

**ALASKA STATE LEGISLATURE**  
**SENATE SPECIAL COMMITTEE ON ENERGY**

July 23, 2008

1:10 p.m.

**MEMBERS PRESENT**

Senator Charlie Huggins, Chair  
Senator Bert Stedman, Vice Chair  
Senator Kim Elton  
Senator Lyda Green  
Senator Donald Olson  
Senator Joe Thomas  
Senator Bill Wielechowski  
Senator Fred Dyson  
Senator Thomas Wagoner

**MEMBERS ABSENT**

Senator Lyman Hoffman  
Senator Lesil McGuire  
Senator Gary Stevens

**OTHER LEGISLATORS PRESENT**

Senator Therriault

**COMMITTEE CALENDAR**

SENATE BILL NO. 3001

"An Act approving issuance of a license by the commissioner of revenue and the commissioner of natural resources to TransCanada Alaska Company, LLC and Foothills Pipe Lines Ltd., jointly as licensee, under the Alaska Gasline Inducement Act; and providing for an effective date."

HEARD AND HELD

HOUSE BILL NO. 3001(efd fld)

"An Act approving issuance of a license by the commissioner of revenue and the commissioner of natural resources to TransCanada Alaska Company, LLC and Foothills Pipe Lines Ltd., jointly as licensee, under the Alaska Gasline Inducement Act."

HEARD AND HELD

**PREVIOUS COMMITTEE ACTION**

BILL: SB3001

SHORT TITLE: APPROVING AGIA LICENSE  
SPONSOR(s): RULES BY REQUEST OF THE GOVERNOR

06/03/08	(S)	READ THE FIRST TIME - REFERRALS
06/03/08	(S)	ENR
06/03/08	(S)	REPORT ON FINDINGS AND DETERMINATION
06/04/08	(S)	ENR AT 10:00 AM TERRY MILLER GYM
06/04/08	(S)	Heard & Held
06/04/08	(S)	MINUTE(ENR)
06/05/08	(S)	ENR AT 9:00 AM TERRY MILLER GYM
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 06/24/08 (S) ENR AT 1:00 PM MAT-SU  
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 07/01/08 (S) BILL CARRIES OVER FROM 3RD SPECIAL  
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 07/14/08 (S) Heard & Held  
 07/14/08 (S) MINUTE(ENR)  
 07/22/08 (S) ENR AT 1:00 PM SENATE FINANCE 532  
 07/22/08 (S) Heard & Held  
 07/22/08 (S) MINUTE(ENR)  
 07/23/08 (S) ENR AT 1:00 PM SENATE FINANCE 532

BILL: HB3001

SHORT TITLE: APPROVING AGIA LICENSE

SPONSOR(s): RULES BY REQUEST OF THE GOVERNOR

06/03/08 (H) READ THE FIRST TIME - REFERRALS  
 06/03/08 (H) RLS

06/03/08	(H)	WRITTEN FINDINGS & DETERMINATION
06/04/08	(H)	RLS AT 9:00 AM CAPITOL 120
06/04/08	(H)	Subcommittee Assigned
06/04/08	(H)	RLS AT 10:00 AM TERRY MILLER GYM
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07/02/08 (H) BILL CARRIES OVER TO FOURTH SPECIAL  
SESSION  
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07/14/08 (H) RLS AT 9:00 AM TERRY MILLER GYM  
07/14/08 (H) Heard & Held  
07/14/08 (H) MINUTE(RLS)  
07/15/08 (H) RLS AT 9:00 AM CAPITOL 120  
07/15/08 (H) -- MEETING CANCELED --  
07/21/08 (H) RLS RPT 3DP 4DNP  
07/21/08 (H) DP: KERTTULA, GUTTENBERG, COGHILL  
07/21/08 (H) DNP: JOHNSON, FAIRCLOUGH, SAMUELS,  
HARRIS  
07/21/08 (H) RLS AT 2:00 PM CAPITOL 120  
07/21/08 (H) Moved Out of Committee  
07/21/08 (H) MINUTE(RLS)  
07/22/08 (H) BEFORE THE HOUSE IN THIRD READING  
07/22/08 (S) ENR AT 1:00 PM SENATE FINANCE 532  
07/22/08 (S) <Pending Referral>  
07/23/08 (S) ENR AT 1:00 PM SENATE FINANCE 532

**WITNESS REGISTER**

Bill Walker, Project Director  
Alaska Gasline Port Authority  
Anchorage, AK

**POSITION STATEMENT:** Testified on LNG issues and development.

Craig Richards, Attorney  
Walker & Levesque LLC  
Anchorage, AK

**POSITION STATEMENT:** Testified on LNG issues and development.

Radoslav Shipkoff, Director  
Greengate LLC  
Washington, D.C.

**POSITION STATEMENT:** Testified on LNG issues and development.

TONY PALMER, Vice President  
TransCanada Alaska Company LLC  
Calgary, Alberta, Canada

**POSITION STATEMENT:** Answered questions about TransCanada's proposal under AGIA.

**ACTION NARRATIVE**

**CHAIR CHARLIE HUGGINS** called the Senate Special Committee on Energy meeting to order at [1:10:37 PM](#). Present at the call to order were Senators Charlie Huggins, Bert Stedman, Kim Elton, Lyda Green, Joe Thomas, Bill Wielechowski, and Thomas Wagoner.

Senator Therriault from North Pole was also present.

**SB3001-APPROVING AGIA LICENSE**  
**HB3001-APPROVING AGIA LICENSE**

CHAIR HUGGINS brought SB 3001 before the committee. He asked Mr. Walker to explain the makeup of the Port Authority to the audience before Mr. Shipkoff resumed his presentation.

BILL WALKER, Project Director, Alaska Gasline Port Authority (AGPA), Anchorage, AK, said the Port Authority is an entity created in 1999 by three municipalities; the North Slope Borough, Fairbanks North Star Borough, and the City of Valdez. Their goal is to build an all-Alaska gas pipeline. Recently Mitsubishi Corporation and Sempra LNG joined their effort, which brought unique expertise to the project. He pointed out that

Sempra LNG has the only receiving terminal on the West Coast and is affiliated with Sempra Energy, the largest single distributor of natural gas in the United States. He described the AGPA project as a 40-inch line from Prudhoe Bay to Delta Junction and 42-inches from Delta to Valdez, with approximately 18 off-take points in the state.

CHAIR HUGGINS shared the sentiments of a citizen who called him just before the meeting to express her support for an all-Alaska gas pipeline.

1:14:30 PM

RADOSLAV SHIPKOFF, Director, Greengate LLC, Washington, D.C., said that before resuming his presentation [from the document "Alaska Gasline Port Authority, Presentation to Alaska State Senate, July 22, 2008, Juneau, Alaska]." he would like to provide answers to several specific questions that were asked yesterday. Senator Wagoner asked about re-gas capacity in North America. Mr. Shipkoff displayed several slides of information from the FERC [Federal Energy Regulatory Commission] website, which shows existing projects, those under construction, and projects approved but not yet under construction. The total of the capacity of existing and under-construction projects was 21.8 bcf/day out of a total U.S. consumption of roughly 65 bcf/day. He pointed out that the number of approved terminals that had not yet started construction added up to an additional 26.7 bcf/day. Proposed terminals, those that had not obtained their regulatory approvals, represented another 18.1 bcf/day. [<http://www.ferc.gov/industries/gas/indus-act/pre-filing.asp>.]

CHAIR HUGGINS asked for clarification of the projects listed as "under Coast Guard jurisdiction."

MR. SHIPKOFF explained that if a project is far enough offshore, a certificate is issued by the Coast Guard, not the FERC. He was not sure, but thought the distance was 10 or 11 miles.

He also addressed the senator's question about imports of gas into the U.S. The first slide showed monthly imports of pipeline gas according to the EIA [Energy Information Administration] and illustrated that Canadian imports dominate at approximately 9 to 12 bcf/day, with very small amounts coming in from Mexico. The next slide showed monthly imports of LNG [liquid natural gas]. He separated imports from Trinidad because it is located very close to the U.S.; so it makes sense for them to send their gas here even if there are attractive prices in Europe or elsewhere.

CHAIR HUGGINS recognized Senator Fred Dyson's arrival.

1:19:37 PM

SENATOR WIELECHOWSKI asked Mr. Shipkoff on average, what price and tariff the U.S. is paying to import LNG.

MR. SHIPKOFF answered that the FERC reports average basis prices on the same website where he found monthly imports, but it is not always updated. For the most part, he said, LNG imported into the U.S. is imported under a sales and purchase contract indexed to a pricing hub near the terminal where it comes in.

SENATOR WIELECHOWSKI observed that the market seems to be very sporadic.

MR. SHIPKOFF explained that occurs when sellers are in a very strong position and are able to negotiate diversion rights for their cargos. In the U.S. a buyer of LNG has alternatives; if an LNG shipment doesn't show up, the buyer can purchase pipeline gas. Asian buyers are not usually excited about giving diversion rights to their sellers because they have no alternative source of gas, which is one reason they have to pay a premium. A seller who has successfully negotiated diversion rights can send the cargo wherever the highest price is. Typically, contracts have a provision that the seller must compensate the buyer if the cost of purchasing replacement gas exceeds the amount the buyer would have paid under the contract. Any loss resulting from the necessity for the buyer to obtain alternative supply is usually negligible and is far outweighed by the incremental benefits to the seller of diverting the cargo.

1:23:55 PM

SENATOR THOMAS asked if the price [of gas] can be positively determined based on FERC reports of information provided by sellers or transporters when they go to the regulatory agency to establish the price. He assumed part of the formula would be what they paid at the point of importation, plus transportation costs from the import point to the distribution center.

MR. SHIPKOFF advised Senator Thomas that the FERC does not have any approval authority over the price of importation.

SENATOR THOMAS asked if gas prices and transportation costs have to be reported to the FERC.

MR. SHIPKOFF answered that once gas enters the U.S. system it travels on FERC-regulated pipelines. What FERC reports is the

contractual price under which LNG is imported at the terminal; it does not report costs downstream of that. He added that LNG receiving terminals are not subject to FERC economic regulation; they are subject to FERC approval and siting regulation.

SENATOR THOMAS said he is trying to get at the calculation of cost to the customer and whether the sellers' rates have to be approved somewhere along the line.

MR. SHIPKOFF acknowledged that Senator Thomas' observation was correct in the sense that a seller of LNG who tries to access the U.S. market faces a number of costs that must be subtracted before reaching the ultimate netback. These include regasification and transportation via pipeline to the nearest liquid point or to wherever the consumer is located. If the seller's contract is indexed to Henry Hub, regardless of where the gas is being sold, it will typically have a provision that subtracts a certain amount from the Henry Hub price; so it is Henry Hub minus "x" or a percentage of Henry Hub. The differential is intended to account for the fact that someone has to pay the costs to get the gas to market. He commented that sales contracts to Asia are structured differently. The buyer takes possession at the offloading point, so gas is delivered x-ship price and the seller does not pay the cost of regasification and transportation.

[1:28:59 PM](#)

CHAIR HUGGINS recognized that Senator Donald Olson is attending via teleconference.

SENATOR ELTON said he is still struggling with the chart [slide 2: U.S. Imports of LNG] and asked for Mr. Shipkoff's assistance. He compared April 2008 to April 2007 and noted that April of 2008 showed roughly a quarter of the imports that the U.S. had in 2007 and April 2006 showed about half. He asked if the spike in 2007 occurred because other markets were softer and presented an opportunity for sellers to get a better price.

MR. SHIPKOFF said Senator Elton was correct; the fluctuation can be attributed to variations in the relative pricing between different markets. Once LNG plants are up and running it is not a good idea, from a technical standpoint, to interrupt production; so if the LNG is not showing up in the U.S. it is probably because sellers exercised their diversionary rights and went somewhere else.

[1:32:20 PM](#)

SENATOR ELTON asked what the vulnerabilities might be of selling Alaska gas into an LNG market with these kinds of radical fluctuations.

MR. SHIPKOFF pointed out that they are not looking at an LNG market; they are looking at imports of LNG into the U.S. market, which is a very large, very deep market. He pointed out that the peaks show a little over 3 bcf/day of imports out of over 65 bcf/day total U.S. consumption; so imports represent a very small percentage of overall U.S. consumption and are not likely to influence price. He added that the Asian markets do not show the same kind of fluctuation because they do not have alternatives. From Alaska's point of view, he said, this graph shows the benefit of being a seller.

SENATOR ELTON said his understanding was that Alaskan LNG would be subject to long-term contracts, which would not give us, as sellers, the ability to switch to other markets.

MR. SHIPKOFF said diversionary rights are exercised under and embedded into the long-term contracts. The contract provides volume security and a base-line revenue security because it is a seller's option to divert.

[1:35:55 PM](#)

MR. SHIPKOFF said the next slide [slide 3: Transportation Cost Comparison (2019)], addresses Senator Wielechowski's question from the day before. The left bar showed the transportation costs of LNG and the right bar showed the transportation costs of the 4.5 bcf/day pipeline project based on their model. He pointed out that these figures are different from those shown in AGPA's application because they recalculated the tariffs in this analysis using the administration's assumptions for the pipelines, conditioning plant, escalation of capital costs and escalation of operating costs, in order to minimize discrepancies between the assumptions. As a result, the total cost was higher than the cost he indicated during his testimony yesterday.

[1:38:32 PM](#)

CHAIR HUGGINS called a short at ease to fax copies of the slides to Senator Olson.

[1:43:26 PM](#)

CHAIR HUGGINS called the meeting back to order.

[1:43:51 PM](#)

MR. SHIPKOFF resumed with the second of 2 slides [slide 4: Netback Pricing at GCP Inlet (2019)] showing a comparison of transportation costs and netbacks between the two projects, assuming first gas in 2017. The 2.7 bcf/day LNG project showed a projected price of \$12.16 per mmBtu in Japan based on the EIA reference case price assumptions. That price minus projected transportation costs of \$7.71 produced a netback at the gas conditioning plant of \$4.45. The corresponding AECO price in Alberta, using the same set of assumptions, was projected to be \$8.26 minus \$4.22 of transportation costs for a netback price of \$4.03.

CHAIR HUGGINS asked if this analysis is based on his assumptions and data, not a comparison between his data and the administration's data.

MR. SHIPKOFF said the analysis uses AGPA's financial model based on EIA price forecasts and the capital cost estimates for all the common components for which they had estimates from the administration's analysis. So they used the administration's P50 capital cost estimates for the Valdez 2.7 pipeline, for the conditioning plant, and for the 4.5 bcf pipeline case in Alaska and in the Yukon and Alberta. They used the Port Authority's estimate for the LNG plant capital cost and shipping costs, which were not very different from the administration's.

[1:47:22 PM](#)

MR. SHIPKOFF shifted back to where he left off in his presentation yesterday, on the slide which illustrates the evolution of LNG pricing formulas in the East Asian market [slide 21]. The key point, he said, is that sales prices are directly related to the price of oil. He stressed that AGPA's analysis does not assume the highly favorable selling prices currently in place will continue; rather they anticipate that the dynamic will shift back toward slightly more favorable buyer terms. That means they will not be able to sell LNG at parity or above parity with oil, which is what some projects are doing. The administration put forward a set of three cases to evaluate what Alaska LNG pricing might look like. He said that AGPA adopted their base-case assumption for the purpose of this analysis, which uses 0.1485 times the oil price plus 90 cents to calculate the price in dollars per mmBtu. He pointed out that typically price indexation formulas in Asia are indexed to a basket of crudes called JCC or "Japan crude cocktail;" but for simplicity they just called it "oil price." They did not use the high case from the gas strategies report, which would have been significantly more favorable for the LNG project. Neither did

they use the low case because they do not believe it is realistic based on their analysis as well as discussions with their partners and potential buyers.

MR. SHIPKOFF moved away from discussion of the Asian LNG market to talk a little bit about North American gas pricing, which he said will determine the netback on the pipeline side. Page 23 of his presentation [slide 23, North American Prices: WTI and Henry Hub] graphed historical monthly prices of WTI [West Texas Intermediate] and Henry Hub. He explained that the scales on the left side in dollars per barrel and the right side in dollars per mmBtu are actually on a thermal equivalent basis; so one could also look at the blue line representing oil in terms of dollars per mmBtu. They generally move together, however recent years have seen a bit of a disconnect as gas prices have not kept pace with rising oil prices.

CHAIR HUGGINS commented that oil was at about \$124.50 per barrel and gas at \$10.40 something, down from about \$12.50.

MR. SHIPKOFF responded "Exactly," so the ratio would be about \$12.00.

[1:51:01 PM](#)

SENATOR THOMAS remarked that the gas seems to spike at almost the same time every year, from about December through June. He asked if that is just a winter spike based on weather conditions.

MR. SHIPKOFF confirmed that North American gas prices are very seasonal and typically spike in the winter time, especially on the East Coast. Another way to look at the issue is by plotting the oil-to-gas price ratio, which is exactly what Chair Huggins' point addressed [slide 24: WTI and Henry Hub Price Ratio]. Historically, it fluctuates pretty wildly. The average over the previous five years was about 8; but it had been higher in recent years.

He explained the reason the ratio is important in this context is that a higher crude oil to Henry Hub price ratio means the differential projected between Asian and North America prices will increase [slide 25]. Higher oil prices directly affect Asian LNG prices via the indexation formulas; so if that ratio is higher, it means higher LNG prices and lower North American gas prices.

The next slide [slide 26: DOE EIA Forecast Price Ratios (AEO 2008)] compared the five price cases published by the EIA in their Annual Energy Outlook from June 2008. The ratios in the high economic growth case and the low economic growth case are almost identical to the reference case. In all 3 cases, the ratio is about 10 and projected to stay that way through about 2030. The "high price case" shows a significant increase from between 10 and 12 to about 14, while the low price case goes back to the historical ratio of 8 and is projected to decline to about 7 by 2030.

MR. SHIPKOFF advised that the higher oil-to-gas price ratios in higher oil price environments occur, especially in the long-term, because one of the principal uses of natural gas is power generation. In the long-term, natural gas competes with other fuels such as coal, which do not generally increase in price to the same degree as oil.

The next slide showed the Wood Mackenzie forecast, which was used by the administration in their analysis [slide 27: Administration's forecast (Wood Mackenzie)]. AGPA did not have access to the actual numbers in the forecast; however the administration did publish a chart which was copied and included in this presentation. The dotted line shows the oil-to-gas ratio. On the right side of the axis it starts high to date and is projected to go down to about 8 then increase to about 9; so it is somewhere between 8 and 9 during the forecast period.

Slide 28: Price Ratio Forecast Comparison, the historical average at about 8.1 for the past 10 years and summarized the average through 2030 of all 5 EIA cases to be between 8 and 9. The projected average of the implied ratios under the futures market was 12.5.

MR. SHIPKOFF turned to slide 29 and said he was going to put together the capital cost assumptions he talked about yesterday and a range of different price assumptions discussed today to show the relative netbacks of the 2 projects. He first reviewed the assumptions that went into their calculations:

- Capital cost assumptions - The source of the assumption for everything except the cost of the LNG facilities was taken from the administration's P50 estimates.  
[slide 30, Other Assumptions]
- Capitalization ratios used were the same as those proposed by TransCanada and assumed by the administration.
- Return on equity was taken from the same sources.

- The spread between the cost of guaranteed and non-guaranteed debt was 150 basis points and was taken from the Econ One analysis.

He emphasized that the LNG would benefit from zero percent guaranteed debt. They have assumed that the pipeline benefits from 100 percent guaranteed debt, even though the financing plan analysis presented by Goldman Sachs assumed that a substantial part of the federal debt guarantee would not be used. Goldman Sachs projected that only 30 percent of the debt on the pipeline would actually be guaranteed, assuming no cost overruns occur. So to the extent that a significant portion of pipeline debt is not guaranteed, the netbacks would be lower than for it than the LNG plant. This analysis assumes 100 percent of their debt is guaranteed.

CHAIR HUGGINS asked if that is primarily due to higher tariffs.

MR. SHIPKOFF answered yes, reducing the portion of the guarantee increases the average interest rate, which increases the cost of capital, which increases the tariff.

[1:58:29 PM](#)

The LNG plant factor was 95 percent, which increased the unit tariff because fewer Btu's were being transported on an annual basis. The LNG sales price used the same formula as the base case assumed by Gas Strategies. The shipping costs were a function of the information provided to AGPA by their shipping consultants, Mitsui OSK Lines; they obtained price quotes from shipyards so these were actual non-committed cost estimates. The shipping costs, plus time charter and voyage costs, boil off and fuel consumption, come to a nominal cost in 2019 of about \$1.10. For the purposes of this analysis, they assumed a rich gas scenario as presented in the RFA [request for applications]. They had lean in the rich gas case and the reason it was \$11.33 instead of \$11.16 here was because, for the LNG case you have to strip out all the CO2 rather than leaving 1.5 percent, which is what the RFA gas composition assumed. They also changed their original escalation assumption to what the administration used: 4 percent per annum for Capex and 3 percent per annum for operating expenses.

MR. SHIPKOFF introduced slides 31 through 36 showing different scenarios under various assumptions and comparing the average netback at the GCP [gas conditioning plant] inlet in real, 2008 terms. He said they took the nominal 25 year project life netbacks, de-escalated them to 2008 terms, and averaged them

out. In each case graph, the red bar represents the netback under the 2.7 bcf LNG project; the dark blue bar is the 4.5 bcf pipeline; and the light blue bar is the 3.5 bcf pipeline. The EIA reference case reflected an average netback advantage for the LNG project of about 80 cents. In the EIA high price case, this advantage increased substantially because there was a very high oil-to-gas price ratio; therefore the differential between the Asian LNG price and the lower 48 prices, or rather the Alberta prices, increased substantially to almost \$6.00. Under the low price scenario, the pipeline was more attractive by about \$1.50.

[2:01:37 PM](#)

CHAIR HUGGINS asked Mr. Shipkoff if his reference case was essentially an intermediate case between the high and low scenarios.

MR. SHIPKOFF responded that, in some of their recent runs they used this as their base case. The reference case is the Department of Energy's EIA base case forecast.

SENATOR ELTON said, in terms of netback, he remembers the "road show" presentations showed that over the life of a pipeline taking gas to the North American markets, the state would earn in the neighborhood of \$66 billion and the comparable with LNG was in the neighborhood of \$30 billion. He asked if he was correct in assuming that the main difference in the return to the state was the volume of gas moved, that is, 4.5 bcf/day as compared to 2.7 bcf/day.

MR. SHIPKOFF confirmed his assumption. He explained that if they preserved these assumptions and generated these results in terms of unit, per mmBtu netback, then showed the actual net present value [NPV] of the total amount of cash flow sent upstream to the producers and the state and shared it according to a fiscal structure upstream, the fact that under the vast majority of cases they show a higher unit netback would not be sufficient to compensate for the LNG project showing lower total present value because they were comparing a 2.7 bcf/day project with a 4.5 bcf/day project ... it is just a volume issue.

[2:03:48 PM](#)

CHAIR HUGGINS called a brief recess.

[2:21:27 PM](#)

CHAIR HUGGINS called the meeting back to order.

MR. SHIPKOFF described the first of the set of slides showing the netback comparisons under a range of different scenarios. This slide [slide 31] showed the results for the 3 different price cases forecast by EIA.

The next [slide 32] assumed a flat constant 2008 USD \$60/barrel oil and 3 different oil-to-Henry Hub price ratios: 10/1, 9/1 and 8/1. At 10/1 the LNG project had about a \$.50 advantage. It fell a little below the 4.5 bcf pipeline at 9/1 but the difference was negligible. At 8/1 however, it showed a significant disadvantage of about \$.80.

The next slide [slide 33] showed the same set of assumptions in terms of 3 price ratios, but used an oil price of \$80/barrel. At 10/1 LNG was more attractive than the 4.5 bcf pipeline. The 9/1 ratio produced a slight advantage of about \$.40. But at 8/1 the LNG was still less attractive by about \$.65.

MR. SHIPKOFF moved to slide 34, which showed the assumptions using \$100/barrel oil. Under this scenario the LNG project had an even greater advantage at the 10/1 and 9/1 ratios; and the disadvantage was narrower at 8/1.

Slide 35 showed a different kind of sensitivity. They kept the EIA reference case price assumption and all other factors constant for all 3 cases, except that they increased the cost of the LNG plants. The left set of bars showed their base case, which was \$8 billion un-escalated. In the middle that was increased by 40 percent and on the right by 80 percent, which was roughly the same as the administration's P50 estimate. This graph showed that at base case + 80 percent they would break even with the 4.5 bcf pipeline.

The final sensitivity case [slide 36] was included to give an indication of what the sensitivity would be to variations in the guaranteed portion of the pipeline debt. He reiterated that they had assumed none of the LNG project debt would be federally guaranteed because they are not eligible for the federal loan guarantee. However, they anticipated that some fraction of the pipeline debt might not be guaranteed because there would not be a sponsor completion guarantee for the debt; therefore they were reserving a substantial portion of the guarantee as a contingency cost-overrun facility. He explored a range from 100 percent, which was the base case, at which they would benefit from all of their debt being guaranteed, to 0 percent, meaning none of their debt would be guaranteed, and the variation was

not very big. Their costs increased and their netback decreased by about \$.07 for each 50 percent of the debt.

MR. SHIPKOFF stated that what all of these cases are intended to convey is not that they are absolutely certain that under all cases they will have a higher netback than the pipeline, but that under a wide range of different assumptions the results do in fact show that the smaller 2.7 bcf project generates higher unit netback results [slide 37]. As a point of comparison he suggested that the legislators compare the similar assumptions in this slide with what the Econ One analysis showed using their model.

He commented that the next and final slide [slide 38] went to the point Senator Elton raised earlier, which was that the LNG project generates smaller present value in terms of total absolute cash flow, not in terms of per-unit price netback. He said that is because it is a smaller project. Even though, under many assumptions, under several scenarios, it shows a higher mmBtu netback, the volume is not sufficient to compensate for the nearly 60 percent higher volume on the 4.5 bcf pipeline.

MR. SHIPKOFF concluded by saying that AGPA does not necessarily view the smaller volume and therefore smaller NPV [net present value] associated with this project as a disadvantage. They believe the lower volume requirement increases the likelihood of success because it enhances their prospects of securing gas supplies sufficient to implement the project. Furthermore, they do not view the 2 options as mutually exclusive. Reports that address the YTF [yet to find] reserves indicate that there is a lot of gas on the North Slope, enough gas for both projects even if the 4.5 bcf pipeline is expanded to 6 bcf or more. They believe it makes the most economic sense to monetize those molecules that can attract the highest price, the highest per mmBtu value, in the way that maximizes their value; so if they can monetize 2.7 bcf and attract a higher value on volumes going to Asia, they think it makes sense to do that and still do the 4.5 bcf pipeline.

[2:28:56 PM](#)

MR. WALKER thanked the legislature again for this opportunity to detail the reasons they believe theirs is the superior project on the economics. He also shared the fact that they recently received a letter, which was also sent to the Speaker of the House and the President of the Senate, from the State of Hawaii, expressing interest in LNG from Alaska. Mr. Mark Glick [Economic Development Director] of the Office of Hawaiian Affairs

contacted them approximately a year earlier to express Hawaii's interest in Alaskan LNG. Hawaii was importing large amounts of coal from Australia. That letter marked the end of a 12 month study by Hawaii to determine the feasibility of replacing their coal-fired power generation with LNG. He pointed out that their volume requirements were similar to Alaska's, from 3 to 5 bcf, and represented another positive market opportunity. He believed that the export license and Jones Act issues were covered in the teammate agreement they had for the ships.

MR. WALKER added that about 10 days ago, he discovered Canada had been faced with a similar dilemma regarding a \$300 million transcontinental pipeline in the 1950s. He located a book about it entitled, "Pipeline: Trans Canada and the Great Debate / A History of Business and Politics" [by William Kilbourn] and found that the situation was pretty similar to Alaska's. Canada wanted to move gas from the Alberta area to Toronto and had 2 proposals on the table. One would have looped through the Great Lakes area, picked up market in the U.S., then looped back up into Toronto. The other was referred to as the "all-Canadian line" and Parliament became quite involved in the matter of which route they should go with. The U.S. route would have been about \$50 million cheaper to build; but they were emphatic that the all-Canadian route should be built first. It didn't have the best economics, but there were communities in parts of Canada that would not be serviced with the U.S. route. They also wanted to retain control over the project. They were concerned that when it crossed into the U.S. and back there would be a different jurisdiction, a different set of laws. To make a long story short, the government of Canada got involved in that process and did a loan to make the financing work so they would take the risk and it was a very successful project. TransCanada ultimately did the project in conjunction with the competing line; they basically became one. The analogy was too close not to comment on and some people involved in AGPA's project felt the only way it was going to get off of dead center was for the state of Alaska to take an ownership position in it to the tune of 100 percent on infrastructure, even if they divested it the next day. There was a clear example of how that was done in the past.

[2:36:28 PM](#)

SENATOR WAGONER interjected that actually took place in 1956.

MR. WALKER agreed.

CHAIR HUGGINS asked who built that pipeline.

MR. WALKER replied that it was built by TransCanada.

CHAIR HUGGINS commented that they can ask TransCanada about it later.

MR. WALKER asserted that they did a great job and the parallels couldn't be stronger.

2:37:07 PM

SENATOR WIELECHOWSKI said he has gotten a lot of emails and phone calls about comments made by the CEO of TransCanada on first developing Keystone, then developing the Keystone Project, then building Mackenzie and then building Alaska. He asked Mr. Walker for any comments he might have and how that fits into the timelines that have been set forth under the AGIA process.

MR. WALKER said he received the same email and watched the comments on his computer. He said he had been asked before why he thought Mackenzie was going to go first, and it seemed the chairman of TransCanada answered that pretty clearly yesterday. The way he saw it, it would be the Keystone project, then the Keystone expansion, then Mackenzie, and then Alaska. He thought the timeframe was probably in line with what the application said, about the end of the next decade, about 2018; but it would certainly put us behind three other projects.

2:39:00 PM

SENATOR WAGONER said he wanted to go back to discussions they had yesterday on capital cost assumptions. He said he had received some additional information, including an article from Tom Phalen, Vice President of upstream operations at Fluor Corporation, who was responsible for directing Fluor's project operations for LNG facilities on a global basis. Senator Wagoner stressed that this reaches farther than Alaska's gas liquids or the LNG project; they have to take it into consideration on pipeline costs, gas to liquids, gas liquids, the whole works. Basically what Mr. Phalen said was that all LNG project costs had escalated since 2005 at the same 20 percent per year rate as other upstream projects, creating a higher degree of economic uncertainty for liquefaction projects. In addition to that, he said doubling of the EPC project technical resource requirements between 2005-2007 would create a 10 to 15 percent deficit of people to staff the projects by 2010. Senator Wagoner said he'd like the AGPA folks to respond to that, because they said these

were 2007 actual estimated costs and this is kind of scary for not only this but the pipeline project.

MR. SHIPKOFF responded that they share his concerns. It is a legitimate issue and a big issue for any project that is a major capital-intensive project in planning. He said that over the past couple of years, whether it's LNG projects, petrochemicals, chemicals or pipelines, all projects have experienced substantial cost overruns. They saw this in their own numbers; they practically doubled from 2005 to 2007. So he could not say with any certainty what was going to happen in 2012. He said he is always reluctant to quote a tariff or to give the netback price in dollars and cents because he is afraid it will convey a false sense of precision, as if they know what the price is going to be down to the last cent. They don't. He admitted that there are very few things he can say with confidence about their analysis or anybody else's; but he can say with a high degree of confidence that all of these numbers that they are talking about today are going to be wrong; its going to be something different. Capital cost increases are a significant issue and have been the result of a number of factors: materials costs increases, steel and other materials; energy cost increases; the EPC market has tightened substantially; the contractors themselves are having a hard time finding qualified engineers and then between the universe of contractors who qualify to do these projects, all of them are booked because there have been so many projects that have proceeded and attempted to go to financing and have secured contracting services that there's a huge backlog at all of the major firms. He hoped the backlog would clear in the next few years, for their project's sake and for the pipeline project's sake. He said one of the issues they had to address with Bechtel when they were looking at the pipeline component of the project was whether they were going to find enough welders and engineers to do all the detail work that was going to have to be done during the development process.

[2:43:52 PM](#)

CHAIR HUGGINS reminded members that according to the articles they had seen on Mackenzie, it had gone from \$4 billion to \$16.2 billion in recent years; so Senator Wagoner was right about escalation.

SENATOR WAGONER asked Mr. Walker if AGPA had current contracts or if they were working on contracts with their other partners, such as Mitsubishi or Sempra.

MR. WALKER answered that they currently had an MOU with Mitsubishi and Semptra that provided for further definitive agreements by the end of August. He confided that a factor in their timing was that they felt this process would have concluded by the end of August so they could decide where to go from there.

[2:45:13 PM](#)

SENATOR ELTON opined that they need a buyer but they also need a seller at the other end of the pipe, and asked if they had started a process with potential sellers.

MR. WALKER confirmed that is a necessary piece of the process and the process had started; but said he could not be any more specific about it than to say other meetings were scheduled.

SENATOR ELTON said he recognized that Mr. Walker could not tell them the status of those [meetings] but asked if he was correct in assuming they wouldn't be before the committee if they didn't think they'd ultimately be successful.

MR. WALKER assured Senator Elton he was not trying to be evasive but said there had been a first round of meetings and subsequent meetings were being scheduled. If there hadn't been any interest, he didn't think there would be a second round of meetings. They were pleased with the interest and wouldn't be there today if they didn't feel optimistic that their partners had the ability to buy.

[2:47:01 PM](#)

CHAIR HUGGINS said, in the interest of time, they would have to alter the schedule a little before bringing the administration forward. He said he would like to ask Mr. Palmer to come forward to address an issue about the in-country Canada line.

[2:47:43 PM](#)

TONY PALMER, Vice President of TransCanada Alaska Company LLC, Calgary, Alberta, Canada, said he came in part way through Mr. Walker's discussion but did hear the bulk of it.

CHAIR HUGGINS asked if Mr. Walker would do a quick synopsis for Mr. Palmer.

MR. WALKER stated that his understanding of what he read about what happened in the mid-fifties was that there was a desire to move gas from Alberta to Toronto in Eastern Canada and a dilemma about which route to follow, the all-Canada route or one that

looped through the U.S. and back up. The desire was clearly to follow the all-Canadian route, which he believed was proposed by TransCanada; so the government stepped in to make that possible. TransCanada paid the loan off early and did a wonderful job and, from what he could tell it was a wildly successful project.

[2:49:29 PM](#)

MR. PALMER said he had read the same book many years ago and recalled that. In fact, he said, over the course of his testimony in front of one of the many committees he's testified to over the last several years, he spoke to that exact point. That is, in order for that project to proceed there was a significant debate in the Canadian parliament and the Canadian government did take a very active role in the decision regarding how the project would go forward. In fact, they took a financial position in it.

CHAIR HUGGINS asked if he could refresh the committee about the debate, as they had not read the book and he was the only Canadian the room.

MR. PALMER said it was a prolonged debate in the mid-fifties about how or if a gas pipeline should be constructed to serve Canadian needs. Western Canadian suppliers had significant natural gas surplus available and there was a large market, mostly in Ontario and Quebec, Eastern Canada. The debate was over whether a pipeline could be put in place, how that would go about and whether it would go north or south of the Great Lakes. He commented that, if they knew that terrain they would understand that from a pipeline construction standpoint, it's much easier to go south of the Great Lakes rather than going through the granite of Northern Ontario. That's one major factor. And the second major factor was and is that there are more customers south of the Great Lakes than there are north of the Great Lakes. So those were the considerations of the commercial aspects. On the other hand, there were some nationalistic aspects and public policy matters that the government of Canada had to consider. That was the nature of the debate He thought Mr. Walker had correctly characterized that there were two potential projects put forward with different proponents; and they ultimately came together and put together a project that was approved by the government of Canada and supported financially by the government of Canada in certain ways.

CHAIR HUGGINS asked if it was like the loan guarantees they saw with this [project] and what the history of support by Canada for pipelines was.

MR. PALMER said he was going from memory of a book that he read several years ago; but as he recalled, the government of Canada had to take an ownership position in the section in Ontario, particularly Northern Ontario, where there were very few customers. They also provided a loan guarantee or a loan for the section across the prairies in Western Canada. As Mr. Walker described, the project was very successful and, as he recalled, TransCanada purchased the Ontario section from the government and was able to pay off the loan over the course of years in a normal fashion. He did not recall how many years it took for TransCanada to pay off the loan for the Prairie Section.

CHAIR HUGGINS said his assumption was that the politics of his position and Canada's position and probably the U.S. position have evolved over time. He asked if that was accurate and if he would bring the committee up to speed.

MR. PALMER agreed that the politics had evolved over time. Governments in Canada had been involved many times over the course of the last 50 years in deciding how projects should proceed in many different fields. The government of Alberta for example, was involved in establishing a pipeline company that was the predecessor of Nova Corporation, TransCanada's Alberta system. They decided they did not wish to own the pipeline and in effect gave the TransCanada predecessor, which at that time was called The Alberta Gas Trunk Line, a franchise to provide the service as a private company to customers across Alberta. He added that they had seen how successful that predecessor company was over time in some of the presentations he had provided. It was a privately financed company, privately owned, which received a franchise from the government of Alberta.

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CHAIR HUGGINS called a brief recess. He said when they returned he would ask for 2 representatives from the administration and 2 from the Port Authority to talk project economics and to contrast the analyses.

[3:03:27 PM](#)

CHAIR HUGGINS called the meeting back to order.

He explained that what he would like to do is to have a discussion about the Port Authority's perspective and the

administration's perspective. To kick that off, he wanted to look at the rationale behind their different approaches to the analysis. The administration apparently did a "top down" analysis while the Port Authority's analysis was "bottom up." In addition, he said, Mr. Shipkoff stated that AGPA shared their model with the administration, but that was not reciprocated.

3:04:50 PM

PATRICK GALVIN, Commissioner, Department of Revenue, Juneau, AK, responded that the first question with regard to the nature of the analysis goes to the current exercise. They were trying to answer the question, with regard to the TransCanada Alaska application, did it sufficiently maximize benefits to Alaskans? In order to do that, they had to do a full comparison of that decision and the issuance of an AGIA license with the opportunity to pursue an LNG project. But they did not have a singular LNG project to use as for their comparison; they were comparing against a potential LNG project. Two had come in the door and there were others that could potentially go forward as they progressed with other interested parties; so they had to look at it from the vantage point of LNG as a project option and determine a comparison of values both in terms of economic values and in terms of likelihood of success. From that vantage point it became a discussion with the technical team in terms of the best way to accomplish that. He deferred to Mr. Sparger regarding the nature of the actual analysis and the way they built the cost estimates in particular. He thought Mr. Smith from Black and Veatch could talk about the financial modeling, but felt that was one remove from some of the issues being discussed here that went to the cost estimates and the difference between what they were using in their financial models versus the numbers the Port Authority presented as their expectations about their costs. He suggested that it seemed most appropriate to start by having Mr. Sparger talk about the cost modeling.

3:07:01 PM

COMMISSIONER GALVIN continued that as far as "top-down" versus "bottom-up," they didn't have a particular project they were trying to analyze or build; they were trying to create a range of possibilities given the types of projects that exist. He felt that was the most appropriate way to try to capture the range of possibilities related to LNG, as opposed to comparing one particular project to another particular project.

3:07:54 PM

BILL SPARGER, Energy Project Consultants, Colorado Springs, CO, was performing technical consulting for the state of Alaska administration.

CHAIR HUGGINS asked Mr. Sparger if his organization did the analysis.

MR. SPARGER replied that he headed up a technical team and various members of the team and subcontractors did various parts of the analysis.

CHAIR HUGGINS asked when they began the analysis.

MR. SPARGER answered that they started January 6, 2008.

MR. SPARGER stated that, from the LNG side, they were given a series of options roughly configured like the Port Authority application, the TransCanada Y-line, and the Little Susitna application. They had a 2.7 bcf pipeline, 48/42 inch configuration; the Y-line; and the Little Susitna, which was 48 inch all the way to Valdez. Taking those one at a time, the pipeline was bottom-up. It was bottom up for TransCanada and they simply prorated their estimates for the pipeline portion. It was bottom up because the pipeline itself had been worked on for a long time and was relatively simple compared to the GTP [gas treatment plant] or an LNG plant and TransCanada had provided a lot of information that they used to develop their own estimates.

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MR. SPARGER said the GTP is common to any project. No applicant provided any extensive details about the GTP; they, through some of their experts and engineering firms, built a stand-alone GTP range. Their analysis did not arrive at a cost estimate per se. They arrived at a best-case/worst-case range of both cost and schedule. They were not trying to prepare a proposal to submit to someone as the Port Authority, TransCanada and others were, but to provide the commercial team who would take that capital cost information and run it through their MPV model with many other economic assumptions. That was their task; it was not to provide an estimate. So, looking at worldwide facilities and factoring those for current dollars, then factoring for Alaska, both the GTP and the LNG ranges were fed into a Monte Carlo simulation model that effectively picks these things randomly at thousands of iterations and comes up with a probability curve.

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MR. SPARGER explained that a probability curve is nothing more than the probability that the percentage will fall on that curve. In other words, a cost with a P50 or probability 50 means there is a 50/50 chance that will be the cost; a P90 means there

is a 90 percent chance that costs will be exceeded. That is important because P50 is not an estimate; it is simply the mid-point in the probability curve. The reason it's not an estimate is that for most projects, this one in particular but most projects, the worst-case range is much higher. In other words, it is further from what you might think than the best-case range is, because there is less chance the costing schedule will improve than there is that it will get worse. So in the way they perform the ranging, by sheer definition, P50 is always going to be higher than a point estimate. In fact, he asserted, they did an estimate on TransCanada and their estimate was more like P15. It's important to remember that when you try to compare a point estimate like the Port Authority's, like TransCanada's, like Little Susitna's, to P50, you already have a built-in differential because P50 is not an estimate.

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MR. SPARGER said, going back to LNG, the LNG costs were put together top-down. There are few LNG projects of this size built in the world at any given time. Their LNG experts, using public and proprietary databases that they had access to, looked at a series of projects across the world with ready-for-service dates since 2003, mostly from 2006-2009. Unfortunately, there weren't any projects in the arctic except one in Norway called Snovit, which was a horrible example. The cost of Snovit was probably double; it would be way beyond P90 or P95 on the curve. But we did look at it because it was in the arctic and decided it was not representative so it was not included in the analysis. Likewise, we threw out the bottom. So there are a whole lot of projects lumped in the P20-P30 range, which means lower cost; and then about an equal number up in the very high range, P80-P90, and none in the middle range. He admitted they don't know why; but what it indicates is that projects are coming in on an adjusted basis. Projects are coming in at the \$1000 dollar a ton range [of LNG] and at the \$350-\$400 range on the lower end with some falling in between.

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Going back to what the administration was trying to do, trying to see how good or bad it could be, Mr. Sparger said they couldn't limit the range to the lower end because they can almost guarantee it would go up from there, not down. So regarding the little arrows depicting the projects, those project costs were not directly used to generate the probability curve, only to generate the range that went into the Monte Carlo analysis.

[3:18:42 PM](#)

MR. SPARGER said he was a little confused. They heard yesterday about the Bechtel top-down cost estimates and he wanted to respond to the methodology that was used for their estimate. He read out of the Port Authority's application:

The execution phase cost estimates were prepared under a variety of estimating techniques to build up an indicative cost. As there is little design definition available at this stage, the costs were arrived at by comparing costs from a variety of similar projects and making adjustments to reflect the differences of location, scoping, timing, and technical parameters.

He submitted that was exactly what the administration did; they were not looking for a point number. The Port Authority's point number falls on this curve, in that lower end group. But the range of projects on a worldwide basis and trying to adjust for location, scope, timing, etc., told him that the lower end group was not appropriate for the state to use in analyzing the MPV.

[3:20:17 PM](#)

COMMISSIONER GALVIN said, from the administration's perspective, what they wanted was to ensure they had a comparable analysis on the TransCanada Alaska license project to what they were comparing on the LNG side. They had a similar differential between what TransCanada said they expect their costs to be and what they came in at as far as their range and the midpoint they used for all of their financials. Similarly on the LNG, they had a range they ran LNG projects against and the Port Authority falls on the low end of that. The issue for the administration was a combination of both economic risk and where the project could fall on the cost side. Separate and apart from the economic analysis was the likelihood of success. He didn't want to give the impression that one drove the other or that one dominated the decision; they separately participated in what resulted in their conclusion.

The final point he wanted to make was that throughout the hearing process, one of their challenges had been how to convey to a large group of people the breadth of the analysis that was done in the context of hearings focused on a particular topic. Most of the focus had been on issues associated with the TransCanada Alaska project because that was the license project on the table. He did not believe enough time was devoted to discussion of LNG.

[3:22:40 PM](#)

COMMISSIONER GALVIN said the large amount of material that went into the LNG analysis was not done on a cursory basis or last minute. All of the materials the administration provided presented different aspects of that analysis, including reports dealing with the technical engineering cost estimates; the financial estimates with price analyses; and the financial analysis performed by Goldman Sachs running the same numbers through the evaluation they used for the TC Alaska project, all of which were summarized in chapter 4 of their finding.

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COMMISSIONER GALVIN summarized that they found LNG projects are economic and viable. In comparison to a Canadian overland however, they found that they're not likely to be as economic or to result in as much money coming back to the state as they would expect from the Canadian project. They also found the state's long-term interests would be best served by having both and that it is in the state's interest to insure that they maximize the opportunity for an LNG component to the distribution of Alaska's natural gas. The administration was pleased about going forward with the licensed project, recognizing that ultimately the markets will drive the conclusion as to whether an LNG or an overland project gets the first gas off the north slope in the initial open season.

[3:25:30 PM](#)

SENATOR WIELECHOWSKI commented that there was a several dollar difference between the tariff AGPA calculated and the tariff the administration calculated for the LNG line. He asked if hearing AGPA's analysis changed Commissioner Galvin's opinion in any way as to what the proper tariff should be.

COMMISSIONER GALVIN said he would let Mr. Sparger and Mr. Smith address that question.

[3:26:05 PM](#)

MR. SPARGER said, from a technical standpoint, which means cost and schedule, they did not hear anything that would change their opinion or their report. He thought they had properly evaluated and analyzed it. Basically, even though the LNG plant itself is somewhat different from a capital cost estimate standpoint, when it is added to the total of the pipeline and the LNG facilities, that difference narrows because their pipeline cost was lower than the Port Authority's pipeline cost. The other thing he pointed out was, when he added the 2 numbers on page 15 of the

Port Authority's presentation, he came up about \$2 billion shy of the numbers for those same facilities in the application that was received in mid-December and he didn't know why. If AGPA's application numbers were correct, then the total capital cost between the Port Authority estimate and the administration's P50, (once again it is not an estimate, but he said he would use AGPA's terminology) is within 10 percent. At this stage in a project, if two independent estimates can come within 10, 15, 20 percent of each other, that's good.

[3:27:46 PM](#)

SENATOR WIELECHOWSKI said there were a couple of things he thought he heard from the Port Authority that the administration hadn't considered in their analysis. First was the fact that AGPA said it [the natural gas] was at much higher pressure and that would lower the costs. Second, there's a cold weather impact that needs to be included in the calculations, and obviously it's colder in Valdez than in Qatar. Third, the administration, he believed, had calculated it at a 4.5 bcf LNG facility; and they had calculated at a 2.7. He asked if Mr. Sparger could address those things and whether they had any sort of impact on the tariff.

[3:28:46 PM](#)

MR. SPARGER started with the last issue first. The administration provided capital costs and schedules for a number of scenarios, one of which was exactly what the Port Authority proposed, the exact pipe configuration and 2.7 bcf. They also did a 4.5. They actually expanded the liquefaction, the GTP and the pipe, putting more compression on it to come up with a 4.5 bcf case with their pipeline configuration. So, he said, it was incorrect to say they did not look at or model the 2.7 from an MPV standpoint, because that was done.

SENATOR WIELECHOWSKI said he could have been mistaken, since he was trying to recall what he thought he heard.

MR. SPARGER said yes, Valdez is colder and to produce LNG or to get the natural gas to LNG you must lower the temperature, so that does help somewhat. The process requires getting the pressure up and in this case it's already up at a certain level. He said they assumed they would have to hold it up above about 1300 psi for to keep the hydrocarbons in the gas stream. That's the same thing that was assumed on the TransCanada overland route and that's why they used a 2500 psi pipeline in both cases; if the pressure drops too low the liquids start falling

out. Obviously, it takes compression somewhere to get that and in this case, it's built into the pipeline.

[3:30:47 PM](#)

MR. SPARGER continued that they recognize there'll be some savings, and he thought that is why their costs were on lower end of the range. He thought the range had already taken that into consideration.

[3:31:10 PM](#)

COMMISSIONER GALVIN said the initial question went to the tariffs and they only dealt with the cost side. He asked if Senator Wielechowski wanted to expand the conversation to include what Mr. Smith would add.

SENATOR WIELECHOWSKI rejoined he is just trying to get at what's the correct tariff here, because there's a pretty big discrepancy. He deferred to the chair but said he wouldn't mind if more people wanted to jump in; he wouldn't mind hearing from the Port Authority if they disagreed; he just wanted to get to the bottom of it.

CHAIR HUGGINS agreed. He said he had a copy of the text of the slides from their meeting on January 30, 2008. One of the slide components said "commitment to evaluate LNG project options as part of the AGIA evaluation process." He reminded Commissioner Galvin that he expressed his concern at that time, that after months of the process they were just committing to look at LNG. His question remained, what were they thinking prior to January 30<sup>th</sup>? Why weren't they committed to evaluating LNG, because it's a methodology of getting gas to market? Commissioner Galvin's answer, according to the text, was that they committed to that "today" on January 30<sup>th</sup> and a letter went out to the Port Authority and Governor Hickel saying they were committed to that. Chair Huggin's concern was why were they not already committed to it since it was a methodology of marketing Alaska's gas; and he remained concerned because the project most Alaskans were behind mentally wasn't going to be considered.

[3:33:32 PM](#)

COMMISSIONER GALVIN asserted that the issue was when the public statement of commitment was made, which is the nature of both the letter and the testimony. The sequence of events was that they received applications in November and two of them had LNG as the primary component. Those were reviewed over the course of the next month and it wasn't until the first week of January that they made the determination with regard to completeness

that the LNG projects were not complete and would not be subject to a direct comparison within the constrict of AGIA. He pointed out that Mr. Sparger had just said in response to the question about when they started this process, the evaluation of LNG as a general comparison to the TC Alaska project began immediately after that decision; however, it wasn't until the end of January that they had a hearing down here. In the interim, they received inquiries from both the Port Authority and Governor Hickel asking how they were going to proceed with regard to the evaluation of the TC Alaska project if they didn't have an LNG comparison; and they made the public statement that yes, they would do it. They had already made the decision internally, which started the process Mr. Sparger described. He didn't think a lack of focus on LNG was an issue at any point during that period of time. He insisted that they'd talked about the distinction and the inherent competition between overland and LNG since the beginning of the AGIA process and that never changed. It transitioned over that first week in January from a direct competition between two proposed projects to a comparison of one proposed project and a suite of options associated with LNG.

[3:35:27 PM](#)

CHAIR HUGGINS said he was reading the text and it said "the commitment was made today." That was on the 30<sup>th</sup> of January. It always concerned him because of the support the Port Authority's concept enjoyed in Alaska, that they didn't get a commitment to look at LNG until two months after the application process.

[3:35:54 PM](#)

COMMISSIONER GALVIN reiterated that the responsibility to evaluate LNG was on the administration from the beginning. They acted on it and began the process of doing the evaluation. At the hearing and in the letter they made a public commitment to assure the public that it was being included in the analysis, because they knew the analysis wasn't going to be out for a couple of months. It's just that January 30<sup>th</sup> was the opportunity to make that public statement.

[3:36:57 PM](#)

CHAIR HUGGINS said as he recalled, the Port Authority gave the administration their modeling process and requested that they reciprocate; but the administration chose not to do so. He asked if that was true.

COMMISSIONER GALVIN replied that he would not characterize what the Port Authority may or may not have provided to them because....

CHAIR HUGGINS interjected that he would let the Port Authority speak to it and called on Mr. Shipkoff to repeat his statement.

MR. SHIPKOFF responded that, on the procedural matters with respect to what the Port Authority provided or did not provide, he would have to defer to Mr. Walker.

3:37:49 PM

MR. WALKER said yes, they did provide their financial model as part of their application, so the administration had full access to it.

COMMISSIONER GALVIN said that in a discussion subsequent to the release of the finding, the Port Authority asked them to release the Black & Veatch financial model. They talked to the technical folks, particularly those at DNR [Department of Natural Resources], the Division of Oil and Gas, about what was embedded in that model and confirmed that there was a substantial amount of proprietary, confidential information about production and so forth embedded in it; so they responded to the Port Authority that they were going to have to take the time to find a way to strip that info out in order to provide the non-confidential portion of the model. He admitted that unfortunately, because it's an integrated financial model, it's fairly time-intensive to do that and it will be a joint effort between the Division of Oil and Gas and the Black and Veatch folks, so they had not had the time to do it; but they intended to get to it as soon as possible.

3:39:25 PM

CHAIR HUGGINS said, with all due respect, the legislature is in the process of making a decision and having a vote and to the extent that one of the parties has some concerns about their viability, he would hope the administration would respond. "They are here, a voice at the table and they're asking... information-wise, they had an expectation... As an Alaskan, not as a senator sitting at this end of the table, it sounds practical to me."

COMMISSIONER GALVIN agreed that it did sound practical. Unfortunately it was not. He said they simply can't get it done in the timeframe provided by this decision-making process; however they had made their folks available for discussions

about what went into the decision making, how the financial models were structured and the nature of any distinctions between the methodologies. He did not believe there was anything they'd withheld in that regard.

[3:40:40 PM](#)

MR. WALKER clarified that, of course they'd like to have received it long ago, but if they can receive it at some point, somewhat late is better than never. He admitted it does make the process somewhat awkward. On May 31<sup>st</sup> the gasline team was kind enough to come to Fairbanks and meet with the Port Authority board, which is when he initially requested the model. At that time they explained some of the sensitivities in that; but he also asked for the assumptions and what the inputs were, which would certainly not be confidential, and those were not made available. Sometimes the assumptions provide a good indication of what went into the model; what comes out is based in a large part on what goes into it.

[3:41:39 PM](#)

COMMISSIONER GALVIN said a lot of times there are communication difficulties in terms of understanding the request. All the assumptions that went into the model are in the reports. He said when they get down to a discussion of what the Port Authority really wants, it is beyond the nature of simply assumptions, which are part of the public record, and into the mechanics of the model and the difficulty of extracting that as a separate component.

[3:42:24 PM](#)

MR. SHIPKOFF added that he does not see a tremendous amount of benefit in reviewing the administration's model at this point. It would be nice to see it and be able to enhance his understanding of their methodology; but as Mr. Walker said, what goes into the model is more important than the model itself. He conceded that in some scenarios their model generated results that indicated the LNG project is less attractive than the pipeline. If the capital cost of the LNG plant is high and the price ratios are not favorable, it shows the same thing. He said his biggest concern about the comparative analysis was that they came up with an LNG plant cost estimate of \$8 billion and, he insisted, they had not changed the numbers from those on the application. But the administration's P50 estimate which, as Mr. Sparger explained is not an estimate, it's a P50 result that has a 50 percent chance of being higher or lower than the actual, is substantially higher than the Port Authority's number. On the other hand, the estimates for the pipeline were, in the Port

Authority's estimate, greater than their P50 estimates for the pipeline. He felt there was some disconnect there, something on the technical side, something in the methodologies perhaps. He admitted he is not an engineer, and is not ready or qualified to engage Mr. Sparger on any of the details behind the estimates. That would be much better done by Bechtel, who actually worked on the development of the Port Authority's cost estimates. He wanted to understand what caused that wide divergence between the costs for the two categories, acknowledging that they may very well be wrong and, if so, they would like to have that discussion. As Mr. Walker indicated, the Port Authority offered to make Bechtel's engineers available to make sure everyone was on the same page. He thought that the difference between an \$11 billion and \$13 billion building on the pipeline was notable but not fatal; however, the difference between \$8 billion and \$14 billion for the LNG plant seemed to indicate a big disconnect.

[3:45:16 PM](#)

MR. SPARGER asked Chair Huggins if he could comment on that. He said the approach used when building a project estimate is different than it is when looking at the potential range of outcomes as they did in their analysis. The Port Authority said they disagreed with the administration's P50 analysis and its economic results; but he opined that TransCanada was probably equally frustrated with their P50 on the pipeline overland route. For the sake of comparison, he said, recognize that TransCanada's cost estimates and economic analysis resulted in a \$2.73 tariff estimate, while their analysis on TransCanada's project resulted in a tariff rate of \$4.70. That \$4.70 tariff was what they compared to the LNG analysis. It would not be a fair comparison to take our ranged analysis on the TC Alaska project and compare it to the Port Authority's project-based estimates. He summarized that they focused on using the experts they had available to them to give them the range of possible outcomes on an overland project and the range of possible outcomes on an LNG project and compare them using similar methodologies.

He felt that focusing in on the distinction was appropriate, but wanted to make sure they came back to the outcome of this result, which is a licensed project that will go to an open season in which the opportunity for an LNG project to proceed exists and the market will decide.

[3:47:45 PM](#)

SENATOR STEDMAN asked the commissioner if he was hearing him correctly to say that they have little to no interest in releasing the data inputs.

COMMISSIONER GALVIN repeated that the data inputs area all in the public record.

SENATOR STEDMAN suggested they back up a little because he was probably using the wrong terminology. The issue of the inputs into the model was the discussion here; the Port Authority wanted to know what was put in that model. He asked if that was correct or if he was still off base.

COMMISSIONER GALVIN answered that they were using similar terminology and maybe talking about different things.

[3:49:07 PM](#)

MR. SHIPKOFF said he thought he had a pretty decent understanding of what went into the model because it was described in their finding. His concern was that the people who generated the numbers did not appear to be on the same page because the numbers are very different. He stressed that he did not generate the \$8 billion estimate for the LNG plant, Bechtel did that with a team of 30 engineers who had been working on this project for 10 years. He felt they needed to discuss the apparent disconnect between that number and the administration's number. He did not feel it was useful for the Port Authority to say they are confident their number is correct because he didn't know if it was correct. But it was very different from the number the administration used in their comparative analysis to calculate tariffs for the LNG plant. He said he still did not understand why there was such a big disconnect and he didn't think the right people on their side were engaged to deal with it.

[3:50:27 PM](#)

SENATOR STEDMAN asked the chairman and the commissioner how to rectify this. He admitted that he was interested to know.

[3:50:39 PM](#)

CHAIR HUGGINS interjected that if this was being brought up by the 2 people from California, it would be a different thing in his mind; but this [LNG] concept is widely supported by Alaskans and he wants to make sure they are given clear information about why the Port Authority is not going forward, potentially. The Port Authority has some questions that deserve an answer.

COMMISSIONER GALVIN said it is also important for the public to understand when they talk about the Bechtel information, that Bechtel studied this issue and provided a tremendous amount of engineering work in generating their numbers; but he didn't believe they submitted that level of detail in the application. They received a certain amount of detail in the results of that work, so it was not a matter of all the information on one side being provided and the administration ignoring it. The administration took the information that the Port Authority provided and what they received from the Little Susitna project and engaged the expertise of folks who had been involved in LNG projects around the world to provide their assessment of the potential cost ranges for similarly sized, similarly located projects. As to why there was such a distinction, he didn't know except to say they had a credible team of experts who were directed to provide a range of cost numbers to plug into the model. This is what they came back with. For the purposes of this discussion, the issue was whether or not this would be the driving point of a decision. The administration considered a number of factors with regard to LNG projects and, regardless of the economic issues, they believed the overland route was superior because of likelihood of success as well. They were confident in their conclusions.

3:54:20 PM

MR. WALKER asked Chair Huggins if he could read one paragraph from a letter that he'd sent to both Commissioner Irwin and Commissioner Galvin on February 3<sup>rd</sup>.

Based upon your testimony before the House caucus on January 30<sup>th</sup>, it appears you intend to utilize information from the Port Authority's application to assemble the optimal LNG project. Since the Port Authority is no longer a participant in the AGIA process, we offer our assistance to the Palin administration in that effort. Our advisors have been engaged in this particular LNG project since 1999 and in numerous other LNG projects worldwide. The Port Authority's project team will bring much value to the state's analysis of an LNG project. The Port Authority's experts are the most qualified to work with and analyze the data submitted, therefore in any analysis, the Port Authority's data and information should include the integral involvement and participation of the Port Authority's project team.

He added, that certainly would have included Bechtel, so we attempted to make all of our experts available to that process.

[3:55:54 PM](#)

COMMISSIONER GALVIN pointed out that the nature of their analysis was not a critical assessment of the Port Authority's application or the information that was submitted. That wasn't the nature of the administration's analysis. Their analysis was to look at LNG as an alternative to the license project. In that regard they did not feel it was appropriate to go into one particular project's application and do an analysis of that.

[3:56:36 PM](#) Chair Huggins called a short at-ease.

Chair Huggins called the meeting back to order at [4:08:22 PM](#). He asked for Mr. Shipkoff and a representative of the administration to come forward.

[4:09:38 PM](#)

CHAIR HUGGINS said they had about 10 minutes to cover lingering issues regarding the Port Authority presentation before Mr. Palmer's presentation was scheduled to begin.

RADOSLAV SHIPKOFF said that, with regard to Mr. Sparger's suggestion that the Port Authority had changed the numbers used in his presentation yesterday from those that were used in the application, that was not so. He directed the committee to tables 8 and 9 in the replacement application and reviewed those numbers briefly to illuminate his point. He explained that they didn't break out the numbers between LNG and the pipeline side in their application; but they did do that today in order to compare more closely with the administration's numbers.

Regarding the quote Mr. Sparger read from their application about Bechtel's methodology, if his contention was that they performed a top-down estimate using data mining, that was not done. His understanding was that Bechtel used a number of their own completed LNG projects as a starting point for their work. They used numbers for projects using the same plant design with specific adjustments for the Anderson Bay location. He added that they anticipated the administration would have discussions with Bechtel under a confidentiality agreement and would have access to the confidential data that was not included in the application.

MR. SHIPKOFF continued that, with respect to the cost estimation methodology using Monte Carlo simulation analysis versus cost

estimates not in a probabilistic sense, they understand and appreciate the difference.

[4:16:29 PM](#)

He insisted that two important factors have to be considered: The wide range of probability distribution in the Monte Carlo simulation skewed the P50 result to a higher number, which Mr. Sparger explained very well. To the Port Authority that approach introduced an inconsistency in the evaluation between a project that had probability distribution only on the basis of 2 pipelines using 1 type of methodology and another project that had a pipeline and an LNG plant with a very broad distribution.

He said he did not want to spend time talking about the validity of different methodologies; he was sure they would not be able to convince the administration that their numbers are wrong, nor did he say they were. Neither did he believe they would be able to convince the administration or the committee that their numbers are correct; they cannot say that is true. His concern had to do with the process which prevented the narrowing of differences between the results of the different approaches. He agreed with Mr. Galvin that the market has to decide which project is more attractive. The Port Authority did not think either of the projects would proceed on the basis of arguments about whose methodologies was correct; ultimately it would come down to which project can convince the producers and the state that the project is in a position to offer concrete contractual terms about gas purchase. Until then they won't know which project is more attractive.

He reiterated that he does not see why they have to decide between one project or the other.

[4:21:18 PM](#)

COMMISSIONER GALVIN commented that Mr. Shipkoff's final statements served to show their common interests. With regard to what the committee has heard, he commended the Port Authority for the work they have done for many years and agreed that LNG has the right to participate in the competition to get the gas commitments to bring the gas to market. He said they look forward to continuing to work with both the Port Authority and other proponents of LNG as they move toward an open season.

[4:22:38 PM](#)

BILL WALKER asked if he could reserved his closing comments until after Mr. Palmer's presentation.

CHAIR HUGGINS said he hoped they would have representatives of the Canadian government available via teleconference at 1:00pm tomorrow.

[4:23:37 PM](#)

CHAIR HUGGINS asked Mr. Palmer to talk them through the concept of simultaneous open seasons.

TONY PALMER said, as they indicated in their application and had clarified over the course of the last 50 days, if TransCanada was granted a license under AGIA by the first of August, they would hold an open season by July of 2010. That open season would provide potential customers with commercial terms as well as updated cost estimates and other terms they would have to meet to be a customer on the pipeline. They would have the opportunity to nominate deliveries along the pipeline route in Alaska, through the Yukon and all the way to Alberta, or to Valdez. They would have the opportunity to do that for a simultaneous open season. By that, he said, he meant they would be able to nominate Valdez, Tok, Fairbanks, or Alberta. At the conclusion of that open season, those customers would know the volumes TransCanada had received. Each customer would have to meet the same terms and conditions no matter what is the location of their delivery point, which is a standard procedure they apply throughout their business.

[4:25:52 PM](#)

SENATOR WIELECHOWSKI told Mr. Palmer that they heard testimony yesterday that a TransCanada official said they would consider building a line to Valdez after the main line was built. He asked if that is true.

TONY PALMER thanked Senator Wielechowski for bringing that up and said he followed up on it with the individual who gave that presentation. He clarified that what was said was:

A continental pipeline, a pipeline going to the lower 48, is TransCanada's basic proposal with a possibility of a Y line coming most reasonably post the continental trunk line, but with the provision the market will decide the fate of any LNG option via the open season.

He was never asked about an alternative where they only got LNG volumes, for example; but hoped he had been very clear on the record that, in the event they only receive volumes to Valdez, if there is sufficient to make the project economic and if those

customers meet the conditions that any other customer has to meet, TransCanada would construct a line to Valdez instead of to Alberta.

4:27:36 PM

SENATOR WIELECHOWSKI said he understood if they conducted an open season to Valdez, it wouldn't include an open season for the liquification plant. He asked if TransCanada would object to the legislature funding a liquefaction plant.

TONY PALMER agreed that TransCanada's proposal was to build a gas treatment plant and a pipeline and not facilities beyond that point to Valdez; so it would be the customer's responsibility to make arrangements to have liquifaction, shipping and ultimate markets. It would clearly be up to the state to choose whether to participate in the liquifaction project if the party is a customer on their pipeline. If however, it was a competitive project and were to go outside the bounds of AGIA, they would take issue with it.

4:29:12 PM

SENATOR WIELECHOWSKI asked about the timing of the Alaska project. He quoted from a TransCanada representative regarding the timeline for building the Alaska pipeline:

The Alaska project is a long way off. Just to put everything in time sequence, we would the \$5 billion phase one of the Keystone over the next couple of years, then we move into the Keystone expansion we announced today; then our plans would see us construct the Mackenzie Valley pipeline and only in the later part of the next decade would the Alaska pipeline be built.

He said it concerned him a lot, because he thought they were going to be building it in the middle or early part of the decade and now they seemed to be pushing it off. He wanted to know if TransCanada still planned to adhere to the timeline they agreed to under AGIA.

TONY PALMER stated that Mr. Kvisle went on to say, "In our perfect plan, it fits really well; but in reality it may turn out differently." What he set forth is what TransCanada hopes occurs going forward. When he referred to the latter part of the next decade, 2018 in service is the same time frame they had been talking about for the last 50 days of testimony and is indeed the latter part of the next decade. He conceded that

whether or not MacKenzie would be completed on this time frame was an open question, as it was still in the regulatory process in Canada. He added that Mr. Kvisle's comments in that interview were primarily to address the Keystone project.

He summarized that TransCanada's commitments remained the same. If they had a license by August 1<sup>st</sup>, they would be concluding an open season by July of 2010 and targeting a September 2018 in-service date, all subject to getting customers and the necessary regulatory approval.

[4:33:04 PM](#)

SENATOR THOMAS asked Mr. Palmer to explain their involvement in the MacKenzie pipeline project.

TONY PALMER responded that TransCanada is a small owner in the project, which is owned primarily by a subsidiary of Exxon, Imperial Oil Canada. The other major players are Shell and Conoco Phillips. TransCanada is funding the interests of an aboriginal pipeline group, so they have the right to take a 3 to 5 percent ownership in that project and are paying about 1/3 of the bills.

SENATOR THOMAS asked him to comment on TransCanada's involvement versus the producers' in the tar sands.

TONY PALMER answered that TransCanada has no ownership in the oil sands. They have gas pipelines that supply service to and from that region of Alberta and the Keystone project will move some oil away from the oil sands fields. That is their interest, but they are not producers of oil or gas in Canada or the United States; they transport other people's gas.

[4:36:21 PM](#)

SENATOR THOMAS said his last question was whether the producers in Prudhoe Bay have any relationship to the tar sands.

TONY PALMER said he thinks almost all of the major international oil companies have an interest in the oil sands.

[4:37:32 PM](#)

SENATOR HUGGINS commented that the Chinese also have a position.

TONY PALMER said that is true, they are partial owners in a development opportunity.

[4:37:52 PM](#)

SENATOR STEDMAN asked Mr. Palmer to talk a little about the labor pool and source of materials from a pipeline company's perspective with regard to the MacKenzie Valley line and the TC proposal. He wondered if it was possible to do both simultaneously from a manpower and materials standpoint.

MR. PALMER replied, although it would not be impossible, it would be very difficult and costly for both to proceed with the same schedule. He admitted there is already a shortage of both labor and materials and, although adjustments are occurring and should eventually relieve some of the pressure, it will take time. He said if MacKenzie stays on track, they will be in service in 2014 or 2015 and if Alaska proceeds with the timeframe they hope for, it will be in service by 2018. The bulk of the employment would occur during the construction phase, which means somewhere in that 2014-2015 timeframe onward. It will be a good thing if MacKenzie stays 2 to 4 years ahead of the Alaska line as far as cost savings and synergies. If they pancake on top of each other somehow, that will be a problem for both projects.

[4:40:44 PM](#)

BILL WALKER said they receive calls from Alaskans frequently asking them to continue what they are doing, and they are concerned about the continuing delay. He firmly believes it is best for Alaska to take control and do its own project now. The Port Authority will absolutely work within the AGIA process if they must; but they don't think it is the best option. They think the best option is to start immediately on an all-Alaska project owned by the state of Alaska.

[4:44:46 PM](#)

SENATOR ELTON expressed his appreciation to all parties. He commented that he would read the book Mr. Walker suggested; but said another lesson they could take away from that book is that the Canadian Parliament made decisions based on what they thought the federal imperatives could and should be, and that's one of the concerns he said he has about the all-Alaska gas pipeline. The federal government, our federal government, may decide they want to control the direction of the flow of energy and there has, in fact, been some discussion about this. He said he is concerned that our federal government may mandate that Alaska have a project that will deliver energy to the lower 48 states rather than to foreign markets. He told Mr. Walker he would appreciate getting the title of the book and where he can get a copy.

MR. WALKER offered to provide his copy of the book to Senator Elton and said he looks forward to the opportunity to sit down with the federal government to talk about the project. If they have to take LNG to the lower 48, he said, that won't be a deal-killer.

SB 3001 and HB 3001 were held over.

There being no further business to come before the committee, Chair Huggins adjourned the meeting at [4:46:56 PM](#).