**ALASKA STATE LEGISLATURE**
**HOUSE SPECIAL COMMITTEE ON ENERGY**
February 20, 2013
8:01 a.m.

**MEMBERS PRESENT**

Representative Doug Isaacson, Co-Chair
Representative Charisse Millett, Co-Chair
Representative Neal Foster
Representative Pete Higgins
Representative Shelley Hughes
Representative Benjamin Nageak
Representative Andy Josephson

**MEMBERS ABSENT**

All members present

**COMMITTEE CALENDAR**

OVERVIEW(S): POWER COST EQUALIZATION BY THE ALASKA ENERGY AUTHORITY

- HEARD

OVERVIEW(S): SUSITNA-WATANA HYDRO BY THE ALASKA ENERGY AUTHORITY

- HEARD

**PREVIOUS COMMITTEE ACTION**

No previous action to record

**WITNESS REGISTER**

SARA FISHER-GOAD, Executive Director
Alaska Energy Authority (AEA)
Department of Commerce, Community & Economic Development (DCCED)
Anchorage, Alaska
**POSITION STATEMENT:** Provided a PowerPoint presentation entitled, "Power Cost Equalization Overview," dated 2/20/13, and introduced the PowerPoint presentation on the Susitna-Watana Hydro project.

STUART GOERING, Assistant Attorney General

Commercial and Fair Business Section
Civil Division (Anchorage)
Department of Law
Anchorage, Alaska
**POSITION STATEMENT:** Speaking on behalf of the Regulatory Commission of Alaska, answered a question during the overview on Power Cost Equalization by the Alaska Energy Authority.

WAYNE DYOK, Project Manager
Susitna-Watana Hydro Project
Alaska Energy Authority (AEA)
Department of Commerce, Community & Economic Development (DCCED)
Anchorage, Alaska
**POSITION STATEMENT:** Provided a PowerPoint presentation on the Susitna-Watana Hydro project.

**ACTION NARRATIVE**

8:01:01 AM

**CO-CHAIR CHARISSE MILLETT** called the House Special Committee on Energy meeting to order at 8:01 a.m. Representatives Hughes, Higgins, Isaacson, Josephson, and Millett were present at the call to order. Representatives Nageak and Foster arrived as the meeting was in progress.

## OVERVIEW(S): POWER COST EQUALIZATION BY THE ALASKA ENERGY AUTHORITY

8:01:43 AM

CO-CHAIR MILLETT announced that the first order of business would be an overview of the Power Cost Equalization program by the Alaska Energy Authority (AEA), Department of Commerce, Community & Economic Development (DCCED).

8:01:55 AM

SARA FISHER-GOAD, Executive Director, Alaska Energy Authority (AEA), provided a PowerPoint presentation entitled, "Power Cost Equalization Overview," dated 2/20/13. She informed the committee that AEA reduces the cost of energy in Alaska with four strategies: energy planning and policy; investing in energy infrastructure; diversifying Alaska's energy portfolio; and technical training and assistance. The power cost equalization (PCE) program directly reduces the cost of energy for approximately 80,000 residents primarily living in rural

Alaska. She compared the price of electricity across the state, noting that the prices in Juneau, Anchorage, and Fairbanks make up part of the formula for the PCE program [slide 3]. Because the electric rates in rural Alaska can be three to five times higher than the rates in urban areas, assistance is needed to maintain and operate the power systems in rural Alaska. The PCE program was created when state funds were used to construct major energy projects in the urban areas of the state, particularly the Four Dam Pool projects that served Kodiak, Valdez, Wrangell-Petersburg, and Ketchikan. This type of infrastructure is not practical in most rural areas, so PCE was devised as an alternative to infrastructure [slide 4]. Ms. Fisher-Goad stated earlier programs were the Power Production Assistance Program and the Power Cost Assistance Program which were replaced by PCE under current law AS 42.45.100-190. The intent of the program is to equalize the cost of power at a rate that is close or equal to the average residential rate of Anchorage, Fairbanks, and Juneau [slide 5].

8:05:15 AM

CO-CHAIR ISAACSON observed the power under discussion is limited to the cost of electricity. He asked for clarification of the graph of heating costs on slide 3.

MS. FISHER-GOAD responded that the graph illustrates the heating costs in Nome but does not represent the portion of a person's income that must go to heating. Turning to PCE eligibility, she said at the outset in 1984, eligibility for a community depended upon its fuel source, if diesel generation was greater than 75 percent of consumption, and if residential sales were less than 7,500 megawatt hours (MW). She pointed out that Cordova has built hydroelectric (hydro) facilities but residents are still eligible because debt keeps the cost of generation high. Eligible for PCE are: 30 percent of all kilowatt hour (kWh) sold; community facilities; and residential customers. Ineligible for PCE are: kWh greater than the monthly cap; state and federal facilities; and commercial customers [slide 6]. Importantly, when new infrastructure is planned, the new generation will count toward all of a community's kWh and not just the 30 percent. Participating communities are located throughout Alaska with the exception of the Railbelt region [slide 7].

8:08:16 AM

CHAIR HUGHES asked how the mix of fuel affects eligibility.

MS. FISHER-GOAD explained that a community that has had a change in the percentage of electricity generated by diesel can still be eligible depending on the cost of power. Calculating the floor for the program - based on the average cost for residential customers in Anchorage, Fairbanks, and Juneau - is affected by the percentage of the sales by the utility. For example, Golden Valley Electric Association (GVEA) rates are higher; however, the program does not include the entire service area. Therefore, increases to Chugach Electric Association rates will have more of an impact on the floor. For fiscal year 2013 (FY 13), the floor is $0.1430 [slide 8]. In response to Co-Chair Millett, Ms. Fisher-Goad said the formula is in statute, which sets a floor of $0.12 per kWh, or the aforementioned formula. In the past, the price of fuel has dropped the floor to the statutory minimum of $0.12 per kWh.

REPRESENTATIVE HIGGINS asked why GVEA is limited to Fairbanks proper when 60 percent of the houses are in the Fairbanks North Star Borough (FNSB).

MS. FISHER-GOAD said the statute directs the calculation to include the City of Fairbanks. The PCE level is calculated for each participating utility per community and there are two categories of costs: fuel and non-fuel. The rates change throughout the year depending on when fuel is purchased. The formula also has a ceiling of $1.00; the maximum PCE level equals 95 percent of ($1.00 - $0.1430) [slide 9]. The residential PCE rate is based on a credit on the first 500 kWh consumed each month per customer. The community facility calculation is based on a credit of 70 kWh multiplied by the population. The customer is billed for the total cost less the calculated PCE credit, and each utility must notify its customers of the credit. This information is also provided to AEA and AEA reimburses the utility for the eligible credits [slide 10].

8:13:51 AM

CO-CHAIR MILLETT asked why the reimbursements are not paid quarterly.

MS. FISHER-GOAD surmised a quarterly payment would create cash flow difficulties for the utilities. She provided a graph that illustrated the rates and the eligibility of the kWh. Presently, the eligible utility cost is $0.47 per kWh [slide 11]. In addition, a second graph illustrated that the current

residential rate of $0.53 per kWh is adjusted to the effective rate, which currently averages $0.22 per kWh [slide 12].

REPRESENTATIVE HUGHES asked whether a customer pays $0.22 per kWh for their entire bill.

MS. FISHER-GOAD said that rate is only for the eligible hours. An example of a bill showed the rate for total kWh used, less the PCE credit of 500 kWh at the PCE rate [slide 13].

CO-CHAIR MILLETT asked how many households exceed the maximum PCE allowance of 500 kWh.

8:17:34 AM

MS. FISHER-GOAD estimated an average bill is less than 500 kWh with few exceptions; however, the average changes on a monthly basis especially in winter. She turned to the administration of the program and said AEA's role is to authorize payments to the electric utilities; determine the eligibility of residential and community facility customers; administer the PCE fund based on appropriations by the legislature; process monthly reports submitted by the utilities; and ensure compliance with statutes and regulations. This administrative work is done by two full-time AEA staff who work with the utilities and provide their clerks PCE training. The role of the Regulatory Commission of Alaska (RCA) is to determine the eligibility of utilities, set the PCE rates, calculate the formula between fuel and non-fuel costs, and ensure compliance with statutes and regulations. The two agencies work in partnership to provide training for the utilities' clerks.

8:20:28 AM

STUART GOERING, Assistant Attorney General, Commercial and Fair Business Section, Civil Division (Anchorage), Department of Law, speaking on behalf of RCA, said that there is no full-time RCA staff dedicated to the PCE program; however, there are three people "who have at least a part-time relationship with the PCE program." The annual PCE rate-setting procedure involves the commissioners [slide 14].

CO-CHAIR ISAACSON asked how many staff hours are dedicated to the PCE program by AEA and RCA.

MS. FISHER-GOAD offered to provide that information from the budget. The hours dedicated to the program sometime involve a higher level of staff.

REPRESENTATIVE NAGEAK urged for the legislature to address the situation with the PCE formula when adding renewable energy and energy efficiency to the community utilities. When communities install renewable energy, because of the current PCE formula, it is the customers that do not receive PCE that benefit the most from the decrease in the cost to produce power. As less fuel is used and the cost to produce power decreases, the PCE subsidy also decreases. Customers with PCE may end up paying more than before the renewable resource was developed, but non-PCE customers will benefit from the decrease in fuel costs. The PCE program does not address the fundamental barriers to improving energy efficiency. Because the formula currently used to calculate rates is directly tied to fuel costs, integrating alternative or renewable generation technologies could result in a lower PCE payment causing the effective electric rates to increase. According to the Institute of Social and Economic Research (ISER), University of Alaska Anchorage, surveys in PCE communities, energy use is roughly divided up as follows: electricity, 27 percent; transportation, 33 percent; and space heat, 40 percent. Leading edge renewable projects are trying to address the significant heating energy needs by increasing the production of renewable electrons and sending the excess to make heat for large community structures or groups of homes. This is a good idea and stands to make significant cuts to import fuel but the PCE formula does not reward this and may actually be a disincentive. Including heat kilowatt hours (kWh) in the PCE formula further exacerbates the problem of dividing by all kWh sold rather than diesel generated kWh only. An alternate application of the formula, dividing solely by diesel electric kWh sold, and offsetting electric revenue requirements with heat sales revenues can accurately compensate the utility while providing benefits to community members.

8:25:22 AM

CO-CHAIR MILLETT agreed that the displacement of diesel fuel by renewable energy will skew PCE rates. The solution for how to incentivize communities towards renewable sources of energy without lowering PCE eligibility has not been found.

MS. FISHER-GOAD agreed projects built through the Renewable Energy Fund Grant Program do impact 100 percent of the kWh sold in a community; in fact, an evaluation of the program has found

that the PCE program has an impact on the Renewable Energy Fund Grant Program. A ratepayer serviced by a utility that builds a successful renewable energy project may not see a difference in their rate for the first 500 kWh; however, a portion of the benefit is shared by the state "essentially from one program to another, so there is a reduction that happens ... the reduction is less outlay of PCE dollars." Thus the residential ratepayer has either a subsidized rate or a lower rate based upon the diesel displacement.

CO-CHAIR ISAACSON surmised that a community may create an alternative source of energy, but the cost of energy may not reach an affordable level below the PCE formula. He asked how the Renewable Energy Fund Grant Program is working to reduce the total kWh cost to communities.

MS. FISHER-GOAD offered to provide additional information on the cost of projects to a community. The program recognizes that realizing the goal to equalize rates through infrastructure development only is not possible, and she pointed out that displacing the use of diesel fuel through AEA's Renewable Energy Fund Grant Program makes a difference by eliminating fluctuation and lowering the rates significantly for commercial customers and schools. In addition, AEA and RCA will further explain the efficiency standards that affect the PCE formula.

8:30:44 AM

CO-CHAIR MILLETT advised the ultimate goal of the Renewal Energy Fund Grant Program was to displace the use of diesel fuel and its inherent delivery problems.

REPRESENTATIVE HUGHES questioned whether Ms. Fisher-Goad agrees that "customers with PCE may end up paying more than before the renewable resource was developed."

MS. FISHER-GOAD said she would need to look at a specific example because a project may have reduced the amount of diesel used in a community, but other factors may be affecting the rate. Other factors are involved when AEA calculates the full effect on the PCE program.

REPRESENTATIVE NAGEAK observed that residents in the Far North have problems with the delivery of fuel and sometimes must fly in fuel or use Rolligons for delivery. At this time in Barrow gas costs $6.20 per gallon and diesel is higher, but before spring the cost will go up, especially in the smaller villages.

REPRESENTATIVE FOSTER asked for clarification of the statement, "as less fuel is used and the cost to produce power decreases." He surmised that this is due to fixed costs.

8:35:58 AM

MS. FISHER-GOAD explained that the intent of the PCE program is to equalize cost for a certain selection of kWh in a community; thus the PCE subsidy may go down but customers should be paying about the same. The further benefit is to the state because it is paying a lower subsidy and infrastructure is being built. She agreed that fixed costs are spread amongst less kWh, although in general efficiencies have a net effect.

CO-CHAIR MILLETT concluded that energy efficiency and renewable energy is skewing the PCE program and asked whether adjustments need to be made for the influx of renewable energy projects in rural Alaska, in spite of the benefit to the state.

MS. FISHER-GOAD said it is premature for her to know until she can review details of the Renewable Energy Fund Grant Program and garner more information from the [third-party] evaluation of the Renewable Energy Fund Grant Program. These findings will be made available to the committee so that the legislature can participate in the determination on whether there is a need to change the formula.

CO-CHAIR MILLETT expressed her reluctance to increase costs to consumers in rural Alaska, which may be an unintended consequence of the Renewable Energy Fund Grant Program.

8:39:08 AM

MS. FISHER-GOAD assured the committee that a significant amount of diesel fuel is being displaced by renewable sources of energy, which dampens the effect of inflation in rural communities by providing energy at a stable cost. She offered to provide further information on renewable infrastructure throughout the state and its positive impact on fluctuating costs. She turned attention to PCE funding, which is by the PCE Endowment Fund, the general fund (GF), and the PCE Fund and Rural Electric Capitalization Fund, the latter of which is inactive. The PCE Endowment Fund and GF are the two sources shown in the operating budget that funded PCE payments totaling $39.5 million in FY 12 [slide 15]. The endowment fund is an AEA fund - managed by the Department of Revenue (DOR) - that was

created in 2001 and originally capitalized with the Constitutional Budget Reserve (CBR) and the sale of the Four Dam Pool project. Further capitalization came from GF in FY 07 in the amount of $182.7 million and in FY 12 in the amount of $400 million. As established in statute, 7 percent of the endowment fund's three year monthly average may be appropriated to the PCE program. As of 12/31/12 the fund has $788 million, and by FY 15 or FY 16 the endowment fund will be the only funding source [slide 16].

8:44:32 AM

REPRESENTATIVE FOSTER asked whether the current level of funding is sufficient to meet the increased cost to the program that is proposed by forthcoming legislation.

MS. FISHER-GOAD said the funding is explained in the fiscal note attached to the forthcoming legislation. She expressed her belief that the FY 12 capitalization of $400 million was calculated to use less than 7 percent over time and to provide a buffer. She referred to the fiscal note attached to the proposed legislation and estimated there would continue to be a need for $4.8 million in GF. In further response to Representative Foster, she said AEA assumed flat earnings of 7 percent, although in reality, earnings fluctuate significantly.

REPRESENTATIVE NAGEAK asked how many fund managers are involved in the PCE fund.

MS. FISHER-GOAD responded that the PCE Endowment Fund is managed, along with many other funds, by the treasury group at DOR.

8:50:20 AM

REPRESENTATIVE NAGEAK recalled generally there are three managers per fund.

MS. FISHER-GOAD then presented an example of the electric use for the community of Akiak. Akiak has 121 electric customers, and 89 residential and 9 community facilities are eligible for the program [slide 17]. In July most customers' use is below the 500 kWh limit, and community facility use is associated with water and sewer [slide 18]. In December a few residential customers exceed the limit, and the highest use is by the high school, which is not eligible for PCE [slide 19]. In summary,

few residential kWh are not eligible for the PCE program [slide 20].

CO-CHAIR ISAACSON asked why the lift station usage is higher in July than in December.

MS. FISHER-GOAD was unsure.

CO-CHAIR ISAACSON surmised that more people are home in Akiak during December, thus the question is how the power usage by the utility affects that of the entire community.

8:55:31 AM

REPRESENTATIVE FOSTER heard that the residential average in the Railbelt is over 500 kWh per month.

MS. FISHER-GOAD estimated that the average use in Anchorage is typically between 600 and 700 kWh per month and over 400 kWh per month in rural Alaska.

REPRESENTATIVE FOSTER questioned why the average usage is higher in the Railbelt.

MS. FISHER-GOAD suggested that houses are bigger in urban areas and may be equipped with more electronics. Also, generally speaking electricity costs less in Anchorage and customers may not conserve as they do in rural areas.

## OVERVIEW(S): SUSITNA-WATANA HYDRO BY THE ALASKA ENERGY AUTHORITY

8:58:29 AM

CO-CHAIR MILLETT [announced] that the final order of business would be a presentation on the Susitna-Watana Hydro project by the Alaska Energy Authority.

8:59:01 AM

SARA FISHER-GOAD, Executive Director, Alaska Energy Authority (AEA), introduced a PowerPoint presentation on the Susitna-Watana Hydro project. She reminded the committee that one of AEA's strategies is to reduce the cost of energy in the state and the Susitna-Watana Hydro project is an investment in the state's energy infrastructure [slide 2]. Alaska's energy challenges include varied energy costs by region, declining oil

production, volatile fossil fuel costs, aging facilities, dispersed communities, and no central grid, thus a portfolio of programs is necessary to provide short- and long-term solutions for energy needs in Alaska [slide 3]. The Susitna-Watana Hydro project is a long-term solution to provide clean and reliable power to the Railbelt region for the next 100 years. She said the project is a significant part of reaching the state's goal of 50 percent renewable energy by 2025 [slide 4]. Currently hydroelectric (hydro) provides 21 percent of Alaska's electricity, and new wind projects are now online [slide 5].

CO-CHAIR MILLETT asked how much the renewable portfolio has increased since the passage of the Renewable Energy Fund Grant Program.

MS. FISHER-GOAD said AEA is now keeping annual statistics and the renewable sources of energy have increased from about 17 percent or 18 percent to over 20 percent depending on the fluctuating contribution by hydro.

CO-CHAIR MILLETT, noting an increase in renewable energy of about 5 percent over the last four years, asked whether the state's goal will be reached with or without Susitna-Watana Hydro.

MS. FISHER-GOAD explained that Susitna-Watana Hydro is a 600 megawatt (MW) project which would serve 80 percent of the state's population and would put the state over its goal of 50 percent renewable; in fact, it would provide 50 percent for the entire region. Without Susitna-Watana Hydro, she opined there is no other project that would do so.

REPRESENTATIVE JOSEPHSON asked whether the 50 percent goal is in statute.

MS. FISHER-GOAD responded that House Bill 306 established the goal and is in session law.

9:03:35 AM

CO-CHAIR MILLETT said the goal was set in policy that was passed four years ago along with the goal of a 15 percent reduction of electricity usage during the years 2010 to 2020.

MS. FISHER-GOAD provided a short history of Susitna-Watana Hydro, which was first studied in the 1950s by the U.S. Bureau of Reclamation, U.S. Department of the Interior. In the 1980s a

three-phase, two dam 1,600 MW project was studied by the Alaska Power Authority but abandoned due to low gas prices and limited state funds. In 2008-2009, further interest by legislators and the passage of the renewable energy goal in 2010 brought the project back to the attention of AEA, which identified Susitna-Watana Hydro as the large hydro project that would best serve the Railbelt. In 2011 the legislature authorized AEA to pursue the project [slide 7]. She introduced Mr. Dyok, the project manager, who is very experienced with hydro projects worldwide.

REPRESENTATIVE NAGEAK asked whether the studies on the project are being contracted out or are done by the state in-house.

MS. FISHER-GOAD said there is a significant amount of private sector involvement in the project and the involved AEA staff is very small.

9:08:31 AM

WAYNE DYOK, Project Manager, Susitna-Watana Hydro Project, AEA, Department of Commerce, Community & Economic Development (DCCED), informed the committee benefits from this project are: serves approximately 80 percent of the state's population; generates 1,000 jobs during the peak of construction; provides stable electric rates for over 100 years; provides diversification to the state's energy portfolio; provides clean and reliable energy; and promotes the integration of variable resources such as wind [slide 8].

REPRESENTATIVE HIGGINS recalled the abandoned 1,600 MW project would have produced enough energy for the entire state. He asked why the proposed project is reduced to 600 MW.

MR. DYOK responded that in the 1980s the 1,600 MW project exceeded the existing electrical demand and this was a barrier to obtaining power sales agreements "for more power than you can possibly sell." Currently, the state uses approximately 5.2 million MW hours annually and the project will provide 2.8 million MW hours; this will meet the goal of 50 percent renewable. In addition, the project is designed for expansion in the future should the need arise. Part of the reason the project is this size is for diversification and part is the overall cost, because the utilities can only bear so much of the cost. Mr. Dyok turned attention to highlights of the project. The location is in a remote part of the Susitna River, 184 miles upriver from Cook Inlet and 87 river miles from Talkeetna. An important attribute to the location of the project is Devils

Canyon, a 10-mile portion of the river below the project that is an impediment for fish traveling upstream.

9:13:45 AM

REPRESENTATIVE JOSEPHSON interpreted Mr. Dyok's statement to say that because Devils Canyon is an obstacle to anadromous fish, the project will not have an effect on fish.

MR. DYOK explained that the project has the potential to affect salmon and anadromous fish downstream because the flow of the river will be varied. The water temperature can be managed by multi-level intake, but the influence of the flow on the salmon downstream is a major focus of study. He opined there is no comparison to the Columbia River system [in Washington State] where salmon must pass upstream of projects; however, there are king - chinook - salmon, which will be studied for three years. Mr. Dyok said, "The indications are very consistent with what we had in the 1980s that there are not a lot of salmon making it upstream of Devils Canyon. But certainly that's something that we are evaluating as well, in addition to the potential effects downstream."

REPRESENTATIVE HUGHES asked whether water levels will also be studied.

MR. DYOK agreed that there is a direct correlation between flows and water levels downstream. The Susitna River flow fluctuates annually thus studies will look at how the operation of the project will affect salmon, other fish species, and aquatic resources from two sides: optimal operation from an energy and power perspective and optimal operation for the protection of anadromous fish and the environment. In further response to Representative Hughes, he confirmed that the design of the project is a roller compacted concrete dam with the powerhouse placed so that the height of the dam could be expanded in a cost effective manner when needed.

9:19:12 AM

REPRESENTATIVE HIGGINS recalled before the construction of the Trans-Alaska Pipeline System (TAPS) there was unfounded concern about the caribou herd. He asked whether there are ways in which the dam can benefit fish.

MR. DYOK said in his experience other projects have made enhancements to the fishery populations downstream by managing

the flows of the river and temperatures, and by restricting sediment. He recalled seeing high flows in the sloughs 50 miles downstream in August of 1983, and in September the salmon redds were "high and dry." The project includes a habitat-based assessment of the fisheries that will be added to baseline data from the 1980s, and data from the Alaska Department of Fish & Game (ADFG) to evaluate the water quality and fish habitat. He said, "Your fundamental question is, 'Is it possible?' Yes." In response to Representative Josephson, he described how the salmon lay their eggs in redds.

CO-CHAIR MILLETT asked whether there are regulations on the Susitna River similar to those on the Kenai River as to the size of boat engines in order to protect fish habitat.

9:25:00 AM

MR. DYOK surmised there is not the same level of regulation on the Susitna River as on the Kenai River. He assured the committee the project will work with ADFG and learn about where the fish are spawning and the potential effects on the river system in the next two years. It is known from comparing the 1980s data to last year's that the system has not changed a lot, but the numbers of fish have decreased.

CO-CHAIR MILLETT said, "It we're going to have a conversation about fish, we should talk about, on the other side of it, making sure that we are doing everything we can to sustain the bank - habitat - for returning salmon."

REPRESENTATIVE NAGEAK asked for the form of transmission that will take power to communities.

MR. DYOK explained the power will be conveyed to the [Alaska Intertie] for transmission to the Railbelt. The primary transmission line to the grid system is part of the study that will be submitted to the Federal Energy Regulatory Commission (FERC) for approval of the license. The grid system begins at the Parks Highway. In further response to Representative Nageak, he confirmed that the plan is to connect the intertie to existing transmission lines.

REPRESENTATIVE HUGHES understood that the current intertie cannot handle the power from the project.

MR. DYOK deferred to Ms. Fisher-Goad.

9:29:14 AM

MS. FISHER-GOAD answered that last year AEA was funded to do a transmission study for the entire Railbelt region. There is a significant amount of transmission upgrades that are needed with or without the Susitna-Watana Hydro project. A capital request has been submitted for work on the transmission system that carries power from Bradley Lake Hydro to the other utilities in Southcentral. The transmission study will also look at the possibility of hydro-to-hydro coordination between the Bradley Lake and Susitna-Watana projects, and at further integrating wind power from Fire Island and Eva Creek. The utilities desire a unified system so there can be a one-tariff rate throughout the system and power can move freely. She stressed that this study is independent from the interties that are needed for the proposed project.

REPRESENTATIVE HIGGINS said if the dam were upgraded, what would be the MW on the upgraded transmission line.

MR. DYOK said the "ultimate build-out" would enable 1,000 MW.

REPRESENTATIVE HIGGINS observed that industry draws on power and cheap energy costs will bring industry to the state. He urged for the project to be built as big as possible.

REPRESENTATIVE NAGEAK agreed and pointed out that construction costs will be cheaper using "today's dollars."

REPRESENTATIVE HUGHES asked how much power is drawn by a typical mining operation.

MS. FISHER-GOAD heard that power usage of over 300 MW is not unusual for a mine. She advised that the AEA board of directors sought to ensure the right size of the project. She described the power produced by different project designs, and said a balance was reached by taking into consideration that power sales agreements with the utilities guided the level of power needed. Also considered was the goal of 50 percent renewable energy set by the legislature.

9:35:19 AM

CO-CHAIR ISAACSON stated that this is the time to talk about the complexities of funding construction. He pointed out that the current design is a base load to provide affordable electricity, with future opportunities to induce mining production with

expansion. He stressed that the committee needs to learn the details of the project - not just the general information - in order to "make good law and to provide proper and adequate funding or proper and adequate direction for you."

MS. FISHER-GOAD recalled at the time AEA was funded for the project the target was to provide 50 percent of the power needed by the Railbelt and to retire older facilities in the region. In fact, looking at future or industrial loads was not part of the equation. She urged the committee to see the economic impacts revealed later in the presentation.

CO-CHAIR ISAACSON encouraged AEA to present a closer look at all of the facets of the project for the new members of the committee.

CO-CHAIR MILLETT suggested members review past legislation.

9:39:12 AM

REPRESENTATIVE JOSEPHSON asked why the dam is needed if a large diameter natural gas pipeline is built.

MS. FISHER-GOAD said this project is not in competition with any type of gas pipeline. The best use of natural gas is to provide a source for heating fuel, and natural gas will also continue to be part of the energy portfolio for the generation of electricity.

REPRESENTATIVE JOSEPHSON expressed his impression that the majority of the residents of Talkeetna disfavor the project. He asked why there is strong opposition.

MS. FISHER-GOAD stated that the community of Talkeetna is 80 miles away from the site. She acknowledged opposition and residents' concerns about the potential impact on fish and about seismic activity. These issues are being addressed by the study plan and through FERC's dam safety program which requires the construction of the safest dam possible.

MR. DYOK opined the real issue is the fishery issue and the effects of change on the community. The study plans will address all of the concerns.

9:43:12 AM

REPRESENTATIVE JOSEPHSON asked for a list of dams in the U.S. that have helped fish in some way. He estimated the loss of habitat at 185,000 acres.

MR. DYOK said the study addresses 185,000 acres, but the loss of habitat is the area that would be inundated by the reservoir, which is 23,500 acres.

REPRESENTATIVE HIGGINS clarified that the dam must be built to bring down cost for the Interior and the villages too, not just for the Railbelt.

REPRESENTATIVE JOSEPHSON questioned whether 20 percent of the Railbelt's electrical needs would be met by the dam.

MR. DYOK reiterated that electrical demand in the Railbelt is about 5.2 million MW now and the project will provide 2.8 million MW; when the project is completed in 2024, it will meet about 50 percent of the electrical demand.

REPRESENTATIVE JOSEPHSON asked for the cost of the expanded 1,000 MW project.

MR. DYOK said the current cost projection is estimated at $5.2 billion, and he was unsure of the cost of the ultimate built-out.

REPRESENTATIVE JOSEPHSON heard that other western states are abandoning their dams and if so, asked why.

MR. DYOK explained that small dams on the East Coast and the West Coast were removed because they no longer serve their function, and one larger dam was located in a national park. He added that the National Hydropower Association is working with the environmental community and Congress to possibly add hydro to some of the 70,000 to 80,000 existing dams. In response to Representative Nageak, he said the projects that are under consideration for retrofits are U.S. Army Corps of Engineers dams, U.S. Bureau of Reclamation dams, and independent dams, most of which were built for water supply.

CO-CHAIR MILLETT asked how technology has reduced the impact of dams on the environment.

MR. DYOK advised that there have been advancements in the construction of dams in the past 25-30 years, for example, roller-compacted concrete construction of dams is more efficient

and allows for more cost-efficient construction. In further response to Co-Chair Millett, he said information from the 1980s geotechnical exploration and additional work has provided for the design of the dam to withstand the appropriate ground motion. Similar dams in China have withstood major earthquakes with minor damage. In addition, FERC and AEA's board have agreed to bring in experts in seismicity to ensure the proper design of the dam.

9:52:09 AM

CO-CHAIR ISAACSON surmised the project could be a catalyst for the development of an employment base and resources in Alaska. He asked whether concrete and other supplies can be sourced in Alaska in support of the private sector.

MR. DYOK said the current cost estimates are based on importing cement and fly ash; however, an associated study is looking at whether the raw materials are here to establish a concrete industry or any other procurement and resource opportunities.

CO-CHAIR ISAACSON cautioned about the amount of time needed to expand the Alaska Railroad Corporation or to get permits for new industry. In addition to an energy project, this project is an opportunity to fulfill Alaska's constitutional mandate.

REPRESENTATIVE JOSEPHSON pointed out that severance tax rates on large mines generate almost no revenue, unlike [oil production at] Prudhoe Bay. He expressed his interest in getting power to people - wherever they are - rather than providing power as an inducement to large scale mines. He also viewed a focus on existing impacts to the river as a diversion. Representative Josephson opined the Susitna River is a suffering river system and questioned whether the science is sufficient to make improvements to the river.

CO-CHAIR ISAACSON observed that putting 10 percent of the known resources within the state into production would generate $18 billion and surpass the current rate of oil revenue. He urged for a broad look at what is needed so that communities can lower costs and provide employment in rural areas.

CO-CHAIR MILLETT said the intent of the committee is to hear all viewpoints and to represent all constituencies in further discussion of the Susitna-Watana Hydro project.

9:59:44 AM

**ADJOURNMENT**

There being no further business before the committee, the House Special Committee on Energy meeting was adjourned at [9:59 a.m.].