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ALASKA STATE LEGISLATURE

✓ Sen. Charlie Huggins, Chair
Sen. Bert Stedman, Vice Chair
✓ Sen. Kim Elton
Sen. Lyda Green
✓ Sen. Lyman Hoffman
Sen. Lesil McGuire
✓ Sen. Donald Olson
Sen. Gary Stevens
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✓ Sen. Thomas Wagoner



State Capitol, Room 119
Juneau AK 99801-1182
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Fourth Special Session

Twenty-Fifth Legislature

Senate Special Committee on Energy

Friday July 25, 2008

Senate Finance Room 532

1:30-3:00 p.m.

➤ SB 3001 Approving AGIA License for Natural Gas Pipeline Project as proposed by TransCanada Alaska Company, LLC and Foothills Pipelines Ltd. (TC Alaska) to the State of Alaska

- Alaska Public Interest Research Group: "Unaddressed Questions Critical Questions about the State's Findings on the TransCanada AGIA Proposal..."
- Richard A. Fineberg, Principal Investigator, Research Associates *Senior Advisor to Cooper, for O & G policy*
- Steve Porter, LB&A Consultant

Teleconference

Testimony - By Invitation

→ Bonnie Harris - Listening on line
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Introduction

A. The Tariff Process Opens with a Bad Beginning: A Recourse or Ceiling Tariff = not a "low" tariff

B. The Next Stage Is Even Worse: There's a Negotiated Tariff with shippers. The negotiated tariff process has two important structural defects

C. Viewed in historical context, the Negotiated/Recourse tariff system, instituted in 1996, appears to have much in common with a slow-moving train wreck.

D. (Remedy #1) To engage constructively in this arcane process, the state needs access to timely and complete information. All the information., As I understand it, AGIA does not make this demand.

E. (Remedy #2) If AGIA is set in motion, the state should begin preparing immediately to work on the cost estimates to assure the cost bar is not set too high by the recourse tariff. Next, we have to establish accounting oversight and auditing mechanisms to track closely, year-in and year-out, to guard against (1) cost reporting in grey areas which those sharing the same net revenue pie legitimately wish to maximize; and (2) inappropriate gaming of the system.

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Alaska Public Interest Research Group Background

- **largest Alaska consumer organization, with more than 1600 members across Alaska.** AkPIRG's name describes its mission—**research and representing the public interest.**

- **501 (c) (3) The nonprofit organization began in 1974.**

a consistent voice for ordinary Alaskans dealing with **issues as diverse as safe playgrounds, identity theft, fair utility rates, sustainable energy, safe routes to schools, and oil and gas issues.** AkPIRG's executive director in the late 1970's was the only non-lawyer allowed into the inner sanctum of the TAPS rate case.

- **worked with and, on behalf of, Alaska Natives** in areas ranging from appropriate water and sewer systems, radiation poisoning, telecommunications and Internet access to the health affects of secondhand smoke and developing equal justice provisions.

- worked to prevent unhealthy mergers in the oil, telecommunications and grocery industries in Alaska that would have resulted in monopolies that would harm consumers.

-long worked to get the big special interest money out of politics.

- sponsors the Alaska Injured Workers' Alliance (AIWA), to help educate the more than 35,000 Alaskan injured workers understand the laws and regulations that affect them.

- through its longevity and effectiveness, **has proved to be a powerful voice for the public interest in Alaska**--one the only states left without an actual consumer protection agency.

Outline

Introduction

A. The Tariff Process Opens with a Bad Beginning: A Recourse or Ceiling Tariff

B. The Next Stage Is Even Worse: There's a Negotiated Tariff with shippers. The negotiated tariff process has two important structural defects

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C. Viewed in historical context, the Negotiated/Recourse tariff system, instituted in 1996, appears to have much in common with a slow-moving train wreck.

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BULLET POINTS from UNADDRESSED QUESTIONS

A Report to the Alaska Public Interest Research Group by Richard A. Fineberg
July 22, 2008 (Revised)

An independent evaluation of the administration's Alaska Gasline Inducement Act (AGIA) findings and determination.

Background: Differences between FERC oil and natural gas regulation

- FERC natural gas and oil pipeline tariff regimes differ in significant respects. In the case of oil pipelines, the TAPS tariff methodology that permitted excessive, non-cost-based charges was approved by the FERC in 1985, eight years after TAPS went into service. (p. 3)
- On the natural gas side, the estimated the recourse tariff effectively sets a ceiling for further tariff negotiations between the pipeline company and prospective shippers. A shipper agreement to pay for future pipeline space in the subsequent open season (a "take or pay" contract) enables the project to obtain the financing to go forward. Since the pipeline company is trying to entice investors, it is generally expected that negotiations prior to pipeline start-up will enable the shipper to seek and obtain better (lower) shipping rates. (p. 4)
- The FERC natural gas tariff system's reliance on estimated costs and negotiated rates are troubling to some observers who have watched the TAPS owners rely on estimates and hypothetical calculations to justify the excessive tariffs allowed under the 1985 settlement. But the voluminous AGIA proposal lacks systemic safeguards to protect against the possibility that unscrupulous parties might use various accounting devices to artificially elevate reported costs and filed tariffs. (p. 5)

The present situation: fraught with uncertainty (AGIA, Denali and LNG)

- The actions of the North Slope producers are critical to the outcome of current gas line negotiations. Careful consideration of the major producers' role in the proposed pipeline to Alberta raises a host of troubling questions about the project the AGIA contract would set in motion. (p. 12)
- A prospective gas line builder finances its project by obtaining commitments from shippers under "take or pay" terms, guaranteeing that the shipper will pay for the space on the proposed pipeline under any circumstance. If, for some reason, the shipper doesn't take the gas, the shipper will still pay. (p. 11)
- Assuming the proposed AGIA project goes forward, producer financing of the gas line is a likely outcome of current gas line negotiations. (p. 12)
- Other outcomes are possible, but a web of complicated financial arrangements could put the producers in control of the pipeline. For example, in 2005 outgoing ExxonMobil CEO Lee Raymond told associates that North Slope gas line financing arrangements would follow the Alliance Pipeline model. (p. 13)
- The administration has stated that nothing in the AGIA license would prevent the state from challenging the recourse tariff during the license application – or from opposing TransCanada's subsequent tariff defense. However, officials acknowledge that the state would carefully consider the interests of its partner before advocating a reduction in the pipeline company's tariff revenue. They say they can deal with the details of tariff implementation later. (p. 5)
- The major producers say they are reluctant to ship with an independent pipeline company because they want to be in a position to control cost overruns. But the major producers on the North Slope might want to own the pipeline to reap pipeline profits while reducing royalty and tax payments. (p. 7)

Cost overruns and over-reporting (different phenomena)

- When Shippers and Producers are subsidiaries of the same parent company (or otherwise affiliated), the TAPS record suggests that this unusual circumstance reverses the presumed Shipper incentive to seek lower gas line tariffs. (pp. 3, 9) The TAPS experience suggests that major producers on the North Slope might want to own the pipeline to reap pipeline profits while reducing royalty and tax payments. (p. 7)
- For ratemaking purposes, pipeline costs are reported and go into the rate base, which earns a specified rate of return. An actual cash outlay can be distinguished from an accounting entry (for, say, depreciation on previously incurred costs – or an erroneous duplicate invoice whose bottom line finds its way into the rate base without a second cash outlay). The shipper-owner is simply transferring the accounting entries from one pocket to another. For the producer-owner, accounting costs further enhance returns by reducing royalty and production tax payments to the state; the independent shipper who does not own an interest in the pipeline is handicapped competitively because it must pay the accounting cost out of pocket. (pp. 18-19)
- Due to the unique logistical and project management challenge of being spread out geographically (like a highway, as opposed to a house), pipelines are particularly vulnerable to imprudently incurred expenses and cost overruns. (pp. 18-19)
- (In addition to [1] ratemaking and [2] pipeline management and logistics problems, there are empirical reasons to think the limited data on producer-affiliated pipelines constitute a valid warning that the natural gas system is liable to fail because the producers, dressed up as shippers will not seek lower tariffs. A consultant presented four examples of negotiated tariff levels. In three cases, the negotiations lowered the recourse tariffs by an average of nearly 19%. But in the fourth instance, the negotiated tariff was much higher. The three instances in which the negotiated tariffs were reduced involved independent pipeline operators; the only tariff that went up was the above-mentioned Alliance, now independent but originally owned and financed by producers. (p. 14)
- Pipelines are inherently vulnerable to cost overruns and FERC does not grant refunds on negotiated tariffs. (p. 26)
- For many years, the federal government did not permit producers to own natural gas pipelines. . . . From the limited data available, it appears that the federal regulatory system is not used to dealing with producer-owned pipelines and in the case of producer-affiliated pipelines may be failing to function in the intended manner. (pp. 14-15)
- A cursory look at project cost estimates shows that the risk of cost overruns constitutes a significant factor in project economics. Basic project cost estimates for the TransCanada pipeline between the North Slope and Alberta range from TransCanada's base construction estimate of \$26.5 billion to the state consultants' estimate that, all factors considered, the median construction cost estimate would be \$46.0 billion. (p. 20)
- The problems associated with cross-country pipelines are compounded by the fact that 56% of the AGIA project will be in Canada, introducing additional problems that include First Nation problems, as well as different regulatory and oversight regimes and a different currency with changing valuation relative to the U.S. dollar. (p. 20)
- **Loan guarantees.** The proposal to apply loan guarantees to cost overruns . . . raises issues that warrant further consideration. For example: Since federal loan guarantees function to reduce the cost of project debt, why would the state defer use of these funds by targeting them to cost overruns? (p. 21)

- **Is there danger of a TAPS Redux on natural gas pipeline tariffs?** Yes. TAPS experience shows that there is a critical distinction between the rate structure and implementation. This is an important distinction when pipelines are demonstrably prone to manipulation. (p. 26)
- **Can the State Rely on FERC to Ensure Low Tariffs?** In my estimation, no. Review of FERC's recent history with natural gas regulation strongly suggests that the notion that that the state can rely on FERC to ensure low natural gas pipeline tariffs is unrealistic. System gaming and price manipulation by Enron in 2000 (subsequent to creation of the natural gas pipeline negotiated tariff procedures in 1996) and by BP (subsequent to system modification in 2003) suggest that the FERC regulations is inefficient in preventing those practices. (pp. 25-26)
- **Bottom line:** Given the magnitude of the North Slope natural gas project, the revenues at stake and the importance of assuring competitiveness on the North Slope, tariff issues require further consideration. (p. 6)

Recommendation: *The state should establish an ad hoc oversight group to ensure that the state maintains a pro-active posture in its efforts to assure low pipeline tariffs on the AGIA pipeline.* (p. 26)

Port Authority / LNG

- **The good news:** The potential for costly project delays and significant cost overruns on the TransCanada route discussed in preceding sections appears to support selection of the Alaska Gasline Port Authority (AGPA) all-Alaska route to Valdez. The AGPA pipeline route is more than 50% shorter and involves none of the transnational problems faced by the TransCanada route. An additional advantage of the all-Alaska route that is seldom discussed is that the shorter route through one country presents significantly less opportunity for tariff manipulation. (p. 22)
- **The bad news:** The shorter, one-country pipeline route is only part of the story. The trade-off is that the all-Alaska route requires construction of a liquefaction plant, tanker shipments and international marketing. Cost estimates for the liquefaction plant range from \$7.9 billion to \$21.1 billion. In addition to cost considerations, the liquefaction plant, unregulated by FERC, poses a potential bottleneck. The possibility of state regulation could ameliorate this problem. (p. 22)
- **The Asian price premium:** Many experts question whether the hefty Asian LNG price premium, which presently makes this commodity worth approximately twice as much in Asia as the same quantity of natural gas in the Lower-48, can be maintained. In light of the difficulties of forecasting LNG prices and the long-term growth of Asian demand, the weight that should be accorded this assumption can be questioned. In June 2008, the U.S. Energy Information Administration reported, "[h]igher crude [oil prices] will also spur greater GTL production, placing additional pressure on natural gas supplies. Collectively, these activities are expected to increase overseas wellhead natural gas prices and worldwide LNG prices. (pp. 22-23)

Recommendation [Port Authority/LNG]: *In view of the benefits of the shorter pipeline route in one country, additional analysis of the uncertainties associated with the Asian marketing premium and liquefaction plant cost and bottleneck aspects is warranted.* (p. 24)

Models: transparency and public engagement

- The administration deserves credit for its efforts to inform and engage the public in review of the AGIA process. However, the failure to create and provide an interactive model that would enable members of the public to change key variables such as tariffs, gas prices and volumes and assess the results, constitutes a serious barrier to public participation.

Recommendation:

To promote public participation in policy formulation, the administration should create and provide an interactive model that will enable interested citizens to put in variables such as tariffs, gas prices and volumes and assess the results.
(p. 24)

Models: importance of low and mean price forecasts

- In the data available for public review, it is often impossible to tell what price forecast scenario produced the results presented. Modeled data should specify the price scenario (for example: Were the data on display generated from a low, mean or high price scenario?)

Recommendation:

To ensure that we who live in times of high oil prices won't force our descendants to pay for our good fortune, as a general rule use mean forecasts. If the model is being used to understand how industry is likely to behave, to avoid over-estimating industry's capacity to risk shareholder capital on an uncertain future, consider a lower (say, 33 percentile) forecast. (p. 27)

Basin Opening v. Basin Control:

- TransCanada speaks of its experience opening basins. At the same time, an industry veteran says the industry strives for basin control. Major producers seek to control pipeline terms so that they can determine the course of North Slope development without the need to respond to competition from other companies; this theory is known as basin control. At that time, he recommended that the state must protect its interests by taking a "belt and suspenders" approach to its contractual negotiations.

Recommendation:

The history of TAPS suggests that it would be a mistake to assume that the Basin Opening approach to development is operating but the Basin Control phenomenon is not. (p. 26)

What this report does: *This report identifies potential problems attendant to the TransCanada AGIA proposal that could seriously undermine state interests, examines the historical context that lends significance to these concerns and makes problem-specific recommendations based on these findings.*

What this report does not do: *This report does not recommend that legislators vote for or against granting TransCanada's AGIA license application. This report does not, in any way, endorse the proposed Conoco-Phillips/BP "Denali" project.*

Unaddressed Questions:

**Critical Questions about the State's Findings
on the TransCanada AGIA Proposal
to Deliver North Slope Natural Gas
to Commercial Markets**

A Report to the Alaska Public Interest Research Group

by

**Richard A. Fineberg, Principal Investigator
Research Associates
P.O. Box 416
Ester, Alaska 99725**

July 22, 2008

Section I. Introduction and Overview

A. Introduction

The principal energy source for TransCanada's AGIA pipeline proposal is Prudhoe Bay, the largest producing oil field ever discovered in North America. The Prudhoe field anchors Alaska's North Slope complex, whose producing resources are consolidated in the hands of BP, ConocoPhillips and ExxonMobil. The overlapping ownership of Alaska production and pipeline facilities by three major transnational oil companies is critical to understanding the unaddressed AGIA issues addressed in this report.¹

In this, the third year in a row that the state Legislature has been engaged in a special session to deal with oil and gas decisions of monumental importance, the Alaska Public Interest Research Group (AkPIRG) asked me to conduct an independent evaluation of the administration's AGIA (Alaska Gasline Inducement Act) findings and determination. In each of the last two years, I watched with growing admiration as citizen legislators, recognizing the historical importance of their challenge, buckled down to the gritty, painstaking tasks of learning as much as they could about complicated issues before punching the red or green button. And in the last two years, I have been delighted to see administration personnel break old habits of interdepartmental skirmishing and indifference to the public to work together as a welded team intent on conducting genuine public outreach.

With deep respect for these heartening developments in state government, it is my hope that this report will prove to be of use to at least some of the participants in this third annual special session endeavor to serve the public interest.

I approach this task with temerity; those who are familiar with my work know that most of my labors in oil and gas development have been on the oil side. But I am nonetheless propelled to speak out by a strong sense of déjà vu. The deeper I dive into natural gas issues, the more similarities I see between 1985, when the state's experts and policy makers were deliberating the Trans-Alaska Pipeline System (TAPS) tariff settlement. Much younger then, and without an oil and gas portfolio, I watched the bureaucratic system roll over my concerns. Twenty-three years later, I have resolved to speak out on my concerns, for I believe I have been

¹ Together, BP, ConocoPhillips and ExxonMobil control approximately 95% of North Slope production. The Big Three producers on the North Slope also own a similar share of TAPS.

privileged to see events others did not witness and learn some things others may not know. It is therefore proper that I share these findings.

But I do not advocate one position or another. During my years of watching and participating in oil and gas litigation in the bureaucracy, I developed a theory about oil and gas settlements. Fineberg's Theorem goes like this: One's support of a settlement depends directly on one's distance from that settlement. Transferred to bureaucratic terms, the corollary would be that when DNR settles a royalty case, DOR will question it. And if DOR resolves a tax dispute, DNR will grumble. Thus it was no surprise, in 1985, when both agencies felt mushroomed and troubled by what the Department of Law and its consultants did with on TAPS case. In that case, agency skepticism may have been born of distance (proving Fineberg's Theorem), but the questions also proved to be well founded.

The current situation – review of the fruit of TransCanada's interaction with the state – has much in common with the settlements with which I am familiar, either as a participant or an evaluator. I come to the AGIA process from afar. Therefore, my theorem warns me not to be too quick to judge. Moreover, these are different times; agencies still struggle, but signs of cooperation abound. (For example, in the "properties" box of a document provided by DOR official, one may sometimes see a DNR analyst's name.) As a result of this leavening, administrative outputs today are likely to be much, much better.

Nevertheless, from my perspective, the similarities to 1985 are striking. Once again, the enormity and complexity of the terrain make it difficult to figure out where the arcane mechanics of tariff formulation and implementation fit into that landscape. And although the Legislature and the administrative bureaucracy perform much better today, there is always room for improvement. Old patterns die hard and we still have a long way to go. Accordingly, this report is oriented to making sense of the landscape rather than making a recommendation on what color button to push.

What this report does: This report identifies potential problems attendant to the TransCanada AGIA proposal that could seriously undermine state interests, examines the historical context that lends significance to these concerns and makes problem-specific recommendations based on these findings.²

² Three factors compel the writer to share these questions at this time: (1) the inherent difficulties of evaluating a project of this magnitude and complexity; (2) the large volume of material that has been released and the diversity of forums through which that material has been released; and (3) the arcane nature and importance of tariff formulation and implementation.

What this report does not do: This report does not recommend that legislators vote for or against granting TransCanada's AGIA license application. This report does not, in any way, endorse the proposed Conoco-Phillips/BP "Denali" project.

How or whether this report will affect a legislator's vote will depend on that individual's information, understandings and view of the significance of the potential problems identified here. Legislators may wish to ask additional questions or craft additional ancillary legislation to ensure that the agreement with TransCanada will:

- enable the state, on behalf of the people of Alaska, to receive its appropriate share of revenue from the production of North Slope natural gas;
- promote robust competition on the North Slope through just and reasonable tariffs and open access; and
- accomplish these ends without burdensome litigation.

The time and efforts of AGIA proponents and consultants who have labored to provide information and convince me of their position is acknowledged with gratitude. Responsibility for any mistakes this report may contain is my own.

B. Overview: Differences Between FERC Oil and Natural Gas Regulation

The FERC natural gas and oil pipeline tariff regimes differ in significant respects. In the case of oil pipelines, the TAPS tariff methodology that permitted excessive, non-cost-based charges was approved by the FERC in 1985, eight years after TAPS went into service. At that time, no protests were made by a directly affected shipper.

On June 20, 2008 – 31 years to the day after TAPS entered service – the FERC finally published confirmation that the negotiated 1985 TAPS tariff framework enabled the TAPS owners to overcharge shipping interests.³ Excessive tariffs handicapped competitors of the pipeline owners and reducing state royalty and production tax payments by upwards of \$4 billion. Hopefully, the FERC's June 2008 decision will finally establish the regulatory standard of "just and reasonable" tariff levels on TAPS. But the correction only looks forward. The state and handicapped shippers have been able to secure only a fraction of past lost revenues through limited refunds.⁴ Clearly, the state cannot afford to make the same kind of

³ Federal Energy Regulatory Commission, *Opinion and Order on Initial Decision (Anadarko Petroleum Corporation v. TAPS Carriers; Opinion No. 502)*, June 20, 2008.

⁴ See: Richard A. Fineberg, *Historical and Current State Revenue Loss Quantified: Difference Between RCA's 2002 TAPS Tariff Order And State's 1985 Pipeline Tariff Agreement*

mistakes with natural gas. This report therefore considers some of the salient differences between oil and natural gas pipelines and their regulation.

When tariffs are set for natural gas pipelines, FERC starts out with a preliminary cost estimate and a projected tariff known as a "recourse" tariff. Proposed by the shipper as a part of the application to FERC for project approval, the recourse tariff effectively sets a ceiling for further tariff negotiations between the pipeline company and prospective shippers. A shipper agreement to pay for future pipeline space in the subsequent open season (a "take or pay" contract) enables the project to obtain the financing to go forward.⁵ Since the pipeline company is trying to entice investors, it is generally expected that negotiations prior to pipeline start-up will enable the shipper to seek and obtain better (lower) shipping rates than those FERC authorized in its recourse tariff.⁶

One of the many items up for negotiation is the thorny question of cost overruns. Shippers seek guarantees from the pipeline operator that construction costs will be contained; this allows the shipper to maintain anticipated profits and avoid losses. We will look at this important question in Section III.

Like the recourse or ceiling tariff, the negotiated tariffs in place at the outset of natural gas pipeline operations are necessarily based on estimated cost figures. Three years after the pipeline is in operation, FERC requires a pipeline company to defend its recourse tariff with real numbers. In this tariff proceeding, FERC is likely to further reduce the recourse tariff based on the premise that if the project is operating successfully, the owners are no longer entitled to the earlier risk premium in the recourse tariff rate of return. But the reduced tariff only looks forward. Although the FERC system is ostensibly designed to protect shipper interests, FERC is reportedly reluctant to consider refunds on the negotiated tariff – a deal's a deal.⁷

The FERC natural gas tariff system's reliance on estimated costs and negotiated rates are troubling to some observers who have watched the

Costs State More Than \$400 per Minute, February 28, 2007 (Report to the Alaska Budget Report).

⁵ FERC established this system in 1996 and revised it in 2003.

⁶ Commissioners Tom Irwin and Pat Galvin, *Written Findings and Determination by the Commissioners of Natural Resources and Revenue for Issuance of a License under the Alaska Gasline Inducement Act (AGIA): Executive Summary*, May 22, 2008, p. ES-9; and Brown, Williams, Moorhead and Quinn, *Regulatory Issues Report for State of Alaska (Findings, Appendix J)*, p. 2.

⁷ Barry Pulliam, "Comments to Legislature on TransCanada Proposal," June 4, pp. 26-27; and *Regulatory Issues Report for State of Alaska*, pp. 2, 7.

TAPS owners rely on estimates and hypothetical calculations to justify the excessive tariffs allowed under the 1985 settlement. But the voluminous AGIA proposal lacks systemic safeguards to protect against the possibility that unscrupulous parties might use various accounting devices to artificially elevate reported costs and filed tariffs, thereby overcharging shippers and reducing state revenue. The necessity for long-running tariff battles to ensure robust development and secure equitable returns to the state becomes even more frightening when one considers the possibility that the natural gas producers might become pipeline owners themselves. If producers become pipeline owners, they would be overcharging themselves (essentially a "wash" transaction), as well as their competitors (who must pay the filed tariff overcharges out of pocket).⁸ In the case of natural gas pipelines, producer ownership was banned for many years, so FERC regulators have had little occasion to deal with this situation.⁹

The administration has stated that nothing in the AGIA license would prevent the state from challenging the recourse tariff during the license application – or from opposing TransCanada's subsequent tariff defense.¹⁰ However, Revenue Commissioner Pat Galvin acknowledges that the state would carefully consider the interests of its partner before advocating a reduction in the pipeline company's tariff revenue.¹¹ Galvin insists this consideration is not a poison pill that would deter the state from aggressively pursuing its interests in low tariffs. That's a good thing; a "duty to defend" clause in the 1985 TAPS settlement the Department of Law negotiated on behalf of the state effectively handcuffed the state on tariff issues for more than two decades. The state cannot afford to sign off on such restrictions on the natural gas side, where the FERC regulatory regime appears to offer fewer remedies and greater incentives for high pipeline tariffs.

Instead of focusing on tariff mechanics and implementation, the administration is content to kick that can down the road with the observation that nothing in the AGIA contract worsens the existing situation. According to administration representatives, they can deal with the details of tariff implementation later.

⁸ See: Tim Ryherd, Greg Bidwell, Will Nebesky. "The Prospect for Exploration Economics" (*Findings*, Appendix L), May 15, 2008, pp. 2-3.

⁹ Kenneth M. Minesinger and Cecil Chung, "Updated Competitive Analysis of Producer-Owned Alaska Natural Gas Pipeline" (*Findings*, App. R4), Dec. 21, 2006, p. 3.

¹⁰ According to the administration's opening presentation in Juneau, June 6, "The State is NOT required to support and defend the Licensee's application before regulatory bodies, such as FERC. (AGIA: Statute & RFA Refresher (*Special Session Opening*), June 6, 2008, Slide 5.

¹¹ Personal communication, July 2008.

Against this backdrop, the information presented in this report suggests that the state-TransCanada AGIA proposal to build a natural gas pipeline to Alberta lacks key measures to assure that the contract terms will effectively govern the inevitably and incredibly complicated process of (1) obtaining financing commitments for the gas line project, (2) putting that financing in place, (3) building the infrastructure and (4) establishing effective procedures for managing tariffs, or shipping costs. The latter step is critical to ensuring successful development of North Slope resource and equitable division of project revenues from what is said to be the largest privately financed project ever undertaken in North America. These are not necessarily fatal defects.

Bottom line: Given the magnitude of the North Slope natural gas project, the revenues at stake and the importance of assuring competitiveness on the North Slope, tariff issues require further consideration.

Section II. Low Tariffs: The Theory

1. Why Are Low Pipeline Tariffs Important?

According to the administration's written findings on the TransCanada AGIA proposal, "[l]owest reasonable tariffs are essential to ensure genuine open access and maximize opportunities for development." The commissioners describe the importance of low tariffs as follows:

"When tariffs are too high, explorers and developers are discouraged from investing in North Slope Natural gas exploration and development. Low tariffs improve the economics of finding and developing additional natural gas resources on the North Slope, which encourages additional exploration and development. . . . Low tariffs also mean that the state can earn a greater return on its natural resources."¹²

To underscore the importance of the pipeline tariff structure, the administration summarizes the state's experience with the 800-mile Trans-Alaska Pipeline System (TAPS), constructed during the 1970's to carry oil from the North Slope to Valdez:

Alaska's experience with TAPS (which is owned by the Major North Slope Producers) demonstrates how the terms of ownership and operation of a pipeline adversely affect the state's economic interests and the exploration efforts of developers who do not own

¹² Findings, Executive Summary, p. ES-3.

a share of the pipeline. . . . Decades of excessive tariffs reduced the state's royalties and production tax, and hindered competitive development of the state's oil resources by non-owner companies.

Alaska cannot afford to repeat the TAPS experience. . . . TC Alaska's commitments to a lower tariff structure will ensure that the state does not repeat the problems experienced with TAPS."¹³

The major producers say they are inherently reluctant to ship with an independent pipeline company because they want to be in a position to control cost overruns.¹⁴ However, there are at least two other possible explanations for their desire to own the pipeline that would ship North Slope natural gas to Alberta:

- The TAPS experience suggests the major producers on the North Slope might want to own the pipeline to reap pipeline profits while reducing royalty and tax payments.
- As recently as 2006, an industry veteran then consulting to the Legislature suggested that the major producers seek to control pipeline terms so that they can determine the course of North Slope development without the need to respond to competition from other companies; this theory is known as basin control. At that time, he recommended that the state must protect its interests by taking a "belt and suspenders" approach to its contractual negotiations.¹⁵ It should be noted that this veteran observer, now consulting for the administration, supports the TransCanada AGIA proposal.¹⁶

How TransCanada's AGIA proposal addresses this panoply of concerns – and the train of likely events that would follow the AGIA license – constitute the central focus of this section.

2. Do Current High Oil and Gas Prices Make Tariffs Unimportant?

No.

It may seem surprising to some at this late date, but not everyone agrees with this premise. Three days before the end of the Legislature's marathon hearings on the AGIA proposal, Rep. Anna Fairclough asked TransCanada and the major producers to respond fears that if the major oil companies were allowed to buy significant interest in the proposed gas

¹³ *Findings, Executive Summary*, p. ES-4.

¹⁴ Marty Massey (Joint Venture Manager, ExxonMobil), Testimony July 10, 2008 (KTOO, Gavel to Gavel).

¹⁵ Rick Harper, "Basin Control," July 31, 2006 (memorandum to Senator Gene Theriault).

¹⁶ Personal communication, June 2008.

line, as contemplated by AGIA, the same companies would, once again, use pipeline control to throttle their competitors. Before the industry representatives could speak for themselves, LB&A consultant Steve Porter sought the floor to opine that "the TAPS tariff is immaterial. . . . there is not an issue on TAPS now of a concern for people getting into that pipe. . . . it was different before, but that reasoning no longer exists."¹⁷

Everyone is entitled to his or her viewpoint, but Porter's gratuitous response deflected the question by distorting tariff realities. For this reason, it is necessary to point out that Porter's assertions are based on faulty information and faultier reasoning. Porter correctly acknowledged that Conoco officials blamed TAPS tariffs for the 1993 departure from Alaska of the only independent field operator then operating on the North Slope. But the key numbers he offered to support his conclusion were wrong. He overstated the TAPS tariff of that day by over 40% and the increase in the price of oil since then by a similar factor.¹⁸ With the correct background numbers in place to place the question in proper focus, we are now ready to reconsider his erroneous comparison between oil and natural gas tariffs. The conversion between oil pipeline tariffs (stated in dollars per barrel) and natural gas pipeline tariffs (stated in millions of British thermal units [Btus]) requires three simple steps:

- (1) According to a set of formal calculations prepared for LB&A, the estimated natural gas tariff or shipping charge on the proposed 4.5 Bcf/d (billion cubic feet per day) TransCanada pipeline to the Alberta AECO Hub is \$5.26 per MMBtu (million Btu).¹⁹
- (2) One barrel of oil contains 5,800,000 Btu, or 5.80 MMBtu.²⁰
- (3) Therefore, the tariff to ship the natural gas energy equivalent of one barrel of oil from the North Slope to the Alberta hub today would be approximately \$30.50 ($\5.26×5.80).

This simple conversion shows that the estimated tariff on the proposed TransCanada pipeline project to Alberta, per unit of energy delivered, is

¹⁷ See: Gavel to Gavel, July 10, 2008, Session B, at approximately 1:36 – to 1:40.

¹⁸ The consultant told legislators that in 1993 the TAPS tariff constituted more than one-third of the price of a barrel of oil. In fact, the TAPS tariff that year was approximately 22% of the price of oil. And when one adjusts the prices for inflation, it turns out that the current price of oil is less than seven times greater than the price of oil in 1993 – a hefty increase, to be sure, but significantly less than the consultant's numbers indicated. (For sources and details on the statement of Conoco President and CEO Archie Dunham about his company's decision to trade the Milne Point field to BP and leave Alaska, see: Richard A. Fineberg, *The Big Squeeze* [1997] and *How Much Is Enough?* [1998].)

¹⁹ Barry Pulliam, "Comparison of Netbacks from Potential LNG Project with ALCAN Pipeline Project," June 20, 2008, p. 42.

²⁰ *Fundamentals of Natural Gas: An International Perspective*, Pennwell Books, 2006, p. 163.

roughly six times higher than the erroneously inflated \$5.00 TAPS tariff. In sum: Per unit of energy delivered, natural gas is significantly more expensive to ship than oil. Consequently, there is considerably more cash involved in the pipeline portion of a natural gas delivery than in its oil pipeline equivalent.

In addition to these corrections, when oil prices have doubled in the last 12 months,²¹ one might question the wisdom of relying on a comparison that uses today's high oil prices. After all, petroleum prices are prone to sharp spikes and sudden declines and have a nasty habit of reversing themselves, surprising the experts, confounding conventional wisdom and making a mockery of projections that mistake the current peak or trough for the course of future.²² In this regard, it is interesting to note that the average price of oil in 2007 was approximately \$70 per barrel – a figure that is very near the U.S. Energy Information Administration (EIA) long-term forecast price for 2030.²³

The factual and methodological corrections that seriously undermine the credibility of Porter's premise set the stage for understanding the significance of the fundamental tariff issues that Porter stepped forward to dismiss. In recent years both the Federal Energy Regulatory Commission (FERC) and the state Regulatory Commission of Alaska (RCA) concluded lengthy and detailed administrative proceedings by ordering drastic cuts in TAPS tariffs. Using data from prior years, FERC has determined that the agency's oil pipeline methodology for determining a just and reasonable tariff would produce a tariff on TAPS of approximately \$2.02 per barrel.²⁴ Informed sources say that when the FERC TAPS tariff figure is adjusted to reflect present throughput levels and updated cost inputs, the final tariff will probably land somewhere between \$2.00 and \$3.00 per barrel.²⁵

²¹ The price of North Slope crude oil on July 11 was \$144.38, compared to a price of \$74.41 one year earlier. (Alaska North Slope crude oil daily spot price, Alaska Department of Revenue [<http://www.tax.alaska.gov/programs/oil/dailyoil/dailyoil.aspx>]).

²² Recent sharp price turns occurred in 1985 (down), 1988 (down), 1998 (down) and post-1998 (up).

²³ See: U.S. Energy Information Administration, *Annual Energy Outlook 2008*, p. 116 (Table A1) and *Monthly Energy Review*, June 2008, p. 117 (Table 9.1).

²⁴ FERC, *Opinion and Order on Initial Decision* (Anadarko Petroleum Corporation v. TAPS Carriers; Opinion No. 502) June 20, 2008.

²⁵ Based on numbers in the RCA's 2002 decision and order, this writer has estimated that the state lost an estimated \$4.5 billion on this deal – that's in real dollars, without increasing those amounts to determine their NPV to either the North Slope producers who benefited from the overcharges, or the state and federal governments, who lost on the tariff transaction. The regulatory cases, whose primary focus is to fix the tariffs going forward after more than a quarter-century of overcharges, will deliver only a small portion of those losses in refunds. (See: Richard A. Fineberg, *Historical and Current State Revenue Loss Quantified: Difference Between RCA's*

Even at \$3.00 per barrel, the estimated cost of shipping the energy equivalent in gas via pipeline to the Alberta hub is expected to be more than ten times greater than the TAPS tariff.

Masked by the complexities of relating natural gas economic data to equivalent oil numbers, perhaps the most important fact to be remembered in considering the implications of tariffs for current proposals to bring North Slope natural gas to market is this: If the North Slope producers finance the gas line to the Alberta hub, they will have ten times more the cash incentive to "game" the tariff system by over-reporting their pipeline costs on the proposed AGIA gas line than on the existing TAPS line.

While high natural gas prices may increase net revenues, reducing shipping costs as a percentage of total revenue, it does not follow that the goal of securing low tariffs is no longer relevant. Indeed, the opposite is true, as Commissioners Galvin and Irwin asserted in the passages of the Executive Summary to their AGIA findings quoted in question 1, above. In today's competitive global economy, developing regions vie with each other for investment dollars and the relative value of projects in all regions rise and fall with oil and gas prices. Therefore, to assure that Alaska natural gas remains competitive, Alaska must closely control the excessive pipeline costs that Porter so blithely dismissed as an irrelevant historical artifact.

With this element of the record corrected, we are now ready to look at how the natural gas tariff regulatory process works, and how the AGIA pipeline proposal fits into that process and is supposed to secure "the lowest reasonable transportation rates."

3. How Is AGIA Supposed to Deliver a Natural Gas Pipeline?

AGIA was designed to break a long-running stand-off between the major North Slope producers and the state revolving around "how much value the state would need to transfer to the Major North Slope Producers and how much risk the state would be required to accept." Although oil and gas prices rose dramatically and fairly steadily from near-historic lows in 1998 to current historic highs, the major North Slope producers continued to insist that large concessions from the state were needed even though many thought rising oil prices had rendered state subsidies unnecessary. Against this background, Revenue Commissioner Pat Galvin and Natural

2002 TAPS Tariff Order And State's 1985 Pipeline Tariff Agreement Costs State More Than \$400 per Minute, February 28, 2007 (Report to the Alaska Budget Report).

Resources Commissioner Tom Irwin wrote in the introduction to the state's findings on TransCanada's AGIA proposal:

To protect the state's interests, AGIA used free market competition to move the project through the current impasse. . . . The Major North Slope Producers would need to decide whether they were going to get the enormous reserves of Alaska Natural gas in the fields they now operated to market in a pipeline they built and owned, or one constructed by a third party. AGIA presumed that the Major North Slope producers would act as reasonable commercial players who would comply with their lease obligations and participate in a project with positive economics.²⁶

In recognition of the state's vital interests in encouraging exploration and development of Alaska's natural gas resources, "AGIA license applicants were required to commit to a tariff structure that would assure the lowest possible transportation rates and expansion terms."²⁷ While the provisions to reduce tariffs are admirable, neither FERC procedures nor AGIA terms specify the means to ensure that the AGIA contract will actually deliver the lowest possible tariffs. In view of the TAPS experience and the significantly greater size of the estimated tariff per unit of energy delivered to Alberta on the largest project in North America, some may find the failure to address this issue disturbing. On a project the size of the North Slope pipeline to Alberta, the difference between "lowest possible" and "low" could be huge.

4. Can TransCanada obtain the funding guarantees from shippers necessary to build a North Slope natural gas pipeline without producer commitments to provide the gas they control?

Perhaps not.²⁸

A prospective gas line builder finances its project by obtaining commitments from shippers under "take or pay" terms, guaranteeing that the shipper will pay for the space on the proposed pipeline under any circumstance. If, for some reason, the shipper doesn't take the gas, the shipper will still pay.²⁹ In other words, by purchasing space on an unbuilt pipeline during the initial open season, a shipper would be financing a

²⁶ Findings, Exec. Summary, pp. ES-6.- 7.

²⁷ Findings, Exec. Summary, p. ES-7.

²⁸ The opinions of knowledgeable observers with whom I spoke about this question range from "maybe" to "very probably not."

²⁹ See discussion in Section I.B., above.

significant part of that pipeline's cost, whether or not it is ever built. Before assuming this financial risk, an independent explorer will want to know that it will be sharing its pipeline costs and project risks with other prospective shippers. But when three major producers control 95% of North Slope gas, their role in the first round of open season looms large.

A respected administration analyst believes the major producers will not want to own the pipeline because they can earn a higher rate of return on their equity investments than the pipeline would provide through its guaranteed return.³⁰ Nevertheless, the day before AGIA applications were due, two of the North Slope's "Big Three" – BP and ConocoPhillips – announced that they planned to team up to build a competing pipeline to Alberta and would submit their proposal directly to FERC, rather than going through the AGIA process. As a result, the state now sees the negotiations with the major producers "as a pre-requisite to a successful open season."³¹

It is not necessary to decide whether an 800-pound gorilla walked in unmasked and took the table, took a seat at the table, or took a seat already guaranteed by its possession of a gorilla-sized share existing North Slope reserves. In any case, the actions of the North Slope producers are critical to the outcome of current gas line negotiations. Careful consideration of the major producers' role in the proposed pipeline to Alberta raises a host of troubling questions about the project the AGIA contract would set in motion.

5. Will the Major North Slope Producers Enter Into an Agreement with TransCanada to finance the TransCanada project themselves?

Assuming the proposed AGIA project goes forward, producer financing of the gas line is a likely outcome of current gas line negotiations, based on the following information:

- TransCanada told legislators that it intends to "offer equity opportunity to Shippers in the initial Open Season that subscribe for a threshold volume." According to TransCanada, this development "should improve the likelihood of success and alignment of interests between project sponsors and Shippers."³²
- The AGIA findings state that "[t]he TC Alaska Project provides opportunities for significant Producer ownership," noting that if

³⁰ Personal communications, July 2008.

³¹ *Findings, Exec. Summary*, pp. ES-14-15, 17.

³² TransCanada, June 13, 2008, slide 15.

additional concessions are needed, they can be added."³³ State expert consultant Black and Veach says "[t]he potential for merging with the [BP and ConocoPhillips] Denali project is typical of the pipeline industry's development process."³⁴

- Marty Massey, joint venture manager for ExxonMobil (the third major North Slope producer), testified July 10 that ExxonMobil believes that the gas line to Alberta is viable at 4.5 Bcf/day and that ExxonMobil is "ready to work with the state, with TransCanada, with BP and with ConocoPhillips." Massey confirmed that ExxonMobil would be interested in an ownership percentage equal to his company's throughput. "With this approach," he added, "any pipeline profit from transporting our gas will come to us."³⁵

6. Are Other Outcomes Possible?

Yes, but it is possible that a web of complicated financial arrangements could put the producers in control of the pipeline.

An industry source who has worked for both ConocoPhillips and ExxonMobil says that because of its size and pre-eminence, whatever ExxonMobil decides to do will be very important. To date, ExxonMobil has declined to join either the ConocoPhillips Denali project or the independent TransCanada project. At least one well-placed industry observer with close ties to ExxonMobil views TransCanada as a stalking horse for the oil company's interests. According to this source, before he retired in 2005 ExxonMobil's Lee Raymond told associates that North Slope gas line financing arrangements would follow the Alliance Pipeline model.³⁶ That pipeline, which was built between 1998 and 2000, carries natural gas from Alberta to the Chicago area. The Alliance project – at the time described as "the biggest non-recourse debt financed project in North American history, requiring the participation of more than 40 banks worldwide" – was initially underwritten by producers, with the equity

³³ Findings, Exec. Summary, p. ES-17.

³⁴ Greg W. Hopper, "TransCanada- Accomplished and Capable: Commercial LOS (Likelihood of Success)) Assessment," May 28, 2008 (Alaska Gasline Determination Public Forum), slide 15.

³⁵ Testimony July 10, 2008 (Gavel to Gavel).

During legislative hearings, TransCanada representatives stated that the company plans to maintain at least a 51% equity ownership of the pipeline. However, a provision to this effect does not appear in TransCanada's AGIA proposal and it is not clear that a public statement to this effect, without contractual backup, is binding.

³⁶ Personal communication, July 2008.

ownership being transferred to an independent pipeline operator (Enbridge) after the project was up and running.³⁷

As this well-placed industry observer put it, "You can talk all you want, but you can't get around the Golden Rule." (This observer was referring to the well-known aphorism, "He who has the gold makes the rules.") Under the circumstances, this informed observer concluded, no shipper is going to commit to financing the gas line under the established "take or pay" rules without formal assurance from the major North Slope producers that they will be providing their gas. In sum, this source believes that the North Slope producers get to make the rules because they are holding the gas.

7. When Shippers and Producers are subsidiaries of the same parent company (or otherwise affiliated), does this unusual circumstance reverse the presumed Shipper incentive to seek lower gas line tariffs?

For many years, the federal government did not permit producers to own natural gas pipelines. Consequently, there are few examples to consider.³⁸

A consultant to the Legislative Budget & Audit Committee presented four examples of negotiated tariff levels. In three cases, the negotiations lowered the recourse tariffs by an average of nearly 19%. But in the fourth instance, the negotiated tariff was much higher.³⁹ The three instances in which tariffs were reduced through negotiations involved independent pipeline operators; the only tariff that went up was that of a pipeline that is now independent but was owned and financed by producers when authorized by FERC. Although the LB&A consultant's presentation shows the fourth tariff as only marginally higher than the recourse tariff, an AGIA consultant report indicates that the fourth company's negotiated tariff wound up 44% higher than the recourse tariff due to cost overruns.⁴⁰

³⁷ Jeff Share, "Alliance Pipeline Finishes '99 On Schedule, Within Budget," *Pipeline & Gas Journal*, January 1, 2000.

³⁸ A major reason that producer-owned pipelines were proscribed is that a producer would have less interest in promoting competition than an independent operator. In particular, it is recognized that a producer-owner would have less incentive to expand a pipeline to ship another party's newly discovered gas than an independent pipeline operator, who would be charging the shippers for that added cost, rather than paying those costs out of pocket. (See: "Producer-Owned Pipelines" (AGIA Complete Findings And Determination [CD], Appendix R8), Mar. 28, 2007, pp. 4, 7.

³⁹ Pulliam, June 4, 2008, p. 28.

⁴⁰ Pulliam, June 4, 2008, p. 28; Brown, Williams, Moorhead and Quinn (*Findings*, Appendix J), p. 9. The Alliance tariff has subsequently increased another 10%. (Enbridge reports). If legislators caught and resolved this important discrepancy between the two consultants' data on Alliance (in

Interestingly, the pipeline whose negotiated rates went up instead of down was Alliance.

As noted in question 4 (above), one administration analyst believes the producers would not care to own the gas line because they seek a higher return on capital than a regulated pipeline would provide. He agrees with ExxonMobil's former CEO that if producers initially financed the pipeline to Alberta to get it off the ground, they would sell their equity investment to an independent operator in the early years (see questions 4 and 6, above). Following this line of reasoning, he said, the producers would still seek lower tariffs because they would be shippers for most of the contract period. This theory does not address the following possibilities: (1) Tax advantages and other off-book tariff benefits potentially available to producer-owners could still reduce producer incentive to seek lower tariffs as a shipper; and (2) as financier, the transnational producers might be able to arrange concessions from TransCanada in other arenas that would enable TransCanada to maintain higher tariffs on the pipeline from the North Slope to Alberta, to the benefit of both TransCanada and the producers, but to the detriment of the state and the non-owner competitors of the major producers.⁴¹

Against this backdrop of uncertainty and financing complexity, it should be remembered that the federal natural gas tariff system protections for independent shippers on producer-owned pipelines appear to be rather weak. As noted at the outset of the response to this question, it appears from the limited data available that the federal regulatory system is not used to dealing with producer-owned pipelines and in the case of producer-affiliated pipelines may be failing to function in the intended manner.⁴²

Juneau, Anchorage, Kenai, Palmer, Barrow or Ketchikan between June 5 and July 8), this observer missed the discussion and resolution.

⁴¹ For example, if the producers made funds available by matching the prevailing market debt rate, they would be earning the interest on their capital as a lender while their tariff payment on the same capital also reduced their royalty and production tax payments

⁴² Historical evidence to support concern about the weakness of the FERC regulatory system is discussed in various reports and articles posted on this writer's web site (www.finebergresearch.com). This researcher's independent analysis, summarized above, confirms the warning to the same effect by Anchorage attorney Robin Brena to the state House Resources Committee in testimony June 7, 2008. (Brena has successfully litigated independent producer and shipper interests on TAPS at the RCA and at FERC.)

8. Are there other reasons to think the limited data on producer-affiliated pipelines constitute a valid warning that the natural gas system is liable to fail because the producers, dressed up as shippers, will not be seeking lower tariffs?

Yes.

From an institutional perspective there are two other reasons to think that a producer-affiliated pipeline will not accomplish AGIA's intended goal of securing low tariffs that maximize state revenue and promote competition.

- The first reason is that the producer-owners of TAPS have charged excessive pipeline tariffs on that pipeline since TAPS entered operation in 1977.
- The second is that natural gas pipelines are said to constitute a natural monopoly and therefore require particularly careful oversight to identify subtle discriminatory practices or charges that may aid producers in their quest for basin control by handicapping independent developers.⁴³

9. What Are AGIA's Probable Outcomes?

By putting the natural gas pipeline tariff regulatory process in perspective, we have identified a fundamental flaw in the institutional process that the AGIA framework did not address: The FERC regulatory process – which features an initial recourse or ceiling tariff and a negotiated tariff based on estimates that will be locked in place for at least three years – relies on the logic that the shippers won't agree to that tariff until they have negotiated the pipeline owners down. But what happens when the shipper is the producer? While the Alberta pipeline proposal does not appear to have fully explored natural gas pipeline tariff issues, from the TAPS experience we know this: Producers do not seek reduced tariffs when they also own the pipeline

We are now in a position to consider AGIA's probable outcomes.

A. What if they gave a party and nobody came? In this case, the state will have spent \$500 million and lost years of valuable time. From the state's perspective, alternative outcomes might be even worse.

⁴³ See footnote 15, above.

B. If the 800-pound gorilla and his colleagues do come to the party, they might show up because the natural gas tariff system will enables them to gorge themselves at the expense of the state and the independent shippers whose interests AGIA is trying to defend.

The next section looks at what might happen to the North Slope - Alberta tariff in the event that TransCanada does manage to persuade the major North Slope producers to ship on the proposed AGIA pipeline.

Section III. A Closer Look at AGIA's Tariff Efforts

1. What Parts of AGIA Are Supposed to Deliver "Lowest Reasonable Transportation Rates"?

The administration has identified four elements of the tariff that are supposed to deliver "the lowest reasonable transportation rates:"

- (1) Capital structure agreement limiting the equity portion of the project financing to 25% of costs during operations, 30% during construction and 40% for expansions;⁴⁴
- (2) agreement that cost overruns will reduce TransCanada's rate of return on capital for the first five years of operation;⁴⁵
- (3) rolled-in tariff rates, which would share expansion costs among all shippers, rather than requiring the new shipper to pay all incremental costs;⁴⁶ and
- (4) agreement that TransCanada will hold biennial open season offerings to expand pipeline capacity, as needed.⁴⁷

A fifth item frequently mentioned in connection with tariff reductions through AGIA is the use of U.S. federal loan guarantees to cover cost overruns. This possible tariff reducer is simply a factor that might lead to tariff reductions – not a part of the tariff structure.⁴⁸ Since this potential benefit could apply to other gas line proposals, the administration and TC

⁴⁴ See: *Findings*, Ch. 3, "Analysis of TC Alaska's Application," pp. 3-1, 3-144; and TransCanada, June 2008, slide. 13.

⁴⁵ Application 2007, Section 2.2.3.6, (Ch. 3, "Analysis of TC Alaska's Application," pp. 3-2, 3-114-116 and 3-144-146), p. 13; TC, June 2008, pp. 9, 13.

⁴⁶ *Findings*, Ch. 3., p. 3-1 3-81-82; TC, June 2008, pp. 7, 19, 23.

⁴⁷ *Findings, Exec. Summary*, p. ES-5, *Findings*, p. 3-8.TC, June 2008, pp. 7, 19.

⁴⁸ See, for example: Black & Veatch, *Analysis of Project Costs and Tariffs*, Anchorage, May 28-30, 2008, slide 2 ("Analysis of Project Costs and Tariffs Outline), slide 11 ("Effect on Tariff: U.S. Federal Loan Guarantees") and slide 12 ("Commercial Terms Can Have an Even More Significant Impact on Tariffs than Cost and Schedule Uncertainty").

correctly excluded the possible effects of a federal loan guarantee as a tariff reduction benefit realized through AGIA.

2. Do the Provisions of AGIA Actually Generate "Lowest Reasonable Transportation Rates"?

Probably not.

The AGIA terms represent a significant improvement over the previous administration's negotiating position by providing shippers open access (through the agreement to hold biennial open seasons) and competitive shipping rates (for new discoveries through rolled in tariffs). But even with the TransCanada's agreement to equity caps and a reduced return on that equity in the event of cost overruns (summarized under the preceding question), these provisions may not generate the "lowest reasonable transportation rates" for several reasons.

Although the AGIA proposals to lower tariffs are praiseworthy, the operating provisions lack "belt and suspenders" oversight safeguards necessary to assure low tariffs that are clearly warranted in light of (1) the TAPS tariff experience cited above, (2) the cumbersome mechanics of the FERC regulatory process for approving natural gas pipeline tariffs and (3) the fact that this tariff will be covering what is said to be the most expensive pipeline project in the history of this continent.⁴⁹ Additionally, it must be noted that the term "lowest reasonable transportation rates" has no statutory or regulatory force. It is said that those who consult on ratemaking issues regard terms such as "reasonable" as full employment measures because they guarantee prolonged litigation.⁵⁰

3. How Does AGIA Deal with the Distinction between Incurred and Reported expenses?

For ratemaking purposes, pipeline costs are reported and go into the rate base, which earns a specified rate of return. An actual cash outlay can be distinguished from an accounting entry (for, say, depreciation on

⁴⁹ The estimated TransCanada project cost of \$29.1 billion (Barry Pulliam, "Comments to Legislature on TransCanada Proposal" [Juneau, June 4, 2008], Slide 5) is seven times greater than the average project on the Goldman-Sachs list of 10 large energy projects financed in 2007 in nine countries and four times larger than the largest project (Goldman Sachs, "Pipeline Project Finance: Breakout Sessions #1 and #2" [Anchorage, May 28, 2008], slide 2).

⁵⁰ See testimony of consultant Dan Dickinson to the state House Finance Committee, Nov. 7, 2007. (Note: The undefined modifier "lowest reasonable" can be distinguished from "just and reasonable" rates, a statutory standard.)

previously incurred costs – or an erroneous duplicate invoice whose bottom line finds its way into the rate base without a second cash outlay). The allowable profit on both actual cash outlays and accounting entries increase the project's cash return to the pipeline owner at shipper expense. But the shipper-owner is simply transferring the accounting entries from one pocket to another (as discussed in Section I.B., above). For the producer-owner, accounting costs further enhance returns by reducing royalty and production tax payments to the state; the independent shipper who does not own an interest in the pipeline is handicapped competitively because it must pay the accounting cost out of pocket.

AGIA is silent on the distinction between incurred and reported expenses.

4. Are pipelines particularly vulnerable to cost overruns?

Due to the unique logistical and project management challenge of being spread out geographically (like a highway, as opposed to a house), pipelines are particularly vulnerable to imprudently incurred expenses and cost overruns.⁵¹ Cost overruns constitute one of the biggest threats to low tariffs on the pipeline that would connect the North Slope to gas supplies for Canada and the Lower-48 at TransCanada's AECO hub in Alberta.

To protect the shipper, under general ratemaking principle imprudently incurred costs are removed from rate base. On TAPS, for example, the state sought (but did not receive) a rate base reduction of \$1.6 billion (approximately 20% of construction costs, net of financing) for imprudently incurred costs.⁵² Perhaps a better measure of total cost overruns on TAPS would be the 93% difference between the \$ 4.1 billion project cost estimated when construction began in the spring of 1974 and the ultimate \$7.9 billion cost as the project approached completion, just three years later.⁵³

⁵¹ To gain an understanding of the equipment, materiel, personnel and environmental management challenges that must be met during construction of a cross-country pipeline, see "Alliance Pipeline Finishes '99 On Schedule, Within Budget."

⁵² See: Terry F. Lenzner, *The Management, Planning and Construction of the Trans-Alaska Pipeline System*, Aug. 1, 1977, p. I-11 (report to the Alaska Pipeline Commission by the Commission's Special Counsel).

⁵³ Aerospace Corporation, *TAPS: \$ - Alaska Pipeline System Cost Study*, July 1977, pp. I-9 - I-13 (Final Report for the Alaska Pipeline Commission).

5. How significant is the cost overrun potential on AGIA?

A cursory look at project cost estimates shows that the risk of cost overruns constitutes a significant factor in project economics. Basic project cost estimates for the TransCanada pipeline between the North Slope and Alberta range from TransCanada's base construction estimate of \$26.5 billion to the state consultants' estimate that, all factors considered, the median construction cost estimate would be \$46.0 billion.⁵⁴ LB&A economic analyst Pulliam's project cost chart shows TransCanada's project NPV increasing as costs increase by 40%, from approximately \$25.8 billion to \$38.7 billion.⁵⁵ Black and Veatch cost estimates show tariffs increasing from \$4.73 per mmBtu at an unspecified base cost to \$6.32 with a 40% cost overrun.⁵⁶ According to Black and Veatch, commercial terms – for example, capital structure, cost of debt, allowed return on equity and the availability of U.S. loan guarantee for cost overruns – have a more significant impact on tariffs than cost escalation or project delays.⁵⁷

It should be noted that the various problems associated with cross-country pipelines discussed above are compounded by the fact that 56% of the AGIA project will be constructed in Canada. This simple geographic fact introduces a host of additional problems that include the frequently discussed First Nation problems, as well as different regulatory and oversight regimes and a different currency with changing valuation relative to the U.S. dollar.

6. How does the AGIA TransCanada proposal finance cost overruns?

The TransCanada proposal expresses the hope that project cost overruns will be funded by the federal loan guarantees of \$18 billion authorized by the Alaska Natural Gas Policy Act in 2004. If the federal government awards this source of low-cost debt to TransCanada to cover cost overruns, the guarantee would reduce overrun financing costs, thereby

⁵⁴ Goldman Sachs, *Analysis and Findings Regarding TransCanada's AGIA Application*, May 16, 2008, p. 33 (\$35.2 billion adjusted for inflation).

⁵⁵ Pulliam, June 4, slide 44.

⁵⁶ Black & Veatch, *AGIA NPV Analysis Report*, May 22, 2008, p. 170 (the 40% cost overrun results in a \$6.32 tariff without the federal loan guarantee; with the guarantee, the tariff would be \$5.97.)

⁵⁷ Black & Veatch, *Analysis of Project Costs and Tariffs*, Slide 12.

reducing the amount by which cost overruns would increase shipping costs.⁵⁸

While the stated purpose of applying loan guarantees to cost overruns makes sense, this proposed financing arrangement also raises some interesting issues that warrant further consideration. The following questions are presented by way of example to introduce readers to the complexities of the ratemaking issues that will play a significant role in determining how the pipeline tariff will divide up the economic pie:

- Since federal loan guarantees function to reduce the cost of project debt,⁵⁹ why would the state defer use of these funds by targeting them to cost overruns.
- Does the fact that cost overruns increase the base on which project returns are earned function as a latent incentive to incur cost overruns?
- Would making low-cost financing available to fund cost overruns further reduce the pipeline company's incentive to prevent cost overruns?
- Would these effects be particularly beneficial for the producer-owner, who has the added advantage of being able to use debt-financed funds to reduce production tax and royalty payments to the state?⁶⁰

7. Are there other tariff elements with similar potential for increasing pipeline costs above originally estimated costs and above actual cash outlays?

Yes.

Other ratemaking items have significant potential to affect the fiscal outcome of North Slope natural gas production and transportation by increasing or decreasing the pipeline tariff.

Thirty-one years after TAPS went into operation, the state is still living with the consequences of its failure to correctly crack the riddles of pipeline

⁵⁸ Findings, Ch. 3, pp. 3-114 – 3-117.

⁵⁹ Findings, Ch. 3, p. 3-83. See also: Palin-Parnell Administration, *Overview of "FERC issues,"* April 30, 2007, slide 18 (presentation to Alaska State House Finance Committee; accessed July 21, 2008 at http://www.dog.dnr.state.ak.us/agia/pdf/agia_docs/ferc_house_finance.pdf).

⁶⁰ While this arrangement is supposed to help cushion the shippers by reducing the financing costs on cost overruns, at least one producers – BP – has complained that the project financing arrangements do not give the producers adequate protection against cost overruns (Findings, Ch. 3, p. 145).

ratemaking. In order to make sure that history does not repeat itself, the state would be well advised to study these questions carefully. As of this date, however, it appears that the state has elected to defer questions of ratemaking methodology and implementation in favor of broader, project economic analysis.

Section IV. LNG Analysis Revisited

1. What are the Trade-Offs Between the Highway and Valdez Routes?

First, the good news: The potential for costly project delays and significant cost overruns on the TransCanada route discussed in preceding sections appears to support selection of the Alaska Gasline Port Authority (AGPA) all-Alaska route to Valdez. The AGPA pipeline route is more than 50% shorter and involves none of the transnational problems faced by the TransCanada route. An additional advantage of the all-Alaska route that is seldom discussed is that the shorter route through one country presents significantly less opportunity for tariff manipulation.

Now, the bad news: The shorter, one-country pipeline route is only part of the story. The trade-off is that the all-Alaska route requires construction of a liquefaction plant, tanker shipments and international marketing. Cost estimates for the liquefaction plant range from \$7.9 billion to \$21.1 billion. The former cost is estimated by the Alaska Port Authority contractor for a 2.7 Bcf/d plant; the latter estimate, by a consultant for the AGIA team, is for a 4.5 Bcf/d plant.⁶¹ In addition to cost considerations, the liquefaction plant, unregulated by FERC, poses a potential bottleneck. The possibility of state regulation could ameliorate this problem.

Export and international marketing issues are discussed in the following paragraphs.

2. Asian LNG Price Premium.

It is the prevailing view in this debate that the hefty Asian LNG price premium, which presently makes this commodity worth approximately twice as much in Asia as the same quantity of natural gas in the Lower-48, can be maintained.⁶² In light of the difficulties of forecasting LNG prices and the long-term growth of Asian demand, the weight that should be

⁶¹ See: *Comparison of Netbacks from Potential LNG Project with ALCAN Pipeline Project*, June 20, 2008, p. 30.

⁶² See, for example: *Comparison of Netbacks from Potential LNG Project with ALCAN Pipeline Project*, June 20, 2008, pp. 18-24, 54-55.

accorded this assumption can be questioned. In June 2008, the U.S. Energy Information Administration reported, "[h]igher crude [oil prices] will also spur greater GTL production, placing additional pressure on natural gas supplies. Collectively, these activities are expected to increase overseas wellhead natural gas prices and worldwide LNG prices."⁶³

3. Export License.

Many experts believe that the federal government would be unlikely to allow the export of North Slope gas to Asia, despite the fact that the all-Alaska route already holds an export license approved for 25 years in 1989. Those concerned about the export problem cite the resistance to lifting the export ban on North Slope crude oil during the early and mid-1990's. However, material differences in current circumstances call into question the relevance of North Slope oil export ban history:

- During the mid-1990s, net oil imports were approaching one half of total domestic consumption and increasing annually on a rising trend.⁶⁴
- In contrast, natural gas imports constitute a much smaller share of domestic natural gas consumption – less than one-sixth – and are expected to decline slightly in coming decades.⁶⁵
- Since the oil export ban was lifted in 1996 after a long campaign, it is reasonable to assume that people recognized that net imports is the critical measure of dependency on foreign supplies.⁶⁶ From this perspective, an arrangement to sell gas into a high-priced market may seem much more palatable in the case of natural gas today than the decision to export oil in 1996.⁶⁷

⁶³ U.S. Energy Information Administration, *Annual Energy Outlook 2008*, June 2008, p. 79.

⁶⁴ See: U.S. Energy Information Administration, *Annual Energy Outlook Retrospective Review, 2006*, Tables 5 and 7 (1985-2005).

⁶⁵ *Annual Energy Outlook 2008*, June 2008, p. 139.

⁶⁶ Because the U.S. is both an importer and exporter of petroleum and petroleum products, EIA advises that net imports, rather than total imports, is the best measure of dependence on foreign oil. See: C. William Skinner, "Measuring Dependence on Imported Oil," *Monthly Energy Review* (U.S. Energy Information Administration), August 1995. ("... [T]he most appropriate measure of this country's actual dependence on foreign oil is one based on the *net requirement for imports*, or total imports minus exports, rather than on total imports alone.")

⁶⁷ Despite the administration's steadfast and commendable efforts to and share its information with the public, the state was unable to provide citizens with a working model that would enable interested persons to quantify the effects of different inputs and assumptions on issues of specific concern. Nevertheless, examination of static data on LNG presented during the AGIA process makes that a revision of the assumptions regarding Asian LNG prices would greatly increase the value of the Asian alternatives to the North Slope - Alberta pipeline.

Section V. Conclusions and Recommendations

1. Transparency and Public Engagement

The administration deserves credit for its efforts to inform and engage the public in review of the AGIA process. However, the failure to create and provide an interactive model that would enable members of the public to change key variables such as tariffs, gas prices and volumes and assess the results, constitutes a serious barrier to public participation.

Recommendation #1: To promote public participation in policy formulation, the administration should create and provide an interactive model that will enable interested citizens to put in variables such as tariffs, gas prices and volumes and assess the results.

2. Comparison of the TransCanada and AGPA Proposals.

While various experts have prepared overall cost and project NPV comparisons, the lack of a transparent model that the public can use makes it difficult for independent observers to make meaningful economic comparisons between the Alberta pipeline and Valdez marine routes.

One way to minimize perils of pipeline tariff ratemaking discussed in this report is to reduce the length (and, therefore, the cost) of the pipeline segment: There is an added benefit to the Valdez route: This option removes Canadian political and regulatory risks that compound the problems described in this report.

Recommendation: In view of the benefits of the shorter pipeline route in one country, additional analysis of the uncertainties associated with the Asian marketing premium and liquefaction plant cost and bottleneck aspects is warranted.

3. Can the State Rely on FERC to Ensure Low Tariffs?

In my estimation, no.

In addition to the TAPS experience and administrative elements of the FERC natural gas regime that appear to work against the independent shipper and state interests, examination of FERC's recent history with natural gas regulation strongly suggests that the notion that the state can rely on FERC to ensure low natural gas pipeline tariffs is unrealistic. System gaming and price manipulation by Enron and BP subsequent to FERC creation of the natural gas pipeline regulations in 1996 and by BP subsequent to system modification in 2003 suggest that the FERC procedures are inefficient in preventing those practices.

Recent FERC Chronology:

- 1996: FERC establishes the Recourse / Negotiated Rate framework to allow flexibility in natural gas regulation.⁶⁸
- 2001: Enron files for bankruptcy, Dec. 2, 2001
- 2002: FERC orders staff to gather information on "whether any entity, including Enron Corporation (through its affiliates or subsidiaries), manipulated short-term prices in the electric energy or natural gas markets in the West, for the period January 1, 2000, forward."⁶⁹
- 2003: FERC staff analyzed Enron trading strategies and found many of them to be forms of gaming based on price manipulation and falsification of information, concludes California spot markets affected by economic withholding and inflated bidding that violated antigaming provisions.⁷⁰
- 2003: Commission clarifies its filing requirements for negotiated rates.⁷¹
- 2004: Traders working for a BP subsidiary used the financial resources of BP to purchase more than the available supply of TET [Texas Eastern Transmission] propane. BP then sold a portion of

⁶⁸ The Commission's negotiated rate policies were originally established in *Alternatives to Traditional Cost-of-Service Ratemaking for Natural Gas Pipelines, Regulation of Negotiated Transportation Services*, 74 FERC ¶ 61,076.

⁶⁹ FERC, "The Western Energy Crisis, the Enron Bankruptcy, and FERC's Response" (accessed May 2004 at <http://www.ferc.gov/industries/electric/indus-act/wec/chron/chronology.pdf>).

⁷⁰ FERC, "Final Report on Price Manipulation in Western Markets Fact-Finding Investigation of Potential Manipulation of Electric and Natural Gas Prices," March 2003, pp. ES-2 – 3 (Docket No. PA02-2-000).

⁷¹ FERC Order 104, July 9, 2003, pp. 31-34.

their supply to other market participants at an artificially inflated price.⁷²

- **2006:** Former trader at BP pleads guilty conspiracy to manipulate and corner the propane market.⁷³

Recommendation: *The state should establish an ad hoc oversight group to ensure that the state maintains a pro-active posture in its efforts to assure low pipeline tariffs on the AGIA pipeline.*

4. Is There a Danger of a TAPS Redux on Natural Gas Pipeline Tariffs?

Yes.

While the state administration deserves credit for clearly identifying the importance of low tariffs and establishing tariff elements that target that result, the TAPS experience shows that there is a critical distinction between the rate structure and implementation. important distinction when pipelines are demonstrably prone to manipulation

Pipelines are inherently vulnerable to cost overruns and FERC does not grant refunds on negotiated tariffs, rendering state recovery of losses due to excess tariffs more problematical than on oil pipelines (where the state record of ensuring low tariffs over the first 31 years of TAPS operations has been dismal).

Recommendation: (See Recommendation 3.)

5. Basin Opening v. Basin Control

TransCanada speaks of its experience opening basins. At the same time, industry veteran says the industry strives for basin control. The history of TAPS suggests that it would be a mistake to assume the former approach to basin development is operable but the latter is not.

Recommendation: (See Recommendation 3.)

⁷² U.S. Department of Justice, "BRITISH PETROLEUM TO PAY MORE THAN \$370 MILLION IN ENVIRONMENTAL CRIMES, FRAUD CASES" (press release), Oct. 25, 2007

⁷³ U.S. Department of Justice, "BRITISH PETROLEUM TO PAY MORE THAN \$370 MILLION IN ENVIRONMENTAL CRIMES, FRAUD CASES" (press release), Oct. 25, 2007

6. Run models with Low and Mean Price Forecasts:

In the data available for public review, it is often impossible to tell what price forecast scenario produced the results presented. Modeled data should specify the price scenario (for example: Were the data on display generated from a low, mean or high price scenario?)

Recommendation:

To ensure that we who live in times of high petroleum prices do not force our descendants to pay the price of our good fortune, as a general rule a mean price forecast should be used.

If the model is being used to understand how industry is likely to behave, to avoid the dangers of over-estimating industry's capacity to risk the capital of its shareholders on an uncertain future, a lower (say, 33 percentile) forecast should be considered.