

**Alaska Energy Authority**  
**BOARD MEETING MINUTES**  
Friday, March 29, 2013  
Anchorage, Alaska; NeiHu, Taiwan; Oro Valley, Arizona

**1. CALL TO ORDER**

Vice Chair Commissioner Bell called the meeting of the Alaska Energy Authority to order on March 29, 2013 at 12:33 pm. A quorum was established.

**2. ROLL CALL: BOARD**

Members present: Vice Chair Commissioner Susan Bell (Commissioner, Department Commerce, Community, and Economic Development); Commissioner Bryan Butcher (Commissioner, Department of Revenue); Robert Sheldon (Public Member); Wilson Hughes (Public Member).

Member participating from NeiHu, Taiwan: Ron Arvin, (Public Member).

Member participating from Oro Valley, Arizona: Gary Wilken, (Public Member).

**3. AGENDA APPROVAL**

The agenda was approved as amended.

**4. ROLL CALL: STAFF, PUBLIC**

Staff present: Sara Fisher-Goad (AEA Executive Director); Ted Leonard (Executive Director, AIDEA); Valorie Walker (Deputy Director-Finance); Chris Anderson (AIDEA Deputy Director-Commercial Finance); Gene Therriault (Deputy Director-Energy Policy Development); Sean Skaling (Deputy Director-Alternative Energy and Efficiency); Wayne Dyok (Susitna-Watana Lead Project Manager); Emily Ford (Public Outreach Liaison); Nick Szymoniak (Project Economist); Cady Lister (Energy Efficient Manager); Karsten Rodvik (AIDEA External Affairs); Sandie Hayes (Administrative Assistant); and Teri Webster (AEA Executive Assistant).

Others present: Brian Bjorkquist (Department of Law); Meera Kohler (Alaska Village Electric Corporation); Sunny Morrison (Accu-Type Depositions)

**5. PUBLIC COMMENTS**

Ms. Meera Kohler of Alaska Village Electric Corporation was not present during public comments and will give her comments under 7B. HVDC project presentation.

**6. PRIOR MINUTES**

The January 10, 2013 AEA Board meeting minutes were adopted as amended.

## **7. NEW BUSINESS**

### **7A1. Senate Bill 23 Update – Liquefied Natural Gas (LNG) Trucking**

Mr. Leonard, Ms. Fisher-Goad, Mr. Therriault, and Mr. Szymoniak provided a handout of the committee presentation and gave an update on Senate Bill 23. They reviewed the Interior energy plan, project goals, Governor's finance package, and project timeline and milestones.

Mr. Sheldon asked if AEA will own both the land and the plant facility. Mr. Leonard stated there will be a long-term lease on state land on the North Slope and an ownership stake will be on the plant facility. Mr. Leonard believes the state owns the land. Mr. Therriault does not know how long the lease terms can be, but will be looking for the longest possible lease. Mr. Leonard stated one part of the plant will be modular and could be moved to Fairbanks to utilize the gas off there or wherever it was deemed best to be located.

Mr. Hughes asked Mr. Leonard to give an example of LNG sales to a non-utility customer. Mr. Leonard stated this is industrial demand, including the Ambler Mine. There is also a potential for converting the trucks hauling the ore out of the mine from diesel to LNG, which would provide a transportation demand. Mr. Hughes stated Pogo Mine is another example. Ms. Fisher-Goad stated Flint Hills is another example. Mr. Leonard stated the refinery at Flint Hills currently can switch from diesel to LNG.

Mr. Sheldon asked how much more funding is needed for a 50% increase in the initial buildout of the plant. Mr. Leonard stated the distribution would be approximately \$200 million for a 13.5 BCF plant.

Mr. Sheldon asked Ms. Fisher-Goad what the timeline is for the LNG plant to fulfill additional new industrial demands. Ms. Fisher-Goad stated the mining districts and mining development is at least 10 years. Mr. Leonard stated Ambler and Road to Umiat are potentially in the range of 2019. Mr. Therriault stated International Tower Hill is another large project pending in Fairbanks and is currently in the Golden Valley Electric service territory. The potential power load for that mine could be 100 megawatts. Mr. Sheldon asked Mr. Therriault if International Tower Hill is a right sized plant. Mr. Therriault believes it is right sized to what they think their power is going to be.

Vice Chair Commissioner Bell believes AIDEA and AEA staff have really worked their professional strengths, personal contacts and will look at this in hindsight as a model for getting something through the Legislature.

Mr. Wilken requested his comments in the prior AIDEA meeting are carried forward and are part of the AEA minutes also. Vice Chair Commissioner Bell noted his request. The comments are as follows: "Mr. Wilken stated he had three different people comment on the great job AIDEA and AEA has done in front of the various committees this year by being prepared, committed, unflappable and presenting very good reports from Mr. Leonard, Ms. Fisher-Goad and the whole crew. He said the reviews coming back have been stellar and wanted to thank them for being a big part of AIDEA's success."

### **7A2. AEA Resolution No. 2013-01, Village Energy Efficiency Program Regulations**

Ms. Fisher-Goad stated the Village Energy Efficiency Program is being codified in these regulations. This is one of the programs AEA has been using to reach the 15% energy efficiency goal by 2020 from House Bill 306. There is an opportunity to put capital dollars toward this program. Ms. Fisher-Goad recommended the Board's support of this resolution.

Mr. Wilken requested a list be made available of the location of the 22 villages and 150 buildings accompanied by a brief summary of who is participating. He wants to ensure the projects are being tracked, including the way funds are being spent. Mr. Wilken requested the agency develop a way to track what projects are in place, their expenses, if they are on schedule or not, and a way to measure success of each project. He stated this program could be a model for progress.

Commissioner Butcher commented this is a great opportunity for this area. He stated the results have been an average of about 30% reduction in energy of the homes that have been weatherized and makes sense to continue the energy efficiency work on other buildings.

**MOTION: A motion was made by Commissioner Butcher to adopt Resolution No. 2013-01, Village Energy Efficiency Program Regulations. Motion seconded by Mr. Hughes. Motion passed unanimously.**

## **7B. High Voltage Direct Current (HVDC) project presentation**

Ms. Fisher-Goad requested Ms. Meera Kohler of Alaska Village Electric Corporation make her public comments, followed by the presentation from Mr. Szymoniak.

Ms. Kohler thanked the Board for being able to provide a public comment. She believes one of the serious deficiencies in the state is the lack of a transmission system and has been arduously promoting an HVDC concept. Ms. Kohler noted the total electricity retail consumption in the state is very low at 6.5 billion kilowatt hours a year. She stated it should be four or five times that amount. She said that consumption would be possible if there were a transmission grid able to deliver that electricity to users across the state.

Ms. Kohler believes the number of unserved potential mining loads in the state is significantly greater than what was considered in the LNG proposal. Ms. Kohler stated processing of resource extraction goes out of state or to foreign lands because of the expensive local cost. She said that is not acceptable and has to occur in Alaska because that is what creates the vitality, jobs, and infrastructure for a quality lifestyle.

Ms. Kohler does not see a great deal of potential for the propane application for rural Alaska in the LNG project because there is no infrastructure to transport the propane to rural communities. She believes it is not practical in the near-term. The problem for rural Alaska is they will continue to be very deeply suppressed because of the high cost of energy in the state. Ms. Kohler was pleased AEA agreed to perform an economic analysis and Mr. Szymoniak has done a good job. She stated the analysis is predicated upon a system that is built to many times the size of the load used for the analysis. The actual cost of the entire project would be amortized in the long-term over a much larger distribution system and much larger loads. She projected the cost in Fairbanks would be closer to the six-cent figure, but the number would be much lower at a higher capacity utilization.

Ms. Kohler asked the Board to consider the importance of the HVDC project to provide a transmission grid for the state. She stated where there is a grid and large loads attaching to the grid, primarily the mining industry, much larger components of renewable energy can be injected into that system than could be injected under any other circumstance.

Mr. Szymoniak gave a presentation on the economics of HVDC projects. It consisted of two different economic analyses. The first economic analysis was to provide HVDC for the Railbelt. The second economic analysis was an example HVDC system using existing cost information provided by Ms. Kohler and her team to compare where the HVDC might present positive economics. Both economic analyses are parallel and involve a three-step process. For the first analysis, the first step is to isolate the annual HVDC costs. The second step is to calculate the annual gas use by the new power plant either on the Slope or the Railbelt. The third step is to calculate the break-even Railbelt price.

Mr. Sheldon asked if Mr. Szymoniak is assuming 2/3 of the railbelt energy production will be replaced. Mr. Szymoniak stated that assumption is correct but doesn't figure into this analysis. He has not updated the study with the new power plants that have been brought on or are in the stages of being brought on currently. Mr. Sheldon commented again, to be clear, that 2/3 of existing power production needs to be replaced and asked if the cost assumptions for gas are the same on the Slope as they are in Cook Inlet. Mr. Szymoniak stated the gas cost assumptions are the one variable that takes advantage of why to build the power plant at the North Slope. The assumption is that cheaper gas would probably be available on the North Slope. Mr. Szymoniak stated the question to ask is how much cheaper does the gas need to be in the Railbelt to justify the cost of the HVDC?

Mr. Sheldon commented in a prior presentation in the AIDEA meeting, the LNG facility and the shipping of gas via truck is a mobile facility and in the long-term may serve many uses. He stated it is a terrific stop-gap measure and a good solution. Mr. Sheldon asked Mr. Szymoniak if the natural gas price of \$13.42 on the low end in the prior presentation is the same price that is presented here of \$13.53 delivered. Mr. Szymoniak said it would be and is a valid point. The \$13.53 is a weighted average cost of the fuel used by the Railbelt power plants.

Mr. Sheldon asked if the \$13.42 and the \$13.53 are both burner-tip numbers. Mr. Szymoniak stated they are both burner tip numbers and noted the \$13.42 includes distribution and storage. The power plant would probably not face those costs and be closer to \$10.16. Mr. Sheldon asked if the Railbelt is kind of a push for Mr. Szymoniak's perspective. Mr. Szymoniak stated the Railbelt doesn't look strong enough to warrant a real detailed analysis.

Mr. Hughes asked if any thought has been given to what kind of reliability or availability the line would provide. Ms. Kohler responded the reliability of HVDC in terms of the technology is superior to AC. The risk of avalanches taking down pole lines are the same that any transmission line is going to carry. Ms. Kohler stated the HVDC line would be buried through the high risk areas, including Atigun Pass. The advantage of the HVDC is each line operates independent of each other on each transmission tower.

Mr. Wilken asked if the \$2.435 billion contemplates a redundant system that will survive a catastrophic event. Ms. Kohler stated there are no redundant converter stations and the issues are typically very isolated. The line redundancy issue is at the section from the North Slope to

Fairbanks. Mr. Wilken asked if the \$1.86 billion contemplates a system that will withstand a catastrophic failure. Ms. Kohler believes it would.

Mr. Hughes stated his concern was not having redundant power and the risk of the 800-mile line breaking somewhere could potentially leave Alaskans in the dark for several hours. Ms. Kohler stated that is always possible in any electrical system and is not unique to this project. She commented it does not happen frequently, but it did happen in 1996 from a failure of a line from Beluga. Mr. Hughes stated his skepticism is in the 800 miles of transmission line and not the HVDC. Ms. Kohler commented she would love to give her presentation to the Board which includes examples of distances that are being reliably traversed by these lines for very long periods of time without any issues. She stated the Pacific Intertie between Washington and California has never had an outage. It has been in operation since 1985, is a three gigawatt project, and is 1,300 miles long.

Mr. Sheldon asked what kind of a load does a remote mine draw. Mr. Szymoniak stated it was 185 megawatts at an 85% capacity factor. Mr. Sheldon asked if Ambler was a good comparison. Mr. Szymoniak agreed and stated he used the proposed load of Donlin.

Vice Chair Commissioner Bell thanked Mr. Szymoniak for his presentation. She believes Mr. Short, despite the fact he is in Hawaii, would be very sad to have missed this last hour because he has been very interested in the discussion on this. She believes Mr. Short would request Ms. Kohler return on a future agenda to explore the questions that were raised.

Commissioner Butcher commented mines are looking at importing LNG and it would be interesting to broaden it a little bit.

**MOTION: Commissioner Butcher made a motion to go into Executive Session to discuss the Susitna-Watana negotiations and legislation. Motion seconded by Mr. Hughes. The motion was approved.**

**7C. Executive Session: 1:57 pm.  
Susitna-Watana Project**

The Board reconvened its regular meeting at 2:58 pm.

**8. EXECUTIVE DIRECTOR COMMENTS**

**8A. Program and Project Fact Sheets**

Ms. Fisher-Goad stated fact sheets are in the packet and she handed out the Rural Energy Conference agenda. She requested the Board contact her if they want to attend any tracks.

**8B. Next regularly scheduled meeting - Thursday, April 25, 2013**

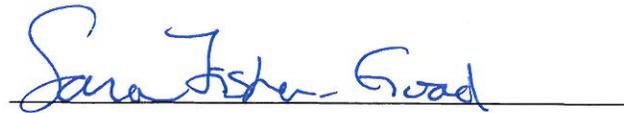
**9. BOARD COMMENTS**

Mr. Arvin advised the Board his contract in Taiwan has come to an end and will be coming back to Alaska. He apologized for having to phone in so often. He thanked staff for emailing him all the needed documents.

Vice Chair Commissioner Bell thanked everybody for the very informative discussion and reiterated the many compliments that were made in both the AIDEA and AEA meetings.

**10. ADJOURNMENT**

There being no further business of the Board, the AEA meeting adjourned at 3:01 pm.

A handwritten signature in blue ink that reads "Sara Fisher-Goad". The signature is written in a cursive style and is positioned above a horizontal line.

Sara Fisher-Goad, Executive Director/Secretary  
Alaska Energy Authority