ALASKA STATE LEGISLATURE
HOUSE SPECIAL COMMITTEE ON ENERGY
February 5, 2015
10:18 a.m.

MEMBERS PRESENT

Representative Jim Colver, Co-Chair
Representative Benjamin Nageak
Representative David Talerico
Representative Cathy Tilton
Representative Matt Claman
Representative Adam Wool

MEMBERS ABSENT

Representative Liz Vazquez, Co-Chair

COMMITTEE CALENDAR

PRESENTATION: ALASKA INDEPENDENT POWER PRODUCERS ASSOCIATION

- HEARD

PRESENTATION: ALASKA ENVIRONMENTAL POWER

PREVIOUS COMMITTEE ACTION

No previous action to record

WITNESS REGISTER

DUFF MITCHELL, Executive Director
Alaska Independent Power Producers Association (AIPPA)
Juneau, Alaska
POSITION STATEMENT: Provided a PowerPoint presentation entitled, "Designing Alaska's Future: Removing Energy Gridlock," and dated 2/5/15.

MIKE CRAFT, Owner
Alaska Environmental Power
Delta Wind Farm, Developer
Fairbanks, Alaska
POSITION STATEMENT: Provided comments related to his experience as an independent power producer.

ACTION NARRATIVE

10:18:51 AM

CO-CHAIR JIM COLVER called the House Special Committee on Energy meeting to order at 10:18 a.m. Representatives Nageak, Tilton, Claman, Wool, and Colver were present at the call to order. Representative Talerico arrived as the meeting was in progress.

PRESENTATION: ALASKA INDEPENDENT POWER PRODUCERS ASSOCIATION

10:19:50 AM

CHAIR COLVER announced that the first order of business would be a presentation by the Alaska Independent Power Producers Association.

10:20:06 AM

DUFF MITCHELL, Executive Director, Alaska Independent Power Producers Association (AIPPA), disclosed he is also the managing director of Juneau Hydropower, which is in the process of final licensing for a 19.8 megawatt (MW) hydropower project located 30 miles south of Juneau that would provide power and energy security for the capital city. He informed the committee that AIPPA's position on electrical competition is that legislative action is needed. The Alaska Independent Power Producers Association is comprised of Alaska Native corporations and private Alaska energy developers and operators in Alaska's wind, hydropower, ocean/river kinetic, and combined heat and power sectors. In addition, AIPPA includes a group of small private hydropower and transmission operators. The organization formed because members needed a collective voice to be heard along with that of the utilities. According to the Federal Energy Regulatory Commission (FERC), an independent power producer (IPP) is a corporation or entity that owns or operates facilities for the generation of electricity for use by the public, and which is not an electric utility. In comparison, utilities provide reliable service by producing or purchasing available power in a no- or low-risk situation by passing costs on to ratepayers; an IPP develops a facility and assumes all of the risks of permitting, financing, construction, and operations, and the development costs are paid by investors. Historically, IPPs were very rare until after passage of the U.S. Public Utility Regulatory Policies Act (PURPA) of 1978; section 210 of PURPA requires utilities to purchase energy from qualified IPPs' facilities at the utility's avoided cost, which

allows IPPs to garner a reasonable price for their energy, and ensures that energy generated by small producers is not wasted. Mr. Mitchell said PURPA was the result of the 1973-1974 oil embargo because, at that time, most of the utilities on the East Coast were dependent upon oil.

10:26:05 AM

MR. MITCHELL continued to explain that the desire for energy security spurred the development of IPPs across the country. He listed seven challenges to Alaska's generation of electricity as seen by IPPs:

- Alaska has the second most expensive electricity in the nation (slide 8); Alaska has had substantial rate increases compared to U.S. residential electricity prices (slide 9).
- Alaska's non-oil economy is electric intensive: electricity can be up to 50 percent of a mine's operating cost; electricity can be up to 35 percent of seafood processing operating cost.
- The high cost of electricity has social costs in Alaska: eat or heat dilemma; stagnant economy; dependency upon government subsidies; energy refugees.
- Alaska no longer has the money to solve in-state energy needs.
- Energy potential is virtually untapped: 40 percent of the U.S. potential hydropower; phenomenal wind power; tidal and wave; biomass; coal
- Ranks last in IPP competitive power generation: 4.2 percent generated from IPPs; average for the U.S. is 37.4 percent; China has 6 percent.
- Regulatory regime limits electrical competition.

10:31:51 AM

MR. MITCHELL advised that Alaska has resources and private capital available to develop its resources, thus AIPPA seeks regulatory remodeling in order to open Alaska to investment. He referred to an unidentified report that said Alaska was last in attracting private capital for clean energy investments (slide 10). According to AIPPA, Alaska is lagging due to the following:

- State regulations and utility practices are outdated and discourage competition, competency, and efficiency at the detriment of Alaska ratepayers.

- Wholesale competition is legislatively and regulatory nonexistent.
- Open access and transmission at non-discriminatory rates do not exist.
- Market forces are nonexistent.
- Dependence upon state money is not a competitive business model.
- Capital flight: Alaska businesses invest in energy resources outside the state
- Legislation and regulations are anti-competitive and utility-centric rather than market force-centric; through regulation, Alaska receives what it incentivizes.

MR. MITCHELL continued to address the seventh challenge, and pointed out that the state energy policy is a great billboard and encourages private investment and private development in energy resources, and promises streamlined regulations and job creation. However, he characterized the energy policy as aspirational; in fact, there was testimony before the Regulatory Commission of Alaska (RCA) that if the legislature intended implementation of the policy it would have provided RCA with direction. This interpretation created problems for the many IPPs that had invested money in anticipation of support from the state and the changes that were expected from its energy policy. However, RCA state regulations regarding "competitive power" remain unchanged since 1982. After expensive legal challenges, Alaska Environmental Power and AIPPA have Docket R-13-002 scheduled to be heard before RCA. He concluded that Alaska ratepayers pay too much due to protectionist policies that are out of "synch" with delivering the lowest competitive cost to ratepayers. Returning to PURPA, he explained that section 210 is designed to promote the development of alternative energy sources by overcoming the historical reluctance of electric utilities to purchase power from nontraditional facilities. Further, Congress directed FERC to promulgate rules requiring utilities to purchase electricity from qualifying producers at non-discriminatory rates. Each state was given the opportunity to implement PURPA; however, in 1982, the Alaska Public Utilities Commission (APUC) Docket U-81-35, Order No. 4, temporarily removed Alaska from the market forces of competitive energy development until Alaska utilities were "sophisticated" enough to have competition. He stressed that the temporary order to "hold off on the implementation of PURPA" has been the law since 1982.

10:38:08 AM

MR. MITCHELL turned to the subject of avoided cost, noting that FERC regulations require that states ensure that utilities purchase power from qualifying facilities at a level that equals the utility's avoided cost; in fact, IPPs can and have offered to sell energy at less than the avoided cost. However, Alaska uses average avoided cost, which includes the cost of energy from generation facilities that have depreciated to "zero." The federal definition is incremental avoided cost, and based on the last cost - which may be much higher - thus allowing alternative energy sources to displace the higher cost. He turned attention to RCA Docket R-13-002, and said on 1/28/15 RCA provided a status report on the docket after hearing testimony from Alaska Environmental Power representing Delta Wind Farm, AIPPA, and many utilities. Docket R-13-002 was to examine the definition of avoided cost, integration costs, curtailment of power, and open bidding process and mediation; RCA indicated that draft proposed amendments would be released on 2/11/15. The proposed amendments will include a revised definition of avoided cost; a revised determination of avoided cost rates; revised utilities' obligations to purchase from qualifying facilities; implementing the legally enforceable obligation to purchase power at the lowest cost; allocation of integration costs; revised qualifying facilities' interconnection requests; request utilities to compile avoided cost information; modify the standard for qualifying facilities under 100 kilowatt (kW). He advised the docket was heavily protested by Alaska utilities and the Alaska Power Association, thus the draft RCA amendments are an unknown. After a period for public comments, the decision will be issued on or before 8/23/15.

10:43:59 AM

MR. MITCHELL advised that AIPPA has learned from forums and testimony that regulators are reluctant to modify legislative intent: legislators legislate and regulators regulate; legislation establishes Alaska values, and regulations implement those values. Again referring to legislation that is directional versus aspirational, he cautioned against legislation that is not clear and specific, and opined that aspirational language has prevented the implementation of the state energy policy. He questioned whether legislators have the will to fix these matters by requiring competition and market forces, or wish to continue with the status quo. In fact, Docket R-13-002 would not resolve the Cook Inlet Region, Incorporated (CIRI) Fire Island issue, but legislation would, and he described pending legislation.

10:48:35 AM

CO-CHAIR COLVER asked Mr. Mitchell to curtail discussion of upcoming legislation.

MR. MITCHELL advised that electrical rates tend to be lower in all residential, commercial, and industrial sectors with restructured electricity markets; AIPPA is not asking for "retail choice" competition, but for wholesale competition. The purpose is not to destabilize the utilities, but to provide the utilities power at the lowest cost. He concluded that AIPPA's growing membership seeks to create jobs and supply power for industrial development and manufacturing in Alaska.

REPRESENTATIVE TALERICO recalled asking a presenter at a previous meeting whether an independent systems operator (ISO) or a unified systems operator (USO) system would guarantee that the lowest-cost power producer would provide energy to consumers in the Interior. He said the answer was unclear. His constituents in the Interior seek to reduce the cost of electricity. He restated the foreclosure rate in Fairbanks, and stressed that any improvement in costs would strengthen the future of the economy in the Interior and thereby help those living in remote communities. Representative Talerico expressed his belief that there is the potential to produce power for the grid at a more reasonable rate that is not fully utilized. He said, "All in all, is what you're telling me, is we need to be able to make that change to steer this a little bit better, so that everyone has that opportunity, for lower energy rates. It's my understanding that's not the case. Am I correct?"

MR. MITCHELL responded, " ... if you can't use transmission as a tool to prohibit commerce, but you use transmission as a tool to engage commerce, than it will work." In the Lower 48 and Canada, generation is separated from transmission; in fact, a utility that owns transmission assets at 69 kW or more must form a revenue-producing subsidiary to manage its transmission assets. In Alaska, utilities have a fiduciary responsibility to certificated areas and to their investors. In order to transfer power from one area to another, there are rules and problems to extract revenue. On the other hand, BC Hydro, the utility in British Columbia, economically wheels power across multiple states to Mexico at a competitive rate. He explained this is a man-made problem - not a technology problem - and first the rules need to be laid, one of which would be to separate

generation from transmission in order to prevent influence by executives because of their shared responsibilities.

10:56:43 AM

REPRESENTATIVE WOOL asked whether RCA has released prior decisions on Docket R-13-002.

MR. MITCHELL recalled that last year Delta Wind Farm, Alaska Environmental Power, attempted to have the rules of PURPA enforced for its contract with a local utility. From this case, RCA opened a docket, heard testimony from interested parties and issued a status report 1/28/15. He anticipated that the proposed rules to be revealed on 2/11/15 may be good for IPPs; however, there could be changes to the final document in response to public comment.

CO-CHAIR COLVER surmised there is alignment between IPPs and the majority of the Railbelt utilities that there needs to be an ISO and a transmission entity. Although there is common interest, parties are awaiting the RCA study on these concepts.

MR. MITCHELL agreed that the transmission system should be able to use - and not waste - excess power from all sources; IPPs are prepared to work with the utilities to establish a transmission company (TRANSCO) or ISO as long as "we just feel that the ground rules need to be pretty solid ..."

11:00:14 AM

CO-CHAIR COLVER described the failure to reach agreement on a power sale agreement between CIRI Fire Island Wind and Golden Valley Electric Association (GVEA). Golden Valley Electric Association had an agreement with CIRI to buy power from Fire Island Wind at [6.5 cents]; however, after transmission through several utility districts, the price to consumers in Fairbanks was 20 cents and thus uneconomical. He asked for comments from AIPPA.

MR. MITCHELL observed that the aforementioned "is the perfect case [for] why we have a problem, that's, that's our analysis." Furthermore, this issue is not new.

CO-CHAIR COLVER asked whether rate information is available to show how the costs increased from the production rate to the

delivery rate in Fairbanks, in order to see how regulations were applied. He noted some of the issues confronting competition, for IPPs or others, are moving power around the grid, the cheapest power, convenience, reliability, balancing loads, and spinning reserve.

MR. MITCHELL explained that most utility rate structure information is proprietary; however, a CIRI executive may be able to provide information on how the rate increased threefold.

11:03:34 AM

The committee took an at ease from 11:03 a.m. to 11:06 a.m.

PRESENTATION: ALASKA ENVIRONMENTAL POWER

11:06:25 AM

CO-CHAIR COLVER announced that the next order of business would be a presentation by Alaska Environmental Power.

11:06:40 AM

MIKE CRAFT, Owner, Alaska Environmental Power; Developer, Delta Wind Farm, provided a brief personal background information, noting he has lived in Alaska for 36 years. Mr. Craft said he was concerned that the unique opportunities available when he and his wife first came to Alaska are disappearing. In 2007, although the economy in Fairbanks was declining, he realized that cheaper energy, a better environment, and employment opportunities were needed. He and his wife built a small wind farm on the Parks Highway, and another in Delta Junction, which was found to be a better location for the generation of wind power. After forming a partnership, his company built the first Northwind 100 kilowatt (kW) turbine in the state, at a total cost of approximately $780,000, all funded with private capital. However, at the time the turbine was ready to provide 24 megawatts (MW) of power to the grid, the utility stalled progress by requiring an integration study, even though Mr. Craft had secured permits from the Federal Aviation Administration (FAA), U.S. Department of Transportation, and the Department of Natural Resources (DNR), a U.S. Fish and Wildlife study, and permission from the community of Delta Junction. The integration study cost $110,000 and concluded that Delta Junction was a better location for a wind farm when compared to Eva Creek. Mr. Craft said, "That pretty much got thrown in the trash." At this point, his company applied for a renewable

energy fund grant from the Alaska Energy Authority (AEA), Department of Commerce, Community & Economic Development (DCCED).

CO-CHAIR COLVER asked for the project's status at that time.

11:10:38 AM

MR. CRAFT stated one 100 kW turbine was operating and seven Skystream turbines in Healy were operating. In further response to Co-Chair Colver as to whether the company was making sales, he remarked:

> They finally gave us a contract for the 100 kW turbine and it was based on the average of what it cost, they stalled us for six months on the power line that we paid in advance for, and lo and behold, we got that turbine on there and we forced them, just through, kind of public pressure, to allow us to put that 100 kW turbine online. Sarah Palin's Department of Natural Resources commissioner came down and cut the ribbon on that turbine.

CO-CHAIR COLVER asked about the negotiations for the first power sales agreement (PSA).

MR. CRAFT credited luck and public pressure on Golden Valley Electric Association (GVEA). In further response to Co-Chair Colver, he said there was no intent to make a profit from the 100 kW turbine; the goal was to establish a wind regime and wind technology. He further explained that GVEA had approached RCA for a qualifying facility (2) rate - an average calculation - therefore, Mr. Craft's company was competing against power from the Bradley Lake Hydroelectric Project (Bradley Lake hydro) and GVEA's diesel plant, which was averaged about $0.09 cents per kilowatt hour (kWh). At that point, he applied for a 50 percent matching grant from AEA, which helped get a EWT 900 kW turbine online. Because the state became involved through the grant, GVEA extended the contract from 100 kW to 1 megawatt (MW). In response to a question from Co-Chair Colver, he explained that a EWT turbine is a direct drive turbine manufactured in Holland, which produces 900 kW, and has a 240-foot-high tower and 160-foot-long rotors. Pouring its foundation required 450 truckloads of concrete, and the construction of the turbine was a boon to the Delta Junction economy. A direct drive turbine is most suitable for harsh wind conditions at -50 degrees F. After initial problems, the

turbine is now operating at 99 percent availability, with 69 percent capacity factors. He described an 18-day wind event. In further response to Co-Chair Colver, he said the turbine had an environmental shut-down when the wind exceeded 25 meters per second, or 55 miles per hour (mph). An environmental shut-down can cause problems with integration, as indicated by the integration study provided to GVEA.

11:15:34 AM

CO-CHAIR COLVER inquired as to the identity of the installer and technical support for the turbines.

MR. CRAFT said he hired Precision Cranes from Fairbanks. In further response to Co-Chair Colver, he said the purchase of the turbine includes a one- to three-year warranty from the manufacturer, and the use of an erection crew.

CO-CHAIR COLVER pointed out the utilities would be concerned about specifications and "getting all the bugs out."

MR. CRAFT acknowledged his turbine was the first to operate at -40 degrees F. He further explained frost or ice on the blades was not an issue in Delta Junction

CO-CHAIR COLVER asked whether Mr. Craft would invest further in the construction of additional wind power installations.

MR. CRAFT said he has six empty installation holes, roads, and permits for more; in fact, the project's strong wind regime has garnered interest from other investors. He answered, "We're ready to spend $50 million."

CO-CHAIR COLVER said, "Will you be able to get on the grid with that power?"

11:17:49 AM

MR. CRAFT said he was waiting to see, but was hopeful because of the RCA "R" Docket and upcoming proposed legislation. He stressed that after receiving the AEA grant and further investment, a second EWT turbine was installed, which produced 2 MW, saving GVEA $1 million, and displacing 300,000 gallons of oil.

CO-CHAIR COLVER inquired as to the availability of data comparing output from the Delta Wind Farm to that of other wind farm sites.

MR. CRAFT assured the committee that his information is shared with AEA on a daily basis, and is available to everyone in the state. In further response to Co-Chair Colver, he said others are secretive. Through RCA certificate of public advantage (COPA) filings he has learned that GVEA does not charge itself for regulating Eva Creek Wind, but would charge him $0.18. To an earlier question, he said power is wheeled from Bradley Lake hydro to Fairbanks at zero cost; however, the proposed charge to the wind farm was $0.14, which illustrates the disparity in this matter.

CO-CHAIR COLVER asked whether the disparity was because Bradley Lake hydro was managed by all of the utilities, and was developed with state funds in a cooperative effort, as opposed to a project developed by private non-utilities.

MR. CRAFT opined the reason the offered rate was $0.14 was that Fairbanks buys seven MW of economy cells from Chugach Electric Association (CEA), and the proposed wind power would have competed with this gas-generated power. Although wind power was cheaper for Fairbanks, and of benefit to the community, greed was the "motivation for killing that wind farm." In response to Representative Wool, Mr. Craft said Delta Wind Farm was the first commercial wind farm on the Railbelt grid.

REPRESENTATIVE WOOL asked whether GVEA's current approach to Delta Wind Farm was the result of its savings using wind power, and also from changes in management.

MR. CRAFT said no.

11:22:38 AM

CO-CHAIR COLVER urged the committee to request data from AEA on Fire Island Wind and GVEA in order to determine the best location in Alaska for the production of wind power.

MR. CRAFT advised that the three wind farms are in three different wind regimes, thus creating a balance in spinning reserves.

REPRESENTATIVE TALERICO expressed his belief that most GVEA bills show an evaluation of power production. He recalled that

Eva Creek Wind produces about 32 percent power, but has less availability. Typically, wind farms seek 28 percent.

MR. CRAFT acknowledged that during the summer generation drops off; 85 percent of power production comes during November, December, January, February, and March.

CO-CHAIR COLVER described the location and geography of Delta Junction which creates frequent wind events.

MR. CRAFT said Delta Junction has no property taxes or zoning, and the wind farm represents not just access to cheap electrical generation, but economic opportunities for industrial development.

11:26:18 AM

ADJOURNMENT

There being no further business before the committee, the House Special Committee on Energy meeting was adjourned at 11:26 a.m.