ALASKA STATE LEGISLATURE
JOINT MEETING
HOUSE SPECIAL COMMITTEE ON ENERGY
HOUSE RESOURCES STANDING COMMITTEE
May 6, 2011
10:02 a.m.

MEMBERS PRESENT

HOUSE SPECIAL COMMITTEE ON ENERGY

Representative Neal Foster, Co-Chair
Representative Lance Pruitt, Co-Chair
Representative Bob Lynn
Representative Dan Saddler
Representative Pete Petersen
Representative Chris Tuck

HOUSE RESOURCES

Representative Eric Feige, Co-Chair
Representative Paul Seaton, Co-Chair
Representative Peggy Wilson, Vice Chair
Representative Alan Dick
Representative Neal Foster
Representative Bob Herron
Representative Cathy Engstrom Munoz
Representative Berta Gardner
Representative Scott Kawasaki

MEMBERS ABSENT

HOUSE SPECIAL COMMITTEE ON ENERGY

Representative Kurt Olson

HOUSE RESOURCES

All members present

OTHER LEGISLATORS PRESENT

Representative Carl Gatto
Representative Bryce Edgmon
Representative Mark Neuman
Representative Anna Fairclough
Representative Reggie Joule

Representative Craig Johnson
Representative Tammie Wilson
Senator Charlie Huggins

COMMITTEE CALENDAR

REVIEW OF ENERGY PROJECTS IN CSSB 46 VERSION T, SECTION 4, P. 98 LINE 1 THROUGH P. 101, LINE 27 - ALASKA ENERGY AUTHORITY REQUESTS SUBMITTED BY THE ADMINISTRATION

- HEARD

PREVIOUS COMMITTEE ACTION

No previous action to record

WITNESS REGISTER

SARA FISHER-GOAD, Executive Director
Alaska Energy Authority (AEA)
Department of Commerce, Community & Economic Development (DCCED)
Anchorage, Alaska
POSITION STATEMENT: Presented information on five Alaska Energy Authority (AEA) capital energy projects and answered questions.

BRYAN CAREY, Project Manager
Alaska Energy Authority (AEA)
Department of Commerce, Community & Economic Development (DCCED)
Anchorage, Alaska
POSITION STATEMENT: Answered questions pertaining to the proposed Susitna Hydroelectric Project.

MARK DAVIS, Economic Development Officer
Alaska Industrial Development & Export Authority (AIDEA) and Alaska Energy Authority (AEA)
Department of Commerce, Community, & Economic Development (DCCED)
Anchorage, Alaska
POSITION STATEMENT: Presented the Alaska Industrial Development & Export Authority Coal to Liquid Certification project.

IVAN IVAN, Administrator
City of Akiak
Akiak, Alaska
POSITION STATEMENT: Presented the Akiak Community Electrical Generation System Upgrade.

GENE THERRIAULT, Vice President
Golden Valley Electric Association (GVEA)
North Pole, Alaska
POSITION STATEMENT: Presented the Eva Creek Wind Farm project.

MIKE WRIGHT, Vice President
Transmission and Distribution
Golden Valley Electric Association (GVEA)
Fairbanks, Alaska
POSITION STATEMENT: Answered questions during discussion of the Eva Creek Wind project.

PETER CRIMP, Deputy Director
Alternative Energy & Energy Efficiency
Alaska Energy Authority (AEA)
Department of Commerce, Community & Economic Development
Anchorage, Alaska
POSITION STATEMENT: Answered questions during discussion of the Eva Creek Wind project.

WALT WREDE, City Manager
City of Homer
Homer, Alaska
POSITION STATEMENT: Presented the Homer Area Natural Gas Pipeline project.

BILL SMITH, Member
Kenai Peninsula Borough Assembly
Kenai, Alaska
POSITION STATEMENT: Answered questions during discussion of the Homer Area Natural Gas Pipeline project.

BRAD JANORSCHKE
General Manager
Homer Electric Association, Inc. (HEA)
Homer, Alaska
POSITION STATEMENT: Presented the Homer Electric Association - Soldotna to Nikiski Transmission Upgrade.

ROBERT DAY, Manager
Power Production
Homer Electric Association, Inc. (HEA)
Homer, Alaska
POSITION STATEMENT: Answered questions during discussion of the Homer Electric Association - Soldotna to Nikiski Transmission Upgrade.

PAUL THOMSEN, Director
Policy and Business Development
Ormat Technologies, Inc.
Reno, Nevada
POSITION STATEMENT: Presented the Mount Spurr Geothermal Project.

RAHM ORENSTEIN, Director
Business Development
Ormat Technologies, Inc.
Reno, Nevada
POSITION STATEMENT: Answered a question during the presentation of the Mount Spurr Geothermal Project.

ACTION NARRATIVE

10:02:02 AM

CO-CHAIR LANCE PRUITT called the joint meeting of the House Special Committee on Energy and the House Resources Standing Committee to order at 10:02 a.m. Present at the call to order from the House Special Committee on Energy were Representatives Pruitt, Foster, Saddler, Lynn, Tuck, and Petersen. Present from the House Resources Standing Committee were Representatives P. Wilson, Herron, Munoz, Foster, Gardner, Kawasaki, Feige, and Seaton. Representative Dick arrived as the meeting was in progress. Representatives Gatto, T. Wilson, Edgmon, Neuman, Fairclough, Joule, and Johnson, and Senator Huggins were also present.

Review of Energy Projects in CSSB 46 Version T, Section 4, p. 98 line 1 through p. 101, line 27 - Alaska Energy Authority Requests Submitted by the Administration

10:03:42 AM

CO-CHAIR PRUITT announced that the only order of business would be a review of energy projects in CSSB 46 Version T, Section 4, page 98, line 1, through page 101, line 27: Alaska Energy Authority Requests Submitted by the Administration.

CO-CHAIR PRUITT explained that 10 questions have been submitted to spokespersons representing the projects that are under review in order to inform both committees on the financial and community support for projects, the benefits to ratepayers, any vetting that has taken place, whether projects fit in their

local regional energy plan, and whether the intent language of the state's energy policy affects the project. The review would be limited to the abovementioned part of Section 4, draft Version T. He clarified that the committees are not seeking to eliminate or promote any particular project, but to provide an objective look at the merits of all of the projects for legislators and members of the public.

10:07:17 AM

SARA FISHER-GOAD, Executive Director, Alaska Energy Authority (AEA), Department of Commerce, Community & Economic Development (DCCED), described five AEA capital projects submitted through the governor's office, beginning with the Southeast Energy Fund. The Southeast Energy Fund is established as a fund to make grants to a municipality, a joint action agency (JAA), a member-owned electric cooperative, or certain other electric utilities, or for power projects, payments of loans, payments on bonds for hydroelectric (hydro) projects, electrical transmission lines, and electrical interties serving Southeast Alaska that are entirely owned by the grantee. She explained that the fund is a $10 million request, and is in line with the development of the SEIRP, and with an expectation that AEA will adopt regulations to set up grant criteria. Although there are no specific projects to discuss at this time, Ms. Fisher-Goad said her expectation is to set up a public and objective ranking process for the fund similar to that of the Renewable Energy Fund.

10:11:00 AM

REPRESENTATIVE TUCK asked whether AEA was planning to conduct a study in Southeast similar to the Railbelt Regional Integrated Resource Plan (RIRP) Study in order to establish a "master plan."

MS. FISHER-GOAD said there are some similarities; however, the Southeast process is more complicated due to the distances between communities that are not connected by transmission lines. At this time the RIRP is a guideline and an established process to evaluate projects, but it is premature to say the Southeast plan would identify and evaluate projects leading to a fully connected system.

10:13:20 AM

REPRESENTATIVE TUCK clarified that he was referring to the process that determines the worthiness of a project. He asked

whether the $10 million is for grants to specific projects, or to establish a plan for energy projects.

MS. FISHER-GOAD said the intent is to maximize the use of the SEIRP and incorporate it into the grant process.

CO-CHAIR SEATON asked whether there are similar ideas for Southwest Alaska also.

MS. FISHER-GOAD was unsure of a fund for Southwest Alaska; however, a provision in the original version of SB 42 repealed the Railbelt Energy Fund and enacted the Alaska Railbelt Energy Fund with the intent to have an AEA fund as a source, or process, to issue grants. This provision was dropped from the legislation, but the Railbelt Energy Fund with the Susitna money remains. The Renewable Energy Fund has been established with statewide criteria.

10:16:31 AM

REPRESENTATIVE MUNOZ asked how the timing of the grant process affects projects in Southeast that are currently in the development phase.

MS. FISHER-GOAD replied the SEIRP has a working group that recognized projects that are licensed and should proceed. The intent was not to delay scheduled projects, but to ensure that they can move forward independently.

MS. FISHER-GOAD continued to the Susitna Hydroelectric Energy Plan (Susitna Hydro) which is a $65.7 million request from the Railbelt Energy Fund. This appropriation will provide funding to begin the design process, and to file the preliminary application with the Federal Energy Regulatory Commission (FERC). She pointed out there will be adjustments to AEA's current estimate regarding costs and schedule, particularly for the environmental work. In fact, further along in the FERC process, AEA will refine the schedule. The design and licensing process is expected to take six years, and the total project cost is estimated to be $4.5 billion dollars. Next year additional funds for the project will be requested from the state to complete the design and licensing process. The goal is for AEA to file the preliminary application document by October, 2011.

10:21:03 AM

MS. FISHER-GOAD turned to the Energy Plan Implementation project and noted that the project was originally submitted under a broader title of energy projects. However, Version T of the capital budget has been split into three parts: Energy Plan Implementation; Bulk Fuel Upgrades; Rural Power System Upgrades. Energy Plan Implementation requests $1 million for AEA to help regions further develop their energy plans. The task of expanding community plans further into regional plans will be assigned to the incoming deputy director of Rural Energy. Bulk Fuel Upgrades is a long-standing capital request to enable AEA to address the 10-year-old deficiency list. Funding for both Bulk Fuel Upgrades and Rural Power System Upgrades (RPSU) is shifting from federal funding through the Denali Commission to state funding; in fact, the state request for Bulk Fuel Upgrades is $3 million, and the request for RPSU is $6 million. These projects are ranked by the deficiency list that allows for the evaluation of communities and their power systems. For example, "projects that are in the queue for" funding from Bulk Fuel Upgrades next year are Aleknagik, Koliganek, and Bettles. Construction on the Aleknagik project will be delayed without funding from the state request.

10:24:19 AM

MS. FISHER-GOAD mentioned that the $4 million RPSU project for Akiak is a priority project that - if not funded - will cause a delay of Fort Yukon and Atmautluak projects. She opined this is a unique situation, as this project is "listed under the 50 percent requirement for a project," however, AEA does not have a match requirement for RPSU projects. The fifth program discussed was the Electrical Emergencies Program, which is another long-standing capital appropriation to AEA. Ms. Fisher-Goad explained that approximately 100 communities have systems that are being updated, or are still to be ranked on the priority list, and this funding allows AEA to provide emergency responses to help communities restore power after electrical failures, or if failure is imminent.

10:27:34 AM

CO-CHAIR SEATON referred to the 50 percent match requirement and asked whether AEA influenced the percentage required.

MS. FISHER-GOAD said AEA was not involved in defining that percentage. She said she pointed out the Akiak project because it is included in the capital budget and in the RPSU program. The 50 percent match has been connected with the funding of

energy projects, such as the Bradley Lake Hydroelectric Project (Bradley Lake Hydro) funding model, and other municipal projects.

10:29:29 AM

CO-CHAIR SEATON reflected on the state's contributions to Bradley Lake Hydro and asked if AEA has a particular percentage that is appropriate for every project, or whether the match is based on the economics, area, and size of the project.

MS. FISHER-GOAD opined AEA does not have a "magic" percentage for broad use; in fact, a match requirement is a policy call by the legislature. Although a match is not required for Renewable Energy projects, AEA takes any match under consideration in its evaluation of projects. She said these should be addressed on a case-by-case basis, under the applicable statutory process. The Denali Commission does not require a match for Bulk Fuel or RPSU projects, but does require that the state maintain a significant level of effort. She offered AEA's assistance to the legislature in determining match requirements.

10:33:21 AM

The committee took an at-ease from 10:33 a.m. to 11:36 a.m.

11:36:54 AM

CO-CHAIR PRUITT brought the committee back to order.

REPRESENTATIVE SADDLER asked for clarification on the use of the $65.7 million appropriation to the Susitna Hydro project.

MS. FISHER-GOAD deferred to Mr. Carey.

11:38:14 AM

BRYAN CAREY, Project Manager, Alaska Energy Authority (AEA), Department of Commerce, Community & Economic Development (DCCED), stated the $65.7 million appropriation would allow work during the first three and one-half to four years on environmental and engineering studies and the draft license application. Following the license application, additional studies and the environmental impact statement (EIS) will take two more years.

REPRESENTATIVE SADDLER asked for a timeline on requests for additional funding.

MR. CAREY advised the costs for environmental issues are unknown until after detailed discussions with the resource agencies; however, AEA estimated a total of $160 million for licensing and design work.

11:40:05 AM

REPRESENTATIVE P. WILSON referred to page 99, lines 21-23 of the bill and read:

> If during their evaluation of projects, and AEA determines that ... the appropriation exceeds the 50 percent ... they shall submit to the legislature recommendations for reductions or reappropriation by February of next year.

REPRESENTATIVE P. WILSON asked whether AEA will do this.

11:40:51 AM

MS. FISHER-GOAD opined clarity was needed in the language of the bill. She was not certain whether the 50 percent is determined by the total project cost, or the cost of a specific portion of a project. For example, how a match would be determined if the project is in its preliminary stage - such as the Ormat Technologies, Inc. project - which is asking for funds for drilling, although the full project cost is over $400 million. Additionally, AEA will not be in a position to issue grants prior to 2/1/12. Regarding AEA's evaluation of projects through a process similar to that of the Renewable Energy Fund, she pointed out that the language of the bill gives AEA some direction, however, AEA's role needs to be better understood.

11:43:54 AM

REPRESENTATIVE P. WILSON relayed the Whitman Lake Hydroelectric Project in Ketchikan had to renew its FERC permit, and may lose it with further delay.

MS. FISHER-GOAD said that the SEIRP working group has suggested that the Whitman Lake project should proceed without waiting for a resource plan. She deferred to Ketchikan Public Utilities (KPU).

11:45:23 AM

CO-CHAIR SEATON returned to the subject of funding for Susitna Hydro and asked for further parameters on the use of the $65.7 million.

MS. FISHER-GOAD deferred to Mr. Carey.

MR. CAREY said the majority of the funding will provide engineering and environmental-type work on Susitna-Watona. Although there is a requirement to analyze alternative sites, the cost of that is low. Currently, AEA has begun gap studies regarding cultural, fish and wildlife, subsistence, and water quality issues, which will be submitted to the appropriate agencies for comments.

11:47:10 AM

CO-CHAIR SEATON directed attention to handouts provided by AEA with funding requests for Susitna Hydro in the amounts of $65,731,000 in 2012, $32,600,000 in 2013, and $33,800,000 in 2014. He asked for clarification of these requests.

MR. CAREY explained that the request for $65 million was for about three years, so additional funding is probably not required for the next year or two, but with a total of $162 million. The reason the request now is for $65 million is that funding for a period of time will provide "a little bit of certainty for funding" during the licensing process with FERC. Furthermore, AEA needs to hire personnel from Outside, which is difficult when a project is only funded for one year.

CO-CHAIR SEATON restated his question.

11:49:58 AM

MS. FISHER-GOAD explained that the documentation on the project contains the budget process and also a cash flow need. The $65 million will not be spent in fiscal year 2012 (FY 12), but is for multi-years. After looking at the preliminary application with FERC, more budgetary information will be provided, and the documentation will be "better than this snapshot two-page document that's in our budget request."

CO-CHAIR PRUITT pointed out that the total is $162 million, and asked for the purpose of the $32.6 million in FY 13 and $33.8

million in FY 14, and how those monies relate to the FERC process.

11:51:41 AM

MS. FISHER-GOAD said the cash flow need and the budgetary need are slightly different. Alaska Energy Authority will submit further documentation with better information on cash flow needs; in fact, AEA is committed to providing more information on the requirements for the FERC process and its funding needs. She acknowledged that the agency does not want to end up with a gap in funding because of the subsequent delay.

11:53:27 AM

REPRESENTATIVE SADDLER asked how much work will be done by outside contractors and how much by in-house staff.

MS. FISHER-GOAD said most of the work will be done by contract with the private sector; however, she estimated funding in the amount of about $1.5 million will be required for staff and project office space.

REPRESENTATIVE SADDLER observed that the House Special Committee on Energy heard testimony that residents of Talkeetna and Southcentral Alaska are concerned about the lack of public process, and he urged AEA to better inform the community.

MS. FISHER-GOAD noted that AEA has been working with Representative Neuman to inform residents that the public hearing on the decision document was not the end of the public process.

11:55:44 AM

REPRESENTATIVE PETERSEN referred to future Bulk Fuel Upgrades requests, and asked whether the tank replacements and upgrades begun in 1997 will be finished by 2016.

MS. FISHER-GOAD said the bulk fuel tank farm upgrades are close to being done. One of the primary purposes of the Denali Commission was to address the need for new tank farms in communities. In the future, she anticipated there will be more of an emphasis on the RPSU program and less on Bulk Fuel Upgrades.

11:58:14 AM

CO-CHAIR PRUITT asked about the future of the Bulk Fuel Upgrades program considering the expected decrease in funding from the Denali Commission.

MS. FISHER-GOAD restated that the deficiency lists for Bulk Fuel Upgrades and RPSU were prepared 10 years ago with the intent that AEA would continue with the projects even as federal funding declined. She recalled that during peak federal funding from the Denali Commission, AEA's cash flow to build tank farms was over $30 million annually.

CO-CHAIR FEIGE observed Bulk Fuel Upgrades are requested for nine communities at an average cost of $500,000 per community. He asked which communities will receive the funds and who owns the facilities.

MS. FISHER-GOAD said local governments own the facilities, with some exceptions for consolidated tank farms. Next year's projects include Aleknagik, Bettles, and Koliganek, which are all in final design. Aleknagik is a $6 million project funded by the Denali Commission and the state.

12:02:14 PM

CO-CHAIR FEIGE observed that additional state money is being put into power systems, and asked if there are provisions to sell the facilities, so they can be run and maintained by the private sector or by the owners.

MS. FISHER-GOAD explained AEA manages construction of the tank farms and then turns over the completed projects to the local owners. The agency works with the community to develop business and operating and maintenance (O&M) plans in order to ensure that the community has the capacity to own, manage, and operate the tank farms and powerhouses, and has reserve funds for repairs and replacement. A sustainability requirement was always part of AEA's agreement with the Denali Commission. In further response to Co-Chair Feige, she advised that tank farms are successful in general, and powerhouses need continuing support from AEA for training and maintenance.

12:05:30 PM

REPRESENTATIVE TUCK asked if the governor did not want to include the Akiak project in the capital budget this year.

MS. FISHER-GOAD expressed her understanding that Akiak became a line item in the budget; if it were not, it would be funded by AEA through the RPSU program, but that would prevent the funding of the Fort Yukon and Atmautluak projects. Furthermore, funds would be available for conceptual design reports for future RPSU projects. Akiak is a unique project in that AEA will manage the project as it would a RPSU project. Regarding AEA's association with other projects in this section of the legislation, the Alaska Railbelt Cooperative Transmission & Electric Company (ARCTEC) had requested AEA to manage these projects, which is an opportunity for AEA to work with ARCTEC on regional priorities in the Railbelt. She advised the intent is for AEA to issue grants on projects it does not own, and work with the grantees. The agency does own the Battle Creek Diversion Project, which is an upgrade to Bradley Lake Hydro, and the Alaska Intertie, which is slated for repairs.

12:08:59 PM

REPRESENTATIVE TUCK understood the Akiak project would be in addition to the $10 million requested for RSUP, and rephrased his question as to why the governor did not include Akiak originally.

MS. FISHER-GOAD acknowledged that Akiak is not specifically listed; however, projects are not usually listed in the request for RSUP funds. She opined there was nothing intentional.

12:10:05 PM

REPRESENTATIVE TUCK affirmed that the RSUP process consisted of the $10 million request, and naming specific projects allows for the use of the money on other projects. He inquired whether other projects that are not mentioned specifically have the governor's support. Representative Tuck noted that the bill will not come before the House Resources Standing Committee or the House Special Committee on Energy, and asked whether the purpose of the hearing was to recommend which projects move forward, or whether there will be opportunities for communities to speak about projects as well.

CO-CHAIR PRUITT stated that the intent of the joint meeting was not to weed out projects, but to ensure that legislators have a full understanding of them, and to have an opportunity to disseminate information before a large group of legislators and members of the public.

12:13:20 PM

REPRESENTATIVE TUCK then asked whether there were any projects listed that AEA would not support.

[Representative Tuck's reference pertained to a list of projects provided in the committee packet titled, "Energy projects in CSSB 46 Version T, Section 4," dated 5/5/11, and prepared by Christopher Clark, House Special Committee on Energy.]

MS. FISHER-GOAD explained her intent is to advise the committees on how AEA would serve its management role for the projects and grants that are funded by the legislative process. The Akiak project was known to AEA, and if the budget passes with Akiak as a specific line item, the RPSU funding is freed for other purposes - such as two powerhouses and conceptual design work. If not, the Akiak project and conceptual design will be funded through RPSU. The agency's reactionary role disallows her to make decisions on the worthiness of projects, although AEA has a required, statutory evaluation process for Renewable Energy Fund projects.

12:16:09 PM

CO-CHAIR PRUITT interjected that the concern comes from the fact that AEA's name is on all of these projects - even those that have not gone through an evaluation process - leaving some committee members to ask whether AEA supports each project.

MS. FISHER-GOAD replied that AEA has granting authority and is listed on these appropriations because it is the manager to work with the owner and administer the grant. She indicated that AEA is involved because of a desire to have an energy agency look at the projects. It is not AEA's role to determine which projects should be funded in the capital budget, but to administer and manage grants and provide consistency during construction, and to follow criteria and appropriate milestones when releasing funds. For example, she said AEA "can play a technical assistance role, we can play a role ... where we would be managing these projects," and provide an opportunity to work with entities to maintain a state presence - where state money is being spent - and to meet state priorities.

12:20:55 PM

CO-CHAIR PRUITT asked how AEA sets milestones and prevents projects from being appropriated without sufficient funding.

MS. FISHER-GOAD said that upcoming testimony from project proponents will clarify the intent of the projects and the impact of the 50 percent requirement; in fact, the 50 percent requirement on construction projects is a significant milestone, as is the completion of design prior to the release of construction funds. She provided several examples of "a stopping point."

12:23:51 PM

REPRESENTATIVE TUCK asked if Ms. Fisher-Goad was familiar with all of the "AEA-labeled projects."

MS. FISHER-GOAD said AIDEA Coal to Liquid is a project that will be addressed by the Alaska Industrial Development & Export Authority (AIDEA), and several other projects have come through the Renewable Energy Fund process. Her agency has not been involved with the Homer Area Natural Gas Pipeline.

REPRESENTATIVE TUCK asked if any projects other than Akiak would normally be part of the $10 million grant program.

MS. FISHER-GOAD said Akiak was the only project falling under AEA's "traditional Rural Energy Project program."

12:26:22 PM

REPRESENTATIVE MUNOZ asked whether AEA established the amounts requested for the projects.

MS. FISHER-GOAD said no. Her agency does have some of the estimated costs on projects that have been evaluated through the Renewable Energy Fund program and that have received funding for earlier stages of development. She pointed out that during the "Rounds" of the Renewable Energy Fund program, the statewide balance of projects is maintained, partially by the $2 million cap for Southeast and the Railbelt, and the $4 million cap for high-cost areas. Some construction projects do not fit with the Renewable Energy Fund program, although it is hard to make changes to the process in a fair manner.

12:29:42 PM

REPRESENTATIVE MUNOZ asked who recommended the dollar amounts for these projects.

MS. FISHER-GOAD opined some of the Capital Project Submission and Information System (CAPSIS) figures may come from legislators, and ARCTEC estimated costs for its projects. The 50 percent match can mean that the project is reimbursed by AEA for every dollar in the system, or that state money is used for the design portion and local contributions are used later.

12:31:20 PM

CO-CHAIR PRUITT, in response to Representative Munoz, said Round IV projects were not under discussion, unless there was a local issue.

REPRESENTATIVE MUNOZ pointed out that the community of Tenakee passed a resolution opposing the Inside Passage Geothermal Study in Tenakee Inlet. She asked how the opinion of a community is weighted when projects are chosen.

MS. FISHER-GOAD said she was recently aware of the reaction from the local community, and previous local support was part of the evaluation process. She offered to provide additional information.

REPRESENTATIVE MUNOZ then asked whether there is adequate AEA staff to manage its workload.

MS. FISHER-GOAD said AEA is currently assessing staffing needs and will be contacting the Office of the Governor, Office of Management & Budget, for authorization of additional personnel.

12:34:31 PM

REPRESENTATIVE P. WILSON asked how many requests remain for Bulk Fuel Upgrades.

MS. FISHER-GOAD said that the bulk fuel deficiency list was almost completed, although the list was not created by requests, but by AEA's evaluation of communities' circumstances, including sustainability issues and a business plan. She said she would provide the percentage of completed upgrades.

12:36:42 PM

CO-CHAIR SEATON expressed his concern about the recommendations for reductions or reappropriation due from AEA by 2/1/12, as directed on page 99, line 23, of the bill. He noted that reappropriations are generally approved by district, and he

inquired whether AEA has an influence on funds unused for any reason; for example, would funds be returned to the district or to the general fund (GF).

MS. FISHER-GOAD cautioned that AEA's role in the reappropriation language was unclear.

12:39:32 PM

CO-CHAIR PRUITT asked for an estimate of the cost of additional AEA staffing.

MS. FISHER-GOAD said the rate for a project manager in the energy field is about $150,000-$180,000 per year, and would be paid for by the project capital money.

CO-CHAIR PRUITT asked if the bill would add to AEA's workload this year.

MS. FISHER-GOAD said yes, although she was not prepared to quantify the workload at this point.

12:41:43 PM

REPRESENTATIVE P. WILSON asked for further information on the Electrical Emergency Program allocation on page 99, line 11, of the bill.

MS. FISHER-GOAD said the money allows AEA or a contractor to provide an emergency response and technical support to a utility if it loses power, or the ability to generate and transmit power. Typically this happens in winter, and there were only three responses in FY 10, and about 11 responses in FY 11. In further response to Representative P. Wilson, she said the cost of responses fluctuates and the allocation is based on an average.

12:44:44 PM

CO-CHAIR FOSTER asked whether unspent money was rolled-over to the next year.

MS. FISHER-GOAD explained the money is appropriated as needed. Furthermore, AEA works in conjunction with "emergency services" for authority and funding during a major emergency. In further response to Co-Chair Foster, she said she would confirm whether AEA responded to the ice damage emergency in Savoonga this year.

CO-CHAIR PRUITT thanked Ms. Fisher-Goad for her participation.

12:49:31 PM

The joint meeting of the House Special Committee on Energy and the House Resources Standing Committee was recessed at 12:49 p.m., to be continued at 2:00 p.m.

2:09:00 PM

CO-CHAIR NEIL FOSTER reconvened the joint meeting of the House Special Committee on Energy and the House Resources Standing Committee at 2:09 p.m. Present at the call back to order from the House Special Committee on Energy were Representatives Foster, Pruitt, Saddler, and Petersen. Representatives Tuck and Lynn arrived as the meeting was in progress. Present at the call back to order from the House Resources Committee were Representatives, Seaton, Feige, Gardner, Dick, Foster and P. Wilson. Representatives Kawasaki and Munoz arrived as the meeting was in progress. Representatives Gatto, Fairclough, T. Wilson, and Edgmon were also in attendance.

CO-CHAIR FOSTER announced the continuation of the committees' review of energy projects. Among documents included in members' packets was a list of questions witnesses would be asked to answer. Those questions asked project proponents to quantify the level of local support for the proposed project, identify the funding sources, and identify the total project cost and phases for the proposed project, as well as any anticipated costs to ratepayers compared to the current rates. He specified the projects discussed this afternoon are ones in Section 4, Version T, since the other sections relate to weatherization, energy rebates, in-state gas, and Renewable Energy Fund projects which have already been vetted in various other House committees.

2:12:01 PM

MARK DAVIS, Economic Development Officer, Alaska Industrial Development & Export Authority (AIDEA) and Alaska Energy Authority (AEA), Department of Commerce, Community, & Economic Development (DCCED), stated that his testimony is related to the single line appropriation for $500,000 for the Coal to Liquid Certification Project. He explained that AIDEA would be working on a new process for coal to liquid certification with Accelergy Corporation (Accelergy) of Houston, Texas. Accelergy is in the

process of developing a new coal to liquid process that is different from the traditional Fischer-Tropsch process. Fischer-Tropsch first turns coal into syngas which is then turned into a liquid. This process is a direct coal liquefaction based on ExxonMobil patents. Accelergy is working with the Energy & Environmental Research Center (EERC), a research, development, demonstration, and commercialization facility at the University of North Dakota, and Penn State to develop this process for jet fuel for the U.S. military. The United States Air Force (USAF) has indicated its desire to use domestic sources for 50 percent of its fuel needs by 2016. Additionally, the USAF expects to issue its specifications for the fuels by 2013. The USAF has identified Alaska coal as a potential source of synthetic jet fuels. This certification process would have AIDEA working with Accelergy to certify whether Alaska coal, particularly Usibelli Coal Mine, Inc. (Usibelli) coal, could be used for this process.

MR. DAVIS related his understanding the USAF indicated to U.S. Senator Lisa Murkowski that the USAF wishes to have these fuels available at Joint Base Elmendorf-Richardson. The entire cost of the appropriation would be $500,000. Additionally, Accelergy has committed to $500,000 of its funds towards the project for a total cost of $1 million. He related that in the event the coal is certifiable, the next step would be to commercialize it - which would involve other partners and potential manufacturers. He emphasized that AIDEA would like to continue its involvement just as it has done with other developing technologies. He remarked that if that were to happen AIDEA would use its bonding capabilities. He offered his belief that this request for appropriation is the only appropriation necessary that he can see. The advantage of the Accelergy process is it has a much smaller carbon footprint than the Fischer-Tropsch process. The Accelergy process also produces carbon dioxide (CO2) that can be reinjected into Cook Inlet gas fields to aid in gas production in Alaska. Jim Hemsath, Deputy Director of Development Finance, would be managing the project for AIDEA. He offered his belief that the project would meet with AIDEA's strategic plan to work with more private companies, as well as researching new technologies as it has previously done at the legislature's request.

MR. DAVIS referred to a previous question, which was whether this project was consistent with AS 44.99.115, the declaration of state energy policy. He indicated AS 44.99.115 (3)(B) calls for applied energy research and development of alternative and emergent technologies. This technology is emergent since it is

a new technology and while it is currently under production, the technology may be used to develop JP-8 fuel as a primary fuel for the USAF. The other intriguing aspect is it could be used for the newer JP-5 fuel, which is used in fighter planes such as the F-15 Eagle and F-22 Raptor. He commented that Alaska has a full complement of F-22s. He reiterated that the only phase of the project would be the certification process, the requested funds would be matched by Accelergy, and the project is consistent with AIDEA's mission to support the major economic sectors of Alaska's economy, such as the military. He reported that approximately 80 percent of all federal funding in Alaska relates to the military, Alaska desires to keep a military presence, and the availability of synthetic coal fuels would be advantageous to maintain a military presence in Alaska.

2:17:10 PM

REPRESENTATIVE PETERSEN surmised that coal would be tested in more than one location in Alaska. He asked which areas of coal would be tested.

MR. DAVIS explained that Usibelli coal would be tested at Healy, but Accelergy would probably test Chuitna coal and any other mines that wished to be tested. However, the main interest has been in Usibelli coal, he stated.

REPRESENTATIVE DICK noted that Pennsylvania just invested $1.6 million to do the exact same project. He asked why it would be necessary for Alaska to appropriate $500,000.

MR. DAVIS relayed that the USAF has requested that each locality support the program. He noted that Pennsylvania and North Dakota are each appropriating funds.

CO-CHAIR FEIGE asked where the plant would be built if the coal tests out to be usable for synthetic fuel.

MR. DAVIS ventured that it would probably be built near the source of the coal, since jet fuel is often "piped." He anticipated a small footprint encompassing 700 acres, which is much smaller than a Fischer-Tropsch plant.

2:19:15 PM

REPRESENTATIVE SADDLER asked whether the Accelergy process is a proven commercial process for making synthetic jet fuel, and if so, where else it is manufactured in the U.S. or the world.

MR. DAVIS responded that the Fischer-Tropsch process is well known and has been used since 1922. Other processes came out of research conducted during World War II, including the one used by Accelergy. Furthermore, ExxonMobil performed substantial work on this process - including a successful demonstration plant in Texas in the 1990s. However, ExxonMobil decided not to move forward with the process. ExxonMobil has licensed the process to Accelergy and AIDEA has subsequently discussed the licensing issues with them. Accelergy has also acquired additional licenses from Raytheon Company, which has developed a similar technology. He offered his belief that the application should work and the primary question is whether the coal will fit the process.

REPRESENTATIVE SADDLER inquired as to whether a British Thermal Unit (BTU) equivalent per cost unit is available compared to regular jet fuel.

MR. DAVIS offered his understanding that this fuel could be up to 20 percent more expensive. The USAF is interested in domestic supplies. He reported that the 20 percent increase was based on a lower oil price, and could change due to the price of oil. More importantly, a "war college report" issued at the turn of the century that recommended that the USAF develop domestic fuel supplies is reflected in the 2016 target. He recalled that Alaska has always been mentioned as a potential source of these fuels.

2:21:21 PM

CO-CHAIR PRUITT asked what could be expected during the next five years in terms of funding and the process itself.

MR. DAVIS did not anticipate any additional requests for legislative funding. He stated that if the USAF found these fuels to be useful and the commercialization in Pennsylvania and North Dakota "pan out" then there should be enough private sector interest. He envisioned that the private sector would work directly with the USAF to develop a plant using a public-private-partnership (PPP) structure, and perhaps layering federal funds, bonding, and a private company. He reiterated that AIDEA would not request additional funds from the legislature.

2:22:06 PM

CO-CHAIR FOSTER asked whether this is intended to provide fuel for the military located in Alaska, or if other elements outside Alaska could potentially benefit from this.

MR. DAVIS answered that the documents he has reviewed also mentioned other military uses outside the Alaska command. Another use of synthetic fuel could be the Ted Stevens Anchorage International Airport which is now using fuel from Flint Hills Refinery, but could use other sources of fuel.

2:22:48 PM

REPRESENTATIVE DICK sought clarification regarding the use of some natural gas from the North Slope that could help "push" an in-state gas pipeline.

MR. DAVIS answered that may be a little speculative. He agreed this type of plant would definitely need a fuel source and natural gas could potentially provide a fuel source. He suggested the source could be Cook Inlet gas or other natural gas. In further response to Representative Dick, he answered that Accelergy has indicated to the USAF that the fuel is stable, but has not provided a specific shelf life for the synthetic fuel. He agreed that some synthetic fuels are unstable, but according to the tests performed in Pennsylvania, this particular synthetic fuel has proven to be a stable fuel.

2:24:18 PM

CO-CHAIR SEATON asked whether the state would be funding coal testing for a process that's not yet been determined to be commercially feasible.

MR. DAVIS acknowledged that this is somewhat speculative. However, AIDEA would like to certify coal for USAF use in anticipation for further federal funding in support of projects in Alaska. The plan therefore, is to "get in the queue." These funds would determine if the coal could be certified and AIDEA would work with the Department of Defense (DOD) Energy Department to see if it would be interested in using Alaska's coal. He offered his belief that the process works and that the testing thus far indicates that it would be successful. However, even if the coal is certified, it would not guarantee a plant would be built.

2:25:42 PM

CO-CHAIR SEATON said that's somewhat problematic for him since Alaska would be certifying its coal not knowing whether the coal is a commercially viable project using this technology. He asked whether the $500,000 would be used in Alaska, or whether the coal would be sent to another state for analysis.

MR. DAVIS responded that AIDEA's intent is to have the work performed in Alaska, although he could not guarantee Alaska has the necessary technology to do so. He reiterated that the initial intent is to perform the work in Alaska.

CO-CHAIR SEATON then asked whether the certification process will analyze coal at the University of Alaska Anchorage (UAA) or if UAA has the ability to do the work.

MR. DAVIS answered that he was uncertain if Alaska has the capability to do so. He ventured his understanding that AIDEA would work with Accelergy on the certification issues related to the coal. The coal would need to be tested, any coal sources would need to be identified, and a business plan would need to be developed. He related that if the coal is certified, a partial business plan would be to make Alaska's coal attractive to DOD, and encourage DOD to build a plant in Alaska.

2:27:52 PM

CO-CHAIR SEATON asked whether DOD would require state matching funds.

MR. DAVIS indicated that the reports from the USAF would require local government support for the certification process.

CO-CHAIR SEATON related a scenario in which the plant would be developed in Alaska and DOD contributed funds. He clarified his interest in whether that process would require local or state matching funds.

MR. DAVIS acknowledged he has been primarily focused on the certification process. He offered his belief that building a local plant would likely just use the typical economic development systems, such as AIDEA working with the private sector.

2:28:43 PM

CO-CHAIR FEIGE asked for the potential quantity of a proposed coal to liquid plant.

MR. DAVIS responded that a proposed plant would produce about 60,000 gallons initially, but would "ramp up" after startup. In further response to Co-Chair Feige, he related his understanding that the plant would start small and would then expand.

CO-CHAIR FEIGE asked for an estimate of the number of gallons of synthetic fuel per day the military would use.

MR. DAVIS stated he was unsure. He stated that 10 percent of the fuel used in the U.S. each day is used by the USAF.

CO-CHAIR FEIGE pointed out that the materials included in members' packets indicated that a coal to liquid facility may be based at Tyonek, with testing of the Department of Natural Resources (DNR) and Mental Health Trust coals in and around Tyonek. He stated that the materials do not mention any testing at Usibelli near Healy.

MR. DAVIS surmised that the village of Tyonek has an agreement with Accelergy, although he is not privy to the agreement. Thus, Tyonek coal would be tested if support for it exists. However, AIDEA believes that the readily available coal at Usibelli should also be tested. In further response to Co-Chair Feige, he opined the agreement is probably a memorandum of understanding. He reiterated he had not seen it.

CO-CHAIR FEIGE asked how Alaska would benefit from testing the coal. He pointed out the state has leased coals to PacRim Coal, LLC (PacRim) and Usibelli, and he did not think the state would see any additional monies since the coal would be diverted from Korea to a proposed Accelergy plant.

2:31:16 PM

MR. DAVIS answered that the long-term plan would be to export coal to other plants. Another aspect would be to hopefully build a plant in Alaska to create local employment. Another long-term goal would be to have fuel developed from Alaska sources to enable Alaska to become a strategic location for the USAF.

CO CHAIR FEIGE asked for the reason that AIDEA would be involved except for the USAF to see local buy-in. He anticipated that the coal would be sold by Usibelli or PacRim from their lease blocks. He inquired as to whether it would be more appropriate

for the coal companies to invest $500,000 more, instead of the state.

MR. DAVIS answered he was not sure why the USAF has asked for state contribution, but it has done so. He characterized AIDEA as an appropriate choice since it has engineers on staff that can work with the process. Further, AIDEA would prefer to develop value-added manufacturing in the state, rather than exporting raw materials.

REPRESENTATIVE DICK offered his understanding that the analysis would stay with the coal since it does not belong to Accelergy or any other company. Thus, Accelergy could be viewed as providing half the cost and that investment could be viewed as an advantage to the project.

2:34:15 PM

IVAN IVAN, Administrator, City of Akiak, relayed that Akiak submitted the capital budget request for the Akiak Community Electrical Generation System Upgrade since the community has had problems with its generator. Last year AEA staff winterized the generator and changed some of the transformers. However, a three-day-outage shut down the power - including cell phone usage - so it was necessary for him to go as far as Kwethluk in order to call for help.

MR. IVAN relayed that currently the generator building is small and houses two under-200 kilowatt (kW) generators. Alaska Energy Authority assisted Akiak by installing a rebuilt generator that kept the city going through the winter. He stated that Akiak also provides power to the schools. Thus, he has had nightmares and the ongoing concern over the reliability of the city's generator and was fearful of recurrences of the power issues. Therefore, the City of Akiak submitted a capital budget request to Representative Herron and Senator Hoffman to upgrade the electrical generation system. At the same time, he has continued to work with AEA on Akiak's generator issues.

MR. IVAN related that everyone in the community supports the capital budget request for $4 million, including the school system, and the early childhood programs concerned about students. Additionally, the airport administration has had concerns about power for its medical evacuation process. He stated that since 1990 the community of Akiak has been strongly affected by the issues of power. He expressed concern about elders in the community not having power for their homes. He

offered his belief that the upgrades will lower the cost of electricity to customers and will result in fuel cost savings. Under the proposed funding, the conceptual design would support what has already been done by AEA. The next step would be construction of the project. He thanked AEA for its help and for the committees' assistance in getting this project completed as soon as possible.

CO-CHAIR FOSTER recognized Representative Craig Johnson.

2:42:14 PM

REPRESENTATIVE PETERSEN asked for clarification on how many gallons of diesel fuel would be displaced by operating the new equipment.

MR. IVAN related his belief that the generators are of age. Alaska Energy Authority rebuilt one engine last winter, but since the generators are old he has assumed they also use more fuel. He stated that this fall and winter the City of Akiak used a lot of fuel. He recalled the generators are a 180 kW and a smaller 60-70 kW generator that was necessary to provide power to the high school. The city will also review adaptability of the upgraded system in hopes that wind-generation technology and perhaps hydroelectric power will be compatible to the upgraded generator system.

2:44:25 PM

CO-CHAIR PRUITT noted that another point to consider is not just the amount of fuel, but how this would reduce the total cost of energy to consumers.

MR. IVAN offered that one generator could provide power to the entire community instead of running the old generator with a smaller one as is currently done. This should "save" the community.

CO-CHAIR PRUITT pointed out to testifiers that the committees are interested in any cost savings to the state and consumers as they consider the projects to fund.

2:46:20 PM

CO-CHAIR FEIGE noted that he has flown to Akiak several times. He asked what other types of alternative energy were researched besides more efficient diesel generation. He inquired as to

whether hydrokinetic or other types of alternatives have been considered since the Kuskokwim River is nearby.

MR. IVAN answered that the City of Akiak has worked with AEA on the potential for wind generation and will continue to research that issue further. He noted that last fall someone in the community considered the river current, but didn't have the technology to properly assess it. He acknowledged the need to assess alternative energy sources. He stated that currently the cost per kW hour is 63 cents and he anticipated that the new generator will further reduce the cost. He hoped the City of Akiak would be able to develop an overall community energy plan.

2:48:54 PM

GENE THERRIAULT, Vice President, Golden Valley Electric Association (GVEA), referred to a PowerPoint presentation, titled "Alaska Legislature Presentation." He stated that GVEA has adopted a mantra within the cooperative, "Kick Our Oil Habit!." He related the graph "Residential Bills" illustrated the cost from $75 per month for electricity in 2004 to a high of $152 per month in 2008, and down to $138 per month in 2010 [slide 3]. This represents the segment of GVEA's oil-fired generation. Golden Valley Electric Association continues to work to move away from oil-fired generation, he said, and has taken steps to diversify its portfolio, including the SNAP project, which allows for small distributive generation to come into the GVEA grid. Additionally, GVEA now offers SNAP-Plus, in which people install smaller generators to bring in power from renewable sources. Golden Valley Electric Association also taps into the Bradley Lake Hydroelectric Project (Bradley Lake hydro). The Eva Creek Wind Project is pending and ultimately GVEA would like to avail itself of power from Mount Spurr and the proposed Susitna Hydroelectric dam. He referred to page 3 [slides 5 and 6] which showed a map and photograph depicting the location of Eva Creek, just north of the coal mine in Healy. A red line depicted the Parks Highway and the Alaska Railroad, which run alongside the highway. He pointed out that the Eva Creek Wind Project site is about six or seven miles across the Nenana River. Little vegetation exists in the area which consists primarily of scrub brush.

2:52:22 PM

MR. THERRIAULT referred to page 4 of the PowerPoint [slides 7-8] which provided flow analysis results. His company used a previous state grant to place towers at the exact height of the

proposed turbines and the wind has been mapped over a number of years to obtain a flow analysis in order to determine the optimum sites to place the turbines. He pointed out that the closer to the color red on the map indicated the better wind regime. The goal is to capture the strongest wind regime, he said. The historical data indicates peaks - not a steady flow - so generation would need to augment the turbines during times when the wind is not blowing or slacks off [slide 8].

MR. THERRIAULT referred to a photo of the location adjacent to the Northern Intertie and project financing on page 5 [slides 9-10]. He stated that a drilling rig indicated the site of the proposed substation. He offered one reason GVEA focused its attention on the Eva Creek site is because the Northern Intertie cuts directly across the property. He commented that wind generation is found where people do not want to live, so costs to connect to the grid are greatly reduced. Golden Valley Electric Association is able to bring in the project since it has Clean Renewable Energy Bonds (CREB) and a $2 million renewable energy grant from the state that allowed it to perform pre-engineering work.

MR. THERRIAULT advised that page 6 outlined the cost to the ratepayers at 2.1 percent interest, which is far below the cost of most other projects [slides 11-12]. He reported the total anticipated cost of the project at $90 million, which would result in an annual debt service of approximately $6 million. He related that the operating cost is expected to be $1.5 million, and would result in power being produced just under 10 cents per kWh, exclusive of regulation cost. He indicated that GVEA believes it will be able to bring generation into the system and not cause customers' rates to increase. He offered his belief that the rate would drop by about 10 percent if the state funds the capital appropriation. This could result in a slight reduction in customer rates in Interior Alaska. He pointed out some costs associated with wind energy, and that GVEA must nominate for its power needs a day in advance for any power from the Northern Intertie. Additionally, it must notify a day in advance for any gas-fired generation purchased from Southcentral Alaska. However, any power not used must still be purchased, although these sources of power may be less expensive than the wind power. The sources of power that typically are cheaper for GVEA's customers come from coal plants, but if GVEA throttles back on its coal plant it would get to a point in which the plant must be shut down. At that point it loses its thermal mass and takes considerable energy to bring it back online. This illustrates some of the difficulty in bringing on

a variable, renewable wind source. However, he projected that GVEA believes with its existing blend of generation, it will have the capability of bringing on an additional 25-27 megawatts (MW) of power generation. This amount makes it cost effective to "chase that wind regime" in a manner that makes economic sense for GVEA's ratepayers.

2:58:19 PM

MR. THERRIAULT referred to page 7 of the PowerPoint Presentation [slides 13-14]. The information on the slides showed the blend of power [slide 13]. He explained some terms, including that AE refers to Aurora Energy, a coal-fired plant in downtown Fairbanks. The maximum output is 24 MW and GVEA purchases all the power from that plant daily. The Healy plant ranges from 18 to 28 MW and is generally run at full power. He referred to North Pole (NP) 3&4, which is a combined heat plant with gas and steam. The "Econ" and "Bradley Lake (BLH)" are resources purchased over the Northern Intertie. He explained the variables listed on the Spilled Wind chart, which illustrated that when the demand is down, GVEA is buying all of the energy from the coal-fired plants, and some from the NP plant as well as 63 MW from the Intertie. In autumn, as the temperatures drop, GVEA runs the coal-fired plants, purchases from the Intertie and adds capacity from NP generation. During the winter months, GVEA purchases as much coal as it can, is near maximum output for its NP plants 3&4, and begins to use the NP 2 plant, which is liquid fuel generation that is more expensive than generation from NP 3&4. Additionally, GVEA continues to purchase as much as it can from the Intertie. That blend of generation allows GVEA to throttle back on the NP 3&4 plants and use 25 MW of wind power. The second slide on page 7 indicated the comparison between a 25 MW wind farm and a 50 MW wind farm [slide 14]. Using historical data, it shows how much MW power could be incorporated on a monthly basis. He explained that during the winter months, GVEA could incorporate all of the wind, since liquid-fired generation could be throttled up or down. During the summer months it generally wouldn't make economic sense to use all of the wind generation since cheaper sources are available. He explained the term "spilled" as a term that comes from hydroelectric days in which a source of energy exists, but other cheaper sources exist so the water is "spilled" or in this case, the wind is "spilled." Thus, on an annual basis GVEA would be spilling 1,183 MWhs of wind from a 25 MW farm, but from a 50 MW farm, would spill 20,630 MWhs. He concluded that this illustrated that the plant is sized

correctly for the capacity GVEA could use in its existing blend of generation.

3:02:17 PM

MR. THERRIAULT referred to the Eva Creek Wind Project handout. He briefly reviewed some "Fast Facts." He said that GVEA estimates the completion date for the project as the last quarter of 2012, which means the plant could be brought into production fairly quickly. The Eva Creek Wind Project would produce 24-25 MW depending on the turbine generators selected. It would consist of 12-16 wind turbines located near Healy, cost $90 million to build, and $1.5 million annually to operate. In addition, GVEA does not anticipate the Eva Creek Wind Project would increase its customers' rates and actually could lower the energy rates slightly. The Eva Creek Wind Project is located near the Northern Intertie, so it would not cost much to bring the additional power into the grid.

MR. THERRIAULT said the Denali Borough and the Greater Fairbanks Chamber of Commerce have passed resolutions indicating their support for the Eva Creek Wind Project. He pointed out a survey of GVEA members demonstrated the change in attitude of its members from 2000 to 2003, and motivated the GVEA's Board of Directors to begin to study wind power. The board has asked for final estimates by June or July, so it can make a final decision. He mentioned that this project has been vetted by the AEA; in fact, the project is also included in the renewable energy appropriation request of $1.4 million. He reiterated that AEA has vetted this project and deemed it to be worthy of progressing.

3:05:22 PM

CO-CHAIR PRUITT referred to the $90 million total cost, noting the $10 million capital budget request currently under consideration. He asked whether GVEA's intent is that bonds would cover the remaining costs, or whether GVEA will come back to the legislature for further funding.

MR. THERRIAULT explained that the combination of past legislative appropriations, this request for $10 million, and the ability for the cooperative to access CREB bonds will bring GVEA to total funding of the project. He reiterated that the project could be brought up to production fairly rapidly, so there would not be any need for GVEA to request additional state funding. Even though GVEA has mapped a wind regime that could

be expanded in the future, the current power generation blend seems ideally suited to bring on the project as it is currently envisioned. He said circumstances would need to change before GVEA would consider any wind turbine expansion, since it does not make economic sense to expand beyond the scope of this project.

3:07:14 PM

CO-CHAIR PRUITT asked whether there were other sites considered and why the Eva Creek site was chosen.

MR. THERRIAULT explained that there were two other sources under consideration by the board: Cook Inlet Region Inc. (CIRI) Fire Island and Delta Wind. At that time the estimated cost for Fire Island wind power was projected at 11 cents per kWh and the Delta project was estimated at 14 cents per kWh. Therefore, the Eva Creek Wind Project - at an estimated cost of 10 cents per kWh - ended up to be the less expensive project. He pointed out that the projects all would have the same cost of integration for the operation costs. Because the engineers at GVEA were able to "levelize" the cost of generation, the board decided to move forward with the lowest cost project.

CO-CHAIR PRUITT commented that the committees received a list of several projects identified as priorities of the Alaska Railbelt Cooperative Transmission & Electric Company (ARCTEC), but this project was not included.

3:09:48 Pm

MR. THERRIAULT offered his understanding that ARCTEC projects are primarily comprised of distribution projects, and although GVEA is very supportive of the project, it decided not to push for inclusion on ARCTEC'S list. He offered his belief that GVEA's project does not run counter to anything ARCTEC has suggested. He clarified that the cost comparison given at GVEA's February meeting for the cost of power generated from the Eva Creek Wind Project was without any of the additional state monies that have been requested. Thus, the Eva Creek Project represented the project with the lowest cost even without the state's capital budget request currently before the committee.

CO-CHAIR PRUITT questioned whether any connection transmission costs are included.

MR. THERRIAULT answered the proposed costs include transmission costs.

3:11:35 PM

CO-CHAIR SEATON referred to page 4 of the PowerPoint presentation. He asked whether the project would be able to tap the total 8.54 MW.

MR. THERRIAULT acknowledged that 8-9 MW represents an average based on the annual energy produced, which also takes into consideration wind fluctuations. He stated that GVEA can accommodate 25 MW, but can also "ramp down" for lower levels.

CO-CHAIR SEATON questioned whether this would be generated power and not power available from wind. He clarified that this relates to wind generated and not energy to be tapped.

MR. THERRIAULT agreed the estimate related solely to generation from the wind turbines. In further response to Co-Chair Seaton, he answered that the integrated costs for the Eva Creek Wind Project would be right around 4 cents per kWh.

CO-CHAIR SEATON referred to the Ormat Technologies Project, Inc. (Ormat) project which he identified as a renewable power project. He related his understanding that the project has not moved forward due to a lack of a power sales agreement. He recalled the estimate was based on 12-13 cents per kWh, but it may drop to 10 cents per kWh with state involvement. He pointed out that the proposed Ormat project cost is estimated at 10 cents per kWh without any integration, and would generate 50 MW of constant power. He asked for the reason that GVEA would opt for a wind source that requires integration instead of purchasing commercially available power. He further asked for clarification on any discussions.

3:15:47 PM

MR. THERRIAULT understood that Ormat is trying to prove-up its geothermal resource. He said that GVEA is certainly interested in any source of non-oil-fired generation that would allow it to move away from oil. However, with respect to power generation in Southcentral Alaska, GVEA would need to be certain it would make economic sense and other sources of less expensive power were not available. He offered his belief that Ormat could beat oil-fired power costs, but he was unsure whether it could beat existing coal-fired power, or the Eva Creek wind-generated power

costs after factoring in seven percent line-loss from Southcentral to the Interior. He assured Co-Chair Seaton that GVEA would research the numbers to determine if it makes economic sense for a future power generation blend.

3:17:08 PM

REPRESENTATIVE SADDLER asked for the general prevailing cost per kWhs from North Pole and Aurora power.

MR. THERRIAULT estimated that it would be 20-21 cents per kWh.

3:17:32 PM

MIKE WRIGHT, Vice President, Transmission and Distribution, Golden Valley Electric Association (GVEA), added that the cost for oil-fired generation from the North Pole Expansion Plant is about 16 cents, and for the older oil-fired generation, the cost ranges from 20-21 cents per kWh. He recalled that for Aurora - a coal-fired plant - costs run approximately 5 cents per kWh. Additionally, some smaller oil-fired generation reaches into the 30 cents per kWh range, so it is used sparingly, he said.

REPRESENTATIVE SADDLER surmised that the Eva Creek Wind Project would be a cost advantage. He asked whether the $10 million requested for this project is critical to obtaining the CREB monies or if GVEA would buy-down the amount of bonds necessary.

MR. THERRIAULT answered that the capital budget request would lower the amount that GVEA would need to borrow.

REPRESENTATIVE SADDLER asked how GVEA would use the $10 million requested.

MR. THERRIAULT explained that GVEA will use the funds for infrastructure, noting that a substation will be needed to get the power into the grid. The drill rig shown in one of the photos has been used for geotechnical work to identify the location of the proposed substation. He identified that some additional work is needed on the road leading to the site. He said he anticipated the $10 million would cover the supporting infrastructure for the plant, though not necessarily the turbines themselves. The $1.4 million that was part of the Renewable Energy Fund grant will be used to support the turbine purchase. In further response to Representative Saddler, he indicated that the board presented the request to the legislature. He said the capital budget request was based on

the legislature's support for wind power, and on the size of the proposed Eva Creek Wind Project.

3:20:31 PM

REPRESENTATIVE TUCK referred to GVEA's daily purchase of power generation, and asked what occurs if GVEA under-forecasts its needs.

MR. THERRIAULT answered that GVEA would need to make up the power with its generation in the Interior. He related that GVEA's goal is to obtain as much power from the Northern Intertie that it can, noting that power varies from day-to-day and month-to-month.

REPRESENTATIVE TUCK asked whether this project would still be financially feasible if the state offered a low-interest loan, or if the $10 million block grant is required in order to move forward.

MR. THERRIAULT responded that the project would still be feasible without the state funding, although GVEA is attempting to reduce costs for its ratepayers, he said. He related that the CREB bonds are 2.1 percent interest bonds, so the interest rate on a loan from the state would need to come in below that.

3:22:25 PM

CO-CHAIR FEIGE asked what the plan is for replacing the wind turbines, and how that is figured into the project cost.

MR. WRIGHT relayed that the projected life of the turbines is 20 years. At that time, the turbines would be evaluated for replacement. He clarified that the $90 million project cost is to finance the total cost at 2.1 percent over the 20-year life. He reiterated the life of the wind farm itself is estimated at 20 years.

3:23:41 PM

CO-CHAIR FEIGE asked how horizontal access windmills avoid uneven icing on the blades, and whether there are other designs less prone to icing.

MR. WRIGHT explained when studies were first done in 2003-2005, GVEA considered the Murphy Dome location near Fairbanks. However, that area had a severe icing problem. Although very

little icing has occurred during the wind study at Eva Creek near Healy, the turbines would shut down during heavy icing. Furthermore, a lot of research is underway regarding deicing methodologies, he said. He acknowledged that icing could cause the turbines to be shut down.

REPRESENTATIVE TUCK related that AEA procedures to administer grants are incremental in order to make sure that the projects meet certain criteria as they advance. According to the PowerPoint presentation, $2 million has been granted to the Eva Creek Wind Project. He inquired as to whether this project has met all the requirements required by AEA up to this point.

3:27:43 PM

PETER CRIMP, Deputy Director, Alternative Energy & Energy Efficiency, AEA, stated the Eva Creek Wind Project has done quite well. The project has been reviewed by AEA, and AEA recommends full funding following GVEA's board's decision to proceed. At this point, AEA is prepared to fund turbine procurement, which reflects a project that has been moving along smoothly.

REPRESENTATIVE TUCK asked whether AEA would ordinarily make its own recommendation on a project such as this.

3:29:29 PM

MS. FISHER-GOAD clarified that when Mr. Crimp said AEA recommended full funding, the approval was based on a request for the project through the Renewable Energy Fund "under the cap program." She said this project is considered a viable project and the project proponent has simply been seeking sources of funding. She related that because of the cap, AEA would not be able to recommend a $10 million funding request. However, this capital budget request is an avenue for project proponents to seek other funding for their projects.

REPRESENTATIVE TUCK inquired as to whether she could outline the conditions in which AEA would want to move a project forward that is not in CAPSIS.

MS. FISHER-GOAD advised that through the Renewable Energy Grant program, AEA has compiled a list of potential projects that could be constructed regardless of funding. A project like this could move into a Renewable Energy Fund process if AEA solicited specific projects for funding from a pool of several hundred

million dollars. The Renewable Energy Fund has statutory limitations, plus "regional spreading" so AEA placed "caps" on projects. She recalled stating earlier that AEA would like a broader solicitation for larger projects in Round V of the Renewable Energy Fund process. She offered her belief that the Eva Creek Wind Project is a viable project. She predicted that if the legislature appropriates this grant, AEA will manage the project according to the AEA processes previously mentioned. She clarified that the Eva Creek Wind Project was not denied via the Renewable Energy Fund, but it did not fit into the application criteria. She remarked that for several of these projects, the requests are for greater dollars than are typically issued for that program.

REPRESENTATIVE TUCK then understood that $2 million is the most that the project could have received via the Renewable Energy Fund process. He apologized as he thought she was referring to the CAPSIS system, not a cap on the amount of funding through the Renewable Energy Fund.

REPRESENTATIVE FOSTER introduced presenters of the Homer Area Natural Gas Pipeline.

3:33:40 PM

WALT WREDE, City Manager, City of Homer, stated that Homer is located within the ENSTAR Natural Gas Company (ENSTAR) service area and is close to productive wells. Wells drilled on the North Fork Road less than 20 miles from Homer have gone into production, and the gas is flowing to Anchor Point and north to Ninilchik. Homer has literally been attempting to get natural gas service for decades; however, the Homer area is spread out and populations have not been large enough to warrant transporting gas to Homer. He opined the City of Homer believes this project, the Homer Area Natural Gas Pipeline, would be a huge benefit to the community and to the state.

MR. WREDE related that Phase I of Homer Area Natural Gas Pipeline was approved by the legislature last year and Phase I construction is now complete. The project was initially envisioned as a smaller project which has since grown. Legislative intent language was attached to the capital budget asking the City of Homer to make provisions for the gas pipeline to extend beyond Homer - to the east into Kachemak City. Additionally, the pipeline route has changed from the original plan, and has been extended seven to eight miles to serve the neighboring community, which has also increased the overall

project cost. The completed Phase I project was construction of 3,200 feet of pipeline and cost $525,000, which included a pressure reducing station in Anchor Point. The pressure reducing station was necessary in order to handle highly pressurized gas from the oil fields.

MR. WREDE continued to explain that the capital budget request now before the legislature would be to fund Phase II of this project. Phase II would bring the natural gas line from Anchor Point through the Homer city limits and on to Kachemak City. He emphasized the request is for the state to fund the main transmission line to transport the natural gas to Homer. He said, "After that, local residents will take it from there." In response to an earlier question, he indicated the project was listed in the AEA programs. The City of Homer will be providing more than 50 percent matching funds if the total cost of the project is considered. He reiterated this $10,053,000 request would fund the large transmission line that would bring the natural gas to Homer; however, ENSTAR estimated that at least 110 miles of 2-inch main line will have to be constructed for each street within the Homer city limits at an additional cost of approximately $10 million. Construction cost for these main lines will be paid for from local sources, he said. He added that a number of residences between Anchor Point and Homer would also need to pay for their distribution systems.

3:37:55 PM

MR. WREDE said despite the project's title, it is actually a regional project because it will benefit the entire southern Kenai Peninsula. The Homer Area Natural Gas Pipeline is ranked number two on both the City of Homer and the Kenai Peninsula Borough's (KPB) capital improvements list. The only reason the project is not the number one priority was due to mandates that ranked the Department of Environmental Conservation (DEC) projects higher. Additionally, the Kenai Peninsula School District, the Kenai Peninsula Borough Economic Development District, Inc., Kachemak City, the South Peninsula Hospital, the Chamber of Commerce, and the Board of Realtors have all expressed support for project.

MR. WREDE referred to potential savings listed in the "City of Homer State Legislative Request - FY 2012, Homer Area Natural Gas Pipeline." He pointed out a comparison of the monthly costs for an average household using natural gas, number one fuel oil, propane, and electricity. He called attention to a document titled "Summary Comparison of Natural Gas and Fuel Oil Costs in

Homer Area Public Facilities" which indicated the Kenai Peninsula School District would save $367,000 per year by converting to natural gas. Additionally, the City of Homer would save $105,000 per year, and the total savings for the cost of heating public buildings after converting to natural gas, would be well over $1 million per year. He noted that many of the buildings on the chart are state buildings so the project could provide significant savings to the state.

3:40:50 PM

MR. WREDE reiterated the capital budget request of approximately $10 million would be to construct a natural gas pipeline to the City of Homer, and the remaining costs for constructing main lines to serve businesses and residences would be funded entirely from local sources. He related that the Homer City Council has assigned a task force to determine ways to finance the local costs, and will consider local improvement districts or special service areas funded by property taxes. Additionally, ENSTAR has a process to finance these types of projects through the RCA. He estimated that the build-out time would be 10 years, but he anticipated a considerably shorter timeframe to service the core area of Homer. He referred members to a large map in members' packets titled "Public Facilities Within Homer City Limits to Benefit from the Homer Area Natural Gas Pipeline." Numbers on the map identified public facilities, which are the facilities most likely to initially convert to natural gas. In fact, the City Hall will convert to natural gas during a remodel, and the City of Homer will quickly convert many of its other facilities to natural gas, including the police station and fire hall. He acknowledged that main lines would need to be constructed in order to connect these facilities but he envisioned the "domino" effect the natural gas line could have in neighborhoods. He reiterated that the downtown core would be hooked up to natural gas very quickly.

3:42:55 PM

REPRESENTATIVE FOSTER recognized Senator Huggins.

REPRESENTATIVE TUCK asked whether the entire Homer natural gas project would include distribution lines into homes and facilities. He asked for the total cost of the project.

MR. WREDE responded that the total cost would be over $20 million for City of Homer to install the main lines.

REPRESENTATIVE TUCK expressed interest in the project scope and offered his belief that the transmission lines could be a "stand alone project" and if so, the project would be 100 percent state-funded.

MR. WREDE agreed the transmission lines could be a "stand-alone project." According to ENSTAR the project could be completed within a year, he stated. He said he did not have an exact timetable for the build-out since the City Council has not yet settled on a financing mechanism. However, he anticipated the downtown core would be completed within five years.

REPRESENTATIVE TUCK asked who would own the project.

MR. WREDE answered ENSTAR would own the project. He said the City of Homer "is not getting into the gas utility business."

REPRESENTATIVE TUCK asked why ENSTAR is not promoting the project.

MR. WREDE answered that he was uncertain. He suggested that ENSTAR may have felt it would be better to be neutral on the project.

REPRESENTATIVE TUCK asked what would happen if once the natural gas line is completed, the City of Homer could not get its main distribution lines completed.

MR. WREDE said, "That's hard to imagine."

3:46:23 PM

REPRESENTATIVE TUCK assumed that the customers would pay for the main distribution lines.

MR. WREDE answered it is likely that the customers would pay one way or another, unless the Homer City Council fronts money to make it happen more quickly. He reported that Kachemak City's city council has already voted to raise the mill rate in order to construct the natural gas main lines. However, the Homer City Council has not yet made that decision. In further response to Representative Tuck, he offered his belief that Homer would likely obtain the up-front money. However, the funding is not guaranteed since the Homer City Council has not yet taken any action. In the event the Homer City Council decided not to finance the remaining project costs via a local

improvement district, raising the mill rate, or selling bonds, then consumers would use the existing process through RCA sanctions to fund the distribution lines. He reiterated his belief distribution mains would be constructed right away given that institutions in downtown Homer are clustered in close proximity to one another. He thought it would be very beneficial for neighborhoods to "just jump right in there."

REPRESENTATIVE TUCK commented that he hoped Homer residents would be able to get natural gas to their homes.

3:47:39 PM

CO-CHAIR FEIGE said he has been grappling with how the state would obtain a return on its $10 million investment for this project. He assumed that if gas prices stayed reasonable, the annual savings would be about $50,000 on a 20-year rate of return. He inquired as to whether ENSTAR should build the natural gas line and add it into the ratepayers' costs. He reiterated his question on why the state would invest in this project.

MR. WREDE related that the project is consistent with the state's energy plan. The energy plan identifies the state's goal to reduce costs to consumers and to seek a reliable energy source. This project has also been consistent with the City of Homer's climate action plan to reduce carbon dioxide (CO2) emissions. He indentified natural gas as a cleaner-burning fuel. While there may not be an immediate return to the state, it would still be in the state's best interest. He was not sure he could adequately answer why ENSTAR does not just construct the natural gas line and pass through the cost to its ratepayers. He recalled that previously the project was not viable due to the small population in Homer and the lengthy payback period on the costs. It has been frustrating to residents due to the proximity of natural gas. He related that people really want gas, yet the natural gas line has not been built. That's why the City of Homer has requested state assistance to "just get the gas to Homer" and the local residents will do the rest.

3:50:05 PM

CO-CHAIR FEIGE related that the Cook Inlet gas supply is diminishing. He cautioned building this project would place additional demand on the gas supply. He asked whether Homer

would allow gas drilling within its city limits in order to increase the natural gas supply.

MR. WREDE answered no oil and gas leases applications fall within the city limits. In further response to Co-Chair Feige, he responded that drilling has not currently been restricted, but he was not aware of anyone who has applied for a lease.

CO-CHAIR FEIGE surmised it would potentially provide a way for the state to recover its investment in the natural gas line.

MR. WREDE recognized Cook Inlet diminishing gas supplies were of concern during the last legislative session. He recalled the legislature discussed rolling blackouts due to natural gas shortages. He suggested that the situation has changed a little bit since the legislature approved additional incentives for drilling in Cook Inlet. He said it looks "like that is starting to bear fruit. We're starting to see some jack-up rigs move ... in. In fact, we're going to be hosting one of them at a dock in Homer." He indicated that new wells have been drilled on the North Fork Road and other companies are drilling. Furthermore, the legislature approved a storage facility in Kenai which will also help during "those tough times." He pointed out that ENSTAR has signed some new contracts for natural gas. He remarked that Homer is heartened to see $200 million is in the state's capital budget for the bullet line. He did not think Homer considers this to be a short-term solution. He emphasized Homer wants to be connected to the distribution grid, so when more gas is discovered or a bullet line is built that Homer will be part of the system.

3:52:47 PM

REPRESENTATIVE SADDLER asked for the amount of the reserves at the Anchor Point producing wells. He expressed the same concern about the supply of Cook Inlet natural gas. He requested information on the geological estimate on the amount of available gas in this area and North Fork Road.

MR. WREDE agreed to provide that information to the committee.

REPRESENTATIVE SADDLER recalled $20 million in costs were mentioned for this project. He asked what other costs would be involved in order to hook up to the natural gas.

MR. WREDE restated that the $10 million in costs would only cover mainlines in the streets. He stated that some customers

would need to convert from oil, propane, or electric, as well as the cost associated with installation of the service line to the house. He estimated that the cost would be substantially more.

3:54:27 PM

BILL SMITH, Member, Kenai Peninsula Borough Assembly, stated that there are 3,462 residential units, 280 commercial units, and 33 public facilities that would benefit from natural gas. He estimated that bringing service lines from the main street to the buildings, supplying them with a meter, and installing gas pipes and conversions would cost roughly $13 million. He offered to provide more details.

3:55:05 PM

REPRESENTATIVE SADDLER related his understanding that Homer is Alaska's only Nuclear Free Zone. He inquired as to whether there is any active organized resistance against using fossil fuel in Homer.

MR. WREDE has sensed strong support for natural gas in Homer. He opined that there will always be some individuals who are opposed to development.

3:55:49 PM

REPRESENTATIVE PETERSEN recalled that Armstrong Cook Inlet, LCC (Armstrong) has been drilling in the Anchor Point area and projected production of four to five times over the Homer area residents' needs. Therefore he offered his belief that this project would not likely cause any immediate shortage in natural gas.

3:56:34 PM

REPRESENTATIVE GARDNER observed that the state will fund the full cost of the major part of the pipeline, yet the line would be owned by ENSTAR and regulated by the RCA. She asked whether the tariff would be reduced since the state "put up the money."

MR. WREDE answered that ENSTAR cannot benefit directly from a state legislative grant, thus consumers would benefit, if anyone benefits from the project.

CO-CHAIR PRUITT asked how a typical consumer would benefit from this project.

MR. SMITH said that a typical home using 1,200 gallons of fuel oil for heating and hot water would save 70 percent of the energy costs, which would be about $3,300 per year. The average cost for a residential conversion for a service line, a meter, and gas piping would be about $3,700 per household. Therefore, the customer would almost break even during the first year of converting to natural gas, he said.

CO-CHAIR SEATON pointed out that ENSTAR - which is the sole regulated utility for the Matanuska-Susitna, Anchorage, Kenai, and Homer areas - estimated that adding service to the Homer area would have an insignificant effect on the availability of gas for the entire service area. In addition, he noted that the estimated monthly charge of $120 for natural gas represents $279 in monthly residential savings. Co-Chair Seaton acknowledged that ENSTAR is a private company; however, the RCA granted it a certificate of public convenience and necessity, thus ENSTAR will be operating and owning the system as a regulated utility. Last year's grant for this project was a grant to municipalities through DCCED, which is appropriate, and he expressed his hope that the grant would continue as it did in the past.

4:03:17 PM

MR. SMITH offered to answer some questions raised earlier. In his discussions with Kevin Banks, Director, Division of Oil and Gas (DOG), Department of Natural Resources (DNR), he learned that the state does not own many subsurface rights in the Homer area because much of the area was homesteaded prior to statehood and the subsurface rights are split up among individuals. Mr. Banks indicated a syncline may be under the Homer Spit, although it is more likely to exist in the Diamond Creek area. Three of the City Council members have expressed a willingness to support a resolution for drilling for natural gas, but not with hydraulic fracking or coalbed methane. He noted that Homer is a small geographic area with few possibilities for oil and gas wells. He pointed out that ENSTAR has approximately 130,000 customers and this extension would add about 3,500 customers, which is not a significant increase to ENSTAR's customer base. He suggested that if Homer were restricted from being added to the customer base, it would also be fair to not hook-up anyone else.

MR. SMITH referred to an earlier summary and reported switching from fuel oil to natural gas would save over 433,000 gallons of fuel oil annually just to convert the public facilities. The

Homer Chamber of Commerce and Board of Realtors strongly support this project as they view this as fostering economic development and business opportunities for the area. He referred to language in the energy bill which indicated the state's goal is to create the most cost effective long-term source of energy. He could not think of anything that fits better with this goal than the natural gas line to the City of Homer. He concluded by saying this project is in the state's interest as well as in local interest.

REPRESENTATIVE TUCK agreed that this project is economic development and he recognized the importance of reducing energy costs to all areas of Alaska. He inquired as to who would oversee the procurement and how the contracting would be performed.

4:06:48 PM

MR. WREDE reiterated that Phase I funding was a state grant to the municipality passed through to ENSTAR. The City of Homer had a separate contract with ENSTAR that required it to follow any provisions of the state grant agreement. ENSTAR is treated like a contractor and the city reviews the work.

REPRESENTATIVE TUCK then asked for clarification on the type of bid for the transmission line and whether it was an open bid, design-build bid, or a time and materials bid.

MR. WREDE surmised that ENSTAR would proceed with Phase II in a manner similar to Phase I. He recalled that the City of Homer did not let a request for proposal (RFP). ENSTAR went through its normal process conducting a substantial part of the work in-house, but contracting out the rest.

4:08:28 PM

CO-CHAIR FOSTER announced that the committee would next take up the Homer Electric Association - Soldotna to Nikiski transmission upgrade.

4:08:43 PM

BRAD JANORSCHKE, General Manager, Homer Electric Association, Inc. (HEA), explained that the project is a $25 million project to upgrade the existing 69 kilovolt (kV) transmission line between Nikiski and Soldotna. For background, he explained that HEA has implemented its own power supply plan as its current

wholesale agreement expires in 2013. Part of that plan includes significant investments in transmission and generation, adjacent to and on, the section of transmission line upgraded by the proposed project. The power supply plan aligns with the Railbelt Integrated Resource Plan (RIRP). Mr. Janorschke described other power supply projects undertaken by HEA; in fact, one of the projects utilizes waste heat that was previously sold to the Agrium, Inc. fertilizer plant, but that will now increase power output by about 45 percent. Other projects were to upgrade substations and rebuild transmission lines for a total investment by HEA of almost $200 million. He pointed out that the utilities from Homer to Fairbanks are connected, thus difficulties and improvements affect each one.

MR. JANORSCHKE said that this project does fall within the RIRP, including the expectation that the current transmission grid will encompass new generation resources and the growth of renewable energy such as geothermal or wind energy. Additionally, HEA has signed a memorandum of understanding (MOU) with a tidal firm from Maine in an attempt to develop tidal power near Nikiski. He referred to letters of support in members' packets including community support from the City of Soldotna, City of Kenai, Tesoro Alaska Company, and Chevron.

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ROBERT DAY, Manager, Power Production, Homer Electric Association, stated he is a professional engineer and has spent his career spanning 34 years in Alaska, building and operating electrical systems throughout the Railbelt. He related that he has toured various facilities across the state, including Snettisham Hydroelectric dam and the Red Dog Mine. He acknowledged the many challenges residents of the state face. He pointed out that the electrical system in the Railbelt is interconnected and interdependent - what happens in the north affects the south, and vice-versa. He said he manages the Bradley Lake Hydroelectric (Bradley Lake hydro) installation on a day-to-day basis, and its construction was an example of state funding making a project possible. The utilities operate Bradley Lake hydro, and it benefits a huge number of Railbelt consumers, although it was considered a controversial project at the time it was built. Today, it quite likely produces the lowest cost power at about 4.2 cents per kWh. Bradley Lake hydro is a source of clean, renewable energy with a low environment impact that supports the economy and quality of life for Alaskans.

MR. DAY related that getting the power from Bradley Lake hydro and off the Kenai Peninsula to the northern utilities requires a robust transmission line. During a possible gas curtailment in Anchorage, or further north, Bradley Lake hydro is called upon to fill the gap. Furthermore, connecting the grid makes the system operate as one - sharing resources - instead of as a collection of tiny systems. He observed that the state has stepped in over many years to fund transmission projects such as the Northern Intertie, the Anchorage-Fairbanks Intertie, the Lake Lorraine upgrade, and the Eklutna line transmission upgrade, all of which are helping to build a robust transmission line from Seward and Seldovia to Fairbanks and Big Delta. However, only one transmission line brings power from the Kenai Peninsula to Anchorage. Mr. Day advised that 88 percent of Bradley Lake hydro power heads north on one transmission line, while 12 percent goes to HEA, and cautioned that the transmission line is seriously degraded when generation at Nikiski or Bernice Lake is out of service or not available.

4:17:26 PM

MR. DAY noted that HEA owns a generation plant at Nikiski and CEA has a generation plant at Bernice Lake, both of which depend on the existing transmission line. The proposed project would take the existing sub-transmission line and upgrade the voltage, install a larger conductor, and establish a loop, or two lines, out of the Bernice Lake/Nikiski area. As a result, the generating plants will provide the inertia that enables the transfer of power from Bradley Lake hydro to Anchorage. Mr. Day further explained that without this inertia, the transfer ratio is lower by almost a third. Furthermore, if the project to divert Battle Creek into Bradley Lake moves forward, the energy output from Bradley Lake hydro will be increased, but the power will be stranded on the Kenai Peninsula. He predicted that the two paths connecting this critical generation will allow dispatchers to fully maximize the transfer and use of the Bradley Lake hydropower.

MR. DAY advised that power from Bradley Lake hydro reduces gas demand and use, helps to integrate other renewable energy, reduces cost, and is an important alternative energy source during emergencies and gas curtailments. He pointed out that hydro power is basically clean. Further, this project supports the Bradley Lake hydro transfer by ensuring the availability of high inertia units in the Nikiski/Bernice Lake area. Mr. Day noted the late U.S. Senator Ted Stevens often remarked that Alaska is a young state with small populations, separated by

very large distances. He concluded that under these circumstances, help is required from governmental agencies to build the necessary infrastructure to support Alaska's economy and ensure its future.

4:19:59 PM

REPRESENTATIVE PETERSEN asked whether any savings of power would result by upgrading the transmission lines.

MR. DAY answered yes; although, he clarified the amount is still up for debate as to whether it would be significant. The real problem comes from an absence of a robust line, which means that in the case of a failure, massive transfers are not possible. He acknowledged that this particular project will not solve everything, but it represents "a piece of the pie." He restated the proposed project's inclusion in the RIRP as one of the important components to ensure that the state has a robust transmission line able to efficiently move blocks of power.

CO-CHAIR PRUITT asked for clarification, noting several projects were ARCTEC priorities. He stated this project was not on the list that the committee received.

MR. JANORSCHKE answered that HEA is an active participant in ARCTEC and he is a vice chair on the ARCTEC's board. When ARCTEC compiled its list, this project came in late and HEA was making an effort to limit its capital project requests. At the time none of the utilities disagreed on this project and they recognized the merits of the project. He offered his belief that it wasn't realistic to expect other utilities to remove a project from their region to make way for this one.

REPRESENTATIVE SADDLER asked whether this project would replace an existing line or double the transmission line.

MR. DAY answered that the existing transmission line is much smaller and lower voltage. It would be dangerous to run another line parallel to it since a problem could cause the smaller line to melt. The upgrade would replace the existing line using the current path.

4:24:06 PM

REPRESENTATIVE SADDLER asked whether the $25 million would cover the entire cost of the transmission line upgrade.

MR. JANORSCHKE responded the $25 million represents the entire upgrade. The transmission line would be augmented by the $200 million that HEA is committed to put into the project, as well as the transmission upgrade completed last year on this project. also included is removal of the old transmission line.

REPRESENTATIVE SADDLER understood the reliability, redundancy, and safety benefits. He inquired as to whether customers would receive any reduction in per unit costs.

MR. JANORSCHKE indicated "it would depend." Several areas of the system there have been upgraded over recent years; in fact, HEA built a transmission distribution substation in Homer which allows them to shut down a substation for maintenance that had not been shut down for 20 years. He noted that if for any reason the existing 115 kV is out, then the 4.2 cent Bradley Lake hydropower wouldn't flow north due to the transfer limits of 75 MW down to 29 MW.

4:26:13 PM

REPRESENTATIVE TUCK heard that nationwide there have been increases in power generation and consumption, but the transmission line infrastructure is lacking. He appreciated this project being brought forward to help ensure that Alaska has sufficient capacity and redundancy. He then asked whether the structures that support the existing 69 kV transmission line will be replaced.

MR. JANORSCHKE answered that most of the poles will need to be replaced since the larger connectors will be heavier.

CO-CHAIR FEIGE asked whether sufficient Alaskan contractors are available to do the work.

MR. JANORSCHKE relayed that several contractors and most of the Railbelt utilities could complete such a project. In further response to Co-Chair Feige, he said HEA has sufficient employees and equipment to build the transmission line, and it already replaced one segment last year.

MR. DAY, in response to Co-Chair Feige, said that typically work of this size is done under contract since it ties up the crews for a long period of time. He cautioned that if HEA replaces the line, and an issue arises - such as a storm - its crew may not be available. Determining whether to contract or do the work in-house is a "balancing act." He said it generally

depends on a lot of factors, but it likely would take a whole year to complete this transmission line.

CO-CHAIR FEIGE asked what percentage of available contractors would be necessary to complete this project.

MR. DAY relayed that there are at least 10 qualified electrical contractors in the state who could complete a job of this size.

4:30:12 PM

CO-CHAIR FOSTER announced that the committee would next consider the Mount Spurr Geothermal Project Development.

4:30:26 PM

PAUL THOMSEN, Director, Policy and Business Development, Ormat Technologies, Inc. (Ormat), called attention to a PowerPoint presentation in members' packets titled, "Mount Spurr Geothermal Project," containing answers to the committees' previously submitted questions. He related that Ormat is a publicly traded company and provided a disclaimer for "forward-looking statements." He stated that Ormat is a leader in geothermal power, and operates 553 MW worldwide [slide 4]. Ormat has supplied over 1,300 MW in 24 countries, as well as being vertically integrated. Ormat explores, develops, engineers, manufactures and constructs projects throughout the world and the U.S. Additionally, Ormat employs approximately 500 people in the U.S. and 1,100 worldwide, and is publicly traded on the New York Stock Exchange under "ORA."

MR. THOMSEN relayed that slide 6 illustrated Ormat's commitment to Alaska. Ormat initially got its start by providing 100 remote power units along the Trans-Alaska Pipeline System (TAPS) in 1975. Following that, Ormat had a demonstration project in 1979 with the University of Alaska Fairbanks, and to date has invested $5 million in the Mount Spurr project. In general, geothermal energy has key attributes, such as base-load generation, it is cost-competitive, is highly reliable with approximately 95 percent availability, and is a proven technology with over 11,000 MW deployed worldwide [slide 7]. Geothermal power from Mount Spurr would carry no fuel cost risk, would provide fixed, long-term pricing to the Railbelt and utilities that use it, is sustainable, and environmentally friendly. He further explained that Ormat uses a closed-loop system which reinjects the geothermal fluid, thus does not consume water - since the facility is air-cooled - and has

minimal surface impact. A development of this kind also creates long-term high-quality jobs. Geothermal development inhibitors include scarce resources in an isolated location, and that a high upfront capital expenditure (CAPEX) is necessary to develop a resource with a baseload or 24-hour delivery characteristics [slide 8].

MR. THOMSEN continued to explain that worldwide geothermal development today has excelled in places that have established incentives for the development of geothermal energy [slide 9]. He pointed out that Ormat worked with the legislature last year to consider the royalty structure to enhance geothermal development.

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MR. THOMSENH identified the proposed project site as located 75 miles west of Anchorage and about 40 miles from the Beluga Power Plant [slide 10]. At this time, Ormat has leased 36,000 acres of state lands from DNR in October 2008 [slides 11 and 12]. Non-intrusive exploration began in the summers of 2009 and 2010, and two exploration core holes were drilled in September 2010. He reported that all of the necessary permits were obtained from DNR, the Alaska Oil and Gas Conservation Commission (AOGCC), the Alaska Department of Environmental Conservation (DEC), and the Alaska Department of Fish & Game (ADF&G). Turning to funding sources, he said the land position was won with a competitive bid bonus payment of $3.5 million from Ormat Technologies, and $90,000 is paid annually in rent for those leases. The non-intrusive exploration cost of $2.5 million was paid for by Ormat and $2 million from AEA in Round III grant funding. He pointed out this represents a little over 100 percent matching funds for the AEA contribution.

MR. THOMSEN stated that this summer, geologists will drill core holes up to 4,000 feet deep [slide 14]. The next step will be to drill at least three full-size resource confirmation wells during 2012-2013, to provide third-party confirmation of a viable resource, or to prove it is not viable. This is necessary prior to bringing the project forward for additional financing. Mount Spurr Geothermal project capacity is estimated at 50-100 MW net, and the target is to have 50 MW online by 2016. Mr. Thomsen said his company views this project as a near-term solution that could bridge the gap to longer-term mega-solutions, such as the proposed Susitna/Watana hydroelectric dam, and the proposed natural gas pipeline. At a 95 percent availability factor, the Mount Spurr project would

produce about 416 gigawatt hours per year (GWh) at 50 MW, and would produce 832 GWh per year at 100 MW.

4:37:09 PM

MR. THOMSEN estimated the cost of power at approximately 12 cents per kWh if the project receives the appropriation from the state. He pointed out that the cost is a fixed price because it is not coupled with fossil fuels. Further, geothermal energy provides a baseload "24/7" resource, thus utilities would not incur any integration costs. He stated that the price is higher than current avoided costs which are 5-10 cents per kWh; however, the cost would be comparable to other alternatives, and the Railbelt utilities' avoided costs are likely to increase in the future.

MR. THOMSEN explained that the funding request is for a direct appropriation of $18 million coupled with an AEA Round IV grant of $2 million [slide 17]. He indicated that Ormat would invest $5 million for a total of $25 million. This funding would allow Ormat to move to the resource confirmation phase, despite not having a power purchase agreement with a local utility. He emphasized that this project is considered a high risk development, and the state's investment would allow Ormat to expedite the development of the project while it continues to work during interim sessions to lock in a long-term power purchase agreement. The scope of work would be to build an ice road to the site and drill up to three full-size production wells, including a flow test. The state's funding of this work would begin the period of the construction of this facility "in the eyes of the U.S. Treasury."

MR. THOMSEN identified reasons the funding is required: Railbelt utilities are not yet willing to sign a power purchase agreement; current funding for this project from Ormat will be exhausted by the end of 2011. This appropriation, together with the AEA Round IV grant, would allow the project to move forward towards resource confirmation. He cautioned that without this appropriation the project most likely will not be able to move forward until a later date when Ormat secures a power purchase agreement. He stressed that Ormat would like to keep the timeline to bring the project online by 2016.

MR. THOMSEN reviewed future funding for the project [slide 19]. He stated that once the high risk resource confirmation is completed, Ormat would be willing to spend $220 million to $270 million to develop the process. He offered his belief Ormat

would use equity or debt financing at that time and he did not anticipate any additional state funding would be required.

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MR. THOMSEN indicated that if Ormat were to pursue this project with a long-term power purchase agreement it would expect to request additional funding for a transmission line and infrastructure. He estimated those costs are estimated at approximately $65 million.

MR. THOMSEN discussed an overview of the total estimated funding for the geothermal project [slide 20]. He related that in 2008, Ormat spent $3.5 million to obtain state leases, and spent $2.5 million in 2009-2011 for exploration and drilling, which was matched by an AEA Renewable Energy Fund Grant - Round III, in the amount of $2 million. To proceed further, he explained that Ormat would invest $5 million to the state's $20 million. Mr. Thomsen opined the risk would be gone at that point, and Ormat would invest the $220 million to $270 million to bring the project through the Field Development Plant Construction phase [slide 20]. He pointed out that from 2013-2016, the state would need to invest an additional $65 million for infrastructure, including a transmission line and an access road. The end result would be that Ormat will have invested from $231 million to $281 million, and the state would have invested up to $87 million, he said. He calculated that the split would be a 25 percent to 75 percent split between the state's interest in the project and Ormat's contribution.

MR. THOMSEN stated that Ormat is working with the communities nearest the project and has a cooperative agreement with the Tyonek Native Corporation, and letters of support from the Kenai Peninsula Borough (KPB), and the mayor of Anchorage [slide 21]. Ormat has also been working with environmental organizations such as the Cook InletKeeper and the Renewable Energy Alaska Project (REAP), which both support this project. All six Railbelt utilities support this project, separately and via ARCTEC. He mentioned his belief that ARCTEC supports this project as a potentially viable near-term solution to meet the state's energy needs. Additionally, RIRP has identified this project as a beneficial component in the Railbelt's generation portfolio, and Ormat was selected by AEA to receive Renewable Energy Fund Grant (REFG) - Round III funding, and has been recommended to receive Round IV funding as well.

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MR. THOMSEN turned to the economic impact of this project [slide 23]. He said that Alaska's 100 MW of geothermal power could provide 50 long-term high paying jobs and more than 100 construction jobs. The Geothermal Energy Association has considered indirect and induced employment opportunities based with geothermal development. He estimated that geothermal would impact more than 200 local vendors. It would also fuel the local economy with more than $850 million of economic impact over 30 years. He reiterated that the royalty with 50 MW would range from $1.5 million to $3 million annually paid to the state for leases on state land.

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MR. THOMSEN referred to the environmental impact of the geothermal project [slide 24]. He stated that 100 MW of geothermal power could annually save 6 million BTUs of depleting Cook Inlet natural gas. In fact, this project would offset roughly the equivalent of Anchorage's heating consumption and would free up the energy for other purposes. A closed-loop system such as this would also avoid the emission of about 320,000 tons of CO2. He summarized the benefits of the Mount Spurr project: provide clean, reliable, field-proven, baseload power to the Railbelt; provide significant relief in Cook Inlet natural gas consumption; contribute towards reaching the goal of 50 percent renewable energy by 2025; provide long-term price stability; provide a near-term solution by bridging the gap to long-term mega-solutions; provide high quality long-term green jobs. Mr. Thomsen then pointed out that every state dollar invested in the project will be conveyed to ratepayers through lower power prices, which would be controlled and verified by AEA or the RCA. Also, the state would continue to enjoy co-ownership of all geological data for this project. Finally, he emphasized that the funds will be spent wisely and gradually; in fact, investment will stop if geological data is not encouraging, and the data can be monitored and verified by AEA and DNR.

REPRESENTATIVE FOSTER noted that in addition to the $1.5 million to $3 million in state royalty payments, Ormat would also be paying state corporate income taxes.

REPRESENTATIVE SADDLER referred to the cost of power [slide 16]. He asked if 12 cents per kWh includes transmission line costs.

MR. THOMSEN answered that the figure does not include transmission line costs.

REPRESENTATIVE SADDLER heard the cost of the transmission lines would be $70 million. He asked for further clarification on the cost, and how it would reflect into the per kWh cost.

MR. THOMSEN responded that the cost was evaluated by HDR Inc., and the estimated cost for the transmission line and the road totaled $65 million. In further response to Representative Saddler, he stated that it would add about 2 cents per kWh.

CO-CHAIR FEIGE asked whether the road is from Beluga to the site.

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RAHM ORENSTEIN, Director, Business Development, Ormat Technologies, Inc. stated that HDR, Inc., recommended two possible routes: Tyonek to the leases or Shirleyville to the leases. Although there is an existing road, a significant part needs to be upgraded or built.

CO-CHAIR FEIGE asked whether a route through the existing right-of-way from the Point MacKenzie area and Beluga was considered.

MR. THOMSEN offered to review the HDR report for the answer.

CO-CHAIR SEATON pointed out that the utilities seem to be willing to spend significant amounts on a wind farm. He recalled the cost for the Eva Creek Wind Farm project penciled in at 9.8 cents per kWh plus an additional 4 percent in costs for regulatory fees. He asked why the utilities are willing to pay more for power from a wind farm, but are reluctant to sign a power purchase agreement with Ormat for the geothermal project.

MR. THOMSEN opined a large-scale independent power produced product under long-term contract to the Railbelt utilities brings with it some hesitation to enter into these new contracts. He informed members that Ormat has been meeting with Railbelt utilities to educate them on why it is not necessary to provide self-generation. He emphasized that during the legislative interim, Ormat will also bring in investor-owned utility executives and others who are familiar with these contracts in order "to provide the confidence to enter into these contracts moving forward." Another problem is the investment necessary to bring the project to resource

confirmation; for example, at this time Ormat cannot confirm - with 100 percent accuracy - that the resource will provide a certain amount of power. This is the risk component that is inherent to renewable energy development with the exception of natural gas or wind projects. He reiterated that this appropriation will get Ormat to the point at which third-party independent engineers can confirm the resource exists, and predicted that Railbelt utilities will move forward with confidence.

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MR. THOMSEN, in response to further questions about the purpose of the funding request, indicated that the investment by the state would lead to resource confirmation. He envisioned drilling three production wells allowing Ormat to produce from one well, reinject to another well, and monitor the production from the third well, in order to give the utilities the confidence to move forward. He anticipated the three wells would be drilled in the summer of 2012, and in the summer of 2013, if necessary.

CO-CHAIR SEATON surmised that the Ormat project would be operational in 2016 or early 2017.

MR. THOMSEN concurred.

4:54:13 PM

CO-CHAIR PRUITT referred to the $65 million estimate for the transmission line and access road. He recalled the expectation has been funding for that would come from the state, and asked for the anticipated timeline.

MR. THOMSEN restated that Ormat is a vertically integrated company, thus the beginning of the project process is the resource development phase. As the geothermal project moves towards the phase of entering into a power purchase agreement, Ormat would be able to identify the cost and whether the project will move forward as a joint venture. He explained that as Ormat moves forward with executing a power purchase agreement, Ormat will know the transmission and infrastructure demand. He characterized this as "kind of a moving target for us" as Ormat works to negotiate an agreement. He pointed out that perhaps it is possible to reduce some of the transmission cost by committing some of Ormat's funding but it would depend on the overall agreement. He emphasized that the HDR, Inc. report is

accurate; however, Ormat will also support a review of the report since many variables have been identified as specifically Alaska issues. He indicated that CEA has also been studying the transmission and infrastructure costs; in fact, Ormat could commit to combining those efforts to ensure "they pass the sanity check" for estimates.

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REPRESENTATIVE PETERSEN asked whether the proposed transmission lines would be capable of carrying 100 MW, or would only be 50 MW lines that would have to be upgraded later.

MR. THOMSEN responded that the transmission lines would be built to carry the full potential load of the project, which is a 230 kV power line.

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CO-CHAIR PRUITT paraphrased from slide 26:

> Every state dollar invested in the project will be conveyed to ratepayers through lower power prices, verified by AEA. Funds will be spent wisely and gradually, can be monitored and verified by AEA.

CO-CHAIR PRUITT asked what AEA's role is in this project and others, and opined the above statement is beyond the "flow-through" funds AEA usually manages.

4:58:36 PM

MS. FISHER-GOAD confirmed that this project has gone through the Renewable Energy Fund grant process and has been selected as one of the Round IV projects for funding in the amount of approximately $2 million. She indicated that Ormat is looking to the state to share in the risk of proving-up the resources for this project. Her agency would manage this grant, if funded, as described in the two-page report that is prepared on all Round IV grants. Further, AEA would be working with DNR's Division of Geological and Geophysical Survey (DGGS) to approve work before it commences. As with any grant, AEA would ensure that state money going into the project does not go to the investors' pockets, but helps to defray and reduce the cost of power to ratepayers. On another level, Ormat has been considering various ways of working with the utilities on the timing of the power sales agreements, and AEA can have a role in

working with the utilities. In fact, she reported that every conversation she has had with the utilities has been supportive of Ormat's efforts, and geothermal energy is appealing as another source in the state's energy portfolio. She offered her belief that Ormat has established credibility with the projects it has completed, and would like to hold conversations with the utilities on the power purchase agreements and on Ormat's process.

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MR. THOMSEN, in response Representative Seaton, assured the committee that there has been no change in the plant design. He briefly explained the process as follows: geothermal fluid is pumped up through a heat exchanger and then is reinjected back into the ground; after heating, the working fluid vaporizes, builds pressure, and moves across a turbine blade - turning the thermal energy into mechanical energy; the working fluid needs to be cooled, either by water or air, to turn it into a liquid state so it vaporizes again. This specific project would use the air-cooled process, thus other water is not vaporized in the cooling process. He said, "The air-cooled option has always been part of this project, and it simply cools the working fluid back into a liquid which is contained, 100 percent, in the second loop."

MR. THOMSEN, in response to a previous question, understood that by accepting the AEA grant funds, Ormat is agreeing to allow AEA to bring in a third-party economist to review the economics of the project if AEA chooses to do so. Ormat has accepted that stipulation and has been willing to fully cooperate with an economist at AEA to ensure that any state funds would help reduce the power cost to Alaskan ratepayers. In response to a further question, he indicated that the Raft River plant in Idaho is not an Ormat project. However, Ormat has projects in Reno, Nevada, and in California, and this project "should look exactly like them in the same scale."

5:04:08 PM

REPRESENTATIVE SADDLER asked how he would compare the Mount Spurr project with other Ormat projects around the globe. He asked for the odds on whether this project will "play out."

MR. THOMSEN pointed out that Ormat has other projects on volcanic resources, for example, on the Big Island of Hawaii. Due to its initial findings and geochemistry at this site, Ormat

has become more and more optimistic on the viability of this project, particularly given that volcanic resources tend to be prolific geothermal resources. He said he hoped that this project would have permeability and water, along with the great heat, typically found in volcanic resources. He predicted success at 6.5 on a scale of 1-10.

REPRESENTATIVE SADDLER asked how much acreage has been leased and whether this site represents the best of several possibilities, or if only one site will be considered.

MR. THOMSEN responded that Ormat has leased 36,000 acres and this project represents one of many viable geothermal projects in Alaska. After reviewing the site's proximity to energy consumers and transmission needs, Mount Spurr moves to the top of the list. Ormat hopes this project will set the stage for future exploration and development of other geothermal resources. In further response to Representative Saddler, he said Ormat is not considering any another location within the 36,000 acres besides Mount Spurr, because this acreage represents a large hydrothermal reservoir Ormat would like to develop at this time.

5:07:18 PM

ADJOURNMENT

There being no further business, the joint meeting of the House Special Committee on Energy and the House Resources Standing Committee was adjourned at 5:07 p.m.