

Alaska Wind Working Group MINUTES
Wednesday, December 13, 2022
11:00AM - 1:00PM

11:00 AM CALL TO ORDER

Ian Baring-Gould, NREL	David Lockard, retired
Kate Wedemeyer	Tony Zellers, MEA
Josh Craft, MEA	Bailey Gamble, ANTHC
Onya Stein, AVEC	Forest Button, AVEC
Josi Hartley, AEA	Bertha Prince, Nuvista Light and Power
Chris Rose, REAP	Kate Ayers, Chugach Electric Association
Matt Perkins, AK Renewables	Matt Bergan, KEA
Andrew McDonnell, AK Renewables	Doug Vaught, V3 Energy
Michael Bergey, Bergey Wind & DWEA	Martin Miller, Coffman Engineers
Daisy Huang, ACEP	Keith Palchikoff, GVEA
Sean Skaling, Chugach Electric Association	Kay Kreiss
Phylicia Cicilio, ACEP	Tyler Huling, REAP
Alan Verbitsky, DOE Office of Indian Energy	Chuck Huntley
Chris Pike, ACEP	Gary Newman, GVEA
Sean Glasheen, Nuvista Light and Power	Daisy Huang, ACEP

11:05 AM UPDATES

Wind LiDAR deployment in Shishmaref update

Onya Stein, AK Village Electric Cooperative (AVEC)

- 1) Background on project
AVEC had a long-standing grant with AEA for a wind study, but they were unable to find an approved place to put a MET Tower in Shishmaref.
AVEC considered using the Spyder LiDAR that AEA had, but it was too costly to refurbish.

- 2) Project Details
AVEC purchased a ZX 300 Wind Lidar from NRG that cost \$127,000
Cost included a thermal jacket.
Lead time was 6-8 weeks
Machine can measure over 10 different wind heights

AVEC installed the unit on top of a Conex, strapped it down with ratchet straps and connected it right to the internet by wiring from there. The machine can also do remote connection, or the unit also stores data. Machine also sends daily emails.

Easy to install: The machine weighs only about 100 pounds, a team of 2 installed it, super easy to install and takedown

Cons:

- Concerns about security, but the machine was safe where it was located
- It does not fit straight through a standard 36" door, but can be angled to get through door
- Comes with winder wiper fluid, but fluid had to ship as hazmat
- It does require sending back for maintenance about every 5 years
- Onya showed estimated costs for maintenance.

She noted NRG has been very responsive

AVEC had it up in the summer, did not test it over winter. AVEC plans to send the unit to Kotlik next. AVEC also has acquired a second unit. That one will be going to Pilot Station. Plan is to install it on platform 15 foot up a pole.

Questions were asked about the quality of the data and any data gaps. Matt noted past issues with LiDAR and with Alaska air being too clean to pick up particles to indicate wind speed.

Doug Vaught: The data so far looks pretty good and has not been an issue with too few particles. Seeing data recovery of 86% up to 97%.

Question about real time data – does it have the ability to log in and see real time data. Yes and Doug said data was easy to use from collecting data standpoint.

Ian: Noted the International Energy Agency Wind Research is looking at the kind of stuff that we're talking about with data arrival rates and certainly working to improve their technology for operation and in the kind of climates that we're seeing in Alaska

Bailey: Can you get info from LiDAR on icing conditions?

Ian: Generally the answer is no, you don't get that data. Some thinking that LiDAR can look at particle size to extrapolate that info.

Discussion about cost compared to MET Tower. MET Tower starting cost \$65K and another \$50K to install it and can be expensive to move.

Renewable Energy Fund, Infrastructure Bill Energy Programs & More

Josie Hartley, Alaska Energy Authority (AEA)

RE Fund 14 updates:

Round 14 funded 27 projects worth \$15M for FY 23. 11 projects were wind.

Majority were feasibility and conceptual design

A couple were construction projects including Kong and Kwig for retrofits to improve turbine blade performance

RE Fund Round 15:

Applications closed Dec. 5. 31 applications, about 14 for wind projects.

Some for feasibility, also some final design permitting projects, and couple construction projects.

Equally spread between urban, including some on Railbelt and rural

Funding is up to legislature, but hoping to receive \$15 million

Late February applications will be reviewed by REFAC

AEA will have recommendations to legislature in March.

Chris: Asked about reauthorizing RE Fund which expires in June of 2023

Josie: Understanding is AEA plans to have bill introduced to reauthorize program.

Infrastructure Bill Energy programs

1) Grid Resiliency and Reliability state formula fund disbursements

Includes \$75M (including state match) over 5 years

Utility match requirement 33% for grid hardening and resilience

Mainly focused on transmission and distribution. Can't fund new power generation but potentially could fund distribution to hook up different energy projects

There was additional funding for tribes around the state so the thinking is that these funds will go mostly toward Railbelt but still figuring that out.

Holding meetings for people to learn about this funding opp. More info at:

<https://www.akenergyauthority.org/What-We-Do/Grants-Loans/Grid-Resiliency-Formula-Grant-Program>

2) NEVI (National Electric Vehicle infrastructure program)

Under FHWA. This program has \$52M to state over 5 years to fund vehicle charging infrastructure. AEA is administering funds and has developed implementation plan.

No state match funding. Requires 20% private match so 80-20 match

Email Josie or others on her team to request a presentation.

Ian: Could this include electric ATVs?

Josie: Right now the scope is light duty vehicles but can look at this.

3) State Energy Security Plan

AEA is working with a contractor on this as it's required by the Infrastructure Bill. Josie is not directly involved. They have an advisory group. The intent is to make sure the state has reliable energy source throughout the state.

Needs to be signed by Governor by May 2023

4) State of Alaska Grid Resilience Innovative Partnership (GRIP)

AEA is thinking of applying for topic area #3. This would involve partnering with other western states and might be some funding for microgrid wind projects. Funding available \$50M, although there are two years of determining the viability of projects first.

Railbelt Wind Study update

Josh Craft, Matanuska Electric Association (MEA)

Railbelt utilities have agreement in place to look at wind on Railbelt. Currently doing reconnaissance work. Next step installing MET Towers. Looking at 3-year wind study across Railbelt. Primarily looking along existing power system infrastructure.

Hope to start feasibility in Spring 2023, which will involve getting the permits and installing MET Towers with hopes to collect data 2023-24. Leaning toward putting MET Towers at more sites rather than having many at just a few sites. Have request in for Round 15 RE funding. Also laying the groundwork for wind forecasting.

Chris: Is the Railbelt study also looking at wind projects being offered by IPPs as part of this?

Sean: I think the intent is to use any available data sources coming from those projects

Question about whether data is going to be public.

Josh: Definitely if the work receives grant funding.

Policy Update

Chris Rose, Renewable Energy Alaska Project (REAP)

RE Fund expires June 30, 2023

Very important to have bill to extend the authorization for 10 more years. Doesn't commit legislature to funding projects, but it's needed to extend program.

Green Bank

Two years ago, Gov. Dunleavy introduced a bill to establish a Green Bank in Alaska. Offers loan program and products, and could potentially be a resource for wind projects. Previously the bank would have been housed at AIDEA. Ongoing efforts to reintroduce the bill, but house the program at AHFC.

Clean Energy/ RPS Standard

RPS bill last year would have required Railbelt utilities to on step-by-step basis to get 80% of their electricity to be generated by renewables by 2040. Noted Hilcorp announcement about not being counted on to renew contracts to provide gas for electric and heat. Hilcorp currently supplies 100% of gas for heat and 90% for electricity. AK could end up importing LNG. HEA contract expires in 18 months. CEA expires in 5 years.

Noted REAP board has some proposed changes to RPS bill

- a. Would count any distributed generation toward compliance, not just extra
- b. Would allow for annual net metering. This would only apply to new projects. Only for first 7 years.
- c. One concern about utilities having to pay fines for not meeting RPS standard is that it would have gone to general fund. Change this so that cooperatives in lieu of paying a fine could instead invest that into distributed energy or energy efficiency projects
Chris also noted clean energy standard would have looked back 10 years, rather than starting from current time

Railbelt Decarbonization study

Phylicia Cicilio (ACEP)

Study is looking at year 2050 for 100% decarbonization of the Railbelt. Technical working group includes AEA and engineers from each Railbelt utility Complimentary to work NREL has done with RPS.

As part of the study, looking at new or expanded wind generation sites
3 general scenarios the study is looking at:

- Decentralized: Includes increase in residential heat pumps, EVs and residential solar. Also includes IPPS, and co located battery systems
- Centralized: Focuses on large utility scale projects
- Energy Export: Phylicia noted given public input, not going to look at this one more for now

Also looking at combinations of these models. Different types of energy generation include utility scale, solar, geothermal, hydro, tidal and nuclear and natural gas model. Assume carbon sequestration or some kind of ammonia

Resource assessment, load forecasting, economic dispatch and impact on rates all part of study. Does not look at decarbonizing heating and transportation sector, but are including electrifying of some of those sectors.

For wind resource sites, looking at 7 utility scale wind sites that could be developed or expanded - Eva Creek , Delta, Shovel Creek, Fire Island, Little Mount Susitna. Site near Houston, and site near Homer.

Also looking at increase in transmission size 300-500 MW. Based off previous reports from EPS.

Feb or March will have more public workshops on this. June is deadline for study to be done.

Chris: In 2050 what is the expected uptakes of heat pumps and EVs.
Phylcia: Moderate scenario is 25% have residential heat pumps, solar and EVs.
Aggressive scenario is 90%

Alaska Renewables Wind Farm plans

Matt Perkins and Andrew McDonnell, Alaska Renewables

Introduced themselves. Impetus for work was responding to GVEA RFI 2 years ago. They are preparing a portfolio of sites around the state and engaging industrial sites on wind generation. Hiring right now.

12:30 PM ROUND THE ROOM UPDATES

Federal Funding updates (Ian Baring-Gould, NREL)

New office at DOE Office of Clean Energy Demonstration

Lot of funding for rural areas, communities under 10K to do unique demonstration projects. AK would be well situated as it has lots of unique applications
Start doing solicitation in summer and multiple rounds of funding are likely

USDA REAP program and more:

REAP program got an increase in funding.
They increased funding amounts to 50% grants.
Also Expanded eligibility Not just business but also co-ops, and communities
Also set aside \$350M for underutilized tech that has to be spent on non-solar, non EE work. Wind might fit into this category
Not clear when they'll have this ready. Typically do a call in spring

In IRA, the ITC has been reinstated for wind projects.

That's a 30% tax credit, or money in lieu of tax credit.
There are also lot of plus ups in law. So for example, if the project is in a Native community extra 10%. If it's a domestic technology, get another 10% Could get up to

a 50% tax credit or cash back. If combine with USDA grant could take 30% off the top.

Caution. A lot of this is up in the air right now.

Michael Bergey: DWEA has been lobbying for this, especially to be able to compete with Chinese solar panels. DWEA has put forward 85 pages of suggestions and responses to various agencies.

Under the Office of Clean Energy Demonstration (OECD) for rural areas, the program has \$1B over 5 years. \$200 million a year solicitation next spring or summer. DWEA is looking at using partnership intermediary agreement, to put together \$20-25M package to speed up process. Would provide technical assistance, planning, implementation all the way through commissioning to communities for deployment. Would work with certified manufacturers such as EO Cycle, Bergey wind, EWT. This could be an opportunity for projects in Alaska and DWEA is interested in hearing from people in Alaska interested this.

Josh: Is REAP funding for feasibility or design or purely just construction projects?
Ian: Typically just for construction projects. But that could change.

Chris: Noted that there is \$27B for new federal Greenbank being set up by EPA. Chris noted need for workforce development for these projects. Need people to operate and maintain. To the extent we can develop larger frameworks to go after money so all these aspects are covered to make sure projects have local capacity and the projects are successful.

ETIPP program (Rob Jordan, REAP)

Cohort 1 is done, reports will be posted online. Cohort 2 is in process. (See slide for details)

UPCOMING: February 6-10, 2023 – Alaska Forum on the Environment, Dena'ina Civic and Convention Center, Anchorage, AK

12:45PM ADJOURN