ALASKA STATE LEGISLATURE
HOUSE SPECIAL COMMITTEE ON ARCTIC POLICY,
ECONOMIC DEVELOPMENT, AND TOURISM
April 11, 2017
1:38 p.m.

MEMBERS PRESENT

Representative Dean Westlake, Chair
Representative Bryce Edgmon
Representative Andy Josephson
Representative Mark Neuman
Representative David Talerico

MEMBERS ABSENT

Representative Chris Tuck
Representative Gary Knopp

COMMITTEE CALENDAR

PRESENTATION: TEAM ALASKA~ ARCTIC WINTER GAMES

- HEARD

PRESENTATION: ALASKA NATIVE TRIBAL HEALTH CONSORTIUM

- HEARD

HOUSE JOINT RESOLUTION NO. 19
Commending the Arctic Waterways Safety Committee; supporting the adoption of prevention measures into international agreements to ensure clear, universal, and enforceable marine safety measures in the Arctic; and urging the state's delegation in the United States Congress and the governor to promote the adoption of spill prevention measures into international agreements; urging the President of the United States and the United States Department of State to initiate negotiations to enter into international agreements to ensure safe and environmentally responsible marine operations in the Arctic.

- SCHEDULED BUT NOT HEARD

PREVIOUS COMMITTEE ACTION

No previous action to record

WITNESS REGISTER

KATHLEEN REHM, Co-Executive Director
Team Alaska, Arctic Winter Games
Fairbanks, Alaska
POSITION STATEMENT: During the presentation, offered an overview of the Arctic Winter Games.

SARAH FRAMPTON, President
Team Alaska Arctic Winter Games
Fairbanks, Alaska
POSITION STATEMENT: During the PowerPoint presentation of Team Alaska Arctic Winter Games offered her appreciation for the committee's time.

MICHAEL BLACK, Director
Community Infrastructure Development
Office of Environmental Health and Engineering (OEHE)
Anchorage, Alaska
POSITION STATEMENT: During the presentation of the Alaska Native Tribal Health Consortium he discussed sanitation.

ACTION NARRATIVE

1:38:06 PM

CHAIR DEAN WESTLAKE called the House Special Committee On Arctic Policy, Economic Development, and Tourism meeting to order at 1:38 p.m. Representatives Talerico, Westlake, and Josephson were present at the call to order. Representatives Edgmon and Neuman arrived as the meeting was in progress.

PRESENTATION: TEAM ALASKA, ARCTIC WINTER GAMES

1:39:08 PM

CHAIR WESTLAKE announced that the first order of business would be a PowerPoint presentation titled, "Team Alaska, Arctic Winter Games."

1:39:11 PM

KATHLEEN REHM, Co-Executive Director, Team Alaska, Arctic Winter Games, advised that slide 1 is a portrait of members of the Team Alaska athletes taken in 2014, and turning to slide 2 advised that the purpose of the presentation is to give the committee an understanding of what the Arctic Games are, how it represents

the state, and how the Arctic Winter Games stimulate economic development and tourism.

1:40:23 PM

MS. REHM turned to slides 3-5, and advised that the purpose of Team Alaska is to organize and select youths to compete in the sporting and cultural event held by the Arctic Winter Games, the event includes a high profile circumpolar sporting competition for northern and Arctic athletes. It was established in 1968 by Governor Walter Hickel and Ken McKinnon as a non-profit, and Alaska has participated in the games since 1970. The games are an opportunity for Alaska's young athletes to experience a profound and life changing event because many of these athletes have never participated in a sporting or cultural event of this magnitude. The intent was to foster sportsmanship, culture, international and cultural exchange, and at the same time host the games in small Arctic communities to stimulate economy and tourism. The sporting events during the 1970 timeframe included: wrestling, archery, and so forth with approximately 500 athletes, and in 2016 there are 18 sports and over 2,000 participants.

1:44:37 PM

MS. REHM turned to slides 6-7, and advised that the governing bodies of today include, the International Committee with nine delegates representing nine countries, a host community similar to the Olympics, and a host committee. When the Arctic Winter Games are hosted in Alaska, folks often get Team Alaska confused with the Host Society and in the event funding is coming down the pipe it may not necessarily be directly for Team Alaska athletes, but for the Host Society hosting the Arctic Winter Games.

1:46:10 PM

MS. Rehm turned to slides 78, and clarified that the International Committee early on distinguished between delegations that compete a participating member or as a guest member, and currently there are seven participating members and nine guest members. Team Alaska is a participating member and therefore is able to bid to host the Arctic Winter Games, is able to send a full-size team without any reductions of members, together with other voting rights and privileges which include representation of their territory on the International Committee Board, and two Alaska representatives sit on that committee.

She then listed the years various area became participating or guest members. Full participating members pay an initiation fee to the International Committee and the government pays that participation fee and, she noted, Alaska is a non-profit organization and fundraises.

1:49:15 PM

MS. REHM turned to slide 8-9, and said the slide depicts the dates Alaska hosted the Arctic Winter Games, Alaska is slotted to host again in 2024. When hosting the games, the town size doubles during the week of the games, and jobs are created the year prior, she said. Economically, after the week of the games oftentimes that community has an excess of $50,000 to $100,000 that can be used to stimulate the economy by offering grants, for example, to the local girl scouts.

MS. REHM turned to slide 9, and advised the athletes will travel to the Northwest Territories of Canada in the Slave Lake Region, and Alaska has 300 athletes, and 50 volunteer coaches and chaperones. Counting the volunteers, since 1970 over 10,000 youth and adults have participated in some capacity which make the Arctic Winter Games the largest international sporting event in which Alaska has participated.

MS. REHM turned to slides 10-13, and advised that the sports can be divided into four categories: traditional sports such as dene games and dog mushing and, she pointed out, the traditional sports are the foundation of the games and an opportunity for Alaska's athletes to compete at an international level, to learn culture and the way of playing the sport from different athletes that they never would have experienced if they had stayed in Alaska. The second category is Nordic sports, such as biathlon ski, biathlon snowshoe, cross country skiing, snowshoeing, and snowboarding. Athletes from the games have gone on to become Olympic gold medalist, and she then listed the names of athletes. The third category is indoor sports, such as badminton, basketball, gymnastics, soccer, volleyball, and wrestling, and the fourth category is ice sports, such as, curling, figure skating, hockey, and speed skating.

1:58:34 PM

MS. REHM turned to slide 15, and said that culture is the foundation and paramount to the Arctic Winter Games, any community that bids to host the games will have galas, art shows, fly different performers in to entertain, and an exciting

display of Arctic culture honoring the values, wisdom, and traditions of the culture, and Alaskan youth see those values are reiterated from other countries. She reiterated that the youth are able to see the mark their culture makes on other cultures as well.

1:59:43 PM

MS. REHM turned to slides 16-19, and described the slides as "beautiful photos of some of our cultural events" exemplifying the fun event.

MS. REHM explained that the next steps for Team Alaska is preparing for the Arctic Winter Games in March of 2018, in the Northwest Territories. The team, she advised, has always been supported by the State of Alaska and this is the first year it has not received supporting funds. She noted they have been fundraising extensively with community providers, supporters, and private businesses donating, and Team Alaska will attend the Arctic Winter Games. Team Alaska is in the position of deciding whether it goes to the games with its 300 team athletes, or whether the size must be reduced, which depends upon fundraising and the support from the legislature. Team Alaska is the only participating contingent that does not receive support from its governing body to offset that International Committee fee of $37,500 and, she advised that the team had submitted a request to the legislature to assist with the fee.

2:03:33 PM

CHAIR WESTLAKE referred to the $37,500 fee and asked whether the state had paid a portion previously.

MS. REHM responded the previously the state has given Team Alaska various sums of money, such as $150,000 to $200,000, and all of that money was used to offset the expense of chartering an airplane to transport Alaska's athletes to the games.

2:04:29 PM

SARAH FRAMPTON, President, Team Alaska Arctic Winter Games, thanked the committee for its time in allowing for the Team Alaska Arctic Winter Games presentation.

PRESENTATION: ALASKA NATIVE TRIBAL HEALTH CONSORTIUM

2:05:29 PM

MICHAEL BLACK, Director, Community Infrastructure Development, Office of Environmental Health, and Engineering (OEHE), explained that the Office of Environmental Health and Engineering (OEHE) has broad responsibility for the public health of the Alaska Native populations throughout the state with preventative health care and rural sanitation.

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The committee took a brief at-ease.

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MR. BLACK advised that their vision is to get to the point where the Alaska Native people are the healthiest people in the world with health care and living conditions within rural Alaska. The goal is for individuals to continue to live in their regions and communities they have historically lived in and maintain public health to the best possible level, which means providing rural sanitation. Critical rural sanitation issues today involve affordability and the adaptation of infrastructure. As the Director of Community Infrastructure Development, his office primarily includes engineers, operation maintenance specialists, and supporting staff charged with providing sanitation and critical infrastructure for public health in rural Alaska. The Alaska Native Health Consortium is made up of a board that is representative of all regions of the state, and is a representative to the regional health organization across the state. He related that his office has a number of responsibilities, including: sanitation, operation and maintenance, environmental health, and it also helps the regional health organizations operate their hospitals and clinics. The Alaska Rural Utility Collaborative is a voluntary group of 26 communities that his office helps to operate and maintain water and sewer, thereby, allowing his office to have real life experience actually operating, not just building, the water and sewer systems. The other aspect of his work in rural sanitation is the energy program and energy is critical due to its influence on the affordability of water and sewer in rural Alaska.

2:10:35 PM

MR. BLACK advised that his office shares responsibilities with the Alaska Department of Environmental Conservation through the

state's Village Safe Water Program which is a provision of water and sewer in rural Alaska. The responsibility and funding includes his office, Indian Health Services, the EPA, the USDA, and State of Alaska to provide rural sanitation infrastructure. Currently, they are doing whatever it takes to maintain the current infrastructure because a 2007 study by the Institute of Social and Economic Research at the University of Alaska basically read that, maintaining the current infrastructure, and making sure it does not prematurely degrade makes economic sense. From the standpoint of replacing it, that represents billions of dollars of investment so it is in the interest of communities and funding organizations, including the State of Alaska, to extend the life of that infrastructure.

MR. BLACK offered that people visiting rural areas may see pipes providing piped water and sewer connected to homes. Due to the warming environment, differential settling has taken place between the pipe and the structure it is connected to, such as a residence or community building. The reason for the destruction is that the pipe settled at a differential rate from the foundation of the building, and in doing so it stresses the pipe and rips apart the Arctic insulation as well as actually pulling the pipe and the wall of the building off the structure itself. Obviously, he said, the weight of the pipe drops a number of feet, in some cases, in relation to where it was with the building.

2:13:44 PM

MR. BLACK explained that any building built on permafrost is subject to this type of stress, and the remedy is a flexible connection allowing the pipe to rotate in relation to the building it is connected. This will prevent the pipe from pulling at the wall and tearing away the insulation that protects it. Once damage takes place on the Arctic Box connection, it becomes a freeze point for the water and sewer. This fix has drawn interest from regional housing authorities and other communities to try to retrofit the updated Arctic Box. Another issue is leaning water tanks due to the permafrost below that tank being degraded. Thermal-piles are a traditional manner of cooling the foundations, and thermal-siphons depend upon the air temperature being cool enough to transmit that cold into the permafrost below. It has been noted, especially in the Yukon-Kuskokwim Delta, that the air temperatures are too warm for the thermal-piles to work properly, thereby, putting high-valued infrastructure at risk of foundation failures. It is being addressed with glycol lines that will carry chilled glycol

from a "chiller" demanding electricity that will be provided by solar panels, and will work exactly as a refrigerator to refreeze the foundation below a building. This summer, he said, they will install a prototype that relies on this approach to save a relatively new building in Quinhagak because something must be done about its foundation and permafrost below the building. Last summer it was at 31.5 degrees temperature, just at the point of becoming liquid which would compromise a building no more than 4-5-years old. In the event the work in Quinhagak works, they have plans to put this into a number of buildings.

2:19:42 PM

REPRESENTATIVE NEUMAN referred to the 4-5-year old building and asked how this foundation could be approved, and who installed the foundation.

MR. BLACK responded that the foundation was solid when it was originally designed, the problem is that there have been three to four warmer summers than normal. This building does have thermo-siphons intended to keep the permafrost solid, except the air temperature is warmer and the permafrost has warmed up to the stage of failing. He said that in the high-valued buildings in the Yukon-Kuskokwim Delta and warm permafrost, almost all are using thermo-piles in an attempt to keep the foundation solid. Also, he added, in some of these buildings "if not careful about the slab going on grade and the type of surface it is put upon," there can be premature failing as well due to an improper fill below a foundation. He related that it is believed they can refreeze this permafrost for high-valued buildings.

MR. BLACK noted that an in-home sanitation system has been installed into nine homes, he stressed that it is a prototype and not considered finished. This system replaces the "honey bucket" and puts in place a waste management system that allows separation of solid and liquid waste stream, eliminating many of the health problems. It also provides additional water to the home without piping it and using a centralized water system, and it relies upon rainwater catchment as well as self-hauled water. In the event, he offered, a home chooses to gather ice or river water, it actually has an in-stream pipe filtering system and fluoridator that allows it, even with river water collection, to provide potable water to the home. He pointed out that this in no manner is close to the quantity of a piped water sewer system, but it also does not rely upon a community-wide type water and sewer system. These systems run the homeowner

approximately $30 per month to operate as opposed to a high rate in the normal community water and waste system.

2:24:29 PM

CHAIR WESTLAKE asked whether a report had been prepared determining whether health associated illnesses had taken place.

MR. BLACK answered that this system relies on an air handling system to remove odor, the system is small, roughly a one-half horse motor, and ventilates the air up around and into the eves of the house. The solid portion of the waste stream is collected in a container below the toilet, the liquid portion goes into a distribution system under the home and is disinfected because in Kivalina there is salt water, brackish water, ground water, which disinfects the urine stream. Air quality monitoring was performed in a house which experienced substantial improvements in the air quality, and a problem in rural Alaska is due to overcrowding of homes with high levels of carbon dioxide particulate matters, and a large amount of respiratory disease issues related to air quality in homes themselves. A recent study was performed of infants that was repeatedly admitted to the hospital, then released once they appeared to be over the respiratory illness, only to return six months later. It was found that if they can better ventilate homes and deal with the particulate problems of wood stoves, that the amount of rehospitalization could be substantially decreased for elders and infants.

2:27:13 PM

MR. BLACK advised that Life Water Engineering Company in Fairbanks, Cold Climate Housing Research Center, and Life Water and Cabinet Water Systems all collaborated with his engineers to develop this system.

2:27:54 PM

MR. BLACK responded to Chair Westlake that there is a YouTube video with regard to this system and interviews with the homeowner. He stated that a recent report, including resolutions from city and tribe, supported more deployment of these types of systems in Kivalina and noted that that is his intention if federal funding can be located.

MR. BLACK related that affordability is a different issue but equally important because if sanitation will be offered, there

must be affordable systems. The easiest way to address the cost of operating was through energy efficiency and, he said, he worked closely with the Alaska Energy Authority when renewable energy funds were still available, and the Alaska Housing Finance Corporation (AHFC) as well on energy efficiencies. That collaboration paid major benefits to rural Alaskan communities as to the affordability of water and sewer because the cost of running water and sewer has a great deal to do with the cost of energy, because if water is not flowing it will freeze. Therefore, he emphasized that heat is by far the most important aspect of an energy consumption budget, and electricity is used for pumps. They approached the energy efficiency issues through renewable energy and energy efficiency projects. He advised that three of the major ways in which to use renewable energy is as follows: biomass, a collection of local wood that can be used to provide the heat necessary, thereby, providing local jobs; heat recovery is by far the easiest and best way of getting wasted heat into the water system including generators, and wind turbines; and, energy efficiency for the dollar spent is the best investment. Sanitation can be made more affordable if thoughtful when dealing with energy.

2:33:02 PM

MR. BLACK pointed out that the State of Alaska benefited through the Power Cost Equalization Program, and 34 percent of those benefits go into the state's budget with savings to the communities in the form of fuel and electric. The approach, he explained, is that a group of engineers and Operations and Maintenance specialists analyzed the plant and the situation, made recommendations, puts those recommendations into a descending order of cost benefits, and tried to find funding for the highest benefit per cost. They monitored the plant through remote monitoring programs, otherwise many of these benefits may go away and no would be aware because it does require operation of the system. An example of the biomass system is essentially substituting fuel oil boilers for wood fired boilers, with fuel oil boilers being the backup. Elim Biomass is saving a community over $83,000 annually by using locally available wood, producing jobs, and the $83,000 does not include the money being spent on local labor to collect the wood. He said he spent a number of years with the Department of Commerce, Community & Economic Development and it did everything it could to create local jobs in rural Alaska, and this is the easiest opportunity the state could offer in creating local jobs. Renewable energy and heat recovery is "a no-brainer, we ought to be doing that in every case," otherwise, he pointed out, it is just wasted

energy. The City of Deering installed a heat recovery system and saved each household $150 per month due to reduced fuel use. As to renewable energy, he said the state should always be looking at the wind to heat program because the wind turbines are turning regardless of demand and the only way to reliably store that energy, at this point, is the water storage tank. The City of Mekoryuk is using that system and "we buy the electricity" at $0.05 per kilowatt hour, significantly below market, and saved the city $40,000 annually in its operating costs. The City of Selawik went through an energy efficiency program where old pumps were changed out and changed the operation of the water plant itself, and the Operations and Maintenance saving is over $200,000 per year.

2:37:21 PM

REPRESENTATIVE JOSEPHSON commented that he would like to speak with Mr. Black as to the impacts of climate on energy efficiency at a later date.

CHAIR WESTLAKE stated that climate change is expensive.

2:38:55 PM

ADJOURNMENT

There being no further business before the committee, the House Special Committee on Arctic Policy, Economic Development, and Tourism meeting was adjourned at 2:38 p.m.