ALASKA STATE LEGISLATURE
HOUSE SPECIAL COMMITTEE ON ENERGY
February 12, 2014
8:02 a.m.

MEMBERS PRESENT

Representative Doug Isaacson, Co-Chair
Representative Neal Foster
Representative Pete Higgins
Representative Shelley Hughes
Representative Benjamin Nageak
Representative Andy Josephson

MEMBERS ABSENT

Representative Charisse Millett, Co-Chair

COMMITTEE CALENDAR

PRESENTATION: ALASKA ENERGY AUTHORITY

- HEARD

PRESENTATION: ALASKA INDUSTRIAL DEVELOPMENT AND EXPORT AUTHORITY AND ALASKA ENERGY AUTHORITY

- HEARD

PREVIOUS COMMITTEE ACTION

No previous action to record

WITNESS REGISTER

GENE THERRIAULT, Deputy Director
Statewide Energy Policy Development
Alaska Energy Authority (AEA)
Department of Commerce, Community & Economic Development (DCCED)
Anchorage, Alaska
POSITION STATEMENT: Provided a presentation on Alaska Transmission Issues, and answered questions; participated in the Interior Energy Project (IEP) overview, and answered questions.

MARK DAVIS, Deputy Director
Infrastructure Development
Alaska Industrial Development and Export Authority (AIDEA)

Department of Commerce, Community & Economic Development (DCCED)
Anchorage, Alaska
POSITION STATEMENT: Provided an overview of the Interior Energy Project (IEP) and answered questions.

ACTION NARRATIVE

8:02:38 AM

CO-CHAIR DOUG ISAACSON called the House Special Committee on Energy meeting to order at 8:02 a.m. Representatives Josephson, Hughes, Nageak, and Isaacson were present at the call to order. Representatives Higgins and Foster arrived as the meeting was in progress.

PRESENTATION: ALASKA ENERGY AUTHORITY

8:03:48 AM

CO-CHAIR ISAACSON announced that the first order of business would be a presentation by the Alaska Energy Authority (AEA) on Alaska Transmission Issues.

8:04:10 AM

GENE THERRIAULT, Deputy Director, Statewide Energy Policy Development, (AEA), Department of Commerce, Community & Economic Development (DCCED), directed attention to the PowerPoint presentation entitled, "Alaska Transmission Issues," dated 2/12/14. Mr. Therriault said the report would cover work AEA has been doing on the transmission system in the Railbelt, specifically on the infrastructure needs and the benefits to consumers.

The committee took a brief at-ease at 8:05 a.m.

8:05:58 AM

MR. THERRIAULT explained that one of the issues for Alaska is the distance required to transmit power from its source to the user, for example, the Railbelt transmission system from Bradley Lake Hydroelectric Project (Bradley Lake) in Homer to the Golden Valley system is 580 miles. Also, there are governance issues, and upgrades to infrastructure are needed to improve the reliability and the capacity of the system [slide 2]. In response to Co-Chair Isaacson, he addressed the issue of governance. Over time, as the different utilities in the

Railbelt built systems, there were gaps in the linkages between systems. The state owns over 170 miles of transmission line - from Wasilla to Healy - which is committed to use by the local utilities so they can transmit power up and down the Railbelt. Thereby the utilities are linked and power can be transmitted from Homer to Fairbanks. However, the individual components of this system are owned by utilities. The goal is to achieve a system of governance that will allow all of the components - those owned by the utilities and the state - to be operated efficiently together. Ideally, this type of system could utilize the cheapest source of power at various times of the day and night through economic dispatch. Economic dispatch sends the cheapest source of power up and down the system for the benefit of the consumers. For about the last 30 years, the utilities have been linked together by contractual arrangements that have allowed the system to function, but the need for new capital infrastructure has prompted a move to a system of governance.

8:09:40 AM

REPRESENTATIVE HIGGINS recalled that the "choke point" when transmitting power from Homer to Fairbanks, is a 26-mile section in [Talkeetna], which needs to be upgraded by the local utility. He asked what the state can do to eliminate choke points in order for the power to "free-flow both directions back and forth."

MR. THERRIAULT advised the worst problem is on the southern portion of the transmission line to transmit the power from Bradly Lake. Later in the presentation are suggested improvements, expansions, and additions to the existing system that will provide redundancy, and expand the capacity so power can move up and down the Railbelt without hindrance. Mr. Therriault pointed out that the utilities have increased generation and do not have the economic ability to invest in transmission infrastructure, so they have approached the state for financial assistance. He said policymakers feel that if the state is expected to put money into improving transmission, the state should seek an improvement in the governance structure also, to ensure that consumers will benefit.

8:12:15 AM

REPRESENTATIVE HUGHES noted that Homer Electric Association, Inc. (HEA), and Matanuska Electric Association (MEA) are

generating their own power, and asked how this affects governance issues.

MR. THERRIAULT responded that when HEA began generating its own power, the bottleneck in the southern end of the district was exacerbated. All of the utilities have a share of the power from Bradley Lake, and the power in excess of HEA's share needs to travel up the intertie and off the Kenai [Peninsula]; previously, Chugach Electric Association, Inc. (Chugach) was able to power swap with HEA, and rather than send power south to HEA, HEA was allocated a portion of Chugach's share. That meant Chugach could send power to the utilities at the northern end; this power swap made the system work. Now, with HEA generating its own power, there is no power swap. The utilities can still get their shares of the cheaper Bradley Lake power, but not at the ideal times for the highest benefit to consumers. Mr. Therriault restated that improving the capacity and redundancy of the system will allow power to be available at optimal times.

MR. THERRIAULT, returning to the issue of governance, noted that because AEA owns a part of the intertie system along with the utilities, it is a member of the Intertie Management Committee (IMC). This committee, over several years, has codified reliability standards for the intertie, for instance, on how to merge power. At this time, the reliability standards are not complete but have been adopted by IMC and submitted to the Regulatory Commission of Alaska (RCA). Although IMC has the authority for the 170-mile section of intertie that the state owns, the compliance and adoption of the regulations for the sections of intertie owned by the individual utilities is voluntary. He advised that "... the governance problem [is] we don't have an entity that is empowered to establish these rules of the road for the entire system; we have to at this point just sort of rely on voluntary compliance and adoption." Further, as independent power producers (IPPs) seek access, and utilities want to sell power to each other, rules and an entity in charge become necessary.

8:17:23 AM

CO-CHAIR ISAACSON asked whether the Alaska Industrial Development and Export Authority (AIDEA) and AEA considered other alternatives - such as conditioning lines to allow for the transmission of more power - before recommending building new transmission lines.

MR. THERRIAULT said the following projects are a blend of improvements to the existing infrastructure and building new infrastructure. A consultant to AEA evaluated the system and recommended improvements that would result in an ideal system. The first part of the system is the southern section: Unconstraining Bradley Lake Projects. Bradley Lake is owned by the state and operated in conjunction with the utilities. Components of the Unconstraining Bradley Lake projects total a capital cost of over $402 million with the purpose of increasing capacity and reliability; in some areas, a second line would be added to carry the load if needed [slide 3]. The second part is the Anchorage Municipal Light and Power (ML&P), Chugach, and MEA section: Southcentral Projects, estimated at a capital cost of over $20 million to improve the capacity of two substations [slide 4]. The third part is the northern section: Northern Projects. Components of the Northern Projects total a capital cost of over $480 million, and are also needed to increase capacity and reliability [slide 5].

8:21:45 AM

MR. THERRIAULT advised that the following "number crunching" is based on assumptions used only for evaluation purposes [slide 6]. He turned to the evaluation of the consumer impact of the project: the cost of the Unconstraining Bradley Lake, Southcentral Projects, and Northern Projects totals $903.4 million; the project would benefit the entire Railbelt system; and the project is separated into two phases [slide 7]. Base assumptions for the project are: total capital expenditures (CAPEX) cost is $903 million; additional operating expense (OPEX) for maintenance and operation is over $18 million per year; financing at 5 percent; a bond term of 30 years; inflation at 2.5 percent; and total output of power in the Railbelt of 4.8 gigawatts [slide 8]. As an aside, he stressed that the costs and benefits are spread over all of the consumers evenly in the Railbelt, "not to say that that necessarily would be the way things are, are done, but again just so that we could crunch these numbers ...." The estimation of the overall total benefit to the consumers in the Railbelt on a yearly basis is between $146 million and $241 million per year; in fact, if this system is in place in 2016, power could be economically dispatched for the aforementioned result [slide 9]. He noted that the cost-benefit analysis was done without the potential of [Susitna-Watana Hydro] and the proposed transmission system would be utilized if Susitna-Watana Hydro were built. For the consumer, depending on the term of the financing, the savings are between $0.015 and $0.035 per kilowatt. However, the utilities and RCA

have estimated a more conservative benefit to the consumers of $100 million. If, in fact, these improvements were in place by 2015, the cost would be lowered to the consumer through their rates, but there would be no way for the utilities to capture the savings and pay for the improvements to the infrastructure. Mr. Therriault concluded his presentation with slide 11, which depicted the impact on rates, the cost of the components, and the savings to consumers.

8:28:17 AM

MR. THERRIAULT, in response to Representative Nageak, said the transmission lines going south from Anchorage are owned by the individual utilities, and the portion of the transmission line owned by the state is from Wasilla to Healy.

REPRESENTATIVE NAGEAK asked whether funding for the transmission lines came from the state to the utilities, or whether the lines were built by the state for the utilities.

MR. THERRIAULT said portions of the lines were built using some state funds and grants, such as AEA grants that were appropriated for improvements to lines; however, utilities have also invested their money in components of the transmission line.

REPRESENTATIVE NAGEAK surmised the upkeep is paid by the utilities.

MR. THERRIAULT answered yes, and explained the utilities have rates for shipping power over the lines they own, and the state charges the utilities for shipping power over the lines it owns to pay for maintenance and operations.

CO-CHAIR ISAACSON interjected that economic dispatch reduces rates, but then the utilities cannot pay their debt service.

MR. THERRIAULT said correct. In response to Representative Nageak, he said the utilities do pay into the system through the tariffs that are charged to use the transmission system. For the infrastructure that exists today, the construction costs have been paid by a mix of the utilities' and state money. The portion owned by the state was paid for by state money. Mr. Therriault advised that at this point the utilities do not have much capacity to bond and borrow money for improvements, thus they have come to the legislature with a capital request. He added that the improvements under discussion would take about 10

years to build and the utilities seek a mechanism in place to guarantee that they would reach their stated goal.

8:34:12 AM

REPRESENTATIVE HIGGINS asked how many high-voltage direct current (HVDC) lines are in Alaska.

MR. THERRIAULT said none. In further response to Representative Higgins, he said one line is under consideration and the "step down" is included in the estimated price of $185 million.

REPRESENTATIVE HIGGINS understood that looping the intertie and the grid is important, but has heard no discussion about that.

MR. THERRIAULT replied that parts of the grid from Homer to Fairbanks are looped in the MEA and Chugach systems; however, there is no dual capability from Wasilla to Healy. From Healy to Fairbanks there are two transmission lines; in fact, the abovementioned infrastructure would provide looping on all of the system.

REPRESENTATIVE JOSEPHSON asked how the amount of increased power generation that would come after the proposed $902 million investment compares to the amount generated by Susitna-Watana Hydro.

MR. THERRIAULT stated that the proposed investment would not result in a net increase in generation, but would move power. In further response to Representative Josephson, he clarified that the above projections are based on all of the generation that will be completed by 2015, including the new South Anchorage plant and the new generation by HEA and MEA.

REPRESENTATIVE JOSEPHSON questioned whether the movement of power economizes the cost of power from new sources.

MR. THERRIAULT explained that economic dispatch lowers the price because the consumer - no matter their location in the Railbelt - gets access to the cheapest source of generation; for economic dispatch to work, the system needs increased capacity and reliability. Further, with the single line bringing power from Anchorage, generation in the north still must be maintained in case of a transmission line failure.

CO-CHAIR ISAACSON assumed AEA seeks to build redundancy before increasing capacity on existing small lines, by various means.

MR. THERRIAULT further advised that adding redundancy increases capacity. In response to Co-Chair Isaacson's comment that adding redundancy costs more than power-fitting existing lines because of rights-of-way and permitting, he pointed out that the above improvements include investments to the existing wires so they can carry more power; however, as more power goes across the lines, line losses increase by a factor of four. In further response to Representative Josephson, he said IPP stands for independent power producer, and the whole transmission system is known as the Railbelt Transmission System. The Alaska Transmission System is the 170-mile portion owned by the state.

8:41:55 AM

REPRESENTATIVE HUGHES expressed her understanding that the Railbelt Transmission System upgrades would allow more power to move more cheaply, and that the upgrades are also needed if Susitna-Watana Hydro comes online. Also, if more power is generated in Southcentral, why would we "move it away?"

MR. THERRIAULT confirmed that this system could carry Susitna-Watana Hydro power, but included in the cost of the dam is the transmission line to carry the power to the Railbelt Transmission System. In further response to Representative Hughes, he said the proposed $902 million investment is "the optimum system that you would like to see in place so that you would be able to do, optimize your hydro-to-hydro coordination, operate Susitna in such a manner ... [that] would allow optimum use of those facilities ...." Furthermore, the proposed investment takes into account the new generation under contract to be built. Regarding IPPs, he related that the Alaska Independent Power Producers Association (AIPPA) would be supportive of the upgrades because the new system will accept new sources of power into the system.

REPRESENTATIVE HUGHES asked for the number and location of IPPs in the state.

MR. THERRIAULT was unsure of the number, noting that IPPs include Cook Inlet Region, Incorporated (CIRI), Aurora Energy, and Delta Wind. In further response to Representative Hughes, he said he would provide an estimate of the combined capacity of IPPs in the Railbelt.

8:46:11 AM

CO-CHAIR ISAACSON suggested some of this information could be found in the AEA Alaska Railbelt Transmission Plan.

REPRESENTATIVE HIGGINS stated his support for the investment of $903 million and for the building of any infrastructure in order to [prepare for] the future.

CO-CHAIR ISAACSON asked the presenter what fees may be charged to whom to "economically build this out." He questioned whether the connection will run the full line between Fairbanks, Tok, Glennallen, Anchorage, and Valdez so to benefit businesses and consumers along the entire road system, and thus reduce the cost per customer.

MR. THERRIAULT informed the committee the related study looked at the power supply from north to south; however, it is preferred to establish a mechanism that systematically allows improvements of this nature to be made, and that can be used as a model for other projects to connect other areas in the future. He explained why there is a preference for establishing reliability standards and an entity to keep them up-to-date.

CO-CHAIR ISAACSON recalled other legislators indicate that because there are few miles to be completed to connect the road system in this area, the legislature may want to evaluate the entire road system prior to making final decisions about the Railbelt.

MR. THERRIAULT opined further evaluation would require a different study for extending power to Copper Valley and other areas that have different economics due to the small user loads. Previous studies on the capital costs of a proposed connection would need to be updated.

8:51:52 AM

REPRESENTATIVE NAGEAK observed the discussion is related to reducing the cost of power for those who already pay less than residents off the road and rail systems, and also having this reduction capitalized by the state. He remarked:

> I know population rules, but at the same time ... the people in the rest of Alaska pay horrendous costs to provide energy to their homes and to their towns, and I heard during the presentation that the lines are limited to those, to the Railbelt, and to the road system, and ... you would have to have interties if

> you wanted to put [power] in other villages or towns along the system right? OK, I just want to know if we, ever, we come to a place where we have the courage and the [wherewithal] to try and connect the rest of the state to power transmission. ... Can we use the system lines or do we have to build a completely different structure to [be able] to do that?

MR. THERRIAULT affirmed that the mechanism to move forward with the proposed investment may have some application in other areas of the state. He said he is aware of the desire of rural communities to connect in order to benefit from economies of scale. There is also the desire by the utilities for the state to fund [the proposed] infrastructure; however, the Railbelt utilities realize that "money is tight" thus the consumers in the Railbelt may have to consider that they may pay at least a portion the infrastructure. The ultimate benefit is to the consumer. He stressed that the difficulties in rural Alaska are the distances, terrain, and small consumer loads. Mr. Therriault concluded, "That's not to say that a mechanism that would work for the Railbelt might not have some application in the future in a rural setting."

8:55:52 AM

REPRESENTATIVE NAGEAK reminded the committee at one time there was no road between Anchorage and Fairbanks. The Territory of Alaska and the State of Alaska connected the population centers and towns in between. He acknowledged that it may be hard for others to understand the need to connect the rest of the state to the Railbelt communities in order to lower the cost of business and energy, and urged for legislators to think about how to get to resources, instead of thinking in the short-term.

CO-CHAIR ISAACSON agreed that is the charge of the committee.

REPRESENTATIVE HUGHES appreciated the remarks made by Representatives Nageak and Higgins and asked whether the proposed upgrades would be sufficient to support future mining development.

MR. THERRIAULT said the AEA consultant took into consideration additional demand and the loss of demand in its analyses. The consultant met with each utility in charge of each geographic area to determine how the system would interact, and Golden Valley Electric Association specifically raised questions about the impact of mining activities.

9:00:41 AM

The committee took an at-ease from 9:00 a.m. to 9:03 a.m.

PRESENTATION: ALASKA INDUSTRIAL DEVELOPMENT AND EXPORT AUTHORITY and ALASKA ENERGY AUTHORITY

9:04:03 AM

CO-CHAIR ISAACSON announced that the final order of business would be a presentation on the Interior Energy Project (IEP) by the Alaska Industrial Development and Export Authority (AIDEA) and the Alaska Energy Authority (AEA).

9:04:55 AM

MARK DAVIS, Deputy Director, Infrastructure Development, Alaska Industrial Development and Export Authority (AIDEA), Department of Commerce, Community & Economic Development (DCCED), directed attention to the PowerPoint presentation entitled, "Interior Energy Project Bringing North Slope Natural Gas to Alaskans," dated 2/12/14. He informed the committee AIDEA and AEA are working jointly on a project to move gas from the North Slope into liquefied natural gas (LNG), and transport the LNG by truck down the James W. Dalton Highway to a regasification plant for use in the Interior, and later for other areas of the state. The first segment of the project is the construction of an LNG plant at Prudhoe Bay that is to be completed by the end of 2015. Project funding for the plant is a mixture of AIDEA loans and private money. The second segment is transportation down the Dalton Highway by private trucking companies contracted by each utility, although AIDEA may provide financing for trailers. Distribution includes storage and regasification in Fairbanks, and an AIDEA loan through Northrim Bank to Fairbanks Natural Gas (FNG) was approved 1/14/14 to build five million gallons of storage [slide 3]. Mr. Davis explained the IEP goals are: to supply natural gas to Alaska, particularly the Interior, at the lowest cost possible, to as many Alaskans as possible, as soon as possible; to provide propane from the gas stream to those not on a natural gas distribution system; to model alternative sources of supply such as a pipeline; and to use private-sector mechanisms such as the storage facility in Fairbanks [slide 4]. Turning to financing, Mr. Davis said the legislature's appropriation to the project provided AIDEA $125 million in Sustainable Energy Transmission Supply (SETS) financing through Senate Bill 25, passed in the 27th Alaska State Legislature. In

addition, Senate Bill 23, passed in the 28th Alaska State Legislature, allows AIDEA to provide loans for this project at up to 3 percent interest instead of its usual rate of market index. Also, a capital appropriation of $57.5 million from the SETS fund into AIDEA's revolving fund, and $150 million in new bonds, are available for the North Slope plant and gas distribution system [slide 5]. He continued to explain that the sale priorities for the project are to supply gas as follows: for residential and commercial space heating that will be distributed largely in the Fairbanks North Star Borough area; for electric utilities in and outside of the Fairbanks area; for industrial customers; and for other utilities. As an aside, he noted that at this time the technology does not exist to supply LNG to small communities due to storage problems, but new technology is anticipated so non-regulated utilities were included in the sale priorities at the request of the North Slope Borough (NSB). A permit to build the plant has been issued by NSB, and NSB and AIDEA are exploring possibilities for the future. The final sale priority is for open market sales of excess LNG [slide 6].

9:12:21 AM

MR. DAVIS directed attention to the following completed project milestones: project pre-feasibility analysis by HDR, Inc. and MEI, LLC, determined the project could deliver gas by late 2015, at a price of about $15 into the Fairbanks region; a North Slope plant plan of development was completed and a consortium of MWH Americas, Inc. and its investors was chosen for the project proponent; the private partner due diligence and negotiations process was completed; bids to build the pad in the summer of 2014 were received; and a bid to deliver equipment by June of 2015 was received. On the distribution side, completed milestones are: the demand and conversion analysis is completed; the Regulatory Commission of Alaska (RCA) issued its decision that resolved service area issues; the distribution cost project estimate by AEA has been completed; and FNG storage tank financing has been approved. At this time a six-year build-out time is estimated for the project [slide 7].

9:15:25 AM

REPRESENTATIVE HIGGINS expressed his understanding that natural gas was to be available in Fairbanks in 2016.

MR. DAVIS explained that first gas should be available in the fourth quarter of 2015; AIDEA is in the process of working with

both utilities "to have pipe in the ground in 2014, 2015, 2016." He turned to the project schedule, noting that the schedule is "on track;" in fact, the air permitting permit to allow venting of carbon dioxide was applied for on 1/31/14 and should be received from the Department of Environmental Conservation (DEC) by September of this year. Other permits are in place or in progress, and many should be received by 3/1/14 [slide 8]. The plant is expected to be located in Deadhorse, and will utilize fuel gas which is available from the North Slope producers from the fuel gas pipeline [slide 9]. Mr. Davis restated that on 1/14/14 the AIDEA board selected a consortium headed by MWH and Northleaf, an investor-partner. A letter of intent was executed on 2/3/14 which established the parameters of the LNG plant and the financing between AIDEA and MWH. Proposed financing is for $100 million of AIDEA financing and approximately $80 million-$90 million of private investment, which will be paid back from plant revenues. Although eventually the investors will own the plant, AIDEA seeks to have some control of the plant by taking the lease in its name and requiring loan covenants. The Project Development Agreement (PDA) for the commercial structure of the project will finalize in March, 2014, and then LNG purchase agreements with potential customers will be secured. Potential customers are the Interior Alaska Natural Gas Utility (IGU), FNG, and Golden Valley Electrical Association (GVEA) [slide 10].

9:20:38 AM

GENE THERRIAULT, Deputy Director, Statewide Energy Policy Development, AEA, Department of Commerce, Community & Economic Development (DCCED), displayed a map entitled, "Natural Gas Service Areas," and explained that this map is the result of the RCA final decision issued 12/20/13 on who would serve the high- and medium-density areas of the Fairbanks North Star Borough (FNSB). Fairbanks Natural Gas presently brings LNG from the Wasilla area to 1,100 customers. Customer demand in FNG's service area is 70-75 percent of the total FNSB demand, and RCA determined IGU would service the new territory shown on the map. He stated that IGU is a municipal utility that was started as a cooperative between the three municipalities within FNSB. Based on AEA's estimate of the number of miles of pipe needed, additional distribution pipes in FNG's service territory will cost $31 million, and additional distribution pipes in IGU's service territory will cost $156 million [slide 11].

REPRESENTATIVE JOSEPHSON pointed out that 1,100 residents have access to natural gas at this time, and there are 90,000 residents in FNSB. He questioned how, in this timeline, even

with the proposed expenditures shown on slide 11, [access to natural gas for all consumers] will be available in time to reduce cost and to address air quality problems.

MR. THERRIAULT agreed the cost of energy and air quality issues are very important to residents and local officials. Within the FNG service area, which is about 70 percent of the feasible demand, AEA believes building a distribution system is possible in two or three years; however, the outlying areas will be delayed. In addition, AEA believes the delivered price to consumers will be $14.50-$17 per 1,000 cubic feet (Mcf) - the community's target price was $15 per Mcf - which is one-half the price of oil per British thermal unit (Btu) when fuel oil is about $4 [per gallon].

9:26:05 AM

REPRESENTATIVE HIGGINS provided a brief history of FNG in the Fairbanks area and asked how AEA will ensure that IGU will "deliver" in a timely manner.

MR. THERRIAULT opined IGU's motivation is to "get that distribution system pushed out as far as possible, as quickly as possible;" in fact, that is the case IGU made to RCA. As a municipal entity, IGU does not have a profit motive. Although homeowners will not be forced to hook up to the pipeline, the price of gas should be a sufficient incentive. If IGU does not perform, RCA has the authority to "question" the utility.

REPRESENTATIVE HIGGINS deduced there are no performance guarantees in the contract.

MR. THERRIAULT added that AIDEA can reserve a percentage of the capital paid to the utility through contractual means.

MR. DAVIS confirmed that the RCA order does not have an enforcement mechanism; however, AIDEA seeks a scheduled build-out and will ask for certain performances from each utility in order to have cash flowing and pay back the loan. Also, there will be a commercial structure that is dependent upon a rapid build-out.

REPRESENTATIVE NAGEAK recalled discussion last year included [propane] drop-off points along the Yukon River, the North Slope, and in coastal Alaska. He asked whether these projects are included in the proposal.

MR. THERRIAULT said, "That certainly is something that we anticipate ... the possibility of," and affirmed that the LNG plant is expandable. The core demand from FNSB justifies the building of the plant; however, the governor intends to have the resource available to a larger geographic area after the initial project establishes the delivered price in bulk. Subsequently, after the lowest price is established, AEA will understand the economics of delivering to rural and semi-rural areas; for instance, one possibility would be by delivery on a surface transportation link between the Yukon River to the Kuskokwim River, but at this time the economics are unknown.

9:32:25 AM

REPRESENTATIVE NAGEAK recalled:

> Last year when we were discussing this ... I kept bringing this up: to have access to the rest of the people [for] who[m], right now, the cost of energy is so ... high. And I wanted to make that sure [at] the outset ... when we make the plans that we would have an access point along the Yukon River and barge propane to those villages. We talked about that, and also in the North Slope. That was part of the discussions we had, and I thought that when we ... approved this project that those were in place ....

REPRESENTATIVE NAGEAK pointed out that the area of expansion is along the road and rail system out of Fairbanks. He strongly questioned why propane delivery along the Yukon River and the coast is not in the plan.

MR. DAVIS said the plan is to expand the plant after anchoring the project with sales in the Fairbanks area. To ensure that the expansion takes place, the MWH group has agreed to issue a letter of credit for expansion of the plant after cash is flowing from the core area, and money will be available to expand without further state funds.

CO-CHAIR ISAACSON referred to slide 11 and clarified that the IGU service area is a census area known as the population area of FNSB, which includes 80 percent of the population. It is especially important to get natural gas in two of the areas there because of very poor air quality. He said his understanding is FNSB is the anchor tenant that must first be established to make it feasible to truck LNG along the river and out to village distribution.

9:36:22 AM

REPRESENTATIVE NAGEAK emphasized that it would be cheaper, instead of trucking LNG back up to the Yukon River, to have a drop-off and distribution point on the Yukon River.

MR. THERRIAULT said the shaded area on [slide 11] is identical to last year's presentation, and there has been no new expansion in the target distribution area. The delivery of LNG or propane along the transportation system, or further beyond FNSB, is possible if there is an LNG storage mechanism. He reminded the committee that the amount of propane produced by the LNG plant will be modest and AEA is looking for a customer for the propane, and he encouraged an interested village or rural entity to approach AIDEA about access to LNG or propane. He opined prospective customers in rural areas are waiting to know what the delivered cost will be.

REPRESENTATIVE JOSEPHSON recalled there was previous discussion about a "mobility feature" of the plant - or key components thereof - in order to benefit the Ambler mining district, and he assumed this was still possible.

MR. THERRIAULT confirmed that the Ambler mining district is interested in LNG because it could be delivered along a proposed road. Regarding the mobility of the plant, the AIDEA board of directors is hoping a gas pipeline across the state will be built soon and is mindful of using LNG components that can be used post-pipeline; for example, to build another plant in Fairbanks, and, using feedstock from a future pipeline, to supply LNG to rural areas or towns along the Richardson Highway.

REPRESENTATIVE JOSEPHSON recalled his experience living in the Russian Mission area and asked how LNG would be moved between the Yukon and Kuskokwim Rivers.

9:42:03 AM

MR. THERRIAULT said a group has studied a surface transportation link between the two water systems. In response to Co-Chair Isaacson, he said the group was from Bethel. Mr. Therriault assured the committee that AEA continues to look at the delivery of LNG along coastal Alaska, examining the economics and demand and providing information to communities. He described how diesel fuel can be delivered to a village on a river system from a barge; however, delivering LNG along a river system using ISO

containers would require heavy-lift capabilities and new infrastructure.

REPRESENTATIVE HUGHES referred to the requirement that MWH dedicate money for future expansion and asked about the timing [of expansion] and how much money "have they parked." Also, she inquired as to the capacity of the expansion, and how many villages could be served.

MR. DAVIS opined the first expansion would be an increase from nine billion cubic feet (Bcf) to twelve Bcf, which would be a $30 million expansion; that increase would serve the service areas shown on [slide 11] with excess for shipping "elsewhere." He cautioned that at this time using ISO containers is not feasible, but AIDEA has agreed to name NSB as a customer for gas "if and when infrastructure and technology becomes available for them to use the gas in the communities on the Slope." The LNG plant should last 30-40 years and can be used to serve other customers and the mines if the pipeline reaches Fairbanks.

REPRESENTATIVE HUGHES restated her question as to what specific villages would be served after the first expansion. Also, she asked whether there are economic indicators that would stop expansion.

MR. DAVIS said there are two models: 1. if a pipeline comes, what is the future of the plant; 2. if a pipeline does not come, the use of the plant increases. These are two separate models, although AIDEA is committed, along with AEA, to delivering the most gas to the most Alaskans at the best price. In anticipation of changing technology, he reiterated that AIDEA is in discussions with NSB, and mining interests, which could benefit villages.

CO-CHAIR ISAACSON directed attention back to the project.

REPRESENTATIVE NAGEAK declared his intention to ensure that AIDEA and other state agencies follow up and make sure there will be drop-off points for LNG or propane on the Yukon River, and along the coast, as part of the project. He explained, "Because that is what we were talking about last year, now we're just saying we [have to] do all of this first ... but I thought I made it clear ..." Representative Nageak stressed that plans for the aforementioned components are to be included in the money spent for this project.

CO-CHAIR ISAACSON asked the presenters, "Are you or are you not considering the distribution of ... the trucked LNG or propane to the communities - other than Fairbanks and North Pole - along the transportation corridor?"

MR. THERRIAULT responded, "This infrastructure is designed so that it ... can accommodate that demand." In response to Representative Foster, he said the plant can be expanded to meet whatever volume of demand is presented.

MR. DAVIS clarified that the plant allows for expansion to 20 Bcf on its current pad, if needed.

CO-CHAIR ISAACSON described a scenario in which the desired delivered price is not met and the trucking [of LNG] is through private contractors. He said his constituents, contractors, and local officials question whether any of the money provided by Senate Bill 23 can be used to subsidize the private-contract trucking portion and reduce the delivered price to that which will incentivize customers to convert.

MR. DAVIS advised that the current commercial structure directs that approximately $30-$35 million of the $57.5 million appropriation will be put into the plant, with a $10 million contingency. If the contingency is not needed, it could be available to lend, although AIDEA does not subsidize "anything." The Department of Law has informed AIDEA the aforementioned money could be used to help finance trucking trailers. In response to Co-Chair Isaacson, he said AIDEA cannot make grants, but "it can model the money as it deems fit to make the project work, which means it can be very patient capital."

9:53:08 AM

CO-CHAIR ISAACSON expressed the understanding of many legislators that [the $57.5 million] was the grant.

MR. DAVIS explained that if AIDEA puts $35 million of the $57.5 million into the plant, AIDEA will only recover that money should the plant be sold at a certain point of time - the money would not be part of the debt service of the plant, which means there is no return on the money.

MR. THERRIAULT directed attention to the economics of delivering LNG to the consumer after its production, trucking, and storage. His agency studied the social science of incentivizing consumers to convert to natural gas. Interior Gas Utility conducted a

telephone survey and a consultant for AEA formed focus groups in the community to educate residents on the cost of conversion, and to determine their interest. The study showed that a delivered price of approximately $15 would convince a majority of consumers to convert. The timing of a homeowner's decision to convert is also important. The cost of conversion varies for individual homeowners, but to swap an entire heating system costs $9,000-$11,000 per home in order to achieve a savings of $2,000-$2,500 per year. Further, the study showed Fairbanks has a fairly transient population due to influences of the University of Alaska Fairbanks and the military base, which may discourage conversion, so there is a need for an "on-bill financing mechanism" as a way to amortize the cost [slide 12]. In response to Co-Chair Isaacson, he opined there would need to be statutory changes to allow a utility to employ this mechanism.

MR. DAVIS interjected that since IGA is a borough utility, the financing mechanism may be authorized by a borough ordinance.

MR. THERRIAULT turned to slide 15, which showed the expected growth of demand for gas from 2013 to 2030. He described different possibilities for GVEA.

9:59:18 AM

REPRESENTATIVE HIGGINS observed that studies are costly, and he recommended that legislators base their opinions on the results of this study and take action.

MR. THERRIAULT acknowledged that the AEA social science study was small in size.

MR. DAVIS cautioned the timing of the demand of LNG affects its delivered price into the borough area.

MR. THERRIAULT concluded that AEA believes the delivered price will motivate most consumers to convert, and assistance programs will help a number of consumers [slide 16].

10:01:29 AM

ADJOURNMENT

There being no further business before the committee, the House Special Committee on Energy meeting was adjourned at [10:01] a.m.