

**ALASKA LEGISLATURE**  
**JOINT COMMITTEE ON NATURAL GAS PIPELINES**

February 13, 2002  
3:39 p.m.

**SENATE MEMBERS PRESENT**

Senator John Torgerson, Chair  
Senator Pete Kelly  
Senator Johnny Ellis

**SENATE MEMBERS ABSENT**

Senator Rick Halford

**HOUSE MEMBERS PRESENT**

Representative Joe Green, Vice Chair  
Representative Brian Porter  
Representative Scott Ogan

**HOUSE MEMBERS ABSENT**

Representative John Davies

**OTHER LEGISLATORS PRESENT**

Senator Kim Elton  
Senator Gary Wilken  
Senator Ben Stevens  
Senator Georgianna Lincoln  
Senator Robin Taylor  
Representative Beth Kerttula  
Representative Eric Croft

**COMMITTEE CALENDAR**

Department of Revenue - Financial Participation in AK Natural Gas Pipeline Study

Deputy Commissioner Larry Persily  
Bill Garner, Investment Banking Firm of Petrie Parkman & Co.  
(Houston)  
Kevin Banks, Petroleum Analyst, Department of Natural Resources  
William Nebesky, Division of Oil and Gas, DNR

Department of Natural Resources - Gas Supply and Demand: Natural

Gas and NGL Value

**ACTION NARRATIVE**

**TAPE 02-2, SIDE A**

Number 001

**CHAIRMAN JOHN TORGERSON** called the Joint Committee on Natural Gas Pipelines meeting to order at 3:39 p.m. and announced the committee would hear comments from the Department of Revenue and its consultants on an ownership study of state financial participation in the natural gas pipeline, something that was directed in SB 158.

MR. LARRY PERSILY, Deputy Commissioner, Department of Revenue (DOR), thanked the committee for its confidence in the department's abilities to assist them in this work. The department believes the report it gave the committee a couple of weeks ago on state financial participation in an Alaska natural gas pipeline is a thorough desk reference on the history of gas line plans in Alaska, the latest potential gas line projects, the potential sponsors, the participants' financing, the investment risks and possible benefits to the state.

MR. PERSILY briefed the committee on the conclusions regarding direct state ownership, one of the key questions in the report by saying:

First, as an owner, not as an investor and buying shares in a corporation or as a financing authority, regardless of the percentage of ownership, we believe the state would need to come up with a 30% down payment and we couldn't find any examples where you could get away with borrowing anything more than 70% of your investment as an owner in a gas line venture. Even if the state's ownership stake was at 12.5%, which would be equal to the royalty share of North Slope natural gas, that 30% down payment would be \$0.5 billion or so and we just don't see where the state has that kind of cash sitting around and available for appropriation - unless you wanted to take it from the Permanent Fund, which would mean taking it from the principal or taking it from the earnings reserve account, which would jeopardize inflation proofing, the dividends and the available of earnings to pay for public services in the event the legislature were to decide to use some of the Permanent Fund earnings to close the budget gap. As for where you would get the other 70%, we believe that could conflict with all the other demands

that exist on the state's bonding capacity unless you count Permanent Fund earnings as available for debt service. The state's available bonding capacity is just a few hundred million dollars - assuming you want to remain within the same guidelines we've used in the past to maintain the state's high credit rating.

The other issue to consider as an owner in the gas line business is what you would get for the money, because you can be taking the risk and you're certainly going to be a minority partner. We found the state just wouldn't get much that it could not otherwise obtain in its role as a landlord, taxing authority, and regulator of the gas line. As a minority partner, the state would be sharing in all of the risks the same as the majority owners, but we would have much shallower pockets than Exxon or BP or anyone else on the list to cover problems that might come up. We would have little control over the operations as a minority voice.

We believe the state could better influence the project through statute, regulations, and permitting than putting up cash and taking our chances. And as a minority partner, we would be in the gas line business. Again, this is as a partner at the table rather than as an investor in a corporation with stocks or as financing. Being in the gas line business is much different than simply assisting in the financing of the project. Just as being in business has its rewards, it also has its financial risks, its demand on capital and the need for expertise in running that business.

Finally, I'd like to say we could not see where the state signing on as a partner would in any way help the gas line get built any sooner. The market and the cost of the project will determine when it gets built and not whether the state is partner. Again, that is separate from whether the state could help in financing the project for others.

CHAIRMAN TORGERSON asked him who wrote the executive summary.

MR. PERSILY said he wrote the executive summary personally and the consultants wrote the conclusions at the back of the report. He maintained, "We felt the executive summary should come from the commissioner's office and the conclusions should come from the consultants, which in addition to Petrie Parkman included CH2M Hill, which is a well known engineering firm. They helped us with

economic analysis and economic engineering on the project."

MR. BILL GARNER said he was with the investment-banking firm of Petrie Parkman and Company in Houston and thanked members for the opportunity to testify about the report. He told members:

I thought I would supplement the Department of Revenue's testimony this afternoon with comments on the discussion and conclusions within the sections of [the] SB 158 report that I worked upon. To refresh the committee's recollection, my firm, Petrie Parkman and Co., is a full service investment bank that solely focuses on services to the oil and gas industry. The context of my remarks is somewhat unique in that not only do I provide investment banking advisory services on behalf of the firm, but prior to my joining the firm, I spent 15 years as an attorney and business executive with Kaen Energy, the third largest interstate natural gas pipeline company in North America. In my years with Kaen, I developed a strong appreciation for the challenges and opportunities associated with developing new natural gas pipelines. Clearly, the construction of an Alaska natural gas pipeline is vital to both the future economic growth of Alaska and the security of energy supply to the United States as a whole. The problem today, as it has been for the past 30 years, is to balance those needs with the practical realities of building the largest natural gas pipeline project ever attempted in North America. The risks for all stakeholders [are] great. As you know, as part of this report last fall, we interviewed the then known commercial developers of the gas pipeline project to obtain their assessments of the project risks and how these risks could be mitigated. The developers fell into three main categories: first, the three major oil producers; second, the natural gas pipeline group holding the ANGTS certificate; and third, the other new gas producer entrants on the North Slope such as Anadarko and Alberta Energy that wanted to ensure access to whatever gas line may be built.

We learned some interesting things during those interviews. In an effort to mitigate risks, some of the companies are seeking federal assistance through legislative action that would provide economic benefits or accelerated regulatory review, among other things. With respect to the State of Alaska, however, the companies were only in favor of an indirect state role in the gas pipeline by the state providing, for example,

clarity on certain of the state's tax and royalty fiscal terms, acceleration of state regulatory approvals and/or for the state to somehow provide access to tax exempt financing. They did not want the state as an equity partner in the gas line project, although some would reluctantly allow some form of minority participation if the state forced the issue. They did not see state equity involvement as assisting the project to get constructed or constructed any sooner than planned. And several companies saw state involvement as actually slowing the project down. Finally, given the condition of global financial markets, we learned that direct state funding provided from taxable funds was not necessary. Many companies already have sufficient funds available from their current cash flow and the others saw no problem with financing a project at favorable interest and upon favorable terms that could be obtained from traditional banking sources.

Despite the private companies' thoughts about state involvement, the ultimate decision as to whether the state should continue to pursue an equity stake in the pipeline project rests with the executive and legislative branches of the government. Some of the numerous practical issues the state must wrestle with in determining whether to proceed or not included the following: the source of funds, the amount of investment that the state may wish to make and its motivation for doing so, which may not coincide with the role and ownership percentage that may be offered by any of the developer groups. Another point is the impact of the amount and nature of the state's investment on the state's credit rating. Another factor is how the state would weigh its legal obligations to state citizens through regulatory oversight and access to information with the fiduciary obligations the state would have to its private company equity partners to keep proprietary information confidential and to act in a manner best suited to the success of the joint venture. These responsibilities may be irreconcilable at times.

Finally, another example would be how the state would replace expected amounts and timing of revenue from the gas line if the project were not constructed, it was delayed or the project did not perform as forecasted due to design defects or market conditions. These and the other practical issues raised in sections 3, 5 and 8 of the report are not easily answered.

Let's turn to the sources of state funds if the state does decide to proceed with an investment or financial participation in the gas line. As you know, this report went into some detail regarding the potential source of such funds including such sources as the general fund, the Permanent Fund, the Earnings Reserve Account of the Permanent Fund, the CBRF, general obligation bonds and various types of revenue bonds. For various practical and legal reasons, some of those sources are foreclosed. The most viable source of funding probably would be through the issuance of some form of a revenue bond through a conduit of a state authority. The bonds probably could be secured by shipper pay contracts. The difficulty, however, today is that such revenue bonds would be taxable under the current federal revenue code and the companies likely could issue debt at the same or a lower cost than the state. Nevertheless, if the state could assist with issuing tax-exempt bonds, such issuance could help the project's economic feasibility. I personally have not been part of the Railroad Transfer Act discussions, so I can offer no opinion about the potential use of the tax-exempt funding mechanism within that legislation.

If, however, tax-exempt financing could be made available, there might be a strong interest by at least some of the company developers in having access to these funds. The interest rates on tax-exempt bonds would be about 25% less than conventional taxable rates and assuming the tax benefits were passed through, the pipeline tariff could be lowered by perhaps 10%. Needless to say, the availability of tax-exempt financing raises complex tax securities and fiscal issues that will be fact-specific to the particular financing plans of the developers. If tax-exempt financing can be made available, detailed discussions with the developers will be required to gauge their interest and to determine how it fits within their overall development scheme.

In summary, the financial and practical risks to all the stakeholders in this project are material. Should the state wish to pursue participation in the project, there are practical and financial hurdles it must overcome, but they are not necessarily insurmountable, just difficult.

3:55 p.m.

CHAIRMAN TORGERSON asked if, in his expert opinion, would the state involvement in ownership of the pipeline enhance the project's feasibility since his statement said that tax-exempt bonds would move the project along, but he also stated that there is nothing they can do to move the project along.

MR. PERSILY replied that they believe the state participation as a part owner would do nothing to move the project along, but tax-exempt financing would lower the rate the borrower has to pay on the funds, which would lower the tariff and might help move the project over the hurdle so someone would be willing to build it.

CHAIRMAN TORGERSON asked how much work they did on the port authority issue.

MR. PERSILY replied that they spent a fair amount of time discussing it, but didn't think it would make an appreciable difference. There is a constitutional issue of whether a port authority could exist as a political subdivision. He noted, "The Alaska Constitution spells out what is a political subdivision explicitly and it does not list port authorities."

CHAIRMAN TORGERSON said he didn't think the port authority was being organized as a municipality and asked how he made that connection.

MR. PERSILY replied, "Because it is not a municipality; it is not a political subdivision, which..."

CHAIRMAN TORGERSON responded that it's owned by a municipality. "So, it theoretically is a quasi-government arm of those three entities that are creating it."

MR. PERSILY replied that argument could be made, but the Constitution says "municipalities," it doesn't say port authorities or transit authorities or airport authorities. Someone could make the argument that it's formed by municipalities and it was the intent of the Constitution, so it should be allowed.

CHAIRMAN TORGERSON said he thought the higher test was that it had to have a public purpose, but it concerned distribution of the profits back to the local governments. He asked if they had any discussions with the IRS on the port authority idea.

MR. PERSILY replied that they hadn't.

CHAIRMAN TORGERSON asked if they had an opinion as to whether or not the port authority's income was tax-exempt.

MR. PERSILY replied they relied on the opinion that the IRS gave to the port authority, but there are some questions as to whether the IRS had all the facts.

CHAIRMAN TORGERSON said he thought the department had an opinion saying the state couldn't issue G.O. bonds.

MR. PERSILY said that they don't believe the state could issue G.O. debt and if they could, it would be an intolerable risk.

MR. GARNER pointed out that the state would be pledging the full faith and credit of the state behind that sort of funding mechanism.

CHAIRMAN TORGERSON asked if he was part of the discussion on the railroad tax-exempt bonds.

MR. GARNER replied that he thought the state would have to overcome many hurdles to issue tax-exempt financing absent, but using the Railroad Transfer Act is a whole other situation.

CHAIRMAN TORGERSON quoted page 5 through line 10 saying and read, "The state would face formidable legal and practical hurdles to financing a significant portion of the project with tax-exempt financing."

He said that their statements don't necessarily fit with some of the other statements they are hearing today.

MR. GARNER said he hadn't heard about the railroad possibility, which might provide a clear exception to the existing federal tax laws. It would be difficult to do without that.

CHAIRMAN TORGERSON asked Mr. Persily if it would be a good investment for the Permanent Fund (not talking about large withdrawals, but investing) and would such a large investment violate the prudent investor oath.

MR. PERSILY asked if he meant as an active business partner rather than just buying shares in a corporation.

CHAIRMAN TORGERSON said it would be targeted to the actual line.

MR. PERSILY replied that they believe investing a large sum from the Permanent Fund would violate the prudent investor rule. He told members, "For example, if we're 12.5% ownership of the line with 30% equity, that's \$0.5 billion and would be 2% of the Permanent



Fund's market value and they don't have 2% invested in any one activity.

CHAIRMAN TORGERSON asked if the producers sign on the dotted line, which would happen no matter what happens if the state loans money, aren't [they] the ones on the hook.

MR. PERSILY replied that they are on the hook, but there are risks that the project would be delayed and there might be cost overruns or a catastrophe that would stop the revenue flow.

CHAIRMAN TORGERSON asked if the risk wasn't borne more by the producers than by the investors.

MR. PERSILY replied, "They [the producers] might as well own it themselves, if they're going to take all the risks."

CHAIRMAN TORGERSON said he was integrating recent legislation that puts the state in that position. He said, "Either the state's going to do it through the railroad and it's a good thing and there's no risk and if the state wants to do it somewhere over here, there's high risk."

MR. PERSILY replied that the difference is that the state would be an owner of part of the line as opposed to the railroad just being a conduit. He explained, "Their name would be on the top of the prospectus, but they would not be liable in any way for that debt."

SENATOR LINCOLN said she was flipping back and forth between the conclusion and the summary to see if there were any glaring differences between the two or if there were any disagreements the department might have had with the conclusions.

MR. PERSILY said he wasn't aware of any glaring conflicts between them.

MR. GARNER said he didn't recall any either.

CHAIRMAN TORGERSON said, if risk is a known factor, isn't it true that the more investors there are the less risk there is per investor. He questioned, "Why wouldn't it lower the risk?"

MR. GARNER replied that it lowers the risk for the individual investors, but they are still putting forth their money and there is a risk of the project functioning as forecasted.

MR. PERSILY said:

In terms of return on your investment, my understanding of the way FERC sets rates is that investors are allowed a return on their equity portion. So, I guess you're saying you're guaranteed a profit of return on your equity investment. All FERC will allow you on your debt investment is a return adequate to cover the debt service. Bill, correct me if I'm wrong, but if the state borrows 70% of the money they need to invest in this project, FERC will allow us enough to cover the interest on the debt, but no profit or extra return to the state. The only return we would get would be on the cash we take out of our pockets.

MR. GARNER said that was correct, but FERC would allow the state the opportunity to earn that amount of money so long as the project functions as it was forecasted. He added, "If there is a problem with the way the project works, you may not be allowed to earn that rate of return as a practical matter."

MR. PERSILY clarified, "So, if you're looking for a return, you're only going to get a return on the cash you take out of your pocket to invest money you borrow. You just get enough to make the mortgage payment."

MR. GARNER agreed.

SENATOR LINCOLN said what pops out at her is that the state participation would do nothing to eliminate the risk, that the potential companies simply do not need the state's money to build a project.

She asked if they had the Alaska railroad bill before them prior to writing the report, would the conclusion be different than what they have today.

MR. PERSILY replied if producers, or whoever decides to build the pipeline, used the railroad's tax-exempt financing that lowers the cost of funds, which reduces the tariff they have to charge. This means the project might pass their economic test. This risk is certainly an issue. He explained:

If you're going to risk \$15 billion, you want a higher rate of return than if you're just risking \$1 billion on a smaller project somewhere else. The market is a question. Four billion cubic feet per day or six billion cubic feet per day is a lot of gas to bring into North America regardless of projections. When that much gas hits the market...You really can't ramp up a gas line

slowly as you would an oil line. When that much gas comes into the market, depending on the market situation in 2008 or 2009, it could very well depress the price of natural gas across the country.

He said it could very well lower the price on not just the Alaskan gas, but of all the gas that a company is selling.

MR. GARNER added that there is no doubt in anyone's mind that Alaska gas is needed in the Lower 48 in one form or the other. That is an absolute given, but the problem is the timing. The other factor is that this project is going to take a long time to get built - a minimum of four years. He stated,

Hopefully, we won't wait too long to get this pipeline built when the Lower 48 is going to be demanding the gas for two years before it actually arrives. We'll just have to see what people are forecasting when they put the first shovel in the ground.

SENATOR WILKEN noted that item 5 on page 10 says that the Constitution does not allow general obligation bonds to finance state participation of joint business ventures. He asked if that was a severely limiting constitutional prohibition and is it common to see it in state constitutions.

MR. PERSILY answered that it would certainly prohibit G.O. bonds and tax-exempt revenue bonds. Since Exxon, BP, Phillips and others can obtain debt at a very low rate, if they can find debt at a lower price, there is a value to having the state involved. Since a G.O. bond is a full faith credit of the state, it makes sense that there would be a constitutional prohibition against the state pledging them for joint ventures with business since joint ventures have not always returned good profit."

MR. GARNER said that many states prohibit the state government from getting involved in private business except for certain economic development projects. Some states are more severe than the State of Alaska and some are less. Some states, for example, do not require a vote of the citizens to issue G.O. bonds and other states, like Alaska, do.

REPRESENTATIVE FATE asked if the state had an ownership (as in partnership) position, would there be a reduction in the tariff.

MR. PERSILY said he didn't think so.

MR. GARNER responded that FERC sets the tariff for the project

irrespective of the investors. He added that tax-exempt financing would result in a lowering of the debt cost and assuming that was passed through, that would affect the tariff.

CHAIRMAN TORGERSON thanked them for joining the committee and said the discussion was not over yet.

MR. KEVIN BANKS, Petroleum Analyst, Department of Natural Resources (DNR), said he would talk first about their value study and used projected slides. The purpose of it was to encapsulate what they understand about the markets in the Lower 48 and what kinds of drivers exist that will influence how the state should value its royalty gas when it's produced. Page 3 shows a picture of the natural gas suppliers in the U.S. He said that most of the production occurs in the western Canadian sedimentary basin and the Rockies. New supplies of gas will come from the Gulf of Mexico, the Mackenzie Delta and the North Slope. There is room for new supplies of gas, but in every instance those supplies come in only after significant investment. He said that current supply from the Rockies and Canada are in a decline.

The next slide shows consumption, which pretty much happens where the gas is produced. He noted a large network of pipelines wherever the gas is produced and significant storage areas around the country in both the consuming and producing areas. This makes a very active and flexible marketplace for gas, which produces volatility.

#### **TAPE 02-2, SIDE B**

MR. BANKS said that NGL market is different than the dry gas market. They recognize that gas shipped from Alaska will be enriched with ethane and other gas liquids. The market for those other liquids is significantly different from the natural gas market. He informed them that the gas liquids are processed out of natural gas fairly near the wellhead and can't be moved to market until they are removed.

The processing plants will distribute these liquids either blended or fractionated into component parts to just basically three market centers - Alberta, Conway and Mont Bellvieu. This means that there is a large market of purchasers of processing facilities. The processors sell into a fairly restricted market. The folks who buy those products are refineries and petrochemical plants that represent an even smaller number of purchasers. The market funnels down to fewer and fewer players. Figure 8 shows that one component of NGLs is more valuable most of the time than the energy content. This suggests that when valuing our royalty, we better make sure we

pay attention to this uplift. He noted, "It is perfectly reasonable for the state in evaluating its royalty to try and capture some of that value."

MR. BANKS told members the chart on page 10 shows some of the problems about where they choose to calculate royalty:

Because of the royalty settlement agreements we now have, because of the way we have interpreted them, our lease contacts are calculated as a netback. That means what is the destination value of the gas in this instance minus the transportation and that should give us the value of our gas on the North Slope at the wellhead. A lot depends on where you make that destination value calculation.

He explained that sometimes the value of natural gas in Chicago is higher than the value of it in Alberta and that is because, if it's difficult to get it into Chicago, there would be a response in Alberta to drive the price down.

If they choose to value the gas at Alberta, it could be a mistake, because they have collected in an area that could get backed up behind transportation constraints into the Lower 48. It may be that there are transportation constraints for many of the participants in that market, but not necessarily the Alaska producers. They may find alternative routes or make commitments on transportation going to Lower 48 markets either by building a bullet pipeline all the way to Chicago or by buying substantially in existing pipelines or by securing shipping on existing pipeline space.

MR. BANKS said the summary on pages 12 and 13 says:

As we move forward there is certainly compelling argument that the state should try to arrive at some kind of valuation agreement with producers to avoid the kind of task that we had litigating oil for value. That discussion and that negotiation certainly require that we have a considerable amount of information and experience.

The producers need some time to get some experience with this market place as well.

CHAIRMAN TORGERSON asked if he meant that gas is always more expensive in Chicago than Alberta because of transportation costs.

MR. BANKS replied that would be the case.

CHAIRMAN TORGERSON asked what he thought the tariff was from

Alberta to Chicago.

MR. BANKS replied that he thought it was \$0.80 - \$1.00.

CHAIRMAN TORGERSON asked if everything above the \$1.00 would be the benefit we'd be losing if we chose the Alberta Hub.

MR. BANKS said that would be right.

CHAIRMAN TORGERSON thanked Mr. Banks for his comments.

MR. WILLIAM NEBESKY, Division of Oil and Gas, DNR, recognized that one of the principal authors of the Alaska Natural Gas In-State Demand Study was David Dismukes with the research firm, Econ One, and he was also on the faculty of the Center for Energy Studies at Louisiana State University. He noted:

Basically, the purpose of the study was to evaluate the possibility for meeting Alaska's energy needs through Alaska North Slope gas and that question is divided into two parts: one is the potential in-state demand out there today and in the future that a gas source from the North Slope could serve - and then, secondly, what is the ability of Alaska North Slope gas to meet that demand.

He said that looking at the demand was done two ways. First, they looked at the existing baseline demand for gas in the state and extrapolated how that demand would grow in the various segments that make up that demand, which includes residential, commercial, industrial and electric power generation.

The study used standard statistical extrapolation tools to explore how baseline demand would grow based primarily on assumptions that are consistent with the idea that the past five years of growth and expansion will be the underlying assumptions driving future demand. The study looked at specific applications that would go beyond the baseline and those include expanding residential service into areas that are currently not served by natural gas - looking also at our existing industrial applications and what is the potential for those applications to expand. Two final areas deal with electric power generation - one called fuel switching and the other gas by wire.

He gave the committee a handout, which illustrated the overall picture of the statistics. The first bar shows in the year 2000, total in-state demand for gas was about 230 billion cubic feet per year. It shows that demand would grow to about 360 billion cubic

feet of demand by the year 2020. So, there is roughly the opportunity for a 60% increase in the current level of demand with all the applications that were explored in the study. The State of Alaska demand is about 1% of existing North American demand. Existing usage of gas in Alaska is roughly about one-sixth of the volume of gas that would flow through the gas line at a 4 bcf/d throughput.

MR. NEBESKY highlighted another bar graph that shows most of the current in-state demand centered in Southcentral Alaska and about 65% of the current in-state demand was generated by industrial uses, consisting mostly of the Phillips Marathon LNG plant and the Agrium Ammonia Urea plant, both in Kenai. Electric power uses about 15% and commercial and residential together use about 20%.

The potential for baseline growth from about 233 bcf is to increase by about another 27 bcf across all the sectors, a fairly modest potential for existing baseline usage to expand.

Page 3 of the study shows a map of the State of Alaska, which identifies the local distribution utility companies that provide gas service in various locations and the 340 settlements that make up the state's population. There are five natural gas service providers in the state. Right now three out of four households in the state receive gas service. The potential to expand is into the last 25%. He pointed out, "So, you could say on a statewide basis right now, natural gas penetration rate is about 75% statewide."

MR. NEBESKY said that nine out of ten communities do not receive gas service in the state. That illustrates there is only so much potential to expand and most of the gas in the state is concentrated in Southcentral.

To show the potential to expand into the residential sector, they used a kind of geographic analysis called the Residential Proximity Analysis, which explored geographically occupied households that currently don't have access to gas service, but are relatively near existing local distribution companies that do provide that service and near where the Alaska Highway route would fall. They found (on page 6) that there is potential in both the Interior region, which increases from 5,000 - 8,000 households within a 20-mile zone that could be potential customers for gas service. Similarly in the Southcentral region, there's about 11,000 occupied households within 20-miles of existing facilities. This is about 10% of the existing 105,000 Enstar customers now.

The chart on page 7 shows an area graph of the various major segments of gas usage in the state over time. Even the small amount

of residential usage has potential for a gas line to supply it. The charts on the next two pages continue to illustrate potential for expansion in the different segments. A large facility like Netricity would use about 400 mcf/y of gas to generate the power to run computers. This is close to the size of a small electric power generation plant for a small community. That application doesn't imply a lot of additional use of gas in the overall scheme of things, but it is one to consider. They considered the gas usage of a petrochemical facility similar to the proposal that Williams is in the process of studying now.

MR. NEBESKY explained that on-page 9 they looked at two applications that involved electric power generation. The first is fuel switching where they compare the new applications to the existing baseline usage. This application involves converting existing coal and diesel driven power generation facilities into natural gas power generating facilities. They have identified 20 power utilities in eight communities in the Interior region that might have some proximity to the pipeline. Finally, the gas by wire application is an idea where there is a central power station located near the pipeline in a community like Fairbanks which is gas-fired electric power generation and then the power is distributed by wire into communities. That was the demand side of the study.

The supply side of the study explores the potential for a gas line to serve these kinds of demands. The chart on page 10 estimates the cost of delivering natural gas to a residential or commercial user in the Interior region (the greater Fairbanks area) taking into account all of the transportation, all of the step-down meter station costs in connecting to the gas line, depressurizing and extracting liquids possibly, also the local distribution charges for a local distribution gas line into the community, as well as commodity cost for the gas itself. A couple key assumptions are a tariff of \$1 to get the gas from the North Slope to the meter station in Fairbanks where it's taken off the gas line and used for some local distribution application. A portion of the tariff on the whole gas line is applied for that first 400-mile segment from the North Slope to Fairbanks. The other key assumption is the commodity costs of \$1.91, which reflects the prevailing value of gas in the Cook Inlet Basin that produces the gas to sell to electric and gas service utilities.

MR. NEBESKY said they found that even in the case of a small application to maybe 8,000 households that currently don't have access to gas, but are within 20-miles of an existing local service provider and the highway route, the study shows that gas could be delivered to those retail users for about \$5.87. This result is



somewhat encouraging because the graph on page 11 shows delivered cost and penetration rates.

If 80% of the households hook up and all the other assumptions built into the cost side are satisfied, then that indicates the delivered cost. But as we move down, in terms of the proportion of households that hook up (penetration rate), we see that the delivered cost rises more steeply as we move toward lower rates of penetration.

Fairbanks Natural Gas Utility serves 400 customers or about 1% of the occupied households in the greater Fairbanks area. It provides gas to its customers at about \$8 mcf. This gas is shipped in the Enstar system and liquefied at a small facility at Pt. Mackenzie and trucked up the Parks Highway to Fairbanks. Tapping the gas line and providing gas by that mechanism, if penetration rates could exceed 30%, that system could compete with the existing shipage of gas from Southcentral.

Most Interior residents heat with heating fuel and by comparison the mcf equivalent cost of heating your home in the Interior at \$1.23 per gallon is \$10 - \$12 mcf. It wouldn't take very much penetration into those occupied households to compete with the heating fuel alternative.

MR. NEBESKY said the chart on page 13 looks at prices in Cook Inlet Basin, which has enjoyed a long history of excess supply of gas. Both industrial and residential gas has had relatively inexpensive costs. Today Anchorage residents pay about \$4.27 mcf. The forecast going forward into the future is based on the Department of Energy's most recent forecast of gas prices with adjustments to the Henry Hub. He explained:

Pricing in the Cook Inlet Basin as evidenced by this new Unocal Enstar contract, which will provide service beginning in 2004 are going up. There's some recognition in the market place to the looming potential demand and supply in the Cook Inlet Basin.

Another chart shows that in 2005 there is an imbalance between demand and supply. This makes the assumption the energy prices remain the same as they have been in recent history. They see a shortfall in the supply and a steady gradual increase in demand.

MR. NEBESKY said assuming an additional 1 tcf of reserves coming into service around 2004 in the Cook Inlet Basin is a very reasonable assumption considering the stepped up exploration

activity and the studies that explored reserves in great detail (connected with the last go-round for the LNG plant export license extension in 1996 and 1997). Therefore, the imbalance is delayed until the year 2009 or 2010. But, it doesn't go away with the addition of 1 tcf of gas. If the LNG plant does not receive a renewal for continued LNG exports beyond 2009, when the current license expires, there will be a significant reduction in demand, but even then the imbalance between demand and supply isn't erased entirely. It's just further out in time.

The study also explored to what extent gas from the North Slope could interface with the demand supply balance in the Cook Inlet Basin. The results were somewhat encouraging. For example, on a 16-inch pipeline, the unit cost would fall from \$3 mcf at 10 bcf/y to less than \$1 once there is more than 40 bcf/y.

MR. NEBESKY said a number of assumptions were behind the capital cost for the lateral spur line that connects Fairbanks and Anchorage drawing heavily from a study by Stone and Webster Co. (in connection with the Susitna Hydro project in 1989). They gave it a 25-year life, assumed a 10% regulated rate of return, which is consistent with the rules of thumb that experts use in designing pipelines. It might not answer all of the Cook Inlet imbalance questions, but for a lateral line to meet the cost that meets an economic curve that might convince an investor to invest in this line, you would need to get 30 - 40 bcf/y. All the applications they looked at and studied would not be enough to bring those volumes up to 30 - 40 bcf/y. If there is not sufficient replacement to cover all the imbalance, that might speak well for the lateral spur line coming out of Fairbanks sometime in the next decade.

CHAIRMAN TORGERSON asked if his assumptions were identified.

MR. NEBESKY said they were.

CHAIRMAN TORGERSON asked who developed the assumptions on the capital costs for Fairbanks.

MR. NEBESKY said he had help from Williams and Econ One Research. He said they used a high-pressure dense phase gas line, stepping that down into some kind of local system.

REPRESENTATIVE GREEN asked, regarding the slide on page 17, how far out would a bigger line have to go to achieve economies of scale. He thought that should happen somewhere in the future or they should be building a smaller line.

MR. NEBESKY replied that was a good question and the answer is that

the volumes on the graph don't go far enough to the right. A 16-inch pipeline is more than capable of handling 40 - 100 bcf.

**TAPE 02-3, SIDE A**

MR. NEBESKY said if the charts went more to the right, they would begin to curve up at different rates. The green curve representing the 24-inch pipeline would probably continue to decline while the blue and red curves started to turn up steeply.

CHAIRMAN TORGERSON thanked everyone for their presentations and adjourned the meeting at 5:18 p.m.