ALASKA STATE LEGISLATURE
JOINT MEETING
SENATE RESOURCES STANDING COMMITTEE
HOUSE RESOURCES STANDING COMMITTEE
May 30, 2013
10:30 a.m.

MEMBERS PRESENT

SENATE RESOURCES

Senator Cathy Giessel, Chair
Senator Fred Dyson, Vice Chair
Senator Click Bishop
Senator Anna Fairclough

HOUSE RESOURCES

Representative Dan Saddler, Co-Chair
Representative Peggy Wilson, Vice Chair
Representative Mike Hawker
Representative Kurt Olson (via teleconference)
Representative Paul Seaton
Representative Geran Tarr
Representative Chris Tuck
Representative Craig Johnson

MEMBERS ABSENT

SENATE RESOURCES

Senator Peter Micciche
Senator Hollis French
Senator Lesil McGuire

HOUSE RESOURCES

Representative Eric Feige, Co-Chair

OTHER LEGISLATORS PRESENT

Representative Gabrielle LeDoux

COMMITTEE CALENDAR

LNG UPDATE AND REPORT ON THE 17TH INTERNATIONAL CONFERENCE AND EXHIBITION ON LIQUEFIED NATURAL GAS

- HEARD

PREVIOUS COMMITTEE ACTION

No previous action to record

WITNESS REGISTER

LARRY PERSILY, Federal Coordinator
Alaska Natural Gas Transportation Projects
Washington, D.C.
POSITION STATEMENT: Presented information about changes in the global LNG market.

DAN SULLIVAN, Commissioner
Department of Natural Resources (DNR)
Anchorage, Alaska
POSITION STATEMENT: Presented information related to commercializing Alaska LNG.

JOE BALASH, Deputy Commissioner
Department of Natural Resources
Anchorage, Alaska
POSITION STATEMENT: Presented information related to commercializing Alaska LNG.

DAVE ROBY, Senior Reservoir Engineer
Alaska Oil and Gas Conservation Commission (AOGCC)
Anchorage, Alaska
POSITION STATEMENT: Presented information related to AOGCC's role in approving gas sales.

FRANK RICHARDS, Manager
Pipeline Engineering and Government Affairs
Alaska Gasline Development Corporation (AGDC)
Anchorage, Alaska
POSITION STATEMENT: Presented information related to the Alaska Gasline Development Corporation project.

STEVE BUTT, Project Manager
South Central LNG Working Group (SCLNG)
ExxonMobil
Anchorage, Alaska
POSITION STATEMENT: Presented information related to the Alaska SCLNG project.

MARY ANN PEASE, Vice President and General Manager in Alaska
Resources Energy, Inc.
Anchorage, Alaska
POSITION STATEMENT: Presented information related the REI Feasibility Study.

YUTAKA NAGASHIMA, Officer and Vice President
Resources Energy, Inc.
Tokyo, Japan
POSITION STATEMENT: Presented information related the REI Feasibility Study.

PAUL FUHS, Lobbyist
Anchorage, Alaska
POSITION STATEMENT: Presented information related the REI Feasibility Study.

ACTION NARRATIVE

10:30:38 AM
CHAIR CATHY GIESSEL called the joint meeting of the Senate and House Resources Standing Committees to order at 10:30 a.m. Present at the call to order were Senators Dyson, Fairclough, Bishop, and Chair Giessel.

Co-Chair Dan Saddler introduced the members of the House Resources Committee. Present at the call to order were Representatives Hawker, P. Wilson, Seaton, Olson (via teleconference), Tuck and Co-Chair Saddler.

LNG Update and Report on the 17th International Conference and Exhibition on Liquefied Natural Gas

10:33:13 AM
CO-CHAIR SADDLER welcomed members of the committee and public. He stated that Alaskans are justly proud of their record of providing energy to the state, nation, and world. He pointed out that global natural gas markets are changing and evolving, and it is important for the legislature to keep up with developments related to LNG.

CHAIR GIESSEL noted the arrival of Representative Geran Tarr.

10:34:41 AM
CHAIR GIESSEL reported that she attended the 17th International Conference & Exhibition on Liquefied Natural Gas (LNG 17) in

Houston last month. She shared several of the takeaways of the conference. Alaska is in a race with Mozambique for exporting natural gas. The Panama Canal renovation is nearly complete, which will make the Gulf of Mexico export facilities more accessible to Asia. She noted that British Columbia recently elected a pro-development government and is advocating for natural gas export out of Kitimat. She emphasized that this is Alaska's competition, and another reason for the meeting today.

She directed attention to maps on display in the room showing importing and exporting countries, pipelines, and tankers. She described the format for the meeting and highlighted that the presentations were on BASIS under the Senate Resources Committee.

CHAIR GIESSEL announced that the first presenter would be the federal coordinator from the Office of the Federal Coordinator for Alaska Gas Line Projects. She welcomed Mr. Persily and noted that he, too, attended LNG 17.

10:36:43 AM
LARRY PERSILY, Federal Coordinator, Office of the Federal Coordinator for Alaska Gas Line Projects, stated that he would brief the committees on what is happening in the global LNG market, and what that could mean for Alaska. He warned that any line that brings gas from the North Slope to a liquefaction plant at tidewater in Southcentral will be more expensive than the gas that has been coming out of Cook Inlet for the past 40 years. Whether Alaska sells any LNG from the North Slope to overseas markets will depend on the cost of getting Alaska's gas to market and finding buyers willing to pay for it on a long-term basis. Because there are many options for LNG worldwide, Alaska gas has to be cost competitive, he said.

10:38:33 AM
MR. PERSILY directed attention to a quote he enjoys from a Japanese official who is brutally honest about playing one country against another so that Japan can get the steepest discounts for gas.

He reviewed statistics about the world market, and noted that the total worldwide LNG demand in 2012 was about 32 billion cubic feet per day. The big players that Alaska is looking at are in Taiwan, India, China, South Korea, and Japan. Some of those markets are relatively small compared to North America which is close to 80 billion cubic feet per day (bcf/day), but

they are the preferred market today given price and growth potential.

MR. PERSILY reported that since about 2006 gas consumption in China has outpaced production. Starting in 2009, they imported pipeline gas from Turkmenistan. Today about half China's imported gas comes by pipeline and about half by LNG. He directed attention to a chart showing that in 2011, 69 percent of China's energy came from coal. He emphasized the huge growth potential if China decides to address air quality by turning to a cleaner burning natural gas.

10:40:39 AM
MR. PERSILY talked about Alaska's competitors. Qatar is the largest supplier of LNG in the world with more than 10 bcf/day capacity or 30 percent of the global demand in 2012. Qatar profited with oil linked prices when Japan shut down its nuclear plants following the Fukushima disaster in 2011, but they have no new projects planned. Australia brought a new plant on line and seven more are under construction, bringing their export capacity to $200 billion. By the end of this decade they will overtake Qatar as the world's largest LNG supplier, judged by capacity. Angola has a 700 mcf/day LNG project scheduled to come on line this summer with Chevron, Total, Eni, and BP as partners. Papua New Guinea has a 900 mcf/day LNG plant that is scheduled to come on line in 2014 with Exxon and Papua New Guinea as partners.

He continued to discuss Alaska's competition. Russia has one LNG export terminal at Sakhalin and three more are proposed. Gazprom is looking at Vladivostok in the Soviet Far East; a competitor of Gazprom is looking at another project in Sakhalin; and NOVAREK and Total are looking at an LNG export project in Yamal.

Off the east coast of Mozambique and Tanzania 120 tcf of gas has been discovered. The explorers there include Anadarko, Eni, Statoil, BP Group, ExxonMobil and others. Between Israel and Cyprus 40 tcf of gas has been discovered offshore in the Eastern Mediterranean. Production started this year and the gas is piped into Israel. Although there is talk of an export plant for LNG, nothing is under construction.

In Canada, several LNG plants have been proposed for Kitimat and Prince Rupert on the British Columbia coast. BP Group is looking at Prince Rupert; Shell along with partners Mitsubishi, PetroChina, and Korea Gas are looking at Kitimat; Petronas is looking at Prince Rupert; a partnership of Chevron and Apache

has started site preparations at Kitimat. These British Columbia LNG export projects are all in different stages, but none have everything they need: export approval, construction, permits, final investment decision, financing, and customers.

10:44:00 AM
CHAIR GIESSEL recognized that Representatives Andy Josephson and Craig Johnson had joined the committee.

MR. PERSILY related that in the past decade billions of dollars of import terminals were built in the Lower 48 when it appeared that North America was going to need to import gas. Shale gas was subsequently produced and those regasification terminals are sitting unused. Operators would like to convert those facilities to export terminals and Cheniere Energy will start production from its Louisiana liquefaction unit in late 2015. It took nine months for the Energy Department approval. On May 17, 2013 the U.S. Department of Energy approved an export project at Freeport Texas, but this approval took 30 months. These two terminals will have capacity to liquefy and export 3.6 bcf/day of gas, which is more than 10 percent of global demand last year. Chenier Energy has fully subscribed the output from the four production units and has buyers in India, U.K., Korea, and Spain. Freeport has fully subscribed production from its first two LNG trains.

He noted that there are 19 more applications awaiting Energy Department approval. Some have preliminary off-take agreements with buyers, but they're all conditional on getting Energy Department approval, a FERC certificate for the plant itself, a final investment decision, and financing. In testimony before the Senate Energy Committee the department hinted it will try to resolve one application every 60 days, including an assessment of the cumulative impacts of each succeeding request. He acknowledged that not all of these projects will be built because there isn't the demand worldwide. Analysts estimate that 5.6-8 bcf/day of Lower 48 export capacity will be built by 2020, half of which has already been taken by Cheniere and Freeport. He noted that these estimates generally do not include what may or may not come from Alaska.

10:47:45 AM
MR. PERSILY stressed that all the competing projects have problems such as high cost overruns, politics, environmental concerns, concerns about domestic prices, expensive pipelines, distance to markets, long development times, and domestic energy needs. He gave examples.

MR. PERSILY said that Australia has tremendous cost overruns on construction. Three projects under construction have cost overruns of 43 percent, 25 percent, and 15 percent. Environmental concerns about water quality are building over the production of coal-seam gas, which will feed half the projects under construction. Domestic consumers worry that higher price deliveries to Asia will drive up domestic prices for gas, and producers fear that the government will require production set asides for domestic users. Unions and politicians are starting to complain about jobs potentially going overseas for the construction of modules for liquefaction plants and floating LNG processing ships.

10:51:29 AM
MR. PERSILY discussed Canada's problems. Shale plays to feed the export plants in Kitimat and Prince Rupert are undeveloped, remote, and very expensive. One estimate is that gas from the Montney shale play in British Columbia could cost $3.50-$4.50 per thousand cubic feet (million BTU) to produce at a 10 percent internal rate of return. This does not include the leasehold acquisition or exploration costs. It's also problematic that the proposed pipelines have to cross two mountain ranges. PETRONAS has selected TransCanada to build a 470 mile pipeline from its fields into Prince Rupert at an estimated cost of $5 billion plus an additional $1 billion plus for the connecting lines. Spectra Energy has been selected to build a 290 mile pipeline to Kitimat for about $1.5 billion. He emphasized that project developers consistently have said they need oil-linked pricing in Asia to pay development costs in British Columbia. First Nations have raised concerns about coastal tanker traffic and air quality; there is concern that opposition to oil sands pipelines could spill over to natural gas pipelines; and "fracking" opponents are raising questions about shale gas production in British Columbia.

10:54:59 AM
MR. PERSILY described Russia's LNG problems. Gazprom has the export monopoly for Russian gas and has little interest in price restructuring. The Russian government depends on Gazprom for revenues and they're falling as Gazprom loses market share in Europe. Buyers may like Russian gas but they don't entirely trust Russian politics. Russian gas is largely remote and costly to develop. Gazprom has proposed building a 2,000 mile pipeline to take Siberian gas to an LNG terminal in Vladivostok and on to China. That project, called Power Siberia, is estimated at $50 billion. The Yamal project envisions taking LNG tankers to Asia

in the summer and to Europe the rest of the year. That project would be dependent on government-supported icebreaker escorts. Although Russia and Japan are talking about gas deliveries, they have unresolved disputes from World War II over islands. He noted that China and Russia also have trust issues.

10:57:24 AM
MR. PERSILY discussed East Africa's problems. There is a lot of gas, but little infrastructure in Tanzania and Mozambique. The Tanzania government wants to adopt upstream oil laws by 2014 and a proposal includes national oil and gas companies and a gas revenue fund. Recently the citizens of Tanzania protested the gas pipeline plan, demanding more local benefits. The World Bank ranked Tanzania 134th and Mozambique 146th out of 186 nations in its "Doing Business 2013" report. Statoil admits that a final investment decision on doing business in East Africa would be at least three years away. Furthermore, the voyage from East Africa to Japan or China is farther than it would be from Alaska.

He mentioned that although Israel has 40 tcf of gas, it also has serious energy security concerns.

10:58:40 AM
MR. PERSILY detailed problems in the Lower 48, including long, costly tanker runs from the Gulf Coast to Asia. The voyage is three times as long as from Alaska. Tariffs will be substantially higher (with some estimates as high as $4 per million BTU) to tanker gas from the U.S. Gulf Coast into Asia. The Panama Canal expansion project is more than $5 billion and those tolls will reflect the cost of repaying that debt. Going through the Panama Canal will still be cheaper than around South America and that will dictate their prices. If U.S. gas costs $5, it will be $12-$13 by the time it reaches Asia. He noted that Goldman Sachs recently reported that to compete in Europe U.S. gas would need to stay under $5 to be competitive. There are fears in Washington that if too much gas is sent overseas it will drive up costs to U.S. manufacturers and utilities, but if U.S. gas is too expensive the buyers won't take the cargos. They'll pay the reservation fee for the liquefaction plant capacity, but they won't take more LNG than they can sell at a profit.

Other problems include the 19 applications awaiting approval by the Energy Department and the warning that fracking opponents will oppose all LNG export projects. Litigation will delay development and raise costs.

MR. PERSILY discussed Alaska's advantages. It is closer to Japan than the U.S. Gulf Coast and East Africa, British Columbia, and Russia. Gas production costs are lower than undeveloped fields in other plays. There are proved reserves. Oil is paying the bills for the North Slope infrastructure, and Alaska has a known political and legal structure.

He said Alaska's disadvantages are obvious: 800 miles of multibillion-dollar steel pipe across the Arctic, buried in permafrost, high construction costs, seasonal restrictions on construction, limited window for barge deliveries to the North Slope, and stronger environmental laws than most countries.

MR. PERSILY discussed LNG pricing. He said the grip of strict, oil-linked pricing is slipping, and there is pushback in Asia against that linkage. They are looking for price and delivery flexibility and perhaps a blend of oil linkage and gas market pricing. Japan and the European Union have the same problem and are meeting June 7 to discuss a joint study on LNG pricing and markets.

11:04:21 AM
MR. PERSILY highlighted the "what ifs" that matter. Will China get into the shale gas business? Will their demand for energy build or slow down? Will they decide that pipeline gas is cheaper? Will China and Russia come to agreement on a pipeline? Will China continue to want to clean up air quality and burn gas instead? Will Japan restart some or all of the 50 nuclear power plants that are still shut down? Will Europe develop shale gas and will their energy demand increase. Will Gazprom discount its gas to preserve market share? In China, India, Malaysia, the Philippines and elsewhere in Asia the government sets prices on natural gas. If the governments let prices rise to market level, will demand decline?

He concluded that Alaska can get into the LNG market and it can be competitive, but it has to compete on price with all the other suppliers going after the same buyers. He stressed that Alaska has to be realistic about its financial expectations for a project to succeed. He warned that it's necessary to judge an LNG project not just by the benefits of tax and royalty dollars, but by the benefits of having gas available to Alaskans and extending the life of the North Slope as both a gas and oil play.

11:07:47 AM

SENATOR FAIRCLOUGH referenced the time limit restrictions on export permits placed by the Department of Energy. She asked if Alaska's old export license is still usable.

MR. PERSILY said there was no time limit when the Yukon Pacific export application was granted 20 years ago. He offered his understanding that the license was for a specific project, and if someone wanted to build an onshore project now they'd need a new approval. He added that the good thing about Alaska is that it is completely separate from the Lower 48 and not part of that export debate. Thus, the application and approval process would be much cleaner.

11:09:43 AM
SENATOR DYSON asked if unconventional gas production has the profound production decline as tight sands.

MR. PERSILY replied there is a steep decline rate on shale gas wells, but there is plenty of known gas and Lower 48 drilling costs are relatively low. He cited Pennsylvania as an example.

SENATOR DYSON asked if it's still largely true that fertilizer plants can't compete on market price on gas.

MR. PERSILY said there is a resurgence of petrochemical manufacturing in the Lower 48, and an Egyptian company is building a large fertilizer plant in Iowa.

SENATOR DYSON asked if the experts think Southeast Asia will move away from coal.

MR. PERSILY replied the supporters of clean air hope that is the case.

11:12:28 AM
CO-CHAIR SADDLER asked him to amplify the warning that the benefits of LNG for Alaska may go beyond taxes and royalties.

MR. PERSILY said there is not as much profit in natural gas, but it's still possible to get some money and decades of affordable gas and help extend the life of the oil and gas industry. He noted that the administration is preparing to discuss fiscal terms with producers and the Department of Natural Resources put out a request for proposals (RFP) to assemble more information on royalty regimes worldwide. Alaska wants a fair share on tax and royalty, but it really needs the project.

CO-CHAIR SADDLER asked about the window for deciding on the best deal.

MR. PERSILY offered his view that the windows never close permanently. It's a matter of how soon you want it and how hard you want to work at it, he said.

11:15:17 AM
REPRESENTATIVE JOHNSON inquired about the world capacity of ship building.

MR. PERSILY opined that companies would have sufficient time to have tankers available when they are needed.

REPRESENTATIVE JOHNSON asked about the potential for liquefaction on board.

MR. PERSILY said that Shell has a contract with a South Korean shipyard to build a floating LNG facility. There is also some discussion of floating LNG in the U.S. Gulf Coast. In some cases it avoids the controversy of onshore facilities, and provides maneuverability.

REPRESENTATIVE JOHNSON clarified that he was referring to a self-propelled ship that has liquefaction capability, not a barge that needs to be towed. He asked if those were in the works.

MR. PERSILY said the floating LNG facilities he is aware of are not self-propelled, although they have bow thrusters. He added that there are LNG tankers that regasify the liquid on the ship then pipe the gas into the distribution system that's ashore. This avoids the expense of regasification facilities ashore.

11:19:08 AM
CO-CHAIR SADDLER offered his understanding of the Shell contract with South Korea.

MR. PERSILY clarified that the vessel would be towed and positioned over an offshore gas field where it would operate for as long as it's economical.

CHAIR GIESSEL thanked Mr. Persily and introduced Dan Sullivan and Joe Balash.

11:20:28 AM

DAN SULLIVAN, Commissioner, Department of Natural Resources (DNR), introduced himself.

JOE BALASH, Deputy Commissioner, Department of Natural Resources, introduced himself.

COMMISSIONER SULLIVAN thanked the committee for the opportunity to present information on commercializing Alaska LNG. He explained that the presentation would have three parts: an update on natural resource and energy issues since the end of the legislative session; discussion of LNG 17; and federal/state regulatory issues. He thanked the legislature for its productive accomplishments this last session, and complimented Mr. Persily for his work and close cooperation with the state.

He explained that last week the Oil and Gas Resource Evaluation and Exploration Proposal for the Arctic National Wildlife Refuge (ANWR) 1002 Area was presented in Washington, D.C. at a press conference. He noted it is a 200-page scientific, document that looks at an exploration proposal and highlights issues specific to Alaska. He termed it a modest proposal that seeks bipartisan support.

He highlighted the legislative component to this proposal. Governor Parnell, in a letter to Interior Secretary Jewell, pledged to request up to $50 million from the Alaska State Legislature to help fund the 3D seismic program for the 1002 Area.

11:25:52 AM
COMMISSIONER SULLIVAN said he and others posed the question, "Why wouldn't you want to know?" to federal officials in reference to the ANWR 1002 area.

He turned to information about recent activity in Cook Inlet. He spoke of a successful lease sale in May, and stressed that Cook Inlet is a useful, instructive model when considering the North Slope. He described the process, aggressive advocacy, and legislative work that led to the Cook Inlet renaissance. He said he sees this as a bridge to a big gas pipeline. He further noted that the legislature provided DNR with more tools to incentivize production, HB 129 and HB 198.

11:30:00 AM
COMMISSIONER SULLIVAN talked about the Interior Energy Plan, Alaska Industrial Development & Export Authority (AIDEA) financing, and shipping possibilities. He emphasized the ongoing

due diligence on potential sites and locations. He mentioned, in particular, the potential to access gas by extending the existing line south about 28 miles through the Department of Transportation's Chandalar Shelf.

11:32:31 AM
COMMISSIONER SULLIVAN turned to the 17th International Conference & Exhibition on LNG. He emphasized that the conference was an important chance to highlight Alaska. He displayed a picture of conference attendees.

He talked about a memo of understanding with the Department of Energy, and the keynote speaker's comments about continued cooperation and research funding on unconventional hydrocarbons and how to get them to market.

11:36:55 AM
COMMISSIONER SULLIVAN briefly reviewed the LNG 17 presentation he made at the conference, which included updates on the projects and the comparative advantages relative to the competition. He focused on the theme of government backing and support with regard to the Alaska Pipeline Project (APP) and the Alaska Gasline Development Corporation (AGDC). He emphasized that integrating efforts is key.

COMMISSIONER SULLIVAN mentioned the significant progress in producer alignment, the Point Thomson Settlement, timelines, concept selection, and Alaska's comparative advantages relative to the competition. He emphasized that only Alaska can say there is essentially zero resource risk.

He directed attention to a map that illustrates the comparative advantage of shipping from Alaska to Asia. It avoids the complications of the Panama Canal or other strategic choke points.

COMMISSIONER SULLIVAN briefly touched on regulatory permitting issues. He spoke of positive meetings with senior federal officials and the permitting advantages Alaska has. He talked about the interactions with the Department of Energy.

11:47:54 AM
COMMISSIONER SULLIVAN expressed cautious optimism that stakeholders, markets, and key players are beginning to align. If one of those entities is not aligned, it becomes more difficult. He voiced appreciation for the work during the most recent legislative session.

COMMISSIONER SULLIVAN concluded that the strategic vision/goal is two big lines full of North Slope oil and gas.

11:52:15 AM
CHAIR GIESSEL spoke of the need for exports in order to provide Alaskans with affordable energy. She said that's the goal that motivates most legislators.

SENATOR DYSON said he was disappointed to hear Cook Inlet described as just a bridge. He maintained that there is enough resource in that basin for many years. He inquired what happened to change the perception that Cook Inlet could be a long-term supply.

COMMISSIONER SULLIVAN clarified that he emphasized the bridge because he didn't want the good news in Cook Inlet to cause a loss of focus on a gas pipeline from the North Slope.

SENATOR DYSON asked how Alaska will know that the major producers on the North Slope are willing to sell gas. He gave an example of an Asian buyer, and wondered about assurance of the supply.

COMMISSIONER SULLIVAN replied that all players are included in the discussion in order to make North Slope gas cost effective. It should be cost competitive and able to compete on global markets.

11:59:06 AM
SENATOR DYSON restated the question. Before any project goes forward there has to be some point at which the producers have to say they will or will not sell the gas. He emphasized the required components are customers, a delivery system, and a willing seller.

MR. BALASH stated that there is a deeply held desire on the part of Alaska to see North Slope gas commercialized. The administration has called on the parties to meet the milestones and show Alaskans that they are serious. He said he is not aware of anyone who has a credible offer on the table, but he remains optimist.

SENATOR BISHOP requested a follow-up during lunch regarding a line extension through the Chandalar Shelf.

REPRESENTATIVE TARR asked about the second part of the proposal regarding the state's investment in the exploration of the 1002 Area.

COMMISSIONER SULLIVAN reiterated that the State of Alaska proposal is a detailed, scientific document. [In addition to the federal laws mentioned,] there is the opportunity additionally in federal law to put forward an exploration plan. He estimated that it would be a month or so before the plan would be ready.

REPRESENTATIVE SEATON said his interest is piqued by the pipeline extension south through the current corridor. He asked if DNR is looking at that as an option to get gas to Fairbanks.

COMMISSIONER SULLIVAN replied a whole range of options are being considered, most of which have complications and technical issues.

12:06:56 PM
CHAIR GIESSEL thanked the presenters and expressed appreciation for the department's creative approach.

She introduced Dave Roby and asked him to review the process AOGCC goes through to sell gas.

12:07:32 PM
DAVE ROBY, Senior Reservoir Engineer, Alaska Oil and Gas Conservation Commission (AOGCC), introduced himself and read the following into the record: [Original punctuation provided.]

> The AOGCC is a quasi-judicial regulatory agency that is tasked with overseeing certain aspects of oil and gas and geothermal activity on all lands within the State of Alaska. The AOGCC's authority includes issuing permits to drill wells and perform work on existing wells, regulating the injection of fluids for enhanced recovery, underground storage, and some waste disposal operations, and regulating operations to prevent waste and maximize ultimate recovery.
>
> That last part is what is of relevance to today's discussion. The AOGCC has a statutory obligation to ensure that oil and gas resources are not wasted and that total hydrocarbon recovery is maximized for fields and pools. I'm going to talk today a little about what the AOGCC has done in the past, is doing today, and will do in the future in regards to gas

offtake and ensuring we meet our mandate to prevent waste and increase ultimate recovery. I will focus on gas offtake from oil fields because by far the two largest known accumulations of conventional gas in the state, Prudhoe Bay and Point Thomson, are classified by the AOGCC as oil fields.

On June 1st, 1977, the AOGCC issued Conservation Order No. 145 establishing pool rules for the Prudhoe Oil Pool and set maximum offtake rates of 1.5 million barrels of oil per day and 2.7 billion cubic feet of gas per day, which was to cover the field's fuel gas needs and provide 2 BCFPD for gas sales that were expected to begin about 5 years after oil production commenced. Obviously, those initial plans changed. Over the years the pool rules for the Prudhoe Oil Pool have been amended several times, but the offtake rates have never been modified and are still in effect today.

About 8 years ago the AOGCC began to seriously look into whether the gas offtake rate for the Prudhoe Oil Pool should be revised. This ended up being a multi-year process that involved the AOGCC hiring a contractor to help us evaluate the reservoir model that the Prudhoe Bay working interest owners have developed and various gas sales scenarios that were run through the simulation model. In a nutshell we found that there is a large variation in the total hydrocarbon recovery between the various scenarios and some of the key factors are when the gas sales start, what the rate of gas sales are, and what is done to accelerate oil production prior to commencement of gas sales. On July 10th, 2007, the AOGCC issued a decision that no revision to the gas offtake rate was necessary at that time. A key conclusion from that decision was that there was "insufficient information on which to justify increasing the offtake rate above 2.7 bscfd, but [the Prudhoe Oil Pool Gas Offtake Study] concluded that an early, high rate gas sale could result in the loss of a substantial volume of hydrocarbons, but even greater volumes could be lost if gas sales are too delayed." The AOGCC still believes this conclusion to be valid and we don't believe there's any point in looking in to revising the offtake rate until a firm plan can be presented since there are so many

variables to consider when determining if a gas offtake plan is a good one or a bad one.

Additionally, it has been the AOGCC's position that any gas sales plan from Prudhoe, even one that called for gas offtake rates less than the 2.7 BCFPD currently "authorized" would require AOGCC review because the conditions and assumptions that the 2.7 BCFPD rate were based on are no longer valid. For example, the Prudhoe Oil Pool is now expected to produce around 14 billion barrels instead of the 9 billion that was originally expected, the reservoir pressure is now significantly lower than it was then, the gas composition has changed due to cycling gas through the reservoir, and the method of field development has changed from a waterflood to an enhanced oil recovery process using miscible gas injection.

There are actually numerous small sales of gas occurring on the North Slope that the AOGCC has authorized because either the rates involved are de minimis, this includes the "sale" of gas from the Colville River Unit to the village of Nuiqsut that was necessary to meet a contractual obligation to provide the village with free gas and sales of fuel gas from the Kuparuk River Unit to the Oooguruk and Nikaitchuq Units, or because it was expected that the sale from one field to another would allow for a net increase total hydrocarbon recovery, this includes gas shipped from Prudhoe Bay to the Kuparuk River and Northstar Units that is used for enhanced oil recovery purposes. In order to receive a gas offtake allowable an operator must make an application to the AOGCC and provide supporting documentation that shows that waste will be prevented and that ultimate recovery of hydrocarbons will be maximized. The AOGCC will then schedule a hearing on the matter and provide the opportunity for public comments and testimony. We will then review all the information available to us and make a decision on whether or not to grant a gas offtake allowable, and if so what rate to authorize.

The amount of time it would take the AOGCC to complete its review is dependent on many factors. Generally speaking, the larger the gas offtake volume requested and the larger the volume of hydrocarbons in the field

the more complex, in depth, and time consuming the AOGCC review process will be. The AOGCC's review process will also be impacted by the completeness and quality of the application received from the operator. In anticipation of someday receiving applications for very high gas offtake rates for the Prudhoe Bay and Point Thomson fields the AOGCC undertook reservoir studies of both fields so that we would have a better understanding of the impacts that major gas sales might have on those fields. The study of Prudhoe Bay was completed in 2007 and the Point Thomson study is ongoing but nearing completion. Both of these studies were multi-year projects, so completing them ahead of an application for a gas offtake allowable should allow for the AOGCC to act upon those applications much more quickly than would otherwise be possible.

12:14:21 PM
REPRESENTATIVE SADDLER asked if legislators and others should refrain from drawing any conclusions about potential offtake rates.

MR. ROBY replied the AOGCC's position is that the 2.7 bcf/day offtake is based on inaccurate assumptions that are no longer applicable.

12:15:33 PM
CHAIR GIESSEL asked how to equate tonnes versus mcf or bcf.

MR. ROBY suggested she ask Mr. Persily because he didn't know the conversion.

REPRESENTATIVE TARR asked if AOGCC would communicate with the Resources Committees when the Point Thomson reservoir study is complete.

MR. ROBY said that once the study is finished there will be a public information version made available. It will likely be introduced in a hearing in June. He didn't know if there would be direct communication with the legislature.

REPRESENTATIVE SADDLER asked for his thoughts or reactions, as the AOGCC reservoir engineer, about the seismic program that DNR is proposing for the 1002 Area.

MR. ROBY said his personal opinion is that it's a very good idea. His preference is for the plan to include 30-40 wells for exploration work.

12:18:18 PM
At ease from 12:18 p.m. to 12:36 p.m.

12:36:45 PM
CHAIR GIESSEL reconvened the meeting. She said the afternoon session would include presentations from the two pipeline projects and a discussion with a company that is interested in buying Alaska's LNG.

She welcomed Frank Richards and asked him to provide an update on the AGDC project and the effect of the new statutory authority.

12:37:38 PM
FRANK RICHARDS, Manager, Pipeline Engineering and Government Affairs, Alaska Gasline Development Corporation (AGDC) provided an outline of his presentation. He would discuss what AGDC has accomplished on its pipeline project since the end of the legislative session and the passage of HB 4; federal legislation by Senator Lisa Murkowski on a pipeline route through Denali National Park; and the latest information obtained through state-sponsored programs that will benefit the Alaska Stand Alone Gas Pipeline (ASAP) and all pipeline projects.

He said Governor Parnell signed HB 4 last week surrounded by legislators and the primary sponsors, Speaker Chenault and Representative Hawker. This momentous occasion granted AGDC the authority to advance the in-state natural gas pipeline project [also known as Alaska Stand Alone Pipeline (ASAP)] to provide natural gas energy to Alaskans to help with the high cost of heating and electrical generation. He said the project must be developed quickly, but it must be economic.

MR. RICHARDS discussed the key components of HB 4. It provides a new regulatory framework for contract carriers. This was an issue for the AGDC gas pipeline project and other potential natural gas pipelines. [Contract carrier status allows AGDC to enter into long-term contracts.] It provides the ability to enter into confidential agreements in commercial negotiations. It allows a new Regulatory Commission of Alaska (RCA) statutory regulation for contract carriers with a review of the initial recourse tariff, the prescient agreements, and the final recourse tariff as the project moves forward. It grants the

ability to work with potential partners to develop the ASAP ownership structure. The model to advance the project could range from a fully privatized company, to partial state ownership, to full state ownership. AGDC has the authority to determine what will result in a successful outcome. HB 4 establishes a new state corporation under the Alaska Department of Commerce, Community and Economic Development. The Alaska Housing Finance Corporation (AHFC) Board of Directors will serve as a transition board until the Governor appoints a new, seven member Board of Directors. There will be five public members and two cabinet members. The legislature identified the qualifications for the board members to include expertise in oil and gas, natural gas transmission, natural gas financing, large project development, and marketing, among others. The new board will also have the authority to hire a new executive director to guide AGDC.

MR. RICHARDS described the key components of the federal legislation by Senator Lisa Murkowski. S. 157: Denali National Park Improvement Act authorizes the Secretary of the Interior to issue a right-of-way for a natural gas pipeline through Denali National Park. This effort was initiated by ENSTAR for a natural gas pipeline from Prudhoe Bay to Cook Inlet. The National Park Service supports the legislation because it allows the construction of distribution and transmission pipelines for use by the Park. It is a clean energy source for heat, power, and transportation.

As currently envisioned, the pipeline would parallel the Parks Highway. That provides the opportunity to use an existing, cleared right-of-way. The existing bypass alignment cuts across the river and would potentially create an eyesore, making it a less desirable alternative. If S. 157 passes, AGDC will redesign the project to go through the Park.

MR. RICHARDS discussed the challenges associated with the legislation. Title 11 of the Alaska National Interest Lands Conservation Act (ANILCA) says that a project must apply for all federal authorizations and one time. These are generally acquired in a stair-step process so a hiccup in any authorization could essentially halt the project. The President of the United States is the only avenue for dispute resolution.

The legislation requires compliance with the National Environment Policy Act, and subjects the project to the terms and conditions that the Secretary of the Interior deems necessary. S. 157 passed out of the Committee on Energy and

Natural Resources, and passage from the Senate is expected. Representative Don Young is carrying a companion House bill.

12:46:55 PM
MR. RICHARDS described the funnel "stage gate approach" to the project. With the authority granted under HB 4 and the funding provided in the capital budgets, AGDC can advance to the next goal, which is an open season in late 2014 to 2015.

He described the work that is underway, starting with the preparations for the new AGDC organizational structure. This includes drafting the business and project execution plans along with the guiding policies and procedures. They have initiated commercial confidentiality agreements and most recently have been working to site the gas conditioning facility on the North Slope. This must be worked in concert with Prudhoe Bay operators so there is no interference between that site and any existing pipelines or facilities on the North Slope.

The major 2013 work activities include advancing to FEL-2 (Pre-FEED) facilities and pipeline engineering. AGDC is currently soliciting for a program management contractor and open season management contractor, and is beginning to look at construction planning and major logistics associated with the pipeline. Importantly, AGDC is working with the regulatory agency the Pipeline Hazardous Materials Safety Administration (PHMSA) for a special permit. The intent is to have 2013 summer/winter field programs.

12:52:01 PM
MR. RICHARDS described the 2013 field program. It includes 444 geotechnical boreholes from the Yukon River to Point MacKenzie. They are looking the Minto Flats area and areas along portions of the Parks Highway, all of which are south of Livengood to avoid duplication of effort. These are. AGDC completed a geotechnical borehole program in April to look at the Yukon River crossing. The findings show that the ground conditions are conducive to horizontal directional drilling under the river. The early concern that there might be a fault trace at the crossing was unsubstantiated, but caution is still warranted. Geohazard investigations are being done using DNR's Division of Geophysical and Geologic Surveys looking at known faults that will be bisected along the line. Work is being done to update the terrain unit mapping program from Prudhoe Bay to Point MacKenzie. Cultural resource surveys are being advanced and route surveys are being reviewed to ensure that pipeline placement is optimal.

He displayed a map to show the geotechnical boreholes starting with 24 at the Yukon River crossing. There have been no geotechnical surveys in the Minto Flats area and there is concern about areas that have land forms that may cause problems for the pipeline. He continued to describe plans for boreholes from Nenana to Rex and the Nenana Crossing near Healy. Boreholes initially were planned for the Denali Bypass, but some boreholes may be initiated through Denali National Park, depending on the federal legislation. Boreholes will also be conducted along the road and rail from the Parks Highway to Point MacKenzie and to the terminus at Willow.

MR. RICHARDS described what the Division of Geological and Geophysical Surveys (DGGS) is doing which will culminate with characterization, locations, and relative activity of geologic hazards. Maps and reports will evaluate potential effects of hazards to pipeline route feasibility, design, and construction.

12:57:09 PM
MR. RICHARDS displayed pictures of the Castle Mountain fault area, which runs through the Matanuska Valley and extends across the Susitna lowlands. Lidar images of this fault helped DGGS determine that the ground moves up to five meters in some places so mitigation efforts for the pipeline will be necessary.

He reviewed the ASAP schedule, which shows the sequence for AGDC moving forward. They are in the advanced engineering FEL Phase 2 and money will be available on July 1. Open season is now projected to be late 2014 or early 2015, and will include the RCA review of the initial recourse tariffs. If open season is successful and people are willing to commit to shipping, the project will enter FEL 3 stage leading to a project sanction in late 2015 or early 2016. At that point there will be an ownership model determination on how to proceed and meet the goals to provide gas at the lowest possible cost. This will lead into the execution phase and construction with first gas flowing in 2019.

He discussed FEL 2 and FEL 3 manpower projections. He directed attention to a bell curve showing what AGDC envisions it will in need and how spending will occur over the next three years. He noted that engineering will ramp up over the next year peaking at approximately 550 people, followed by a ramp down at the end of FEL 3. Depending on the success of the open season and the ownership model, this would potentially advance into the next stage of the project.

1:02:28 PM
REPRESENTATIVE SADDLER asked if open season and construction management companies are solicited in Alaska only.

MR. RICHARDS replied that it's open to all qualified firms that have the specific expertise.

REPRESENTATIVE SADDLER asked what kinds of companies do this and questioned whether the committee would recognize any names.

MR. RICHARDS stated that a Boston firm called Concentrics is helping with tariff modeling. He offered to follow up with information about other applicants. He added that they're looking for world-class expertise for program management, and there are firms in Alaska that have this capability.

REPRESENTATIVE TUCK asked if there is a backup plan if the federal Denali Park bill doesn't pass.

MR. RICHARDS replied the Denali bypass is in the final EIS and that is authorized.

CHAIR GIESSEL thanked Mr. Richards and commented on the new technology. She asked what kind of mitigation is available for crossing an earthquake fault.

MR. RICHARDS explained that the TAPS design was elevated and essentially on skids. The zigzag shape allows expansion capability through a curve both horizontally and longitudinally.

CHAIR GIESSEL asked if the same would be done for a buried gas pipeline.

MR. RICHARDS replied all available technologies will be considered, but it is unlikely that the line will be in a frozen trench in areas of fault crossings. In those areas the pipeline will probably be brought above ground and it may be encapsulated in gravels that would allow the pipe to move and shift without constraint.

1:06:20 PM
CHAIR GIESSEL introduced Steve Butt who would present information about the South Central LNG Working Group and its progress to date.

1:06:51 PM

She noted that Representative LeDoux joined the committees.

1:07:48 PM
STEVE BUTT, Project Manager, South Central LNG Working Group (SCLNG), ExxonMobil, stated he was representing BP, Conoco Phillips, ExxonMobil and TransCanada. This consortium has been working for about 18 months to figure out how to move the gas project forward. He said he would focus on updates.

He presented information related to the Alaska SCLNG project. He explained that about 300 people work on the project. They are building on the work that has been done over the last decade. He named the contractors.

MR. BUTT described the key issues of the concept work starting with the Integrated Basis of Design. The gas treatment plant (GTP) will be located on the North Slope, and the gas from Prudhoe Bay will be integrated with gas from Point Thomson. The pipeline size and routing options will cover more than 800 miles. The gas off-take capacity is sufficient to provide a secure Alaska fuel supply within the Interior. This mega project will require $45 to $60 billion in 2011 dollars. He explained that a mega-project has challenges simply because of its size. There are commercial and fiscal issues associated with the project as well as uncertainty related to permitting, timing, and securing equipment.

MR. BUTT said forward plans include planning for the 2013 summer field season, the use of the "phased/gated" to advance the project; and continuing cooperation to optimize the design.

1:18:02 PM
MR. BUTT displayed a video to show how to build a module and move it to a barge for transport. It is then moved to the location where it will be used. This is called "plug and play." He described the conceptual layout and location of the facility.

He discussed the project work at Point Thomson that will have a peak workforce of 1,500 people. The initial production system (IPS) project is in progress and startup is projected in 2016. He highlighted the hard work to integrate with Prudhoe Bay; it has about 75 percent of the gas for the project and two gas plants. He recognized some of the BP engineers in the room. He explained that a current challenge is how to leverage the CO_2 using existing injection systems as appropriate. He explained that there are other impurities that the gas treatment plant on the North Slope is designed to remove.

MR. BUTT described the gas pipeline and compression stations. It will move 3-3.5 bcf/gas/day. Each of the eight compressor stations are rated at 30kHP. He discussed the pipeline design to manage continuous and discontinuous permafrost regions, the compression process, and moving LNG to market. It is advantageous to make the LNG in Alaska because of the cold temperature, he said. This offsets some of the fundamental disadvantages.

MR. BUTT discussed the 2013 summer field work, which is ready to initiate in early June. He noted that about 70 percent of the work force is from Alaska. About 150 people have been hired to study the key elements of a pipeline, focusing on the section between Prudhoe Bay and Livengood that includes a challenging crossing over the Yukon River.

He reviewed the scope of the 2013 summer field season. The work will take place on 6,500 acres to look at 37 streams, 17 lakes, and 20 fisheries. Additionally, traditional knowledge, subsistence, and ethnographic surveys will be conducted.

MR. BUTT asked if there were questions.

REPRESENTATIVE SEATON asked what the red represents on slide 1.

MR. BUTT explained that those are areas that have been studied and are geotechnically appropriate to place an LNG plant.

CHAIR GIESSEL questioned whether the summer field work between Prudhoe Bay and Livengood would duplicate work that AGDC has already done.

MR. BUTT said AGDC is focusing its work south of Livengood this summer and the SCLNG project is focusing north of Livengood where it doesn't have data. There is no intent to have redundancy.

CHAIR GIESSEL asked if CO_2 could be used on the North Slope for enhanced oil recovery like it is in the Lower 48.

MR. BUTT explained that places in west Texas and Colorado use miscible flooding, but Prudhoe Bay isn't a candidate for that because of volumetric issues. It's more of a pressure support depletion mechanism. Additionally, CO_2 has a lot of energy and it should be used in the reservoir to benefit all the stakeholders in Prudhoe Bay.

1:37:42 PM
SENATOR BISHOP commented on how noteworthy it is to have 90 percent Alaska hire of the 1,200 people on the Point Thomson project.

MR. BUTT said the work went very well overall.

SENATOR BISHOP highlighted that ExxonMobil and Doyon are doing procedure testing at the pipeline training center, and over 40 students from rural Alaska are in training there. He also commented that he's often thought the 3,500 to 5,000 number for the main line spread is a little low.

MR. BUTT said it's a topic that's given a lot of attention. He explained that labor is moved to the places where it's easiest to do the work as smartly as possible. He emphasized that it presents problems to have too many people working too closely together.

CHAIR GIESSEL expressed appreciation for the substantial Alaska hire. She thanked Mr. Butt for the presentation.

CHAIR GIESSEL introduced Yutaka Nagashima and Mary Ann Pease.

1:42:53 PM
MARY ANN PEASE, Vice President and General Manager in Alaska, Resources Energy, Inc., introduced herself, Mr. Nagashima, and Mr. Fuhs.

1:43:45 PM
YUTAKA NAGASHIMA, Officer and Vice President, Resources Energy, Inc. (REI), discussed the key events that brought Japan to examine Alaska LNG. He explained that his company started the Feasibility Study after the Fukushima disaster in March 2011. REI was appointed to study and make recommendations about whether it made sense to build power plants in individual localities to augment existing supplies from utility companies. At the time of the disaster, Japan depended on nuclear power for 30-50 percent of its electrical needs. Because of both the nuclear power failure and natural growth of the economy, Japan is likely to fall short of meeting its electrical needs in the near future. Utility companies are working hard to make up the short fall, but they need to secure a long-term commitment with competitive pricing by LNG suppliers. He said that REI views Alaska LNG as the best source for Japan due to proximity and price competitiveness. He commented on the competition worldwide

and emphasized that timing is critical. He opined that this could be a symbolic national project to enhance the strategic alliance between the U.S. and Japan. He stated that REI is confident it can build an LNG plant in Alaska at tidewater and ship the gas to Japan. The expectation is to build 4-16 LNG propelled vessels to ship the gas. In conclusion, he asked the Alaska government to support securing the gas and building the pipeline to tidewater to supply the LNG plant that REI is planning to build.

MS. PEASE reviewed the history of REI's involvement in Alaska, starting with the 40 years of LNG shipments from the ConocoPhillips plant in Kenai. She said that REI started discussions with the Department of Energy, moved on to the Alaska Natural Gas Development Authority (ANGDA), and did a pre-investigation report, but the true work started with the cooperation agreement that was signed with DNR at the end of December 2012. Immediately thereafter, the team started an extensive Feasibility Study that focused on all aspects of the project, but the main focus was the LNG plant, terminal, and vessels to deliver LNG to Japan. The consortium of investment partners will be finalized in the next 30-90 days for this potential project.

She highlighted the objectives of the Feasibility Study. These are: to verify the feasibility and viability of the project for investors; to verify Alaska as a long-term, stable, and cost competitive source of LNG delivered to Japan; and to verify the benefits of a U.S. and Japan natural resources alliance.

MS. PEASE said that REI found that Valdez and Nikiski are the two most feasible sites for an LNG plant. She explained that Nikiski is a realistic alternative because of its proximity to the existing LNG plant and the fact that the AGDC pipeline comes toward Southcentral. Valdez is a probable alternative depending on the location of the main pipeline. She clarified that REI is interested in an investment in the eventual pipeline, but not being the lead. Their focus is acquiring gas supply and also ownership, operation, and competitive financing of the LNG plant. She described the two scenarios. For Valdez, the size of the LNG train will start at 5 million tons/year and increase over 5 years to 20 million tons/year. The latter represents about 2.7 bcf/day. For Nikiski, the size of the LNG train will start at 3.75 million tons/year, growing over 5-7 years to 15 million tons/year.

She emphasized that the project in Alaska is a win-win, because the investors in Japan are interested in conventional gas that can be available over a long period of time.

1:55:47 PM
PAUL FUHS, Lobbyist, Anchorage, Alaska, interjected that this potentially means a direct investment in gas field development in Alaska.

MS. PEASE described the three scenarios REI looked at for a gas supply: 1) acquisition to the rights of gas reserves; 2) farm-in to the owner's lease or purchasing owner's share; and 3) gas purchase and sales agreements with the owners at wellhead. She highlighted that the Japanese market is very interested in the Foothills project. To that end, REI has entered into a confidentiality agreement with Anadarko and is looking at investment opportunity in Foothills to see if that gas supply could work with this project. She noted that REI has met with all three gas producers, but has not signed any agreements.

She displayed a chart illustrating the 7-year trend of electrical generation in Japan before and after the Fukushima disaster. She emphasized the need to fill the gap that was created with the loss of nuclear generation.

1:58:11 PM
MS. PEASE reviewed the tariff assumptions for the Valdez and Nikiski LNG plant sites that the team in Japan is conveying to potential investors. The Valdez scenario of 20 million tons/year shows a total tariff of $7.31. The Nikiski scenario of 15 million tons/year shows a total tariff of $8.58. She noted that the costs are slightly higher for the Nikiski LNG plant and that there's an additional cost of pipeline interconnection from the end of the AGDC line to the potential site at Nikiski.

MR. FUHS added that while Nikiski isn't as efficient as Valdez, it is better than initially anticipated. The ships and trains are smaller but they're still feasible. Furthermore, the numbers that resulted in these tariffs are very consistent with the assumptions of the producer study that's been published. The estimate is about $45 billion.

2:01:52 PM
MS. PEASE discussed the timeline for the project and described 2020 as the dropping off point. She noted the Feasibility Study showed the price of LNG delivered to Japan at about $9-$10 per MMBTU. The construction maximum is 6 years and the permission

and regulatory is 3 years. She said that the thing that is different about this project is that the 20 million ton demand is standing at the front door, and Alaska benefits from this export component because it lowers the tariff for instate use. She said REI understands the 500 million cubic feet/day limit on the AGDC pipeline, but not how these projects align. She emphasized that following the timeline is important, because the opportunity for this consortium will have closed by 2025 due to investments in other projects around the world.

She summarized the next steps for the LNG project: discuss the Feasibility Study details with potential consortium members in Japan; solidify the financial participants to enable the FEED phase; clarify the pipeline alignment; and secure natural gas at upstream and wellhead locations. She highlighted that REI's key focus is a major ownership share in the LNG plant, but they welcome other investment into the project.

MS. PEASE named the main market constituents in Japan. They are electric utilities, city gas companies, municipal and private power sectors, and industrial users.

She concluded that Alaska is the optimal partner for Japan.

2:06:20 PM
MR. FUHS emphasized that REI is a very serious group that is making an honest and legitimate offer to Alaska. He noted that the timeline fits with AGDC and suggested that entity could partner with TransCanada under AGIA to get around the 500 mcf/day limitation.

2:09:20 PM
REPRESENTATIVE HAWKER offered his belief that the greatest challenge to get a project moving is to think that the legislature will micromanage a project into existence. He then asked if the tariff charts for Valdez and Nikiski are presented as comparable charts.

MS. PEASE said yes. She explained that the costs for the LNG plants account for the bulk of the difference. Marine conditions require dredging in Nikiski, but not Valdez.

REPRESENTATIVE HAWKER emphasized that the legislature should stay out of the way and let the market determine the proper locations, destinations, capacities, and other things.

MR. FUHS added that Representatives Hawker and Chenault said in Senate Finance they wanted to make sure that the legislature establishes a framework that can move a project forward.

2:12:07 PM
REPRESENTATIVE TARR asked when the legislature will learn more about the investment that will potentially be made.

MS. PEASE said it will probably be after the 30-90 day period when the large industrial users join the consortium. Under this model the industrial users will own a part of the value chain to have some control over the delivered price in Japan.

MR. FUHS added that it's also a new model that the Japanese government is looking at deregulating a lot of the electrical generation.

CHAIR GIESSEL commented that the delivered price of $9-$10 dollars seemed low and definitely wasn't linked to oil.

MS. PEASE said $10 isn't cheap, but it's delinked to oil and is definitely lower than today's spot market cargos.

CHAIR GIESSEL thanked the presenters, and asked Mr. Persily to make closing remarks.

2:15:32 PM
MR. PERSILY said he had three things to mention. First, he explained that one million metric tons of LNG is equivalent to 48.7 billion cubic feet of gas. Second, he suggested visiting the website arcticgas.gov to access the reports his office has prepared on all aspects of LNG projects. Any requests for new reports would be added to the list. Finally, he said that in full disclosure he wanted to mention that when Congress established the Office of the Federal Coordinator in 2004 it was given one statutory role, which is to assist in coordinating permits for a North Slope natural gas pipeline to bring gas to North American markets. Because that project isn't going anywhere due to shale gas production, Senator Begich and Senator Lisa Murkowski are looking at how to change that law so that when the time comes to work on permit coordination the office hopefully will have the statutory authority to do so.

CHAIR GIESSEL thanked Mr. Persily.

2:18:55 PM

There being no further business to come before the committees, Chair Giessel adjourned the joint meeting of the Senate Resources Standing Committee and House Resources Standing Committee at 2:18 p.m.