Stranded Gas Hearings

(0407290915 Minutes)

Decision-Making on Expansion

Tony Palmer, Vice President, Alaska Business Development, TransCanada, July 29, 2004.

TONY PALMER, Vice President, Alaska Business Development, TransCanada Corporation, displayed for the committee a map of the proposed pipeline system, and provided the following comments regarding the topic of "decision-making on expansions":

> Developing the initial pipeline system from Alaska to major North American markets has been and remains a challenging undertaking. Attracting the initial volumes of sufficient scale to make the project economic, under satisfactory terms that share the risks of this project in a deregulated natural gas market, has proven to be difficult. Representatives from the Alaskan producers, pipeline companies, [and the] governments of Alaska and the United States are all working diligently to see the initial pipeline come into service in an expeditious manner. This task remains in our view the most critical at this point for the "Alaska Highway Pipeline" project. TransCanada is focused on working with all stakeholders to develop a structure that will advance the project and see the initial pipeline in service by 2012, transporting Alaskan gas to major North American markets.
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> It's also important to ensure that future customers will have fair, non-discriminatory access to the pipeline for expansions or extensions of the initial gas transportation contracts. The State of Alaska, [and] the pipeline owners and shippers seeking future access all need to know the rules of the game in advance in order to encourage extensive natural gas exploration across the state of Alaska. The initial shippers must also be confident that they will be treated equitably relative to future customers.
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> TransCanada is an independent pipeline company with almost 50 years of experience in North America and many years of international experience. We have successfully managed these issues and encouraged the expansions of our initial facilities without disadvantaging our anchor shippers. My testimony today will focus on the broad requirements and considerations for expansions of major pipeline systems, and later today in my testimony I will elaborate on some of the benefits of certain tariff methodologies for expansions.

MR. PALMER offered the following as factors that influence access [to] future volumes [of] an initial pipeline system: the system planning for the initial pipeline - what will be the pipeline diameter, the pressure, the routing, and the initial contracted capacity; the impact on pipeline operations and operational feasibility; the impact on services to other customers, both initial and for future expansions; the ability to comply with safety and environmental laws and regulations; the suitability of arrangements for reimbursement of construction costs and/or the adequacy of the volumes to be transported to support the extra investment and operating costs required for the new facilities relative to required facilities; and the tariff methodology - incremental or "rolled in" tolling for expansion volumes. He went on to say:

> TransCanada has selected a pipe platform of 48 inch, 2,500 pounds per square inch, to transport an initial volume of 4.5 bcf a day, with a relatively inexpensive expansion capability, up to approximately 6 bcf a day. This pipe platform, which uses a pipe size with which TransCanada has years of experience - ... we have hundreds of miles of that pipe in the ground today - and [has] a pipe strength of "X80," ... is optimal for the volumes we've described. ... It provides the lowest, long-term tariff for customers and also an attractive and efficient fuel ratio.
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> The fuel ratio is an important factor in the overall costs of transportation for Alaskan gas simply because of the distance to market. The final engineering design for the pipeline will be completed ... once the initial volumes to be shipped are known and the expectations for the timing, location, and volumes of future expansions are more certain. Based on our system design, the 48-inch pipe platform with an initial volume of 4.5 bcf a day would provide inexpensive expandability for an additional 1.0 – 1.5 bcf a day using primarily additional compression facilities rather than new pipeline loops - a pipeline loop is a ... section of pipe [parallel] to the initial pipeline, generally of

the same diameter ... [but] not necessarily. ...

MR. PALMER continued:

The fuel ratio will increase at total levels above 4.5 bcf a day with the initial compression, but still remain at very efficient levels. Volumes in excess of 6 bcf a day would require a combination of pipeline looping and compression facilities. It is important to note, of course, that exploration success will drive new pipeline expansions. ... Significant additional gas reserves will have to be proven in Alaska prior to an expansion beyond 6 bcf a day, since 25 years of production at 6 bcf a day totals about 55 [trillion cubic feet (tcf)] as compared to the approximate 35 proven today.

Future expansions beyond the initial 4.5 bcf a day will depend upon a number of factors. The first is the location of the additional gas relative to the existing or future compressor stations and meter stations. Additional volumes must make sense relative to the engineering increment in the pipeline's overall system planning; in other words, the additional volumes need to be sized for logical economic increments relative to the new facilities. For example, with an initial contracted capacity of 4.5 bcf a day, you wouldn't expect to see an expansion of supply for [10 million or 20 million] a day; ... [that] would not be efficient from an engineering standpoint, on this pipeline, for new supply.

You will need large pieces because each additional compressor or compression station or number of compression stations will be significant. That's the norm on large pipeline systems, and that will be in place for this pipeline as well. [It is] generally not appropriate to construct sub-optimal facilities for a small volume, or to contract for a small volume that does not approximate the additional capacity provided by the optimal facilities. However, potential expansions will be examined on a case-by-case basis to determine the economic and operational feasibility. ... The design of the pipeline and operational flexibility can provide opportunities for smaller volume increments. And when I'm describing smaller volume increments, I'm of course speaking to the supply side as opposed to the demand side.

MR. PALMER added:

The second factor to be considered is the impact expansion volumes could have on pipeline operations and operational feasibility. In most cases, this is not a concern on expansion volumes because they're incorporated into the pipeline at logical physical locations. Also, operational measures taken by the pipeline company and its future shippers can ensure there are no negative impacts. The shipper will be required to provide its gas at the receipt point - or take delivery at the delivery point - at a suitable pressure, temperature, and gas quality that aligns with the pipeline's engineering and economic requirements. That is standard across the industry.

The pipeline company also has a responsibility to ensure that the impact of expansion volumes on existing shippers is equitably balanced with the fair treatment of those new volumes. Gas [pipeline companies] are generally contract carriers ... [that] commit to provide a specified amount of firm capacity to their shippers. Additional volumes onto the pipeline do not result in a pro-rationing of the volumes to the initial firm shippers. In other words, expansion facilities are normally needed in order to provide contracted service to new customers on the pipeline. The specific location of the new customer's requested receipt or delivery point can play a ... role in the impact on existing customers and the operational flows on the pipeline.

As in the initial construction of the pipeline system and its day-to-day operation, expansion volumes must comply with safety/environmental laws and regulations. These factors are as critical in determining the precise location of new receipt and delivery points as are economic or engineering factors. In most cases, the pipeline company will own any facilities located on its right-of-way, including any incremental meter stations or compressor stations required to transport the expansion volumes. The pipeline may construct the laterals to receive or deliver additional gas, but those laterals may also be owned by other pipeline companies, gas producers, or other parties.

MR. PALMER said:

If the pipeline company constructs the additional facilities, it will calculate the additional potential

revenues versus the costs for the new volumes, both operational and capital, as well as [for] fuel. And a capital contribution may be required from the new shipper as an upfront payment to reimburse the pipeline for facilities such as a new meter station at a different location that does not provide service to the overall customer base. Once again, pretty standard in the pipeline industry.

New major natural gas pipeline systems are underpinned by long-term firm transportation contracts with initial shippers. Historically, long-term firm service has often been the only type of service provided by the pipeline for existing or new customers in the early years of pipeline operation. Firm customers may also be offered overrun service to allow those customers to utilize spare capacity on the pipeline - on an interruptible basis - over and above their firm contracted quantity; and of course the spare capacity on an interruptible basis results from ... operational flexibility due to ambient temperature, load diversity, or other operational considerations.

As the pipeline grid has matured in North America, interruptible service was made available to non-firm customers. In some cases, overrun service has been removed by regulatory authorities to permit broader access to non-firm customers. New expansion volumes ... on a firm basis can affect, either positively or negatively, the availability of overrun or interruptible service to existing customers depending upon the stage of additional facilities constructed relative to the new firm volumes and the overall impact on pipeline system planning.

MR. PALMER relayed:

The final significant factor when considering expansion volumes is the tariff methodology for additional volumes. The regulatory model used by the [Federal Energy Regulatory Commission (FERC)] has expansion volumes being charged a tariff that reflects their incremental costs, unless rolling in the incremental costs to existing customers would decrease their tariffs - with some modest exceptions. ... In Canada, the National Energy Board has applied a rolled-in methodology for many years as the primary model for expansion volumes whether or not this increases or decreases tariffs for existing customers.

This philosophical difference has had significant implications for expansions of the Canadian pipeline systems over the past two decades. I will speak to this issue in my second piece of testimony. In summary, we believe that expansion policies that fairly balance the interests of initial and future shippers will lead to optimal long-term results for pipeline customers, owners, and governments.

MR. PALMER made the following remarks regarding the issue of open access:

Earlier in my testimony I described the significant challenges in attracting initial customers to the Alaska Highway Pipeline Project. TransCanada believes that all stakeholders - Alaskan producers and explorers, pipeline sponsors, [the] State of Alaska, and the U.S. Government - have important roles to play in sharing the initial project risks by establishing the conditions necessary for an early in-service date for the project.

We believe that each of these stakeholders and U.S. consumers will be large beneficiaries of this project and should work cooperatively towards a 2012 in-service date. We're a longstanding developer of major pipeline systems, both in North America and [in] international regions, and, in our opinion, certain open-access [conditions can assist in laying the groundwork for long-term success of an initial pipeline project as well as its future growth and development.] [Tape ends mid-sentence; the previous bracketed portion was taken from Mr. Palmer's written statement from which he had been paraphrasing.]

MR. PALMER continued:

Governments at the local, state, and federal levels are strong supporters of new pipeline projects. They are also seeking a solid foundation for future exploration and development within gas-producing basins to enhance economic and social conditions in their regions. The additional revenues to governments from new exploration, development, and production may exceed the royalties and taxes collected over the life of the project from the initial gas volumes. There are many positive examples of this in North America and beyond when a new gas pipeline is

constructed into a frontier basin.

Pipeline companies also are strong proponents of new gas exploration in order to attract additional volumes to the pipe and enhance the security of supply for the base volumes. Consumers, both in the supply region and in traditional consuming regions, wish to see additional exploration and expansion of pipes in order to enhance their security of supply and to meet overall demand growth. Gas producers or other potential shippers that have not yet taken out a gas shipping position on a pipeline are also strong supporters of free and open access and fair terms for expansions.

The initial shippers on a pipeline often also want future expansions to provide access to markets for additional gas supplies they may secure. Those shippers incurred significant risks when signing the anchor transportation contracts on the pipeline, and they need to be confident that their initial contracts will be equitably treated relative to the new customers. It is also prudent for pipeline companies to ensure that their access terms for expansions do not disadvantage the initial shippers and have fairly balanced the overall benefits and risks for all stakeholders.

MR. PALMER went on to say:

The tariff methodology for expansions can play a large role in determining the timing and degree of future exploration in a new gas basin. TransCanada believes the Alaska Highway Pipeline should be designed and operated to be efficient in design and total cost to initial shippers, and to also provide fair and inexpensive access for expansion shippers. In addition to the design of the pipeline, one method of encouraging long-run growth in a supply basin is to use a rolled-in tariff methodology for both additional facilities and the fuel.

TransCanada's pipeline systems in Canada have operated with a rolled-in tariff methodology for expansions for many years. Canadian gas has been remarkably successful in capturing new markets in North America over the past two decades. The rolled-in tariff methodology has, in our opinion, assisted in this success. Canadian gas basins are mostly located farther from major markets than the majority of Lower 48 gas. It therefore has a higher transportation cost component and lower wellhead prices relative to most Lower 48 gas.

Therefore, maintaining low transportation costs with an appropriate tariff methodology to encourage expansions has proven to be critically important for Canada. This has assisted in improving the competitiveness of Canadian gas as evidenced by the 300 percent increase in Canada's gas exports into the U.S. since 1985. Rolled-in tolls, combined with the other factors, can be a catalyst to encourage growth in a new gas basin. Although each basin around the world is different, and Alaska has its own unique characteristics, I wanted to illustrate the development of TransCanada's system within the province of Alberta under rolled-in tolls.

MR. PALMER then referred to some slides he'd brought with him and said:

[The] first slide you'll see here ... [is] a map of the province of Alberta; on the left-hand side you see our system in 1960. The actual red components are the expansions from our original pipeline system, which was constructed in 1957 through 1960. In 1957 our original pipeline system was 118 miles long, moving 220 million cubic feet a day. You'll see, as we moved to 1970, we continued expansion of that system ...; the red in this case is for what happened in the previous five years ....

I think you'll see from these maps ... how [TransCanada's Alberta pipeline system] has developed since its inception in the late 1950s. You'll see how small our pipeline system in Southeastern Alberta was in the original system; it had modest volumes, few customers, and few receipt and delivery points. It has since grown to a 15,000-mile comprehensive, integrated pipeline system across the province that can deliver approximately 12 bcf a day to customers within Alberta, and to Alberta's borders for delivery into other pipelines to serve customers across Canada and throughout the United States. ...

The next three slides show that not just geographic reach has been extended, but also the

[corresponding] impact on TransCanada's Alberta system volumes, number of customers, and receipt and delivery points as the natural gas system has evolved over the past 40 years. The first slide here would show you the very modest volumes that we started with pre-1960; you can see that by 1960 we're about 250 million ... [bcf] a day - and you can see ... these are annual volumes ... - and by 1999 we're up to 4.5 tcf per year that we're moving on our system within the province of Alberta. [The] next slide deals with the number of customers; you can see that we had a couple of customers in 1958, and, as of the late 1990s, we're up to 350 customers ... and [we] currently [have] about 1,000 receipt points [in] our province. So we go generally from our gas plants ... to major markets in Alberta and to the boarders, and you can see the number of delivery points is in the order of 200 at this point.

MR. PALMER added:

As you would be aware, there have been a number of developments that have caused these significant increases – growing gas markets, changing gas prices, supply/demand dynamics, regulation and deregulation, as well as tariff methodology. TransCanada's proven track record in offering the appropriate fundamentals for non-discriminatory, open-access service to its initial and expansion customers, and a rolled-in tariff methodology, have been critical factors in increasing our number of customers, receipt and delivery points, annual volumes, and geographic reach across the province of Alberta.

A similar story can be told [about] ... our cross-Canada pipeline system from the Alberta border to Eastern Canada and into the U.S. Midwest and Northeast. We started with a single pipeline leaving Alberta, and currently ... you'll see five parallel pipelines in the same right-of-way; that's as a result of expansions over the past almost 50 years.

MR. PALMER concluded:

TransCanada believes that on balance, a rolled-in tariff methodology for the Alaskan and Canadian sections of the pipeline can be a positive factor to enhance the long-term development of Alaska's natural gas basin. It merits serious consideration by the state, the U.S. Government, gas producers, and pipeline companies as the initial project is developed. Thank you for this opportunity to testify at this proceeding, and I am available to answer any questions you may have.

REPRESENTATIVE LES GARA asked:

What are your thoughts on open access that could be done in a way that would allow somebody who doesn't have their gas on line yet to have the opportunity to get their gas into a pipe? ... You're not going to have your gas ready to go if you don't have a contract with the pipeline carrier yet. ... How do you do that?

MR. PALMER replied:

Through a number of ways, but the first component would be: what is the appropriate system design for the pipeline, what is the appropriate diameter for the pipeline, what is the appropriate pressure, and what is the appropriate expandability for the pipeline. And then I can tell you that's based upon an understanding of what the initial volumes will be, what the gas reserves are in the basin, [and] what the expected timeframe is for expansions.

And you can see that our proposal, if the initial volumes are 4.5 bcf a day, is to construct a pipeline system that is expandable, cheaply, up to almost 6 bcf a day. So if you are an explorer in Alaska today and are unable to participate in the initial capacity of the pipeline at 4.5 bcf a day, you would understand that there [will be] relatively cheap expandability right up to 6 bcf a day in logical increments that would allow you to get access to the pipeline in the future; you know that there's going to be future open seasons where you can participate in that.

MR. PALMER added:

Now, the limit on the pipeline system is not 6 bcf a day. Clearly, you can start looping the system as I described ...; you can loop the system beyond that, but, at that point, your costs are higher and tolling becomes much more important. Tolling methodology, tariff methodology - rolled in or incremental - makes a very significant difference when you pass the point [where] ... you're adding capacity with compression rather than pipeline looping. So initially you do it with ... the appropriate system planning ... [in] the initial design? And also ..., generally, independent pipeline

companies would commit to have regular open seasons to expand pipeline [systems]; they're in [the] business of growing more additional volumes, growing their business.

SENATOR WAGONER asked: "Does it make any difference whether ... the gas is dried on the Slope or Fairbanks ..., as far as shipping product on down into Alberta?"

MR. PALMER said that from a project standpoint, it doesn't make a difference. The owners of the gas will decide where the liquids are removed; TransCanada is no longer a participant in that business. However, the actual unit tariffs will be impacted if the gas doesn't contain the liquids, since there will be "fewer [British thermal units] to spread the pipeline over."

REPRESENTATIVE SAMUELS asked how long it would take for a pipeline to increase its capacity once an explorer finds gas. How long will the explorer have its capital tied up?

MR. PALMER said it could take one to two years, assuming that the pipeline is in service. In response to another question, he relayed that Canada has a policy of having a rolled in tolling methodology, and that some, but not all, other countries do as well. He went on to say:

I'm not suggesting there aren't tradeoffs to the policy. Of course there are. I'll ... give you an example ...: if you had [an] initial pipeline tariff of 10 cents, and the incremental cost of the new pipe is 15 cents, ... [with incremental tolling] the new customer will pay 15 cents over the life of his contract; if you roll it in, you'll go from the initial 10 cents to 10.5 cents for everyone. And the next increment of pipeline expansion may be 11 cents or it may be 8 cents, and you effectively average them all together. And, over time, it has been effective for Canada to come up with an average tolling methodology because ..., as volumes increase, you have relatively modest changes. ...

REPRESENTATIVE GARA asked whether there is any danger that an owner of gas won't sell it. And if so, is there anything the legislature can do to ensure that there will be gas in the pipeline once it is built.

MR. PALMER pointed out that TransCanada is generally an independent provider of transportation services, similar to a railway company; TransCanada will look for customers that will own the product and become a shipper on its pipeline system. He mentioned that although North Slope gas producers have examined the feasibility of building their own pipeline system, TransCanada "holds rights in Canada" and believes - and will maintain the belief - that it has the right to build the pipeline through Canada. He offered his understanding that TransCanada was granted that right as a result of the commitments it made 25 years ago, and [that it] is written into a treaty between Canada and the U.S. as well as in Canadian legislation.

SENATOR ELTON asked for an explanation of the term "anchor shipper."

MR. PALMER said he is using that term to mean "initial shipper." He added: "Clearly, it would not be unusual for a pipeline company on a project of this scale to solicit interest from parties in advance of an open season, [though] not necessarily to pre-commit. And as I described to you, we intend to build a pipeline that has significant expandability."

SENATOR WAGONER asked whether TransCanada has considered using pipe of a size other than 48 inches.

MR. PALMER relayed that TransCanada had given consideration to different volumes - initial and future; different pipeline diameters; and different pressures. He gave some examples of some of the combinations that were considered, but offered his belief that a 48-inch pipe platform would prove optimal. In response to another question, he indicated that as long as any proposed spur line is part of the initial development, TransCanada could "telescope the pipeline down" once there is an understanding of what the spur line's volume will be.

REPRESENTATIVE KERTTULA asked Mr. Palmer to describe TransCanada's experience with getting gas into smaller communities and remote areas.

MR. PALMER replied:

> We do serve everything from very small communities to large customers. We're not a local distribution company, I can tell you that. We serve to what is described as a "city gate." So we serve to the border of the local distribution company, but we clearly serve some very tiny ... "farm taps" ... for individual farms as we go through the province of Saskatchewan, and that is on the existing "prebuild" for the Alaska pipeline project.
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> And there [are], of course, ... commitments to put interconnections at certain locations - in effect, taps off our system on the original pipeline system. We do not have commitments at this point to build the laterals away from the pipeline, but we do have commitments to put [in] valves; in effect, to allow future connections to small communities or ... large communities. So we have done that for more than 50 years, domestically and internationally.

REPRESENTATIVE KERTTULA asked Mr. Palmer if he had any advice for getting Alaska's rural communities cheaper energy through the proposed gas line.

MR. PALMER replied:

> Clearly, having access to the pipeline will be important. It would be normal that that would be a condition imposed by a government. I won't describe which government agency, but that would be normal that there would be some imposition of some commitments. Clearly, not every "one man" community can economically get access to [the] pipeline - that would not be normal - but regular takeoffs on the pipeline system would be a normal commitment, understanding that there are costs to that and those costs get allocated to the customers of the pipeline.
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> There needs to be a balance of interests, and I hope I described for you today that a balancing of interests is the best way to construct a major pipeline system that's going to have a long life and serve its customers both domestically, in the region, and internationally, or back into the Lower 48. You need to balance the extra costs with the long-term potential and your social and economic goals as a state.

CHAIR OGAN, acknowledging that a certain amount of processing might be involved, asked what would be the minimum-sized community that could economically get "an offtake."

MR. PALMER said that would be difficult to answer at this point because TransCanada has not examined that issue and is "not in that business and wouldn't understand what incentives the government of Alaska or local distribution companies might be prepared to provide to those local communities."

CHAIR OGAN predicted that there will be a tremendous amount of interest by some communities regarding getting "hooked up," and suggested that TransCanada give that issue some thought as its representatives travel throughout Alaska endeavoring to garner community support.

MR. PALMER agreed to do so, but cautioned that any of TransCanada's responses to communities regarding that issue will be conditional based on whether it is looked at from a purely economic standpoint or from a local, state, or federal government's or local distribution company's standpoint.

CHAIR OGAN remarked, "I would much rather see barges of propane going down the Yukon River, rather than barges of diesel going up the Yukon and Kuskokwim [Rivers]." He offered some examples of areas and communities that might be good choices for handling the appropriate processing. He predicted that it would be helpful to be able to say to communities what the costs of hooking them up to the gas pipeline will be, so that individual communities can take those costs into consideration when determining the feasibility of whether or not to get hooked up.

MR. PALMER said that is good advice, and relayed that TransCanada has some commitments to serve small communities in the Yukon, and so will endeavor to be responsive to communities regarding this issue.

REPRESENTATIVE SAMUELS, with regard to access by an explorer, asked who has input in determining whether an expansion will take place.

MR. PALMER offered his understanding that the pipeline company will have some say over whether a proposed increase in supply is sufficient to warrant additional facilities. However, the standards regarding what amounts of gas are sufficient to warrant an expansion will be established by the FERC and the National Energy Board (NEB), and so some "modest incremental volumes" might be allowed under those standards depending on the circumstances. In response to another question, he remarked that it would be unlikely that the FERC and the NEB would have conflicting rulings regarding expansions. He noted that the NEB does have the authority to impose an expansion on a pipeline company, under certain circumstances, though the FERC does not.

SENATOR SEEKINS asked Mr. Palmer what the capacity is of a 48-inch pipe platform.

MR. PALMER reiterated that the maximum pressure would be 2,500 pounds per square inch, to transport an initial volume of 4.5 bcf a day with a relatively inexpensive expansion capability up to approximately 6 bcf a day. He added that there would be six separate compressor stations located throughout Alaska. In response to another question, he reiterated that the term "pipeline loop" refers to a second piece of pipe parallel to the initial pipe that is interconnected and that is run in combination with additional compressors to relieve the pressure constraints and allow additional pipeline volume to be transported. He mentioned that the cost of "looping" is dependent on several factors, though many of the initial costs of building a pipeline would not reoccur when building a loop. He estimated a modest cost savings of 10-20 percent to build a loop as opposed to building the initial pipeline.

SENATOR SEEKINS surmised, then, that any increase in Alaska's instate needs could be met via pipeline loops.

MR. PALMER concurred.

CHAIR OGAN asked whether "takeoffs" for looping are designed into the original construction.

MR. PALMER said yes, adding that although loops generally originate from near compressor stations, "hot taps" can also be done and are a relatively normal procedure.

SENATOR WAGONER asked about "farm taps."

MR. PALMER reiterated his earlier comments regarding farm taps, adding that this service is provided at a specific rate and that TransCanada owns the interconnection.

REPRESENTATIVE KERTTULA asked how many "shipper owned" pipelines there are in Canada and whether they follow the same rules under the NEB as other pipelines.

MR. PALMER replied:

> The only ... major gas pipeline that I'm aware of that has been constructed by the shippers was the "Alliance Project." It was constructed primarily by natural gas producers; subsequent to the initial contracting, pipeline companies acquired the original equity from the original owners. That occurred through the construction stage and right up until recent times - post construction. ...

REPRESENTATIVE KERTTULA surmised, then, that Canada didn't have anything analogous to the Trans-Alaska Pipeline System (TAPS) or "the one proposal by the producers."

MR. PALMER replied, "There are clearly some examples on the oil side; on the natural gas side, like in the United States, ... the vast majority of the pipeline infrastructure has been constructed by what I would call independent pipeline companies over the past 50-75 years."

REPRESENTATIVE GARA said his concern is that by the time the proposed pipeline gets interconnected

with "Canadian pipes, we reach a point where all of sudden there's so much Canadian gas that there's not enough room for our 4.5 bcf to go through" to the Lower 48. He asked whether such is a possibility.

MR. PALMER offered his belief that under certain conditions, that is not a possibility. He elaborated:

> The lead time, in our opinion, to build the project from Prudhoe Bay to Alberta will be longer than to build from Alberta to market. ... We believe ... that it's expected that there will be some spare capacity on the Alberta system and the systems away from Alberta for you to move at least a portion of your 4.5 bcf a day to market without expansions. It's an open question, at this point, whether or not there will be 4.5 bcf a day of spare capacity when this gas comes.
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> I think we would argue a couple of things. [First] that decision can be made a couple of years after the decision is made [to build] ... the project from Alaska to Alberta - just from a physical timeframe standpoint - and, [second], as I've described to you, the pipeline companies are going to compete for your business to move that incremental capacity away from Alberta at whichever markets you or the gas producers wish to serve. ... That happens today - you see that competition occurring from Alaska to market.

MR. PALMER used an example in which one wanted to move 4.5 bcf a day to Chicago every day. "You would have to judge two years or so after the decision was made [to build] ... the pipeline from Prudhoe Bay to Alberta, how you want to move that gas," he said. One option would be to move the gas on existing pipeline systems, which are generally at a lower price because of the depreciated costs. Another option would be to build a new pipeline for say, 2 bcf a day, which could be constructed and receive regulatory approval faster than the piece from Alaska to Prudhoe Bay because the new construction would be along existing corridors and isn't as complex a project. Mr. Palmer said that he didn't believe Alaska's gas would be stranded in any fashion. In fact, he predicted that there would be competition to move the gas to market.

CHAIR OGAN relayed his experience from the Energy Council that most factor in 4.5 bcf a day worth of gas and the worry is with regard to where the supply is coming from beyond that. Even with 4.5 bcf a day being Alaskan gas, "they're" looking at importing 20 percent of the U.S.'s gas from LNG from foreign sources. It's clear that there's a market for gas, he remarked.

REPRESENTATIVE GARA relayed his understanding that some gas can be offloaded in Alaska and there could continue to be an efficient pipeline from Alaska to Alberta. However, he posed a scenario in which it becomes economic to do the line to Valdez as well, and there are substantial markets in Asia for LNG through Valdez. He asked if the aforementioned would require a looped pipe from the North Slope to the Alaska cutoff point or could it be accommodated through additional pressure stations.

MR. PALMER noted that he wasn't present to testify to the specifics of an LNG project. However, he posed a scenario in which there is a volume of 1 bcf a day for a LNG project out of Valdez after the construction of the initial pipeline. In such a situation, one would need to review the stage of development of the pipeline system at the time. If, two years after construction of the 4.5 bcf a day pipeline, there are sufficient reserves, markets, and the economics at work, the entire system wouldn't have to be looped because there is expandability up to about 6 [bcf a day] by using compression. However, if the pipeline has been expanded to 5.5 [bcf a day] or so for North American markets, there would be some looping once it went beyond 6 bcf a day.

CHAIR OGAN expressed the need to obtain information or presentations regarding the jurisdiction of the FERC and the National Energy Board (NEB). He inquired as to the hurdles of shipping gas that originates in one country, moves through another country, and ultimately arrives in the country of origin.

MR. PALMER noted that for almost 50 years Canadian gas has been moved across the border into the U.S. via multiple pipelines. With regard to tolls and tariffs, on the Canadian side, the NEB regulates it, and on the U.S. side, the FERC regulates it. The aforementioned hasn't constrained the movement of gas over the last 50 years. Mr. Palmer, turning to the specific situation presented in Chair Ogan's question, pointed out that such was addressed 25 years ago when Canada and the U.S. established a treaty that

would, under certain terms and conditions, allow the movement of gas from one country through another country and on to the country of origin. For example, the government of Canada agreed that under the treaty, it wouldn't discriminatorily tax the pipeline project.

SENATOR ELTON opined that it's important to discuss this further at a future meeting because there is also the issue of access. He posited that perhaps Alaskan access to the capacity of the pipeline will impact access of Canadian gas from the Northern Territories.