ALASKA STATE LEGISLATURE
SENATE RESOURCES STANDING COMMITTEE
January 23, 2013
3:30 p.m.

MEMBERS PRESENT

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

MEMBERS ABSENT

All members present

COMMITTEE CALENDAR

PRESENTATION: WHO'S KEEPING THE LIGHTS AND HEAT ON? PROBLEMS AND SOLUTIONS BY THE GAS SUPPLY STUDY GROUP

- HEARD

PRESENTATION: HOMER ELECTRIC ASSOCIATION UPDATE BY BRADLEY JANORSCHKE

- HEARD

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

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

WITNESS REGISTER

DAN SULLIVAN, Mayor
Anchorage, AK
POSITION STATEMENT: Commented on Cook Inlet gas supply issues.

MOIRA SMITH, Vice President & General Counsel
Enstar Natural Gas Co.
Anchorage, AK
POSITION STATEMENT: Commented on Cook Inlet gas supply issues.

BRAD EVANS, CEO
Chugach Electric Association, Inc.
Anchorage, AK
POSITION STATEMENT: Commented on Cook Inlet gas supply issues.

JAMES POSEY, General Manager
Municipal Light & Power (ML&P)
Anchorage, AK
POSITION STATEMENT: Commented on Cook Inlet gas supply issues.

BRADLEY P. JANORSCHKE, General Manager
Homer Electric Association (HEA)
Homer, AK
POSITION STATEMENT: Provided update on HEA energy generation projects as they related to Cook Inlet gas supply issues.

CORY BORGESON, President and CEO
Golden Valley Electric Association (GVEA)
Fairbanks, AK
POSITION STATEMENT: Provided update on GVEA energy generation projects as they related to Cook Inlet gas supply issues.

LARRY HARTIG, Commissioner
Department of Environmental Conservation (DEC)
Anchorage, AK
POSITION STATEMENT: Supported SB 29.

MICHELLE BONNET HALE, Director
Division of Water
Department of Environmental Conservation (DEC)
Anchorage, AK
POSITION STATEMENT: Answered questions on SB 29.

ACTION NARRATIVE

3:30:38 PM
CHAIR CATHY GIESSEL called the Senate Resources Standing Committee meeting to order at 3:31 p.m. Present at the call to order were Senators French, Bishop, Dyson, Fairclough, Micciche and Chair Giessel.

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

3:31:04 PM
CHAIR GIESSEL remarked that in 2008 the committee heard the same topic and that they would hear from the Gas Supply Study Group today.

3:32:01 PM
DAN SULLIVAN, Mayor, Anchorage, AK, said the problem of reliable gas supply is a top priority, because utilities had indicated there wouldn't be enough after 2012. Now that it's 2013 it has become a much more visible reality, so he formed this energy task force called the Gas Supply Study Group. It has worked closely with the utilities, the producers, the large users of energy in Southcentral. First, after some scary incidents, they recognized that plans were needed so that everyone would know what their role was if there were to be a disruption in supply.

More importantly, they are working on preventing the problem through conservation and their Energy Watch Program asks folks to "turn it down and turn it off" if the alert goes out. He said that public awareness was starting to increase as people start to participate in saving energy.

MAYOR SULLIVAN said the legislature helped by passing HB 280/SB 309 in 2010 that incentivized new drilling activity and gas storage in Cook Inlet and those activities had increased dramatically with new players and gas storage coming on line this year. But he warned that there is a disconnect between activity and production. Right now if you ask the new players in Cook Inlet if they are willing to sign a gas commitment contract for 2014 or beyond, not many hands would be raised. So a supply gap situation is approaching.

3:35:44 PM
MAYOR SULLIVAN said it is gratifying to know that there is unity of purpose among all the utilities in the form of the Long-term Gas Supply Work Group.

SENATOR MICCICHE asked why the producers would be hesitant to sign a long-term gas supply contract.

MAYOR SULLIVAN answered that it was just a matter of having a confirmed supply to commit. He noted that Hilcorp (that just purchased the Chevron/Marathon assets) would now control about 70 percent of Cook Inlet gas fields. They are a very aggressive company and he thought they felt very confident they could meet a good portion of this challenge, if not all.

3:37:43 PM
MOIRA SMITH, Vice President & General Counsel, Enstar Natural Gas Co., Anchorage, AK, introduced herself.

BRAD EVANS, CEO, Chugach Electric Association, Inc., Anchorage, AK, introduced himself.

JAMES POSEY, General Manager, Municipal Light & Power (ML&P), Anchorage, AK, introduced himself.

3:38:30 PM
MS. SMITH said several members of the group were in the audience and that all Southcentral utilities were working together on this problem.

She said each Southcentral utility was given a certificate of public convenience and necessity by the Regulatory Commission of Alaska (RCA), so they don't see a decline curve that has no end or a cliff, but they do see a challenge to their everyday business. The curve covers about half of the state's population and that is why they are looking so hard for a solution.

MS. SMITH said when Protechnical Resources Alaska (PRA) was engaged by the utility group to look at supply and demand issues they were asked to prepare a decline curve analysis, which looked at existing wells and projected how much they would produce going forward. That was built as a base case, but then knowing that additional exploration activities were going on, they decided to build that into it. This sensitivity added 10 mmcf/day each year through 2019 and another model added 20 mmcf/day for each year between 2013 and 2019. So, the group didn't assume that existing wells, the base case, was what would sustain them into the future. However, even in light of that additional production, a shortfall is expected.

3:41:34 PM
Cook Inlet demand included fuel operations by producers of oil and gas in the Inlet, Tesoro's gas demand and utility demand, about 80 bcf/yr. Of that, Enstar is 34 bcf percent, Chugach is

around 25 bcf and ML&P is around 12 bcf. But the demand grows very precipitously to a point in 2017, for example, when there is not enough gas in the Inlet to supply Chugach, for example. It's not as if the gas would be distributed in that way, but it gives people a sense of the magnitude of the problem.

3:42:36 PM
She thought it would be helpful to look at what Enstar went through in December 2012, the coldest year since 1982. There were a lot of demands on the Inlet that year not just the "native demand" through the utilities, which was heightened by the cold, but also an increased demand for export activities and filling Cook Inlet Natural Gas Storage Alaska (CINGSA) up (which needed both working gas and PAD gas to fill the reservoir's contracted demand).

CHAIR GIESSEL asked her to define PAD gas and her other references.

MS. SMITH explained that Cook Inlet Natural Gas Storage Alaska is an LLC, a public utility that was begun as a result of the Cook Inlet Recovery Act. It was a group effort among the utilities; Enstar's parent company is one of the co-owners and it has minority owners as well. It took a largely depleted natural gas reservoir and added two kinds of gas to make it a functioning natural gas storage reservoir. One kind of gas belongs to CINGSA and that is the PADS gas and it stays there for the life of the facility. It's there to ensure that pressures remain at the appropriate levels so that you can get the stuff out that you put in. The other kind is working gas and the capacity of CINGSA is 11 bcf/working gas. CINGSA has three customers at this point: Enstar (70 percent), Chugach and Municipal Light and Power (ML&P).

3:45:06 PM
She explained that the point of CINGSA was to address the deliverability problem, but there are two versions of it. One has to do with the volumetric shortfall and the other is if the Inlet will produce enough gas in 2013 to meet 2013 demand, and the answer could be either yes or no. CINGSA helps to make sure that when it gets cold Enstar doesn't have to ask the producers to give them more gas to meet their deliverability for space heat.

She presented a slide indicating that their base purchases from the producers stayed relatively consistent at 150 bcf/day for each of the cold days in December. What was pulled out of CINGSA

swung a little bit with the temperature. On December 17, for example, Enstar's overall demand was 220 mmcf, but on that day about 60 mmcf came out of CINGSA.

3:46:00 PM
SENATOR MCGUIRE joined the committee.

3:47:25 PM
CHAIR GIESSEL asked her to explain "gas under contract."

MS. SMITH explained that they enter into contracts with the producers to buy gas. Producers in their ideal world would say yes; we'll sell you 50 mmcf every day, because that is what our wells like to produce. Historically, Enstar said no you can give us 15 mmcf in the summer when demand is that low, but you're going to have to give us 60 mmcf in the winter when demand goes up, because it's colder outside. So, gas under contract means gas they can call on the producers to give them on any given day. It is quite different from reserves and resources, but it is the metric by which Enstar measures its ability to deliver gas and electricity to its customers.

3:48:02 PM
SENATOR DYSON said he heard part of last winter's deliverability problem had to do with exports and he thought part of the deal was that exports were interruptible when there was a short fall.

MS. SMITH answered that the export license was intended to protect local needs.

SENATOR DYSON asked what they weren't getting in her answer.

MR. EVANS responded the constraints in the system became more evident while they tried to support exports during the summer and also try to fill CINGSA at the same time. The gas balance didn't work so perfectly, but he wouldn't construe that to mean that the local needs weren't met. There was just some trouble getting started.

SENATOR DYSON asked if the pipes, valves or compressors weren't big enough.

MR. EVANS answered that it's just another demonstration of Cook Inlet decline and that it gets more and more difficult to meet the needs of all the people that want the gas.

SENATOR DYSON asked if the export of LNG was part of the problem.

MS. SMITH replied that Cook Inlet used to have a lot more flex points: Agrium (which they could turn down) for one. The plant used to have more industrial users overall and the Inlet used to have more gas under contract, so it wasn't stretched as thin as it is now. There is a lack of redundancy in production and how gas is delivered and their ability to adapt to a changing demand was much less than it used to be.

SENATOR DYSON asked if gas was being exported when Enstar had trouble getting enough of it.

MR. EVANS said no.

3:51:24 PM
MS. SMITH added that the recent incentives had been significant and have brought additional players in to the market. Buccaneer puts a well on and getting gas under contract in Enstar's case takes a very, very, short period of time. They are getting it as quickly as people can get it behind pipe.

3:51:48 PM
SENATOR FRENCH asked how much working gas CINGSA has.

MS. SMITH answered close to 6 bcf.

3:52:37 PM
SENATOR BISHOP asked if "working gas" can be called "sales gas" and how much "lift gas" is in the reservoir.

MS. SMITH answered about 3.5 bcf of injected gas and 3.5 bcf of native gas is in the reservoir.

MR. EVANS said other energy like Fire Island (wind) that was just brought on help offset gas that can be put into storage. A larger step is Southcentral Power Project (SPP) in Anchorage that spun its first turbine on Oct 18, 2012 that offsets 3 bcf/yr. Conservation efforts will also add up to a one-third reduction in gas demand by 2015 in Chugach. Add the Cooper Lake hydro expansion and Battle Creek (expanding the Bradley Lake project) to that.

3:56:32 PM
MS. SMITH said the utilities have reached what they consider the bottom line to where they think Cook Inlet gas needs to be

supplemented with gas from somewhere else. She reminded them of Enstar's RCA certificates and their obligation to do their very best to serve Southcentral customers with gas and electricity and said they were cognizant of the state's concerns about importing gas and want to do their best to have a solution that has as little impact as possible on producers' ability to produce or Alaska's fiscal reality and want this option to be just a bridge solution to a gas line. They would buy gas from anybody including the North Slope, but they don't view that as something to count on to fill the shortfall in the next three or four years. They are looking for a solution that will avoid discouraging new Cook Inlet production, be scalable to market needs so it can be ramped up or down as needs be, creates a price signal that will encourage local production and supply and be flexible to allow for a portfolio of future options.

She explained that as a result of no imports and limited exports out of Cook Inlet Enstar counts on production being exactly what they need to meet Cook Inlet demand. That is a big risk, because on any given day, production hiccups can occur. Without the flex points of the LNG export terminal, Agrium and other industrial users, they run the risk of some sort of black out situation, and ultimately they want a more diversified portfolio to ensure their ability to continue delivering gas and electricity.

MS. SMITH said the Long-term Gas Supply Group has asked for expressions of interest from different companies that are involved in the transport of gas and is in conversations with three marine compressed natural gas (CNG) providers, five different marine liquefied natural gas (LNG) providers and in conversations related to trucking LNG from the North Slope.

3:59:43 PM
SENATOR DYSON asked since pricing was in the RCA's jurisdiction how price signals could be created to induce producers to drill for gas.

MS. SMITH replied that was a very important question and to a degree the RCA doesn't actually control price; it only controls the utilities' ability to recover the cost of gas. And Enstar takes the cost of gas and passes that cost directly on to consumers; they don't get a margin on their gas sales.

The danger in getting exactly the right amount of production is if you get too much the prices will go down, a matter of supply and demand; if you get too little, then prices will go up; and consumers will suffer. So, to the degree that their import plan

to supplement Cook Inlet gas has an effect on price, it's going to make prices go up. None of their options are low cost. The good news is if they come up with a relatively first "do no harm solution" that will increase the price to a point where it will incent production, but their goal always is to keep the prices as low as possible to the customers. If you talk about signing a 15-year contract with a marine CNG provider, that price point starts to look pretty reasonable. It's higher than current gas prices, but not astronomical. However, if you try to compress that to a five-year deal so you're not getting in the way of a gasline or otherwise affecting the ability to stop the imports, you're going to pay more. The longer the contract, the more economic it is because the capital investment can be amortized.

4:03:17 PM
MS. SMITH said they broke down the need into both short-term and long-term because nothing will come on line until 2015/16. So what is to be done between now and then? Burning diesel is one short-term solution that is available and dependable and relies on existing predictable technology.

4:04:09 PM
SENATOR FRENCH said he was shocked when he first heard about the diesel alternative and asked how that would work.

MS. SMITH answered that Enstar had commercial arrangements in place so that if there is a shortfall they can ask ML&P to burn diesel and shave their gas for Enstar's customers.

4:05:00 PM
SENATOR FRENCH asked if that would happen in the eventuality that CINGSA is depleted during an exceptionally cold period and if she envisioned some days when CINGSA couldn't make up the gap and what sort of temperatures would those be?

MS. SMITH replied that it's in any eventuality: if several wells go down or there is a pipeline disturbance. The system doesn't have redundancy and there is very limited ability to flex if the gas isn't flowing through. It could also mean a late season cold snap when CINGSA sales balance has been depleted.

4:05:49 PM
MR. POSEY said burning diesel would be very expensive.

SENATOR FRENCH asked for a comparison of electricity generated with gas versus diesel.

MR. POSEY replied $50-70 mgw for gas and $250-300 mgw for diesel, which equipment is much older than that for gas.

SENATOR FRENCH said so five to six times more expensive and far less unreliable.

SENATOR MICCICHE said he was talking about a "cocktail" or and an index where the increased cost would be averaged over all of the utilities.

MR. POSEY replied that he didn't know how they would do it.

MS. SMITH said an increase would be blended in with other gas prices; it's not as if all of sudden the price would go up five to seven times what it was before. Hopefully they would be talking about relatively small volumes.

4:07:27 PM
Looking forward to what might be doable with extensive capital investment by the electrics, Ms. Smith said they could burn diesel in a more thoughtful manner. So, rather than waiting for a compressor to go down, they could look at "managed burns" where you burn on a less freezing cold day so you can preserve CINGSA balances. But, none of the short-term solutions are inexpensive.

MS. SMITH said they are trying to look at all reasonable solutions in their timeframe and have engaged Northern Economics to do an economic analysis and two consultants to pick it apart. Reports and recommendations are expected next month, which would be the precursor to a decision. Unfortunately, they have gotten to the point where they feel a decision is necessary on short-term and long-term plans now, and the reason is you can't have a shortage on Monday and have gas imported on Thursday. It takes lots of time to get purpose-built ships to contract for existing supply and to make the commercial arrangements necessary to get the technology put in - like a dock in Cook Inlet or at the loading site - and to enter into the commodity agreements. And they realize the business decision they will be forced to make will likely have implications on the state's policy.

4:09:59 PM
She said once the studies and recommendations were done next month and a decision was made they would make regulatory filings with the RCA and FERC, DOE and all of the familiar crowd of regulators.

4:11:16 PM
SENATOR MICCICHE asked why there is a bcf-equivalent draw between 2012 and 2013 on slide 11 (on usage and the projected forward needs).

MR. EVANS replied that it was a reflection of conservation kicking in and the resulting efficiency gains he talked about in production that are actually large enough to show up on the scale.

SENATOR MICCICHE said it looked like almost 10 percent; but the increased usage going through 2020 made it hard to tell.

MR. EVANS agreed. It's hard to start reading in those kinds of things, because conservation, efficiency and demand constantly change, but there is a "lump gain" in that one spot.

MR. POSEY noted that the "hockey stick" at the end was Donlin Creek.

4:13:06 PM
SENATOR FAIRCLOUGH asked when ConocoPhillips' export permit expires if they were going to actively seek a renewal.

MS. SMITH answered no.

SENATOR FAIRCLOUGH asked how much gas was being exported right now.

MS. SMITH replied 9.6 bcf was exported in 2012.

SENATOR FAIRCLOUGH asked if the utilities had approached ConocoPhillips directly to see if the state might move in on a spot market and replace their contracts if they had any going to the Pacific Rim and then defer that gas to the state. That way transportation costs could be reduced and imports wouldn't be coming in to Alaska.

MR. EVANS answered it's not that easy, because ConocoPhillips makes commitments long in advance of those deliveries as well as for infrastructure. Their models are hard to ramp up and down just like ours are. There might have been a couple of opportunities to do that, but they didn't have a place to put it and it would have had to stay in the ground. CINGSA can only take so much so fast.

MS. SMITH added that Enstar is in conversations with ConocoPhillips both on gas supply and an import/export use of the existing plant.

SENATOR FAIRCLOUGH said her point was if the utilities could lower transportation costs by doing a spot market purchase for Alaskans directly instead of bringing supply in from the Pacific Rim to Alaska.

SENATOR DYSON said that he perhaps naively thought that utilities only needed to figure out a bridge for three or four years, and that the Division of Oil and Gas and USGS both estimated 17 or 19 tcf of recoverable gas in the Inlet and that would make everyone happy for a long time, but it seems now that she was assuming that even if 18 rigs were out there drilling, the Cook Inlet supply wouldn't ever be reliable. If her nodding meant yes, then they have to think about why their estimate is significantly different than DNR's.

MS. SMITH said her nodding was a lawyer thing and that they just don't know, but they do know from professionals in this field that there is a lot of gas in Cook Inlet and that it's also very hard to turn around production decline curves like this. And you can't plan on what you don't know exists. Enstar was hoping to find a solution without causing Southcentral customers to pay too much for it, but the reality is if you ask for a shorter term solution, you will pay more.

4:18:30 PM
MR. POSEY said basically the department deals with what might be there but you can only contract with what a company says is there. The department expects that there may be more gas, but not what it would take to have those 17 or 18 uneconomic wells drilled to accelerate production that would take them through the next seven years. Unless there is a big discovery in the middle of the Inlet or a big pipeline gets built, that seven year period needs to be extended. Most of the 16 to 17 tcf (USGS projections) is probably in the middle of the Inlet, but right now between Beluga's rigs and permits they don't see anyone finding that.

SENATOR FAIRCLOUGH asked them to reflect on what happened to the supply in the RCA offering from Marathon that had gas contracts available, but that the RCA turned down. Hilcorp now has those assets.

4:21:06 PM

MS. SMITH responded that they observed how Marathon did not invest in getting that gas out of the ground between 2005 and 2013 and are optimistic about Hilcorp coming in.

Homer Electric Association Update by Bradley Janorschke

4:22:13 PM
BRADLEY P. JANORSCHKE, General Manager, Homer Electric Association (HEA), said it serves the western half of the Kenai Peninsula and about 32,000 members. He was asked to give a quick update on what their generation needs will be. He explained that for a long time HEA and ML&P bought wholesale power from Chugach Electric Association (CEA). They have now recognized that the current fleet of generation is aging and they need to make a decision on what to do in the future. His board decided it wanted to create some economic development on the Kenai Peninsula, expand some of their existing resources and move forward. Their current contract expires at the end of this year and they decided to go "Independent Light," which means they are connected to the Railbelt all the way to Fairbanks, so they can take advantage of some of the economies of scale. They can buy power cheaper than they can produce it and can see possible opportunities to sell power to other utilities.

With that decision, they started the first phase of Independent Light last April, which is building a steam turbine coupled to the back-end of an existing 40 mgw generator in Nikiski. That plant is adjacent to the Agrium facility. He explained that since 2001 HEA had been base-loading that plant and selling the power to Chugach Electric; the heat off the back end was sold to Agrium. Since Agrium has closed, that excess heat has been wasting into the atmosphere. So the backbone of Independent Light, beginning in 2014 will be to rely on installing the steam turbine (which is getting done now), capturing that heat and producing an estimated 45 percent more electricity with no additional fuel. So they will go for 40 mgw to 58 mgw of power generation; in addition, they have the option to add more fuel at this site that would allow them to produce as much as 80 mgw. They hope the turbine is in service by the middle of this year.

The second part of Independent Light is for their peaking and reserve needs. Construction of new generation began on a unique site in Soldotna that is a key intersection point on the transmission system between Bradley Lake, Nikiski and Anchorage. It should be done later this year. The actual combustion turbine is an Allen 6000 that produces 48 mgw. It's much more efficient and is the same unit that ML&P and Chugach are installing in

south Anchorage and the same that Golden Valley operates in North Pole.

4:27:10 PM
The third component of Independent Light is the new Bernice Lake Power Plant substation located at Nikiski that they purchased from Chugach last year. It gave HEA the opportunity to save $15 million by not having to build a second unit at Soldotna, which had already been designed and permitted.

MR. JANORSCHKE said one of the frequent questions he gets is with all the worries about the decline in production, why they are building new gas generation. He had two responses: one is that these new assets will be a lot more efficient than the existing aging fleet and the other is that there is no other option for base-load generation. As fuel supply goes, they have secured a contract with Hilcorp for 2014 through the first quarter of 2016; the agreement also includes two one-year extensions upon mutual agreement.

4:30:03 PM
MR. JANORSCHKE said HEA is not solely focused on gas in reducing their dependence on fuel. Two local options are Battle Creek and Grant Lake. Battle Creek augments the amount of energy available privately by about 10 percent and Grant Lake, located between Cooper Landing and Seward that provides 5 mgw and plays a vital role particularly during peaking periods. In addition, HEA is a participant in CINGSA. They will finish their study work by the end of 2013 on their current project and will finalize the design next year; hopefully by January 2015 they will be applying for their final FERC license.

4:31:33 PM
SENATOR BISHOP asked how many megawatts the new gas turbine at Soldotna would generate.

MR.JANORSCHKE said 48 megawatts.

SENATOR DYSON said it's been traditional to use hydro power for base-load and thermal plants for peaking, but he's turning that over and asked what the timing is for turning over to a hydro-electric plant.

MR. JANORSCHKE answered that HEA has the advantage of Bradley Lake in its backyard; they are finding they can secure the lowest price by buying a steady flow of gas from the producers, and if they can keep that steady flow coming and use the storage

capability of Bradley Lake to follow their peaks, that is much more economical than base-loading Bradley Lake to the extent they can. One of the challenges of the current infrastructure is scheduling that supply through a pipeline that can't accommodate frequent variations in the flow of gas.

SENATOR DYSON said he wanted to know what it was like to use a hydro plant for peaking.

MR. JANORSCHKE deferred that question to Mr. Evans since Chugach was currently dispatching Bradley Lake.

SENATOR MICCICHE asked the Bradley lake capacity.

MR. JANORSCHKE replied about 120 megawatts; one of the limitations is that the current transmission system is not robust enough to be able to handle that much capacity at one time and becomes increasingly unstable approaching that capacity. So now only 90 mgw can be put on.

4:35:09 PM
CORY BORGESON, President and CEO, Golden Valley Electric Association (GVEA), said he would talk about why Cook Inlet gas is important to the Interior. GVEA produces power from a number of different resources: coal, Bradley Lake hydro, Eva Creek wind, oil-fired diesel turbines, an Allen 6000 that operates on naphtha (a lighter blend of diesel) and a heavier grade of fuel called HAGO (heavy atmospheric gas oil). They are always trying to make sure they get the best mix of gas and other fuels for their generation. They have 50 mgw of coal and anticipate the Healy Clean Coal Plant coming on line in 2015. They also make electricity made from gas that they get over the Intertie.

He said that in 2012 GVEA found that availability of power over the Intertie was extremely limited and then their electric rates were as high as 23cents/kwh while Chugach's rates were about 13 cents/kwh. Important mining customers were telling him it's too expensive to do business there and were talking about going elsewhere. That would have a tremendous ripple effect as GVEA alone has 700 or more employees. So, they are very interested in gas from Cook Inlet and see a lot of cooperation from the Anchorage utilities on that issue.

4:39:16 PM
Today they are getting gas from Chugach Electric and ML&P, calling them almost every day to see how much gas they have. Chugach Electric has filed a contract they have acquired from

Hilcorp with the RCA that would provide gas that they would use to produce power for GVEA starting in April 2013 going until March 31, 2015. It's an extremely important contract and the estimated savings to members would be about $34 million a year! As a result of getting some of the gas, rates dropped from 23 cents to a little over 20 cents kwh. He said they talk to the producers themselves and get a fair reception from them and continue to work on that effort and hope to have a two-year supply of gas when Healy coal comes on line.

4:41:06 PM
MR. BORGESON said when GVEA buys power over the Intertie they can get it to Fairbanks for around 11-12 cents/kwh with all the costs of transmission. Power from Healy would also result in 12 cents/kwh. He reported that producing power in North Pole with HAGO costs 23 cents/kwh ($230/mgw/hr). Their North Pole unit (a combined cycle plant with a back-end steam turbine that comes off the Allen 6000) burns on naphtha at 16 cents/kwh.

4:42:42 PM
SENATOR DYSON asked where they get naphtha from.

MR. BORGESON replied from the Flint Hills Refinery. GVEA has played a very active role in trying to develop a trucking project to truck LNG from the North Slope to Fairbanks for space heating, but it is a difficult type of commercial project to put together. It would save about $15 million/year (over naphtha) to re-gasify LNG from gas purchased at $14/mmcf. The real benefit to Fairbanks of trucked gas is for space heating needs. They are interested in working on that and have provided a letter of interest response to AIDEA's request for letters of interest on this project.

He said they are paying $4/gallon for heating oil now and that is the equivalent of paying $31/mcf to heat homes. It costs almost three times more to heat homes in Fairbanks than in Anchorage. About $1 million has already been spent on the liquefaction plant on the North Slope and its cost is somewhere in the $200 to $220 million range. The trailers needed to bring the gas to Fairbanks would cost $20 million; the regasification plant at North Pole with storage would cost about $60 million. Those are big dollars for a utility the size of GVEA, he remarked, and that AIDEA had stepped in and taken a lead role there. So they are happy to look at Cook Inlet.

SENATOR BISHOP thanked him and said he appreciated everyone's comments.

4:47:40 PM
SENATOR DYSON asked how much of the $200 million regasification plant is fungible, and if the rest of the plant is in trains that are easily moveable.

MR. BORGESON answered broadly yes; they are built in modular units; they are trains that can be moved, but you hear reports as to how likely that is to happen in a real world after you have sent them up to the North Slope. But a camp that used to be on the North Slope is now at Denali National Park; so a lot of things happen. And the Governor talked about a movable liquefaction plant on the North Slope.

4:50:02 PM
Recess from 4:50 to 5:01 p.m.

SB 29-CRUISE SHIP WASTEWATER DISCHARGE PERMITS

5:01:27 PM
CHAIR GIESSEL reconvened the Senate Resource Committee meeting at 5:01 p.m. and announced SB 29 to be up for consideration.

LARRY HARTIG, Commissioner, Department of Environmental Conservation (DEC), introduced staff in the audience. He planned to give a little history leading up to today, talk about the Science Advisory Panel and then about the bill and permitting facilities. While this bill deals with some aspects of that, it primarily aligns cruise ships with other people who get discharge permits from the department. It doesn't change the laws on how it's done.

COMMISSIONER HARTIG recalled in 1999 when people became concerned about the waste water discharge from cruise ship vessels and that led to them being required to switch to advance waste water treatment systems in 2004. They were known to be the best water treatment at the time doing even better than land-based facilities. In 2006, a citizens' initiative was put forth taxing the industry to help pay for onshore infrastructure and requiring a permit issued by the State of Alaska in order to discharge treated waste water in Alaska's waters (no more than three miles off shore, which is federal waters that has no such requirement).

SENATOR FRENCH said Southeast Alaska has some enormously wide passages much more than six miles across and asked if strips of

federal waters were located in those passages or do you have to go to the outer coast of Alaska to find federal waters.

COMMISSIONER HARTIG said the department has maps dealing with those issues, but it is complicated. He needed a particular location to give him an answer, but in general, some rules apply and you don't just go to the outer beach.

SENATOR FRENCH asked where the nearest federal water to Juneau is.

COMMISSIONER HARTIG said he would have to get back to him on that.

5:06:29 PM
He said the 2006 voters' initiative created the requirement for a state permit in state waters; it required that a vessel discharging water under that permit meet state water quality standards at the point of discharge. He explained that water quality standards originate in the federal Clean Water Act. Each state is supposed to identify what uses its waters can be used for such as drinking, recreation and acquatic life. Then those uses are looked at to see what water quality has to be: how much and what kind of pollutants can be allowed without impairing that use. So, the state set water quality standards to protect these designated uses of water bodies throughout the state. The Environmental Protection Agency (EPA) reviews those standards and approves them; then they get incorporated into permits.

COMMISSIONER HARTIG explained if someone needs a permit from the state to discharge water, the department would look at the uses of the waters they would be discharging into and what impacts it would have on those waters and write limits into the permit. Those permit conditions set water quality standards. So, "at the point of discharge" means those standards have to be met before their discharge hits the water. That is in contrast to other dischargers of treated waste water around the state. Other industries' water treatment plants that discharge into marine water have mixing zones, which are an exception to water quality standards. They are allowed by the EPA recognizing that it's really difficult, if not impossible, for many dischargers to meet the water quality standards at the point of discharge. So they allow a limited area of mixing of the treated effluent with the receiving water where the water quality standards have to be met at the edge of the mixing zone. The permit would say what the conditions for the mixing zone are, how much could be discharged and where water quality standards have to be met and

how they would be monitored. Mixing zones are a typical provision in a state permit that would be issued to a waste water discharge facility anywhere around the state, and the 2006 initiative didn't allow DEC to give cruise ships mixing zones.

The question arose from vessels that weren't meeting state water quality standards at point of discharge. In 2009 HB 134 passed that gave DEC temporary (until the end of 2015) authority to allow cruise ships to have mixing zones. So in 2016, they would go back to the original citizens' initiative using the point of discharge for criteria. Second, HB 134 required DEC to convene a Science Advisory Panel to advise them about what is on the horizon in terms of waste water treatment facilities. The statute designates where the panel members come from and what kind of expertise they must have.

5:12:46 PM
The panel held about 15 meetings including experts from Europe and Alaska, DEC data and cruise ship system observations and issued a preliminary report in November 2012 indicating what was achievable and when. They concluded that the current systems called "advanced waste water treatment systems" are state-of-the-art in terms of what is available now.

COMMISSIONER HARTIG explained that advanced waste water treatment systems are a class and that a number of manufacturers approach waste water treatment a little differently. Some may work better on different pollutants and ships are different in terms of piping and spacing, so you can't say one system is the best without studying the whole ship.

5:14:21 PM
The panel also looked at DEC water quality data and found that these ships were doing pretty well with meeting the criteria at the point of discharge except for treating ammonia and three dissolved metals: zinc, copper and nickel. The panel couldn't identify a system on the horizon that could be installed on these vessels that would bring them into compliance with the point of discharge requirement. They did recognize that there certainly are opportunities for efficiencies and tweaking systems for improvements. With the standard hanging out there and the authority to do mixing zones sunseting in 2015, the department would suddenly be back to using at the point of discharge for all parameters. Maybe some affordable incremental moves could be made, but you still wouldn't make that standard by 2015. Would you tweak your system and try to stay in Alaska or start making plans to leave?

The DEC has a number of ways to regulate dischargers; it isn't just the treatment system. It can say where the discharge should be, how often, when under way so you have the sea turning up behind the ship and rapid mixing, and who goes when to name a few. Other things can be done to minimize the impact of the discharge besides just looking at the treatment system, itself, Commissioner Hartig said.

The panel also looked at the environmental benefit with other changes that might be made and found that it would probably be hard to define that, particularly given DEC's other authorities to minimize the impacts of discharging waste water. The preliminary report was required in 2013 and a final one is due in January 2015 - right before the sunset of DEC's mixing zone authority with the idea that the legislature would come back and revisit the situation and decide what to do. The DEC concurred with the Science Advisory Panel's findings.

5:18:48 PM
The key points in SB 29 are:
-it removes at the point of discharge requirement.
-it would allow cruise ships to be able to get a mixing zone permit only if they treat waste water in advance with an advanced waste water treatment system.
-it gives DEC guidance on what an advanced waste water treatment system is and the ability to approve of a system that does the same thing in a different way.

One thing the panel didn't address is in SB 29 and that is smaller vessels; less than 20 that operate in Alaskan waters. Their discharges would be managed under "best management plans" that would be submitted to and approved by DEC. The department would still have the ability to require a permit if they thought the vessel needed to do things differently. The plans can be in effect for five years under SB 29 instead of the existing three, which is consistent with all waste water permits. The five years would also apply to the larger vessels.

5:22:22 PM
CHAIR GIESSEL asked if the small vessel section was section 2 on page 2.

COMMISSIONER HARTIG said he wasn't going to do a sectional analysis but give an overview of how things worked together. He went on to say that SB 29 also puts cruise ships in the same category as other facilities that DEC issues waste water permits

for. Current law says when the department writes a new permit for cruise ship vessels it can't have any condition in it that is less restrictive than was in an earlier version of the permit (the "anti-backsliding provision," that is based on federal law). But there are a series of exceptions for when you are allowed to backslide. Those exceptions are in current cruise ship law and they are needed sometimes; for instance if a ship did well on a bunch of parameters but not so well on one. The department now has the flexibility to let them go ahead, so they still want that flexibility.

5:24:56 PM
He said they had been writing permits during the last few years the initiative was in effect and maybe some of them aren't right. They basically want to have something similar to what they do for other dischargers.

SENATOR FRENCH asked him to explain how the effects of copper and zinc could be of concern to people who fish for salmon.

COMMISSIONER HARTIG said all the parameters they talk about are of concern which is why water quality criteria has been established for them. Copper has the potential to impact olfactory senses of fish and impair their ability to find their home stream or change their response to prey.

He explained that the department is required to review its standards at least every three years; it's called a tri-annual review. They notice the public and list the things they think need to be looked at for possible change. Copper has been on the last couple of tri-annual reviews; so it's one they are watching. The best advice he could give is that the science is still emerging and moving on it now would be premature. When they move it will be very informed, because copper is not unique to cruise ships. It would be of concern for a mine discharge and it's also what some water systems are built out of.

SENATOR FRENCH asked if all cruise ships have copper pipes.

COMMISSIONER HARTIG answered no. Copper has a variety of sources; you could say copper came from the copper pipes in the community where they got their bunkered water or from the copper pipes or fittings in the ship. DEC sets water quality standards for everybody, so when they look at the potential effects of copper, it wouldn't matter where it came from. They would look at the amount of copper that is discharged and if it would be safe going into whatever the receiving environment is. They

couldn't require discharging under way for a shore based facility. Copper can't be treated in the discharge, but other approaches can be taken like looking at people putting in more copper than the cruise ships do.

SENATOR FRENCH asked who that would be.

COMMISSIONER HARTIG replied that he would have to look at the historic mining reports. The City and Borough of Juneau plant had problems with copper at one point that EPA was doing some enforcement on.

5:30:08 PM
SENATOR MICCICHE said he was aware of mixing zones being disallowed in anadromus streams for waste water discharges and asked if there was another scenario in the marine environment where mixing zones are disallowed in the state.

COMMISSIONER HARTIG answered that SB 29 doesn't change the law that would allow DEC to decide where, when and how someone could discharge waste water from a cruise ship. So they could prohibit it that way. Mixing zone regulations don't go away with SB 29 and there are 17 requirements to get one; it can't bio-accumulate or have toxic effects, it can't affect anadromus fish going through the area, and it can't affect the water body's ability to produce aquatic life in the future or affect populations to name a few. A cruise ship has a right to mixing zone, but it doesn't mean they automatically get one; it must have an advanced waste water treatment system as well as meeting all the conditions.

COMMISSIONER HARTIG said SB 29 doesn't change water quality standards and when the state changes them they can't be used unless the EPA approves them. SB 29 would sunset the Science Advisory Panel, but not change DEC's ability to impose permit conditions or to look at best available technologies, putting it in line with other dischargers.

CHAIR GIESSEL asked if the allowance for cruise ships expires in 2015.

COMMISSIONER HARTIG answered that it expires at the end of calendar year 2015 and the DEC would lose its authority to allow mixing zone for cruise ships and would go back to "at the point of discharge" for all water quality standards.

CHAIR GIESSEL asked why it was important to address the bill now.

COMMISSIONER HARTIG replied that two things would motivate an earlier look. First, the cruise ships themselves have various systems and they are pretty packed in their spaces. If you make a big change, the ship would have to be pulled apart; it would have to go into dry dock and be cut in half or something like that and that would require a fair amount of lead time and the cruise ships are scheduled around the world. Also, nothing has been identified to be any better than existing advanced waste water treatment systems in terms of being available soon.

5:37:13 PM
Another point was that the current permit that was used for the last cruise season expires in April 2013 and can't be extended (beyond the three years). The first cruise ship arrives in April 2013. a week or two after the permit expires, and it will need a permit to be legal under Alaska law because it needs to discharge. DEC could issue a new permit for vessels coming to Alaska that want to discharge before this upcoming season, but it would be based on existing law. So if SB 29 passes there would be a permit issued for the coming season that would be based on the previous law. Ships would have to plan their cruise season around that. It's all doable, but if SB 29 passes, then the department would turn around and start running another permit through the public process.

SENATOR FAIRCLOUGH asked how the department defines "advanced waste water treatment" in regulation.

COMMISSIONER HARTIG replied that it would look like the statute; the only difference would be if some other treatment system became available.

5:41:00 PM
SENATOR FAIRCLOUGH said she didn't see a definition in the bill. Language on page 3, starting on line 13, provides two areas of minimum standards and she asked if those were federal water quality standards or approved Alaska water quality standards that have been approved by the EPA or another federal agency.

COMMISSIONER HARTIG replied that those are the federal standards, sometimes referred to as the Murkowski Law, that caused the ships to put advanced waste water treatment systems in.

SENATOR FAIRCLOUGH said she was looking for specific Alaska water quality standards and needed a better definition of "advanced waste water treatment." She also wanted to know what the department might consider as add-ons.

COMMISSIONER HARTIG said the water quality standards are in regulation 18 AAC 70. Manuals are incorporated by reference and are all available on the DEC website; he offered to help her locate what she was looking for.

SENATOR DYSON said putting the existing standards in place was hard to do and ships spent a lot of money to install those plants that were only required for the Alaskan market. He said that Anchorage's municipal waste water treatment is still only a primary system and is pretty primitive and the only way they stay in business is by being grandfathered in. He was sure Anchorage must have 70,000 houses with copper pipe and he had some information that said the Mendenhall River produces 23 times the amount of copper of all the cruise ships combined and asked if that was true.

COMMISSIONER HARTIG responded that he read that in the panel's report, but he didn't know the exact figures.

SENATOR DYSON asked if he knew how much copper was in the Copper River that has a world-class salmon run.

5:45:18 PM
SENATOR BISHOP asked how many permits he writes for large vessels.

COMMISSIONER HARTIG replied that he writes one permit; it's called a general permit and different types of vessels are separated into subcategories within it.

SENATOR BISHOP asked for ball park information on the ratio of people who discharge inside and outside state waters.

5:46:41 PM
MICHELLE BONNET HALE, Director, Division of Water, Department of Environmental Conservation (DEC), Anchorage, AK, said that 40 percent of cruise ships go outside the three mile limit to discharge.

COMMISSIONER HARTIG pointed out that may just be because of the holding capacity they have in their itinerary and how much time

in port and between ports. It's difficult to reach a conclusion on one fact.

SENATOR FAIRCLOUGH asked if the ferry system was excluded from the permit requirement.

MS. HALE answered that ferries are small passenger vessels that submit a best management practices plan.

COMMISSIONER HARTIG answered that most of those vessels are regulated by the Coast Guard in terms of what kinds of systems they have, which is a lower technology than an advanced waste water treatment system.

SENATOR FAIRCLOUGH asked if he had recommendations for improving ferry waste water discharge standards.

COMMISSIONER HARTIG replied that he hadn't looked at that.

[SB 29 was held in committee.]

5:50:15 PM
CHAIR GIESSEL thanked everyone for their testimony and adjourned the Senate Resources Standing Committee meeting at 5:51 p.m.