

**ALASKA STATE LEGISLATURE  
HOUSE SPECIAL COMMITTEE ON ENERGY**

March 5, 2019  
10:18 a.m.

**MEMBERS PRESENT**

Representative Grier Hopkins, Chair  
Representative Zack Fields, Vice Chair  
Representative John Lincoln  
Representative Ivy Spohnholz  
Representative Tiffany Zulkosky  
Representative George Rauscher

**MEMBERS ABSENT**

Representative Lance Pruitt

**COMMITTEE CALENDAR**

PRESENTATION: POWER COST EQUALIZATION

- HEARD

**PREVIOUS COMMITTEE ACTION**

No previous action to record

**WITNESS REGISTER**

MEERA KOHLER, President & CEO  
Alaska Village Electric Cooperative (AVEC)  
Anchorage, Alaska

**POSITION STATEMENT:** Presented a PowerPoint titled "Power Cost Equalization A Primer and Look Back."

**ACTION NARRATIVE**

[10:18:55 AM](#)

**CHAIR GRIER HOPKINS** called the House Special Committee on Energy meeting to order at 10:18 a.m. Representatives Hopkins, Zulkosky, Rauscher, Lincoln, and Spohnholz were present at the call to order. Representative Fields arrived as the meeting was in progress.

**PRESENTATION: POWER COST EQUALIZATION**

10:21:17 AM

CHAIR HOPKINS announced that the only order of business would be a presentation by the Alaska Village Electric Cooperative, Incorporated on Power Cost Equalization.

10:21:50 AM

MEERA KOHLER, President & CEO, Alaska Village Electric Cooperative (AVEC), directed attention to a PowerPoint, titled, "Power Cost Equalization A Primer and Look Back." She explained that Alaska Village Electric Cooperative, Incorporated was referenced as AVEC and PCE was a reference to Power Cost Equalization.

10:22:40 AM

MS. KOHLER presented slide 1, titled "Looking back to 1977," noting that this was "the year that oil first flowed down the pipeline." She reported that there was virtually no transmission system in Alaska. Chugach Electric was the big utility and it owned a transmission line from the Beluga gas field to Anchorage, which provided power to Anchorage. Fairbanks relied on local heavy oil and coal, with diesel fuel as the primary energy source everywhere else. There was very little hydropower in Alaska, although the Eklutna 30 MW [megawatt] power project served the Anchorage and Matanuska-Susitna areas and the Snettisham 52 MW project served Juneau. She said there were an additional 20 MW of small projects scattered throughout the state, primarily in Southeast Alaska.

MS. KOHLER moved on to slide 2 titled "Oil started flowing down the Pipeline." There was a focus that affordable energy was needed all over the state, so the State began to spend its newfound wealth. A transmission line to Fairbanks was started, the Susitna 1600 mega-project design was started, the Bradley Lake 90 MW hydro project was started near Homer, and the four dam pool projects for Ketchikan, Wrangell, Southeast, and Petersburg, as well as Kodiak and Valdez began work with funding from a mix of grants and bonds from the state. She referenced a study commissioned in the early 1980s to identify projects to reduce the cost of electricity throughout Alaska. She moved on to slide 3, "The First Power Cost Assistance program." She reminded the committee of the oil embargo in the late 1970s, as oil prices had peaked in 1979 and diesel-fueled utilities were

hit hard. This triggered the Alaska State Legislature to establish the Power Production Cost Assistance (PCA) Program in 1980 as a one year stop-gap to bring down the cost of electricity for those diesel-powered communities. In 1981, the program was amended into the Power Cost Assistance Program, which was designed to self-extinguish in five years. This was the precursor to the Power Cost Equalization (PCE) program, which was implemented in 1984.

[10:26:22 AM](#)

MS. KOHLER addressed slide 4, "And finally - PCE." In 1984, the consultants admitted defeat and determined that there was no practical silver bullet alternative for Rural Alaska's electric needs. Small loads and small communities spread across thousands of miles could not be interconnected. The Alaska State Legislature established Power Cost Equalization (PCE), and the PCA was rewritten as the PCE, effective in October 1984. All users were eligible for the first 750 kWh [kilowatt hour] used. A floor for the cost of power was to be equalized to the average of Anchorage, Fairbanks and Juneau, about 8.5 cents per kWh. She explained that communities with utilities using diesel to generate at least 75 percent of power in calendar year 1983 were eligible for PCE. She noted that the four dam pool communities and any communities connected by the Railbelt were excluded, as these communities had already received substantial funding to build the facilities. She added that there was a ceiling for subsidy, any costs above 52.5 cents were not covered. Community facilities received PCE on 100 percent of their usage up to 70 kWh of use per resident of the community. She reported that this would usually pay for a washeteria, a water and sewer project, street lighting, or a community city hall, noting that AVEC found that only about half of this limit was used by the communities.

[10:30:30 AM](#)

MS. KOHLER moved on to slide 5, "The Situation from 1985 - 2017" and reported that during that time the floor had been raised 124 percent to 19.02 cents per kWh, the ceiling had been raised from 52.5 cents to \$1.00 per kWh, and eligible electricity had been reduced one-third to 500 kWh, with only one eligible meter per resident. She stated that the 6,000+ commercial customers no longer qualified for PCE. She relayed that fuel cost was up 127 percent, but efficiency was also dramatically up by 32 percent. Fuel cost per kWh went from \$.1033 - \$.1875. Non-fuel costs per kWh are up 31 percent, from \$.1407 in 1985 to \$.1839 in 2017.

Current funding (\$28 million) is at a 100 percent level. She explained that for 15 years, as there seemed to be an annual battle with the Alaska State Legislature for funding, there had been less than full funding.

[10:34:49 AM](#)

REPRESENTATIVE ZULKOSKY asked for examples of non-fuel costs.

MS. KOHLER said that she would offer some examples later in the PowerPoint, adding that it was everything other than fuel which included power plant and distribution operations, and the cost of borrowed money, as well as billing, insurance, and collection.

[10:35:43 AM](#)

MS. KOHLER presented slide 6, "Program Changes since FY86," and reported that PCE accounted for \$17.8 million in FY86 and PCE disbursed \$26.1 million in FY17. She pointed out that the population served had increased from 62,000 people to 84,000 in those years, and that total sales in gigawatt hours had doubled. She reported that the eligible sales had modestly increased from 108 to 133. She added that, in 1986, 48 percent of the electricity sold in a community was eligible for PCE, while in 2017, it was down to 29 percent. She pointed out that, in 1986, 21 million gallons of fuel were used to generate 225 [giga]watt hours while in 2017, 29 million gallons of fuel to produce more than twice as much electricity, a statement of success for efficiency.

[10:37:19 AM](#)

REPRESENTATIVE RAUSCHER asked if the eligible sales amount of 30 percent in 2000 and 29 percent in 2017 was by design.

MS. KOHLER reiterated that when the program was first established, all users received PCE and the threshold was higher; whereas, today many users in the community were not eligible to get PCE, such as commercial users or usage over 500 kWh each month. She added that this was by design which occurred in the late 1990s to bring the cost of the program within defensible parameters.

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CHAIR HOPKINS asked about the interaction of the renewable energy projects in Rural Alaska with the PCE.

MS. KOHLER explained that a community which had received 75 percent of its electricity from diesel in 1983 would always be a PCE community. She shared an example of Cordova, that even with two hydro projects providing 75 percent of its electricity, the community was still on the PCE program. She reminded the committee that the PCE program covered non-fuel costs, as well, as a large amount of money had been borrowed and invested in the hydro projects. She reported that there were wind projects in 13 locations, serving 20 communities, and that these operating expenses were captured in the non-fuel cost of the PCE funding formula. She added that these programs did not negatively impact the PCE, pointing out that this encouraged renewable investment as the focus was to drive down costs.

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REPRESENTATIVE FIELDS asked whether PCE could be a financing source for more affordable investments over time.

MS. KOHLER replied that there had been work with the Alaska Energy Authority (AEA) and others for ways to use the program in a modest way to pay for major investments. She offered an example of a community which did not have the money to pay for the overhaul of a generator; it was easier to let it fail so the state would replace it. She pointed out that the cost of an overhaul, properly structured, could be included in the rate structure and PCE would help to offset the ongoing cost.

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MS. KOHLER returned attention to slide 6 and reported that PCE had covered 32 percent of the total costs in 1986, and by 2017, PCE covered 16 percent of the total costs. The communities were now paying 84 percent of the total costs.

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MS. KOHLER moved on to slide 7, "About AVEC," and shared that AVEC served 58 communities, with Bethel being the largest, about 32,000 people, which was 38 percent of the beneficiaries of PCE. However, because the communities tended to be a bit more expensive, AVEC received about 41 percent of the total PCE disbursed.

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REPRESENTATIVE FIELDS asked about the services provided to Yakutat.

MS. KOHLER replied that Yakutat had approached AVEC as they did not have the expertise to operate the municipal utility system. She noted that the kilowatt hour sales in some villages were so small that AVEC could not garner enough revenue from these villages to pay for the operation.

[10:45:38 AM](#)

MS. KOHLER shared slide 8, "Map of Alaska Village Electric Cooperative Villages," a snapshot to show the size of small and large communities.

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MS. KOHLER directed attention to slide 9, "AVEC Systems Statistics," and reported that AVEC operated 50 power plants and 13 wind systems serving 20 villages. She reported that in the last year, two larger wind turbines for 900kW had been installed. She reported that AVEC bought about 8.5 million gallons of diesel fuel for the communities.

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REPRESENTATIVE FIELDS asked how many of the wind systems were at least partially financed by the Renewable Energy Fund.

MS. KOHLER replied that AVEC had begun building five wind systems in 2003, which predated the fund's establishment in 2008. She relayed that there had been partial state participation in about six systems since then. She added that the Denali Commission also participated in funding.

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MS. KOHLER moved on to slide 10, "2018 Overview," noting that total sales were about 118 million kWh, with residential revenues per kWh of \$0.48 and total revenue per kWh of \$0.44. She noted that AVEC received 41 percent of the total PCE disbursed, about \$10.7 million, which was about 21 percent of the total AVEC revenue.

[10:49:15 AM](#)

MS. KOHLER shared slide 11, "Qn. #1 - Does PCE Reduce Rural Power Cost to Urban Levels?" She reported that the residential power cost for Chugach Electric for Anchorage was \$0.1991, Golden Valley for Fairbanks was \$0.2411, AEL&P for Juneau was \$0.1189, and Kodiak Electric for Kodiak was \$0.1530. She stated that the costs after PCE for the 56 AVEC Villages was about \$0.2300.

[10:50:32 AM](#)

REPRESENTATIVE FIELDS declared that he was impressed that Kodiak had cheaper energy than Anchorage. He offered his belief that Kodiak had decided to go to more renewables and had held energy costs constant, or in inflation adjusted terms, dropping. He asked what opportunities there were around Alaska to offer a similar renewable portfolio to save consumers money.

MS. KOHLER explained that Kodiak "has the perfect storm situation for them, except that it's a very nice storm to have." There was a 20 MW hydro project built by the State of Alaska in the mid-1980s. She added that, as the four dam pool projects were sold back to the communities, Kodiak received its hydro "paid for at 20 cents on the dollar for what was paid for that project." She pointed out that the community had been very forward thinking and was currently in the process of adding a third turbine to expand the capacity of the hydro project. She explained that the wind project had been built in two phases, reporting that, although \$4 million had been received from the Renewable Energy Fund, it was a \$23 million project. They had also used the federal Clean Renewable Energy bonds for funding. She pointed out that renewable energy in Kodiak already accounted for more than 90 percent of use when they began use of wind power. She declared that this was a remarkable story of perseverance and leadership, with a willingness to put more money into renewable as they recognized the volatility of the price of diesel.

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REPRESENTATIVE ZULKOSKY offered her understanding that Kodiak had access to renewable resources, most likely not able to be duplicated in other parts of Alaska.

MS. KOHLER expressed her agreement, acknowledging that hydro was a valuable resource and that finding a local sustainable, affordable substitute for hydro was difficult.

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REPRESENTATIVE FIELDS asked if the renewable energy atlas had proven valuable for finding any small-scale renewable projects.

MS. KOHLER reported that AVEC had helped fund that project, noting that AVEC had desired a more refined map than the existing broad scale maps. In response to Representative Fields, she said that utility of the atlas had been mixed, noting that there were instances where the map depicted a more generalized availability of renewable resources than local knowledge indicated. She added that tapping the resources was often very expensive.

REPRESENTATIVE FIELDS asked about the rapid advancement of battery technology, as well as the new fly wheel technology, for energy storage.

MS. KOHLER replied that storage was "coming along at a very good pace," and expressed optimism that it would play a significant role in the future, even though it was currently still very expensive. She pointed out that a delicately balanced item, such as a fly wheel, required a rock foundation. She reported that the wind turbines in her community required pilings driven 60 feet into the ground to anchor them in the permafrost. She referenced a "grid bridging system" project which allowed storage for 90 seconds of capacity to bring a diesel generator on-line.

[10:58:30 AM](#)

MS. KOHLER brought attention to slide 12, "Cost of 700 Residential kwh," a comparison of the monthly home energy costs in different communities. She pointed out that Juneau at \$83.23, and Kodiak at \$107.10, were the winners. The most expensive were the Middle Kuskokwim villages at \$421.12, with the average in the AVEC Villages at \$219.00. She reminded the committee that only the first 500 kWh were covered by PCE, and that, in this example, the remaining 200 kWh were at full cost.

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MS. KOHLER turned to slide 13, "Qn. #2 - Who gets PCE?" She noted that the Community Facilities received up to 70 kWh per resident per month, and this included streetlights, washeterias, water and sewer facilities, and community buildings. She added

that in most villages the public clinic was also eligible for PCE as it would receive a lump sum funding to offset some costs, which did not include the electric bill.

[11:00:20 AM](#)

MS. KOHLER moved on to slide 14, "Qn. #3 - Who doesn't get PCE?" She listed schools, churches, state or federal facilities, commercial customers, and consumers with seriously delinquent accounts.

MS. KOHLER, in response, offered her belief that the commercial threshold was about 25 percent.

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MS. KOHLER addressed slide 15, "Qn. #4 - How does PCE work?" She explained that the utility applied to the [RCA] Regulatory Commission of Alaska to participate and submitted its detailed cost and operational data. The RCA would review these costs and determine eligible costs and compute the PCE by rate class. The utility then bills its customers and applies a PCE credit based upon actual consumption (subject to kWh limit). The consumer is responsible to pay the bill after the PCE credit. The utility bills the state, the Alaska Energy Authority (AEA), for all PCE credited and provides the AEA with detailed billing records. She noted that the utility filed an annual update of costs with the RCA, per the schedule established by the RCA.

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MS. KOHLER shared slide 16, "Qn. #5 - Doesn't PCE discourage Conservation & Innovation?" She stated that this was not the case, pointing out that only 29 percent of all the electricity sold in eligible communities received PCE. She pointed out that the smaller the community, the more kWh that were eligible (because of minimal commercial usage), citing as an example AVEC villages with 48 percent of kWh sales eligible because of lower commercial activity, Cordova with 28 percent eligible, Kotzebue with 27 percent eligible, and Napakiak with 72 percent of electricity sales eligible.

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MS. KOHLER, in response to an earlier question from Representative Zulkosky, shared slide 17, "Qn. #6 Doesn't Most of PCE go to "Overheads?" She reported that total fuel costs

were more than \$76 million and non-fuel costs were more than \$85 million, totaling almost \$162 million with \$26 million disbursed through PCE. She stated that this was 16 percent of all costs and 34 percent of fuel costs. She moved on to slide 18, "Qn. #7 What are Overheads?" She listed operating and maintaining power plants, operating and maintaining tank farms, operating and maintaining distribution lines, connecting customers, billing, collections, administration, accounting, engineering, warehouse, insurance, depreciation, cost of long-term debt, taxes and miscellaneous as overhead expenses.

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MS. KOHLER presented slide 19, "AVEC's Non-fuel Costs - 2017," which listed the non-fuel costs to include almost 21 cents per kWh, and the fuel costs to be about 22 cents per kWh.

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MS. KOHLER directed attention to slide 20, "Qn. #8 - Do PCE Villages have any Plant Investment?" She acknowledged that in very small communities that were not AVEC communities, there was not any community investment in the plant, as it was paid by the state; however, in most communities with the utilities regulated by the state, there was plant investment per customer, citing the AVEC villages to have more than \$14,000 per customer invested, about \$2 million per village. She added that in the Lower 48, the average plant investment per customer service was about \$2,500.

[11:08:37 AM](#)

MS. KOHLER announced slide 21, "Qn. #9 - Isn't PCE Abused?" and opined that "it is quite the opposite." She noted that many communities did not have sophisticated accounting processes and did not capture all the costs potentially eligible for PCE, and reported that she could find a problem with the accounting in villages that still had a cost of more than 30 cents per kWh after PCE. She pointed out that there were very stringent standards established through the RCA and the AEA that ensured there was not any abuse. She pointed out that AVEC wrote off less than .005 percent annually in bad debt.

[11:09:39 AM](#)

MS. KOHLER addressed slide 22 "Qn. #10 - Would PCE Money be better spent on Alternative Energy?" She reminded the committee

that wind generation was six times the cost of diesel generation, and, as it was intermittent, it was still necessary to have the diesel generation and fuel storage. She reported that the average village load was about 150 kW, and the typical cost of a 300kW integrated project was more than \$4 million. Diesel generation and fuel tankage were still needed for the more than 70 percent of energy that the wind generation could not provide.

[11:10:21 AM](#)

MS. KOHLER concluded with slide 23 "Qn. #11 Why are we subsidizing Rural Alaska?" and stated: "Because this was the compromise that was reached in 1984." She declared that "every dime that has gone into PCE is a quid pro quo. The same holds true of the PCE endowment fund." She added that every dollar invested in the endowment fund was part of a grand scheme compromise, and the most recent investment, \$400 million in 2011, was part of a \$1.1 billion compromise in the Alaska State Legislature. She declared "we can't afford to go back to annual battles for PCE. We need folks to understand how vital this program is."

[11:11:26 AM](#)

REPRESENTATIVE ZULKOSKY asked which was the number one priority to help bring down the cost drivers for utilities: the pursuit and investment of renewable energy in Rural Alaska; energy efficiency; or, addressing the cost of fuel to run these operations.

MS. KOHLER replied that displacement of diesel was the akin to the search for "golden fleece." She reported that the AVEC board had a goal for cutting 25 percent of diesel use in the communities over the next 10 years. She declared that "the big player there really is efficiency" and noted that another kilowatt hour gained per gallon of diesel fuel was an 8 percent improvement in efficiency with the reduction in fuel use. She pointed out that, as the options were so limited, the renewable resources were intermittent even though there were still the attendant costs. She lauded that AVEC had one of the highest displacement rates in the nation, in some cases approaching 40 percent displacement of diesel fuel for electricity generation. She noted that this did not include heat. She expressed her hope that the new 900 kW turbine to serve Mountain Village and St. Mary's would have surplus electricity to sell at a nominal rate for heat to either the school or the water treatment plant

to help displace diesel fuel. She pointed out that the RCA did penalize any sales of recovered heat or excess wind by taking the revenue and calling it a reverse expense, resulting in reduction of the PCE rate. She declared that PCE should not be used as a tool to penalize communities for doing the right thing.

11:15:46 AM

**ADJOURNMENT**

There being no further business before the committee, the House Special Committee on Energy meeting was adjourned at 11:15 a.m.