

Alaska Wind Working Group Minutes

Nov. 16, 2016

ACS Business Technology Center

Anchorage Alaska

In attendance in person and on the phone:

Connie Fredenberg(Utility Management Assistance),
Colin Young (Kodiak Electric Association)
Richard Peck (Utility Innovations),
Ted Peck (Holu Energy),
Reese Huhta, Unalakleet Village Electric Coop
Dave Tomlinson (Unienergy Technologies)
Josh Craft (AEA),
David Clarke,
Ed Jenkin (MEA),
Bob Seitz,
Bill Thomson (AVEC) Scott Stiker (AVEC), Bill Stamm (AVEC),
Rob Roys (Huntley & Associations),
Bailey Gamble (ANTHC),
Karen Peterson (UAF Cooperative Extension),
Devany Plentovich (AEA),
Martin Miller (Coffman Engineers)
Tom Wolf (Denali Commission
Bill Aldreggetti, (Northern Power Systems),
John Handeland (NJUS)
Stephanie Nowers, KIS Consulting, Chris Rose (REAP)

9:00 CALL TO ORDER

9:05 INTRODUCTIONS & COMMENTS

- Josh Craft.- Glad group is here to bring more voices into conversation, and work to advance industry in Alaska. Find new sources of funding
- Dick Peck – start thinking about offshore wind, ala Block Island
- Bill Thomson – should talk about joining ATHENA Training Initiative from NW Territories
- Connie F. – Need to talk more about abandoned projects, how to avoid those mistakes
- Chris – Working with Alaska Microgrid Partnership (ACEP and 4 National Labs and REAP) looking at 3 buckets financing, training workforce development & Technology
- Martin Miller – Communication – how to pull information together, especially detailed information
- Dave Tomlinson – bring in telecommunication and energy storage

9:30 WWG STRUCTURE

Mission, Vision & Goals

Alaska Wind Program Advisory Committee Discussion

- **Josh gave an overview.** Goal is to develop more advisory role for AEA

Wind Program. What are the priorities, what can AEA and state do to help wind industry grow, what can be done better.

(Karen Peterson, Devany Plentovich gave presentation on how the Biomass Advisory Committee known as Wood Energy Task Force Group has worked

Set up:

- Collaborative coalition of 18 federal agencies, state agencies, tribal and not for profit organizations. Has an MOU (was required by USFS)
- Established 2004, formalized in 2010
- Why started – lots of people coming to AEA with biomass projects with no idea if their project was suitable, if it fit, what was needed. Idea was to provide some pre feasibility work, be a point of contact, help provide assistance for project, let people know if they actually had opportunity to move forward with a project

Services:

- Funded 150 feasibility studies in 12 years, resulted in over 32 operating systems in the state.
- Funding – Group provides some funding, also helps identify other sources of funding for projects such as Alaska Village Initiatives or DOE
- Contract with FEDCO in FBX to solicit RFP and manage contractors for pre feasibility studies.
- Task force selects projects for pre feasibility studies and selects the engineering contractors
- Wood task group has score sheets WWG could borrow
- Structure – Devany is state lead, Dan Parrent federal lead, AWEDTG funds Karen to facilitate the AWEDTG and Amanda Byrd at ACEP to facilitate the state wide wood energy working group. AEA and USFS are primary funders, they fund Karen's position and feasibility studies.
- Almost everyone on AWEDTG (~18 people) participate in State Wide Wood Energy Working Group (~150 people)
- Karen coordinates meetings, about once a month, annual meeting in person to review progress and set priorities
- Process
 - Year-round accept statements of interest, super (intentionally) simple form, who are you, what's the building want to heat, and some info on building
 - Committee selects projects, forward them to FEDCO, FEDCO prepares an RFP to solicit contractors, FEDCO does basic screen then sends to AWEDTG which selects contractor, then FEDCO prepares contract and manages the contractor, timeline and payment. * FEDCO can do 2 month turnaround on RFP at 8% for contract management

TIPS for success

- Require contractor to do a public meeting in the community during the site visit – avoids problem with information not getting

- communicated to community.
- After the study is done, do a teleconference with AWEDTG members and the community to review and discuss the pre feasibility study – avoids problem with study not being understood by community. Also having task group members allows input separate from contractor
- Diverse composition of Task Group
- Task Group speaks with ONE VOICE
- Include O & M personnel early in discussions (ask them early on what do you think of this project)
- Application requires community advocate
- Cost effective
- Application is easy to fill out
- EVERYONE does outreach, task force members leverage their already scheduled travel to reach out to communities.

DISCUSSION OF WIND PROGRAM ADVISORY COMMITTEE

- Chris Rose – what do folks think of biomass task force structure and what should be focus. He noted only agencies and non profits are on the task force. No contractors, for profit on the task force
- Devany – No private entities avoid that conflicts of interest. Has also allowed private sector to participate in funding opportunities
- David Clarke – really good example of best practices.
- Connie Fredenberg – Noted that had experiences where community did everything right, had a technical issue or other problems.
- Ed Jenkin – overall goal of advisory committee should be o help communities get projects built and done well
- Rob Roys – Wide Gap between feasibility and development, lot of projects stall out between those two. Also stall in financing -- Private developers interested in projects, but not on one off basis, they always ask could do it at larger scale. Could this group help with this?
- Connie Fredenberg – hurdle for community to take out loan for Renewable Energy project they may not perform as expected. Penetration level too low to pay it back where higher penetration projects are not working as well. Would not do a loan project without performance guarantee attached to that loan. Low penetration system benefits may be offset by complexity of system and cost of maintaining it.
- Chris Rose - One issue is lack of consistent data. AEA could require the data and ACEP could analyze the data
- Devany Plentovich – the biomass task group has narrowed technology down to few types, very simple, that has good customer support. Systems installed through task group are all operating
- Devany -- Also provide 3rd party screening. Will take a look at new technology, will do screening of new latest technical evaluations
- Karen – Maybe create wind technology review task group
- Bob Seitz – Needs to be technical analysis early -- Any new gear that goes in

should have to evaluate switchgear and distribution system. Would need a technical evaluator

- Chris- could do a technical checklist
- Bob Seitz – On finance side, for communities could look at what businesses could do well with additional energy to increase economies of scale
- Bill Thomson – past projects probably wouldn't have done without grants because it was new technology, but now do see ability to do cost effective. Cost of wind has come way down nationwide, but at microgrid scale still difficult economically. Can put in bigger turbines which is more economic but comes with increased technical difficulty.
 - Reluctant to recommend to individual villages – the technical overhead is too much. Working on grid bridging solution that does not require custom engineering
 - Disruptive technologies – What's going to happen in maybe just a few years when cost of solar cost drops below what AVEC can provide power at currently
- Chris – technology review task group. Might have 3 different audiences – railbelt, one off communities, bigger utilities like AVEC.
- Martin – Need technology review, but also need more than that
- Josh Craft – What purpose should Wind Program Advisory Committee serve? Could it give more input on technical discussions. AEA has mandated high penetration systems are still an emerging technology. Could the advisory committee weigh in on whether folks agree with that
- Ed Jenkin: Wondering how Railbelt projects could be serve
- Chris: Maybe we should not be promoting one off in communities. Maybe not the best for them. Maybe focus on upgrading communities.
- Bill Thomson: could be opportunity for technological trickle down from AVEC experiences to others.

Chris and Stephanie will work with those interested to convene a group of people and come back with proposal in terms of composition, structure.

- Scott Stiker interested in helping with committee
- Robert Seitz interested.
- Bill Thomson interested
- Martin Miller, Coffman interested.
- Connie Fredenberg,

11:00 BREAK (15 minutes with snacks provided)

11:15 PROJECT UPDATES

John Handeland (Nome update)

- Reviewed past history of Nome Wind Farm project and discussed existing PPA
- EWTs functioned well, while under PPA had to curtail units to match system

- requirements. After PPA cancelled, shut down Entegrities for while so could fully use EWTs without curtailment. Have since restarted some Entegritys
- 15 Entegritys still operating, but have some ongoing maintenance issues. Currently no funding for maintaining those.
 - Blade repair failure: In February, anomaly with one EWT blade. Caused irregularity and a whistling sound and potential hole in blade. Appeared to be from ice puncture
 - Have maintenance contract with EWT. They recommended shut down turbine. Notified in May that blade damage not covered by the EWT maintenance and service agreement. Will likely be covered by ARECA insurance
 - Challenge to have support equipment such as cranes to do repairs. Had crane in town, but couldn't take off just one blade.
 - Contracted to access blade with platform. Turned into a 12-week project because of requirement to occasionally rotate blades. Used a company out of California called Rope Partner that does turbine maintenance around the country.
 - August – turbine back on line. Turbine performed quite well since then.
 - Negotiated with insurance company for reimbursement for diesel fuel costs while turbine was not operating
 - SCADA set point to curtail Entegrity to maintain minimum on diesel engines
 - Seen Penetrations as high as 35-40%, without detriment impact to frequency
 - Future – is there other place in community to utilize dump load or other electric boilers for utilizing more wind resource wind available. Load mismatch with lots of wind in summer.
 - Lessons Learned: Remoteness an issue when comes to major repair
 - Question: Have you backed off on spinning reserve? Diesel Generators are able to pick up variation in wind from wind farm. Utility is retooling smaller generators to possibly run those instead of the larger diesel engines and look at whether those would cause outages.
 - Could you add more EWTs to system? Not at this point.
 - 2015 2 million kwh of wind, equivalent of 146,000 gallons displaced. This is actual production not net use.

Policy Update (Chris Rose)

- **Power Cost Equaliation (PCE):** SB 186 passed that the endowment would remain intact and excess earnings would go toward revenue sharing and energy projects. However, unlikely to see lot of funding this year. AFN just passed resolution saying formula for PCE should be changed. So may take another look at this. Consensus was not to apply a flat formula. Perhaps use some percentage of community's PCE payment to go toward innovation. REAP is creating a subcommittee, anyone who wants to be involved, contact Chris
- **Railbelt Independent System Operator (ISO):** Discussion of ISO that would create long time energy plan for Railbelt. 3 Anchorage utilities poised to sign agreement for power pool could be nucleus for future ISO. REAP working to get rid of pancaking of tariffs and working on IRPs. REAP has another meeting

scheduled for January 13.

11:45 FUTURE MEETINGS

Wind Diesel Conference in Anch. (looking at mid March or June)
January AK Wind Working Group meeting

12:30 ADJOURN