

MINUTES
ALASKA ENERGY AUTHORITY
Board of Directors
Thursday, June 12, 2008
Anchorage, Alaska

1. CALL TO ORDER

Chairman John Kelsey called the meeting of the Alaska Energy Authority to order on June 12, 2008 at 1:53pm. A quorum was established.

2. BOARD OF DIRECTORS ROLL CALL

Members present in Anchorage: Chairman John Kelsey (Public Member); Vice Chair John Winther (Public Member); Deputy Commissioner Brian Andrews (Designee for Department of Revenue); Emil Notti (Department of Commerce, Community and Economic Development); and Commissioner Leo von Scheben (Department of Transportation & Public Facilities).

Vice Chair John Winther (Public Member) joined the meeting at 1:58 p.m.

3. PUBLIC ROLL CALL

Staff Present in Anchorage: Steve Haagenson (AEA Executive Director); Ted Leonard (AIDEA Executive Director); Sara Fisher-Goad (Deputy Director-Operations); Mike Harper (Deputy Director-Rural Energy); James Hemsath (Deputy Director-Development); Chris Rutz (Procurement Manager); Jim Strandberg (Project Manager); Brenda Fuglestad (Administrative Manager); and Sherrie M. Siverson (Administrative Assistant).

Others Present: Brian Bjorkquist and Mike Mitchell (Department of Law); Paul D. Kendall (Public); Percy Frisby and Andrei Chakine (Tlingit & Haida Indian Tribes of Alaska, Central Council).

4. PUBLIC COMMENTS

A discussion ensued between Mr. Paul D. Kendall, Mr. Haagenson and members of the Board regarding public testimony. Mr. Haagenson stated that at the end of Mr. Kendall's public testimony if the Board Members had questions, they could be addressed at that time.

VERBATIM

You should all have a packet in front of you. My name is Paul middle initial D Kendall. I live in Anchorage. I have some background as an energy and political activist. I see something very very special in Alaska. It has to do with electricity and the moving of electricity to the residential units across your state. If I see some things that I think are of historical and monumental impact. I had thought you had received this packet well in advance of my arrival, you would be able to purview it as the packet itself with a list of discussions and questions. I believe that there should be a ton of questions after receiving a packet from me most typically. I didn't come prepared to just be able to just sit here and spiel something off for three minutes for somebody's entertainment or a quick presentation and I don't typically look to place a hook to gain another

man's interest. I typically like to call the shots as I see them in honest dialogue between men and some great ideas in some direction we're headed. So I don't know where we are going in three minutes. I don't know too many men who can go some place in three minutes, but I will try my best to do that. First I want to inform you that I may be a candidate for the U.S. Senate. I am in the breach and taking strong consideration of that. If I join that will be of a multitude of purpose and one of them will be able to define energy for Alaskans as I think they need it because there may be a lack of leadership in that area.

I would like to remind you, I would like to make a formal request of Mr. Haagenson, on the record, that is to get a copy of Steve Pratt's report to the Alaska Power Authority, which I was denied recently. I would also like to get a copy of the, I guess as I understand it, ISER was requested to do a study for you and I would like to get a copy of that request to ISER. I would like to get a copy of whatever the Board there furnished and this Board in reference to Energy and that's for the record. I'd also like to talk about financing some type of energy forum.

I think Alaska is in a very very special place gentleman. This is, the magnitude of this is huge. I think some of the members of this board heard this the last time I was before you. I continue to see the largeness of that. Let me put this into some kind of perspective for you. I'm convinced that if I could tie you to a chair and play AGIA and Dan Dickison all day, it would kill all of you okay. The pain and the complexity of the gas and the fossil fuel distribution is just overwhelming. Now keeping that in mind, typically in trains-of-thoughts there's a thing called a dot and that is your center. The circle in a frame of thought is the outlying areas that lead to that and then you come to what is known as a spherical thinking, which is a ball like, which looks at all aspects of all agencies. I you look at what's happening up there on the slope with the oil and the gas, there is a great mystery as to what's happening here. Something is wrong in Alaska ladies and gentlemen. I think that your time is repeating itself in some type of cycle. In the early 80's you had a chance to be a hydrogen, you had a chance to be a geothermal, you were headed places where men dreamed of going. The bottom of the oil fell out, everything collapsed. There're dialogues (*audio not clear*) from Wally J. Hickel on geothermal. You had the first hydrogen study done that I know of in the world, 241 pages (*audio not clear*) Old Harbor. You have a magnificent history. I would suggest to you that what is happening with the energy today is that you are about to see another smack down. This is going to come hard and fast. I'm very concerned about the mystery as to what has happened at last with that pipeline going half or two third's empty for twenty years. Keeping that in mind, if you look at electricity with the thousands of sites of hydroelectric potential that you have, you have the capacity to laundry an electrical infrastructure. If you move that infrastructure towards your homes you'll notice in your packets there I've delineated a home's many aspects of energy. Most people just think of electricity. That is not true. You have heating and cooking. Those are BTU factors can be converted to electricity. You also have transportation about a thousand gallons. If you move that to electricity you can initiate the electric vehicle. Then you come to water and trash and things like that. But in essence if you move that electricity towards the single family home, you in essence will stabilize your society, stabilize your work force and as you move electricity into that single family home you will move gas out. As that gas goes out it generates you another revenue market, in the open market. And it also begins to compound its impact because the money that you pay out now for gas and fossil fuels is an extrapolation of capital. Generally utility bill you have 15-20 percentage for operation and maintenance. The other 60-80 percent is called a feedstock which goes to the owner. So not only do you push the gas to the market to sell but you hold your capital within the community and the State of Alaska. There are

multiplying impacts of moving electricity to the home. If you continue to move that electricity into the home, you also stabilize your society which may also impact crime and lots of other social costs we're having to pay for. But in addition to that, if one of your homeowners can come to you and say they bought an electric car. The Chinese are introducing \$11,000 124-mile range car in Austin next year. There are a multitude of electric cars coming to the market. If you initiate that electric car, now you not only save more money, but now you push out the refinery materials into the open market again stabilizing and increasing your cash flow. And when you come into the totality of the breach of the electricity, you are now converging with hydrogen. And ladies and gentlemen, it's hard for me to talk unless you have a picture in front of you, from Popular Science magazine, it's worth a thousand words. That picture shows a house of the future. You'll notice that it shows down at the bottom a hydrogen tank and a hydrogen fuel cell, right? Now I'm not interested in the fuel cell. A multitude of corporations and individuals are. Powerful people. You'll notice BMW was on the weekend twice with their car made of water and the guy from BMW said "hey, we just you to know we're ready when you're ready." Hydrogen is here ladies and gentlemen. In addition to that, I have a packet of information in the back of your book that shows in 1991 Dupont, Conoco Phillips, and some others, were able to manufacture hydrogen with a 1.7 year payback on their total investment. So we know it's here, okay? But setting the hydrogen aside, what happens with your society, if you implement the electrical grid system, the backbone of the great state of Alaska, you will stabilize all sectors, create multiple streams of revenue, and in essence you will technologically upscale your people. You will have a place in the world with recognition beyond your wildest dreams. You have a chance to have it all. All, gentlemen. So that's my ...

End of Verbatim

5. PRIOR MINUTES – April 10, 2008

The April 10, 2008 minutes were approved with one correction: change spelling of the word trawlers to trollers on page 4.

6. OLD BUSINESS

There was no old business.

7. NEW BUSINESS

There was no new business.

8. DIRECTOR COMMENTS

Mr. Haagenson asked Mike Harper to provide an overview of Programs and Projects Updates.

OVERVIEW OF AEA PROJECTS and PROGRAMS

Mr. Harper asked Board members to review the AEA Programs and Projects Fact Sheets in their packets and contact him if they have any questions. He stated that at this time of year AEA is normally very busy building bulk fuel tank farms or power plants in the bush. However, AEA is not as busy as it normally would be because the same level of funding is not available

from the Denali Commission. Funds may become available at a later date, but they are down at least a third from previous levels.

AEA has constructed over 60 bulk fuel tank farms and 30 power plants in the past 7-8 years. AEA is busier than ever with increased interest in alternative energy and the passage of House Bill 152. HB 152 is an alternative energy bill will have a huge impact on Alaska and will be facilitated through AEA and its Board.

Mr. Winther asked if there were enough Bulk Fuel Loan Funds to cover the villages that apply due to the increase in gas prices.

Ms. Anderson responded that AEA is in good shape, but has noticed an increase in average requests. The amount requested has to be weighed with the ability to pay it back.

Ms. Fisher-Goad added that AEA Legislation House Bill 338 went through the legislative process last year. Originally proposed by AEA, the bill was introduced and carried by Representative Mary Nelson. The bill passed and is waiting for transmittal to the Governor. The bill included two amendments. One amendment, through the Committee, increased the maximum bulk fuel loan limit from \$400K to \$500K. Applications have been received requesting that higher dollar amount. The other change in the bill reflects the bridge-loan program, managed through the Department of Commerce, and is now in statute.

A significant change allows AEA to use the Power Project Fund for cash flow purposes for loans which maximizes loan value. There are some limitations. AEA is conservative with respect to what was originally proposed. With the current increase in fuel costs AEA may use all of the resources from that fund. In the future, AEA may see additional pressure to increase the loan amount but that has to be balanced with the purpose of the loan and how it would be paid back.

Ms. Anderson stated that there are currently three applications at the half-million dollar level but not all requests are approved for the amount requested. Mr. Haagenson asked if AEA anticipated running out of bulk fuel loan program funds this year and whether or not there is an 85% increase, to which Ms. Anderson replied no. She stated they have received 9 requests in the past week and expects an increase in applications in September. The applications, on average, were larger than previous requests. Mr. Haagenson asked if the increases were extrapolated out, would there be enough funds to cover an estimated \$6 million dollar excess. Ms. Anderson replied that they were going to have to look at the potential for additional funding for the program, but probably not for this year. At this time the program is more reactive to people's needs and is repeat business, but 7-8 communities have come to us who in the past have always self-funded. In general there's more need.

Commissioner von Scheben stated he had received an email about the high cost of fuel and perishable food supplies in bush communities. This person made a comment about some type of shift regarding people leaving the villages and asked if anyone knew of a shift because some of the villages are not able to hang on because of the high costs.

Mr. Haagenson reported seeing a huge shift. George Cannelos, Denali Commission, hired ISER to analyze that shift from Bethel to Wasilla, from smaller areas into hubs, like Bethel.

There is a huge shift going on because the cost of energy is bringing the cost of everything up. He called it the death spiral.

Commissioner Notti added that he heard Bethel had 34 homes for sale, a big percentage for the size of the community.

Commissioner von Scheben said he was thinking of smaller communities like Chauthbalak and Kalskag and doesn't know how they can survive with fuel and milk that costs up to \$10 a gallon.

Mr. Haagenson said the smaller villages have been double whammied. One of the charts in the packet shows that in small communities, the energy costs might be the same (*as larger communities*), but the average income is only half. In hubs like Bethel they tend to make more money so it is easier to absorb, but it is still hurting them. He spoke with a person in Bethel who said last year he had two apartment buildings 100% full, with a waiting list, but this year he only has 20% occupancy, a sign of worse things to come.

Commissioner Notti said he thought there would be more demand for bulk fuel loan funds. Mr. Haagenson and Ms. Anderson both anticipated seeing an increase in demand. TBush Caucus is already discussing an increase in the bulk fuel and power project fund.

Ms. Anderson said that AEA may be swamped with requests in the future, but it is not solely a matter of increasing funds, it's a matter of how they pay it back. The tougher question is, is it going to be affordable to these people to pay back these loans? Requests are coming in for \$400,000, no matter what the needs is, but we do not always approve what they ask for. They may be approved for \$200K or \$250K, what we determine they are able to repay.

A discussion ensued about how the high cost of fuel affects fishermen. They expect to catch one hundred million tons less fish in Bristol Bay this year because they are unable to compete with the price of Puget Sound Salmon.

Mr. Haagenson stated that the first issue is a cash flow problem which is what a bulk fuel loan helps with. When fuel is delivered now, it must be paid for within 2-3 weeks. Money sits in the tank and no kilowatt hours have been generated to reap revenue. Making electricity from the really expensive fuel is going to make the price go up with no sales to cover the costs. As Chris said earlier "Is this a good loan to make and can they pay it back?" There may be risky times ahead.

Mr. Harper distributed an information sheet about AEA Projects showing pictures of a tank farm before and after it received a new code-compliant sustainable tank.

Steve Haagenson provided an update on the status of the Energy Plan.

The Alaska Energy Plan is going very well. Meetings have been held in 26 communities. While on site in Chitina an extra meeting was conducted. Three more meetings will be held in Haines, Petersburg and Emmonak. Good information has been received and is being put into a matrix showing almost every community in Alaska. Across the top of the matrix are all of the resources available. The matrix will then be matched to the energy required to run each community which

includes electricity, space heating and transportation. You will be able to look at the community needs and compare it with other options.

For example, while the group was in Bethel, one community member mentioned that when he was a kid his job was to clean trash out of the flue at Nyak. What and where is Nyak? It is a hydro project about 60 miles from Bethel and when you think of Bethel, you don't usually think of hydro. There is another site right next to it called Kisaralik which an in-house hydrologist said generates approximately 30-megawatts. Mr. Haagenson looked at the estimate required for energy for space-heating and electricity in Bethel, converted it to BTUs from diesel fuel and then converted it to electricity. Approximately 17 megawatts were needed so now a possibility exists that Bethel can run on electric heat. This is the value of understanding what energy needs are required. A resource can be matched with a need. Installation of heat pumps can actually reduce the amount required for space heating by a factor of three. If you had 12 kW electric heat in your house, you'd drop down to four. Options like this are being explored that would allow a mini-grid around Bethel that picks up all of the communities on the Kusko-Delta and provides electric heat and electricity for their homes. This is the value of the process we are going through right now.

Mr. Brad Reeve from Kotzebue said that when they built the local hospital they drilled a hole down to water-well depth and found 160-degree water. A geothermal site in Kotzebue will now be investigated. The comments from community meetings have been very valuable and the communities are going to get buy-in because they are now part of the process.

A Technology Day is being planned to explore the different technologies required to convert the energy sources and put each community need together with the resources available and make sure that those energy sources match. We are on right on track with this project.

There is information in the board packet on the energy relief plan marked confidential. Any discussion or questions require the Board adjourn to Executive Session.

The capital budget has been approved with a 60-day statutory limit to make agreements for transferring funds and finalizing agreements with the different recipients. An attachment shows the energy projects that were approved from the capital budget. When Sara Fisher-Goad testified on HB 152, she informed the legislature that we could use the existing RFP. We have an RFP for approximately \$4 million dollars for the Denali Commission and \$1 million dollars for the Alaska Energy Authority. If we need additional funds we can use that RFP to award HB 152 funds. Prior to that, we have to work with Alaska Legislative Budget & Audit Committee (LB&A) to get approval and the list from them. When the RFP went out it had a couple of limits: (1) "construction of a project with a cap of \$1 million dollars" and (2) "for preliminary work with a cap of \$100,000." We are looking at the possibility of awarding funds from that initial RFP in the near future upon approval from LB&A.

A Request for Applications (RFA) will go out later this summer that will allow us to do a rapid evaluation and we would like to publish the RFA for the remainder of the \$50 million dollars for this year.

Funds were approved for Susitna Hydro. AEA will do an evaluation and assessment of need to determine what the utilities need for electricity, look at future loads, and an integrated resource

plan. The next step will be to determine what the river can produce for as far as hydro-electric energy.

In response to a question from Commissioner von Scheben, Mr. Haagenson stated the previous Susitna Hydro study was for a 1600 megawatt project with a cost to build the plant estimated at approximately \$10 billion dollars. Mr. Haagenson feels this was too big so AEA needs to determine how big it should be and once that is identified, go to the river and decipher what the river can produce. There are some interesting studies after the fact that if you were to build with thin-shell concrete, like the one in the Devil's Canyon Dam, you run a river back and even though it's a 1600 megawatt capacity, only 100 megawatts of water runs through that small impoundment area. If you put the big one in, the Wantana Dam, you'll likely get 1000 megawatts, but it costs the most. So the question is, is there some way to put both of them in so you get close to 600 megawatts at the bottom, because it holds back most of the water. We are looking at different sizes and options that will give us 600 megawatts at a low cost.

Commissioner von Scheben asked if the environmentalists will buy into the project this time. Mr. Haagenson said that in his opinion the reason the original project was killed was not because of environmental issues, but mainly because it was going to power a smelter. They said they didn't want a smelter there and made sure it didn't happen. At the same time oil went to \$9 a barrel and it was decided not to waste time when oil was so cheap. That was what was on their minds with the previous Susitna study. A friend who worked on the project said that if it had been built, we would probably have two-cent power up and down the railbelt and \$30 billion dollars in the bank. What's the best time to plant a tree? 30 years ago, and the second best time is today. We owe it to Alaska to take a look and see if it makes sense and move forward. If it doesn't, we'll look elsewhere.

Commissioner von Scheben stated that he previously offered DOT services, which caused some confusion. He suggested that if villages or communities fairly close to each other could be connected by road, if they don't exist right now, they could share services such as a single-power plant, transmission lines, schools, and clinics (e.g. St. Mary's and Mt. Village, Upper and Lower Kalskag).

Mr. Winther asked if any of the current hydro projects in the state have not been hugely successful, maybe not at the time they were built, but at this point in time. Mr. Haagenson said there are not that many in the state: Eklutna was built by the federal administration; Snettisham; Cooper Lake; Bradley; Swan Tyee; Terror Lake; and Solomon Gulch. Mr. Winther said they probably produce the cheapest power there is right now. Mr. Haagenson said that in Wrangell 150 people have converted from oil heat to electric heat. Mr. Winther said you can't build enough hydro soon enough, regardless of the cost. To a certain extent, if the size is doubled it's still going to be perfect in 20 years. Mr. Haagenson said you get a very stable price. Once you make the investment in the dam you know the price forever.

Commissioner Notti added that when the Eklutna hydro project was built, the headline in Anchorage was "enough energy to last 100 years. We're going to have more growth in Alaska," but we didn't expect it to be this big.

Mr. Winther said that in the last two years Petersburg has gone from 40% usage at Tyee to 60% usage by converting to electric heat and other things. A hydro project big enough for the long

term just can't be built. Mr. Haagenson added that the challenge is finding one that has a high-level wake which doesn't affect fish runs. Technology is improving at hydro-kinetic sites, so all different resources are being considered. Tidal wasn't really available 20-30 years ago, but it's getting closer today.

The next AEA Board meeting is scheduled for August 14, 2008.

9. BOARD COMMENTS

Mr. Winther stated that he enjoyed working with the new AEA Executive Director, Steve Haagenson.

10. ADJOURNMENT

There being no objection and no further business of the Board, the meeting was adjourned at 2:36 p.m.



Steve Haagenson, Executive Director/Secretary
Alaska Energy Authority