ALASKA STATE LEGISLATURE
HOUSE SPECIAL COMMITTEE ON ENERGY
Fairbanks, Alaska
October 22, 2010
9:13 a.m.

MEMBERS PRESENT

Representative Bryce Edgmon, Co-Chair
Representative Charisse Millett, Co-Chair
Representative Kyle Johansen
Representative Pete Petersen
Representative Chris Tuck

MEMBERS ABSENT

Representative Nancy Dahlstrom (Resigned 5/31/10)
Representative Jay Ramras

OTHER LEGISLATORS PRESENT

Representative Paul Seaton
Representative Tammy Wilson
Representative Mike Kelly

COMMITTEE CALENDAR

OVERVIEW(S): UPDATE ON ENERGY PROJECTS AND APPROPRIATIONS

- HEARD

PREVIOUS COMMITTEE ACTION

No previous action to record

WITNESS REGISTER

LUKE HOPKINS, Mayor
Fairbanks North Star Borough
Fairbanks, Alaska
POSITION STATEMENT: Testified during the overview regarding the update on energy projects and appropriations.

STEVE HAAGENSON, Executive Director
Alaska Energy Authority (AEA)
Anchorage, Alaska

POSITION STATEMENT: Testified during the overview regarding the update on energy projects and appropriations.

SARA FISHER-GOAD, Deputy Director
Operations
Alaska Energy Authority (AEA)
Anchorage, Alaska
POSITION STATEMENT: Testified during the overview regarding the update on energy projects and appropriations.

BOB BREAN, Director
Research and Rural Development
Alaska Housing Finance Corporation (AHFC)
Anchorage, Alaska
POSITION STATEMENT: Testified during the overview regarding the update on energy projects and appropriations.

CARY BOLLING, Energy Specialist
Alaska Housing Finance Corporation (AHFC)
Anchorage, Alaska
POSITION STATEMENT: Testified during the overview regarding the update on energy projects and appropriations.

JACK HÉBERT, President/Chief Executive Officer (CEO)
Cold Climate Housing Research Center (CCHRC)
Fairbanks, Alaska
POSITION STATEMENT: Testified during the update on energy projects and appropriations.

JULIE ESTEY, Business Director
Alaska Center for Energy and Power (ACEP)
Fairbanks, Alaska
POSITION STATEMENT: Testified during the update on energy projects and appropriations.

ACTION NARRATIVE

9:13:06 AM

CO-CHAIR BRYCE EDGMON called the House Special Committee on Energy meeting to order at 9:13 a.m. Representatives Johansen, Petersen (via teleconference), Millett, and Edgmon were present at the call to order. Representative Tuck arrived as the meeting was in progress. Representatives Chenault, Guttenberg, Wilson, Seaton, Kelly, Stoltze, P. Wilson (via teleconference), and Olson (via teleconference) were also in attendance.

Overview(s): Update on Energy Projects and Appropriations

9:13:14 AM

CO-CHAIR EDGMON announced that the only order of business would be an update on energy projects and appropriations.

9:15:33 AM

LUKE HOPKINS, Mayor, Fairbanks North Star Borough, relayed Fairbanks is the northern most metropolis in the state using natural gas that is the highest priced in the country. He indicated that numerous plans to supply natural gas as a major energy solution for the state would be presented to the legislature. He further indicated that energy plans, industrial opportunity, and growth in the state's economy are directly related. He stated that the high cost of energy has had a detrimental effect on the level of investment occurring in the northern part of the state. Currently, the lowest cost energy source for many Fairbanks residents is wood heat or coal, which he indicated is bad for air quality. He offered his hope that an energy plan for the state would include a reasonable natural gas solution. He noted that HB 305 brought about discussion on nuclear power. He said that might be the solution, but many of those projects are still years away. He stated that the current high cost of energy is not only hampering the community of Fairbanks from developing, but also hampering residents in the area from being able to afford to remain in the community. He asked the committee to keep Fairbanks' situation in mind when discussing energy options.

9:24:29 AM

STEVE HAAGENSON, Executive Director, Alaska Energy Authority (AEA), reminded the committee that about a year ago, AEA produced a document called, "Alaska Energy: First Step Toward Energy Independence," and the goal was to reach 50 percent renewable resource use by 2025 and a 20 percent increase in efficiency by 2020. He said HB 306 took the state in a good direction regarding energy policy. He explained that conservation and efficiency are two different choices. He indicated that last April AEA produced a rough draft of "Alaska Energy Pathway," the final copy of which was given to the committee.

MR. HAAGENSON talked about the Railbelt. He said, "The 50 percent renewable target was forced on this thing." He

mentioned an analysis of a carbon tax that was doubling the cost of fuel, which he indicated was a driving influence toward the use of renewable energy. He indicated that the analysis recommended a large hydroelectric facility at Chakachamna Lake, Susitna, Glacier Fork, and Fire Island, and the plan would be 50 percent hydro and 50 percent natural gas. Currently, he said, Anchorage uses about 95 percent natural gas and 5 percent hydroelectric, while the entire Railbelt uses approximately 95 percent fossil fuel and 5 percent hydro. He said the Railbelt Integrated Resource Plan (IRP) recommended building in Chakachamna, but he said AEA feels more comfortable with "the estimate on Susitna."

9:29:34 AM

MR. HAAGENSON directed attention to page 6 of the aforementioned publication, which addresses the subject of gas and shows a line graph detailing capital expenditures and high debt capacity. He talked about a funding gap and said a combination of three things would reduce it: reduce the state's [capital spending], increase debt capacity by building the economy, and obtain grant funding from the state.

9:31:49 AM

MR. HAAGENSON next talked about the 228 communities outside the Railbelt. He said AEA figured out the needs of each community for heat, electricity, and transportation and the capital cost and deployment cost of those resources, and it queried as to which resources each community may have nearby. Mr. Haagenson directed attention to pages 27 through 31 of the handout, which, using Kipnuk as an example, show a breakdown of current to long-term and projected goals for electric and heat, "demand-side" efficiency and conservation for electric usage and heating, upgrade potential of Kipnuk's current power plant, information related to heat recovery, and short to long-term options of wind/diesel energy use. He noted that most upgrades in the state are done through grants, but Kipnuk's upgrade would be done through a loan. He highlighted some cost figures on page 31.

9:36:24 AM

MR. HAAGENSON said a byproduct of generating electricity is heat. He talked about numbers, including a 30 percent deployment, a capital cost of $1.4 million for a new wind turbine, an approximate annual capital cost of $132,000, about

$0.282/kilowatt hour (kWh) to pay the debt, zero fuel cost, and an approximate cost of $0.047/kWh [as shown on page 31 under short-term deployment for a wind/diesel technology]. He said subtracting the 28 cents from the 45 cents would show what the cost would be for that power. He indicated that when there is 30 percent wind/diesel, there is 70 percent diesel, and that diesel fuel is priced at $107.50 per barrel. He mentioned having used the Energy Information Administration's (EIA's) "number." He returned to page 27, to the following figures: $0.51, $0.49, $0.41, and $0.40. He explained those figures are "the resulting cost of community power before [power cost equalization] (PCE) in Kipnuk."

MR. HAAGENSON drew attention to the compact disc (CD) that is included at the back of the handout. He then turned attention to page 25, which shows regional capital cost rollup for every Native corporation and for the Railbelt. He indicated that the cost of advancing this plan would be approximately $10 million. He noted that the far right column on that page shows the capital cost per capita. Mr. Haagenson spoke about results. He said 63 percent of the energy in rural Alaska is renewable, "mainly driven by Southeast hydro." He indicated that if a strategy were adopted for rural Alaska, that number could go up to 94 percent. As shown on page 14, Mr. Haagenson pointed out that through following a plan for 50 percent renewable energy by 2025, non-Railbelt diesel use for electric could drop from approximately 35 million gallons per year to around 5 million, and non-Railbelt diesel use for heat could drop from nearly 60 million gallons per year to about 30 million. He said heat costs twice as much as electricity, and while there is help to rural Alaska from PCE for electricity, there is no help for the cost of heat. He opined, "The sooner we can deploy more heat source, the better off we are."

9:41:00 AM

MR. HAAGENSON next discussed financing options. He said HB 306 includes a section that says that the Power Project fund will be used as a vehicle for energy projects in Alaska. He said that is the first time the venue has changed from a grant to a loan, which he said is a "long-term, healthy thing" that will "help us close the gap." He talked about a "rain barrel model," and he explained that basically money comes in and out of a community. He directed attention to page 17, and he highlighted the five strategies for economic development: import reduction, infrastructure development, highest and best use of a resource, public/private partnerships, and the state as an economic

facilitator. He offered further details regarding each of those strategies.

9:47:27 AM

MR. HAAGENSON talked about the term "pathway." He said ideas have failed in the past because outsiders have come in with advice on what to do, but no one has had the passion to take on the projects. He said the pathway is the beginning and it is necessary to find people with the passion to carry out visions and develop projects according to the wishes of the community. He offered an example of a project taking place in Cordova, Alaska.

9:49:46 AM

MR. HAAGENSON said the mix of loan and grant funding will be a challenge for the legislature, because that is not the normal process for the legislature. He spoke of grants as incentives.

9:50:55 AM

MR. HAAGENSON, in response to Representative Johansen, said AEA has "a scope of work" to put before IRP and all utilities. In response to another question, he said, "Whenever you get away from a volatile fuel it will stabilize, and since wind and hydro are typically free fuel, it stabilizes them very well." He mentioned biomass, "using stick wood," and growing willow, and said that would be "tied more to labor," which means more volatility, but still less volatility than fuel.

9:53:09 AM

MR. HAAGENSON, in response to Representative Kelly, said carbon tax looks bad to those on the receiving end of it; however, he suggested the state come up with a strategy that helped it make money from the carbon tax. He said there may be an opportunity that has yet to be considered - a resource that could be deployed - that would allow the state to earn revenue from a carbon tax. He agreed with Representative Kelly that carbon tax would not be good for the state unless a way is found to make it benefit the state. In response to a question from Representative Kelly regarding carbon tax, he said it is "addressed," but it is "not the base model." He offered further details.

9:56:35 AM

MR. HAAGENSON, in response to a question from Representative T. Wilson regarding biomass, indicated that AEA considered many biomass recommendations, but focused on stick wood "as opposed to looking at willow." He said there is a lot of biomass available in Alaska, such as in Tok, Gulkana, and Kenny Lake. He said biomass comes in many forms, including chipped wood, shredded wood, stick wood, and pellets. He said one consideration when using biomass sources is how long it will take those sources to grow back. He said researchers are considering that question. He stated that the document includes only known, proven technology - no risk. He said currently Cold Climate Housing is putting in a heat pump at a school, and solar panels will heat the ground in the summer and then the heat will be pumped back out in the winter. He noted that Alaska has 90 percent of the nation's tidal zones, but does not use any of that energy source, and he questioned why that is the case. He mentioned geothermal energy. He then mentioned an "action drill." He offered various examples of energy renewal ideas, and he said if the state can put the deals together, it can use the resources to its advantage.

10:00:40 AM

MR. HAAGENSON, in response to Representative Seaton, said currently most wind turbines are designed to create electricity, and the best way to deliver the electricity "to site" is through electric line. He said the reason there is limited penetration is that at approximately 30 percent penetration, problems with the running the system occur. He mentioned having a dump load, and he said when that dump load energy is used for heat, more heat is used. In response to another question from Representative Seaton regarding off-grid heat supplies through wind, said that typically the smaller the turbine, the worse the economics. He concluded, "So, we tend to look at the utility-scale solutions, not necessarily the home-scale solutions, trying to get the economy to scale."

10:03:47 AM

SARA FISHER-GOAD, Deputy Director, Operations, Alaska Energy Authority (AEA), directed attention to a two-page handout in the committee packet from AEA, page one of which shows rounds one through four of grants and funding. She relayed that the fourth round ended in September, 2010, and AEA is in the process of reviewing the 104 applications it received during that period. She reported that in the prior rounds, AEA issued 116 grants and

almost $40 million in funds for projects. The second page of the handout, she noted, shows a pie chart depicting the funding allocation by development phase for rounds one through three. She explained that there had been some concern when the program was developed that perhaps too much money was going to studies and reconnaissance work rather than to construction; however, she said of the $150 million, $118 million is designated for construction projects. She also noted that the rest of the second page shows the scheduled project completion. The corresponding bar chart only shows rounds one and two, she noted, but most of the projects are expected to be completed during calendar year 2012. She pointed to another bar chart further down the page, which shows projected cumulative annual fuel savings, which also reflects just rounds one and two; however, she said AEA is anticipating nearly $8 million in fuel savings or the equivalent per year for the projects that are constructed. Other information on the page, she related, includes: the expected completion date, the renewable funding energy grant, and the total project cost.

10:07:37 AM

MR. HAAGENSON, in response to Co-Chair Edgmon, indicated that the reason the state has not pursued renewable energy in the past is because the price of oil and diesel was low and it was convenient. Now, he said, it is just convenient. He recommended studying the market and the economics of delivering a product that really can be delivered.

10:12:20 AM

CO-CHAIR MILLETT expressed concern about the aging infrastructure of transmission and how that factors into the cost of bringing big scale renewable energy projects on line.

MR. HAAGENSON said the IRP was all-inclusive; there are generation projects and transmission projects listed in the plan as means to deliver power across the Railbelt. In response to a follow-up remark, he said Susitna does not compete with the gasline, and he explained why. He opined that it should be determined how one could strengthen the other. Regarding the rail belt, he said utilities have been working together to find a common base, because a large presence must be present to support any large project. In response to a request for clarification, he confirmed that he believes that the state can have both a successful gasline and projects like Susitna. He said the state just needs to spend its money wisely.

10:18:32 AM

MR. HAAGENSON, in response to a request from Co-Chair Millett, stated that AEA is very healthy at this point, and it is working hard on the issue of renewable energy. However, he said AEA has experienced loss through attrition and expects more loss to occur in the next year. He noted that attrition is a national problem, because all the Baby Boomers are entering retirement age. He said last year SB 220 asked for an evaluation of Alaska Industrial Development and Export Authority (AIDEA) and AEA, and for opportunities to be sought to build an energy department, and for an outline of the structure of what AEA should be. That undertaking is happening currently and AEA is a significant part of that process. He said some states have good models, but Alaska is different. He said not many states have the capital to build power plants, for example. He recommended looking at the options and going with the smart plan.

10:23:46 AM

MR. HAAGENSON returned to his presentation. He indicated that because of a moving of assets involving AEA's sister agency, AIDEA, AEA now has $21 million more in its power project fund. He mentioned contracting with Alaska Center for Energy and Power (ACEP) to do an analysis for nuclear power. He said there is a Village Energy Efficiency Program (VEEP) that has been active, saving about 25,000 kWh per village annually and investing about $105 per capita, with a return of $300 per capita over the length of the project. There has been a reduction of approximately 4.5 percent in energy use in rural Alaska among participants. He further reported that AEA managed approximately $1.5 million of federal stimulus money, which was utilized in 97 communities. He mentioned change outs for energy efficiency and indicated that a $5.7 million grant from the federal government will return about $10 million over a ten-year period. He reported that AEA is also getting ready for a commercial audit program, and with about $600,000 of federal stimulus money and approximately $2.6 million from private sources will yield an approximate $4.3 million savings over ten years. He said on the regional level, AEA will be doing a side-by-side comparison of Chakachamna and Susitna, publish its results in November, listen to public feedback, and submit the superior choice as the primary project listed in an application to FERC, with the secondary one listed as an alternative.

10:28:09 AM

MR. HAAGENSON said AEA is working on Reynolds Peak hydro and is expecting a cost estimate and schedule. He offered further details. He said AEA is also working with Southeast Conference, Southeast Power Authority (SEPA), and with all the Southeast utilities companies on an innovative research plant for Southeast Alaska. He indicated that the load and the best way to deliver energy will be identified, and that for Southeast Alaska, hydro is available to supply demand. He said AEA is also considering transition lines for connections. He mentioned a contraption that works like "a backwards refrigerator." He said Southeast Alaska is facing a problem because it is using up all its capacity on resisted heat, and it needs the technology to drop "the demand on peak down."

MR. HAAGENSON indicated that AEA is considering possible hydroelectric sites in the entire Bethel region. He said there are some hills and lakes nearby that can be used, but people are concerned about the fish. He explained that AEA is just trying to find out where it is possible to deliver power long distances.

MR. HAAGENSON, regarding Fire Island, said it costs about 10 cents to make the power and another 10 cents to regulate it. He indicated that utilities focus on cost and reliability. He further indicated that in this scenario the focus is on cost and an attempt is being made to "take a variable resource in wind and fit it into a gas supply that they are ... almost ... [demanding be held] steady." He said this causes problems. He said the utility has "taken that impact and they've put it back onto ... theory," thereby taking almost as much power to regulate as it would cost the utility to "get out of the investment." He said he requested this utility to talk with Golden Valley Electric Association ("Golden Valley"), which is not on a gas supply, but gets fuel out of a tank at no penalty. Further, Golden Valley has the largest battery in the world, which can be modified to take care of "short-term swings." He surmised that Golden Valley would be willing to come together with Fire Island to make some kind of deal. He offered his understanding that there is a deadline in mid-December, so "a lot of these things have to come together fast."

10:34:20 AM

MR. HAAGENSON talked about Mount Spur as another geothermal resource. He indicated that this entity is planning to drill holes to identify the resource in 2011. He mentioned an initial

citing of 50 megawatts (mWs), and he indicated that Mount Spur is considering a cost of 10-12 cents to make the power, and is looking at ways to structure that cost. The big issue with Mount Spur is deliverability, he said, because a 50-mile transition line must be built into the site.

MR. HAAGENSON said the Alaska Intertie Agreement is scheduled to terminate on October 16, [2010], but AEA has signed a three-month extension that would allow utilities with an original intertie agreement to come together with a plan in which the operating rules would be separate and "floating those to the RCA," and then there will be "a very easy governance model to take care of the assets." He indicated that other entities that are interested in using that intertie are being allowed to participate.

MR. HAAGENSON said Bradley Lake is probably the biggest success story; when it was built people did not know how they were going to pay for the 5 cent power, but that rate, which is actually less than 5 cents, looks good today. The Bradley model is being applied to other projects, including Susitna, Allison Lake in Copper Valley, and in the Southeast Alaska region. He said the state put out half the money for the Bradley Lake project, with a 30-year, zero interest/zero payment loan, which is then paid, based on bonds during the following 30 years. He indicated that AEA is also working on Battle Creek diversion, which would give a lot more energy to the project.

MR. HAAGENSON said AEA also does bulk fuel tank upgrades, and he offered an example relating to the U.S. Coast Guard. He said 70 out of 90,000 tanks farms in Alaska have already been replaced by the Denali Commission since 2000 at a cost of about $400,000. He mentioned another program called Rural Power System Upgrades (RPSU), and he offered further details. He said AEA also manages the Bulk Fuel Revolving Loan Fund, which is a cash flow mechanism system for communities that get their fuel delivered once a year. He offered further details. He said AEA manages the PCE program, a $31 million program that assists Alaskans in getting the cost of energy down. He said AEA has an emergency response program to keep the lights on and guard the system, and a circuit rider program to provide technical assistance. He related an example by way of an anecdote. He mentioned training and a 54-person operating hub of people who operate wind turbines and hydro plants in the state. He reiterated that just 36 people run about 20 programs.

CO-CHAIR EDGMON thanked those who testified for their work.

The committee took an at-ease from 10:42:01 AM to 11:03:14 AM.

11:03:16 AM

CO-CHAIR EDGMON announced that the committee would now hear from the Alaska Housing Finance Corporation (AHFC)

11:03:42 AM

BOB BREAN, Director, Research and Rural Development, Alaska Housing Finance Corporation (AHFC), announced that his colleague, Cary Bolling, would present a PowerPoint presentation, which would give the committee an update on AHFC's Home Weatherization Program, which is largely appropriated by the legislature, the Home Rebate Program, and the Revolving Loan Fund.

11:05:02 AM

CARY BOLLING, Energy Specialist, Alaska Housing Finance Corporation (AHFC), turned to a slide in the PowerPoint entitled, "Overview," and he reviewed that the legislature appropriated $200 million for an income-based, no-cost weatherization program, which had been in existence for about 25 years, but previously with $6 million appropriated. He further reviewed that the legislature appropriated $100 million for a rebate program for those individuals who do not qualify for the weatherization program. There was an additional $60 million appropriated during a special session in September 2008 to carry the program into 2009. Mr. Bolling relayed that there was a major training effort to ready the programs in about a month's time after the legislation was passed.

MR. BOLLING directed attention to the next slide of the PowerPoint, entitled, "Allocations," which shows the regions to which allocations were made. He explained that each of the region's allocation amounts were determined based upon population, fuel cost, and climate. Regarding the next slide of the PowerPoint, entitled, "Weatherization Program," he said out of the $200 million, $70 million were encumbered between 2008 and 2009, and $60 million were encumbered by 2010. As depicted on the next slide of the PowerPoint, Mr. Bolling relayed that during programs prior to 2008, about 600 homes were weatherized; in fiscal year 2009 (FY 09), 1,864 homes were weatherized; in FY 10, 3,139 homes were weatherized; and a projected 4,000 homes will be weatherized in FY 11. Regarding the following

PowerPoint slide, Mr. Bolling related that the number of communities in which the programs are effecting change has increased; the total for FY 10 is 111.

MR. BOLLING directed attention to the slide of the PowerPoint entitled, "Home Energy Rebate Program," and said the $160 million in funds are fully encumbered, and $72.8 million has been expended. He explained that AHFC reimburses the homeowner for the cost of having an energy rating done, and then AHFC puts money aside for 18 months for the homeowner to finish the rebate program, and that is how the funds are encumbered.

11:09:00 AM

MR. BOLLING directed attention to the PowerPoint slide showing "As-Is Ratings Paid: 24,292*," which shows, along with a graph, that since September 16, 2008, AHFC has paid 9,142 rebates at an average of $6,258 each, and with a participation rate of 63.5 percent. He said when someone does not complete the program, the money that was set aside for them is rolled back into the program to be used by someone else. Mr. Bolling relayed that there is a rebate program for "5 star plus homes" that pays out a $7,500 rebate to the buyer of a new home, and AHFC has paid out 822 of those rebates.

MR. BOLLING turned to the PowerPoint slide regarding "Raters Available," and he said that AHFC had to ramp up training to get more raters trained, because at the start of the program there were only 38 raters available. At the peak of the program, there were 123 raters, and currently there are approximately 97, he reported. He said AHFC will reimburse the travel expenses of raters who go to communities without raters, if there are at least three to five people in the community interested in signing up for the rebate program. He said there is a centralized sign-up/wait list and a toll-free number.

MR. BOLLING, in response to Representative Tuck, said whether the aforementioned minimum requirement of interested parties has to be three or five depends on the size of the community.

MR. BREAN added that often, through word of mouth, by the time a rater arrives in a town, more people have signed up to have a rating done.

MR. BOLLING, as shown on the next slide, pointed out that there are 3,575 on the wait list. At the beginning of the program there were almost 2,000 people waiting to get energy ratings.

The chart shows how people have been taken off the wait list. Currently, AHFC dispatches about 100 ratings per week or 400 a month, which is down from the approximately 1,500 that were done in a month at the peak of the program.

11:15:27 AM

REPRESENTATIVE SEATON asked about "other programs" related to weatherization.

MR. BREAN agreed to provide those statistics to the committee after the meeting. He noted that the other programs are income driven, and AHFC requires all the contractors to do all their assessments and have their waiting list together almost a year in advance. He said the 4,000 homes that are slated for FY 10 are probably already in the system, and there may be another 3,500 in FY 12. He said the weatherization program is different from the rebate program because the assessments are done well in advance and the consumer has to meet income criteria in order to qualify for the program.

REPRESENTATIVE SEATON discussed the need to have feedback on procedures for low income individuals to actually access the program.

11:17:34 AM

REPRESENTATIVE T. WILSON asked if AHFC has considered allowing people on the waiting list to choose to pay for the weatherization and keep the receipts, with the understanding that the receipts may or may not be reimbursed, just so they can get their homes weatherized sooner rather than later.

MR. BREAN explained that he has not considered that possibility, because he thinks AHFC wants to be sure that it has the funds available before people get to that part of the process. He said that is something that AHFC could consider; however, he emphasized that those who choose to go ahead with expenses while still on the waiting list would be taking a big risk that they may not be reimbursed. He directed attention to the next slide of the PowerPoint, which illustrates that the average homeowner paid costs are almost $11,000, and the average rebate is approximately $6,200. He said the homeowner would need to have an initial energy rating done in order to set a standard by which the improvements could be measured.

REPRESENTATIVE T. WILSON said she thinks people's interest in this idea stems from the Internal Revenue Service (IRS) rebate that was issued; people want to take advantage of that while they have it. She asked Mr. Brean to think about the idea, because she has had several calls from constituents willing to sign a waiver to start their improvements at their own risk.

11:20:57 AM

MR. BREAN said that typically when a consumer follows the recommendations of a rating, he/she will save money even if there is no rebate program in existence. He said the "frosting on the cake" is the benefits that are reaped by having those improvements done. In many cases, he said, there is a 29 percent savings on energy/utility bills, which is a quick return on investment.

11:21:48 AM

MR. BOLLING returned to the slide showing costs to homeowners, which he said averages $4,600, and annual energy savings are about $1,580, which he said is approximately "a three-year payback." He directed attention to the next slide, which shows energy and carbon dioxide emissions saved, based on about 7,000 homes that have completed the program. He said on average people move up about 3 steps in rating stars, saving 97 million British thermal units (Btus) per year. The average energy use is reduced about 30 percent, conservatively. He pointed out that at the bottom of the slide are listed equivalent energy savings, including barrels of crude oil, gallons of fuel oil, and gallons of fuel oil per home. He said the next slide shows the average saved for those using electric, natural gas, oil, propane, and wood.

11:23:37 AM

MR. BOLLING directed attention to the next slide, which is labeled, "Second Mortgage for Energy Conservation," and he explained that this is a program for people who might not have the money up front. The second mortgage can be up to $30,000, and is a 15-year loan at a fixed taxable rate. He said approximately 84 of those loans have been paid off, and about 34 are still active. When this is done in conjunction with the rebate program, he said, the rebate can be used to pay down the loan. Mr. Bolling highlighted the next slide, which shows before and after statistics, before being between 1996 and March 2008, and after being between April 2008 and October 15, 2010.

The before ratings numbered 25,557, whereas the after ratings numbered 34,283; the rebates were not an option before, but number 9,142; there were 2,345 five-star plus homes built in the before period, and there have been 822 built in the after periods so far; and the total weatherizations done before numbered 10,704, while in the past two years 5003 have been done.

MR. BOLLING, in response to a question, said AHFC has reached 40 percent of its original projections.

MR. BREAN added that a year prior to the legislative appropriation being made, AHFC had commissioned a statewide housing need assessment, which resulted in a determination that 10-12 percent of homes were in need of the program.

11:27:36 AM

MR. BOLLING moved on to the next slide, entitled, "Alaska Energy Efficiency, Revolving Loan Fund (AEERLF)," which is a $250 million revolving loan fund presently being developed. He explained that the loan fund would be used for energy efficiency improvements for the following: regional educational attendance areas (REAAs), the University of Alaska, state facilities, and municipal facilities. He said guaranteed savings from energy efficiency improvements would be used to pay off the loan, and an energy assessment would be required before the loan would actually be made. Mr. Bolling said the next slide shows the process called, "Retrofit Energy Assessment for Loan (REAL))." He said prior to applying for the loan, there would be an initial evaluation, which would include an energy benchmark. Following that would be audits by certified energy managers, and energy performance contracts would be used. Finally, energy performance contracts (EPCs) by energy service companies (ESCos) would be used; DOT/PF would publish a list of approved qualified ESCos from which to choose. He noted that for projects under $250,000, retrofits could be managed by qualified ESCs or by facility owners themselves.

11:29:58 AM

MR. BOLLING turned to the next slide of the PowerPoint, which shows the process of a retrofit energy assessment for "Loan (REAL) application": a REAL application and benchmark is given to AHFC; AHFC reviews the application for eligibility; and initial assessment is performed by a qualified energy auditor, which allows AHFC to prioritize projects; an investment grade

audit (IGA) is conducted; and then the loan application will be forwarded to AHFC for approval.

MR. BOLLING directed attention to the next slide, which shows the process of an energy efficiency revolving loan (EERL) application: the loan is approved by AHFC; upgrades are accomplished by the ESCo or facility owner; the loan is repaid within a term up to 15 years and according to projected energy savings; technical assistance is available; and long-term energy savings should be realized.

11:31:22 AM

MR. BOLLING directed attention to a slide, which shows two ways to get the work done. The first path, he explained, is to have the ESCo do the IGA. In this method, the ESCo manages the project and performs the work through EPC. The second path, he said, is one by which a certified energy auditor or certified energy manager does the IGA, and the facility owner would manage the project if it is less than $250,000.

11:31:56 AM

MR. BREAN opined that the critical piece of this process is "the performance contracting element," because it puts the onus on the performance contractors to "get their numbers right" to begin with, which allows AHFC to more accurately predict energy savings.

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MR. BREAN, in response to a question, said Department of Transportation & Public Facilities (DOT&PF) will be handling "the breakout of all public facilities," but AHFC will be working with schools, the university, and municipalities. He recollected that SB 220 required DOT&PF to retrofit a percent of all public facilities. He indicated that AHFC does not want deferred maintenance to [increase]. He said the fund is a revolving loan fund, and AHFC anticipates that if it does not hold everybody to the same performance standards and principles, then the revolving loan fund would quickly have no money. He said AHFC wants energy savings to enable people to make their loan payments, which in turn will help make loans available for more facilities.

11:37:21 AM

JACK HÉBERT, President/Chief Executive Officer (CEO), Cold Climate Housing Research Center (CCHRC), stated that CCHRC was recently awarded $.9 million for an expansion of the Sustainable Northern Community facility. The purpose of the expansion, he explained, is to grow CCHRC's partnerships, so that many agencies can work together to meet challenges in both rural and urban Alaska. Mr. Hébert expressed his hope that this would not only include both federal and state agencies, but also would include representation from housing authorities in rural Alaska, the Alaska State Homebuilders, and AHFC. He reported that construction is planned for next spring. He said there is a private match, but the grant from the Economic Development Administration (EDA) was "nice." In expanding partnerships, he said, CCHRC is expanding its relationship with the U.S. Department of Housing and Urban Development (HUD) and USDA Rural, and it is continuing to develop relationships in the private sector. For example, he noted, CCHRC is about to sign a memorandum of understanding (MOU) with the Alaska Native Tribal Health Consortium (ANTHC). He said probably the most important recent partnership is the one with AHFC, which is focused on energy efficiency, affordability of rural housing, and the general stimulus that housing can create for rural communities. In response to Co-Chair Edgmon, he said he would be happy to give a tour of CCHRC's facility. He indicated that he had information to provide the committee via flash drives.

11:41:15 AM

JULIE ESTEY, Business Director, Alaska Center for Energy and Power (ACEP), explained that ACEP is an applied energy research group at the University of Alaska that is looking for seeks practical solutions for today and the near future. She said ACEP provides independent verification of technology and can help the state make decisions regarding in which technology to invest. She said ACEP looks at the following on a community scale: power generation, heat, and transportation. She said there is a lot of expertise at the university, and ACEP operates by bringing together geologists, social scientists, economists, and engineers to find solutions, because energy is multi-disciplinary.

MS. ESTEY listed examples of ACEP's current energy projects, including: diesel engine efficiency, battery storage and integration, wind/diesel hybridization, hydrokinetic energy, geothermal technology, and biomass. She noted that she had provided a handout [entitled, "ACEP Current Projects List," included in the committee packet]. She said ACEP is a new

program that can operate at the interception of need, capacity, and funding.

MS. ESTEY said that in addition to helping the state make decisions, ACEP also produces an educated work force of people qualified to determine not only what is technologically feasible, but also what is socially and economically feasible. She noted that further information had been provided [entitled, "How ACEP Uses Its General Fund Allocation," included in the committee packet], and she thanked the legislature for its support in providing that allocation. She said ACEP has used that money to provide outreach to rural areas. She said one graph on the handout shows the funding that ACEP receives from various sources, while the larger graph shows the number of projects and how they are funded. She said ACEP has developed a strong portfolio and has been able to double its revenue and triple the number of projects because of the initial investment by the state.

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MS. ESTEY expressed gratitude for the work the legislature did regarding energy legislation. Especially pivotal, she posited, was the new state-run Emerging Energy Technology Grant Fund. She said ACEP has been working with the Denali Commission on its management of that pilot program, and she said it is amazing to see the 11 related projects get going. She said a critical aspect of the program is the independent data analysis and collection, which will show how the projects work and whether or not they make economic sense. She said this is an area in which the state has typically not been strong. She explained that typically the state doles out money for projects and then relies on people with vested interest in those projects to tell the state how the projects are doing. She said this often results in money being spent on projects that are not viable for the state.

MS. ESTEY reported that ACEP has also started a "Wind for Schools" program, which is federally funded, but a grassroots program through which a school can erect a wind turbine or access information electronically. She indicated there is technical support at the schools and at the university level to support that program. She noted that these programs are taking place or scheduled to take place in Juneau, Sitka, and Kodiak, and are supported by the U.S. Coast Guard.

MS. ESTEY concluded by announcing that a conference is held every 18 months; this year's will be held in Juneau. She said ACEP looks forward to everyone's participation and attendance. She expressed her hope that the legislature will consider ACEP a resource for figuring out the best way to move forward.

11:51:05 AM

CO-CHAIR EDGMON expressed appreciation for all the presentations and updates. He said he read that Alaska is one of four states most improved in energy efficiency, and it now ranks thirty-seventh in the nation. He related that at the 2008 Energy Conference, AEA claimed that 2 million gallons of diesel is being replaced by the money being poured into renewable energy sources.

11:52:42 AM

ADJOURNMENT

There being no further business before the committee, the House Special Committee on Energy meeting was adjourned at 11:52 a.m.