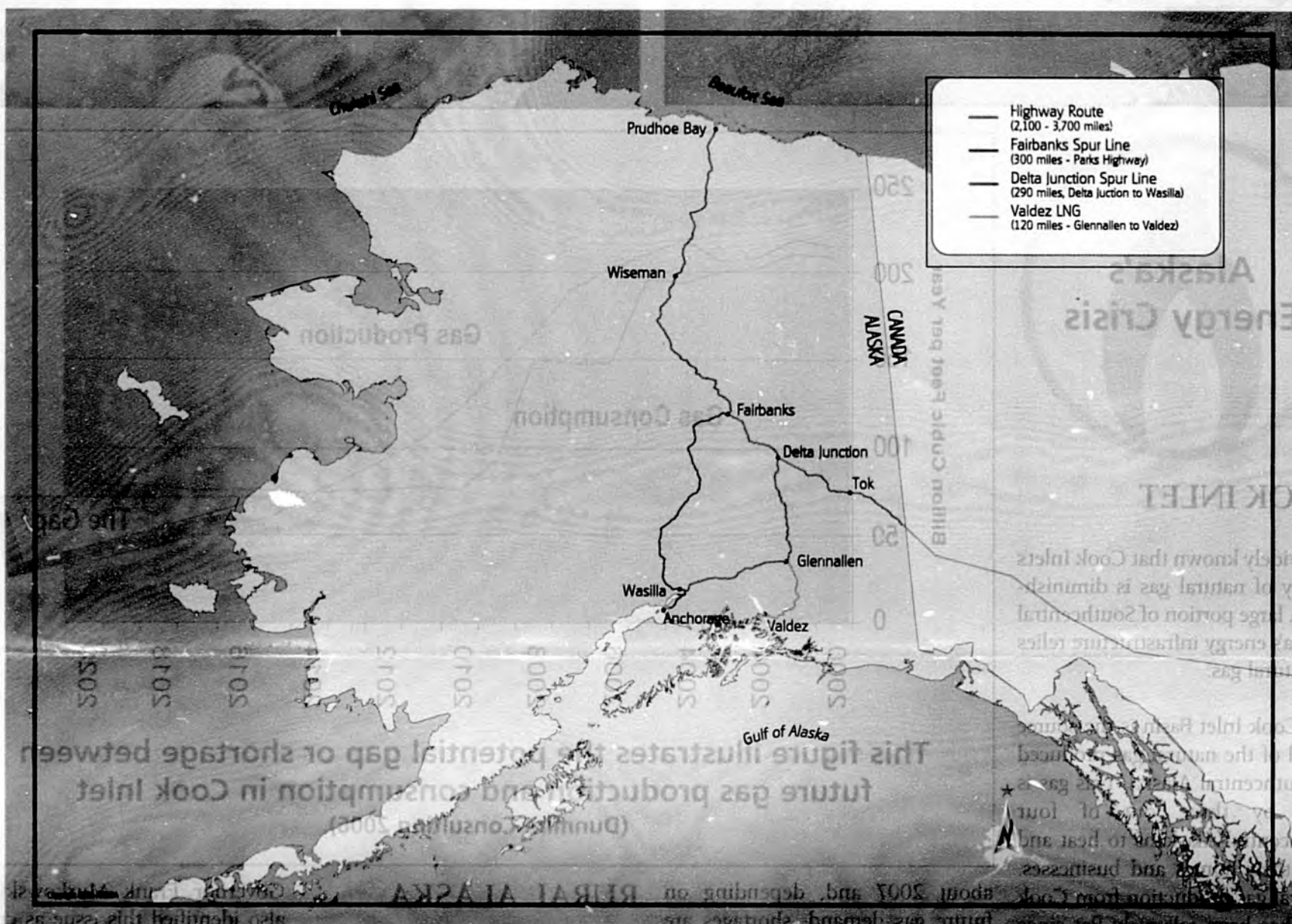
authorizations were indeed adequate to support the associated commercial undertakings.

Notwithstanding the above, in circumstances where significant financial commitments are being made and the project is of a long-term duration, it may be considered desirable to secure such long-term approvals. It is our experience that a 9-12 month period would typically be required to obtain a long-term license. A short-term order can normally be obtained in less than a week and with minimal supporting information.



Connecting Alaskans to their Natural Gas

November 2008



IDEAS TO SOLVE ALASKA'S ENERGY CRISIS

A Progress Report by the Alaska Natural Gas Development Authority (ANGDA)

This report is an update of the continuing work by the Alaska Natural Gas Development Authority to bring North Slope natural gas to market and Alaskans.

Like oil on the North Slope that was brought to market through a pipeline, there are plentiful supplies of natural gas in Alaska's Arctic that need a pipeline. That gas also is the

key to solving Alaska's energy crisis. Alaskans have felt the impact of higher energy prices over the last two years. Getting North Slope natural gas to the Yukon River, Fairbanks, the Cook Inlet region and a tidewater port allows all Alaskans to share this long-term energy supply.

ESTABLISHMENT OF AUTHORITY

ANGDA was created by the People of Alaska through a 2002 General Election Ballot Initiative and is a public corporation (much like the Permanent Fund or Alaska Railroad). With the

support of the Legislature and the Administration, ANGDA started work in 2003 within the Alaska Department of Revenue.

ALASKA STATUTE 41.41

Under State law, ANGDA has the authority to facilitate the planning, design and construction of a natural gas pipeline (together with all related property and facilities) extending from Prudhoe Bay to tidewater on Prince William Sound or Cook Inlet with a spur pipeline to the Southcentral gas distribution system. ●



"This first major step toward a connecting gas pipeline will assure the availability of Alaska's gas for generations to come." —Harold Heinze, ANGDA Chief Executive Officer, referring to ANGDA's conditional right-of-way lease.



2 Alaska's Energy Crisis

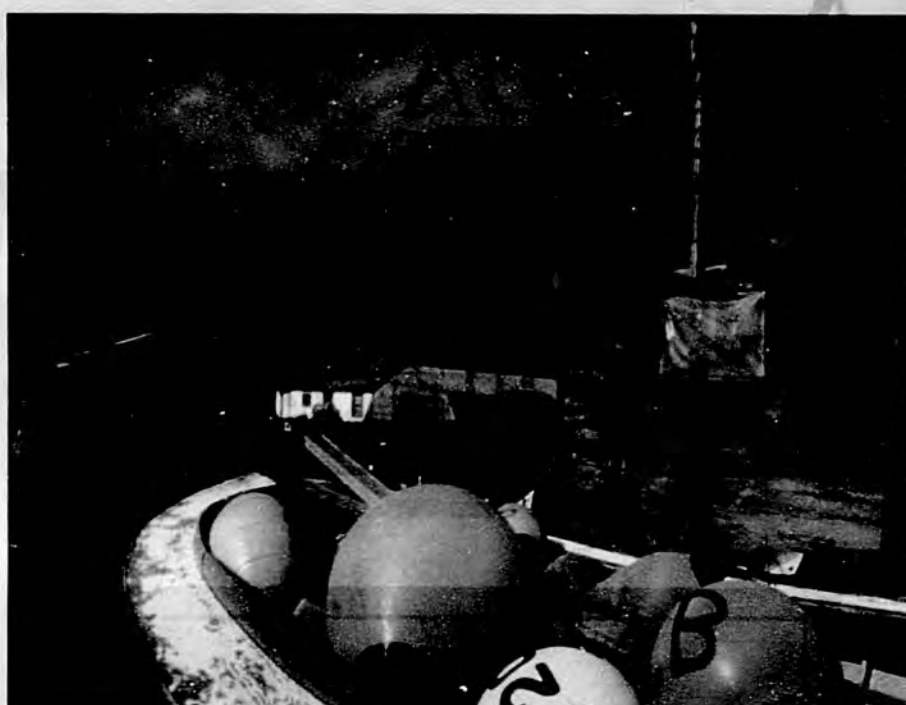
3 Energy Alternatives

4/5 Spur Pipeline to Cook Inlet

6 Propane Distribution to Alaska

7 Status of Alaska Gas Pipeline Project(s) & In-State Gas Use

8 The Way Forward & Contact Information



DEPARTMENT OF COMMERCE, COMMUNITY, AND ECONOMIC DEVELOPMENT



COOK INLET

It is widely known that Cook Inlet's supply of natural gas is diminishing. A large portion of Southcentral Alaska's energy infrastructure relies on natural gas.

The Cook Inlet Basin is the source for all of the natural gas produced in Southcentral Alaska. This gas is used by three out of four Southcentral Alaskans to heat and light their homes and businesses. Natural gas production from Cook Inlet has been relatively flat since its peak production in 1998. Production forecasts for Cook Inlet show a steep decline starting in

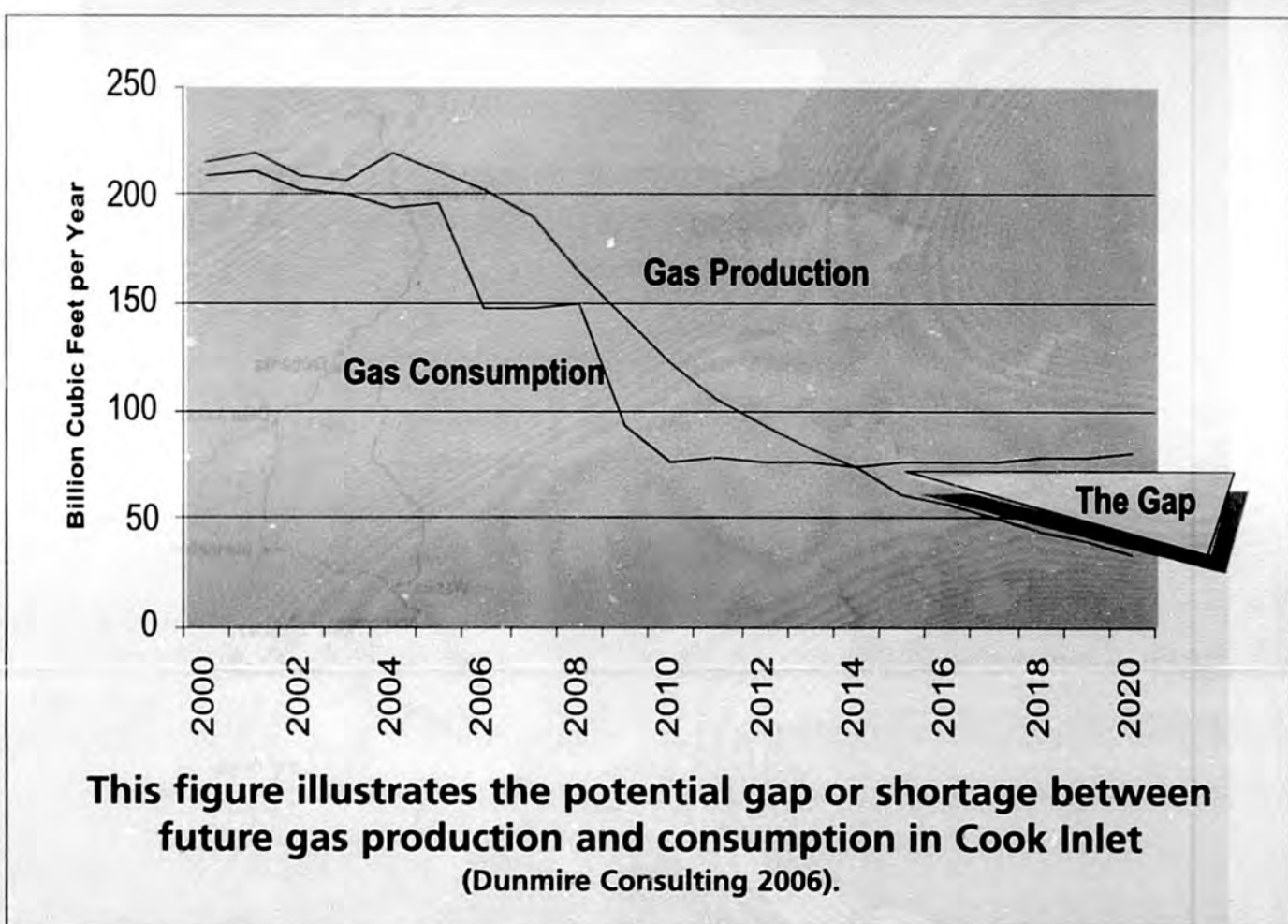


Voices

"Alaska is at a crossroads as it faces the need to find solutions to a very serious energy crisis in many of our villages across the state. New thinking is needed to prepare ourselves for ever increasing energy costs in both our smaller and larger communities."

If we do not find answers soon, we will have more of our industries closing down as we see Agrium doing in the Kenai area. We have a large menu of alternatives to evaluate and it is imperative that we come to grips with the reality of our collective energy challenges."

Nels Anderson
Alaska Energy Policy Advisor
Dillingham, Alaska



about 2007 and, depending on future gas demand, shortages are expected six to eight years later.

The above figure illustrates the potential gap or shortage between future gas production and consumption in Cook Inlet.

This year, users of natural gas like Agrium's Kenai nitrogen facility have had to curtail their use or shut down. Enstar Natural Gas Co. says in a few years there may not be enough natural gas supplies to hook up new neighborhoods in Southcentral Alaska. Further, in coming years there may not be enough gas to maintain pressure in Cook Inlet's natural gas distribution pipeline system. One of the major electric co-ops wants to replace an old generator but it doesn't have enough gas reserves for bankers to loan the money. It is for reasons like these that Southcentral is on the brink of an energy crisis if new Cook Inlet supplies are not found soon.

RURAL ALASKA

Energy in rural communities is increasingly expensive and Alaska villages have been hit hard by rising fuel costs.

According to the University of Alaska Fairbanks, fuel costs in rural Alaska have reached extreme highs and the effects are far-reaching. High gasoline prices impact the price of food, heat and subsistence practices, and in some cases affects such basic needs as water delivery.

In some situations, several village families are living together to share heating costs because they cannot afford to heat their own homes.

Unfortunately, due to the high cost of energy in rural Alaska, the choice for many Native Alaskans to stay on the lands where their ancestors lived is increasingly unsustainable. The Alaska Federation of Natives has recognized that the energy situation is impoverishing many native communities and forcing them to relocate to urban areas.

Governor Frank Murkowski has also identified this issue as critical saying, "without a doubt, the number one concern in rural Alaska right now is the high cost of energy." To help solve Alaska's rural energy problems, on October 19, 2006, the Governor appointed long-time Native leader Nels Anderson of Dillingham as Alaska Energy Policy Advisor to lead the efforts in reducing energy costs in Alaska's rural communities. ●



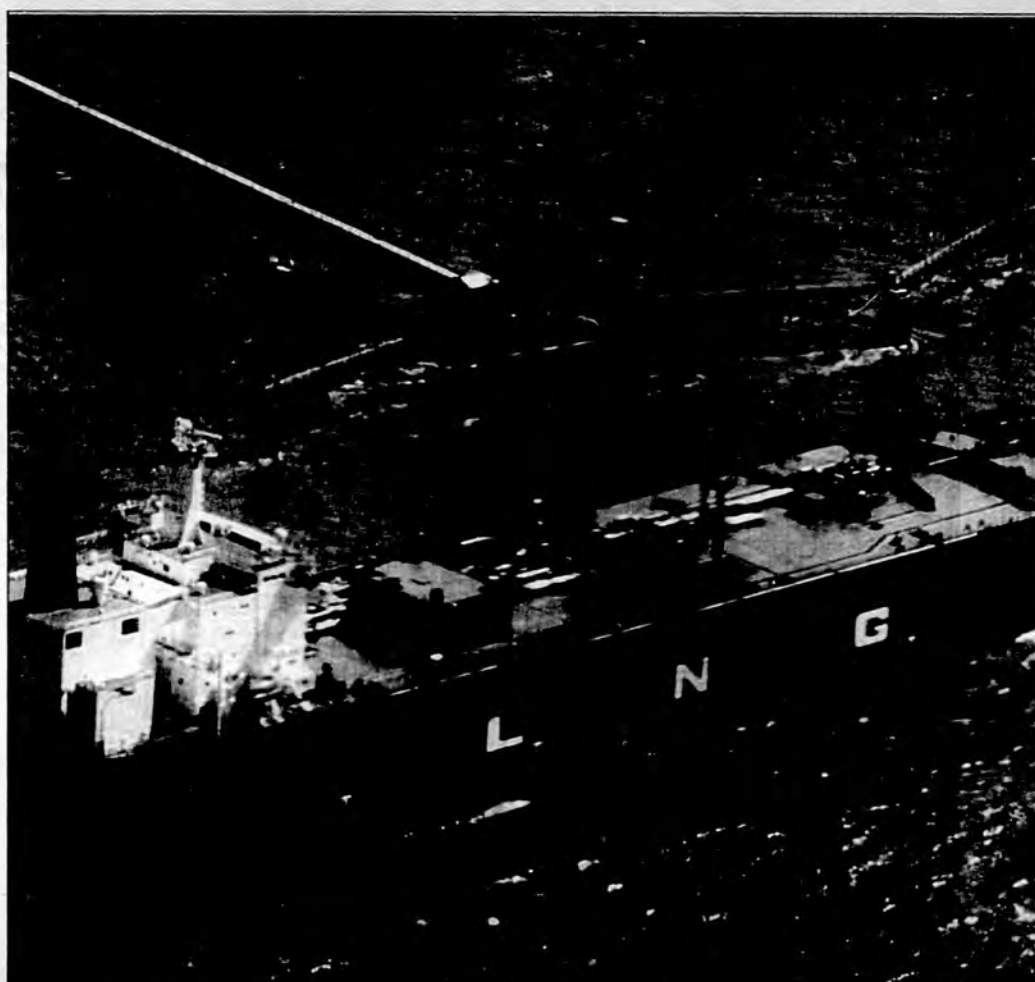
Voices

"It was my intention for ANGDA to help bring North Slope gas to market. I am pleased today that ANGDA is also solving Alaska's energy crisis."

Scott Heyworth
Vice Chairman, ANGDA
Board of Directors
Prime Sponsor, Ballot
Measure 3 in 2002 General
Election



DEPARTMENT OF COMMERCE, COMMUNITY, AND ECONOMIC DEVELOPMENT



An energy alternative is defined as any action, program or project that could be implemented to meet future energy demand. There are both SUPPLY and DEMAND alternatives.

Demand alternatives reduce demand for natural gas while supply alternatives increase natural gas supplies.

Alternative	Description
Supply	Increase Production Enhance existing gas production and develop new production in Cook Inlet.
	Spur Line Deliver North Slope gas to Cook Inlet with spur pipeline from a main gas pipeline.
	Bullet Line Deliver North Slope gas to Cook Inlet with direct Bullet Line.
	Enriched Gas Line Additional natural gas liquids (NGLs) delivered to Cook Inlet via pipeline.
	CBM Develop Coal Bed Methane in Susitna Basin.
	Import LNG Import Liquefied Natural Gas from outside to existing Kenai LNG facility.
	Other Alaska Gas Develop and deliver gas from Copper River, Bristol Bay or Nenana basins.
	Coal Gasification Implement coal gasification such as Agrium's Blue Sky Project.
Demand	Coal Power Replace gas-fired electric generation with coal-fired power (Emma Creek).
	Hydro Power Replace gas-fired electric generation with small-scale hydro power.
	Wind Power Replace gas-fired electric generation with wind power (Fire Island Project).
	Nuclear Power Replace gas-fired electric generation with small-scale nuclear power.
	Tidal Power Replace gas-fired electric generation with tidal power.
	Gas Conservation Implement end-use gas conservation programs (weatherization, efficiency).
	Electric Conservation Implement end-use conservation programs (appliance & light bulb upgrade).
	Distributed Generation Implement small-scale electric generation including cogeneration and fuel cells at point-of-use to displace central gas-fired electric generation.

Wind Farm - Kotzebue, Alaska



Power Creek
Hydroelectric Project
- Cordova, Alaska

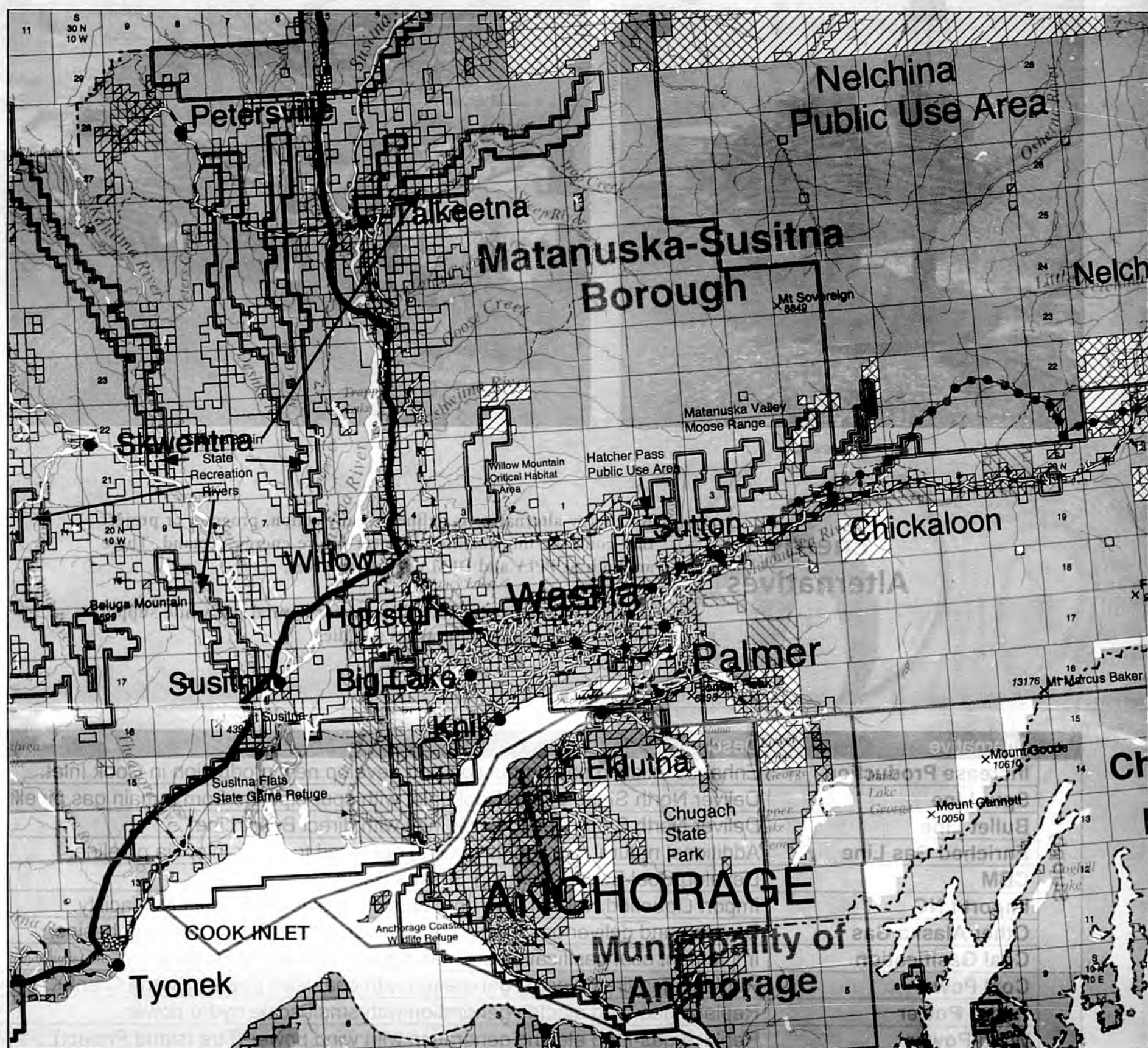


Bradley Lake
Hydroelectric Project
- Kenai Peninsula



HOMER ELECTRIC ASSOCIATION

Natural Gas Spur



Voices

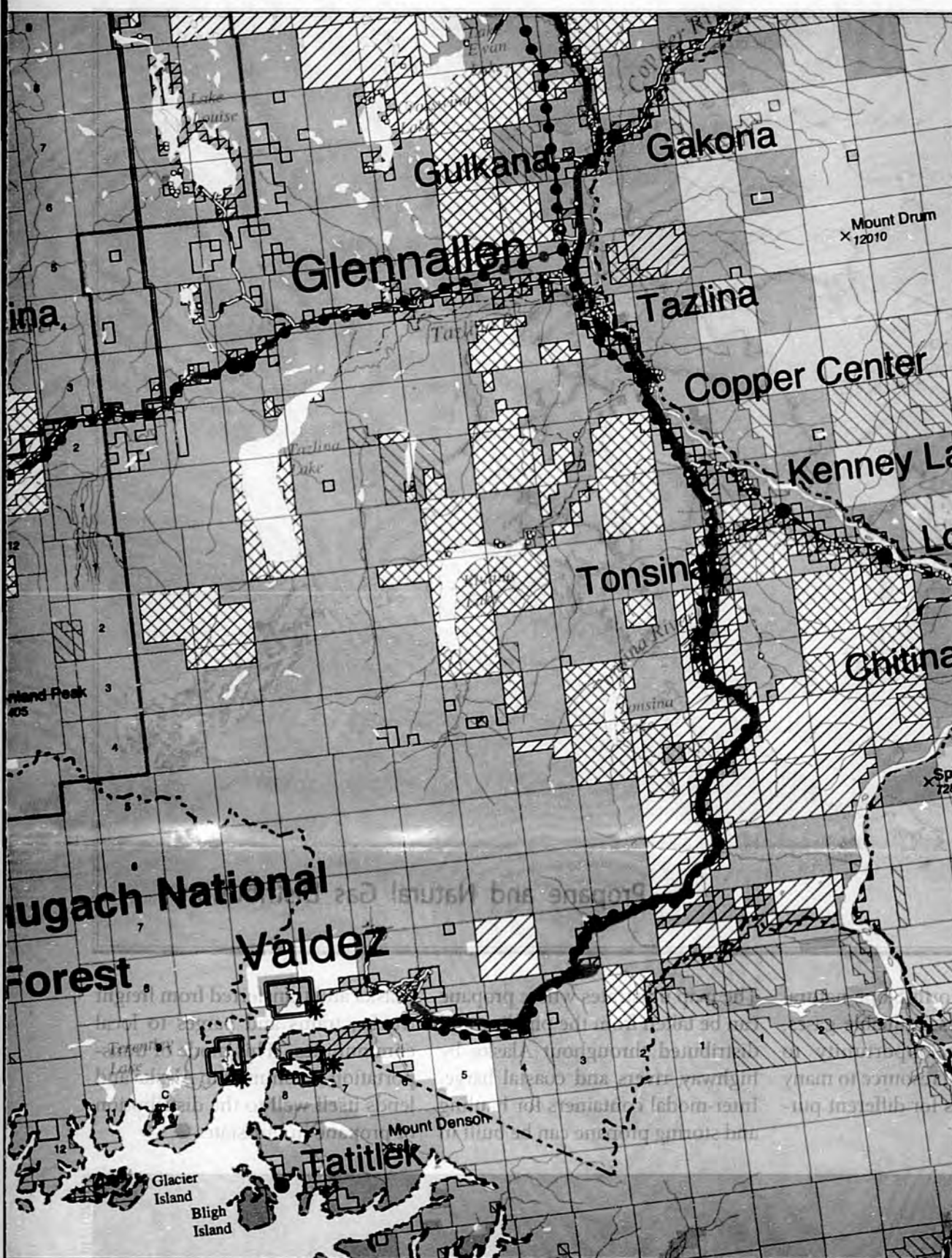
"I have been involved in several controversial utility and natural resource development issues that directly affected the residents of the Matanuska-Susitna Borough over the last decade. I have been impressed with the effort ANGDA has put forth to reach out to residents and local communities that would be affected by their project.

When the project was first proposed they immediately arranged for meetings with local citizens, community organizations and user groups of the land and resources along the proposed route of the pipeline. Since the project's inception they have met with groups at their convenience and whenever requested. Many of the local residents and small communities were skeptical and at times hostile towards what they viewed as a threat towards their chosen lifestyle. Mr. Heinze and the staff of ANGDA took the time to personally attend those meetings, listened to the concerns, and openly discussed ways to mitigate concerns and impacts. This was all done in a positive way, and that kept the proposed project moving forward.

Most of the public outreach they willingly participated in was beyond what was required by law. Their willingness to engage the local citizens and users in a meaningful dialog went a long way towards building trust in the community that their concerns were being addressed. ANGDA has set a standard for other utility companies, natural resource development and utilization companies to use as an example."

Ron Swanson
Community Development Director
Matanuska-Susitna Borough

North Slope Pipeline Routes



STATE OF ALASKA Alternative Natural Gas Transportation Routes	
-----	Alaska Natural Gas Transportation System (Proposed)
-----	Trans - Alaska Oil Pipeline Centerline
-----	Kenai Gas Pipeline Route (Proposed)
-----	Trans - Alaska Gas Pipeline (Proposed)
[Pattern]	State Land
[Pattern]	Native Lands
[Pattern]	Federal Lands
[Pattern]	Selected Federal Lands
[Pattern]	Municipal or Private Lands

• Delta Junction to Glennallen to Palmer

This route follows the Trans Alaska Pipeline System (TAPS) oil pipeline from Delta Junction to Glennallen; and from there generally follows along the Glenn Highway to Palmer.

• Fairbanks to Palmer

This route generally follows the Parks Highway corridor from Fairbanks to Palmer.

A U.S. Dept. of Energy feasibility study currently underway has not identified any significant difference between the routes in delivery costs, hazards, wildlife impacts, socio-economic benefits, or permitting/right-of-way conditions.

Two viable pipeline routes (also known as spur pipelines) are being studied to bring North Slope natural gas to the Southcentral region of Alaska. They will connect with the proposed major gas pipeline project(s).

At 24" in diameter, either spur pipeline would tie in to the much larger diameter main pipeline (48" plus). Each route is approximately 300 miles long; will cost approximately \$1B (one billion dollars); and will generate approximately 600 construction jobs over a two year period. ANGDA was granted a "conditional right-of-way lease" from the

Alaska Department of Natural Resources in July 2006 for the Glennallen-to-Palmer segment.

Governor Frank H. Murkowski said the Department of Natural Resources' conditional right-of-way lease demonstrates the state's confidence that ANGDA can eventually build a critical part of Alaska's Gas Pipeline system. ●

"Providing in-state access to the gas is one of the six fundamental principles I followed in negotiating a natural gas pipeline contract. This right of way is one of the options available to us to fulfill my commitment to get Alaska's gas to the people, and I am very pleased to see ANGDA obtain its lease." —Governor Murkowski, referring to the Glennallen-to-Palmer Conditional Right-of-Way Lease granted to ANGDA in July 2006.



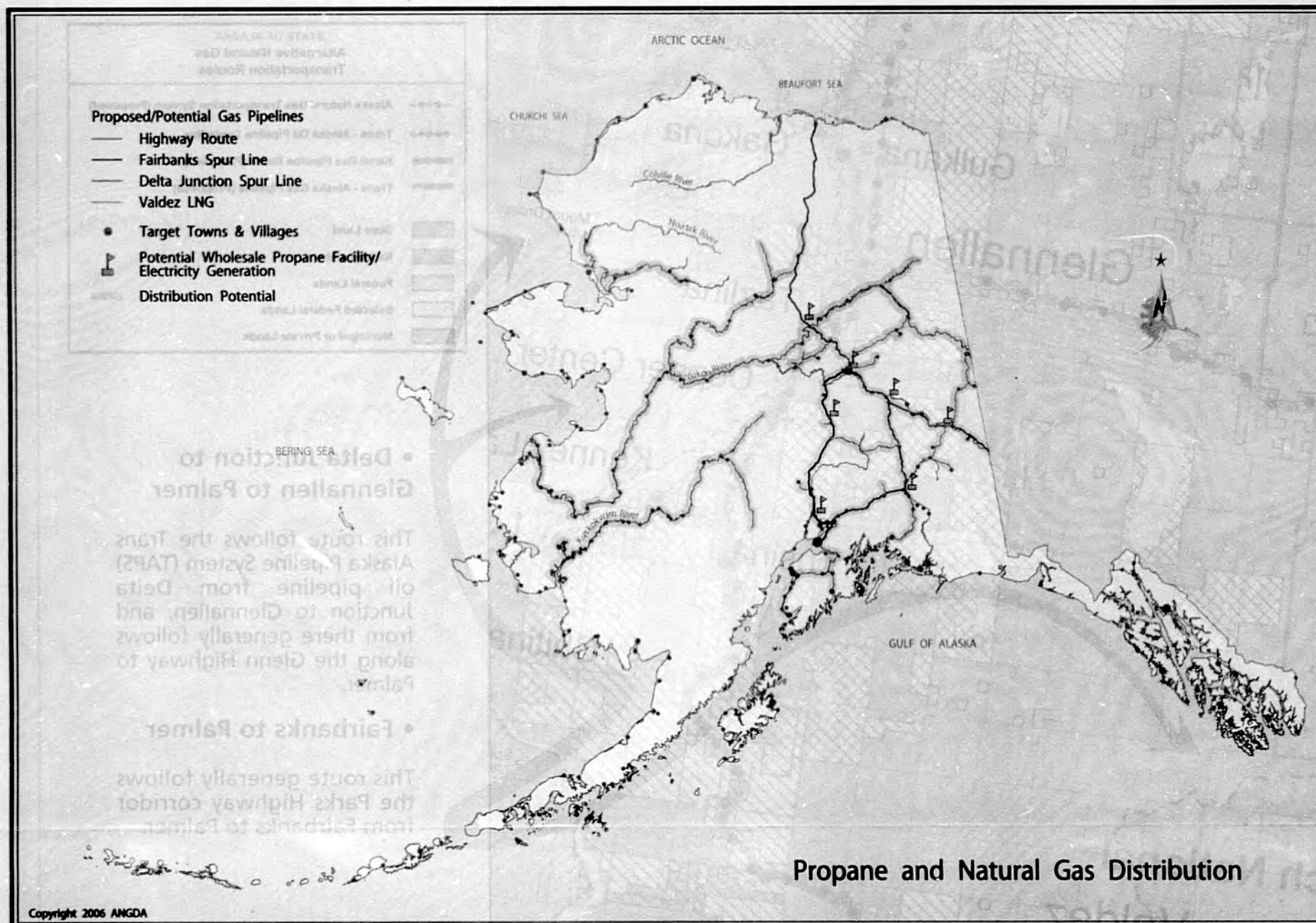
Voices

"This lease lays the foundation for a gas pipeline that, when constructed, will bring the benefits of reliable, affordable natural gas and propane to businesses and residents in Southcentral Alaska, the Kenai Peninsula, and rural and coastal communities throughout the state."

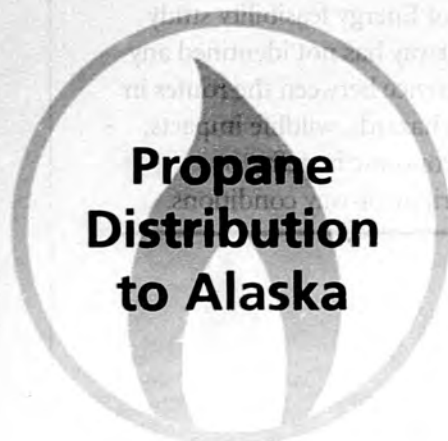
Commissioner Michael Menge
Alaska Department of Natural Resources

North Slope Natural Gas

An abundance of energy for generations



Propane and Natural Gas Distribution



Propane Distribution to Alaska

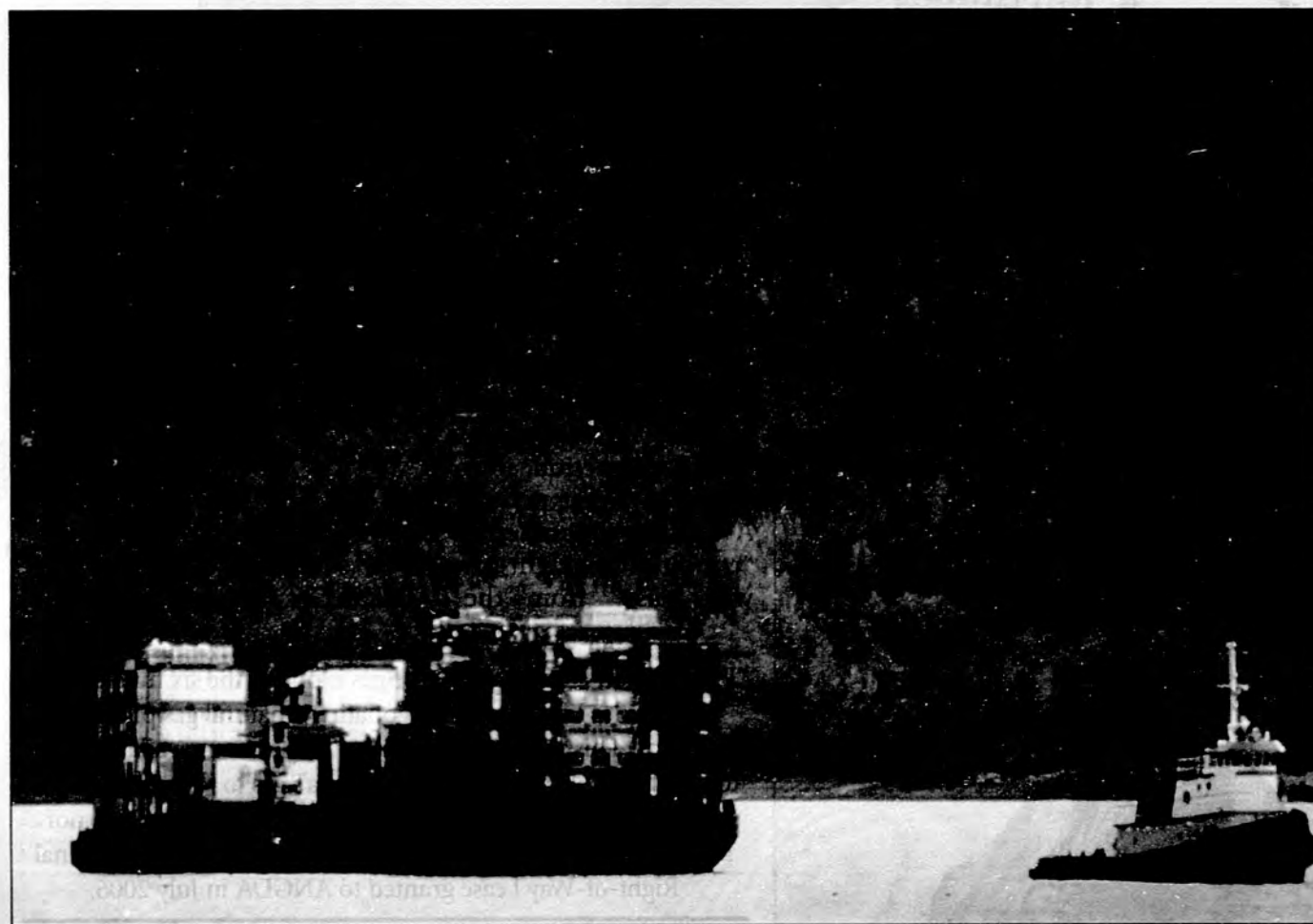
Alaska's North Slope gas is more than just methane. In particular, it contains large amounts of propane that can be used for heating, cooking, clothes drying and generating electricity.



Since Alaska's North Slope natural gas contains these valuable gases, Alaska has the opportunity to bring this natural resource to many different markets for different purposes.

The map illustrates where propane can be taken from the pipeline and distributed throughout Alaska by highway, rivers and coastal barge. Inter-modal containers for hauling and storing propane can be built in

Alaska and transferred from freight trucks, trains and barges to local communities. This mode of transportation is common in Alaska and lends itself well to the distribution of propane in our state. ●





Status of Alaska Gas Pipeline Project(s) & In-State Gas Use

FEDERAL GOVERNMENT

In September 2004, the federal government (with the help of Senator Ted Stevens, Senator Lisa Murkowski, and Congressman Don Young) passed legislation providing an \$18B loan guarantee for a natural gas pipeline project. The federal government is encouraging Alaska to finalize a pipeline contract soon as the law permits "federalization" of the project. It is increasingly important for Alaska to conclude its gas pipeline contract(s) as both the market and the federal government cannot wait much longer.



Voices

"The information that has been gathered through the ANGDA studies will be an invaluable asset for the state as we move toward full evaluation of competing gasline projects. I appreciate the way the ANGDA leadership has worked with communities and business interests to assess in-state needs."

Senator Gene Therriault, North Pole/Valdez/Richardson Highway

During the summer of 2006, Drue Pearce was appointed by President George W. Bush as Federal Coordinator for the Alaska Pipeline Transportation Project (Alaska Gas Pipeline). Federal studies are currently under way to determine the status of Alaska's gas pipeline project.

STATE GOVERNMENT

In May 2006, the State of Alaska concluded negotiations with three oil and gas producers (BP, ConocoPhillips, ExxonMobil) for a large natural gas pipeline from Prudhoe Bay through Canada to the midwestern United States. The draft fiscal contract was released by the Alaska Department of Revenue to the public and the State Legislature for review and comment. On October 20, 2006, Revenue Commissioner William Corbus released a summary of comments and responses to public input and subsequent revisions to the gas pipeline draft fiscal contract.

During 2005/2006, ANGDA worked with the Regulatory Commission of Alaska (RCA) to amend statutory regulations that will simplify the in-state acquisition and use of North Slope natural gas. After a public hearing, ANGDA's recommendations were accepted by the Commission and transmitted to the Governor's Office for legislative consideration.

State efforts to make North Slope natural gas available for in-state use by Alaskans took a giant step forward in July 2006 with the Department of Natural Resources' approval of a conditional right-of-way lease to ANGDA for a gas pipeline from Glennallen to Palmer.



ANGDA determined that a main large-diameter, high-pressure natural gas pipeline will carry several hundred thousand barrels of ethane, propane, and butane per day. Extracting the State's share of these gases (also known as NGLs or natural gas liquids) and shipping them in the spur pipeline to tidewater will facilitate a petrochemical industry and LPG (propane) delivery to rural, urban, coastal and river communities of Alaska. The use of NGLs in our state provides business and job opportunities for Alaska, in addition to vital energy sources.

"OPEN SEASON"

"Open season" is the process by which companies bid on how much North Slope natural gas they want to transport through the pipeline or how much gas they want to purchase at an off-take point along the pipeline route. The "open season" commitments that companies make are the basis for designing and financing the pipeline.

The Federal Energy Regulatory

Commission (FERC) handles the "open season" process for the pipeline transporting Alaska's natural gas to the lower-48 states. The Regulatory Commission of Alaska (RCA) is in charge of the in-state "open season" for natural gas transported through pipelines within Alaska.

During the "open season," bidders must negotiate and commit to multiple-year contracts on a "take-or-pay" or "ship-or-pay" basis. That is, once a bid becomes a contract, the company is firmly obligated to either ship or take the gas they signed up for, or pay for it regardless. There will be contracts for supply (or shipping) and demand (users of natural gas like utility companies).

For Alaska utilities, these commitments to buy and ship natural gas over long periods of time will be very large compared to their financial strength. ANGDA will work with the utilities in preparing for these important decisions and possible future financial support needs. ●



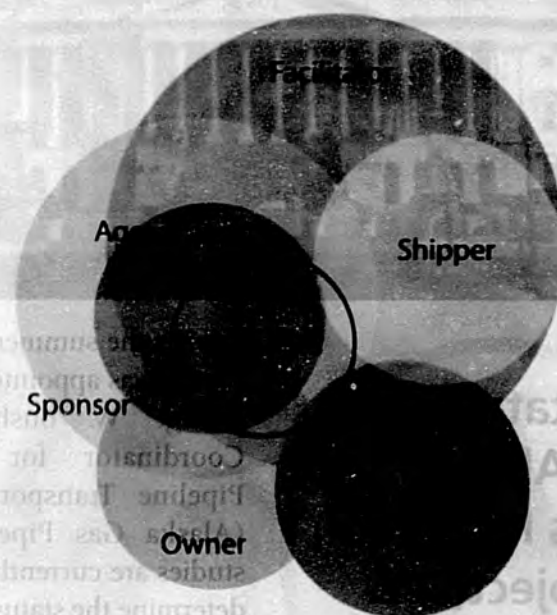


The Way Forward

ANGDA's challenge is to assure that an abundant supply of relatively low-cost natural gas energy is delivered to Alaskans.

ANGDA can play many different roles in accomplishing its mission.

Facilitator	Internal project coordination focused on understanding and meeting needs of participating entities.
Sponsor	External project coordination including public process management, government relations, and stakeholder engagement.
Financier	Spur pipeline or other project financing ranging from providing a Letter of Credit to taking an equity position.
Aggregator	Accumulating demand from smaller buyers for purchasing natural gas on the North Slope and potentially aggregating shipping commitments for the spurline and/or main pipeline.
Shipper	Commitment to transport gas through spurline and/or main pipeline.
Owner	Hold deed to spur pipeline or other infrastructure.
Operator	Contract to operate the spur pipeline or other infrastructure.



At this moment Alaska is poised to transition to a new governor. ANGDA's roles will be set by the new administration and the decisions it makes on the major North Slope natural gas pipeline project.

ANGDA's work plan includes

- Developing the information required for permitting and financing a spur pipeline.
- Demonstrating the feasibility of propane extraction facilities and logistical systems.
- Preparing local utilities to participate in the "open season" process of the major gas pipeline.
- Coordination with the full range of federal and state agencies to assure that Alaska's gas is brought to market for the maximum benefit of Alaskans.



ANGDA Board of Directors

From left to right: Robert Stinson, John T. Kelsey, Scott R. Heyworth (Vice-Chair), Harold Heinze (CEO), Andy Warwick (Chair), Daniel A. Sullivan (Not pictured: David W. Cuddy, Robert C. Favretto)



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This publication was produced by the Alaska Natural Gas Development Authority (ANGDA) and published in Anchorage, Alaska at a cost of \$0.20 per copy to provide information to the public about the Alaska Natural Gas Pipeline Project(s). This notice is provided in accordance with AS 44.99.210

This report was prepared by Harold Heinze and Corrie Young of ANGDA. Thank you to Dan Wilcox and Tom Kearney of Petroleum News and Marilyn Phymire for their coordination.

WORK DRAFT

ANGDA 6-20-2008
Friday

presented by H. Heinz
(C. Huggins - reg. "two chairs"
of Judiciary Emtees take up
this issue)

HOUSE BILL NO.

IN THE LEGISLATURE OF THE STATE OF ALASKA

TWENTY -FIFTH LEGISLATURE -FIRST SESSION

BY

Introduced:

Referred:

A BILL

FOR AN ACT ENTITLED

"An Act relating to oversight of North Slope natural gas pipelines by the Regulatory Commission of Alaska under the Alaska Pipeline Act; repealing statutory limitations on the conduct of open seasons for the transport of North Slope natural gas for in-state use; and repealing a requirement that the Regulatory Commission of Alaska treat the regulation of intrastate rates for a North Slope natural gas pipeline as if the pipeline were a public utility."

BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF ALASKA:

* Section 1. AS 42.06.240(f) is repealed.

* Section 2. AS 42.06.230(b) is amended to read:

(b) The commission's jurisdiction and authority extend to

(1) an oil or gas pipeline facility operating in a municipality, whether home rule or otherwise; if a conflict between a certificate, order, decision, or regulation of the commission and a charter, permit, franchise, ordinance, rule, or regulation of the [SUCH A] local governmental entity occurs, the certificate, order, decision, or regulation of the commission prevails; and

(2) the intrastate transportation of [NORTH SLOPE] natural gas

through a [NORTH SLOPE] natural gas pipeline to the extent not preempted by federal law, rule, or regulation.

* Section 3. AS 42.06.370(c) is repealed.

Purpose

The purpose of this legislation is to remove potential impediments to timely state regulatory approval of a natural gas pipeline delivering North Slope natural gas to in-state users. Currently, AS 42.06.240(f) provides specific directives regarding how the Regulatory Commission of Alaska is to allow access to a pipeline for the transport of North Slope natural gas for in-state use. This provision has never been implemented by the RCA. Both the Alaska Natural Gas Development Authority and the RCA support removal of this provision from Alaska statutes to allow maximum flexibility in designing a regulatory structure for access to the pipeline by shippers that meet market requirements.

Similarly, AS 42.06.370(c) directs that a pipeline transporting North Slope natural gas shall establish rates as if it were a public utility regulated under AS 42.05. The purpose for repeal is to allow maximum discretion in establishing just and reasonable rates to meet public interest requirements.

STATE OF ALASKA

THE REGULATORY COMMISSION OF ALASKA

Before Commissioners:

Kate Giard, Chairman
Dave Harbour
Mark K. Johnson
Anthony A. Price
James S. Strandberg

In the Matter of the Proposal from the Alaska
Natural Gas Development Authority to Repeal
AS 42.06.240(f) and AS 42.06.370(c)

P-05-10

ORDER NO. 2

ORDER CLOSING DOCKET

BY THE COMMISSION:

Summary

We support the Alaska Natural Gas Development Authority's (ANGDA's) proposal to repeal AS 42.06.240(f) and AS 42.06.370(c). We close this docket.

Background

At ANGDA's request, we decided to open this docket to receive comments from interested parties on the impact of ANGDA's proposal to repeal AS 42.06.240(f) and AS 42.06.370(c).¹ We held a public hearing on ANGDA's proposed statutory revisions on September 8, 2005.

¹Order P-05-10(1), *Order Scheduling Public Hearing and Requesting Comments*, dated August 29, 2005.

1 Discussion

2 We received comments from Steve Pratt, Consultant, on behalf of
3 ANGDA, Flint Hills Resources Alaska, LLC; Anadarko Petroleum Corporation; and
4 ENSTAR Natural Gas Company, a division of SEMCO Energy, Inc.

5 We sent a letter to Governor Murkowski stating, in part, that: Based on
6 our review of the record in Docket P-05-10, we support ANGDA's proposal.
7 AS 42.06.240(f) contains very specific requirements for the timing and substance of
8 intrastate capacity commitments made in connection with a North Slope natural gas
9 pipeline. We believe that detailed requirements of that kind are more appropriately
10 made by regulation, not in a statute. AS 42.06.370(c) is problematic because under it
11 we are required to set rates of an entity which by statute must be certificated under
12 AS 42.06 as though it were an entity certificated under AS 42.05. We believe that
13 requirement raises uncertainties that should not be interjected into the rate setting
14 process.

15 We support ANGDA's proposal to repeal AS 42.06.240(f) and
16 AS 42.06.370(c). We attach the February 28, 2006 Commission letter to Governor
17 Murkowski to this order as an Appendix. We close this docket.

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Regulatory Commission of Alaska
701 West Eighth Avenue, Suite 300
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(907) 276-6222; TTY (907) 276-4533

STATE OF ALASKA

DEPARTMENT OF COMMERCE
COMMUNITY AND ECONOMIC DEVELOPMENT
REGULATORY COMMISSION OF ALASKA

FRANK H. MURKOWSKI, GOVERNOR

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February 28, 2006

The Honorable Frank H. Murkowski
Office of the Governor
Alaska State Capitol, Room 430
Juneau, Alaska 99801-1182

Dear Governor Murkowski:

At the request of Harold Heinze, Chief Executive Officer of the Alaska Natural Gas Development Authority (ANGDA), we internally reviewed, publicly noticed, and received public comment orally and in writing on the revisions to AS 42.06 (Pipeline Act) proposed by ANGDA. ANGDA proposed to repeal AS 42.06.240(f) and AS 42.06.370(c). See attachment.

Based on the record, the RCA supports the proposed revisions by ANGDA to AS 42.06. Both AS 42.06.240(f) and AS 42.06.370(c) were part of changes made to AS 42.06 in 2000 that defined and added special provisions relating to a "North Slope natural gas pipeline." A North Slope natural gas pipeline includes all the facilities of a total system of pipe, including gas processing plants, used to transport "gas that is produced from the area of Alaska lying north of 68 degrees North latitude and that, but for a pipeline subject to regulation under this chapter, had not been committed for sale and delivery in a commercial market due to the prevailing costs or price conditions." (AS 42.06.630(12)).

In addition to defining a North Slope natural gas pipeline and adding the provisions ANGDA seeks to repeal, the 2000 enactment added provisions that deal with the extension or expansion of a North Slope natural gas pipeline (AS 42.06.310(d)) and that permit a North Slope natural gas pipeline to have two classes of service, firm and interruptible (AS 42.06.350(c)). See attachment.

In 2003, AS 42.06.350(c) was amended to make it applicable to all natural gas pipelines rather than only to a North Slope natural gas pipeline. Thus, any natural gas pipeline may now offer firm and interruptible service. If AS 42.06.240(f) and AS 42.06.370(c) are repealed, as proposed by ANGDA, AS 42.06.350(c) (extension and expansion) will be the only portion of statute requiring special treatment for a North Slope natural gas pipeline and the only portion making it necessary to retain the North Slope natural gas pipeline definition and jurisdictional subsections (AS 42.06.630(12), (13), and (14) and AS 42.06.230(b)(2)).

We held a public hearing on ANGDA's proposed statutory revisions on September 8, 2005. We enclose a copy of the transcript from that hearing. At the public hearing,



Steve Pratt, Consultant, spoke on behalf of ANGDA. Mr. Pratt testified that the statutory provisions ANGDA sought to repeal contained ambiguities, which might lead to uncertainty, which translates to risk, and that increased risk translates into increased costs. He stated the provisions unnecessarily limited the discretion of the RCA to act in the public interest. No other person spoke at the public hearing.

We received written comments on the proposed statutory revisions from three entities: Flint Hills Resources Alaska, LLC; Anadarko Petroleum Corporation; and ENSTAR Natural Gas Company, a division of SEMCO Energy, Inc. We enclose a copy of each of those comments.

Flint Hills agreed with ANGDA that the statutes proposed for repeal might create an impediment to the expansion of the intrastate North Slope natural gas market and might also limit the authority of the RCA to protect the public interest. Flint Hills stated that the requirement of AS 42.06.240(f) that shippers provide three-year take-or-pay contracts as proof of intrastate firm transportation commitments is a very heavy burden on the customer. Flint Hills stated that AS 42.06.370(c) would limit the discretion of the RCA and limit the capacity of carriers, shippers, and customers to propose, debate, and develop creative rate models.

Anadarko stated that its understanding was that the proposed revisions would serve to clarify the Pipeline Act and give the RCA greater discretion to resolve intrastate transportation issues on a North Slope natural gas pipeline. Based on that understanding, Anadarko supported ANGDA's proposed revisions.

ENSTAR stated in its filing that it was not ready to comment on the specific proposal. It observed that the interrelationships between the statutory and regulatory provisions that will govern development of North Slope natural gas were not simple. ENSTAR wanted a better explanation from ANGDA of the need for repeal and the consequences for the RCA's regulatory oversight of future gas pipelines.

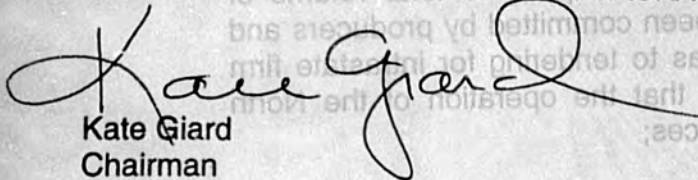
ANGDA submitted a filing documenting the legislative history of the provisions it seeks to repeal. ANGDA also submitted the remarks of former Alaska Attorney General Charlie Cole on this subject at a July 28, 2004 Legislative Budget and Audit Committee hearing on stranded gas. In those remarks General Cole explained why he believe AS 42.06.240(f) was problematic as applied to possible providers of natural gas to Fairbanks. However, he recommended revision of the subsection rather than repeal.

Based on our review of the record in our Docket P-05-10, we support ANGDA's proposal. AS 42.06.240(f) contains very specific requirements for the timing and substance of intrastate capacity commitments made in connection with a North Slope natural gas pipeline. We believe that detailed requirements of that kind are more appropriately made by regulation, not in a statute. AS 42.06.370(c) is problematic

because under it we are required to set rates of an entity which by statute must be certificated under AS 42.06 as though it were an entity certificated under AS 42.05. We believe that requirement raises uncertainties that should not be interjected into the ratesetting process.

Sincerely,

REGULATORY COMMISSION OF ALASKA


Kate Giard
Chairman

Enclosures: Applicable Statutes
Transcript of Public Hearing
Public Comments

cc: Harold Heinze, Chief Executive Officer
Alaska Natural Gas Development Authority

AS 42.06.240(f)

(f) In addition to other requirements of (a) - (e) of this section, the provisions of this subsection apply to a certificate of public convenience and necessity for a North Slope natural gas pipeline carrier or person that will be a North Slope natural gas pipeline carrier under this chapter:

(1) the person making application shall dedicate a portion of the pipeline's initial capacity sufficient to transport the total volume of North Slope natural gas that has been committed by producers and shippers of North Slope natural gas to tendering for intrastate firm transportation service at the time that the operation of the North Slope natural gas pipeline commences;

(2) upon receipt of the certificate application under this subsection, the commission shall issue a public notice inviting prospective intrastate shippers of North Slope natural gas to file requests for service; a request for service submitted by a shipper in response to a notice issued under this paragraph must include a proof of the shipper's commitment to use the North Slope natural gas pipeline for intrastate firm transportation service, specifying the volume of North Slope natural gas that the shipper will tender for initial intrastate firm transportation service;

(3) in its review of an application submitted under this subsection,

(A) for purposes of evaluating the total volume of intrastate transportation of North Slope natural gas to be accepted for initial intrastate transportation, the commission shall determine total volume based upon written commitments to tender North Slope natural gas for intrastate firm transportation service continuously for a period of not less than three years after the operation of the North Slope natural gas pipeline commences as follows:

(i) each request for service by an intrastate shipper that is a public utility, as that term is defined in AS 42.05.990, for the purpose of furnishing natural gas for ultimate consumption within the state by its customers that individually consume an average annual volume of less than 20,000,000 standard cubic feet of gas per day shall be supported by a written commitment by the public utility that sets out the utility's best current estimate of the average annual volume that the utility will require during the three-year period;

(ii) each request for service by an intrastate shipper that is not a public utility, as that term is defined in AS 42.05.990 and each request for service by a public utility for the purpose of furnishing natural gas for

ultimate consumption within the state by a customer that individually consumes an average annual volume of 20,000,000 or more standard cubic feet of gas per day, that purchases North Slope natural gas from a North Slope natural gas producer, must be supported by one or more contracts for the purchase of the North Slope natural gas on a take-or-pay basis that extends for a period of not less than three years after the operation of the North Slope natural gas pipeline commences;

(iii) the commission may consider peak volumes specified in the written commitments of North Slope natural gas producers and purchase contracts; and

(B) the commission shall set out in its order granting a certificate of public convenience and necessity the total volume of intrastate North Slope natural gas that the North Slope natural gas pipeline carrier shall accept for intrastate transportation; the total volume may not exceed the volume substantiated by written commitments and contracts that comply with the requirements of this chapter;

(4) if the North Slope natural gas pipeline carrier wants to transport North Slope natural gas within the state in excess of the amount set out in the statement of total volume in the pipeline carrier's certificate of public convenience and necessity, the pipeline carrier may apply for authority to transport a greater volume of North Slope natural gas within the state than the carrier is required by the commission to transport in its order entered under (3)(B) of this subsection; the commission shall grant the authority requested by the pipeline carrier if the commission determines that the pipeline carrier's transportation of a greater volume is consistent with public convenience and necessity.

AS 42.06.370(c)

(c) Rates demanded, observed, charged, or collected by a North Slope natural gas pipeline carrier for intrastate service shall be designed as if that portion of the North Slope natural gas pipeline were a public utility regulated under the provisions of AS 42.05.

AS 42.06.310(d)

(d) The requirement of (c) of this section does not apply to a North Slope natural gas pipeline carrier to the extent that the capacity of the carrier's North Slope natural gas pipeline does not allow for expanded capacity, and does not apply to require a North Slope natural gas pipeline carrier to enlarge or extend its North Slope natural gas pipeline system. However, the commission may require a North Slope natural gas pipeline carrier to

expand, enlarge, or extend its North Slope natural gas pipeline system if, after notice and opportunity for hearing, the commission determines that

- (1) a person making a request for expanded, enlarged, or extended service by a North Slope natural gas pipeline carrier has made a firm contractual commitment to the North Slope natural gas pipeline carrier to transport North Slope natural gas; and
- (2) the expansion, enlargement, or extension will not result in
 - (A) substantial injury, including economic injury, to the North Slope natural gas pipeline facility or its customers;
 - (B) substantial detriment to the services furnished by the North Slope natural gas pipeline facility; or
 - (C) the creation of safety hazards.

AS 42.06.350(c) [as it read when enacted]

(c) In its tariff filed with the commission under (a) of this section, a North Slope natural gas pipeline carrier may charge separate rates for firm transportation service and for interruptible transportation service. A North Slope natural gas pipeline carrier

- (1) may, in addition, impose a reservation fee or similar charge for reservation of capacity in a North Slope natural gas pipeline as a condition of providing firm transportation service; the reservation fee or charge imposed by the carrier may not include any variable costs or fixed costs that are not attributable to the provision of firm transportation service;
- (2) may not impose a reservation fee or similar charge for reservation of capacity in a North Slope natural gas pipeline for interruptible transportation service.

STATE OF ALASKA

DEPARTMENT OF LAW

OFFICE OF THE ATTORNEY GENERAL

FRANK H. MURKOWSKI, GOVERNOR

1031 WEST 4TH AVENUE, SUITE 200
ANCHORAGE, ALASKA 99501-5903
PHONE: (907) 269-5100
FAX: (907) 279-8644

October 19, 2005

Hand Delivered To:

Regulatory Commission of Alaska
701 West 8th Avenue, Suite 300
Anchorage, Alaska 99501

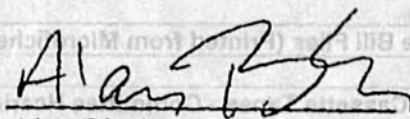
Re: Docket No. P-05-10 – In the Matter of the Proposal from the Alaska Natural Gas Development Authority to Repeal AS 42.06.240(f) and AS 42.06.370(c)

Dear Regulatory Commission of Alaska:

Per the Commission's request, enclosed you will find an original and 10 copies of the legislative history of AS 42.06.240(f) and AS 42.06.370(c), prepared on behalf of ANGDA, for filing in Docket No. P-05-10. Thank you.

DAVID W. MARQUEZ
ATTORNEY GENERAL

By:


Alan Birnbaum
Assistant Attorney General

AB/dmj

Enclosure

cc: Harold Heinze
Steve Pratt

RECEIVED
OCT 19 11:42:21

	Legislative History of AS42.06.240(f) & AS42.06.370(c) (HB 290 - 56 SLA 2000)
	Chapter 56 SLA 2000
	Bill History/Action
	Bill Versions
	A. House Bill No. 290
	B. House Bill No. 290 (O&G)
	C. House Bill No. 290 (RES)
	D. House Bill No. 290 (FIN)
	Committee Minutes
	House Oil & Gas Committee
	1. 1/27/00 Minutes
	2. 2/1/00 Minutes
	3. 2/10/00 Minutes
	4. 2/17/00 Minutes
	House Resources Committee
	5. 2/21/00 Minutes
	6. 3/1/00 Minutes
	House Finance Committee
	7. 3/23/00 Minutes
	8. 3/24/00 Minutes
	9. 3/28/00 Minutes
	Senate Finance Committee
	10. 4/15/00 Minutes
	Committee Bill Files (Printed from Microfiche)
	Recorded Cassette Tapes - Committee Hearings (Total 12 Tapes - not included in binder located in DOL Oil, Gas & Mining Section)
	House Oil & Gas Committee
	1/27/00 Tape 1 of 2; Tape 2 of 2
	2/1/00 Tape 1 of 1
	2/10/00 Tape 1 of 1
	2/17/00 Tape 1 of 2; Tape 2 of 2
	House Resources Committee
	2/21/00 Tape 1 of 1
	3/1/00 Tape 1 of 1
	House Finance Committee
	3/23/00 Tape 1 of 2; Tape 2 of 2
	3/28/00 Tape 1 of 1
	Senate Finance Committee
	4/15/00 Tape 1 of 1

STATE OF ALASKA

THE REGULATORY COMMISSION OF ALASKA

Before Commissioners:

Kate Giard, Chairman
Dave Harbour
Mark K. Johnson
Anthony A. Price
James S. Strandberg

In the Matter of the Consideration of)
Regulations Classifying Pipelines Based)
upon Differences in Annual Revenue,)
Assets, Nature of Ownership, and Other)
Appropriate Distinctions)

R-05-11

ORDER NO. 1

ORDER OPENING DOCKET AND SEEKING COMMENTS

BY THE COMMISSION:

Summary

We open this docket to seek comments on whether we should establish two or more classes of pipelines under AS 42.06, and the reporting, accounting, and other regulatory requirements that we should prescribe for each class.¹

Discussion

We recognize that the cost of regulation can be prohibitive for small, producer-owned pipelines and that full regulation of small pipelines could discourage exploration and development of Alaska's resources. We should consider simplified

¹ See AS 42.06.620 which states: The commission may by regulation provide for the classification of oil or gas pipeline facilities based upon differences in annual revenue, assets, nature of ownership, and other appropriate distinctions and as between these classifications, by regulation, provide for different reporting, accounting, and other regulatory requirements.

1 regulation if current regulation is unduly burdensome and adversely affects the
2 development of Alaska's oil and gas resources. However, we must balance the need
3 for such regulatory charge with the public interest in open access to pipelines and
4 reasonable transportation rates.

5 At our November 4, 2005, Public Meeting, we decided to open this docket
6 to seek comments from interested persons on whether we should consider regulations
7 establishing two or more classes of pipelines. In particular, we are interested in whether
8 we can ease the burden of regulation on small, producer-owned pipelines that ship only
9 the producer's products, while still adequately protecting the interests of unaffiliated
10 producers, end-users and the public.

11 We seek comments on whether we should establish two or more classes
12 of pipelines under AS 42.06. We also seek comments on the reporting, accounting, and
13 other regulatory requirements we should prescribe for each class and how
14 implementation of comments will encourage development, provide cost-effective
15 regulation, provide open access to pipelines, and allow for reasonable transportation
16 rates while protecting the public interest.

17 Comments must be filed by 4 p.m., January 13, 2006, with reply
18 comments due January 27, 2006. We request that commenters reference Docket
19 R-05-11. Since this is a regulations proceeding, commenters are not required to serve
20 their comments on the other entities set out on the service list of this Order. We will
21 post copies of all filed comments on our web site.

STATE OF ALASKA

ALASKA NATURAL GAS DEVELOPMENT AUTHORITY

FRANK H. MURKOWSKI, GOVERNOR

411 WEST 4TH AVENUE
ANCHORAGE, ALASKA 99501
TELEPHONE: (907) 257-1347
FACSIMILE: (907) 646-5005

May 24, 2005

FILE COPY

Kate Giard
Chairman, Regulatory Commission of Alaska
701 West Eighth Avenue, Suite 300
Anchorage, AK 99501-3469

Re: Statutory Changes to AS 42.06

Dear Chairman Giard:

As you know, the Alaska Natural Gas Development Authority (ANGDA) is reviewing the feasibility of constructing a pipeline to transport natural gas to various users, including Alaskan consumers. Should construction prove feasible, ANGDA anticipates applying to the Regulatory Commission of Alaska (RCA) for a Certificate of Public Convenience and Necessity. Since certification is required prior to commencing construction, any delay in certification could prove detrimental to the project.

Our review of AS 42.06 has raised concerns that the Commission may not have at its disposal the tools required to efficiently process our application within the statutory six-month time frame. Therefore, ANGDA would like to work with the RCA to advocate statutory changes that increase the RCA's discretion in streamlining certification proceedings for jurisdictional natural gas pipelines owned by the state that transport North Slope natural gas. The proposed changes, which we will be considering at our June 27th meeting, are detailed below. ANGDA invites the RCA's input regarding any concerns with these changes that we hope you will join us in advocating.

We consider this a matter of some urgency since Governor Murkowski has indicated that the Alaska Legislature could have the matter of moving North

Slope gas to market before it within a few months. We believe that these issues could and should be part of any special session that is called.

1. Grant the RCA discretionary authority to exempt a pipeline owned by the state, or a public corporation owned by the state, from any provision of AS 42.06. Currently, full regulation of pipelines is mandatory under AS 42.06.140(a)(1) regardless of any public interest determination the RCA might make with respect to any particular applicant, circumstance, or statutory provision. We believe that RCA forbearance authority will allow the Commission to fit its regulatory regime to the dictates of individual circumstances while effectively meeting public interest requirements.

2. Exempt pipelines owned by the state, or by a public corporation of the state, from AS 42.06.240(f). In addition to being unclear as to how it might be implemented, which could lead to delay in and of itself, this section of the statute specifies criteria the RCA shall use in determining the maximum and minimum amounts of gas a pipeline transporting North Slope natural gas shall be authorized to transport. ANGDA, considering the needs of potential shippers as well as potential financiers, needs the flexibility to propose to the RCA its own rules for determining whom it will transport gas for, how much gas it will transport, the terms and conditions for offering various levels of service, and how each type of offered service will be defined. ANGDA and the RCA should have the authority to rely on input from market participants to make these determinations rather than relying on what we believe to be obsolete statutory dictates.

3. Repeal AS 42.06.370(c). This provision requires that the structure of prices charged by a pipeline transporting North Slope natural gas be designed as if the pipeline were a distribution utility regulated under AS 42.05. ANGDA financial goals and optimal just and reasonable rate design may differ from a typical gas or electric distribution utility. ANGDA and the RCA should have maximum flexibility to design rates to meet public interest goals. It is unclear to us why flexibility in rate design for a North Slope natural gas pipeline should be more restrictive than that applying to other pipelines.

Chairman Giard, we appreciate your assistance in helping us to advance the goals of the Stranded Gas Act as well as Ballot Proposition Number 3 that brought ANGDA into existence. The ANGDA Board has expressed its interest in meeting with representatives of the RCA to discuss these proposals further.

Stranded Gas Hearings

(0407281315 Minutes)

Access to Capacity for Alaskan Communities

Charlie Cole, Board of Directors, Alaska Gasline Port Authority, July 28, 2004.

MR. CHARLIE COLE, Board of Directors, Alaska Gas Pipeline Authority, said he wanted to talk about the Gas Act's provisions at Fairbanks.

I have to say preliminarily that I have some hesitation about speaking critically, you might say, about an item of legislation that passed the legislature by a vote of 20 – 0 in the Senate and 38 – 0 in the House. Obviously, any bill that passes the Alaska Legislature with votes like that has strong support and is viewed by informed legislators as good legislation for this state. So, with that caveat and that reservation, I want to speak a little bit today about the effect of that bill as I see it on Fairbanks and other Interior communities and in a sense, communities down river.

One, Alaska is cold and Fairbanks is, on occasions, very cold. It is one of the restraints on growth that we have in Alaska and we'll always have in Alaska – is the cold weather. With that given, low cost economic energy is vital for the economic development of, certainly, Interior Alaska and, as we have seen, how vital and how beneficial that has been to the Anchorage area. But, Fairbanks has not had that benefit and Fairbanks continues to struggle economically as respects quality of life for the high cost of energy there.

So, if one looks to the future of Fairbanks, if Fairbanks is going to have any economic growth... it must have cheap economic energy to offset the costs of living there.

The second given is that these Alaska resources should be primarily for the benefit of Alaskans. Isn't that what Governor Murkowski said? He said one of the fundamental purposes of the use of these resources of Alaska should be to benefit Alaskans.

Senator Seekins would know at times in Fairbanks when it's 50 degrees below zero, we have people there who buy 50 gallons of fuel oil to heat their house, to keep it from freezing, because that's all they can afford, if you can believe that. One of the givens for the Fairbanks community is we really need gas. There's only one place we're going to get that gas and that's off this gasline, if it's ever built. Presumably, it's going to be built.

Also, if we want to keep the military bases in Fairbanks – you know those base closure proceedings come up every once in a while. One of the criticisms we talk about keeping Eielson and Fort Wainwright there is how much it costs to keep those bases open. If we're trying to reduce the defense budget, maybe we're trying to, I'm not really sure that we are, but if we are, we've got to reduce the cost of power and heating at those bases. So, that should, in my view, be given as a policy.

So, what did the Stranded Gas Act do for Fairbanks in that regard? Given I think those unanimous policies – let's just read what AS 42.06.240 says in that regard.... starting with section (f).

In addition to the other requirements of (a) through (e) of this section, the provisions of this section shall apply to a certificate of public convenience and necessity for a North Slope natural gas pipeline carrier or a person that will be a North Slope natural gas pipeline carrier under this chapter.

(1) The person making the application shall dedicate a portion of the pipeline's initial capacity sufficient to transport the total volume of North Slope natural gas that has been committed by the producers and shippers of North Slope natural gas to tendering for intrastate firm transportation service at the time that the operation of the North Slope natural gas pipeline commences.

(2) Upon receipt of the certificate application under this subsection, the [RCA] shall issue a public notice inviting prospective intrastate shippers of North Slope natural gas to file a request for service. A request for service submitted by a shipper in response to the notice issued under this paragraph must include a proof of the shippers commitment to use the North Slope natural gas pipeline for intrastate firm transportation service, specifying the volume of North Slope natural gas that the shipper will tender for initial intrastate firm transportation service.

(3) In its review of an application submitted under this subsection:

(A) For the purpose of evaluating the total volume of intrastate transportation of North Slope natural gas to be accepted for initial intrastate transportation, the [RCA] commission shall determine the total volume based upon written commitments to tender North Slope natural gas for intrastate firm transportation service continuously for a period of not less than three years after the operation of the North Slope natural gas pipeline commences as follows (the RCA has to determine the total volume based upon written commitments (before the certificates of public

convenience and necessity are issued and before pipeline construction begins – day one):

(i) Each request for service by an intrastate shipper that is a public utility, as that term is defined by statute, for the purpose of furnishing natural gas for ultimate consumption within the state by its customers that individually consume an average annual volume of less than 20 million standard cubic feet of gas per day shall be supported by a written commitment by the public utility that sets out the utility's best current estimate of the average annual volume that the utility will require during the three-years period.

MR. COLE emphasized that a written commitment gives the sense of something that is binding and obligatory, but after reading the next sentence, it may not mean contract.

(ii) Each request for service by an intrastate shipper that is not a public utility, as that term is defined by law, and each request for service by a public utility for the purpose of furnishing natural gas for ultimate consumption within the state by a customer that individually consumes an average annual volume of 20 million or more standard cubic feet a day, that purchases North Slope natural gas from a North Slope natural gas producer must be supported by one or more contracts for the purchase of the North Slope natural gas on a take or pay basis that extends for a period of not less than three years after the operation of the North Slope natural gas pipeline commences.

MR. COLE explained that means that anybody who wants this natural gas, if it is not a public utility or it is a public utility with more than 20 million standard cubic feet per day, you have to reach a contract now to buy natural gas from the carrier on a take or pay basis. Fairbanks has no natural gas distribution system or facilities for converting natural gas to electrical energy; so, who in Fairbanks would enter into a contract like this, he asked. He didn't know how such a project would be financed and supposed that it would be impossible.

CO-CHAIR OGAN interrupted to say that LNG is being shipped from the Matanuska Valley to Fairbanks at \$7 per thousand CF and it wouldn't take too much to set up a turbine to turn the natural gas into electricity.

MR. COLE responded that it wouldn't be very practical to enter into a contract now without knowing what rates the RCA will set and approve as just and reasonable. Fairbanks needs a whole distribution system for homes to be heated and no one knows what that would cost and no one would finance it. However, he noted that was only part of the dilemma. The next section says:

(iii) The RCA may consider peak volume specified in written commitments

of the North Slope natural gas producers and purchase contracts; and

(B) The commission shall set out in its order granting a certificate of public convenience and necessity the total volume of intrastate North Slope natural gas that the North Slope natural gas pipeline carrier shall accept for intrastate transportation.

MR. COLE said that means the certificates of public convenience and necessity shall say the total volume of intrastate gas may not exceed the volume substantiated by written commitments and contracts that comply with the requirements of the chapter. Commitments have to be in place, then the RCA in the certificate of public convenience and necessity says, "You've got to send out X, but you can't ship any more for intrastate transportation."

He emphasized that it gets worse:

If the North Slope natural gas pipeline carrier wants to transport gas in excess of the amount set forth in the statement of total volume of the pipeline carrier's certificate of public convenience and necessity, the pipeline carrier may apply for authority to transport more.

MR. COLE explained that means the carrier has to see if it can get authority to do that.

We're looking at a gasline that's going to potentially be running by Fairbanks for the next 30 years. How are we ever going to, for example, entice anyone else to come to Fairbanks and utilized this natural gas for a petrochemical facility? What about supplying natural gas to Fort Wainwright? Converting those bases? And how are we going to furnish natural gas to Eilson Air Force Base? Once, ten years down the road, it then becomes up to the gasline to decide whether they want to increase the intrastate capacity for Fairbanks. And I'm not talking just about Fairbanks and Eilson and Fort Wainwright, I'm talking about Tok, I'm talking about Delta Junction on the way down the Highway, but I'm also talking about the development of propane facilities to be able to ship propane down river to these other communities. I mean, once you do this, [it] is locked in. Then it's up to the pipeline, itself, to decide whether it wants to increase the capacity – and that's over the next 10, 20 or 30 years or maybe 50 years.

This is legislation, which I think is ill-advised, if I may say. That's a little strong for people who voted 58 – 0; I realize that. But, I think for the reasons I've given you, this Legislature should take a look at it and decide whether it needs to be revised. Probably 90 percent of what you hear in these hearings you have no control over. It's under the control of FERC.

ANGDA

"Connecting Alaskans To Their Natural Gas"

Legislative Hearing - AGIA

Anchorage on June 20, 2008

In-State Use of North Slope Gas

"It's the Open Season ..."

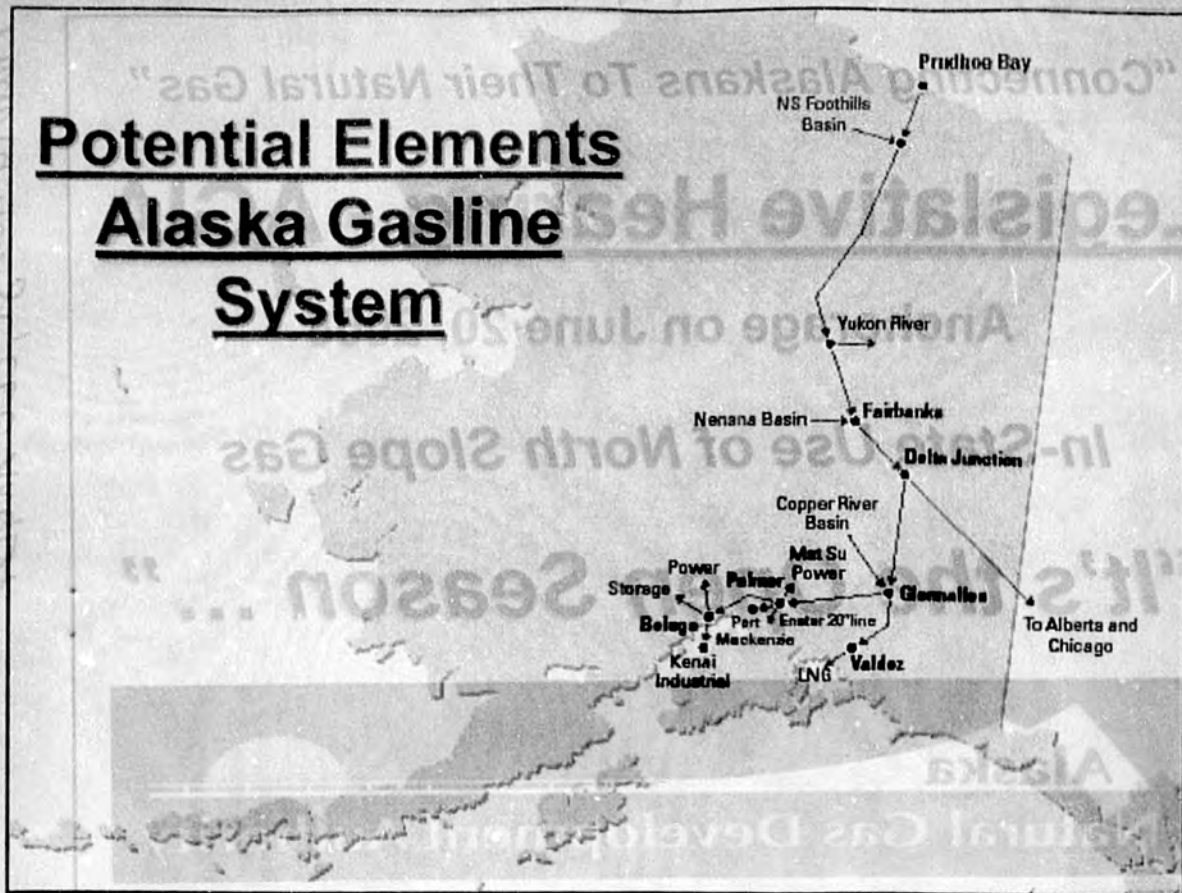


presented: Friday 6-20-2008 Anch, AK. Howard Johnson
by 9:00 AM
Harold Henry, CEO ANGDA
Playa

In-State Gas Issues

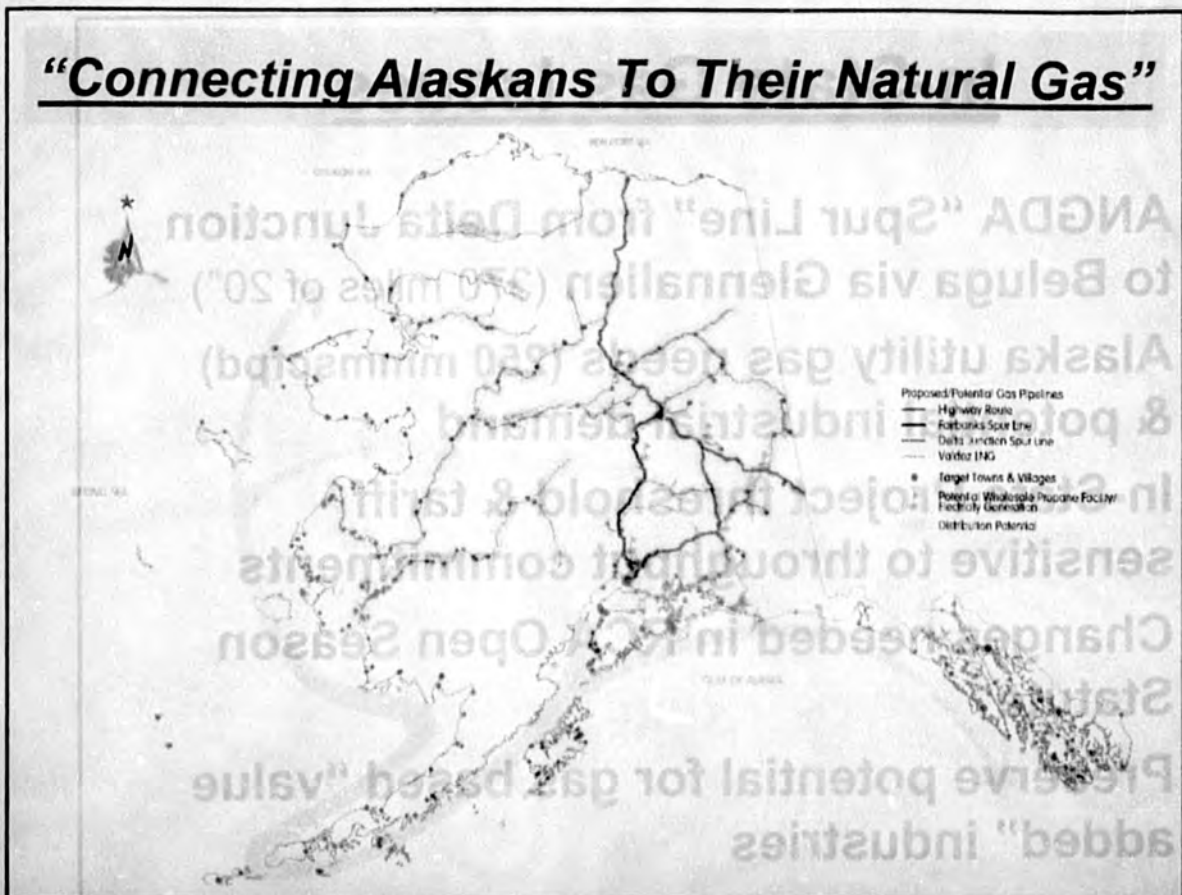
- ANGDA "Spur Line" from Delta Junction to Beluga via Glennallen (370 miles of 20")
- Alaska utility gas needs (250 mmmscf/d) & potential industrial demand
- In-State Project threshold & tariff sensitive to throughput commitments
- Changes needed in RCA Open Season Statute
- Preserve potential for gas based "value added" industries

Potential Elements Alaska Gasline System



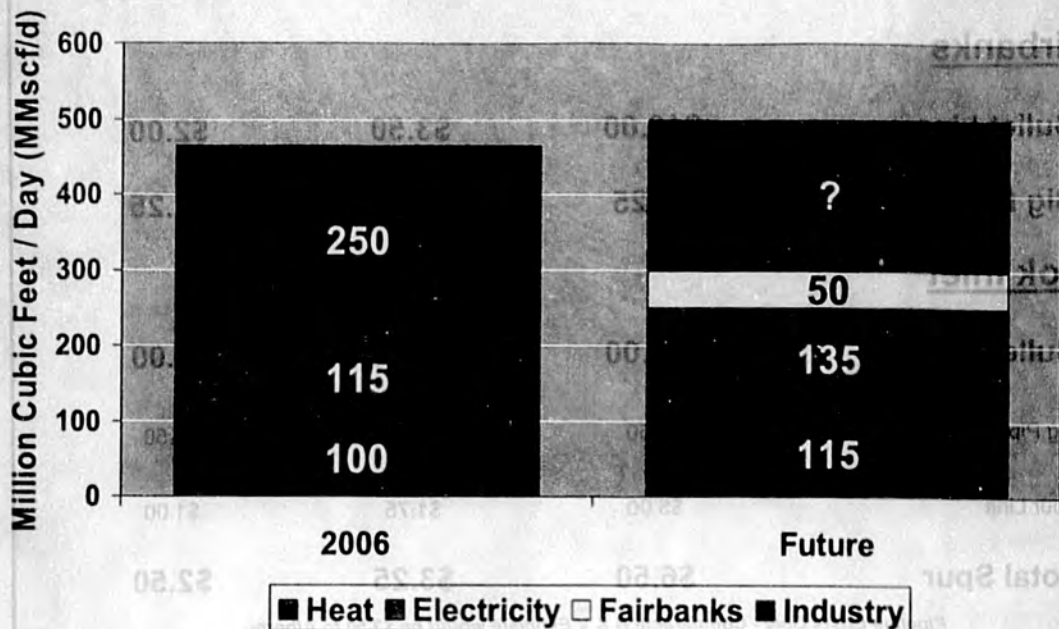
map represents what might exist 20-25 yrs from now.

"Connecting Alaskans To Their Natural Gas"



Summer 2008 road season
Glenallen to Palmer to Beluga

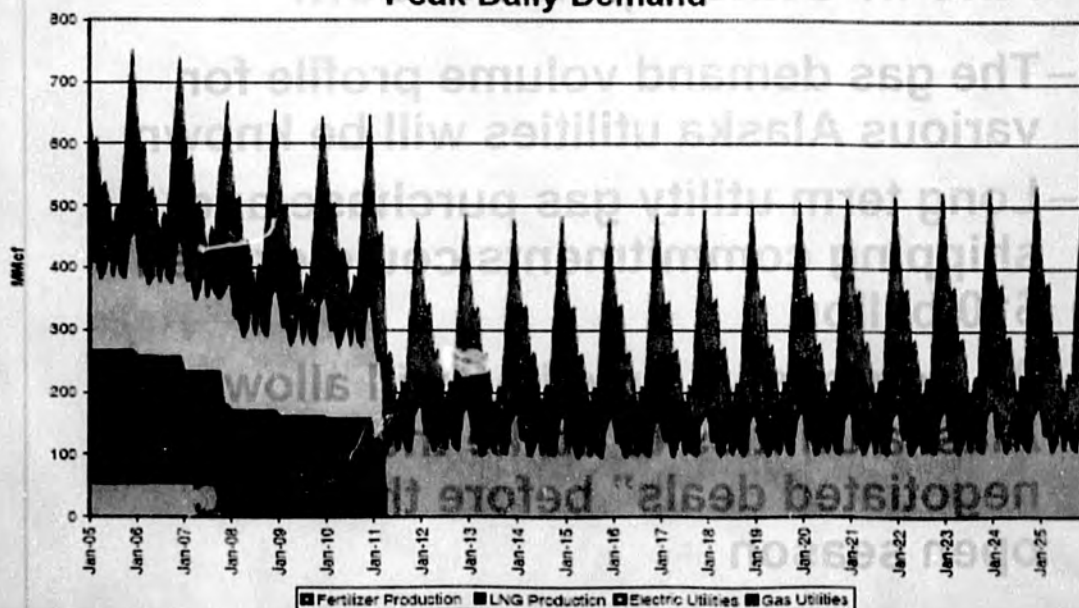
Average Daily In-State Gas Uses (mmscf/d)



million cubic ft/day use

Peak Daily Demand

Natural Gas Demand Forecast
Peak Daily Demand



Gas Pipeline Cost of Service Estimates (\$/mmbtu)

	<u>100</u> <u>mmscfd</u>	<u>250</u> <u>mmscfd</u>	<u>500</u> <u>mmscfd</u>
<u>Fairbanks</u>			
Bullet Line	\$10.00	\$3.50	\$2.00
Big Pipe	\$1.25	\$1.25	\$1.25
<u>Cook Inlet</u>			
Bullet Line	\$15.00	\$5.25	\$3.00
Big Pipe	\$1.50	\$1.50	\$1.50
Spur Line	\$5.00	\$1.75	\$1.00
Total Spur	\$6.50	\$3.25	\$2.50

Pipeline Costs Only - Comparable B & V Estimate would be \$3.50 to Alberta

"It's the Open Season ..."

- **At the In-State Open Season:**
 - The gas demand volume profile for various Alaska utilities will be known
 - Long term utility gas purchase and shipping commitments could exceed \$10 billion
 - An aggressive time line will allow Alaska utilities to strike the "best negotiated deals" before the FERC open season

presented: 6-20-2008 by ANGDA
Friday
Anch. AK Harold Heinze, CEO
& Delma Bratvold, SAIC

ALASKA STATE LEGISLATURE

Chair:
Special Committee on Economic Development,
Trade, & Tourism

Vice Chair:
Committee on Labor and Commerce

Vice Chair:
Committee on Transportation

Member:
Committee on Community and Regional Affairs
Committee on Oil & Gas



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REPRESENTATIVE MARK NEUMAN

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December 4, 2007

Harold Heinze
Executive Director
Alaska Natural Gas Development Authority

Dear Mr. Heinze,

As Chairman of the House Special Committee Economic Development, Trade, and Tourism and a member of the House Oil & Gas Committee, it would be prudent to understand Alaska's potential for a value added industry by processing gas from Alaska's North Slope.

The legislature will consider proposals under AGIA during this next legislative session. I believe it is important to have this information in determining what the maximum economic benefit is as required by our states' constitution. I would like to have the information by February so I can schedule hearings on this issue early in the session.

I would appreciate an analysis that would present the following information:

- the gas composition and volume available under the various AGIA proposals
- the potential products which can be made with these volumes
- a basic description of the physical plant necessary to process these volumes
- the range of prices paid for these feedstock in other jurisdictions
- the number of jobs that could be generated under the various scenarios
- the major markets for these products
- possible location of processing plants in Alaska
- the gross revenues that would be generated from sales of these products
- potential favorable backhaul shipping rates from current Alaskan shippers and vessels on the great circle route
- other information not requested but pertinent to the scope of this request

Please advise me if you are able to complete such an analysis and what the time frame for completion would be.

Thank you for your attention to this matter.

A handwritten signature of Mark Neuman in dark ink.

Representative Mark Neuman
Chairman

Alaska Natural Gas Needs & Market Assessment

Update Presentation

Presented in Anchorage
on June 20, 2008

Alaska Legislature

Sectors Studied

◆ Industry

- LNG
- GTL
- Ammonia / Urea
- Other
- Petrochemicals
- Propane

DRY GAS

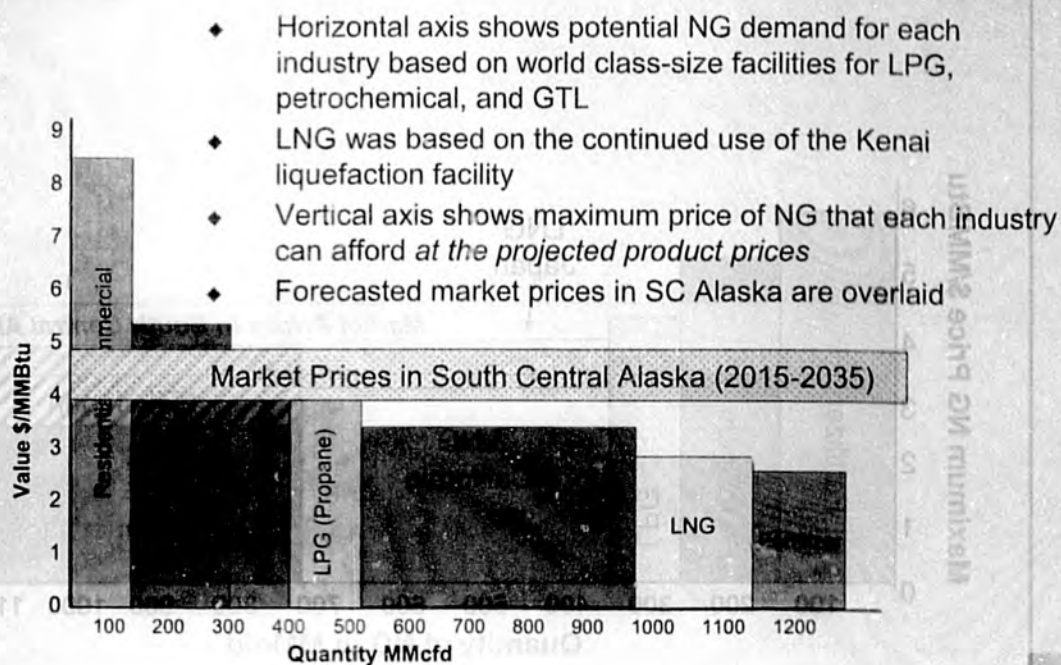
NGLs

◆ Power Generation

DRY GAS

◆ Residential / Commercial

2006 Study Findings: Base Price Scenario



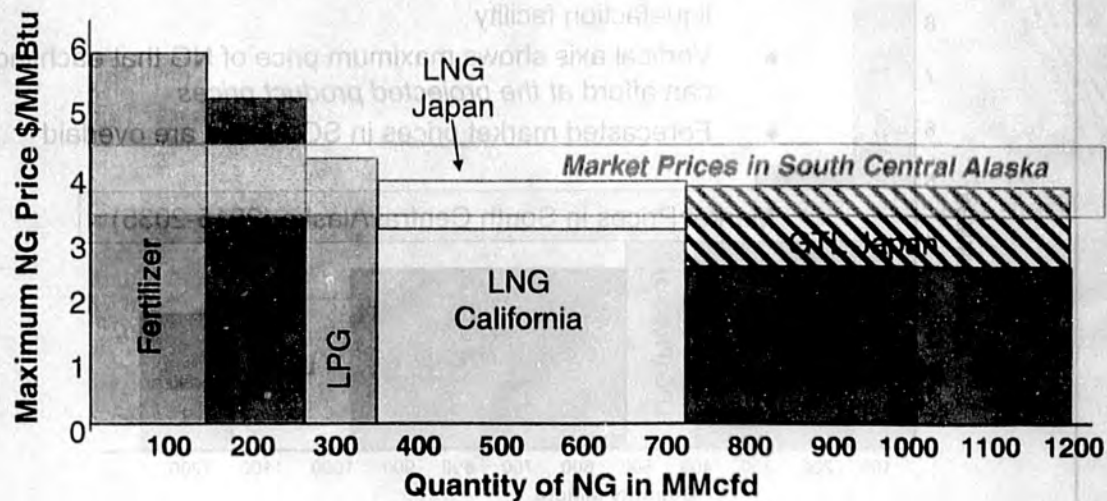
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Average Product Price (2015 – 2030)

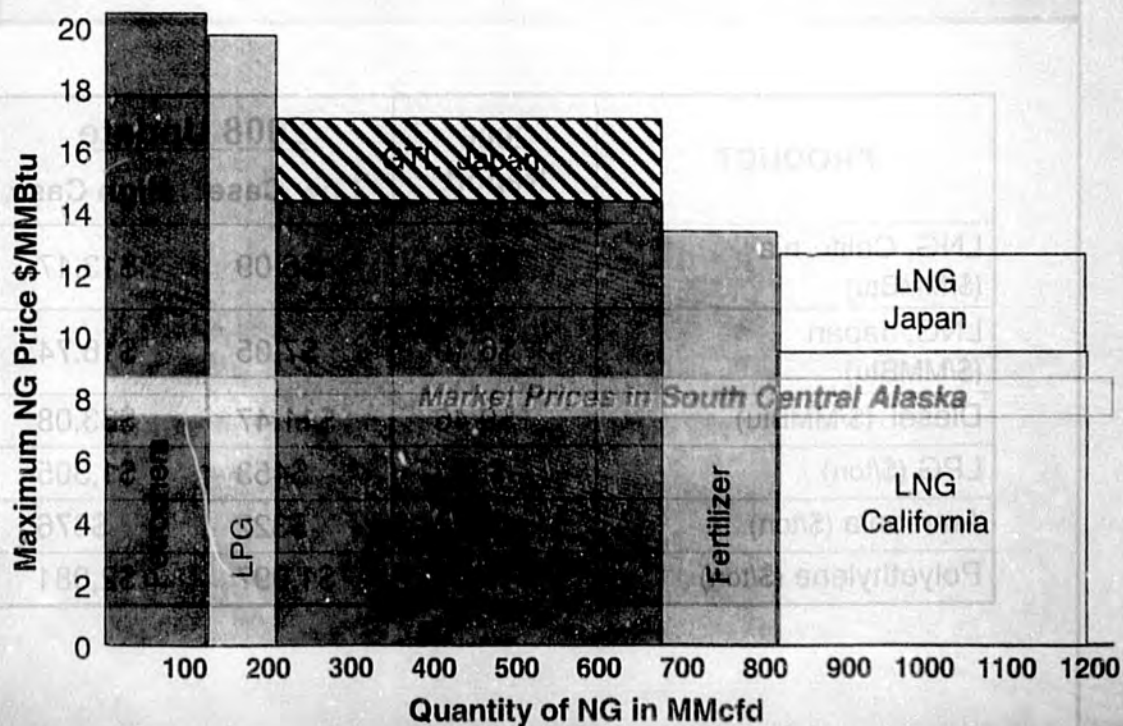
PRODUCT	2006 Report	2008 Update	
		Low Case	High Case
LNG, California (\$/MMBtu)	\$5.07	\$6.09	\$13.17
LNG, Japan (\$/MMBtu)	\$6.10	\$7.05	\$16.74
Diesel (\$/MMBtu)	\$9.46	\$11.47	\$33.08
LPG (\$/ton)	\$383	\$453	\$1,305
Ammonia (\$/ton)	\$224	\$322	\$676
Polyethylene (\$/ton)	\$1,065	\$1,097	\$2,081

3

Netback Price Findings: Low Case



Netback Price Findings: High Case

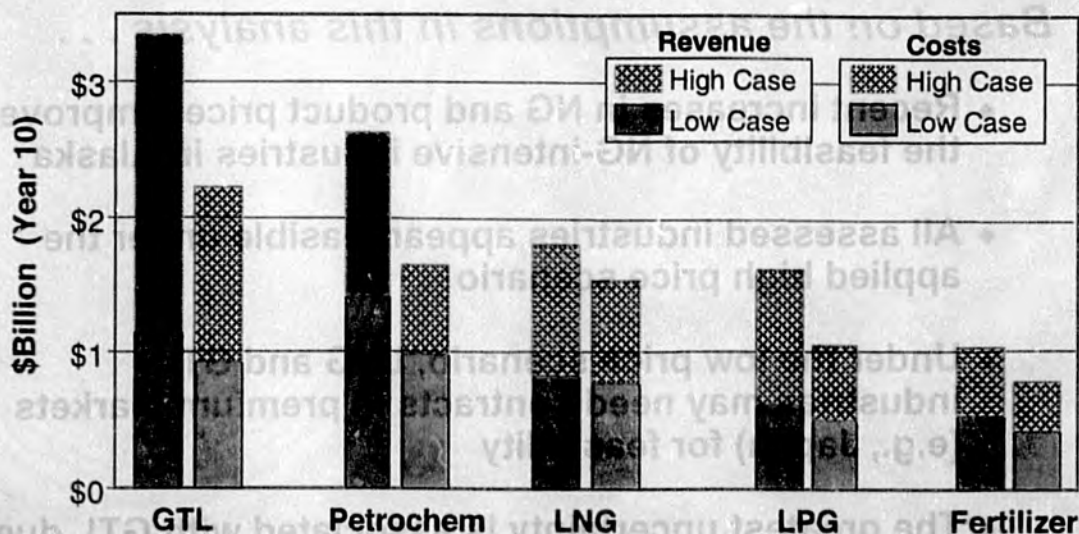


Capital Costs

Estimated Capital Costs By Industry

INDUSTRY	\$ Millions
LPG	\$844
GTL	\$3,112
LNG	\$880
Ammonia	\$257
Petrochemicals	\$2,993
Total	\$8,086

Revenue and Cost Estimates, Year 10



Companies that may be interested . . .

Short List of companies that may be interested in developing Alaskan Industry . . .

LNG	LPG	Petochem	GTL	Fertilizer
Conoco-Phillips	BP	Dow	Shell	Agrium
Exxon-Mobil	Conoco-Phillips	Exxon-Mobil	BP	
BP	AmeriGas	Shell	Sasol	
		DuPont		

Summary Findings

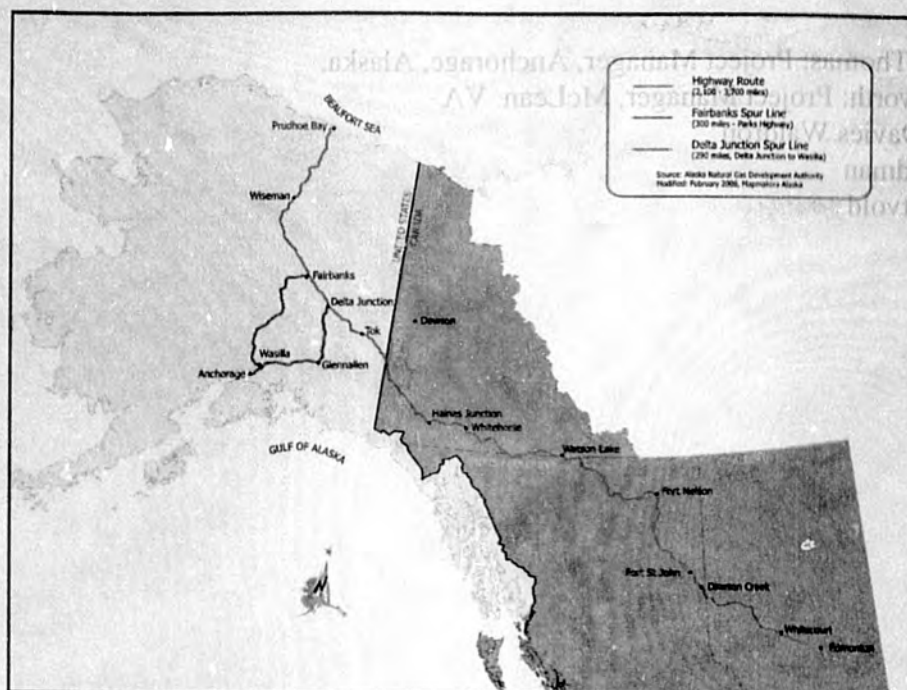
Based on the assumptions in this analysis . . .

- ◆ Recent increases in NG and product prices improves the feasibility of NG-intensive industries in Alaska
- ◆ All assessed industries appear feasible under the applied high price scenario
- ◆ Under the low price scenario, LNG and GTL industries may need contracts in premium markets (e.g., Japan) for feasibility
- ◆ The greatest uncertainty is associated with GTL due to the combination of evolving market, costs, and technology

presented: 6-20-2008
Friday
Anch AK

by ANGDA
Harold Heimge, CEO
& Delma Bratvold, SAIC

Alaska Natural Gas Needs and Market Assessment: 2008 Update of the Industrial Sector



Prepared by
Science Applications International Corporation

For
Alaska Natural Gas Development Authority (ANGDA)

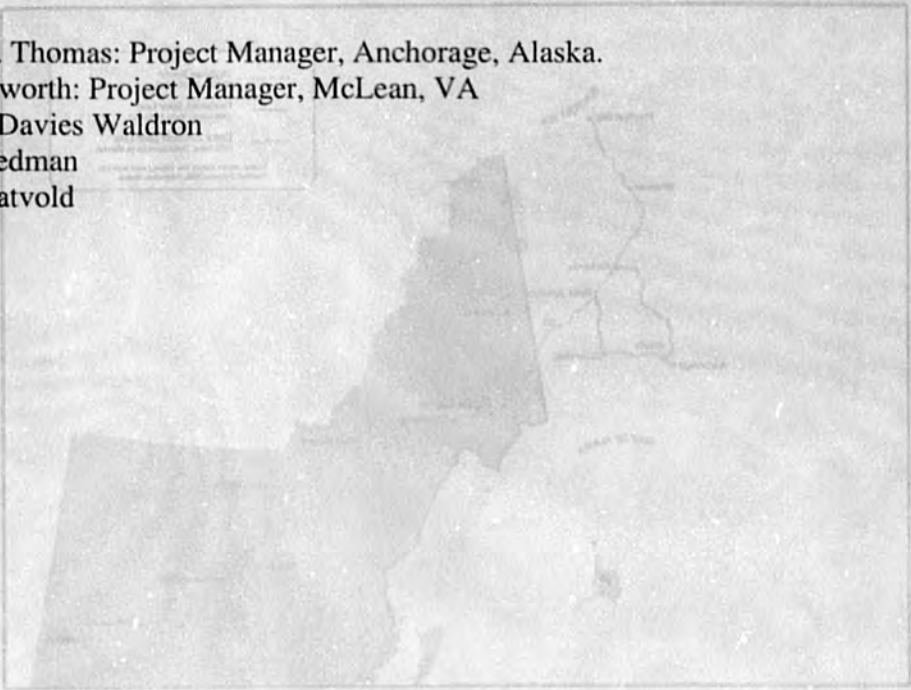
June 2008

ANGDA
Alaska Natural Gas
SAIC
June 2008

Alaska Natural Gas Needs and Market Assessment: 2008 Update of the Industrial Sector

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Disclaimer

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In preparing this report, SAIC has relied on verbal and written information provided by secondary sources and interviews, including information provided by customer. Because the assessment consisted of evaluating a limited supply of information, SAIC may not have identified all potential items of concern and/or discrepancies and, therefore, SAIC warrants only that project activities under this contract have been performed within the parameters and scope communicated by ANGDA and reflected in the contract. SAIC has made no independent investigations concerning the accuracy or completeness of the information relied upon.

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Alaska Natural Gas Needs and Market Assessment: 2008 Update of Industrial Sector

1.0 Purpose

The objective of this report is to provide an updated assessment of the potential value of gas-intensive industries in South Central Alaska if a pipeline is constructed that provides Alaska North Slope (ANS) gas to this region. The original study, *Alaska Natural Gas Needs and Market Assessment*, was conducted for the US Department of Energy, National Energy Technology Laboratory, and released in April 2006. The 2006 Study addressed gas supply and demand from all sectors in Central and South Central Alaska, including residential, commercial, power, and industrial needs. Industrial demand included both gas-intensive industries (i.e., LNG, fertilizer, petrochemical, GTL, and LPG), and other industries for which demand is primarily for power. An investment model was applied to assess potential gas-intensive industries, which are particularly sensitive to their feedstock (i.e., gas) prices. Since 2006, oil, natural gas, and product prices have risen considerably, both domestically and internationally, requiring an update to the financial modeling previously performed for gas-intensive industries.

2.0 Key Findings

The results of this study suggest the following key findings:

- The recent rise in natural gas and product prices has improved feasibility of the assessed natural gas-intensive industries in South Central Alaska.
- Under base case price assumptions, petrochemicals and liquid petroleum gas (LPG) are potential sources of large increments of natural gas liquids (NGL) demand. They could provide an additional 127,000 barrels per day (bbl/d) of NGL consumption, 201 million cubic feet per day (MMcf/d) of gas equivalent.
- Both the current liquefied natural gas (LNG) export facility in Nikiski and a greenfield gas-to-liquids (GTL) plant may require sales contracts in premium markets for economic feasibility under the low price scenario. Natural gas demand from these industries is estimated at 375 MMcf/d and 464 MMcf/d for LNG and GTL, respectively.
- The investment climates for all assessed industries will remain highly uncertain given ongoing volatility in energy and product prices.
- The greatest uncertainty is associated with GTL due to the combination of evolving market, costs, and technology.

3.0 Scope and Assumptions

3.1 Gas Pipeline Operation

Natural gas and natural gas liquids (NGL) demand by industry is assessed based on the assumption of a dense-phase wet gas line that delivers ANS natural gas and NGL to South Central Alaska through a spur pipeline that branches off from the proposed Alaska Natural Gas Pipeline (ANGP) that would transport natural gas from the ANS to Canada and the Lower 48 States. The gas-intensive industries assessed in this report are assumed to be located in South Central Alaska due to expected lower operating and capital costs and proximity to export terminals and major trade routes.¹ As determined in the 2006 Study, an NGL-rich stream will generate the greatest level of industrial demand in Alaska.

The route of the pipeline to South Central Alaska is not determined in this update. However, for the purpose of modeling the pipeline tariff, it is assumed that the Alaska Natural Gas Pipeline (ANGP) from ANS to the Lower 48 States is constructed with the spur line branching off in Central Alaska (e.g., Delta Junction, or Fairbanks). As in the 2006 Study's largest wet gas pipeline scenario, pipeline capacity from the ANS to Central Alaska is at least 4.5 Bcfd, and the spur line capacity is approximately 1 Bcf/d, with operations commencing in 2015.

Also as in the 2006 Study, the wet gas spur line is assumed to be enriched with NGL extracted at a separator plant in Central Alaska. Surplus dry gas from the separator (i.e., in excess of South Central needs) is then re-injected into the ANGP for delivery to the Lower 48 States. The extracted NGL are assumed to be transported through a spur line to meet demand from two, new South Central industries: petrochemicals and LPG. The amount of enrichment in the spur line is adjusted based on the main line gas composition to meet the industrial demand for ethane (i.e., the petrochemical industry). In contrast, the LPG industry demand is adjusted based on the average gas composition in the ANGP from the ANS, and the resulting amount of propane and butane in the enriched mixture removed by the Central Alaska separator. Assumed gas composition at the separator inlet and outlet is described in Appendix A.

3.2 Industrial Demand

The potential industries represented in this update are the same as those in the original study's largest wet gas spur line scenario, which calculates petrochemical and GTL demand based on sizing and siting "World Class" facilities. In this study, the GTL complex was sized to a 50,000 bpd capacity, which demand 464 MMcfd. LNG industrial demand is based on retrofit of the current, nearly 40-year old plant in Nikiski and expansion to 3.0 MMTPA, demanding 375 MMcfd. Fertilizer industry demand is based on renovation of the 40-year old Agrium-owned facility in Kenai, and would demand 145 MMscfd. The Agrium facility is currently mothballed due to dwindling supply from the Cook Inlet and associated high feedstock prices. LPG industry

¹ The 2006 Study considered industry at Fairbanks and the North Slope, but found that locating industry in South Central Alaska to be the most economically viable. Residential and commercial gas demand growth were the strongest and anchor customers such as the ConocoPhillips LNG terminal and the Agrium fertilizer plant on the Kenai Peninsular were then operational, providing a ready source of demand.

demand is calculated as the amount of extra propane and butane in the wet gas line, which is determined by the spur line volume and liquids content.

Table 1 shows the gas and NGL capacity and demand for the potential industries considered in this update report. Only the LPG industry capacity and demand differs from the 2006 Study. This Study updates ANS gas composition and reflects the "Rich Gas Case" composition described in the Alaska Gasline Inducement Act (AGIA) Request for Applications (RFA), released in July, 2007.

Table 1: Potential Industry Capacity and Demand for Natural Gas and NGL

Industry	Capacity	Demand as MMcf/d methane equivalent (NGL feedstock)
Fertilizer *	1.25 MMTPA ammonia, 1 MMTPA urea	145
LNG **	3.0 MMTPA	212
GTL	50,000 bpd low sulfur diesel	480
Petrochemical	1.27 MMTPA ethylene	122 (76,000 bpd ethane)
LPG	50,000 bpd LPG	78*** (41,000 bpd propane, 9,000 bpd butane)
Total Potential Demands		1,041.

* Assumes upgrade of the existing fertilizer plant

** Assumed expansion of the existing LNG facility at Nikiski

*** Under the "Lean Gas Case" composition described in the AGIA RFA, LPG capacity and demand would be reduced to approximately 24,000 bpd propane and 4,800 bpd butane, which is equivalent to 45 MMcf/d methane.

In both the 2006 Study and this update, it is recognized that pentanes will also be in the spur line gas stream, and will be separated out in South Central Alaska. Pentanes can likely be readily sold for blending into local gasoline, however their quantity and associated total value is quite small compared to the other gas stream components (i.e., approximately 1,400 bpd pentanes versus over 50,000 bpd LPG), thus pentanes are not further considered in this assessment.

3.3 Financial Assumptions

As in the 2006 Study, this update of industrial gas needs is market based and does not include analysis of gas price discounts or special incentives by the state to encourage in-state industrial development. Also as in the 2006 Study, it is assumed that, as a result of the integration of the South Central gas market with Canadian and Lower 48 gas markets, Alaskan gas prices will be based on Lower 48 gas prices adjusted for tariff. Thus, the price of natural gas in South Central Alaska is determined as the market price for natural gas at Henry Hub², minus the difference in estimated tariff rates between Henry Hub and South Central Alaska. In this update report, these

² This is the pricing point for North American natural gas futures on the New York Mercantile exchange. It is located in Erath, Louisiana.

differences are estimated to be \$2.51 and \$3.12 in the "Low" and "High" case scenarios, respectively.

All results presented in this update report are in 2007\$ unless specified otherwise. As in the original study, the financial analysis assumes the following for each industry:

- *Project Life* – 20 years. This is a common industrial project life.
- *Discount Rate* – 12% rate. This varies among industries and projects, and may be relatively low for industries with higher risk (e.g., GTL).
- *Federal and state taxes* – were assumed at the rates of 35% and 4.5% of taxable income, respectively.
- *Cost Adjustment* – to adjust for the higher costs in Alaska compared to the Lower 48, construction and operations costs were multiplied by 1.3 for South Central Alaska.
- *Cost of Capital (during construction)* – 6%.
- *Financing* – all projects were assumed to be equity financed as turn-key projects.

The financial analysis of each industry is designed to determine the netback value of the feedstock (i.e., dry natural gas, ethane, or propane) to each industry. Netback value represents the maximum price for natural gas and NGL that each industry can afford to pay given global price for products, transportation costs, capital and operating costs, discount rate, and taxes.

The industry-specific inputs to the financial analysis for capital and operating costs, and shipping costs are the same values used in the 2006 Study after adjustments based on changes in Producer Price Indices from 2005 to 2007, as published by the Bureau of Labor Statistics. Table 2, below, displays the updated cost assumption for each industry assessed – these costs were held constant in both the high and low market price scenarios.

Table 2: Cost Assumptions for Potential Industries (\$ millions)

Industry	Capital Costs	Low Price Scenario		High Price Scenario	
		Operating Costs	Shipping Costs	Operating Costs	Shipping Costs
Fertilizer *	\$257	\$316	\$55	\$589	\$57
LNG **	\$880	\$642	\$128	\$1,271	\$135
GTL	\$3,112	\$772	\$103	\$1,504	\$108
Petrochemical	\$2,993	\$722	\$80	\$1,046	\$82
LPG	\$844	\$440	\$66	\$740	\$69

* Assumes upgrade of the existing fertilizer plant

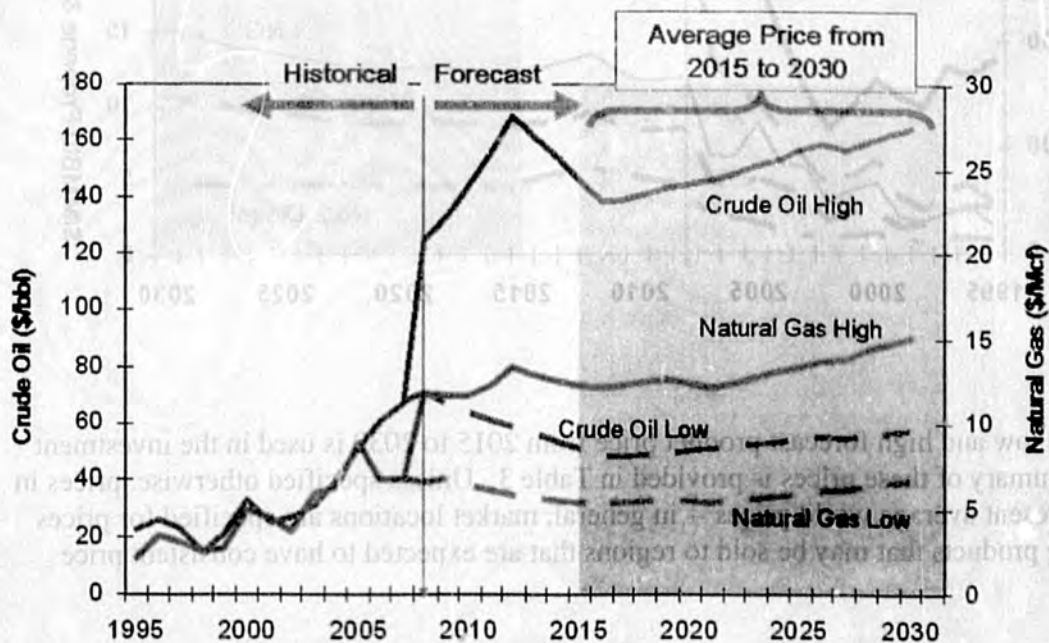
** Assumed expansion of the existing LNG facility at Nikiski

4.0 Methodology

This analysis employs the same investment model adapted to each industry that was used in the 2006 Study. Input parameters include facility specifications (i.e., size, efficiency, etc.), production costs, and projected product prices on world markets. Model outputs include the netback value of gas to each industry. As an example, the value of gas to a fertilizer plant is calculated as the average annual price of fertilizer on the world market minus the average annual cost of transportation, and present value of combined capital and operating costs to convert Alaskan natural gas to a fertilizer.

For this update, model input parameters were changed to reflect increases in forecasted gas and oil prices, and related increases in the price of industrial products that would be produced from the modeled industries. Forecast natural gas and oil prices are based on the Energy Information Administration (EIA) forecasts published in the *Annual Energy Outlook 2008* as the "reference" case for Lower 48 prices. The EIA forecast prices for gas and oil are viewed by many energy analysts as conservative, thus this forecast is used as the "low" price scenario in this report. The June 3, 2008 futures prices of natural gas and crude oil on NYMEX for 2012 were used to represent a high price scenario in 2012, with the subsequent high-price scenario forecast through 2030, following the same annual percentage change as in the low price scenario. Historical and forecast prices of Lower-48 natural gas and crude oil are shown in Figure 1.

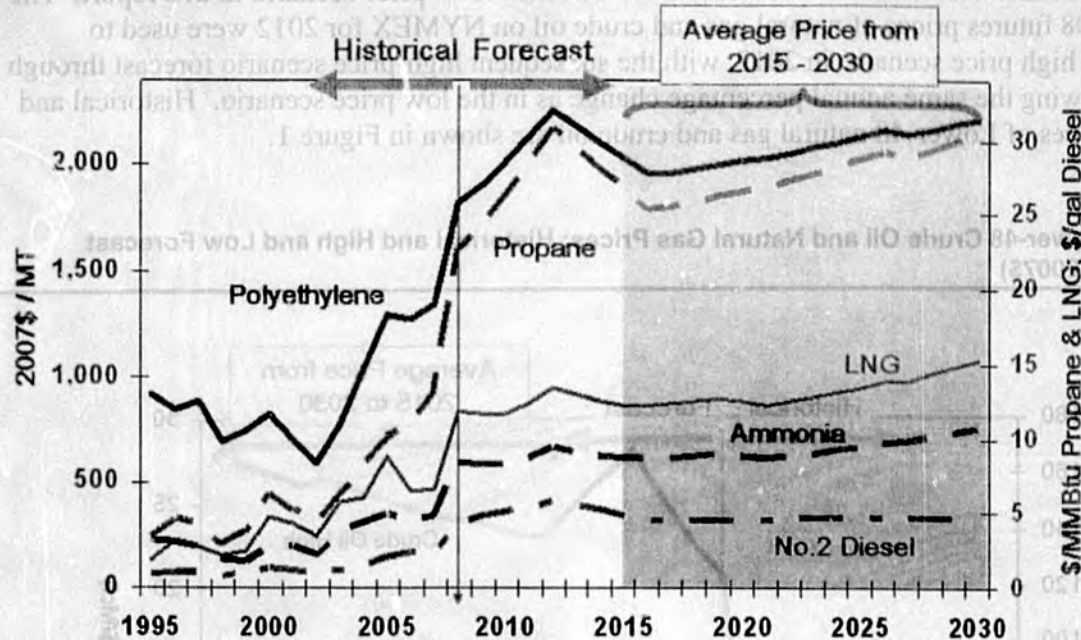
Figure 1: Lower-48 Crude Oil and Natural Gas Prices: Historical and High and Low Forecast Scenarios (2007\$)



As described in the assumptions discussed above, the price of natural gas in South Central Alaska was determined as the market price for natural gas at Henry Hub, minus the difference in estimated tariff rates between Henry Hub and South Central Alaska.

Forecast product prices for each of the modeled industries are based on their historical relationship with natural gas and crude. Historical natural gas prices have a tighter relationship with ammonia and LNG, thus high and low natural gas price forecasts are the basis of the ammonia and LNG price forecasts. Historical crude prices have a tighter relationship with polyethylene, propane, and diesel; thus high and low crude price forecasts are the basis of the product forecasts for petrochemical, LPG, and GTL industries. Figure 2 shows the high scenario forecast of product prices.

Figure 2: High Scenario Product Price Forecast for LNG, LPG, Polyethylene, Ammonia, and Diesel (2007\$)



The average low and high forecast product price from 2015 to 2030 is used in the investment model, a summary of these prices is provided in Table 3. Unless specified otherwise, prices in Table 3 represent average world prices -- in general, market locations are specified for prices representing products that may be sold to regions that are expected to have consistent price premiums.

Table 3: Average Forecast Prices (Model Input): 2015-2030

Commodity	Low Price	High Price
Natural Gas, Henry Hub (\$/MMBtu)	\$6.44	\$13.52
Natural Gas, SC Alaska (\$/MMBtu)	\$3.93	\$10.41
Crude Oil Price (\$/Bbl)	\$52.26	\$150.69
LPG (\$/ton)	\$453	\$1,305
Diesel, North America (\$/MMBtu)	\$11.47	\$33.08
Diesel, Japan (\$/MMBtu)	\$14.14 ^a	\$35.75 ^a
LNG, Southern California (\$/MMBtu)	\$6.09	\$13.17
LNG, Japan (\$/MMBtu)	\$7.05	\$16.74
Ammonia (\$/ton)	\$322	\$676
Polyethylene (\$/ton)	\$1,097	\$2,081

^a Based on the world crude oil forecast plus a \$0.37/gal premium in Japan based on average prices in 2007.

5.0 Industry Investment Analysis Results

5.1 Product Markets

Product markets were re-assessed for this update. Japan is identified as a potentially highly desirable market for Alaskan LNG, diesel from the GTL complex, and LPG. These products have been sold at a significant premium in Japan in recent years. Shipping costs from Alaska to Japan are roughly equivalent to, or less than other suppliers competing for the Japanese market. Potential markets assessed in this study are shown in Table 4 for each assessed product.

Table 4: Potential Markets for Alaskan Industrial Products

Product	Modeled Markets
Fertilizer	US West Coast, China, Japan
LNG	Japan, British Colombia, US / Mexico West Coast, China, Korea
GTL (ULSD)	US West Coast, BC, Japan
Petrochemical	US Gulf, Korea, China
LPG	US West Coast, China, Japan

The previous markets for Alaskan fertilizer, the US west coast and Asia, are good candidates for future markets. As indicated by the netback analysis shown below, Alaskan fertilizer, petrochemical and LPG industries value natural gas well-within, or above the range of forecasted natural gas market prices in South Central. This suggests favorable economics for these

industries, with flexibility in the regions their product may be sold. China and Korea are viewed as likely markets for petrochemical products, both of which are projected to have increasing demand. Price premiums in Japan make it a very desirable market for LPG. Combined with the relatively larger expected growth in LPG demand in China, the Asian market is viewed as a likely market for Alaskan LPG.

Based on the assumptions used in this analysis, Alaskan GTL and LNG industries may be relatively more sensitive to product prices than the other modeled industries. Under the "low" price scenario and associated assumptions, products from Alaskan GTL and LNG industries may require that sales be to regions that place relatively high premiums on their products (i.e., Japan), or their operation may cease to be economically favorable.

The relatively high capital investment required for the modeled GTL complex in conjunction with its relatively high sensitivity to market prices, and the greater risk associated with this less common technology, may make the development of this industry less desirable than some of the other industrial options.

5.2 Netback Results

Based on the assumptions of this updated analysis, the maximum value of natural gas for each of the assessed industries is shown in Table 5. Netback prices that are below the forecast range of South Central natural gas (i.e., the average forecast price for each scenario plus or minus \$0.50) suggest particularly risky investments based on the assumptions applied in this study.

Table 5: Netback price of Natural Gas and Associated Product Prices: 2015-2030

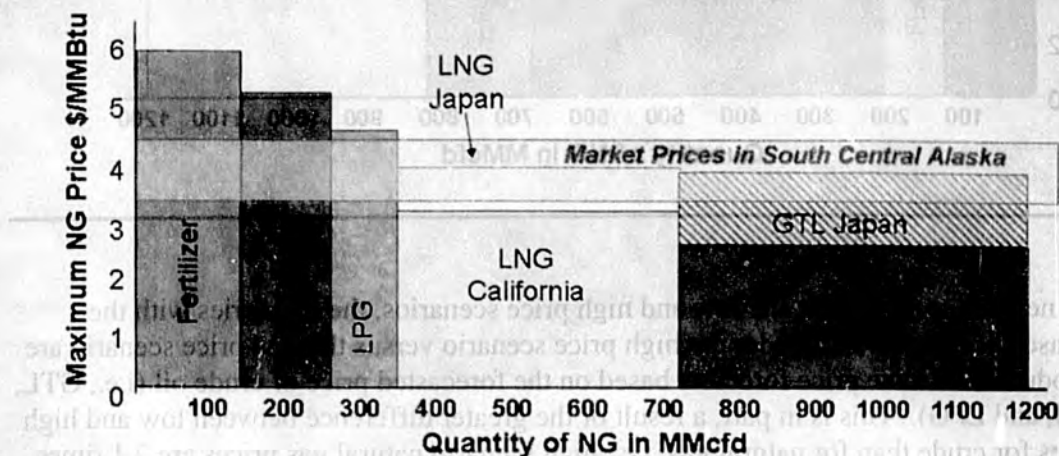
Industry	Low Price Scenario (SC NG Market Price: \$3.45 to \$4.45/MMBtu)		High Price Scenario (SC NG Market Price: \$7.45 to \$8.75/MMBtu)	
	Product Price	Netback (\$/MMBtu)	Product Price	Netback (\$/MMBtu)
Fertilizer (Ammonia)	\$322/ton	\$5.87	\$676/ton	\$13.45
LNG, Southern California	\$6.09/MMBtu	\$3.24	\$13.17	\$9.63
LNG, Japan	\$7.05/MMBtu	\$4.11	\$16.74/MMBtu	\$12.87
GTL (Diesel), N. America	\$11.47/MMBtu	\$2.45	\$33.08/MMBtu	\$14.89
GTL (Diesel), Japan	\$14.14/MMBtu	\$3.99	\$35.75/MMBtu	\$16.43
Petrochemical	\$1,097/ton	\$5.19	\$2,081/ton	\$20.72
LPG	\$453/ton	\$4.65	\$1,305/MMBtu	\$19.92

The two industries that have the lowest increase in netback under the high price scenario (i.e., LNG and fertilizer) have product price forecasts that are based on natural gas prices (which increase less in the high scenario than crude prices), in addition to relatively low capital

investment. In general, when market prices are relatively high, industries with greater capital investment benefit disproportionately more than industries with lower capital investment.

Figure 3 shows gas and NGL volumes as dry gas equivalents on a thermal basis on the x-axis, and the netback price on the y-axis, where netback price is maximum price of dry gas each of the assessed industries can pay while remaining economically viable under the modeled assumptions. The horizontal bar in Figure 3 represents the expected price range of South Central dry gas (i.e., the average low forecast price of \$3.93/MMBtu, plus or minus \$0.50). If South Central gas prices are higher than the maximum (i.e., netback) value for gas shown for a particular industry, then gas consumption from that industry will likely be severely curtailed, or may never develop.

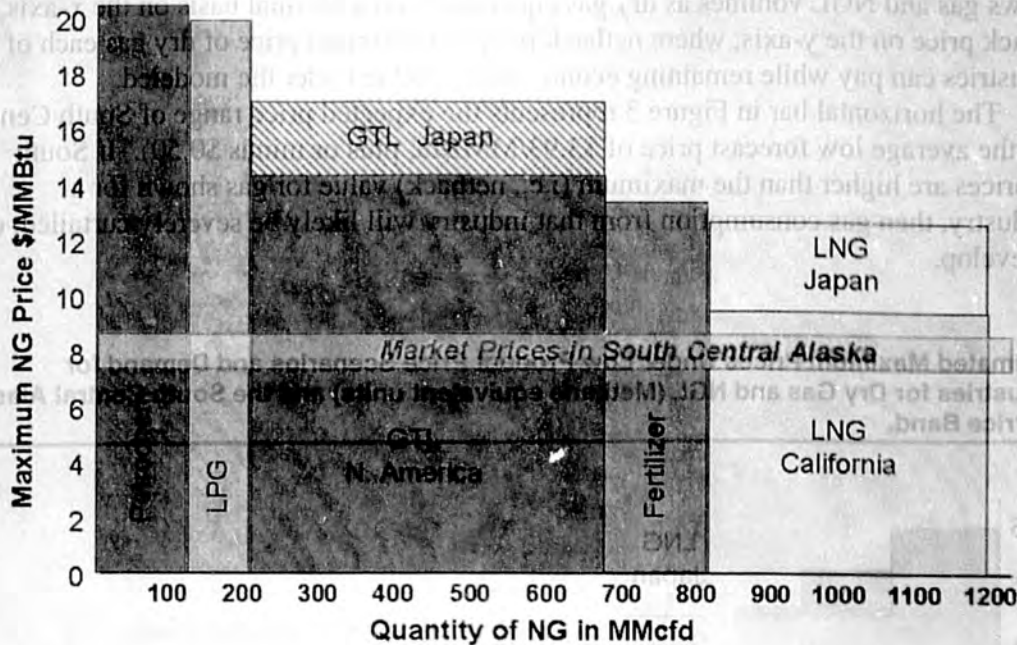
Figure 3: Estimated Maximum Prices Under Low Product Price Scenarios and Demand for Potential Industries for Dry Gas and NGL (Methane equivalent units) and the South Central Alaska Gas Market Price Band.



Source: SAIC

Figure 4 shows a similar graph the high market price scenario. In this case, the horizontal bar represents the expected price range of South Central dry gas with the average high forecast price of \$8.26/MMBtu, plus or minus \$0.50.

Figure 4: Estimated Maximum Prices Under High Product Price Scenarios and Demand for Potential Industries for Dry Gas and NGL (Methane equivalent units) and the South Central Alaska Gas Market Price Band.



Source: SAIC

In comparing netback values under the low and high price scenarios, the industries with the greatest increase in netback value under the high price scenario versus the low price scenario are those with products that have price forecasts based on the forecasted price of crude oil (i.e., GTL, petrochemical, and LPG). This is in part, a result of the greater difference between low and high forecasts prices for crude than for natural gas, i.e., high scenario natural gas prices are 2.1 times greater than low scenario prices, while high forecast prices of crude oil are 2.88 times greater than low forecast prices, as shown in Figure 1.

Because these analyses were conducted using assumptions that are inherently uncertain (i.e., projections of average market prices), none of the maximum price values should be considered accurate. However, the *relative* ranking of the industrial netback values in the South Central Alaska locations is not likely to change with modest assumption adjustments, with the possible exception of GTL. GTL is more sensitive to assumption modifications due to the larger gas demand and the higher uncertainty over project costs. The assumptions used in the GTL industry assessment are considerably more speculative than in other industries as a result of the uncertainty surrounding newer GTL technology and the still-emerging ultra-low-sulfur diesel fuel market.