ALASKA STATE LEGISLATURE
SENATE RESOURCES STANDING COMMITTEE
January 25, 2013
3:30 p.m.

MEMBERS PRESENT

Senator Cathy Giessel, Chair
Senator Fred Dyson, Vice Chair
Senator Peter Micciche
Senator Click Bishop
Senator Lesil McGuire
Senator Hollis French

MEMBERS ABSENT

Senator Anna Fairclough

OTHER LEGISLATORS PRESENT

Senator Charlie Huggins

COMMITTEE CALENDAR

SENATE BILL NO. 29
"An Act relating to the regulation of wastewater discharge from commercial passenger vessels in state waters; and providing for an effective date."

- HEARD & HELD

PRESENTATIONS: WHO'S KEEPING THE LIGHTS AND HEAT ON? PROBLEMS AND SOLUTIONS

- HEARD

PREVIOUS COMMITTEE ACTION

BILL: SB 29
SHORT TITLE: CRUISE SHIP WASTEWATER DISCHARGE PERMITS
SPONSOR(s): RULES BY REQUEST OF THE GOVERNOR

01/18/13	(S)	READ THE FIRST TIME - REFERRALS
01/18/13	(S)	RES, FIN
01/23/13	(S)	RES AT 3:30 PM BUTROVICH 205
01/23/13	(S)	Heard & Held
01/23/13	(S)	MINUTE(RES)

WITNESS REGISTER

ANDY ROGERS, Deputy Director
Alaska State Chamber of Commerce
Juneau, Alaska
POSITION STATEMENT: Supported SB 29.

BOB JANES, representing himself
Juneau, Alaska
POSITION STATEMENT: Supported SB 29.

KARLA HART
Alaska Community Action on Toxics
Juneau, Alaska
POSITION STATEMENT: Opposed SB 29.

GUY ARCHIBALD
Southeast Alaska Conservation Council (SEACC)
Juneau, Alaska
POSITION STATEMENT: Opposed SB 29.

CHIP THOMA, President
Responsible Cruising in Alaska
Juneau, Alaska
POSITION STATEMENT: Opposed SB 29.

JOHN KIMMEL
Cruise Line Agencies of Alaska
Ketchikan, Alaska
POSITION STATEMENT: Supported SB 29.

JOSEPH SEBASTIAN, representing himself and his family
Petersburg, Alaska
POSITION STATEMENT: Opposed SB 29.

MICHELLE RIDGEWAY, representing herself
Auke Bay, Alaska
POSITION STATEMENT: Did not support SB 29 in its current form.

DAVE WETZEL, owner
Admiralty Environmental
Juneau, Alaska
POSITION STATEMENT: Supported SB 29.

RICK ROGERS, Executive Director

Resource Development Council of Alaska (RDC)
Anchorage, Alaska
POSITION STATEMENT: Supported SB 29.

FRANK RICHARDS, Manager
Division of Pipeline Engineering and Government Affairs
Alaska Gasline Development Corporation (AGDC)
Anchorage, Alaska
POSITION STATEMENT: Provided update on AGDC.

DAN FAUSKE, President
Alaska Gasline Development Corporation (AGDC)
CEO, Alaska Housing Finance Corporation (AHFC)
Anchorage, Alaska
POSITION STATEMENT: Provided update on AGDC.

DARYL CLOUGHMAN, Anchorage Commercial Manager
Alaska Gasline Development Corporation (AGDC)
Anchorage, Alaska
POSITION STATEMENT: Answered questions on gas contracts related to the AGDC project.

RICHARD GENTGES, Project Manager
Cook Inlet Natural Gas Storage Alaska (CINGSA)
Kenai, Alaska
POSITION STATEMENT: Presented an overview of the CINGSA project.

MOIRA SMITH, Counsel
Cook Inlet Natural Gas Storage Alaska (CINGSA)
Anchorage, Alaska
POSITION STATEMENT: Answered questions on the CINGSA project.

GENE THERRIAULT, Deputy Director
Energy Policy Development
Alaska Energy Authority (AEA)
Fairbanks, Alaska
POSITION STATEMENT: Presented the Fairbanks LNG trucking option to meet the gas needs of Interior Alaska.

ACTION NARRATIVE

3:30:09 PM
CHAIR CATHY GIESSEL called the Senate Resources Standing Committee meeting to order at 3:30 p.m. Present at the call to order were Senators French, Dyson, Bishop, McGuire, Micciche and Chair Giessel.

SB 29-CRUISE SHIP WASTEWATER DISCHARGE PERMITS

CHAIR GIESSEL announced SB 29 to be up for consideration.

3:31:44 PM
ANDY ROGERS, Deputy Director, Alaska State Chamber of Commerce, Juneau, Alaska, supported SB 29. He said it has the full support of the Alaska Chamber membership and is a legislative priority for them.

He said the cruise ship industry in general touches on a couple of their other positions: advocating sound science as opposed to precautionary method for legislation and regulation.

MR. ROGERS said that the Science Advisory Panel found that waste water discharges from cruise ships currently meet a higher standard than most if not all of Alaska Municipalities. This industry has large economic impacts throughout the state including the Interior; some land-based businesses that rely on them are Alaska Amphibian Tours in Ketchikan, Alaskan Brewing in Juneau, and Pike's Landing and Hot Licks Ice Cream in Fairbanks. Members as far as Nome - like Bering Air and Nome Adventure Tours - benefit from guests coming to the state by sea.

3:35:01 PM
BOB JANES, representing himself, Juneau, Alaska supported SB 29 and said he makes his living off the cruise industry as a tour operator. He is not a scientist, but it is all about science. He urged them to look to the Science Advisory Panel report for making policy decisions.

3:37:30 PM
KARLA HART, Alaska Community Action on Toxics, Juneau, Alaska, didn't support SB 29 and said the rush on this bill did not seem warranted or appropriate. SB 29 calls for sunseting the panel before its work is done, which she opposed. The final report from the Science Advisory Panel is not out yet and she hoped it would get some review and peer discussion.

She said the Governor's urgency was artificially created around the summer timeframe for issuing the permit and quick action would betray the voters of Alaska who voted for this higher standard of clean water.

MS. HART said the volume and size of the ships warrant special consideration as most of them are larger than most communities

in Alaska, and cumulatively they represent a large population increase.

Their pollution is not small scale. If an Alaskan community doesn't meet discharge standards, it's in their front yard; they know where it comes from and who is responsible and they have to clean it up. On the other hand, ships discharge anywhere, so remote areas you might go to for subsistence harvest or commercial fishing that you might think are clean because they are far away from any apparent discharge could actually be getting a pretty substantial burden over time. A lot of the pollution is from heavy metals that bio-accumulate over time, and it is not known what they do to people or the environment.

3:40:23 PM
MS. HART stated the Chamber representative urged action based on sound science rather than a precautionary principle, but everyone knows that regulations, including Environmental Protection Agency (EPA) regulations, are a blend of science and politics with industry input. They do know now that the impacts of very small amounts of toxics, undetectable under technologies of a few years ago, have really significant impacts on people. So, she asked them to slow down; the cruise industry will survive another year and Alaskans will appreciate the chance for good consideration.

3:41:03 PM
GUY ARCHIBALD, Southeast Alaska Conservation Council (SEACC), Juneau, Alaska, opposed SB 29, but if it passes urged not sunseting the Science Advisory Panel. He said he is a chemist and because SB 29 is based on the Science Advisory Panel report, he wanted to comment, in particular, on the comparison in it of copper loads with the loading from natural rivers and the comparison of cruise ships to land-based treatment facilities, mixing zones and some treatment options that were examined.

MR. ARCHIBALD explained that comparing cruise ship waste water loadings with a natural source such as the Mendenhall River is really not sound science for a number of reasons. He explained that the form of the element matters; whether it's in its total form or its dissolved form, and the report did not make that distinction. He could eat a handful of copper pennies and have no ill effects, but if he takes that same amount of copper and dissolves it into water and drinks it, it would probably kill him. So, the form matters.

He said the type of oxidative state also matters and explained that these heavy metals come in various oxidative states; some are absorbed by life and some are not. A human body will absorb iron in the ferrous state, but not in the ferric state, yet the science report doesn't make that distinction.

MR. ARCHIBALD said the source of the contamination matters. They know the Copper River has a high level of copper in it that often exceeds the water quality criteria for aquatic life, but those fish have had thousands of years and hundreds of generations to adapt to that level of copper in the water. Science tells them that even a small increase in the amount of copper is still detrimental to fish that are even adapted to high levels of copper in the water. And at the final level, the argument that cruise ships only contribute a fraction of the copper in the Mendenhall River is a false comparison; it is somewhat the same logic his teenagers use: everybody is doing it; why can't I?

He asked if SB 29 passes that the science panel not be sunseted, but that the report be finalized and published for peer review, which is the norm for scientific reports. He further asked that the end of high compliance with water quality criteria be retained as an incentive for the industry to do a better job as land-based treatment systems have done.

3:44:58 PM
CHIP THOMA, President, Responsible Cruising in Alaska, Juneau, Alaska, opposed advancing SB 29. His preference was that all large cruise ships coming to Alaska deposit their waste in federal waters.{ Luckily, they are coming to a point with the size and configuration of these ships that they are able to hold their waste for five days or more during which time they transit Southeast Alaska.

MR. THOMA also stated that all ships are now being built with flex-pipe, which does not have copper or any metals in it. Once those ships - primarily run by Princess Cruise Lines - are phased out, the ships will be either clean or practically clean, depositing waste in the Gulf of Alaska or at the Juneau treatment plant, which Princes does right now. All those aspects are coming to a good conclusion in the long run. In the short run, these standards should be retained and "just give these guys a few more years of extension." Every year technological advances in waste water treatment were being made.

The other day, Mr. Thoma said had a question about the quality of the bunker water, so he called the water superintendents of the three major bunker towns - Ketchikan, Juneau and Skagway - and asked the copper count in the bunker water being delivered to the cruise ships(after the water is treated). Ketchikan had an interesting story. The Ketchikan superintendent said he had a high copper count; 17 parts per billion but he had 70 parts per billion of lead. So, he went down to the dock and looked and saw the brand new metal ball valve they had just bought (made in India). He took that ball valve off and replaced it with a plastic one and did a new test after letting the water settle for eight hours, and copper came back at 2 parts per billion and .6 percent billion for lead. The source of the high count before was obviously from the ball valve.

Then Mr. Thoma said he talked to the Skagway superintendent who had tested the municipal docks and found them below the average. The one private dock was above average and it was all because of the ball valves. In summary he said that a lot basic stuff can be done and it being done between the loading of the water on and changing the copper pipes. Once these ships are gone, this problem is over. But don't give them an exemption now!

3:49:07 PM
JOHN KIMMEL, Cruise Line Agencies of Alaska, Ketchikan, Alaska, supported SB 29, because holding cruise ships to the same standard as everyone else is fair. The Legislature came up with the Science Advisory Panel who studied it for three years; it's time to listen to their recommendations and move on. It's about jobs as well; his family depends on the income from those jobs.

3:50:58 PM
JOSEPH SEBASTIAN, representing himself and his family, Petersburg, Alaska, opposed SB 29. His family had fished in Southeast Alaska for 35 years and had watched the development of both the sport fish and cruise ship industries. His children are now fishermen and worked their way through college on fishing boats. His neighbor's son just bought a new boat and permit; Petersburg is a fishing town as are many towns in Southeast Alaska. This bill is bad for Alaska's fishing industry; its whole claim to clean, pristine waters has to have a foundation in reality, in science and in public perception.

MR. SEBASTIAN related that ocean acidification was taking place due to air-borne carbon pollution settling on the ocean in amounts that change the water's PH factor. Now SB 29 wants to add more pollution to it to compound this already existing

problem. If the cruise ship industry that makes billions of dollars in profit every year is unwilling to uphold and protect our clean pristine Alaskan waters, then they really have no place here and are not welcome. He said SB 29 is "a slap in the face to thousands of Alaskan fishing families and the fishing industry in general."

He summarized that every year technological advances are being made and they are already on their way to achieving a good balance with an industry that could be more neutral than it is now in terms of discharges and water quality.

3:54:49 PM
MICHELLE RIDGEWAY, representing herself, Auke Bay, Alaska, said she is a member of the Alaska Cruise Ship Waste Water Science Advisory Panel and did not support SB 29 in its current form. She believed that the implications of introducing more ship discharge at the volume of some 800 cubic meters per day per ship (best estimate) times 20 ships times 180 per years is an unacceptable level of introducing contaminants into our ecosystem. Quite frankly she thought they would be appalled by the long-term degradation of the state's marine ecosystem if the bill was allowed to go forward in its current form.

She said SB 29 calls for establishing mixing zones for moving vessels, but pleaded with them to avoid going down that path. She believed it would be exceedingly difficult to get Alaskans to agree where it would be acceptable to discharge water that contains copper, zinc, nickel and ammonia at levels that are known to be acutely and chronically toxic to marine life. How would areas for subsistence harvests be avoided or some of the established state water parks or areas that are critical for the dive fisheries or commercial and sport fisheries, tourism that operate in clean water? "Clean water is our brand; wild and free is a mantra in Alaska. Now is the time to continue to protect that," she said.

She added that a number of studies demonstrate clearly that metals at very low levels, especially copper, are toxic to marine life - and it is described in DEC records. They disfigure herring embryos at very low levels; salmon smolts and adults lose their sense of smell, can't find their way home and are subject to much higher levels of predation, not to mention the fact that heavy metals bio-accumulate in the food web; ingesting them impacts our immune system as well as that of marine mammals. She urged them to look a little harder for a solution

that is based on solid technology that does exist and good solid science that exists, as well.

3:59:03 PM
DAVE WETZEL, owner, Admiralty Environmental, Juneau, Alaska, said he is an independent company that has managed the sampling, monitoring and testing of large and small cruise ships in Southeast Alaska since 2000. He supported SB 29 as a sound and practical solution to approach cruise ship monitoring. SB 29 applies Alaska water quality standards consistently for all people who discharge in Alaska, whether they are a waste water treatment plant, a mining company or a cruise ship. They aren't really looking at scaling back any of Alaska's water quality regulations that are not intended to be applied at the point of discharge.

He had seen all of the major types of treatment systems that were developed for operation in Alaska and had sampled and reviewed the results from them all. These are the best systems that are available right now; the military is actually looking at using some of them. He observed a remarkable consistency between the different types of advanced waste water treatment systems in that they all treat water to basically the same quality between different ships of the same system and the same ship from year to year. So, it's really only sensible to apply the same strategy for discharges from land-based plants to ships at sea. The intent of the Alaska water quality standards is to establish limits for the quality of the water body, itself; it's not a point of discharge standard.

MR. WETZEL asked them to consider that cruise ship discharges are much a small volume than from land-based plants. And his experience in dealing with the vessel owners is that they are all very committed to operating their systems properly and in an optimal manner. They are also very interested in meeting regulations and are involved on a daily basis in how their results are coming out. He said it's important to encourage proper use of these systems, because otherwise they might be encouraged to simply discharge outside of regulated areas that are just as sensitive as salmon rearing habitat as state waters.

4:03:14 PM
RICK ROGERS, Executive Director, Resource Development Council of Alaska (RDC), Anchorage, Alaska, supported SB 29. He said over the last several years one of their key priorities has been to encourage the state to promote and defend the integrity of Alaska's permitting process, which includes predictable, timely

and efficient processes that are based on good science and economic feasibility. They applaud the tireless work of the Science Advisory Panel that met at least 15 times over three years and came up with some good solid information to a rational waste water discharge policy for the cruise industry.

This is not a rushed process given the amount of time and deliberation that has gone into supporting this bill. It's clear after reviewing the findings of that group and DEC recommendations that meeting current water quality standards at the point of discharge from cruise ships is not feasible and isn't necessary to protect the public and aquatic species.

MR. ROGERS summarized that SB 29 establishes a policy that is based on sound science and economic feasibility; many small businesses and communities rely on cruise business activity for their livelihoods. The cruise ship industry has some of the cleanest discharge among dischargers in Alaska; better than many municipalities and fishing boats. It's troubling to start singling out one industry over another.

CHAIR GIESSEL closed public testimony and held SB 29.

Who's Keeping the Lights and Heat on? Problems and Solutions

4:07:12 PM
CHAIR GIESSEL said they would wrap up this series today and that the problem had been clearly defined over the last four meetings; Alaskans are saying it's time for action on the energy issue and today some folks would testify on some possible solutions.

FRANK RICHARDS, Manager, Division of Pipeline Engineering and Government Affairs, Alaska Gasline Development Corporation (AGDC), Anchorage, Alaska, introduced himself.

DAN FAUSKE, President, Alaska Gasline Development Corporation (AGDC), and CEO, Alaska Housing Finance Corporation (AHFC), Anchorage, AK, said he was happy to be able to give them this update.

MR. RICHARDS, noting their "Year-End Report 2012" that detailed how the project had advanced over the last year and a half, said that HB 369 mandated that the AHFC develop a project plan for an in-state gas pipeline. The Alaska Gasline Development Corporation (AGDC) is a subsidiary of the AHFC and is charged with moving the project forward. The Alaska Stand Alone Project

(ASAP) is the project that is being developed to meet the mandate, which is to deliver gas to Fairbanks and to the Cook Inlet region at the earliest possible date and at the lowest possible cost. The Governor voiced his support recently for their project in his state of the state message.

4:10:31 PM
MR. RICHARDS said their progress had been significant. This potential $8 billion mega-project has been advanced by acquiring 604 miles of state right-of-way and another 100 miles of federal right-of-way has been applied for. They have completed a final environmental impact statement (EIS), which is essentially the National Environmental Policy Act (NEPA) document that was published in the Federal Register last October; the public comment period ended in November and they are waiting for a decision from the Bureau of Land Management (BLM). These are the "assets" the state has in its portfolio to advance the project.

As they have advanced through the environmental stage, the world markets have changed dramatically in favor of natural gas with the shale gas and oil explosion down south and market conditions for the North American product are changing quite rapidly. Specifically, the natural gas liquids (NGL) market has been impacted greatly. The original design concept was that this pipeline would flow NGLs to be able to meet the desire of providing gas for the lowest possible cost, but was what once selling at a premium to oil is now selling less than oil. He mentioned that AIGA capped any competing state-funded project at 500 mmcf/day flow rate.

So last year, they changed the design concept to go from a rich gas stream with entrained NGLs to a lean gas (utility grade) the benefit being that a 36-inch diameter pipe would operate at a lower psi than originally anticipated (1480) with a 12-inch 37-mile pipeline lateral running from Dunbar into Fairbanks reducing the number of compression facilities needed to push the gas. There would be a gas conditioning facility on the North Slope and one compressor station. Not only does shifting from rich to lean gas reduce the number of stations needed to be able to deliver the gas to Fairbanks and Southcentral, it allows for more off take points for Alaskans, Alaskan businesses or a major development to tie into the line and acquire the gas at a very reasonable rate. This also means they have been able to lower the tariffs for consumers and lower the operational, construction and financing risks for the project. Reducing the number of facilities reduces the environmental footprint as well. The overall cost of the project is $7.7 billion (in 2012

dollars) is about the same as the original concept as opposed to a delivered price last year of $7.5 billion. But when inflation was factored in it rose to $7.7 billion.

MR. RICHARDS emphasized that they are not in competition with the AGIA project. They are moving forward with the mandate given to them by the legislature, which is delivery of gas to Alaskans.

Page 6 identified the stage-gate approach they were using in development of the project. In 2011 the project was delivered and they are now in "Front-End Loading" (FEL) 2. He said advancing this project to FEL 3 (project sanction) will take legislation and additional funding. An open season would require a considerable amount of engineering work to refine the numbers necessary to give accurate cost estimates to the producers and shippers who would like to commit gas to the project.

Page 7 of his handout was the project schedule, the top portion being the schedule mandated by HB 369, which granted them the project portfolio in July 2010, and an aggressive completion timeframe of 2015. With the support of the legislature, first gas would be in late 2019 and full transmission in 2020.

MR. RICHARDS said enabling legislation and appropriate funding would get the project to an open season in late 2014 and that would determine the commercial interest on their project. Firm transportation agreements are needed to get to project sanction in the late 2015. If that is the case, they move forward to procuring the pipe, the gas conditioning facility and then go forward with the construction in 2017-2019.

4:17:51 PM
The new optimized design case resulted in the tariff inputs being changed, which resulted in a significantly better tariff than had been projected in 2011. So, he summarized that they have longer terms and an updated capital cost estimate, they have added contingencies to the cost estimates that were in there just to identify they are trying to be realistic and they have changed the way they look at the rate of return on equity for an equity partner, changed the debt equity split from 70/30 to 75/25 and looked at the cost of impacts of delay and inflation.

4:18:37 PM
Slide 10 had the tariff comparison. In 2012 dollars the tariff to deliver gas to Fairbanks from Cook Inlet ranged from $4.25 to

$6.00 and from MatSu to Kenai it was $5.00 to $7.25. The levelized terms were $4.75 to $6.50 for Fairbanks and $5.75 to $8.00 for Big Lake. The cost drivers at the bottom of the slide listed the significant factors that could impact the tariff either lowering or increasing it. If the capital cost creeps up or down, it's an impact $.50 to $.80 between Fairbanks and Anchorage. If there is a state contribution to the project of $1 billion could reduce the tariff by $.45. If the rate of return on the private equity is reduced or increased that has a $.20 per mmbtu impact. Adding 10 years to the bonds reduces the tariff by $.75. Slide 11 showed the optimized cost to Anchorage consumers from $9.00 to $11.25 per mmbtu and for Fairbanks consumers from $8.25 to $10.00 per mmbtu. These rates are significantly better than previous rates.

MR. RICHARDS said the project would cost Alaskans $400 million to fund the work through FEL 3 (project sanction). At that point, an ownership model determination would be made to advance this project either as a state project, private project or something in between. The benefit would be a long-term natural gas supply for Alaskans allowing new economic opportunities for power generation, equipment operation and resource development.

4:21:31 PM
Their cost to consumers assumed $2 to purchase gas in Prudhoe Bay and $2 for distribution, Enstar's rate that Anchorage Bowl consumers are paying. They used the same $2 cost for distribution in Fairbanks as an assumption because nothing has been built yet.

If fully funded, the facilities and pipeline engineering could be advanced to get to an open season. They would advance the regulatory permitting activities and agency engagements to finalize and move the necessary state and federal permits forward and work on an engineering field investigation involving geotechnical, hydrologic and cultural efforts. Partial funding would move the completion time out into the future.

4:23:07 PM
SENATOR MICCICHE asked if 2.5 percent inflation would also apply to the consumer if the project is delayed additional time.

MR. RICHARDS answered yes; the 2.5 percent is applied to all construction products across the board, which carries through to the consumer price.

SENATOR MICCICHE asked if they were looking at the 2019 delivered price or does inflation have to be calculated.

MR. RICHARDS said the tariff comparison (slide 10) for Fairbanks indicated a levelized tariff at project start up of $4.75 to $6.50 or essentially $.50 more and that is the cost of inflation factored over the life of construction.

CHAIR GIESSEL asked him to wrap up.

MR. RICHARDS summarized that the critical pieces necessary to advance the project are confidentiality, funding, the authority to determine ownership and contract carrier status. He said they are advancing the project and are ready to do the will of the legislature.

4:24:56 PM
SENATOR MCGUIRE said the last sentence on page 3 addressing the issue of contract versus common carrier says that the AGDC has virtually no chance of attracting adequate shipping commitments or financing as a common carrier and asked him to expand on that a little bit, because that was not her intention when her bill was merged with the House bill that this came from. Being an exclusive contract carrier is a new notion coming out of HB 9. Mr. Richards did a very successful expression of interest (EOI), and even though it was confidential he was able to describe that at least .5 bcf was potentially there for bidding with firm transportation offers, but she wanted to know if a common carrier was still possible.

MR. RICHARDS said the best person to address this question was their commercial manager, Mr. Cloughman.

4:26:53 PM
DARYL CLOUGHMAN, Anchorage Commercial Manager, Alaska Gasline Development Corporation (AGDC), Anchorage, Alaska, explained that fundamentally, oil pipelines tend to be common carriers and gas pipelines tend to be contract carriers. That is how it was under the Alaska Gasline Inducement Act (AGIA). The reason is in order to finance the pipeline long-term with revenue bonding the one supplying the funding needs a guaranteed income stream to pay off the bonds. You only get that through long-term contractual commitments where the shipper has to pay the tariff whether they bring the gas to the pipeline or not over the period of the contract. Typically those contracts are a minimum; for Denali and APP it was 20 years and they offered terms all the way out to 35 years. This project is consistent with that. A

contract carriage doesn't mean that down the road if someone wanted to come in south of the 68th parallel they couldn't still enter into the pipeline, they would have to pay any expansion costs and their terms would be different than the original shippers'.

SENATOR MCGUIRE said there are two different ways of doing gas pipelines, as well, and certainly some are done as common carriers. That discussion was had in the AGIA debate and one of the issues was whether or not you can allow for competition into the marketplace that would benefit the consumer over a long term period. The question is who pays for the expansions. Her point was that HB 9 had contract carriers in it, but the enabling legislation didn't and she wanted to if the private sector knew that for the EOI.

4:30:00 PM
MR. FAUSKE added that wasn't part of the discussion during the EOI meetings. Knowing there was use for about 260 mmcf/day, they were trying to determine if there was a commercial interest to use the extra 250 mmcf/day and they were able to max out the 500 mmcf/day. Looping and added compression would present an avenue for more gas to get into the line. They weren't anticipating a great deal of concern, because he couldn't imagine explorers or producers would get too revved up over that amount of gas. That issue was much more pertinent to the debate on an AGIA line of 3.5 to 4.0 bcf/day.

4:32:14 PM
RICHARD GENTGES, Project Manager, Cook Inlet Natural Gas Storage Alaska (CINGSA), Kenai, Alaska, presented an overview of their project. He explained that it involved the conversion of a Cannery Loop production field to a gas storage facility. Fifty prospects all across the Cook Inlet were looking at before this one was selected. The reservoir originally contained about 26.5 bcf and had produced about 23 bcf from the time it was discovered in October 2000 until CINGSA acquired in July 2011. It is well suited for Southcentral Alaska's market both today and longer-term. Part of the selection consideration was that very fact. The original design was to store 11 bcf of working gas and 7 bcf of base gas.

He explained that base gas is put into the reservoir and stays there to establish a minimum operating pressure level so that the cycling of gas in and out of the facility can be carried out more efficiently. In this particular case, that minimum pressure is 600 psi with all the base gas in the ground. Working gas, in

contrast, is the volumes they have contracted for with customers to store and it is cycled in and out of the reservoir. In this case it can be cycled in and out of the field in about 120-150 days either way. Typically, this facility and storage fields in general, inject gas during the summer months and then it's withdrawn and produced back to the market during the winter.

This facility was designed to deliver a maximum of 150 mmcf/day, but that is not a sustainable withdrawal/injection rate for the entire inventory. It actually drops off by about 50 percent as the field reaches its maximum capacity and likewise when the field is on withdrawal. It does so, because pressure declines as the gas is produced out and that is what actually provides the driving force for deliverability. Based on some limited testing of the field, the actual maximum deliverability appears to be a little bit short of the design level. They first estimated it would take about five wells to sustain that 150 mmcf/day deliverability rate, but now it looks like two more wells will be needed to actually do that.

4:38:12 PM
He said slides 3, 4 and 5 summarized the permits CINGSA had to obtain in order to construct this facility and it took about 36 months from concept to actual operation, which is fairly typical for this kind of facility. During the permitting process they worked closely with the Office of Major Projects within the Department of Natural Resources (DNR), which provided very significant efficiencies, the most efficient in his experience. Over 30 local, state and federal permits were required to construct this facility; the review and approval time for each ranged from a couple days to over a year for a few and there were numerous public hearings at all levels of government. It was a very thorough review process and they got excellent cooperation from all the agencies.

MR. GENTGES said the key message is that this project was very well vetted and by that virtue it allowed CINGSA to actually modify the design to address some concerns. This process was very consistent with most of the projects he had been on in other states and countries.

4:40:57 PM
He said they commissioned the injection facilities and began operations in April 2012. Overall, the construction phase had 300,000 man hours all without incident or injury and 150-170 contractors were on site at any given time.

4:41:46 PM
SENATOR FRENCH said CINGSA was a "just-in-time solution" to Cook Inlet gas supply problems and without it some people in Southcentral would be short of gas. He asked if expanding CINGSA or building another similarly sized facility would help them through the short-term Cook Inlet gas supply problem.

MR. GENTGES answered yes - to the extent gas supply is available locally and that it can be stored during the summer months.

4:43:35 PM
Slide 6 was a "snapshot" of an eight-day look at how the facility performed right before Christmas when it was really cold. It was a good test of the facility; the withdrawal rates ranged from about 40 - 60 mmcf/day with peak rates of about 80 mmcf/day; the performance was largely consistent with their expectation. They saw some degree of improving performance out of some of the wells, but need more operating data to fully vet that.

4:44:39 PM
MOIRA SMITH, Counsel, Cook Inlet Natural Gas Storage Alaska (CINGSA), Anchorage, Alaska, said they had received a request for an expansion of the facility. They always knew that the reservoir they selected had additional capacity available and contemplated both in their tariff and commercial arrangements that they might at some point move to an expansion to allow for extra storage capacity within the reservoir along with additional deliverability. So, they are now in the process of considering their reaction to that request for expansion in addition to considering the possibility of drilling two more wells to ensure they can perform at the contracted and designed capacity under the current arrangement (150 mmcf/day).

4:46:10 PM
GENE THERRIAULT, Deputy Director, Energy Policy Development, Alaska Energy Authority (AEA), Fairbanks, Alaska, presented the Fairbanks LNG trucking option to meet the needs of the Interior. He said the project goal, established by the administration, was to provide the lowest cost energy to the most Interior consumers as soon as possible with a supply of gas trucked down from the North Slope. The plan is to get the gas first to the Interior market, and then out to a much larger geographic area over time. The administration also wanted to use the power of the private sector as much as possible to make this project workable.

Slide 4 had the economic modeling that had been done so far. AEA had not engineered a plant but they know that there are private sector entities that have done a lot of that work. So they tapped into the best engineering information they could get from Fairbanks Natural Gas (FNG), who last year was working on a 7 bcf project concept, and Flint Hills and Golden Valley Electric Association (GVEA) that together were working on a 9 bcf concept.

The model's key assumptions:
-building a 9 bcf plant just to choose some capacity that could be used for comparison
-$50 million of capital available on the public side (anticipating the plant would serve a public need of electric generation that is distributed through a regulated distribution system and natural gas distributed a regulated pipe system)
-state support for industry demand (for a larger volume)

4:50:10 PM
MR. THERRIAULT said they looked at bi-furcating the plant into two sections: 4.5 bcf initially for public need and 4.5 bcf for the industrial need. Then they took a capital appropriation and focused that on paying down the debt component on the public side of the plant. He said the plant wouldn't really be divided and it would have only one stream of product coming out, but one price would have a lower debt component that serves the public need and another price that would serve the industrial need. The concept is that the industrials benefit from being part of a larger volume plant, but they could more likely afford to carry the full debt component that would go along with the LNG produced on their side.

4:52:05 PM
MR. THERRIAULT said the re-gas, storage and distribution costs were presented in a range with the expected utility price of around $10 delivered to the city gate. They received internal data from FNG, which is currently in the business of piping gas to a small number of consumers in the Interior. Therefore, they know how much each foot of pipe costs and what it costs to bore under a road and to hook up a new consumer (industrial v. residential). Based on that and what they saw as the economics of the ideal build-out, they thought they could do the storage, re-gas and distribution facility for a price that would push the total up to the top of the solid orange box [$13.50].

MR. THERRIAULT said they also had some price information on a larger build-out of distribution that was done by the Fairbanks

Economic Development Corporation (FEDCO), whose desire was to see that distribution system pushed out further (when the number of houses served on each mile drops down so the cost of serving the next house goes up). That is part of why they saw those costs as being a little bit higher. Their prices were built around an engineer's estimate that had a plus or minus 30-40 percent variable range. The shared orange bar indicated that highest cost in the local area.

MR. THERRIAULT said AEA believed the realistic price was somewhere between the top of the solid orange and the top of the shaded orange. FNG's estimated cost was a little less FEDCO's (probably due to the engineers being conservative), because FNG knew what they had purchased theirs for. So, splitting the difference, they estimated $15/mcf for delivering gas to residential consumers. FEDCO arbitrarily determined that they wanted to cut in half what the residential consumer was currently paying for heat generated with fuel oil. He believed with the governor's financing and support package that they could get in the ballpark of achieving that target for the community.

4:56:00 PM
SENATOR FRENCH asked if his numbers were consistent with those of Antony Scott, UAF economist, who recently did a presentation to the committee comparing several different methods of getting gas to Southcentral.

MR. THERRIAULT said Mr. Szymoniak, his project economist, and Mr. Scott had talked - and by the way, he encourages economists to talk to economists not to collaborate on the model but to scrutinize it - and his understanding was that things didn't line up perfectly, but if you adjust for differences in some of the assumptions, they get pretty close.

4:57:05 PM
Slide 5 was a written explanation of the project components: Natural gas would be secured on the North Slope and liquefied in the plant and put into trucks, trucked into the community where it would be stored in cryogenic tanks, re-gassed and then distributed, or for an industrial user they might have a cryogenic tank on-site. Slide 6 depicted that infrastructure. Slide 7 give an idea of the project team (AIDEA and AEA being sister authorities both within the DCCED). It showed himself, Kirk Warren, the technical engineer, Nick Szymoniak, the project economist; and the AIDEA side had Mark Davis, Director of Financing the operation and business structure and Jim

Strandberg, the Energy Development and Financing Officer. They believe this is a collaborative structure with AEA leading the policy development of the project, ensuring that the project goals are defined and consistent with the public interest by engaging the public, industry and elected officials.

AIDEA, wondering who might be out there wanting to take advantage of the governor's proposed financing and support package, who might want to bring either a turnkey proposal or technical engineering expertise or financing expertise to the mix, so that if they didn't select a turnkey proposal and wanted to pull together a collaborative team, the people in the private sector were actually interested in that, put out a request for letters of interest. That solicitation got 16 responses, some were turnkey and others turned in interest in financing, engineering and project management.

5:00:08 PM
MR. THERRIAULT said a business consultant was already on the board as part of the team and that AEA was trying to bring on some engineering expertise and a project management consultant, as well, but due to the procurement process that wouldn't happen until sometime in February.

The governor's financing package totaled $325 million, plus the storage credit allowance that was passed in legislation last year. If you consider that the project could avail itself of two storage credits (that legislation allowed for sharing of the $30 million credit), because storage is associated with the liquefaction plant on the North Slope and with the re-gas facility in the community, each storage tank could potentially qualify for $15 million of state assistance. Then the administration considers that the state was offering a total of $355 million comprised of those components.

Slide 11 broke down the governor's package. It had a $50 million appropriation to AIDEA to potentially take an ownership stake in this infrastructure very similar to other operations. Legislation was introduced requesting that AIDEA be authorized to issue up to $50 million in bonds that would be used as a source of funding for loans that would go out, the attempt being to bring those loans in so that the capital that would be available through them would be at or below 3 percent interest. His budget had an additional capitalization of the SETS program that was set up last year with an initial capitalization of $125 million and the governor wanted to add another $125 million to that for this project. That adds up to the $325 million and the

$30 million for the storage credits. Page 12 showed the expected timeline.

5:03:37 PM
MR. THERRIAULT said one of the things he wanted to leave them with was that AEA had developed a core capability to run this model with different numbers in case they want to run changes to the governor's suggested plan. He concluded saying he was available to answer questions.

5:05:39 PM
CHAIR GIESSEL thanked him and finding no further business to come before the committee adjourned the Senate Resources Committee meeting at 5:05 p.m.