



Alaska Energy Authority
BOARD MEETING MINUTES
Wednesday, January 14, 2015
Anchorage, Alaska

1. CALL TO ORDER

Chair Dick called the meeting of the Alaska Energy Authority to order on January 14, 2015 at 12:43 pm. A quorum was established.

2. ROLL CALL: BOARD

Members present: Chair Russell Dick (Public Member); Vice-Chair Dana Pruhs (Public Member); Jon Bittner (Deputy Commissioner, Department of Commerce, Community and Economic Development (DCCED)); Wilson Hughes (Public Member); Crystal Nygard (Public Member); Jerry Burnett (Deputy Commissioner, Department of Revenue); and Gary Wilken (Public Member).

3. ROLL CALL: STAFF, PUBLIC

Staff present: Sara Fisher-Goad (AEA Executive Director); Alan Baldivieso, Emily Ford, Jennifer Haldane, David Lockard, Sandra Moller, Sean Skaling, Gene Therriault, Teri Webster, (AEA); and Brian Bjorkquist (Department of Law);

Others present: Miranda Studstill (Accu-Type Depositions); Fred Parady (Commissioner DCCED); and Dan Bross (unidentified).

4. AGENDA APPROVAL

The agenda was approved.

5. PUBLIC COMMENTS

None.

6. NEW BUSINESS

6A. Solar, Geothermal, Hydrokinetics, and Emerging Energy Technology Fund (EETF) program overviews

Ms. Fisher-Goad advised the program overviews keep the Board apprised of the various AEA-managed programs. Ms. Moller and Mr. Skaling provided a detailed PowerPoint update of the group of technologies that are smaller than the hydro, wind, and biomass programs.

Mr. Skaling reviewed the primary purpose for the geothermal program is to explore the geothermal resources to determine if there are any matches with local community loads. One of the main challenges with geothermal is finding a hot spot opportunity that is close to a population base. The areas of geothermal use include power development, direct use to heat buildings or processes, and heat pumps. Currently, the one operating power plant is Chena Hot Springs. It was not paid for by the Renewable Energy Fund (REF). Other areas that have been explored are Akutan, Pilgrim Hot Springs, Mt. Spurr, and Makushin. Another challenge is the expense to find the resource, involving surface investigation and ultimately drilling.

Mr. Skaling explained heat pumps take low grade heat and elevate it to a useable temperature through ground source, air source, effluent source, and water source. The Seward Sea Life Center is a good example of a water source heat pump. Heat pumps are generally cost effective in places that have a moderate climate, low electric costs, and high fuel costs. The boundaries of heat pumps are being explored in the EETF program.

Mr. Skaling discussed the Ocean and River Energy Program, and noted the three types of generation are river in-stream conversion (RISEC), tidal power, and wave power. The resource is abundant in Alaska, but the potential resource needs to be near a population base load center. The commercial readiness of some of the technologies and economic properties provide additional challenges. The EETF funded three tests of different technologies of RISEC in two locations in 2014.

Mr. Wilken asked how much power does one turbine get from the Ocean Renewable Power Company's (ORPC). Mr. Baldivieso stated the rating is 20 to 25 kilowatts (kW).

Mr. Skaling advised there have been two funding rounds of the EETF. The support is roughly 50% state and 50% federal. The purpose of the EETF is to test new technologies in the energy arena that could potentially help with Alaska's energy development. Eligible EETF projects can include renewable energy, energy efficiency, energy storage, traditional fossil fuel based technologies, and transmission. The EETF projects have to be either a new technology, or an existing technology that hasn't been tested in Alaska, or an improvement to an existing technology. EETF follows a competitive award process.

Mr. Wilken asked who is on the EETF advisory committee. Mr. Skaling informed the advisory committee is defined in regulation and the seven-member board is appointed by the Governor. The members represent different sectors. Ms. Fisher-Goad noted Lori Stender is the AIDEA representative on the committee.

Mr. Skaling stated 15 EETF projects were awarded a total of \$8.9 million of funding in 2012 and 4 projects were awarded a total of \$2.4 million of funding in 2014. There is a heavy emphasis on data collection and analysis. The projects have a data collection agreement with Alaska Center for Energy and Power (ACEP), who completes a third-party analysis of the data, which is then publicized to help the technologies develop.

Deputy Commissioner Bittner asked how many of the projects have gone onto commercialization. Mr. Baldvieso advised the EETF projects began in 2012 and all grants are still actively testing and advancing their technologies.

Mr. Skaling then presented on AEA's solar program. He explained the two different types of solar are solar photovoltaic, which makes electricity, and solar thermal, which makes heat. The resources in Alaska are marginal to poor. The technology is commercially ready. The Alaska-specific challenges include seasonal sun, northern latitude sun path, and snow and frost. A positive panel effect of the high latitude is the snow bounce, which provides a lot of energy in the spring. Economics and integration are the drivers to these projects.

Mr. Skaling showed the typical Alaska capacity factors. He explained this illustrates what percent of the time over the whole year a renewable resource capable of generating 100 kW actually generates 100 kW. Hydro typically ranges from 35% to 50%. Wind ranges from 18% to 35%. Solar ranges from 8% to 14%. Mr. Skaling noted solar generally has had a hard time competing in the REF due to the economics.

Deputy Commissioner Burnett inquired if solar should be excluded from the REF. Mr. Skaling informed AEA is exploring where the solar program is most economical and where it works the best. The information is being gathered from existing projects that are not necessarily REF projects. It is then analyzed and made publically available.

Chair Dick asked what kind of impact the state's current budget environment has on the matching funds from the federal government and the long-term viability of these AEA programs. Ms. Fisher-Goad stated AEA matched close to 50/50 with the Denali Commission for the first round of EETF. The second round was a \$2 million state effort for grants. Federal support for data collection is received, as well as analysis support from the Denali Commission. Some funds are received from the State Energy Office, which are shared with Alaska Housing Finance Corporation. Ms. Fisher-Goad informed the funding efforts are contracting, and the REF advisory committee discussed what the funding priorities should be. There is \$15 million in the capital budget for the REF effort. Ms. Fisher-Goad believes it is important to work with the Board to prioritize the most beneficial energy projects for Alaskans, especially in some of the small rural communities.

7. DIRECTOR COMMENTS

7A. Next regularly scheduled meeting Wednesday, Feb 25, 2015

Mr. Wilken requested an update on Susitna-Watana. Ms. Fisher-Goad informed AEA submitted a very lengthy report regarding the status of the project and the contracts pursuant to the Administrative Order 271. Discussions are occurring to determine next steps and alternatives to the licensing process, since the State of Alaska currently does not have the significant appropriation necessary to develop the Susitna-Watana licensing application in 2016. Ms. Fisher-Goad stated the project is in pause mode. AEA will continue to work with the Administration and the Legislature with respect to the future of this project.

Mr. Wilken asked if there is anything the Board can do to help Ms. Fisher-Goad. Ms. Fisher-Goad expressed her appreciation and will think about the best opportunity and best approach for the Board's assistance. She commented if there is a longer pause on this project, it will be important to ensure the existing studies are completed and reports from contractors are completed.

Mr. Wilken requested the Board consider a reaffirmation, indicating the support for the project, to let the Governor and Legislature know the Board understands the budget problems, but still believes in the project. Chair Dick informed he will follow up with Ms. Fisher-Goad regarding the reaffirmation.

Commissioner Parady commented he was in the meeting with Ms. Fisher-Goad and the Administration, and believes she did an excellent job of articulating a path forward, aligned with the administrative directions, while bringing the project's investment to this point to a conclusion and maintaining it as a useful asset to the citizens of the state going forward. Commissioner Parady noted Governor Walker stressed at his cabinet meeting yesterday that Susitna-Watana is a big picture, long-haul project. Commissioner Parady took encouragement from the Governor's comments.

8. BOARD COMMENTS

Mr. Wilken noted he and Mr. Hughes received an email from a person named Mr. Watson regarding the Tuluksak generator failure, wherein Mr. Watson made a suggestion on how to correct the problem using nuclear power. Mr. Wilken discussed this with Mr. Therriault before today's meeting. Mr. Wilken requested Mr. Therriault provide his comments regarding the suggestion and provide those comments to Mr. Watson. Mr. Therriault agreed.

Mr. Therriault stated he received the email regarding an update on small-scale nuclear technology and the potential for it to help with island situations and villages that have difficulty generating cost effective power. AEA has continued to monitor small-scale nuclear technology as it develops, primarily through the work of ACEP.

Vice-Chair Pruhs requested more information on why four generators failed. Mr. Therriault noted the community has struggled over the years in keeping the equipment maintained. AEA has supplied an emergency generator, a list of possible fixes to the problem, and the associated costs. Vice-Chair Pruhs asked if the maintenance on the emergency generator is different from the maintenance on the other generators, and who is maintaining the emergency generator. Ms. Moller noted the circuit rider personnel are in the community monitoring the maintenance.

Vice-Chair Pruhs commented in the private sector, when expensive power units are purchased, there is the option to buy a maintenance service plan. This model eliminates poor maintenance problems in communities that may not have the technology, education, or training to maintain critical components to their infrastructure. Ms. Moller reported there are communities who contract out the book-keeping part of the utility managements, but there is no such organization for the technical maintenance. Vice-Chair Pruhs highly recommended using a scheduled maintenance service plan as a turnkey solution for remote communities.

Commissioner Parady informed there were a series of issues with Tuluksak regarding the bulk fueling side of the equation. He believes this is an opportunity for AEA and the Division of Community and Regional Affairs (DCRA) to have fruitful discussions regarding these challenges.

Chair Dick requested Ms. Fisher-Goad's team work with DCRA and others to continue the discussion toward a solution. Ms. Fisher-Goad agreed.

9. ADJOURNMENT

There being no further business of the Board, the AEA meeting adjourned at 1:37 pm.



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