ALASKA STATE LEGISLATURE
HOUSE SPECIAL COMMITTEE ON ECONOMIC DEVELOPMENT, INTERNATIONAL TRADE AND TOURISM
April 5, 2008
2:06 p.m.

MEMBERS PRESENT

Representative Mark Neuman, Chair
Representative Carl Gatto
Representative Wes Keller
Representative Bob Lynn
Representative Mike Doogan

MEMBERS ABSENT

Representative Kyle Johansen
Representative Andrea Doll

OTHER LEGISLATORS PRESENT

Representative Jay Ramras
Representative Berta Gardner

Senator Charlie Huggins
Senator Bill Wielechowski
Senator Thomas Wagoner
Senator Gene Therriault

COMMITTEE CALENDAR

PRESENTATION: OVERVIEW OF ALASKA'S GAS NEEDS AND MARKET ASSESSMENT BY ALASKA NATURAL GAS DEVELOPMENT AUTHORITY (ANGDA) & SCIENCE APPLICATIONS INTERNATIONAL CORPORATION (SAIC)

- HEARD

PREVIOUS COMMITTEE ACTION

No previous action to record

WITNESS REGISTER

HAROLD HEINZE, Chief Executive Officer
Alaska Natural Gas Development Authority (ANGDA)
Department of Revenue
Anchorage, Alaska

POSITION STATEMENT: Participated in the presentation by Alaska Natural Gas Development Authority (ANGDA) and Science Applications International Corporation (SAIC).

CHRIS ELLSWORTH, Director
Energy Markets and Forecasting
Scientific Application International Corporation
Anchorage, Alaska
POSITION STATEMENT: Participated in the presentation by Alaska Natural Gas Development Authority (ANGDA) and Science Applications International Corporation (SAIC).

ACTION NARRATIVE

CHAIR MARK NEUMAN called the House Special Committee on Economic Development, International Trade and Tourism meeting to order at 2:06:32 PM. Representatives Keller, Doogan, Gatto, Lynn, and Neuman were present at the call to order. Also in attendance were Representatives Ramras and Gardner, and Senators Huggins, Therriault, Wielechowski, and Wagoner.

PRESENTATION: Overview OF Alaska's Gas Needs and Market Assessment by Alaska Natural Gas Development Authority (ANGDA) & Science Applications International Corporation (SAIC)

2:06:50 PM

CHAIR NEUMAN announced that the only order of business would be a presentation by Alaska Natural Gas Development Authority (ANGDA) & Science Applications International Corporation (SAIC).

2:07:13 PM

HAROLD HEINZE, Chief Executive Officer, Alaska Natural Gas Development Authority (ANGDA), Department of Revenue, informed the committee that this presentation is in response to a request by the House Special Committee on Economic Development, International Trade and Tourism, that ANGDA review the issues related to value added, in-state manufacturing based on natural gas and natural gas liquids. He stressed that this is a progress report, as the study is not complete; however, there are points worth the committee's attention at this time. In answer to a question, he clarified that the full report will be available at the beginning of the special session and will be presented in person by the consultants.

2:09:33 PM

CHAIR NEUMAN stated that questions would be taken during the presentation.

2:09:51 PM

REPRESENTATIVE DOOGAN asked when the full report will be available.

2:10:02 PM

MR. HEINZE said that the report will be ready for presentation early in the session beginning June 3, 2008.

2:10:17 PM

REPRESENTATIVE DOOGAN observed that the start date is in question.

2:10:27 PM

REPRESENTATIVE LYNN confirmed that the special session start date is the third of June; however, legislative leadership is contemplating a pre-session.

2:10:53 PM

MR. HEINZE related that, for ANGDA to respond to the committee's request, it became clear that the best way to begin was to look at a high quality study done in 2006, by Scientific Applications International Corporation. This extensive study was done under contract by the U. S. Department of Energy and included a detailed and professional analysis of the potential industrial segments in Alaska, including value added manufacturing. Mr. Heinze retained SAIC to update its study, considering the energy price environment of the world today, as compared to 2006. He opined that this is a very professional job.

2:12:53 PM

CHRIS ELLSWORTH, Director, Energy Markets and Forecasting, Scientific Application International Corporation, stated that the agenda for the presentation includes background information, study assumptions and methodology, study conclusions from 2006, preliminary findings from the recent update, and a summary. Mr. Ellsworth explained that the overall objective, in 2006, was to

evaluate the feasibility of a spur pipeline on the proposed Alaska natural gas transmission system. The proposed spur line was to serve Southcentral Alaska, including the Kenai Peninsula, and four markets: residential, industry, commercial, and power. The study considered existing and future industries that could utilize North Slope natural gas to the maximum. The calculations are also based on the estimated maximum price for natural gas. He further explained that the SAIC Anchorage office provided the assessment of the Cook Inlet gas supply and that the update was primarily focused on the industrial use of natural gas in Alaska and does not consider the residential, commercial, or power use sectors.

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MR. HEINZE pointed out that Mr. Ellsworth was referring to the full report; however, the update was on one part of the 2006 report.

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MR. ELLSWORTH noted that an advisory group, consisting of Alaskan entities, assisted SAIC and the Department of Energy to understand and frame the issues for Alaska.

2:18:20 PM

MR. HEINZE added that the advisory group also provided an element of peer review as the work was in progress.

2:18:39 PM

CHAIR NEUMAN asked how this organization was brought together.

2:18:50 PM

MR. HEINZE stated that the study was done, under an earmark of federal money through the Department of Energy, to look at Alaska's gas needs and pipeline needs. The direction of the work was done by the Department of Energy through the National Energy Technology Laboratory.

2:19:26 PM

MR. ELLSWORTH turned to the methodology of the study and said that there was a bottom up approach to determine the level of the sustainable demands on natural gas. To provide anchor

customers to a pipeline there would need to be petrochemical, Liquefied Natural Gas (LNG), and gas to liquids (GTL) markets in Southcentral Alaska. In addition, an integrated market analysis was done to show the impact of the price of gas in the Lower 48 states. Mr. Ellsworth summarized that the study looked at the following: the current and potential users of natural gas; what products they produce; what markets are available for the products; and what the users can pay for the gas.

CHAIR NEUMAN asked Mr. Ellsworth to describe the availability of natural gas in the Lower 48.

2:22:08 PM

MR. ELLSWORTH opined that the Lower 48 is in a gas shortage that is resulting in high gas prices, a relative boom in LNG imports, and the construction of import terminals. Also, there is new interest in bringing gas from the North Slope to the Lower 48. He assured the committee that there will be further information on this subject in the final report. Mr. Ellsworth then spoke of the industries studied, primarily expansion of the LNG industry and gas to liquids. Gas to liquids (GTL) is a new technology that has become attractive due to high oil prices. In addition, the study looked at the Agrium Inc. plant, some smaller industries, the petrochemical industry, and the gas demands of propane. Mr. Ellsworth provided estimates of the gas requirements for various industries.

2:26:48 PM

MR. ELLSWORTH presented a graph that demonstrated the capacity for industries and residential use that would support a 1.3 billion cubic feet (bcf) per day spur pipeline. The graph also indicated the maximum price customers are estimated to pay for residential and industrial power before turning to an alternative source. The estimated maximum price is about four to four and one-half dollars per million British thermal units (MMBtu).

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CHAIR NEUMAN asked Mr. Heinze to comment on the 2006 study conclusions.

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MR. HEINZE stressed that, in 2006, although Alaska was a growing power market for up to 300 million cubic feet per day (MMcfd), industry's use of gas was insufficient to economically support a pipeline.

2:30:28 PM

MR. ELLSWORTH agreed, and added that the market price in Southcentral Alaska was linked to the Henry Hub forecast. He described the process for forecasting the price and calculating the ultimate price to consumers in Southcentral Alaska. Turning to the update, Mr. Ellsworth informed the committee that assumptions for the findings of the 2008 update were adjusted for: capital costs, operating costs, product prices, natural gas feedstock prices, gas composition, and 2007 dollars, adjusted for inflation. Moreover, two price scenarios were used; the low case, produced by the Energy Information Administration, and the high case, based on a March, 2008, futures strip. He pointed out that the price for Henry Hub has risen from the 2006 forecast of $5.60 to the low case forecast of $6.27 and the high case forecast of $8.54. In response to a question asked by Representative Neuman, Mr. Ellsworth said that feedstock prices are very low.

2:36:29 PM

MR. ELLSWORTH revealed updated product prices and pointed out that the price of LPG has risen from $383 per ton to a low case of $639 per ton and a high case of $834 per ton. Similarly, Japanese distillate has risen from $9.46 MMBtu to a low case of $11.37 MMBtu and a high case of $15.47 MMBtu. He noted that the LNG market in Asia is changing and new markets are opening in China and Singapore. Market dynamics, with the entry of new markets, are pushing up prices beyond the historical rates for Japan; in fact, Japanese LNG contracts have been reported at $20 per MMBtu.

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CHAIR NEUMAN asked for Mr. Ellsworth's forecast of prices in 2010.

2:40:27 PM

MR. ELLSWORTH opined that expectations, by the federal government and other sources, are that prices will remain high, but not quite as high as today. However, there is a fundamental

energy shortage around the globe, primarily due to the fact that resources are increasingly in state controlled hands, as in Russia and Saudi Arabia. Also, the large populations of India and China are raising expectations that prices will continue to be high.

2:42:54 PM

CHAIR NEUMAN recalled previous testimony to the committee that Asian markets are interested in gas products because China is buying large volumes of propane.

2:43:57 PM

MR. ELLSWORTH agreed. He also advised that long term arrangements with other countries for supplies of gas products would relieve some of the risk of investment in new facilities.

2:44:29 PM

MR. HEINZE observed that oil demand is projected to be strong for at least ten years because of China and India. He opined that the gas market is expected to restructure to a world gas market over the next twenty years.

2:45:38 PM

MR. ELLSWORTH reviewed the preliminary findings for the low price scenario, that is, about $12 MMBtu, with a feedstock price in Alaska of $8 to $8.50 MMBtu. He forecasted that gas is in short supply in the Lower 48, but the maximum a West Coast facility could pay for Alaska natural gas is between $3.50 and $4.50 per MMBtu, which is below the market price. Propane, Japan LNG, and fertilizer prices are very good, most likely due to the increase in urea and ammonia prices, the opening of Asian markets, and the interest in ethanol for vehicles. He expressed the uncertainty around the technology for GTL; in fact, GTL plants are still in the experimental stages. Again, he reminded the committee of the increases in capital costs since the 2006 study.

2:48:40 PM

CHAIR NEUMAN asked for the price of gas that would make an in-state GTL plant economically viable.

2:49:05 PM

MR. ELLSWORTH said around $3.50 MMBtu.

2:49:16 PM

MR. HEINZE explained that the price forecasts are based on the volume and product from a world scale facility. He opined that local markets would need to be augmented by an export market to support this type of facility.

2:50:06 PM

MR. ELLSWORTH agreed, and added that the forecasts are based on a 50,000 barrel per day plant, which is much larger than plants in other parts of the world. He then presented the high price scenario that increases the Alaska market price to the $6.80 range. Essentially, the rise of prices in the Lower 48, and the rise in global energy prices, make the potential for developing gas in Alaska more attractive than just two years ago.

2:51:55 PM

MR. HEINZE pointed out that there has been an increase to a potential market of one-half to one billion cubic feet per day (cf/d) for value-added industry in the state.

2:52:19 PM

CHAIR NEUMAN stated his priority to market Alaska's gas in-state.

2:52:45 PM

MR. ELLSWORTH then directed the committee's attention to the areas of potential market demand: British Colombia, the U.S. and Mexico West Coasts, China, Japan, the U. S. Gulf Coast, and Korea. Gross revenues are estimated at a total of between $4.7 billion to $5.9 billion.

2:53:22 PM

MR. HEINZE stated that the investment number to build the necessary facilities is comparable.

2:53:35 PM

Mr. Ellsworth confirmed that the details for revenue and investment will be provided in the full report.

2:53:42 PM

MR. HEINZE surmised that building the facilities would create thousands of jobs.

2:53:48 PM

CHAIR NEUMAN asked for a comparison of risk between building facilities inside of, and outside of, Alaska.

2:54:01 PM

MR. ELLSWORTH acknowledged that when global companies look at economics, Alaska costs are much higher. He opined that a major company would still consider Alaska profitable and with more stability than in other parts of the world. An Alaska location is a more expensive, but safer, place to locate.

2:55:36 PM

REPRESENTATIVE GATTO asked what type of plant was proposed.

2:55:48 PM

MR. ELLSWORTH explained that estimated capital costs are available for plants of each technology.

2:56:16 PM

MR. HEINZE described an LPG plant as a small investment. However, a GTL plant could cost $1 to $2 billion. The point is that all of the plants could be built for $5 billion, and each would enjoy open access to gas.

2:57:44 PM

MR. ELLSWORTH summarized the following: increases in prices have changed the feasibility of industrial options for natural gas use; these increases suggest that LNG and fertilizer projects are now feasible; high and uncertain capital costs and technology make GTL the most questionable investment; higher energy and product prices enhance the feasibility of gas intensive industries in Southcentral Alaska; the investment climate of these industries will remain highly uncertain given

ongoing volatility in energy and product prices; and long term contracts can reduce this uncertainty.

2:59:41 PM

MR. HEINZE asked for the top five prospects interested in building facilities in Alaska.

2:59:51 PM

MR. ELLSWORTH indicated that Dow Chemical Company (Dow), ConocoPhillips Alaska, Inc., Suez Oil Company, Shell Oil, BP, and Sasol Internet would all be interested.

3:01:19 PM

REPRESENTATIVE DOOGAN asked whether Dow Chemical is buying gas in Alberta, or just processing gas.

3:01:42 PM

MR. ELLSWORTH answered that Dow is processing natural gas in Alberta; in fact, Alberta's natural gas and natural gas liquids are in decline. He recalled discussions with Dow, in 2006, about plant locations in Alaska.

3:02:30 PM

REPRESENTATIVE DOOGAN asked whether Dow could just process Alaska's gas, if the pipeline goes to Alberta, using its existing facilities.

3:03:02 PM

MR. ELLSWORTH affirmed this possibility. However, Dow may want access to the Asian market through Alaska.

3:03:31 PM

SENATOR WAGONER asked about the future value of clean burning GTL, after possible legislation mandating the use of clean fuels in California and on the East Coast.

3:04:11 PM

MR. ELLSWORTH described GTL as the equivalent to ultra low sulfur diesel, and agreed that California may mandate its use.

This fuel is expensive to refine and is in short supply. He expressed the difficulty to say how high the price will go; however, the premium between Japan and the West Coast is increasing as Japan is willing to pay more per gallon due to its pollution issue. Over time, that differential will equalize, but ultra low sulfur diesel and GTL will be in short supply.

3:05:52 PM

REPRESENTATIVE GATTO asked whether there is a demand for GTL when ultra low sulfur diesel is already available.

3:06:09 PM

MR. ELLSWORTH said yes. He explained that the demand is due to the emphasis on burning clean fuel. Some refiners will not be able to upgrade their facilities to produce it, due to the high cost.

3:07:03 PM

CHAIR NEUMAN noted that the federal government will require the use of low sulfur diesel by 2010 and synthetic fuels will be blended.

3:07:27 PM

REPRESENTATIVE GATTO asked whether it would be economic to build a GTL plant on the North Slope and ship the liquids through the Trans-Alaska Pipeline System.

3:08:11 PM

MR. ELLSWORTH stated that the 2006 study indicated that it cost 30 percent more to build and operate a GTL plant at the North Slope than in Anchorage. He said that the economics are uncertain.

3:09:09 PM

MR. HEINZE explained that the scope of the study has not included recommendations for specific locations of facilities, beyond considering Alaska as a general location. He opined that the results of the study, so far, are encouraging enough to look at specific opportunities; for example, a separate clean hydrocarbon line from the North Slope, or a small line to

extract natural gas liquids (NGL) for Alaska from the main line to Canada.

3:10:51 PM

CHAIR NEUMAN asked Mr. Heinze whether a spur line to Southcentral is economically feasible on its own, or whether more industry is needed for a market for the gas.

3:11:29 PM

MR. HEINZE recalled that, in 2006, a reasonable look at the in-state volume was on the edge economically. Now, the possibility of adding one to one-half billion MMcfd dramatically strengthens the potential for successfully marketing a high pressure gas line.

3:12:53 PM

REPRESENTATIVE DOOGAN observed that, even at these prices, and counting on significant, additional industrial capacity to be built as a market, it is not entirely clear that a pipeline can deliver a product cheaply enough.

3:14:00 PM

MR. HEINZE acknowledged that companies would not build plants based on the information presented today. However, he encouraged looking at the opportunity for an in-state industrial market. He remarked:

> The presumption here of two hundred billion, or two hundred million a day into an LNG plant, is premised on the plant that exists. That number might be much bigger, if you make it two or three times bigger, for instance. ... We're just not in a position to say how it all plays, but, we ... all of a sudden went from a case where the industrial contribution to help paying the bill for the citizens, basically heating and lighting their house, it, it went from being a small number to a big number. ... That's the significance from our point of view.

Mr. Heinze further opined that Japan would make the investments based on the supply of propane alone.

3:15:59 PM

REPRESENTATIVE DOOGAN cautioned that a degree of confidence is missing on the ability to project gas prices over time. He asked whether there is an attempt to perfect predictions of gas pricing far enough into the future to make decisions.

3:17:06 PM

MR. HEINZE opined that it was a certainty that prices can not be predicted. However, all investment is based on long term commitments, and those commitments buy the equivalent of reserves in the ground. He cited the Agrium Inc. plant as an example. When the plant was purchased, Agrium did not buy the reserves, and could not save the plant. He gave another example of a situation where there is a long term commitment and the parties have a long term price relationship that guarantees that the investor can compete over the longer term. All of the parties must be involved, especially those who already have reserves on the North Slope.

3:19:30 PM

CHAIR NEUMAN emphasized the need for the state to have long term stability for industry.

3:20:06 PM

REPRESENTATIVE DOOGAN expressed his concern that, if prices go down, the industry will not pay its gas taxes to the state. There must be confidence that the price regimen will stay high over an extended period of time.

3:21:35 PM

MR. HEINZE opined that the plants and the big pipe will be built based on long term commitments. If there is a proper environment to support a $30 billion pipeline, a $5 billion investment in plants, that will employ citizens and contribute to the tax base, should also be possible. Mr. Heinze concluded that, at the time for the special session, in-state issues will not drive the decisions about the gas pipeline. However, he encouraged the committee to think about the opportunities for in-state industry and to keep a positive attitude toward this option.

3:23:53 PM

ADJOURNMENT

There being no further business before the committee, the House Special Committee on Economic Development, International Trade and Tourism meeting was adjourned at 3:23 p.m.