ALASKA STATE LEGISLATURE
HOUSE SPECIAL COMMITTEE ON ENERGY
March 14, 2023
10:15 a.m.

MEMBERS PRESENT

Representative George Rauscher, Chair
Representative Tom McKay
Representative Stanley Wright
Representative Mike Prax
Representative Calvin Schrage
Representative Ashley Carrick

MEMBERS ABSENT

Representative Josiah Patkotak

COMMITTEE CALENDAR

PRESENTATION(S): RURAL ENERGY UTILITIES

- HEARD

PREVIOUS COMMITTEE ACTION

No previous action to record

WITNESS REGISTER

BILL STAMM, CEO
Alaska Village Electric Cooperative
Anchorage, Alaska
POSITION STATEMENT: Gave a PowerPoint presentation, titled "Keeping the Lights on off the Road System."

JODI MITCHELL, CEO
Inside Passage Electric Cooperative
Juneau, Alaska
POSITION STATEMENT: Provided invited testimony during the presentations on rural energy utilities.

TRAVIS MILLION, CEO
Copper Valley Electric Association
Anchorage, Alaska
POSITION STATEMENT: Gave a PowerPoint presentation, titled "Copper Valley Electric."

ACTION NARRATIVE

10:15:36 AM

CHAIR GEORGE RAUSCHER called the House Special Committee on Energy meeting to order at 10:15 a.m. Representatives McKay, Schrage, Wright, Prax, and Rauscher were present at the call to order. Representative Carrick arrived as the meeting was in progress.

PRESENTATION(S): Rural Energy Utilities

10:17:11 AM

CHAIR RAUSCHER announced that the only order of business would be presentations on rural energy utilities.

10:18:46 AM

BILL STAMM, CEO, Alaska Village Electric Cooperative (AVEC), provided a PowerPoint presentation, titled "Keeping the Lights on off the Road System" [hard copy included in the committee packet]. He began on slide 2 and stated that AVEC provides electricity to 31 thousand residents across 58 rural communities. He stated that AVEC is a nonprofit organization that generates the electricity it sells. It has 160 diesel generators across 48 powerplants and used approximately 9.1 gallons of diesel in 2022. With 515 miles of distribution lines, he said that in 2022 it sold 124.5 megawatts (MWhs) of electricity, generating $60.7 million in revenue.

10:21:22 AM

MR. STAMM, in response to a question from Representative Schrage, answered that wind power generation is prevalent along the west coast of Alaska.

MR. STAMM resumed the presentation on slide 3 and gave an overview of the number of AVEC employees. He stated that AVEC has headquarters in Anchorage, with 48 full-time employees, along with 120 local powerplant operators and 24 traveling technicians. Referring to slide 4, he pointed out a graph showing the relative size of the communities served by meter count. He contextualized the pictures on slide 5 through slide 8, stating that 92 percent of the people served by AVEC are Alaska Natives. In most communities served by AVEC, he said

that the school is the largest user of electricity; however, fish processing plants in some communities are the greatest user of electricity.

10:27:36 AM

MR. STAMM, in response to Representative Schrage, highlighted AVEC's powerplant, shown in the aerial view of Toksook Bay on slide 6.

MR. STAMM continued describing the image on slide 7, which is the Noatak powerplant. He pointed out that the two blue buildings house the power generators, and the circular buildings are the fuel tanks, which hold between 7-12,000 gallons of diesel. He added that all diesel used by Noatak must be flown in at great expense.

10:29:35 AM

MR. STAMM, in response to Representative Prax's comment concerning the poor condition of the powerplant, conveyed that the diesel generator is state of the art; however, without barge service it is difficult to transport large items for maintenance and repair. In response to the further observation that the tank farms appear to be falling apart, he confirmed that the tank farm is on a high priority list for renovation and possible replacement.

MR. STAMM, in response to Representative Schrage, answered that the community no longer receives barge service because the river has changed course. He explained that because of erosion, the airport is in the process of being moved.

10:33:26 AM

MR. STAMM directed attention to slide 8, which featured an image of the power facility in Stebbins. He described the powerplant, stating that the tanks are elevated to avoid issues with settling. He added that the plant has four generators. In response to a committee question concerning the recent windstorm, he expressed the understanding that there was some flooding in the community of Stebbins, but no substantial damage was sustained. In response to a follow-up question, he stated that Stebbins is southeast of Nome, across Norton Sound.

10:36:24 AM

MR. STAMM described the map of vendors on slide 9, explaining that the map also shows marine fuel supply routes. He pointed out the system of fuel delivery, stating that many villages in Alaska receive service from only one or two vendors. He turned to slide 10, overviewing renewable energy generation for the rural utilities. He said that 4.5 MWh was generated by wind and 0.2 MWh by solar in 2022. The total generation from these two sources amounted to approximately 5 percent of energy generated by AVEC. In response to a committee question, he stated that the axle height for the wind turbines is approximately 150 feet.

10:38:54 AM

REPRESENTATIVE SCHRAGE highlighted renewable energy and asked how something variable, like wind, is integrated into the power grid.

MR. STAMM answered that water heaters must be used to provide heat for some buildings in the community. He added that battery storage technology [for renewable energy] is improving.

MR. STAMM continued to slide 11 and displayed a chart showing power consumption and generation by AVEC. He said that AVEC has a line loss of between 5 and 6 percent, and as a result it generates less electricity for the 31,000 members than the members would typically require.

10:42:22 AM

REPRESENTATIVE PRAX asked whether the increase of power consumption comes from the acquisition of existing facilities.

MR. STAMM answered that it does. In response to a follow-up question, he expressed uncertainty concerning the money that has been saved. He expressed the belief that the economy of scale has given AVEC savings and opportunities that would not be available if each community produced its own power.

MR. STAMM detailed the graph on slide 12, which showed the average cost to operate per kWh sold in 2022. He said that the dotted line on the graph separates the cost of fuel from other costs such as payroll. He stated that the fuel cost accounts for over half of spending.

10:45:31 AM

REPRESENTATIVE PRAX speculated that many of the capital expenditures had been funded through grants, which kept the interest expenses low. He asked whether the depreciation expense is high enough to replace equipment.

MR. STAMM answered that it is not. In response to a follow-up question, he stated that in order to replace equipment in the future, AVEC would have to raise its rates.

MR. STAMM, in response to a committee question concerning the lifespan of the equipment, indicated that there is a variety of depreciation values. He said that wind turbines and diesel generators have a 20-year lifespan. He said maintenance is a key part for the systems. In response to a committee question concerning funding for AVEC's growth, answered that most of the funding has come from acquiring additional locations, thereby increasing its revenue base.

MR. STAMM outlined AVEC's funding on slide 13. Describing the pie charts, he noted that power cost equalization (PCE) does not apply to commercial or state services. This means that when PCE is applied it typically reimburses half of the costs for a residential consumer. He estimated the contribution from membership to be 80 percent.

10:50:29 AM

MR. STAMM advanced to slide 14 and slide 15 and overviewed why power is so expensive in rural Alaska and what AVEC is doing in order to reduce some of these costs. He stated that because the economy of scale is small, efficiency is lower. Rural Alaska is remote and difficult to access, and communities do not have the infrastructure for more efficient means of transportation. He said that AVEC is working to interconnect different communities, as this would increase the economy of scale; however, he acknowledged that AVEC is not always accepted in certain communities.

MR. STAMM, in response to a committee question, said AVEC does not reach out to communities to offer power; instead, communities request to join the cooperative. In response to a committee question concerning whether there is a standard rate, he stated that it depends on the community. For example, he said, Bethel and Yakutat are "standalone" communities that have different rates.

10:55:08 AM

MR. STAMM, in response to a committee question concerning energy education and workforce development, stated that AVEC works with other nonprofits that provide education in K-12 schools. Additionally, he detailed various other projects that promote workforce development with Native Corporations and the Alaska Energy Authority (AEA).

MR. STAMM continued to slide 16, which displayed a map of St. Mary's Family Projects, including a 900-kWh wind turbine, a 20-mile intertie to Mountain Village, 410,000-gallons in bulk fuel storage, and a 3-MWh powerplant.

10:58:42 AM

REPRESENTATIVE PRAX inquired about the sustainability of the project.

MR. STAMM reiterated that additional funding sources would be needed in the future.

REPRESENTATIVE PRAX asked whether there was a plan for any costs the state might incur 20 years from now.

MR. STAMM clarified that this was not a new problem, as many facilities in Alaska need replacement. In response to a series of follow-up questions, he said that AVEC's goal is to be sustainable. He stated that AVEC uses years of studies to make decisions for the best possible return. He continued that AVEC does fund some of its own studies, in addition to using studies from a variety of other sources. He added that some of the other sources include AEA and the U.S. Department of Agriculture.

11:04:02 AM

JODI MITCHELL, CEO, Inside Passage Electric Cooperative (IPEC), stated that IPEC serves four separate microgrids in Southeast Alaska. She touched on the remoteness of communities and stated that the unreliability of the ferry service makes it difficult to source materials. She stated that it has been challenging, but IPEC has been trying to reduce reliance on diesel over the years. The average price of diesel had been $2.77 but has increased to over $6 in recent years. She said IPEC has been focusing on building small hydroelectric projects to reduce diesel consumption and save money. She shared, for example, that Hoonah is powered by a small hydroelectric project.

11:09:02 AM

MS. MITCHELL discussed the small hydroelectric project in Kake, characterizing these projects as "small but mighty." She noted that hydroelectric projects use assets with a long-life span, saving money over time, reporting that Gold Creek in Juneau has been online for 120 years. She opined that reliance on diesel-generated power would never be completely eliminated. Additional projects are in the works, including the Fair Creek Hydroelectric Project in Angoon. She stated that the project would provide 99 percent of the power needed by the community with room for new businesses and economic tourism. She said that another project being built, the Gartina Falls Hydroelectric Project would bring Hoonah to between 50 and 60 percent renewable energy.

11:14:15 AM

MS. MITCHELL discussed the relationship between PCE and larger communities. She explained that PCE rates are dependent on larger community rates, with the aim of lowering the cost difference between the two. The high rates currently facing customers make it difficult to attract new communities to the cooperative. She indicated that the goal is to have a sustainable restaurant in each community and to provide enough energy to support these businesses. She indicated that relying on solar energy generation is a problem because of the frequency of overcast skies, as this could cause a blackout; however, she suggested that some solar generation should be utilized, owned, and operated by the utility.

11:18:19 AM

REPRESENTATIVE CARRICK inquired about the options for other rural communities in Southeast Alaska that were not part of the cooperative.

MS. MITCHELL expressed uncertainty. She suggested that there is a desire from certain communities to remain independent. In response to a follow-up question, she said that there have been discussions for other communities to join the cooperative, but nothing has solidified.

MS. MITCHELL, in response to a follow-up question from Representative Prax concerning attracting other communities, answered that IPEC has much to offer as a nonprofit

organization. She added that IPEC is made up of "the diesel experts of the Southeast." She advised that an increased economy of scale [by adding additional communities] would result in lower electric rates.

11:22:35 AM

TRAVIS MILLION, CEO, Copper Valley Electric Association (CVEA), began on slide 2 and stated that CVEA Association also uses a cooperative business model. He said that CVEA has assets totaling approximately $150 million. He added that it has 45 employees and does not benefit from the PCE program.

MR. MILLION continued to slide 3 and detailed the service area covered by CVEA. He noted that the number of employees at CVEA is small compared to the amount of land covered by CVEA. He stated that the corporate headquarters for CVEA is located in Glenallen, and the total service area is approximately the size of the state of Maryland.

11:24:28 AM

CHAIR RAUSCHER asked whether it would be dangerous to set up lines connecting CVEA to Matanuska Electric Association (MEA).

MR. MILLION answered that because of the limitations of the different lines being used in remote areas, it would not be very effective. In response to a follow-up question, he said that there is only one home that he knows of that is within CVEA's range, but not serviced.

11:26:53 AM

MR. MILLION detailed the CVEA's system on slide 4 and stated that it has three transmission and six distribution substations, 106 miles of transmission lines, and over 500 miles of distribution lines. He continued to slide 5 and slide 6 and gave a brief overview of some of CVEA's generation plants. He stated that between 60 and 70 percent of its electricity is generated from hydroelectric plants, including those at Solomon Gulch and Allison Creek. He said CVEA is still able to generate hydroelectric power during the winter; it generates approximately 25 percent of its electricity with its 5.2 MWh gas turbine cogeneration plant.

11:31:08 AM

MR. MILLION, in response to a committee question, answered that the source of the natural gas bought by CVEA is the Petro Star refinery. In response to a follow-up question, he confirmed that there is some trade-off when CVEA sells the heat back to Petro Star.

MR. MILLION described the diesel generation plants operated by CVEA, saying that between 5 and 15 percent of its energy is generated by diesel. The plant in Glenallen has a capacity of 9.2 MWh and the plant in Valdez has a capacity of 8.6 MWh. He stated that CVEA has placed significant emphasis on maintenance over the last five years. He discussed the graph on slide 8 featuring cost per kWh generated by hydroelectric plants versus diesel plants. He discussed the high cost of fuel, peaking at more than double summertime rates during the winter when CVEA needs diesel to make up the difference in generated power. He continued to slide 9 and gave an overview of the challenges faced by CVEA. He said that CVEA has seen several long-time employees enter retirement, with more set to retire in the coming years.

MR. MILLION, in response to a committee question, answered that CVEA has been fortunate enough to fill all its positions and currently has no openings. In response to a follow-up question, he stated that all employees are required to live within the coverage area of CVEA.

11:36:54 AM

REPRESENTATIVE PRAX asked whether depreciation costs have been accounted for.

MR. MILLION answered that CVEA is recouping the necessary costs to replace its aging infrastructure. He reiterated that some of its projects receive funding from grants. In response to a follow-up question, he stated that CVEA is in talks with Alyeska Electric to exchange power. He said that the Regulatory Commission of Alaska has already approved some aspects of the plan.

11:41:05 AM

MR. MILLION resumed the presentation on slide 9 and discussed increasing regulations. He said that the federal government has increased regulations on hydroelectric power. He noted that a feasibility study had been conducted to consider deploying a micromodule reactor in CVEA's coverage area. He highlighted the

rising cost of materials, noting a 300 percent rate increase in the cost of transformers. He said that CVEA has also had some difficulties in working with the Alaska Department of Natural Resources because of staff turnover at the department.

11:44:48 AM

CHAIR RAUSCHER inquired about the price of the microreactor.

MR. MILLION answered that CVEA had provided a price range to vendors that would keep CVEA competitive. In response to a follow-up question, he said the price depends on the vendor, but it would be around $100 million.

CHAIR RAUSCHER asked for a projection on the cost of an intertie between CVEA and MEA.

MR. MILLION answered that the cost estimate is $566 million.

11:47:49 AM

ADJOURNMENT

There being no further business before the committee, the House Special Committee on Energy meeting was adjourned at 11:47 a.m.