

ALASKA STATE LEGISLATURE
JOINT MEETING
SENATE RESOURCES STANDING COMMITTEE
HOUSE RESOURCES STANDING COMMITTEE
Anchorage Legislative Information Office

June 29, 2016

10:01 a.m.

MEMBERS PRESENT

SENATE RESOURCES

Senator Cathy Giessel, Chair
Senator Mia Costello, Vice Chair
Senator John Coghill - via teleconference
Senator Peter Micciche
Senator Bill Stoltze
Senator Bill Wielechowski

HOUSE RESOURCES

Representative Benjamin Nageak, Co-Chair
Representative David Talerico, Co-Chair
Representative Mike Hawker, Vice Chair - via teleconference
Representative Bob Herron
Representative Craig Johnson
Representative Kurt Olson
Representative Paul Seaton
Representative Andy Josephson
Representative Geran Tarr
Representative Mike Chenault

MEMBERS ABSENT

SENATE RESOURCES

Senator Bert Stedman

HOUSE RESOURCES

All members present

OTHER LEGISLATORS PRESENT

Senator Mike Dunleavy
Senator Anna MacKinnon

Representative David Guttenberg
Representative Dan Saddler
Representative Charisse Millett

COMMITTEE CALENDAR

AKLNG PROJECT UPDATE

- HEARD

PREVIOUS COMMITTEE ACTION

No previous action to record

WITNESS REGISTER

STEVE BUTT, Project Manager
Alaska LNG, LLC (AKLNG)
Anchorage, Alaska

POSITION STATEMENT: Provided updates on the Alaska LNG Project.

KEVIN MEYER, President
Alaska Gasline Development Corporation (AGDC)
Anchorage, Alaska

POSITION STATEMENT: Provided updates on the Alaska LNG Project.

DAVID VAN TUYL, Alaska Regional Manager
BP
Anchorage, Alaska

POSITION STATEMENT: Commented on the Alaska LNG Project.

DARREN MEZMARICH, Project Integration Manager
Alaska North Slope (ANS) Gas
ConocoPhillips
Anchorage, Alaska

POSITION STATEMENT: Commented on the Alaska LNG Project.

BILL McMAHON, Senior Commercial Advisor
ExxonMobil
Anchorage, Alaska

POSITION STATEMENT: Commented on the Alaska LNG Project.

ACTION NARRATIVE

[10:01:21 AM](#)

CO-CHAIR CATHY GIESSEL called the joint meeting of the Senate and House Resources Standing Committees to order at 10:01 a.m. Present at the call to order were Senators Wielechowski, Coghill, Costello, Stoltze, Micciche, Co-Chair Giessel, and Representatives Tarr, Olson, Josephson, Johnson, Herron, Tilton Seaton, Chenault, Co-Chair Nageak, and Co-Chair Talerico. Representative Hawker joined the meeting by teleconference.

Senators MacKinnon and Dunleavy were also present, as were Representatives Guttenberg, Saddler, Millett and Hawker (via teleconference).

AKLNG UPDATE

10:04:00 AM

CO-CHAIR GIESSEL announced that the only order of business would be an update on Alaska liquefied natural gas (LNG). She said the last public update was in September in Palmer, Alaska, with over 80 people listening online.

CO-CHAIR NAGEAK introduced the members of the House.

CO-CHAIR GIESSEL said this meeting is to learn the status of the Alaska LNG (AKLNG) integrated project, which is described in Senate Bill 138 passed [by the Alaska State Legislature] in 2014. The project will convey natural gas from the North Slope for residents of Alaska and for selling in the world market. She stated that the Alaska Constitution requires the state to make its resources available for maximum use consistent with the public interest and for the legislature to provide for the utilization, development, and conservation of natural resources for the maximum benefit of its people. She noted that documents from the meeting and a project summary written by Larry Persily, former federal pipeline coordinator, are available on the legislative website, BASIS, at akleg.gov under "daily schedule."

AKLNG PROJECT MANAGER

10:06:13 AM

STEVE BUTT, Project Manager, Alaska LNG LLC, Anchorage, noted that the Alaska LNG (AKLNG) project is tied to SB 138. The work he is presenting is on behalf of the 100-person integrated project team, and he will show what progress they have made since January. He said the AKLNG team has been able to cut costs and progress key deliverables around regulatory and design issues, and he will show what the team and the "hundreds of contractors" have done. He turned to page 2 of his presentation

and said most folks understand the project really well, but he explained that the LNG project is intended to be an integrated natural gas project to provide gas for export and for Alaskans, using the economies of scale. It will connect to major source fields, Prudhoe Bay and Point Thompson, on the North Slope and will have significant infrastructure, primarily a gas treatment plant, a pipeline, and a liquefaction facility. This project is unique because it is the first time that the four fundamental parties who own the gas rights on the North Slope are working together. The producers purchased the right to produce the gas in the late 1960s, but the state owns the gas in the ground and has title to the royalty upon its production, he explained. He said that the four parties have been working together under SB 138; therefore, the project has a chance to have little value leakage and few commercial transactions with other parties.

MR. BUTT added that this project will provide about 2.4 billion cubic feet (BCF) per day of gas for export, which is ten times the amount of gas that the State of Alaska uses, and it equals the amount of gas that Canada or Germany use. Alaska uses about 250 million cubic feet (MCF) a day, but the system has capacity for about 500 MCF a day for instate use.

[10:10:13 AM](#)

MR. BUTT stated that as Alaska grows, that capacity is built into the AKLNG system. He added that the system has some great advantages: it is close to the market; there is economy of scale; and Alaska's cold environment makes gas plants more efficient, so AKLNG productivity will peak when market demand peaks, which is a great advantage over projects in the southern hemisphere. Those advantages are offset by some real challenges, including the amount of CO₂ that will be handled. The pipeline will be longer than any other LNG project pipeline, he added, and another challenge is that the gas is very lean, which is a mixed blessing. Prudhoe Bay [operators] have used the gas that they have produced, about 7-9 BCF per day, by reinjecting it to extend oil production. The gas has been taken out of the ground and put back in the ground more than three times, and the liquids have already been removed and sold for the benefit of the parties, he explained. Alaska LNG has a leaner stream that has to handle a lot of CO₂, and that creates some challenges.

[10:12:22 AM](#)

MR. BUTT said AKLNG personnel feel good about the project's safety culture. There have been no recordable incidents this year, none in 2015, and one in 2014, and being safe underpins everything his team does. He said AKLNG spent \$460 million

through the end of May and another \$107 million on the concept design. The concept [stage] is "What do we want to build? How's that going to look?" Pre-FEED [Preliminary Front End Engineering Design] is where the team gets more detailed and specific in the design work, and then it moves into other phases in the gated process. By the time the Pre-FEED deliverables are completed in the fourth quarter, an excess of \$500 million will be spent, so the expenditures will be over \$600 million.

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MR. BUTT said the design work is about 91 percent complete. He said, "We have what are called Pre-FEED deliverables, which are the agreements that we said needed to be defined to understand what would be required to build a project this large," he stated. There are 82 Pre-FEED deliverables, which are documents regarding "how would you build this, how you would handle the logistics, how would you operate this, how would you handle people." For all of the critical questions, there are 82 deliverables, and each deliverable is a large document, and 65 of them are complete and about 91 percent of the engineering work underneath those deliverables is complete. He said there is more work in finishing the cost and schedule estimates.

[10:15:20 AM](#)

MR. BUTT said an important milestone was hit when the integrated project design was finished and it was determined that the project can be run at a global efficiency standard, which is about 95 percent. That is really important, he said, because the system is so large and complex with hundreds of pieces of equipment that all have to be maintained in different cycles. Over a 30-year period, it is important that maintenance cycles and all the work will never be in conflict. The whole system works as a chain, and if any piece does not work, the system does not work, he noted. So every element has to be understood, down to each individual pump, regarding when and how long it will be down for maintenance. He stated that the project is avoiding waking up one day and finding out a compressor station somewhere in the pipeline needs to come down, and it holds up operations. "What we do is we find out ways to match all that up," he explained. In September he had talked about the milestone where the team was able to balance the entire system with three gas treatment trains and three LNG trains, so the system can be worked on in a "very balanced manner." That work has evolved in confirming that the system can run at least 95 percent of the time, he added. That is extremely important in the LNG business, because LNG buyers put their economy in the hands of the sellers, he said, and if they don't get energy

reliably, their lights go out. "We've been able to confirm that we can design a system here in Alaska to export LNG and provide gas to Alaskans in an extremely reliable manner, and that's a recent breakthrough that we've accomplished since January," he said.

[10:17:11 AM](#)

MR. BUTT said the pipeline design is completed. In January, work was still being finished and there was a question where he had been asked by one of the joint venture participants to revisit the size and make sure it was appropriate for the concerns of all parties. It is an important example of how the participants can work together, he added, because they all have to share in each other's concerns and address them efficiently. One of the participants wanted to know if the pipeline was the right size, so the team dedicated about \$22 million and about five months of work to revisit the hydraulics and sizing, "and we confirmed the 42-inch basis as the most efficient," because it lowers the cost, provides the capacity, and it provides for expandability.

[10:18:18 AM](#)

MR. BUTT said the team is trying to finish all of the field work for the resource reports, which are part of the FERC [Federal Energy Regulatory Commission] environmental impact statement process. It is a pre-filing process, and the "Draft 1s" or "pencil versions" were filed in 2015. The project will now file the "pen versions," which are much more detailed, he said. The FERC resource reports, numbers 1 and 10, have been filed and are available on the FERC website, he said, and they are great reading. Reports 2-9, 11, and 13 need to be finished, and he expects they will be done in July or August.

MR. BUTT said it is important to remember that the project needs to compete with all other LNG projects; buyers only want the utility value of gas. Competitiveness is measured by the "cost of supply," where the capital and operating expenses of delivering LNG to a buyer is divided by the amount of LNG. That is the way the market judges the project's competitiveness, he said. He reiterated that, as the lead party in the joint venture agreement, it has committed to complete all 82 deliverables. The final 17 are under a schedule to be completed between now and the first of September, "so we think by September we should have that work done, including all the cost and schedule estimates."

[10:21:02 AM](#)

MR. BUTT explained that the pipeline is only about 25 percent of the cost, the LNG plant is about 50 percent, and the gas

treatment plant is 25 percent. The most critical message is cost of supply, he said. "If we can't be competitive, if you can't make money on every molecule of LNG we sell or every dollar per million BTUs, if you're losing money on a unit-cost basis, one of the old economic maxims is: if you lose money on a unit cost-basis, don't make up for it on volume." The project is very large, so it has to be effective and competitive, "and that's our critical challenge." It is complicated by the change in the market from two years ago when LNG was selling at double the price of today. He said the project has made tremendous progress on costs, driving them to the lower end of the team's \$45 billion to \$65 billion range; however, "we haven't cut it in half, so competitively, we have some real challenges ahead of us," and that is what AKLNG is focused on.

[10:22:34 AM](#)

MR. BUTT said the questions are if the risk can be driven low enough that the return is commensurate with that risk and if costs can get low enough to be competitive. He noted that \$600 million has been spent to date through Pre-FEED, but "we have to remember" that FEED exceeds \$1 billion and the project will be well in excess of \$40 billion.

CO-CHAIR GIESSEL recognized Representatives Guttenberg, Saddler, and Tuck.

MR. BUTT explained that the LNG plant is now dramatically different from what it was in the concept phase. The team has modified the liquefaction technology and advanced a system design that will be very effective. He pointed to a photo in the upper right [of page 4 of his presentation], which shows exactly how the plant will be built. However, the image does not do justice to the work that his team has done. Referring to the two LNG tanks, he said they were seven times larger than the existing tanks in Nikiski, Alaska. Two Boeing 787s would fit into each tank, he said, and that shows how enormous the plant will be. "It's a world-scale 20-MTA plant, and that economy of scale is really important, because that's one of the things that drives efficiency in the LNG business," he stated. "The first molecule we create is, by far, the most expensive; it has to pay for all the infrastructure to get it there." The last molecule is the cheapest, he added.

[10:25:24 AM](#)

MR. BUTT said the team has done a tremendous job driving out costs. The bottom left of page 4 lists the things that have really driven costs out of the system, he noted. It includes

different ways to use power systems, and each "module" gets put together like Legos. He pointed to a color-coded picture of when each system would be built and said the design allows the project to start manufacturing LNG with just a portion of the plant built. He said it is called simultaneous operations, which means that the project can generate revenue as early as possible to help the project be competitive. He referred to the marine design in Cook Inlet and said, "We all know the Cook Inlet is a very challenging body of water to work." It has some of the largest tidal changes in the world, and the tides are strong, he noted. Also, there are important "species characteristics," and it has all been considered in the design, including a jetty and trestle system that he is confident will work effectively. It is positioned outside of critical habitat areas, he stated.

[10:26:54 AM](#)

MR. BUTT said the team has also done extensive geotechnical work. These plants are very heavy, weighing 250,000 tons, and it needs to be determined that the ground will not move under that weight. The LNG tanks are incredibly heavy when full, and after tens of millions of dollars' worth of analysis, it was found that the soils are excellent. "We feel really good about the design work we've done and the way we've been able to position that site so that it can be successful," he stated. He added that there has been sea floor mapping for tens of thousands of acres. Boreholes were drilled to sample the earth, and AKLNG feels very good about its ability to build the facility at that site. As to the pipeline, a big achievement was getting closure on the pipeline size. Being 42 inches lowers execution risk, he said, because it needs a narrower and shallower trench. Less trucks are needed, because one truck can carry only two 48-inch joints of pipe, but it can carry three 42-inch pipes, and all that translates to hundreds of millions of dollars saved. The most impressive work has been finishing all of the material testing on the 42-inch system, he said, and it has been done in conjunction with the regulators. It has confirmed that AKLNG needs 300 miles less of "strained-based design," which is much heavier pipe to handle loads where the ground might move. He explained that between the Brooks Range and the Alaska Range the ground moves from the changes in temperatures, and strain-based pipe can handle that. Through a lot of great work with FERC and PHMSA (Pipeline and Hazardous Materials Safety Administration), which is the federal regulator of the pipeline, AKLNG has been able to change the amount of strain-based pipe it needs and come up with a model that satisfies all of the regulators.

[10:29:17 AM](#)

MR. BUTT said AKLNG has also extended that into the execution phase, and he showed a map with potential compressor locations. As AKLNG understands the system better, it is able to remove redundancy, he said. It is important to handle the compression properly and to keep the gas and the soils around the pipe at a constant temperature so the pipe never moves. The [Trans Alaska Pipeline] is 65 percent above ground, and about 60 to 65 percent of the AKLNG will be below ground, he noted. The route is confirmed and "we know exactly where each of the pieces would work." The sea floor modeling is finished, so the AKLNG pipeline team knows the best way to cross the inlet [shown on page 5] but still needs to work on optimization of the construction and the compressor station—"we think we'll get done."

10:31:57 AM

MR. BUTT stated that the gas treatment plant is always one of most important and complex elements of the system. All engineers know what a strange gas CO₂ is; it behaves differently than most fluids. When CO₂ is under pressure, it becomes a liquid. It can freeze at minus 50 degrees Fahrenheit. It is difficult to handle as a fluid, it is a greenhouse gas, and it has no hydrocarbon value. Removing the CO₂ is important, and Prudhoe Bay has 11.5 to 12 percent CO₂, one of the highest levels in world. He said that there is only one LNG plant operating with anywhere near that level of CO₂, and it is in Western Australia. The CO₂ should not be vented even though some other projects have done so. The amount from this project would be enormous: 450 million cubic feet a day of just CO₂, twice the amount of gas the entire state uses, or trillions of cans of Coca-Cola every day. "The amount of CO₂ is staggering," he emphasized, so to manage that has always been an important challenge. The gas treatment plant team has made tremendous progress; they have worked very closely with the Prudhoe Bay operator to confirm that the site works and it can be connected to the existing infrastructure.

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MR. BUTT showed a photo of the plant on page 6. The work required a high level of integration with Prudhoe Bay people, he said, and they have been excellent to work with. He stated that "they've helped us really understand what would happen to that CO₂ when it's put back in the ground at Prudhoe Bay, which is a huge challenge, and it's been a huge success for this team to figure out how to handle this much CO₂." Each year, when there are ice-free lanes, some section of the plant would be brought in, he explained. The first year, everything colored blue on his diagram, like the modules for process equipment, utilities, and the flare, would be brought in. In the second year, "we'd bring

in the first train to treat the gas, and we'd be able to begin filling the pipeline with just that first train." He said that the beauty of this system is that AKLNG may be able to operate three LNG trains with two GTP [gas treatment plant] trains in the early days when CO2 levels are lower, which helps the project be more competitive. "So that what you build on the North Slope is aligned and completely balanced with what's built in the Cook Inlet," he added. There is work ahead on optimizing the size and design of the gas treatment plant. The Pre-FEED basis is much larger (as shown on page 6) than the current one, and about 40,000 tons of equipment were cut out.

[10:37:09 AM](#)

MR. BUTT said that is a huge breakthrough. The plant dwarfs any existing facility on the North Slope, and the vessels to remove the CO2 from the gas are 105-foot tall. "So, we worked through all of those challenges, and we figured out ways to do that with machinery and electrical optimizations to really keep our costs down," he stated. It is a very complex system with about 700 miles of pipe and cable inside the plant.

[10:38:10 AM](#)

SENATOR MICCICHE said there is more crossover between typical Pre-FEED and early FEED, and he asked what the advantage was.

MR. BUTT replied that normal Pre-FEED can be less detailed, but AKLNG had to go deeper in order to inform the resource reports for FERC. Once the commitments are made to FERC, AKLNG did not want to move the gas treatment plant. "We wouldn't want to be uncertain in our ability to reinject all of the CO2 in Prudhoe Bay, because that is a dramatically different environmental impact," he explained.

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SENATOR COSTELLO asked what was learned by studying the 48-inch line and if it delayed the Pre-FEED timeline.

MR. BUTT answered that the pipeline team spent four or five months on the hydraulics, which cost \$42 million, and "we're always learning." The challenge was to keep that team on track with all of the other teams, he added. The team is catching up, but it did a tremendous job – all during the transition with TransCanada, which entailed personnel changes.

[10:40:52 AM](#)

CO-CHAIR GIESSEL asked if the Alaska Oil and Gas Conservation Commission (AOGCC) had to authorize reinjecting the CO2 and if it did so in October.

MR. BUTT said yes, and it was a real milestone. There was excellent support from the AOGCC, he added.

CO-CHAIR NAGEAK remarked that with regard to optimizing resources, there is some land and resources to the west of where the project will be, and he wants to make sure people in that area will have the opportunity to work with this project "and other things in the future."

[10:42:53 AM](#)

MR. BUTT thanked the Native corporations, villages, and communities for all the support. The project team has had some great conversation with the people of Ahtna [Inc.], and "their ideas were better than ours."

[10:43:50 AM](#)

MR. BUTT said that each of the elements of the project have been done "somewhere," but no entity has done something of this scale altogether. There is a gas plant in the Middle East that is almost as big, but there is no processing plant of this scope on the North Slope. There are 800 miles of pipelines elsewhere, but this 42-inch pipeline is unique because it is thicker and heavier than any other pipeline. Pipelines vary in thickness because of the fluid and the pressure that is handled. This pipe will hold gas at 2,100 PSI [pound-force per square inch].

MR. BUTT noted that there was hundreds of skilled laborers available, but the company needs thousands. Peak load—the construction phase—will have a workforce of up to 12,000, he said. If the number of trucks loaded with the needed pipe were strung end-to-end, it would stretch from Anchorage to Los Angeles, he explained, and the project will need about 190,000 gallons of fuel.

[10:47:21 AM](#)

MR. BUTT said the fabrication costs have been driven down by 40-45 percent. Referring to page 8 of his presentation, he said scheduling includes contingency analysis and schedule reserve review. The "critical path" is made up of those activities that cannot be recovered if they "slip." In this project, the critical path is the regulatory work. Anything built to export LNG becomes a "connected action to FERC." He said that anything used to source gas to the facility is under a similar

environment review process to meet the standard of "least environmentally damaging practicable alternative."

10:49:58 AM

MR. BUTT explained that on the schedule diagram, the critical path is colored red. Somewhere at the end of 2016 there will be a decision on whether to go to the next stage, because once the draft 1 resource reports are filed, draft 2 reports are filed, and then the application is filed. The FERC will then have a public process to confirm that the environmental impact is smaller than the potential socio-economic benefits. There will be a decision in 2016/2017 that goes back to the applicants—the parent companies—who will decide whether that FERC document should be filed, he said. In the middle of page 8, "you can see we'll kind of get to the end of 2016 with our Pre-FEED work." He is confident that the deliverables will be done in September, draft resource reports will be done in July and August, and the work scope under the existing work program and budget will be completed in 2016.

10:51:24 AM

MR. BUTT said there will then have to be a conversation on what the regulatory uncertainty looks like and what happens next. A project of this magnitude takes about a year to get ready to do FEED, reestablish all of the people involved, get the basis of the contracting done, and find out from the contractors how much money they need to do the work. Between Pre-FEED and FEED the project goes from "process flow diagrams" to very detailed drawings, which will then go into ATC (Authorized To Construction) drawings. Then there will be a final investment decision—and then the initiation of execution.

10:53:28 AM

MR. BUTT said execution will take four to five years, because the gas treatment plant needs to get the modules through the sea lane to the North Slope. Once the gas is available, the pipe should be ready and at least one LNG train should be ready to liquefy it for export. He said start-up takes up to a year, but getting things going is harder than keeping them running.

10:55:05 AM

SENATOR COSTELLO asked about the status of a labor study and specific jobs Alaskans can prepare for. She asked if there are labor strategies that the partners are looking at.

MR. BUTT said AKLNG has had conversations with the commissioner of [Alaska Department of Labor and Workforce Development] on

"capability building." He wants to make sure that Alaskans have the jobs with long-term operations impacts; "training people to run welding machines on a project that has a three-year lifespan is not as powerful as training people who can run that machine for 30 years." A big concern is that crafts skills like welders, electricians, and pipefitters are difficult to source. They also need skills with heavy equipment and trucking and people to feed and house staff. There is direct labor (welder for example) and indirect labor (a person who supports that welder), and there is at least a one-to-one ratio of those types. He spoke of the cooks and the hundreds of pounds of eggs and other consumables. Working with the commissioner, he said, he would like to "differentiate those jobs, build capability for the long-term jobs here in Alaska, look for the right ways to source craft labor, and then use other places to fill the rest."

SENATOR COSTELLO asked about the report.

MR. BUTT replied that the labor study is complete, but the resource report on labor is not done, but it will be given to FERC who makes it public.

[10:58:33 AM](#)

MR. BUTT said AKLNG is finishing Phase 2 of the archaeology and culture resource work. Archaeologists report discoveries to the state historical preservation office, and the project is rerouted. The work should be done by late August, he stated. The contractors provide good support, and ACOM got the global safety award from their corporation. He said there is a team working in the AKLNG office on resource reports 2-9, which includes the labor information. Also, the company is doing "stakeholder input," which means going out to the communities and asking what Alaskans think of the project. There have been excellent interactions and consultations with the Native regional and village corporations and good turnout at the meetings. There are questions and skepticism as to providing jobs. "We respect that," he stated, "and we give them the information we've got and always try to be as clear as we can." He pointed to photos on page 10 of his presentation and said this process is through FERC, and they do a great job.

[11:01:07 AM](#)

SENATOR DUNLEAVY asked, "Are we are still on target for the Pre-FEED wrap-up and the FEED decision?"

MR. BUTT answered that Pre-FEED deliverables will be done in September, and the Pre-FEED joint agreement expires in June

2017. As the lead party, [his team] will put forward a work program and budget in 2017, and if the parties decide not to support it, the existing budget expires at the end of 2016.

SENATOR MICCICHE said the road realignment is in his district, and the community is concerned since it is the artery of transportation on the Spur Highway. "If there is a delay in the project, does the road remain a priority issue for the community to consider?"

MR. BUTT said, yes, the Kenai Spur Highway and a potential reroute is one of the most critical elements of the LNG plant design. Defining the reroute needs to be a public process, and that cannot happen until the design work for each alternative is complete. The team is spending about \$1 million to look at all options for each aspect of the work, and AKLNG wants to do it in conjunction with the Alaska Department of Transportation, who has been helpful and thoroughly involved. When AKLNG decides what is best, it will go to the community, he said.

11:04:04 AM

CO-CHAIR GIESSEL noted that AKLNG is purchasing land for the LNG plant. She asked about the status of the purchase and the response from the community.

MR. BUTT replied that the "project" works with the AKLNG LLC. "The land that gets purchased and is targeted is worked through the project, but the project doesn't buy the land. The limited liability company buys the land and owns the land." He explained that the company was open to all four JVA (Joint Venture Agreement) participants, but, at the time, only three were ready to join, and it was critical to obtain the DOE [U.S. Department of Energy] export authorization. The DOE authorization needs three things: access to the supply, technical capability to execute the project, and a physical place to do the work. There was a time, he said, when the DOE was inundated with people requesting export authorization who had no gas, experience, or physical resources. To be successful, AKLNG made sure it had the land, and it received export authorization in record time. "But the land is owned by the LLC; we have well in excess of 600 acres." The number one principle when buying land is to be fair and durable and use no coercion. For the most part, the community is supportive, he said.

CO-CHAIR GIESSEL asked if the State of Alaska is one of the entities that owns the land.

MR. BUTT said no.

REPRESENTATIVE HAWKER asked if Mr. Butt said that the sponsor companies have been in charge of FERC and DOE compliance and applications. He asked how much the state has been involved and if Alaska is a party to the reports and processes.

MR. BUTT said it was great to hear his voice, and "my heart's there with you." The state is one of the six applicants under the FERC docket, which are the four JVA participants, the Department of Natural Resources (DNR), and the Department of Revenue (DOR). Applicants change all the time, but the existing structure is those six applicants.

[11:09:08 AM](#)

REPRESENTATIVE HAWKER asked if the state is fully participatory with the compliance work.

MR. BUTT said yes, state representatives are always present when meeting with DOE and FERC. They are always in the room when the project reviews resource reports, he added. They are very much part of the process. He referred to page 11 of his presentation and stressed the importance of discipline for such a big project; "don't make mistakes when you're spending a lot of money." He said the project spent about \$30 million per year in the concept phase and will spend about \$30 million a day in the execution phase.

[11:11:55 AM](#)

MR. BUTT said misalignment can burn through money, but the project is in Pre-FEED now, and there are five requirements for a FEED decision. The first is a viable technical option, and in 2011 there was a lot of uncertainty on the ability to execute the project, especially with regards to the high CO2 content, the length of the gasline, and the construction of the LNG plant. "Our certainty and comfort with technical challenges and viability is much higher," he stated. Getting key commercial agreements is the second requirement, and that remains a real challenge. The third requirement, government support, is still an open issue. He said the fourth requirement is permitting, and some companies have spent billions of dollars in the hopes of getting a permit but have none. The fifth is commercial viability, and this is the most important. "Can you get cost of supply low enough that on a daily basis you can beat your competition?"

[11:15:11 AM](#)

MR. BUTT summarized and said there is a great team, but it always comes down to alignment, risk, and cost.

[11:16:34 AM](#)

SENATOR DUNLEAVY said the legislature will be the ones to appropriate funds. He asked his confidence that this project will move forward.

MR. BUTT answered that, at the right time, the known resource on the North Slope will be developed, but the market has gone down by 50 to 60 percent. "It's a really heavy lift," especially with the uncertainties in the regulatory environment, and today might not be the day to pursue this project.

[11:18:16 AM](#)

SENATOR DUNLEAVY asked if this will move forward.

MR. BUTT said he doesn't know what he doesn't know. Under the JVA there is a Pre-FEED notice, and at the end of the completion of the deliverables, all parties have 120 days (after September) to decide if they want to move forward. "I don't know what all the parties will do."

[11:19:17 AM](#)

REPRESENTATIVE TARR noted that the legislature funded the 2016 work plan, and she asked about the 2017 work plan.

MR. BUTT answered that all four participants have funded the 2016 work program and budget. What happens in 2017 is not going to be known until November, because the work program and budget will be filed with the participants on October 1. This July 1, the project will put out a draft budget. All the parties look at the draft and discuss it, and then there will be a final budget in October.

REPRESENTATIVE SADDLER asked if potential changes of ownership and structure caused Mr. Butt to "pull any punches or not do work you should have done," and what the shelf life is of work done to date.

[11:21:06 AM](#)

MR. BUTT said some products have a very long shelf life, like the geotechnical work. The resource reports on socio-economic benefits and community impacts have very short shelf lives. Regarding project structure changes, he said he does not think he pulled any punches. There is a lot of uncertainty ahead. All of the parties have options, he said.

REPRESENTATIVE HERRON said there will be pieces of Pre-FEED that will have a short shelf life, and Mr. Butt had testified at another time that the shelf life would be about one year. He asked for a couple of examples.

MR. BUTT said the best example of short shelf life deliverables are the community impacts, because communities change. Soils don't change, he explained.

[11:24:17 AM](#)

REPRESENTATIVE CHENAULT said he represents a community that will be vastly affected by this project. One issue is rerouting the current road around the facility, and numerous people are concerned about where that is on the schedule.

MR. BUTT answered that the team is doing one million dollars' worth of design work. There are eight different ways to move the highway, and each has different impacts. He wants to do all the analyses in conjunction with FERC in order to not "get in front of our headlights on where the road would be," so that will be done at the end of the year at the earliest.

REPRESENTATIVE SEATON asked if having commercial agreements and commercial viability are requirements needed for the project decision, or do individual partners [make that determination].

MR. BUTT answered that those items are owned by the parent companies and the applicants. The project team facilitates work to support that, but that analysis really belongs to the individuals, and each must decide if the risk and return makes sense. It is the same as the commercial agreements, he added, because they are about making sure that risk and return are allocated in a manner that the parties consider equitable.

REPRESENTATIVE SEATON said there has not been resolution on the upstream work within Pt. Thomson. Are those questions that the state should address to the individual partners?

MR. BUTT said yes.

CO-CHAIR GIESSEL said people on her committee have talked to Mr. Butt often, but the public may be getting more interested in this projects, so she asked him to explain his experience in managing projects of this magnitude.

[11:29:48 AM](#)

MR. BUTT answered that this is the first project of this scope that he has ever managed, and there are no other projects of this scope. He related that he has been with ExxonMobil for over 30 years and has been involved in projects in multiple countries. In Venezuela, he was involved in building a long pipeline and a big treatment plant, and in Angola and Equatorial Guinea, he was involved in large offshore processing facilities. In Qatar, he was involved in the startup of the world's currently largest gas treating plant. He listed others.

CO-CHAIR GIESSEL noted that he oversees the current project team, who are specialists. Is anyone from AGDC a lead on any of those teams?

MR. BUTT said, not at this time, but AGDC had the opportunity to staff team members. In May or June of 2014, "we looked at some staffing slides and talked about "how do we do this" and "our core principles best-player play," so each of the JVA participants put up people for roles." There were about 135 people at the peak, and they mostly came from ExxonMobil. ConocoPhillips contributed about 25, TransCanada provided about 15, and BP provided about 10. They all did an excellent job. The composition and size of the team changes as the deliverables are completed.

[11:32:04 AM](#)

REPRESENTATIVE TARR asked who replaced the TransCanada staff.

MR. BUTT answered that there were 12 TransCanada people at time of demobilization in June, but most of their jobs were complete. Other staff just transitioned up, he added. A project always has transition, because it needs the best person to do the job. It was a smooth transition, he said, and TransCanada was dedicated and handled the transition well.

REPRESENTATIVE SADDLER noted that low prices have created challenges around the world. He asked if the "changed market is offering Alaska's project an opportunity it might not have had—lower labor costs, more availability of professional capacity?"

MR. BUTT answered that there has some "softening," but as natural gas has become cheaper, the work has shifted. People who used to be building plants to make gas available are now building plants to use cheap gas, he said. The shift in the market has helped drive down costs, but it is not consistent with the shift in the value of the commodity.

STATE GAS TEAM

11:36:18 AM

CO-CHAIR GIESSEL announced that the next presenter will be the state gas team, which is made up of four entities: The Department of Natural Resources, the Department of Revenue, the Attorney General, and the Alaska Gasline Development Corporation. The team was formed to stand in for the state on this project. Speaking on behalf of the entire gas team is the new president of AGDC, Mr. Kevin Meyer.

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At ease

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KEVIN MEYER, President, Alaska Gasline Development Corporation (AGDC), Anchorage, noted that his presentation was prepared by AGDC under his direction. He gave an outline of what he plans to discuss and noted that he is new to AGDC. He said he started two weeks ago on June 15; however, he had a consulting role with AGDC for a couple of months. He said he has 35 years in the international gas and energy industry, mostly with natural gas and pipelines. He started in the industry with a very large pipeline company, owned by America Natural Resources (ANR) and its pipeline company. It was when the industry went through an unbundling and a deregulation period, and pipelines in the United States went from buyers and sellers of natural gas to transporters of natural gas, he noted.

MR. MEYER said that at ANR, "we were very instrumental in helping shape the open-access transport regime that is in place in the country today." The regime has been adopted by the world, as well, and it is a good framework to have a pipeline serving others—those who either buy gas or sell gas. He stated that he is very comfortable in that arena, and that is the common structure for a pipeline, where a pipeline company owns the pipeline, as opposed to a producer-owned pipeline, like in Alaska. He said he then worked 13 years for CMS Energy, which was a holding company formed to hold a large utility in Michigan. The utility was getting crushed under the weight of the failed nuclear plant. Some people from ANR went to CMS Energy and formed the holding company and developed a nonutility side, but because of all of the debt at the utility, the nonutility side had no capacity to borrow money or guarantee any debt, so all of the projects had to be done on a non-recourse project finance basis.

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MR. MEYER said the company eventually owned the largest power plants on three continents: North America, Africa, and Australia. "We also built the highest pipeline in the world at the time," which was the Atacama, and it crossed the Andes. In 1998, CMS bought the Panhandle Company, and it came with the Lake Charles LNG facility, which was one of the original LNG import facilities built in the U.S. He said he then moved to Cheniere as president of Cheniere LNG. "We built ... the largest import terminal in the Western Hemisphere," he said. It started as a very small entity, but it persevered, and it developed and secured two very good customers, which led to the financing that allowed the company to double the size of the facility—at risk, which was not a good decision. Today Cheniere is developing an export project at Sabine Pass. When that facility is done, it will be about 50 percent larger than the AKLNG plant. After leaving Cheniere, he was out on his own, and he started on global biofuel. At that time he thought the world had approached "peak oil," but everyone had underestimated "the shale," he said. Then the financial crisis happened in 2008/2009, and there was little interest in startups and biofuel, including his African biofuels project. That was when he heard about this opportunity in Alaska, and he had heard about the project since his first day in the industry and had watched it go through its many phases. He is excited for this opportunity to move this project across the goal line.

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CHAIR GIESSEL said there may be questions about Mr. Meyer's resume from the members.

SENATOR STOLTZE asked about Mr. Meyer following the [AKLNG] project his entire career, so he asked him for "a critique and analysis of the high and low points" throughout Alaska's entire gasline effort.

MR. MEYER said that by coming from a pipeline background, it puzzles him why this project has been so difficult to achieve. Although it is not the biggest or highest pipeline or the largest LNG plant, it is a big project altogether. Through the years, it has had fits and starts and originally was a pipe through Canada to the U.S, which would not have been a good move. By looking at it as an infrastructure project, he asks, "How do we de-risk it? How do we get customers involved?" The LNG industry, in the last six to eight years, went through its largest demand pull in its history, he noted. Every project that had been on the board, got constructed and got into service, so

why not this one? He said he was in Alaska in 2011 looking at a small-scale LNG project as a means to increase the Southeast Alaska market for the benefit of the Cook Inlet producers. One of the problems in Cook Inlet, he said, is the lack of demand if gas is found, so he looked at a smaller scale project. As part of his strategic plan document, he noted the need to consider what happens with the small plant when the LNG pipeline comes in. "I was sort of laughed at by these producers, saying 'Well, that pipeline's never going to get built.'"

MR. MEYER said he disagreed—it is a very viable project—but he developed a plan that worked with or without the pipeline. Recently, he has spoken with some engineering companies who shake their heads asking why this project is so difficult—it's not a difficult construction project, but it has a lot of moving parts. He explained that, generally, the steel and concrete are easy; it is the paperwork that is difficult, and that is true for this project. He said he is hoping to figure out how to get the paperwork done, including the commercial, technical, and construction paperwork. It is important to recognize that the project is high cost today and that it missed a small window a few years back. Right now it is high cost, so the focus needs to be on how to get the costs down, he added, and the technical team has done outstanding work by beating the costs down, and he has been told that there is still more room to go down.

[11:53:52 AM](#)

MR. MEYER said now it is the time to look at other costs, and that includes financing, taxes, and other aspects. He said he has always been puzzled that the pipeline is not advancing more rapidly. He said he is anxious to assess if "we can do something differently that actually gets this project on track."

SENATOR STOLTZE said maybe his expectations were too high, and asked him his view on what the mistakes have been, "where we've just thrown money into a pit hole, or where we've gotten some value from it and how it builds on to where you're looking ahead right now."

MR. MEYER said the work done to date has significant value and shows that this project can be done. The cost parameters are getting narrower in terms of its risk of variability. It is clear that the cost is a bit high to clear the market, so the project is slowing down. Now we need to figure out what else we need to do. He is not suggesting that the work done to date was a mistake; it's very good work. The costs need to come down, so

it is time to look at costs other than those of construction, he stated.

SENATOR STOLTZE said he expected more detail and more clinical analysis. Getting a penny out of a dollar is value, [but not] comparative value. He asked Mr. Meyer about the virtues of sole state ownership or of having a significant majority role.

11:57:37 AM

MR. MEYER said he intends to address that in his presentation, and he told Senator Stoltze to feel free to let him know if he has not made it clear, but he noted that this is in a formative stage, and it is about what can be done differently to keep this project on track.

SENATOR STOLTZE said, "I tried to narrow it to one comment: the AGIA [Alaska Gasline Inducement Act] TransCanada." If it has value, "are we talking Greek currency or are we talking deutsche marks and American dollar value?" He said he is trying to get some perspective, "even on a broader more—even a little bit of subjectivity." He added that he is just trying to know where [Alaska] is going with this new step. He said that Mr. Meyer did not have a lot criticism for everything, so it all had value. So, he said, he is not going to be as active in this process except as a citizen and a stakeholder. "I'd like to know where the pro from Dover wants to take us," he added.

11:59:10 AM

MR. MEYER said he is not intimately familiar with the AGIA project, but a line through Canada to the Lower 48 probably would have been a mistake, given gas prices today. The shale gas production in the U.S. caught a lot of people by surprise, he explained. It is a shift in the E&P [exploration and production] industry by shifting the focus to the production side. He said that the amount of production out of shale has astounded everyone. A few years ago he was asserting that the country was running out of gas, and "right under our feet we have not only have found gas but, by golly, we found the third largest producing country in the world in this shale." Decisions made several years ago may have been reasonable in that time, but the outcome may have been quite bad. "When I say I followed the [AKLNG] project over my career, I've known about it ... it doesn't mean I intimately followed every decision," he clarified.

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SENATOR STOLTZE said he will lower his expectations—"the interview process is over. You've already got the job, and I guess we're looking for more candor."

REPRESENTATIVE HAWKER asked who Mr. Meyer worked with in 2011 on Alaska gas, and what his previous consulting role was with AGDC.

[12:02:02 PM](#)

MR. MEYER said in 2011 he was on his own as L&G America, and he came to Alaska under the banner of LNG Alaska and met with Buccaneer [Energy Ltd.], a small Cook Inlet producer. He gave a presentation to the Senate Resource Committee and talked about a small-scale LNG program for the Southeast Alaska market, and he offered an initiative to get gas to Fairbanks. He explained that he looked at high horsepower markets for LNG as a fuel, such as the marine market, which is converting to LNG. He noted that Tote [Maritime] is converting its ships to LNG, two of which serve Tacoma and Alaska. He had hoped to provide LNG from Alaska, but there was none available, so TOTE elected to get their LNG in Tacoma. He said he thought the Alaska Marine Highway ferries were ideal for using LNG, and he promoted the potential export markets. He said he consulted with AGDC for about two months "prior to the June 15th date."

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REPRESENTATIVE HAWKER asked what he did at AGDC.

MR. MEYER said he had not been appointed, but he was in an unofficial capacity helping understand where AGDC was, starting to see about developing a strategy that puts the project more into a traditional infrastructure context, and "that type of thing."

REPRESENTATIVE HAWKER asked who hired him.

MR. MEYER said AGDC.

REPRESENTATIVE HAWKER noted that Mr. Meyer talked about the traditional infrastructure framework and that he said he shaped the open-access framework in his earlier career that is now the standard of service in the world today. "Congratulations on your fatherhood there." He asked if Mr. Meyer is prejudiced against producer participation and pipeline ownership.

[12:06:31 PM](#)

MR. MEYER said he did not single-handily shape [open-access transportation regime], but America Natural Resources was one of

the major companies in the U.S. helping shape it. That transition went on for a number of years, and the regime set up by FERC is the model today in the world. He said he is not prejudiced against producer-owned [pipelines]. An equity-based model, when all of the participants contribute their share of the project, works very well in certain regimes. It certainly works well for the project participants if the project clears the market, as it gives them more control, but he does not necessarily support it for a major gas transmission infrastructure in a state like Alaska. If the pipeline is built, it becomes the way to open the North for additional exploration—it's not just a way to monetize Prudhoe Bay and Pt. Thomson. A pipeline will significantly lower the barrier to developed North Slope reserves. Today there are very high barriers; if someone finds gas, they are somewhat stuck, he explained. Since this will be such a significant transportation corridor for the state, "I think the state will be well-served to have ... somewhat of an open access regime," which does not mean going all the way to a FERC Section 7, which is full FERC regulatory authority, but it does mean providing capacity for newcomers. "I don't have a bias against a producer-owned or an equity-based model," but if costs are high and times are tight, the equity-based model has a higher hurdle to leap, because the equity participants generally have a higher cost of capital than an infrastructure investor.

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REPRESENTATIVE HAWKER asked what structure Mr. Meyers is going to move this project to and what is the authority for that.

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SENATOR MICCICHE said he does not want to sound confrontational, but he asked who he was working for when he received the industry's "LNG Company of the Year" award.

MR. MEYER said that was on behalf of Cheniere.

SENATOR MICCICHE said he does not subscribe to the "build it now or die" mentality, and Mr. Meyer was cavalier in saying it is just a paperwork issue. Alaskans cannot afford a mistake of holding the bag on a \$45-60 billion project, and Mr. Meyer received that award for building North America's largest LNG receiving terminal. He asked how many cargos the Sabine Pass terminal received.

MR. MEYER said cargos were very small, and Cheniere secured two long-term customer commitments, one with Chevron and one with

Total. They were 20-year, corporate-guaranteed commitments for about \$125 million per year each, regardless of whether they shipped a cargo, he told the committee. That is an infrastructure project-financed type of investment where the developer secured two long-term customers. He explained that the customers have the right to use the terminal or the pipeline, but they have no obligation to use it. It is almost like an option, and the company was paid regardless of whether they shipped the cargo.

SENATOR MICCICHE said he thinks that his point is that of the \$20 billion in infrastructure, "we underestimated the amount of supply that the U.S. would produce immediately upon completion of those facilities." It sounds like the project had some protections, he said, with a "take or pay." Eventually, if no one takes, Senator Micciche said he would not call it a successful project. It sounds to him like Mr. Meyer is celebrating a severe underestimation of what the needs would be on imports. A lot of people do that; there were several facilities built that will never be used unless they are turned around for liquefaction. He said he wants to recognize those fundamental mistakes in the evaluation of AKLNG going forward and not make them.

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MR. MEYER said he agrees. It is not build-or-die, and it is not build-it-and-they-will-come. He said if this system is not contracted for its capacity, it will not be built. "I am not suggesting this gets built at risk."

REPRESENTATIVE SADDLER welcomed Mr. Meyer. He asked what his charge is from Governor Walker, and why Mr. Meyer is shifting the project structure.

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MR. MEYER said Governor Walker wants to get this project moving in a sound manner, without an undue burden on the state. Currently, it is slowing down—if not coming to a crawl. "Is there an opportunity to pick up the pace, and let's see if we can hit the next market window," which Mr. Meyer believes may be the mid-2020s. It is the same project, but there may be a different structure that may lend itself to federal tax-exempt financing, for example, like infrastructure financing. He wants a change that all parties can agree on. He stated that he is not coming with the exact game plan, but some concepts. "What we know is, something has to be a little different," and he believes there are things that will make the project more

attractive, and there will collaboration with the producers. He has more detail in his presentation, he noted.

SENATOR MACKINNON asked if Mr. Meyer sees himself as working for Governor Walker or the AGDC board.

MR. MEYER said the AGDC board.

SENATOR MACKINNON said Mr. Meyer's AGDC employment agreement discusses his previous ownership interests and [allows for] "reasonable activities associated with the transfer or windup of activities." Pursuant to the Alaska Executive Branch Ethics Act, outside activities will be subject to review and approval to ensure they are not in conflict with the duties owed to AGDC. She asked about his ownership interest in that particular project and how he sees that transition, and it appears that Mr. Meyer may be continuing to seek outside employment.

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MR. MEYER noted that the small-scale LNG project had an arrangement with Cheniere to get supply from the Sabine Pass facility, and the focus was domestic, high horsepower activity in the Gulf Coast. "We also initiated the development of a receipt terminal in Panama," he added. He said his agreement with AGDC is that he must step out of that entity within three months. The major part of the activity was with Cheniere, and his main support was from the Chair of Cheniere, but the company has undergone some changes, "so we've decided to back away from that arrangement. Cheniere was going to put in a truck rack at Sabine; they had filed for that, but they've now withdrawn that just recently." That relationship is ending on its own, he added. Regarding the Panama facility, "we're in discussions right now with somebody to take that." He said that he does not anticipate any activity at Amasia LNG America that he would be involved in. There is no contemplation for other activity, but his understanding is that while he is employed by AGDC he will not engage in other activity. Subsequent to his employ at AGDC, he is restricted from engaging in any large-scale LNG facilities in Alaska, he said, but there is an allowance for a small-scale facility, like what he worked on in 2011.

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SENATOR MACKINNON asked what interests he will maintain in other companies and she said that on page 2, the document reads: "subject to the Alaska executive branch ethics Act, the board does not object to the president serving on civic or charitable boards or committees or managing personal investments." That

statement raised a flag for her and she wants to publicly raise the question of "how we're resolving your interest." She asked if Mr. Meyer will become a silent partner or if someone else will control the LLC.

MR. MEYER said that clause is not intended to involve LNG activity—just his personal stock accounts, not LNG America or its holding company. "We're in discussions now with a partner to take the Panama project, and that will be it." He does not intend to engage in activities under LNG America in the LNG arena, he stated. His understanding is that he will not be engaging in LNG activities while at AGDC.

SENATOR MACKINNON asked if there is a specific way that Mr. Meyer is defining a small-scale project.

MR. MEYER surmised that she was referring to the non-compete [clause] for post-employment after ADGC, and he believes that small-scale is defined in there as less than 2 million tons.

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SENATOR MACKINNON said she is pressing the issue because on page 5 of the employment contract, there is an "inference with relationships," and, "I just hadn't read one that said director, copartner, or any other individual representative capacity." Referring to AGDC's master service agreement contract, 16083, between Mr. Meyer and AGDC, she said she has read the amendments and reviewed the dates of the amendments. It does not appear that Mr. Meyer was under contract when she met him in March. "You're not new to the job," she said, "you've been working since April for the AGDC in some capacity." She asked if he attended the [18th International Conference and Exhibition on Liquefied Natural Gas] in Perth on behalf of AGDC.

MR. MEYER said yes.

SENATOR MACKINNON asked if there is a report or briefing of benefits obtained.

MR. MEYER said he did not prepare a formal report, but he is including some of what he learned in a strategic plan document.

SENATOR MACKINNON asked about "MFA 16083 Amendment 1 for this representation of AGDC at this conferences in Australia. We were looking at information about the Canadian project, Pacific Rim LNG projects, Gorgon, [unclear], and other Asian Pacific

theater," she said. She asked if those LNG projects are similar to what he described as the common ownership structure.

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MR. MEYER said that what is common to him is an infrastructure-type finance project, and producers would say that the equity-based model is common; the two sides of the industry are very different, and they do things very differently. He noted that he is not very familiar with the Russian project. Gorgon, the big Australian project, was equity-based. The Canadian project has a mix of infrastructure-based financing projects, and he believes there are also projects intended to be equity-based being developed by "some of the majors."

CO-CHAIR GIESSEL said Mr. Meyer visited her office on March 30, "and yet as I look at your contracts, it actually began March 15, and so that is a question I will ask the board members."

SENATOR COSTELLO said the framework "for the project that we're talking about" is set out in state law. She asked Mr. Meyers what he will do if that vision differs from Governor Walker's vision.

MR. MEYER answered that state law would rule. No question. One of the first documents he looked was SB 138. "I think what we're doing is squarely within 138." It sets the project up, and ADGC is the enabler to create a gas treatment plant, upstream pipelines, and an LNG plant, he stated. He sees a lot of latitude in SB 138 for finding the best approach, and AGDC is exploring ways to structure the project to make it more competitive, focusing on reducing the cost of supply in this new market environment.

SENATOR COSTELLO asked if it is the right time to increase state ownership, considering Alaska's budget challenges.

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MR. MEYER stated that there is not a strong link between ownership share and the amount of funds that have to be invested. On an equity-base project, that is the way it works, but for an infrastructure-based project, the state may own 100 percent of the infrastructure, but it may only invest a very small amount, because the majority of funding can come from large infrastructure funds that accept a lower rate of return. He stated that if this project is properly structured, it will be very attractive. He said he has told the producer parties they are certainly welcome to be owners, and this project would

love to have them, but he believes that the project is not going to meet the hurdle returns—their internal hurdle returns—for investment. However, for an infrastructure fund, like a pension fund, these returns will be very attractive. He said he wants to clarify that suggestions of increased ownership do not mean increased investment in the project by the state.

REPRESENTATIVE HAWKER said he appreciates the discussion about getting out of the SB 138 box; however, the administration engaged Lummus for an evaluation of other state pipeline efforts to date. That report was never released and he said that Mr. Meyer reviewed it and returned it to Lummus for revisions. He asked him if he returned the report for revisions and why.

MR. MEYER said that the report will be finished this week. He reviewed it and thought it was somewhat light and erroneous in some of its statements. He stated that the report indicated that the project was so tough, "only a major could do it." He pushed back on that, "and you don't have to look any further than Cheniere's Sabine Pass project," which is a bigger facility. He said he firmly believes that the project does not have to be done by a major, and part of his passion probably comes from when people said that Cheniere was too small to build a big terminal, "but we did it anyway." He said he suggested to Lummus that it ought to look at an alternative. It is important to recognize that none of the sponsor parties construct anything; it is done by large construction companies, he explained. He said that when he talks about the paperwork being important, it is really managing these large contracts—like a large EPC [Engineering, Procurement, and Construction] contract. The contractor takes a lot of that risk, so when it comes time to build this project, "we're not going to be out there with trenches and trenching machines and welders; we're going to hire a very large construction firm." He said his pushback to Lummus was not recognizing that other companies can manage construction contractors. He added that he does not know what the final report will say, and it might not be changed.

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REPRESENTATIVE HAWKER said some members in this room have been in the legislature for 15 or more years and have been engaged in the details of the state's efforts. He said that Mr. Meyer told him he was intimately familiar with "all of our efforts," but then backed off of that statement. Representative Hawker said he is really wondering if Mr. Meyers is "counseling us to realize that all we have done was truly mistaken," where they have come to understand the importance of the alignment of parties in a

complete value-chain project, "that you're counseling that we've really done this entirely wrong from the very beginning and, really, it is nothing more than a very large construction project, and basically the markets will take care of themselves."

MR. MEYER disagreed. He did not say he is intimately familiar with every action that Alaska's taken over the last 40 years. He has watched this project—everyone in the gas industry has watched it. He is also not saying that the current path is wrong. However, it should be recognized that this project is not going forward. This is an attempt to ask if the project should be slowed down or if something should change. The producer parties are very willing to work in a collaborative manner to figure out how to get costs down financially or tax structuring. Right now the project is in a phase of asking what can be done differently. He is not suggesting, at all, that the work done to date was wrong. The state has to recognize that the market has changed, rather significantly, so there are two choices: delay or change. He said he thinks there is enough support among the parties to look for something different. The path the state has taken was right at the time, but the market has changed.

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SENATOR DUNLEAVY asked him to explain how he concluded that this project is not moving forward. He referred to the previous presenter who said the project is not even done with Pre-FEED.

MR. MEYER said his impression is that this project is not moving forward. He said he recognizes that the decisions to go to FEED are not yet called for; however, he believes there is enough information to recognize that the producers have a disagreement on the pace of FEED. By probing a little deeper, one will find that there is not alignment on the parties going to FEED, he said. The timeline shown earlier [by Steve Butt] has a diamond that indicates the decision to go to FEED, and each party has to consider whether it is ready. The probability is that it will not proceed to FEED on the anticipated timeframe, he opined.

SENATOR DUNLEAVY said the law that governs this process is SB 138, "so will you be coming back to this legislature for revisions of 138?"

MR. MEYER said he does not see any necessary revisions. He said he sees full collaboration, and ideally, cooperation, with the producer parties to reduce the cost of supply, which is the collective challenge. That is the mission ahead, he stated.

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SENATOR DUNLEAVY suggested that Mr. Meyer "really dive into" SB 138, which is the governing law. He spoke about confidence and said, "There's somebody new sitting at your seat every time we have a meeting." He said there is a man, and he cannot even pronounce his name, but he said Rigdon Boykin, and he asked if Mr. Boykin is still part of the [AGDC] office.

MR. MEYER answered no.

SENATOR DUNLEAVY said there are others with names he cannot pronounce that have come and gone. He said his confidence in the process is waning, and if SB 138 has to be modified, there needs to be a discussion. If Mr. Meyer is not using SB 138 as a template, "I don't know what you're following."

MR. MEYER responded that he has read SB 138 many times; he didn't write it, but "all of our activities are well within 138." He added that he thinks the project is getting back to its original intent, which was to figure out how to get the project done. He said he wants more transparency for AGDC and to lift the coat of secrecy a bit. He said he spoke with reporters and was quite open about what ADGC is doing, but there are confidentiality agreements that restrict a lot of information, but to the extent that he can be open, he will be. He added that any of his suggestions have been squarely within SB 138, and any deviation from it would come back to the legislature.

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CO-CHAIR GIESSEL said Mr. Meyer is experiencing evidence of highly informed legislators who have been working on this type of a project for a long time. Confidence and trust are in question, she said.

MR. MEYER referred to his AGDC objectives, listed on page 4 of his presentation. He said he would like to operate more as a corporation rather than an agency. Every decision is going to be based on sound business principles, which will make those decisions defensible and able to stand up to challenges. He said he wants more transparency with the public, the legislature, and the market. This project needs a cooperative relationship with producers, whether they are partners or customers, he said. Mr. Meyer stated that he wants to look at the project as a structure for third-party finance, meaning that the risks of the project are borne by others, and that will make it attractive to third-party finance. He explained that he wants to secure long-term

customer commitments, which may be with the producers as shippers, or they may be with an Asian utility, for example, as a buyer. For instance, a large utility in Japan could hold capacity in the LNG plant, hold pipeline capacity, and purchase gas from one of the producers—or from the state or a new party in the state.

MR. MEYER said maintaining a 2023-2025 project in-service window is an objective that is important, and the window is largely subject to perception. Currently, the market is oversupplied and the next demand pull will come in that window. "Let's get prepared so that we can convey a high degree of confidence to our potential new customers," he stated. Another objective is to expand in-state gas availability—a mission of SB 138 and AGDC, which can be part of this project and additional to it, he suggested. He said he would like to see Alaska re-established as an LNG leader.

MR. MEYER added that AGDC will not be responsible for the RIK/RIV [royalty-in-kind/royalty-in-value] election, which is a decision for DNR and is outside of AGDC's purview. He said AGDC is not interested in assuming any Alaska agency statutory responsibilities. He noted that state funding and credit support is the Department of Revenue's responsibility.

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REPRESENTATIVE TARR noted that people are not remembering correctly what was in SB 138, as opposed to what came after through various documents and agreements, like the Heads of Agreement and the JVA. She understands that SB 138 specifically expands the power of AGDC to determine ownership. She asked how other agreements would be impacted, like the JVA agreement that expires in July 2017. "How will those agreement be influenced by potential changes in ownership structure, and at what point would the legislature be made aware of those?"

MR. MEYER answered that the other agreements, the JVA and MOU, have their own lives and sunsets. He explained that the main function of the JVA was the Pre-FEED deliverables, which have been done, and the agreement is coming to a close. The parties are now confronted with what to do next, and the agreements do not define the next step. They do not define a governance structure for the FERC application, which needs to be kept on track. "New agreements are needed regardless of what we do here," he said. He stated that he is hoping to come to an agreement with the producer parties this year to discuss the next phase. To the extent there is an agreement that precedes

the sunset date in those other agreements, he assumes that it must come before the legislature. In the spirit of openness, he wants members involved. A lot of communication will take place in the development and certainly the finalization of that agreement, he explained.

REPRESENTATIVE TARR said that is where they want to pay particular attention to understand any shift in the current structure. She said she was not sure where things stood on the confidentiality issues. Legislators were not previously involved in the development of the JVA that is governing decision-making now, and so they would likely not be in the upcoming one; however, as funding is related, the legislature would have to pass a budget for it. "Has that been an issue that's come up so far in your tenure as to ... how legislators might be involved in seeing that progress?"

MR. MEYER said confidentiality is a big issue. The agreement that he has signed is one of the most restrictive of any he has seen. Believe it or not, he may have even breached the agreement by stating that there is an agreement, he said. There are reasons for confidentiality, but it needs to be recognized that the inability to discuss these big arrangements more openly leaves a big knowledge gap, he said, and that gap is filled with the worst possible imagined outcome scenarios.

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MR. MEYER said the new agreement is being discussed with the producers in the same sort of privacy; however, a party that brings something to this group can deem it not confidential. He maintains that the framework, at least, of this concept should be put out there so the legislature can see it. "Once we start to incorporate producer comments into that, it falls back into this cloak of confidentiality," he stated. The window of time is now for talking about this framework more openly. To be clear, he said, it is a concept; it is not a hard-and-fast, agreed to plan. He said it would be a benefit to talk more openly, particularly with the legislators.

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SENATOR STOLTZE noted that Mr. Meyer said he is not responsible for state funding or credit support. He asked if he has a consultant or advisory role, because he seems to have distanced himself by emphasizing that he is not responsible [for state funding or credit support]. He asked if it will be handled in the governor's office.

MR. MEYER said he added that bullet [in his list of objectives] to recognize that the Department of Revenue is responsible for state funding, because AGDC does not have the authority to bind the state. However, AGDC can arrange third-party finance, like pension funds, but if the state has to contribute funds or make some kind of commitment, DOR will be responsible. He said it is similar to the royalty decisions, and SB 138 does not give AGDC that authority, and he clarified that AGDC will not try to take that authority.

SENATOR STOLTZE referred to Mr. Meyer's salary and said, "Sometimes I wonder, gosh, how much a minute is it costing me to ask these questions." He asked if [DOR Commissioner Randall] Hoffbeck, [DOR investment manager, Deven] Mitchell, and [DOA Director Ken] Alper are making "these" decisions. He said there is a group of expert Alaskans, and some not from Alaska, and then he asked, "Do you have no role in saying what's a good financing package, ... and it's going to be to the governor's office and his commissioners to make comments and recommendations on finance?" He said he is somewhat puzzled.

MR. MEYER answered that AGDC very much has a role; and he was referring to the authority for decision-making. The project needs to be structured so that it works for everybody in the state. "To me, we need to structure this project so that when it comes time to make a decision on whether we invest in one aspect or another ... or whether we have to do some kind of agreement on credit support or taxing decision, yes, our role is very instrumental." He said AGDC will be lining out the agreements, identifying the risks, and identifying third parties that can help explain that risk. He explained that the Department of Revenue will have its own set of models, advisers, and consultants to assess that risk and will not just take AGDC's word for it. The corporation will be instrumental in trying to get the state's role quantified, clarified, and calculated, but, again, he said, AGDC has no authority to bind the state.

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SENATOR STOLTZE said there is a statute and a quasi-independent body to provide more objective information. A carpenter starting a quarter-inch off will have a crooked roof and an unlivable house, he said. "If you're off by percentage points or pennies—" He then stated that he and others have gone to seminars on mega-projects, and he would have hoped that there would be a more assertive role for Mr. Meyer being the voice of business reason. He said that perhaps Mr. Meyer is a "political guy" and yielding to the political side of the process. He said he has "pretty

good" confidence in members of the board, and he hoped "they've hired a guy who's going to be a very objective, independent—at least for Alaska—and not take orders from the body politic on a mega-project." He said that Mr. Meyer has acknowledged the perils of small factors destroying the viability [of a project]. He explained that he has "already adjusted [his] expectations from your backing off from how involved you've been in Alaska projects now, and I hope I don't have to back off on how much I suspect you, through your leadership on this professional staff, is going to look out for Alaska's interest and not political interests. I'm going to keep absorbing it."

MR. MEYER asked if he could comment.

CO-CHAIR GIESSEL said briefly because she has others lined up with questions.

MR. MEYER said he was told that AGDC does not have the authority to take DOR's responsibility. "We do not have authority on upstream issues; that's DNR," and the Department of Law has certain legal authority, he clarified. He added that AGDC will be very instrumental in getting the state to the proper decisions.

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REPRESENTATIVE NAGEAK said that whenever natural gas or LNG is talked about, "everything that comes out of everybody's mouth in this building and other buildings is that it's along the road system" or places with easy availability. But the places "in-between and outside are just an afterthought," he added, because the cost of doing business on the road system is much less than in rural Alaska. He noted that he is from rural Alaska, and things are easier for him because it is where the oil and gas come from, "and we make a living operating our villages and our government as such." Every time [the legislature] talks about projects that are going to be available for Alaska, it is to the areas that are along the road system, he reiterated, because getting all the goods to rural Alaska is cost prohibitive. Gas, fuel, food, and other things cost a lot more. "Now they're talking about LNG and to the market, and 'to the market' usually means Outside," he added. He stated that there is new technology allowing the delivery of LNG in huge tanks along rivers and coasts. When the state had a lot of money, things were built without the thought of the costs of maintaining them. "They made huge Taj Mahal-types of structures in villages, and you see a lot of people who, in the villages, who can't operate some of these things, and they send in people from the population

centers in Alaska," he said. Those benefits do not really go to people in rural Alaska, he explained, so when talking about projects such as this, there needs to be discussions on delivering the same thing to rural Alaska and reducing the cost of doing business there. Otherwise, people will move to the population centers, causing school closures and other things. If the desire is to keep people in rural Alaska, "we need to start investing and thinking about those people when we start talking about these projects."

MR. MEYER responded that one of the responsibilities of AGDC is to provide gas to the state. He said he spent a lot of time looking at moving LNG by tank-by tank truck. Many vendors manufacture ISO-tanks, which have the same dimensions as a shipping container and are a great way to move LNG down the road or by railroad. He noted that many countries allow LNG ISO containers to be used on railroad, but the U.S. does not allow that "just yet." He views that as a way to serve rural communities. The best example is China. In China, it is called a rubber pipeline, and that means moving gas by road (rubber being the wheels). "That's the way they gasify their local communities. He said LNG is a very safe hydrocarbon; it's just methane. "You can put a tank there; you warm it up to vaporize it, and then you've got gas for the community" and for power generation. He said it is a good way to displace oil. It is cleaner, and other countries are using it that way. It is a little early to look at that aspect of it if it has to be linked to the larger project, he stated.

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REPRESENTATIVE CHENAULT said he has almost forgotten what he wanted to ask, because at this rate "we'll be here Sunday." He said Mr. Meyer is surrounded by good people at AGDC, but he does not want to say whether they are on the right track or not. Representative Tarr was speaking about the ability to work with the legislature, which was on a funding issue. He said he thinks there is a piece of legislation on the governor's desk, which is SB 125, which also dealt with legislators sitting on the board of AGDC as non-voting members. He asked what Mr. Meyer's position is on that.

MR. MEYER answered that he believes that is an issue for the board; however, having legislators on the board really will not change his behavior one way or the other. He repeated his pledge to see much more communication with the legislature.

REPRESENTATIVE SADDLER said the administration has given the legislature somewhat vague intimations of what might be a potential policy, and then it is later characterized as an expression of intent. He stated that he has heard Mr. Meyer say, "If we transition to a state-led project" and about exploring alternative concepts that could include increased state ownership. He asked if AGDC or Mr. Meyer already made a decision on a new structure, "or is it still up to [a] decision in the future, with as much kindness as I can muster."

MR. MEYER said AGDC has not made a decision yet, but "what we have is a concept." This concept has been floated by the producers and is described in his presentation ahead. It will be a collaborative process, and there is a framework set out, he stated. He has told the producer parties that he wants it to be a joint document that everybody can be happy with. That is what he wants, he added, but that does not mean it can be achieved. He is hopeful that everyone will be happy with it, and there is nothing that tells him otherwise, but the concept is at an early stage, he added.

REPRESENTATIVE SADDLER said the governor firmly denied that there is any intention to use the Alaska permanent fund to help finance the LNG projects. He asked Mr. Meyer for that assurance.

MR. MEYER said that is not AGDC's authority at all. There have been no discussions about involving the permanent fund, in fact, he has heard that the governor advises against it. "There is nothing in my planning that has even hinted at that," he added.

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REPRESENTATIVE HAWKER applauded greater legislative involvement. He asked him to provide any documents and communications he has provided to the producers describing these new concepts.

MR. MEYER said there will be a document, and his presentation will provide the broad framework.

REPRESENTATIVE HAWKER said, "These documents with the producers are confidential, and you're going back and saying you do want to maintain a veil of confidentiality on them?"

MR. MEYER said the documents that AGDC can provide, that AGDC has forwarded as a concept, can be provided. "I want to reserve a little bit, because our team at AGDC doesn't want to be held to a specific clause of a concept, and if we don't achieve that we're going to look like we lost something." He stated that he

wants to provide enough information of what they are going for, but he does not necessarily want to provide the blow-by-blow negotiating documents. He reiterated that once the producer comments are incorporated, they become confidential.

REPRESENTATIVE HAWKER said he is a little confused. "Is there or is there not a written proposal to the companies?"

MR. MEYER said there is a concept document, and he has that framework on the slides of his presentation.

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REPRESENTATIVE HAWKER said frameworks are frameworks. It sounds like the concept is more into specific negotiations and he said the legislature would benefit by being involved. He said he wants the specific proposal that has been made to the producers.

MR. MEYER said he has heard that request and will take it under advisement. His intent is to make enough information public to get the full flavor of that framework, but he wants to reserve a little maneuvering room internally, but nothing that would be material from legislative review.

CO-CHAIR GIESSEL said she appreciates Representative Hawker's question, because committee members have received a copy of a letter that she provided to the producer partners and ADGC with three questions. The second question was to AGDC asking if the board was pursuing a different configuration for the project. The answer was not provided in writing, so she is looking forward to Mr. Meyer's presentation if it will answer her questions.

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MR. MEYER said slide 5 is a map of world activity, and Alaska is not on the map. He noted that when he entered the industry, Alaska LNG was something to be revered; Kenai had the largest plant in the world and Alaska had 100 percent of the Asian market. It strikes him as a little sad that Alaska no longer makes the government LNG map.

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MR. MEYER said the next page talks about the project. Steve [Butt] already did a great job on that. He emphasized the statement: "Alaska's LNG project lowers the barrier to open up the north for new exploration and production." Once the pipeline is built, it becomes the highway for natural gas, so he expects more activity once that is in place. He turned to page 7, which

shows the long history of the LNG project. It has the typical paradigm of demand heats up, project ramps up, demand captured by others, and project ramps down. He said that this project has been in a cycle for 40-plus years, and he suggests changing the paradigm to prepare in the downturn to capture the upturn. He said to recognize that LNG is a cyclical industry, and just because things are down now, does not mean Alaska should slow down on preparing for the upturn. "The upturn is coming, but we've got to be there with enough confidence so that when the buyers decide to buy, they look at us." He pointed to the historical price chart and its fluctuations. He said CMS was prepared in the downturn back in the late 1990s and became the largest LNG importer in the country. During early 2003, prices were down, but Cheniere was preparing for the imports, and a lot of people did not think imports would be needed, but when the demand came back, Cheniere was there to contract, he stated. During the 2009 downturn, that was the time to prepare for the 2010 demand pull.

MR. MEYER turned to slide 9 and said Australia is a case study. He said Alaska is like Australia, stable and with a history of resource exports, including LNG, and a small domestic demand. During the 2009 downturn Australia positioned its resources for global competition, and when the demand cycle came back, the country captured a significant share. Next year Australia will be the number one LNG producer in the world, he said.

SENATOR DUNLEAVY asked if Australia's model is similar to the model in SB 138.

MR. MEYER answered that Australia has a mixed model and a number of different projects. The western projects are more like the equity-based model and eastern Australia has more equity-funded models.

SENATOR DUNLEAVY asked what percentage of the projects the sovereign owns.

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MR. MEYER said he does not know if the sovereign owns anything in those projects and he does not know the exact royalty share. "I don't know that the sovereign, on these future projects, took a role," he said, but on the initial project, the sovereign built the pipeline that let the gas be produced. The Northwest Shelf project was the most complicated project in its time; it was a very large off-shore LNG project, and it had Japanese buyers as interested parties, but there was concern about

whether the gas would actually be developed and produced, so the government stepped in and built the "Dampier to Bundbury" pipeline, which gave the buyer confidence that gas would be produced. The LNG plant was then built, he said.

SENATOR DUNLEAVY asked if there is any model in the world, other than places that have nationalized the industry, where the producers do not want to produce but the sovereign does, like what Alaska is looking at.

MR. MEYER answered that in most places the sovereign wants the producers to produce. The level of encouragement or pain may vary. Often a producer will lose its license if it does not produce, so there is often a significant cost of not doing so. In much of the developing world, he said, the sovereign does not have the funds to participate, so they use royalties rather than investments. Places like Qatar—and Exxon can speak to this—have more sovereign participation. He said it is somewhat of a mix. In Norway, the state-sponsored entity is a significant party in the development of Norway's LNG resources, but Mr. Meyer does not know the exact financial structure.

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MR. MEYER referred to slide 10, LNG Market Changes. He said the LNG industry experienced its largest demand pull in its history, and it was met with the largest supply response in its history, so the world liquefaction capacity doubled in the past 10 years. That has created a soft, oversupplied market, he said. Some of the Asian contracts have an oil price link and have lower prices, but the new market is because of the oversupply. High-teen LNG prices have dropped to single digits. It is a bear market, he explained. Just like Alaskans are not afraid of bears but only show a little caution, the "don't run from a bear" saying applies here. Now is not the time to run from it, he said.

MR. MEYER said that page 11, LNG Market Changes, shows LNG supply, demand, and future forecasts. Forecasting is difficult, but there is a general feeling that equilibrium will occur in the early 2020s, and there will be a growing demand gap of about 40 to 100 million tons in the mid-2020s, but there are over 800 million tons of projects that want to capture that demand. There are opportunities coming, but we should recognize that there are eight times as many projects that want to capture that same demand. Alaska has to get out there and fight for that market, he said. He explained that the buyers are sophisticated and recognize there is a surplus, so they want more destination

flexibility and different reopeners, and that can make a project more difficult to finance and to make a go-forward decision. Another change is multiple projects competing for scarce internal capital, so Alaska's project not only competes in the world, but it will compete with the internal queues of the producer and joint venture participants. He said page 12 focusses on Asia-Pacific demands, and he noted that Alaska is not competing in Europe. The chart shows that there will be demand from growth and demand due to expiring contracts, which are within Alaska's purview to go after. He noted that Alaska has an advantage with proximity to the Pacific market, and we do not have to go through a third nation to get there.

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MR. MEYER said page 13 lists Alaska's strengths, including massive proven gas resources, enormous undeveloped potential, stable government, installed oil and gas production infrastructure, and four decades of safe, dependable LNG exports. He stressed that the value of Alaska's history in providing very reliable LNG deliveries cannot be understated—most buyers will be utilities where reliability is often superior to price. He said Alaska has broad local support, market proximity, no technical barriers, low technology risk, and low domestic demand. A domestic need will not likely take over the export demand, he added.

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MR. MEYER said there has been excellent technical progress. He noted that he has worked on FERC projects for his entire career, and he attests to the exemplary work done by the technical team, as shown on page 14. He said the commercial progress is slow; low oil prices and a soft LNG market create challenges. He said, "We're seeking alternative means to reduce the cost of supply and to conduct FEED activities; there is no consensus around starting FEED mid-2017 as we sit here today," he stated.

MR. MEYER said that AGDC sees two options. One is to take the lead and find ways to reduce the cost of delivered supply, which can involve the following: 1) An increase in state ownership to enable a lower tax cost structure. 2) Opening up project participation to a broader market, which could include infrastructure funds or "that type of thing." 3) Create project momentum in the market to facilitate offtake contracts—Alaska wants customers, he said, good Asian utilities in Japan, Korea, China, and Vietnam. It is important for the buyer market to be interested in this project, so when that 100 million tons of demand meets up with the 800 tons of supply, buyers should be

looking at Alaska LNG and saying "that's the one we want." The second option is to delay FEED and potentially delay the project. In summary, he explained, AGDC needs to figure out a new way or delay the FEED, "and in my mind" that would delay the project even though a FEED delay decision does not automatically delay the project, but he sees a strong link between the two.

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CO-CHAIR GIESSEL asked if our other three partners see these options as well.

MR. MEYER said he did not know if they were looking at other options, but they have discussed these two options with AGDC.

CO-CHAIR GIESSEL asked what the state has done to fulfill its responsibilities for Pre-FEED. Last year, "we actually had a timeline" and a list of deliverables that the state was responsible for, including property tax determinations and RIK [royalty-in-kind] decisions. She asked if the state would be paid the value of the gas that was its royalty share, or if Alaska would take those molecules as molecules of gas. She inquired as to what the state has delivered during Pre-FEED.

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MR. MEYER said that his understanding is that there were a number of agreements contemplated that were not done. When agreements are not done, there is typically blame on both sides. They dragged on for quite a while, and he believes that the agreements mainly dealt with upstream issues, but he is not sure. Some of those have to get done, he explained, but [the parties] should first figure out if this is a project that is competitive in the global arena and that it works for the producer parties. He said there should be an agreement in place to say "here is how we are going to conduct this project, here is how it's going to be governed, here's how we're going to move it forward." He continued to say that he has told the producers that "if we get happy with this agreement," and all it needs are these several other agreements that have to get done, "I'm going to be there right with them advocating ... that we need these agreements done." Right now, he said, he wants to put [the other agreements] at the end. Part of the problem is that those were put at the start, and a lot of time was spent on those agreements—maybe under a presumption that the project was going to move on these stage gates very fluidly. But the state is at a point where it has to pause and figure out how to make this project work first, and save the upstream agreements—some are out of AGDC's purview—until the end, "and then, by golly, I'll

be arguing right with them that we need the state to do these things."

CHAIR GIESSEL said she really appreciates the fact that he is new. The two [agreements] she was referring to are actually fiscal certainty terms, and Mr. Meyer has mentioned the word "certainty," and companies like to have certainty with their partners. She asked why companies should think a reconfigured project won't also be changed downstream. "We have an agreement. We have a plan in place, and aren't we reneging on what we've already crafted in Senate Bill 138," where Alaska said it would produce some kind of RIK decision, which gives [the producers] fiscal certainty and a property tax-type decision? These are just two factors, she stated. She asked why they should see Alaska as trustworthy and stable.

MR. MEYER answered that trust has to be earned, and it can be lost, but "trust" has not entered the discussions with the producer parties relative to the state, but fiscal certainty has. He said he is not sure what fiscal certainty is, exactly, to the producers, and whether it means tax certainty forever, but he is looking at what other regimes have offered, like Texas, Australia, and Papua New Guinea. "I think that having the state surrender its ability to change taxes ... is not constitutionally allowed, so certain things that the producers may want may not be achievable," he explained. [That kind of certainty] would take a vote of the people. "What I do know is if we put those things first, we're never going to focus on getting this project to the point where it competes in the world," he stated. He hopes to get clarity on the project structure and cost, and clarity on what the state ownership may do, because having the state own this entity—even though it doesn't invest all of it—may lend itself to federal tax advantages. Right now, he said, we need to figure out what the project will cost, and he said that information is necessary for DNR to make its RIK and RIV decisions. There are large, sensitive issues, but they should be saved until the end. If those issues are all it takes to get this project to happen, "I will be advocating right alongside [the producers]." But he wants to get to a point where AGDC and the producers all commit to do "these things" and then he will be arguing in line with the producers.

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SENATOR MACKINNON asked him how he can sell gas without knowing the cost of supply. "How will we secure a contract—we have 18 trillion, 33 trillion cubic feet of natural gas stranded on the

North Slope; how do you sell that in the market when you don't know the supply costs?" It sounds like the infrastructure costs are coming to light, she added.

MR. MEYER said to look at the things we know. The market price can be determined very quickly by looking at what the utilities in China, Japan, and Korea are willing to pay. The LNG market is becoming relatively liquid and transparent, and the U.S. LNG contracts are basically public, he said. So it is easy to get a very good handle on the market price, he said. So he suggested taking the market price and the lowest cost possible for the infrastructure in order to determine the net back price. If the net back price is X and if X is not high enough for the state and the producers, then there will be no project. It is as simple as that. However, if the cost of supply can be low enough and the market price is not great today, but it may improve and it is good enough to do this project, "I believe that once you put this project into service, the benefits to the state are going to be significant and they're going to go beyond this single project, because you're going to have that further development." He added that we do not have influence over market price, and the infrastructure cost can be lowered in both capital costs and financing costs.

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SENATOR MACKINNON said, "We've had several symposiums on natural gas worldwide, and those markets do not align ... each one of those regions set their own price and negotiate their own contracts in very distinctive ways." She said she is having a hard time thinking anyone will buy gas if they do not know the cost of the supply. It doesn't go backwards; there needs to be a firm transportation agreement to get financing, and that cannot be attained until the cost is known, she explained. She said she has a problem on how one goes to the market to secure firm transportation commitments when the upstream cost is unknown.

MR. MEYER replied that part of the challenge is to figure out the capital and financing costs. When there is a cost estimate it starts to get factored into the buyers' decision process. For instance, Alaska decides that the cost of supply to Kenai is X, based on the estimated costs of the LNG plant, pipeline, and gas treatment plant, and there will be a little variability, which will be gone by the time construction begins—the variability will be pushed to construction contractors and others. "And then we're going to have to commit as a system" to the price, he stated. The purchaser will not accept a price range of between \$5 and \$15 today, so they will need more price specificity that

they take the risk. Prices fluctuate, he noted, and different parts of the world have bought at different price regimes, but those are starting to blend together—the U.S. shale supply has been a game changer, he told the committee. Before U.S. shale, most of the LNG supply into Asia was sold on an oil-link basis, so it had variability on oil price, and with the U.S. projects, it is more of a tolling arrangement so that the projects under construction today, the customer pays a certain amount for the toll, LNG facility, and liquefaction. They buy gas on a Henry Hub basis, so the buyers take some Henry Hub market price risk, but they know that the cost of the liquefaction is certain. Mr. Meyer said Alaska has a little bit of an advantage in that a lot of the cost is infrastructure cost, "so we can actually take out a lot of the variability in the mind of the buyer by saying a big chunk of your pricing is going be infrastructure cost—that contract that we do with the buyer is going to have to fit with the lenders and the equity investors to make sure that it covers the cost of the project."

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SENATOR MACKINNON said that does not make economic sense to her, so she will move on. She asked him how a resource owner is aligned with a transporter.

MR. MEYER said the alignment is in the relationship, and there is always a bit of tension, but he looks at a resource owner from a pipeline or LNG facility perspective; "I look at the resource owner as a customer." So to reframe the question: How does the pipeline company get aligned with its shippers and customers? There is always a give and take and a bit of tension; the pipeline company would like to have high rates and the state would like to have low rates, he said, and somewhere in the middle there is a happy ground. On this particular project, because we are starting with a high-cost framework, we're going to have to beat the project down to a relatively low rate of return. The pipeline will want a higher price, but it cannot justify a higher price, he explained. The state will have to decide that it wants this project done and decide the netback to the royalty owner and the resource owner or [it will have to decide to not do the project].

MR. MEYER, in clarifying an earlier remark, said that Alaska will need to know the pricing before it gets any customers. It is time to gauge customers. Customers needing gas in 2023-2025 will start contracting in 2017 or 2018, and at that time Alaska will need to know, with a reasonably high degree of certainty, what the project will cost, he stated. At that point the parties

enter into a "proceeding agreement," where there are conditions for both parties. If costs do not align, customers are allowed out of the agreement.

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SENATOR MACKINNON said she is not a customer, and the people of Alaska are not customers, but resource owners. "We are a partner or participant in the joint venture agreement, and there is a tension between the carrier--this is an integrated project--the people at this table who voted for this project advancing thought the people of Alaska could derive benefit all along the process as integrated partner." Alaskans expect to receive a return on the investment at the gas treatment plant and on the pipeline. She noted that the pipe is much more stable with a guaranteed rate of return, and that is why the legislature engaged TransCanada. Although TransCanada left, "we still had a 25 percent expectation of a return to the people of Alaska on that pipeline, and we expected a return on investment for the hydrocarbons that are pulled out of the ground." She said her concern is that there should be a tension, and she is afraid that there will not be a tension between the carrier and the resource customer. There are four people that will derive benefit, and the big ones who are at risk are the producers in meeting their internal rate of return, "which I am probably the least worried about--I think they can fight for themselves," but if the State of Alaska has already made a deal with the market, "how do we assure that Alaskans get a good return for our money?" As project manager, "how are you protecting the people of Alaska's resource so that we derive the greatest benefit for the people of Alaska?" She said she is waiting to hear Mr. Meyer convince her of the reason to go to the market first before taking care of the gas sales agreement at the top. She added that "right now we can't even balance two major fields. Pt. Thomson and Prudhoe Bay have to come to an agreement on how we're going to move gas out of there, otherwise we lose value on our oil that is four times more valuable than the gas." She stated that she wants to support a project and she is ready to listen, but there should be tension between the resource owner and the transporter, because the transporter wants high tariff rates and lots of hydrocarbons moving through the pipeline, and "we want lots of hydrocarbons at a low price; those who own the leases and the lease-to-produce, they want high money, and the market wants the lowest dollar available. We seem to be competing with ourselves," she said.

MR. MEYER said that the project economics have to work for all, but one of the important ones is the market. "If we don't clear

the market we won't have a project," he stated. If we can start with the thought that we have to clear the market, then we look at the cost of the infrastructure using other people's money or the state's money, if the state wants to invest. He said he would welcome both the state and the producers as investors. The state could be happy with the return on this project, he added, but he is not sure that the producers can be happy with the return. The producers do not have to invest if the project can find lower-cost capital. He said that the cost of service is deducted from the market price, and that is the netback.

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MR. MEYER stated his belief that if there is a good buying customer willing to pay market price for LNG, and if there is a commercially reasonable price after deducting the costs, there will be willing sellers: the producers. "If we had that real buyer now," there is much more incentive to figure out the balancing, he stated. "How can you negotiate the price of supply, if you don't know the market and you don't know the cost of the infrastructure to get there?" His view is the opposite of Senator Mackinnon's view. He referred to a study the legislature [commissioned] by Black and Veatch that had \$2 for GTP, \$2 for pipe, \$4 for LNG, and \$1 for shipping, which translates to a \$9 price to Japan. "Guess what. The market's \$8, so it doesn't matter," he said, because that will not clear the market. He said not to start with all of those components, but start with Japan wanting an \$8 price of LNG, and then figure out how to meet that price. It fluctuates, but some of the toughest competition comes from the Lower 48. It is a tough price to compete with, he stated, and it is a tough structure to compete with, because it is not an oil-linked price—it's a cost-plus price, meaning that it is Henry Hub plus the cost of liquefaction and shipping. He noted the Panama Canal has been widened to aid LNG ships, so the Lower 48 is Alaska's competition.

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MR. MEYER reminded the committee that there are 800 million tons of projects that want to come on line, and most are from the Lower 48. Therefore, we know that we have to reduce the cost of this project, he said.

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SENATOR MACKINNON said the resource owner wants the lowest cost and highest value to purchase our gas. She asked who is responsible for financing the project, because if another entity takes profits away from the project, [it will be] another cost.

"So is it AGDC? Is it the Department of Revenue? Is it a third party?"

MR. MEYER answered that if it is third party financing, AGDC would take the lead on arranging it. If it is state funding, state credit support, or something similar, the accountability will be with DOR; although, AGDC can help to structure it. But, sitting here today, we do not know "what we would be expecting of the state as a state entity with regards to funding, financing, credit support, or that type of thing."

SENATOR MACKINNON asked if AGDC has statutory authority to arrange third party financing.

MR. MEYER said he understands that AGDC has the authority to discuss arrangements, but when it comes to the actual funding of the project, it will involve the legislature and others. It is not a decision that AGDC would make on its own, he added.

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SENATOR MICCICHE said he is hearing some things that somewhat worry him regarding the roles of state agencies, because he is not sure that the agencies have been provided the funding to cover those roles. The legislature, in defense of the framework under SB 138, needs clarification by legislative or DOL attorneys about the authority of AGDC to act before compromising a project that currently has alignment, he said. "It almost seems like we're aggressively sinking this alignment in this process." He would like to better understand the legislature's role and the authority of each department and the AGDC.

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CO-CHAIR GIESSEL said the legislature can request that from the Department of Law.

MR. MEYER said the action plan on slide 15 emphasizes reducing total cost of supply. There is alignment on that, but it needs to be looked at. It is important to the state to maintain pace in order to have an opportunity to contract for the next demand pull, he said. That is not universally shared by all of the parties, but from AGDC's perspective, it is very important, he noted. There are multiple LNG projects chasing the same buyers, and all participants in this project want to monetize the resource, he stated. It is a significant resource base and material to the participants to "see something work." So the summary of the action plan, as stated in the presentation is as follows:

Work in a collaborative manner to explore alternative concepts intended to enhance the project's global competitiveness. These concepts include various ownership and financing structures and could include increased ownership of the project by the State and with third-party financing.

MR. MEYER emphasized that AGDC does not have a hard and fast action plan, but something has to be developed and he wants it to be collaborative. The collaboration is now in process, and he hopes to have something that is really successful and that is embraced by all.

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CO-CHAIR GIESSEL asked what increased ownership means.

MR. MEYER said, different from investment, increased ownership might be the state owning the entity, but a third party may provide the funding. He said AGDC is still investigating the benefits of that ownership, but there may be some significant federal tax benefits associated with a state-owned project. Ownership does not mean funding, he clarified.

CO-CHAIR GIESSEL asked what the tax benefit is.

MR. MEYER said federal income tax on a private project may be more than on a state-owned project, but that needs to be investigated. There is some hope that a proper structure may lend itself to some federal tax benefits, "but we do not know."

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CO-CHAIR GIESSEL asked if this kind of investigation actually invites the IRS to consider whether the income from this project should be taxable, even if the state were to own it.

MR. MEYER said he would anticipate a lessor ruling from the IRS, and there may be some opinions on that already that give enough confidence, but because of the magnitude, "we" would most likely have to have a lessor ruling from the IRS indicating the structure is not subject to a federal tax.

REPRESENTATIVE HAWKER said he has a zillion questions that he is trying to distill down. "We just specifically heard the statement that the state would own the entity, a third party would fund it, and that would decouple the state from the risk of the cost of the project." He said he was most concerned about

the risks of ownership, and AGDC has presented two choices: A cautious and deliberate approach, which is the current framework but would delay FEED, and the other is a much more aggressive approach for the state to take the lead, and "we end up in this scenario with the state owning the entity." As a legislator managing the risks of the project, construction, financing, and resource, he said all of the risks have been carefully evaluated and the state had postured itself to minimize its risk and maximize its benefits, "but I'm not hearing anything here about how you want to change risk position." With ownership comes risk, and he asked if Alaska will take all of the risk.

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MR. MEYER stated his belief that this project finance structure results in reduced risk, but it can be argued otherwise, because there are good and bad points on both sides. Under an open-equity structure where everyone contributes their share, there are significant overrun risks, and he noted the Gorgon project as an example. It went from a \$37 billion estimated cost to a \$54 billion completion cost, "and it didn't quite work right when it was done." He said that is a lot of risk. In a project-finance structure, the risk would have probably been taken by a contractor or by some other party, otherwise the project would not have been financed. He said that does not mean that the project would have gotten off the ground with less risk—it may have meant that the project would have never been constructed. He said he is not claiming that ownership without the financing increases the risk—there are many risks in this project. The risks to Alaska will have to be acceptable at the time the decisions are made to go forward. That date is the final investment decision (FID) date, he said, and the state, lenders, customers, and contractors will all have to be comfortable with all of the risks.

REPRESENTATIVE HAWKER said risk-hedging is a very common feature in capital markets, but it means the owner transfers the risk to someone else, and a price must be paid to offload the risk. He said he is concerned about the cost or compromise coming from the state. "The contractor's going to take all the risk of \$60 billion construction project that they do not own the resource that ultimately is going to profit from it?" He said he really wants to know what kind of a hedge fund Mr. Meyer will be working with.

MR. MEYER said Representative Hawker has some really good points. There are costs to giving risk to somebody; however, one contractor will not take all of the risks of this project. The

project will need multiple contractors, and some will be prepared to take some risk in the construction. There will be risks that contractors will not take, he stated, like avalanche risk and government stoppage. He said some risks will be passed to others, some may be insurable, and some might have to be taken by the state. He said, yes, contractors take risks and charge for that. He explained that Cheniere had no balance sheet when the import terminal was built, but it turned to Bechtel to give them a "lump sum, turnkey number," and Cheniere paid a lot for it, but had it not, the lending community would not have funded the project. There is a balance between the risks and who is most likely to bare them, he explained. Building an LNG plant on the Kenai Peninsula is a manageable risk, as is constructing a pipeline. Under a proper structure, the costs of moving those risks and the cost of insuring them, basically appeasing the financial community, and "you put that altogether and we figure out, have we got a project or do we not?"

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REPRESENTATIVE HAWKER said the construction risk is very tangible, but "this project has a complete value change; has huge risk in the resource itself, the market, the financing, and I'm very concerned that I'm hearing an approach--this new concept--that is absolutely obsessed with just the construction and building of a pipeline, but not necessarily a pipeline that has, as guaranteed as possible [and] as risk-minimized as possible, commercial viability." He said he would be more comfortable if he could hear about commercial viability "from you folks in the near future."

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MR. MEYER said commercial viability is key. Without it there is no project. Slide 16 addresses equity versus project finance structures. In an equity structure, everybody contributes. In the project finance structure, there are project sponsors, and there are third-party equity providers. Akash Deep, a professor at the Harvard Kennedy School of Government, defines project finance as one that

"involves creating a separate legal and economic entity with the primary role of setting up an organizational structure and obtaining the necessary financial resources to develop and manage a project. The main, and crucial, distinction from conventional corporate or public financial structures is that repayment to debt and equity providers depends solely on the capacity of the project to generate cash flows,

with typically no recourse to the balance sheets of the sponsors or the resources of the government."

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MR. MEYER showed a representative structure on slide 18. The "project company" is a new entity that would be the FERC applicant and hold the assets and contracts. There are off-take contracts, which are significant commercial underpinnings for the project company, he said. The suppliers would be the gas resource owner, and there would be government involvement, like a concession agreement. The contractor has a very significant role in an infrastructure project, as does the operator. The finance includes equity investors and lenders, he added.

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MR. MEYER moved to slide 19, showing the trends in infrastructure finance. The slide is from an OECD (Organization for Economic Cooperation and Development) survey. The OECD has 34 nations and did a survey of a cross-section of infrastructure institutional investors, and the survey represents 28 entities and about \$1.5 trillion of assets under management. The survey found that infrastructure investments are not recognized as a distinct asset class, infrastructure projects are long-term investments that match the long duration of pension liabilities, infrastructure assets are linked to inflation and could hedge pension funds liability sensibility to increasing inflation, governments have started to recognize that they need to reconsider their approach to financing to secure new sources of capital to invest in infrastructure, and developed and developing countries are in effect competing to attract institutional investors to infrastructure. "And I say this project can be set up to be a very attractive infrastructure investment." He said a U.S. project—LNG in Alaska—is very stable. Instability in Europe has been introduced with Brexit [Great Britain voting to leave the European Union], and pension and infrastructure funds do not like volatility. Alaska's project has stability, government support, and community support. This is a good project, he stated.

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REPRESENTATIVE JOSEPHSON said SB 138 outlines AGDC's authorities as expanded in 2014, and he sees broad powers that allow it to pursue a different path. Regarding the 120-day window referred to by Steve Butt, he is concerned that this project is not likely to go forward. Rather than watching it go into dormancy for umpteen years, he sees that Mr. Meyer is looking at a whole new path, which is allowed by SB 138, he proffered. In reference

to anxiety about the rate of return, one of the things that has given him comfort about the original plan is if the three major [producers] saw merit in moving forward, then the plan had merit, and if they did not [move forward], the plan likely did not have merit. He asked Mr. Meyer to dispel that general concern of his.

MR. MEYER answered that he agrees that if the producers say the project has merit, it does have merit—"I'm right there with you." However, if the producers do not think the project will clear their hurdle rate at this time, it does not mean that the project does not have merit—it means that it does not have merit for them to invest. "But I can almost guarantee you, if we deliver these folks a gas pipeline, they're going to love it; they're going to love to use it." He said he does not think the investment will move up in their queue or clear their hurdle rate or clear their internal barriers, but that does not mean it is not a good project. He noted that when he looks at the project he does not look at it as just an extension of the production unit, he looks at it as a pipeline that will be a very attractive investment for pension funds and life insurance companies, which have lower return hurdles than oil and gas companies, especially the E&P [exploration and production] companies. Pipeline companies, he said, have a much lower return threshold, and from a pipeline standpoint, that is why "we" got to be in business. "We were willing to put in pipelines based on contracts that did have a lower return, and it was better for the high-return companies, the E&P companies, to contract with a lower-return service provider than it was to take their capital, which is much better spent drilling holes than it is laying 800-mile pipelines." He strongly agrees that if the [producer partners] all said this is going forward, Alaska should be right there with them, but if they decide that they do not want to go forward now, it does not make this a bad project.

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SENATOR MACKINNON asked where Mr. Meyer got his presentation slides, one of which [is attributed to] Harvard Kennedy School and one that refers to the OECD.

MR. MEYER said he stole them off the Internet, and he can provide the site addresses and the reference to the OECD study.

SENATOR MACKINNON said she has seen the study under the sovereign wealth model, and the Harvard Kennedy School was quoted in those reports also.

MR. MEYER said, yes, it is part of a broader presentation, not for Alaska. He said it provides a description of project finance from someone other than those at AGDC.

SENATOR MACKINNON asked Mr. Meyer if he is purporting that Alaska's PERS system would be a likely candidate for investment

MR. MEYER said it very well could be, and the Native corporations could be very interested in this as an investment and maybe should have the first opportunity.

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MR. MEYER showed a slide (page 20), titled "Required State Response." Alaska needs to be singularly focused on moving this project forward in order to not miss the next demand cycle, he said. Alaska has only one LNG project and does not have multiple projects, like E&P projects, to compete with; therefore, Alaska does not have the luxury of a queue to pick from, "so we've got to make this work." To help ensure momentum, AGDC will take the lead on project development and marketing, in compliance with SB 138 and in consultation with DNR. He said he is not suggesting doing anything that does not comply with SB 138 or tries to take authority from any agency that has authority. Alaska LNG must have a higher profile to compete in the global arena, he added, so it must actively engage buyers, solicit investors, and outmaneuver the competition. It is important to appreciate that Alaska LNG, as a project, is really not out there in the market today; it is not marketing itself and has relied on the project sponsors to do that. He explained that the joint venture agreement, itself, does not really provide for marketing, so it is time to raise the profile and get it in the minds of the buyers that this is a real project to consider.

SENATOR MICCICHE said all of the funding for AKLNG was appropriated to AGDC, so he asked if Mr. Meyer is adequately sharing that funding with the state agencies through an RSA [Reimbursable Services Agreement], or if Mr. Meyer is making it more difficult for the agencies to have the talent available for those deliverables.

MR. MEYER said he thinks AGDC is doing both, and that perspective depends on who you ask. There are a couple of categories of expenses, and one is for staff and contractors and another is for outside legal expenses and consultants. He said he wants to pay for the employees in DOL, DOR, and DNR for at least three months and then figure out if AGDC can incorporate those people into working together as a team. It could be a

second structure where AGDC pays for people through the agencies, but they would actually work at AGDC, he said. For outside contractors, he suggests that they be paid for as needed, and "we may need them differently than we needed them in the past." There is about \$15 million of expenses, he said, "that we are talking about in this bucket," and most are associated with outside companies. Rather than just shoveling all that money over, he assumes that the intent of putting the funds into AGDC was to shepherd and steward them, as needed, in the development of this project.

MR. MEYER said AGDC will need legal services, financial analysts, and that type of thing, and those will be funded as needed. There was pushback from the DOR people who said they needed an outside modeler, and that was settled by paying for the modeler, but he would like AGDC to have its own access to a financial model. He stated that he has never been anywhere where the company does not have its own financial model of a project. There is a cost-of-service model developed for the ASAP [Alaska Stand Alone Pipeline], which is inadequate for this project. "What I'd love to have is one model that all the agencies share." He said that he understands that some private information may have to go into a DOR model, but all he really wants is a model structure, so when looking at how interest rates shape a cost curve, for example, AGDC will have its own model. There has been some angst from some of the agencies regarding funding, but he believes this is getting settled. He said he needs to be more judicious with third party expenditures to focus on this time of increased austerity and increased demand on AGDC, and he wants the resources funneled toward the execution endeavors.

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SENATOR MICCICHE said Mr. Meyer missed a few recent discussions about "org charts" and project team responsibilities. The alignment concerns of his are not only external with partners, it is also internal alignment with some talented departmental folks. He stated that if Mr. Meyer is open to it, "I would certainly be interested, if the chair is in agreement, you can provide, sort of, as you develop that concept, an org chart [with] some of the expected cost burden and how you intend to share that with the agencies." Becoming fully independent when there is internal talent will not lead "us" to a successful relationship, he stated. He said he would like see how those relationships are going to continue with the agencies he has grown to trust over the years. He asked Mr. Meyer if he would be willing to provide that information.

MR. MEYER said absolutely. He is new to the structure, but when he looks at the agencies, he sees law, finance, and upstream departments, and he really wants to draw on those people and not duplicate workers. There is duplication going on that could be managed better, and the way to do that is to bring people into AGDC, where they would still work for their agencies, providing an open line of communication. This is a team project, so definitely he will disclose that as it gets developed, he said.

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REPRESENTATIVE OLSON asked if the state would pay property taxes if it was the owner [of the pipeline].

MR. MEYER said he is still getting up to speed, but the entity would pay property taxes. Under this kind of structure, the project entity would most likely be the payer, because it would hold the assets. He is not clear on prior understandings, but this entity, in his mind, will be paying property taxes.

REPRESENTATIVE OLSON asked for information in writing.

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REPRESENTATIVE HAWKER said he is hearing that this new concept has three significant elements. If the state owns the project, it would hedge the project risk through an artificial entity that was set up, and that that entity would be managed on the basis of securing financing on a nonrecourse basis. That is a wonderful thing when you can get it, he said. If the project utterly fails, the state can walk away from it, free and clear, and the investors all lose, "so sad, too bad." That is not an uncommon structure in the corporate world, but can a government sovereign abrogate that much risk, and what would it do to the credibility of Alaska in all other matters? He asked if Mr. Meyer is setting Alaska up for a huge risk in the case of a failure for the nonrecourse financing entity, whereby the injured parties would readily pierce the corporate veil and basically go right after the only source of cash the state would have, which would be the permanent fund.

MR. MEYER said he believes that the risks will be manageable, but AGDC has not quantified them. The concerns are valid. The risks would have to be identified, quantified, and acceptable to the state, or there will be no project. The DOL and outside experts will need to assess the risks. The risks the state takes have to be acceptable under either structure, he explained.

REPRESENTATIVE HAWKER asked if Mr. Meyer has proposed these risks to the producer partners.

MR. MEYER said he has only proposed a concept document, and the highlights are described in the next few pages of his presentation. He said he sort of suggested that he does not expect the state to take on a disproportionate amount of risk—not that this will be risk-free. Alaska may be investing funds as though it were an equity project, which is up to the state, but he has never suggested that the state take a disproportionate amount of risk.

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MR. MEYER showed slide 21, "Commercial Framework Concept." He said AGDC will form the special purpose entity that will be the "project company"—the entity that does the activity, holds the assets, is the FERC applicant, and that type of thing. The project company will have a set of overarching principles designed to keep the project on track with competitive rates, and it will engage competent technical and commercial advisors. He said he hopes that some of those advisors will be the producers, but he has not asked for a commitment, and some advisors will be outside of the joint venture parties.

MR. MEYER noted that AGDC aims to keep project participants together; however, producer party roles may change and some may choose not to invest in the next stage. The parties should have the ability to participate or exit with minimal impact to the project's pace, he added. The parties could be owners of the project company if allowed by tax laws, but they do not have to be, and they do not necessarily have to make that decision upfront. He wants to leave enough leeway so if they cannot make a decision to invest today, that does not mean they are closed off in the future. He said he would like some of these producers to be able to have the opportunity to change their decisions down the road.

MR. MEYER stated that, in this framework, project ownership may not equate to gas ownership. "So you may be an owner of the project but just because you're an owner doesn't mean you have capacity, and, further, not being an owner does not mean that you won't have capacity." A shipper would be fine and would not need to have ownership in this structure in order to get capacity, he said.

MR. MEYER said page 22 is a continuation of the framework concept. The project company will be a midstream business, so it

is not an extension of Prudhoe Bay or Pt. Thomson. It is the pipeline and the LNG, and it can provide an unbundled service to the producers, to AGDC, and to third parties, he added. So, a utility company in Asia may want to hold capacity on the LNG plant but not on the pipeline, for example, or they just want to buy from one of the producers at the tailgate of the GTP. The concept is to have service agreements that support the particular segment of the project, and those service agreements are entered into with credit-worthy counter parties.

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MR. MEYER said the project company will levy transport tolls in line with midstream businesses to clear market and maximize upstream revenues, so the tolling structure will be relatively transparent and not unduly discriminatory. There will be similar rates for all as long as there are similar terms, but early shippers may get a better rate, for example, but it will be a transparent toll structure. He said there is potential for alternative financing in this framework, such as federal tax reduction options, lower cost third-party equity investors, and nonrecourse debt to minimize financial exposure. Referring to page 23, he said AGDC would be the single point of accountability for the midstream portion, which is the GTP, the pipeline, and the LNG facility. Also, AGDC could become a shipper, so if DNR, for example, elects to take royalty in kind and agrees to sell it to AGDC as a commercialization service, it could be a shipper. Or DNR may want to sell it to an Asian utility, and then they will be the shipper, or DNR may want to sell it to one of the producers or a third party. If one of the producers wants to sell the gas without being a transport customer, for example, and suggests selling the gas together to a buyer that AGDC finds, "we could be a shipper," he said. If ADGC were a shipper, it would be treated like all shippers, he added, and it would not necessarily have preferential status.

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MR. MEYER said AGDC and others will market the project as a service provider. He said he wants to market the LNG outside of Alaska. Customers can buy it at the beach at Kenai or in the north as gas—"tell me how you want to buy it, but put Alaska in the planning horizon." He turned to page 24, which charts out "who does what." He said he added a role called project marketing, where AGDC will take more responsibility. Financing has two options: state participation, where DOR is accountable and AGDC will help structure it, and third-party financing, where AGDC will take the lead.

REPRESENTATIVE HAWKER said, regarding financing, he has recently raised questions about AGDC's ability to finance, and the statute that basically allows it unlimited ability to finance the purchase of product and resell it. "We were given absolute assurance, at that time, that AGDC had no intentions of ... buying and selling of gas. That is, becoming ... the person who, at the end of the day, takes the full take-or-pay contract for ... the load that a pipe would require." He expressed concerned that this proposal contradicts everything he has been told about this administration's intent to respect the original structures of AGDC, and he understands the right to change it, but this is a massive change of direction, he noted.

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MR. MEYER told the committee that before anyone jumps to a conclusion, he would like to dispel the idea that AGDC will be taking on take-or-pay, purchase, or credit obligations. He said he is not saying that AGDC would not, he is saying that is not the intent, but some customers may want a bundled service. He added that AGDC does not have the balance sheet to provide sufficient credit support to engage in a long-term purchase or even a long-term tolling contract, so AGDC is not going to be all that attractive to the financial community; however, to the extent that it is required to help facilitate by bundling agreements on behalf of the producers and the buyers, he expects that AGDC will be able to do that.

MR. MEYER gave the example of an aging utility and a producer not wanting to hold upstream capacity, [then] maybe AGDC has to step in and help, but it will be "back to back," he said. There is going to be a limited capacity to do that, as it will not have the balance sheet to guarantee it. However, by looking at some LNG projects under construction that have more of a LNG sales model, the LNG sales contract is the commercial underpinning for the facility—not a tolling contract. So, he explained, what the service provider provides is a bundled LNG sale delivered at the dock, which is very similar to the way many of the other LNG projects around the world are structured as opposed to a simple tolling arrangement. The credit support that the financial community will look to is that purchase agreement from that large credit-worthy utility, global trading company, or "what have you." He said he hopes he has not left the impression that this is a massive change and that AGDC is going to be stepping into big purchase or sale commitments—it is really a facilitator, "but we are going to need to find large credit-worthy entities to either purchase LNG or to hold tolling capacity."

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REPRESENTATIVE HAWKER said Mr. Meyer is clouding the water by describing AGDC as a shipper, and its value will be underpinned by someone else's contract to buy. "There still has to be—AGDC has to have established credit with wherever its source of product comes from, basically its own gas." He asked if Mr. Meyer is intending that it be backed by the full faith and credit of the State of Alaska out of the treasury or permanent fund. At the end of the day, he said, there is the ultimate credit worthiness. "You look not only at the actual value of the product itself moving through, and that would be the credit from somebody else agreeing to pay for the transportation, but for that and the product, you always have to look to that alternate means of repayment, and I have a hard time believing that contracts of this magnitude, the ultimate sellers at this point, would not be expecting a guarantee from the State of Alaska, itself, in order for AGDC to operate in this capacity." He said the legislature would require a great deal of time considering this type of thing.

MR. MEYER said he does not expect AGDC to be requiring significant credit support from the state, because he does not envision AGDC stepping into that role in a significant way. One thing that AGDC will probably have to do is to help aggregate the in-state demand, because it may be difficult for some of the small utilities in the state to be small shippers, he added. As he reads SB 138, AGDC has a responsibility to be an in-state-demand aggregator, and that may require that it step into a shipper role for that as well. He said he does not want to leave the impression that AGDC will be completely risk free, but he does not expect it to step into big risk profiles with respect to the LNG export sales, he clarified.

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MR. MEYER turned to slide 25 regarding the AKLNG completion timeline, and he said that AGDC would like the Pre-FEED completed and the FERC application filed by 2016. The state is not a party to the land ownership [for the LNG plant], and it is the landowner who makes the Section 3 application to FERC. He added that the applicant does not have to actually own the land, but it has to show it controls it. Before the FERC process gets moving, "we have to reach an understanding" of what rights Alaska has with regard to the land where the LNG plant is to be sited. He said he would like to see a financial investment decision in 2018, because it will take that much time to put AKLNG in service for the 2023-2025 demand window. He said that

he believes, although it is arguable, that if the project is not ready for the next demand window, it will miss it.

REPRESENTATIVE SADDLER said he read the "mega projects book," and learned that one of the big risks is a schedule risk. "Managers of the program might feel a need to get something done by a date certain, so you can throw money and resources at a project and never make the clock run slower or faster," he said. He added that he is hearing Mr. Meyer say that one of the dominant drivers is meeting that next window or market opportunity without considering the risk or whether it is an advantage to the state. He said there has been a pattern of opacity by the administration, and Mr. Meyer has a tall mountain to climb to earn the trust of the legislature and of Alaskans. He said he has long been a supporter of a natural gas pipeline, and he wants to be aligned with the producers, share the ownership risk, and be pulling in the same direction, he noted, and there is a pattern of being in opposition to the producers and nudge them out of the way. "You have a long way to go to get my confidence [unclear]," and he has heard a lot of information that causes him "great pause."

MR. MEYER shared his concerns on trust. He needs a little bit of time to earn it, and he has not tried to hold anything back. He believes that AGDC has been hindered by the lack of openness, and he pledged more openness. With respect to being driven by a schedule, some people feel that a project needs to mature whenever the time is right, but he said he comes from a pipeline/midstream background where there was always a customer with a time demand that his project had to hit. "I tend to be much more schedule-driven," he explained. He said, "If you shoot for nothing, you are sure to hit it," so it is important to recognize that there is a window to shoot for, but he is not suggesting the project must get built regardless, that it be built at risk, or that it be built with market. There is a short amount of time—maybe 18 to 24 months—to figure out a structure that will work from a cost-of-supply standpoint, he said. Additionally, the project must be de-risked so that it is acceptable to all parties, and there is the need to communicate and convince the markets that this project will be there for them in the future as a long-term, stable supplier.

MR. MEYER said he understands that schedules can lead to risks that should not be taken, and that is not his intention. This project is so big that no risk will be allowed that is not reasonably understood by the party taking it. He noted that there is no real technical risk, because no new technology is

needed, but there is some construction risk. Putting all the components together makes it a big project, he added, but there is an opportunity to decide to pull out the stops and work together with the producer venture parties. He stated that he has not come today with all of the answers but quite the contrary. "I come to you today admitting that we don't have the answers. We don't have them all, but I know from my history of project development and infrastructure development that there are tools that we draw from; there are resources outside of the state that we can draw from that will help this project, and what I'm hoping is, with a collaborative working relationship with our producer folks and with you folks, that we can pull enough of those tools together to make this work."

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MR. MEYER turned to slide 26 regarding budget implications, and said "this is nothing new," as it was seen in the budget process. He pointed out that right now, it is not known which of the parties are in and for how much. If the state had to go it alone, which he does not expect, the FERC process would cost much more, he noted. In summary, he provided the following:

Market conditions and lack of consensus among participants is leading to a project slow down.

AGDC can step into the lead to maintain momentum and focus on cost reductions through structure and financing changes.

Alternative venture structures could keep all participants engaged and create flexibility to allow Alaska LNG to compete in the mid-2020s market window.

AGDC will ensure the legislature is kept well-informed throughout the process.

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SENATOR COSTELLO said Mr. Butt told the committee that the measure of competitiveness is the cost of supply, and he explained the efforts to reduce it. You tell us that the project is not going anywhere, but that the two options are to delay the project or ownership. She asked if the work that Mr. Butt has done is not significant or warrants a change of direction.

MR. MEYER said his statements do not conflict with Mr. Butt's statements—they are saying the same thing in a different way. The work that Mr. Butt and his team has done is exemplary. The

resource reports and other things are "just beautiful." He stated that FERC probably has never seen an application as thorough as that. However, Mr. Butt did point out that they need to reduce the cost of supply to get into the next phase. The cost of the project needs to be reduced or it will not move at the pace that people had expected, he explained. He offered that AGDC has been part of the technical work product, and the work that it did on the ASAP line was very good—they got an EIS through the process. The whole team has done an amazing amount of work on how to reduce the capital cost and how to put the project in phases, so train 1 can start up without having to wait for all trains to be done, he said. There is more they are doing—they are still beating down capital costs, but even with those efforts, there is more to be done to clear internal hurdles and the market.

MR. MEYER said that the challenge now is to reduce the demands on the balance sheets of the producer parties and the state and to put the capital costs of the project in the hands of somebody that likes a low infrastructure return, like the pension funds. "What if we structure this so that the state took more and we took out some of the federal taxes?" Does adjusting the property tax or the local payments help, he asked. All of the aspects need to be assessed to get this project where it competes in a very competitive world market for a long time. The current effort is very collaborative, and it is a concept that he cannot yet determine if it will work, he stated. It is worth the try, he said, because he firmly believes that Alaska has a very good project—the LNG project is extremely good and will be very attractive to the infrastructure fund and to the market, as long as that cost of supply is in line. He added that he wants to see happy producers on one end, happy customers on the other, and a happy state in the middle. "Whether we can get there, I do not know, but I know that we have enough tools that I think we can make a difference and I think we can keep this project on track, and I want to do that in a collaborative manner, and I think we can," he concluded.

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SENATOR COSTELLO asked about the first bullet that stated a lack of consensus among participants.

MR. MEYER said he was talking about a lack of consensus on the FEED decision, but that decision is not required now, so he cannot say for certain. He said he has heard the governor publicly thank the producers for letting Alaska know now that there is a good chance that the project is not going to FEED,

rather than waiting a year to tell us. The forewarning is appreciated because the next 12 months are very critical.

SENATOR COSTELLO expressed concern that he is making an assumption based on a press conference about Alaska's important mega project.

MR. MEYER responded that he is not making an assumption based on a press conference. There have been other data points as well. The producers are looking forward to working in a collaborative manner to help reduce the cost of supply for this project, and no one has been asked to vote yet, so there may be room for a positive FEED. He said he has received enough information from producers and others that indicate that the project is not moving quickly. One "data point" is that the major contractor for this project told him that the project is not moving forward—it needs more study, he said. If the major contractors are being told that, it gets out in the industry. He is not basing his perception on one press conference, he stated.

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REPRESENTATIVE TARR observed that the governor has long stated a preference for a go-it-alone project, and she wants to understand where people are "out of sync," "Where we're hearing from the project that things are still under consideration, but the presentation from you, even though it's suggested to be in concept form, seems a lot more permanent." She wants to know how to do a cost-benefit analysis on the points where there is no consensus to better understand why the new concept would be preferable to the existing structure, she said. "Many of us" supported the existing structure initially. She said "people like Larry Persily," who worked as the federal pipeline coordinator, said the previous arrangement "was the closest we've ever come—that's how it was characterized." It was characterized as the project arrangement that had the highest likelihood of success, so to shift gears into a fundamental overhaul of the structure—. She said if other sponsor parties speak positively [about the new structure], it would probably change the reaction of a lot of people around the table. She added that she wants to hold back on her position until she has heard all of the information and really understand everyone's position. It would be helpful to see the structures in a comparative way to understand how the new concept might lead to success, she stated.

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MR. MEYER clarified that he was not involved in upstream negotiations on those arrangements, but he understands they took a lot of time, and some agreements were not reached. A number of the agreements can come later, rather than up front. The cost of CO2 disposal is an issue, for example, but it is unknown—"you may get something, you may not," but what is known is that the project has to compete in the market, and the costs have to come down. The netback will determine whether there is a project or not. He said he is sure there were great efforts getting the agreements to the point where they are, and he would like that effort to pick up from where they left off, but settling on one thing up north does not change the market price and it does not change the need to reduce big chunks of costs. He added that he is also anxious to hear from the producers and is hopeful that they will be receptive to look at alternative structures that will help reduce the total cost of supply.

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REPRESENTATIVE TARR surmised that under the existing model, "we're trying to get the lowest cost of supply before we go out and find buyers," and what Mr. Meyer is suggesting is to find out what the buyers are willing to pay and fit the structure around that.

MR. MEYER said maybe it is sort of in between, because the market price is known right now, and he would like to assess other things to reduce costs. All parties know there are different ways to do that, he said. The current framework of everyone just kicking in their share probably is not going to work, and he noted that Mr. Butt touched on that very tactfully, but that is where we are at.

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SENATOR MICCICHE said that Mr. Meyer recognizes a fundamental difference between the comparisons with commodity prices in 2009 that resulted in limited success for Australia and the market conditions of 2016.

MR. MEYER asked what the question is. "Do I recognize the difference between the '09 environment and 2016?" He went ahead and explained that the fundamental difference is the shale, which was a true paradigm shift. When he entered this industry 35 years ago, he was told that all of the big fields had been found, and the emphasis was on exploration. Now the emphasis is on the production side, because shale development is more of a mining activity. The cost structure and long-term costs are more well-known, and without the exploration component, it is less

risky. Additionally, large tolling plants in the U.S. are being built on a tolling model, which is like the model he is describing, so that cost is very predictable. He noted that oil-linked pricing is changing, and Japan who is a historic oil-linked buyer is wanting something different.

SENATOR MICCICHE said he was in Tokyo for a meeting, and he was trying to understand "cocktail pricing," and a polite Japanese gentleman said, "When oil is cheaper, we buy oil." Senator Micciche noted that Mr. Meyer said to be prepared for the turnaround in the mid-2020s. He said he assumes that the lack of consensus has to do with market conditions. "If the people who have the most experience in the planet are concerned about the viability of this project, I think we should share in that concern." Oversupply and the issue of conversion is a serious concern, and when buying a vehicle in 2008, a person could get floor mats and a fancy stereo, because it was a buyers' market, "and I don't think that that's going to be a short-term impact, so I hope you carry that conservatism with as you seem to be somewhat marching forward," he stated. If the discussion is internal versus external capital, he is open, he said, but if the conversation is somewhat rogue, "I remain concerned."

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MR. MEYER said he is not sure [about that comment], but his conversation is not rogue. He told the committee that the market conditions are causing misalignment or different perceptions. In a recent article from *Natural Gas Week*, "Market Doldrums Knock Alaska LNG Further Down in Exxon Priorities," [ExxonMobil chief executive Rex] Tillerson said Alaska LNG is still important to ExxonMobil, but the market has changed, consequently the company has to set priorities, and those priorities start with the lowest cost of supply. Unfortunately other ventures have greater certainty in the near term. Mr. Meyer said that the Alaska project is challenged by alternate projects, but everyone is aligned in wanting to see the Alaska project become more competitive and reduce the cost of supply. He said it will not be easy, it will not be a free market, and when demand comes up, there are eight times the number of projects that are needed to capture that demand. Those projects are telling their investors that they are going to capture it, and he is hoping the Alaska project will be one of those, but "we have to fight."

REPRESENTATIVE TARR said that she wants to feel like Alaska is not forcing a project at a time that it should not happen. She said some of the producers want to slow down, and maybe the new concepts will alleviate this problem, but it is not clear to her

whether the state is forcing a project that should not go forward or using new opportunities to enhance a project that should.

MR. MEYER said he shared that completely; the project should work and not be forced. He believes there are different tools in the tool box that are common in world infrastructure projects to make it work without forcing any particular party.

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CO-CHAIR GIESSEL said that the people sitting at the table represent the people of Alaska, but speaking for herself she is concerned about Mr. Meyer's concept and is discouraged to hear there is an idea to start all over again. "We've tried this project several times, and it hasn't penciled out and with good reason," she stated. There is a gas offtake authority "from our conservation commission, so that's an exciting thing. It sounds like you agree with us that the cost of supply is a critical driver for this project," she commented, "and yet you want to drive toward a final investment decision by 2018. That's very concerning." She said it is a conflicting message, but she does appreciate him coming today.

FISCAL TEAM

CHAIR GIESSEL said the next agenda item is to hear from the producers, who represent three of the five members of the fiscal team—the others are AGDC and the Department of Natural Resources.

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DAVID VAN TUYL, Alaska Regional Manager, BP, Anchorage, said he has been working for BP in Alaska for almost 32 years, and many years have been dedicated to getting gas to market. He works on the fiscal team and is also on the management committee of the Alaska LNG project. He stated that the success of this project is absolutely critical to BP's business in Alaska and to the future of Alaska. The scale of the project is unique for BP, and the corporation would like to see Alaska LNG move to market in the 2020s. He said 2016 is a challenging year, and "currently we're all living that reality." In the low-price environment, there are over a trillion dollars' worth of projects that have been shelved, he stated. "It's tough out there." The Alaska project is also challenged, he added, but it is not unusual for LNG projects to go through evolutions. The good news, he said, is that the Alaska project has not been shelved. He stated that BP and Alaska know what it means to face challenges—"challenges

are nothing new to us." The January 2014 Heads of Agreement envisioned a path to face challenges together. It was also the path that was forged by this legislature, and BP is committed to progressing "in an aligned way forward."

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MR. VAN TUYL said the Pre-FEED phase is 91 percent completed to deliverables, and BP will have spent \$600 million gross to advance Alaska LNG once the work is done. He estimated that FEED will cost over twice that amount—maybe three times that amount. That kind of commitment deserves a careful evaluation and a thoughtful decision before BP commits its resources or before the state commits Alaska's resource, he stated. He said BP has found that the cost of supply is the most meaningful benchmark to measure how LNG competes with other projects. He explained that it is the cost at which a project can sell product to a buyer and is typically quoted on a discounted basis. Higher-cost projects will struggle to find willing buyers, he said. In fact, BP has commissioned a study to evaluate the competitiveness of Alaska LNG, and he expects the results of the commissioned study next month.

MR. VAN TUYL told the committee that at last month's Alaska Oil and Gas Association's conference, Daniel Yergin, an energy consultant who is the industry authority, reminded people that the world LNG market has changed dramatically. Yergin's firm, IHS, sees a tremendous supply of LNG from the Gulf of Mexico, he said. That supply is more than 10 times the volume of known ANS [Alaska North Slope] gas. That's the reality against which Alaska LNG must compete, he explained, and even with the great work of Steve Butt and the project team, "we're not there yet." He said he understands and appreciates the state's desire to move its project ahead, and BP understands the state's fiscal need for a new revenue source. The state is a vitally important co-venturer for BP, he noted, but BP does not want to move quickly into the largest energy project in North America that will only end up losing lots of money "for all of us."

MR. VAN TUYL said Alaska LNG must successfully compete in the global marketplace. He added that LNG is a commodity, and buyers have many choices as to where they purchase it. He noted that buyers want to pay as little as possible. He said BP wants to make a competitive offer, and before BP makes an affirmative decision to enter FEED, it will want to make sure of a few things. It wants to make sure that the cost of supply is competitive, he explained, and it wants to follow project management best practices. Once BP has found that the project is

competitive, it needs fiscal and commercial terms sufficiently defined to feel confident, and those terms will need to be finalized, including continuation of FERC Section 3 regulation of the Alaska LNG project as what was outlined in that Heads of Agreement. He added that all of the participating co-venturers will have to commit their share of funding for FEED, and BP envisions that any resulting agreements that have a term in excess of two years would be made available to the legislature for approval as provided in SB 138. He said some terms will require confidential treatment. Once BP confirms that Alaska LNG can be delivered at a competitive cost of supply, it will want to move forward quickly. "We will all be highly motivated to minimize the time we have capital tied up that's not generating cash," he clarified. Some genuinely good news, he said, is that the Alaska LNG combined venture continues to offer many significant advantages. The Prudhoe Bay field is one of the world's most prolific basins, he said. In 38 years it has produced over 12 billion barrels of oil, and he expects there are at least another 2 billion barrels along with a massive gas resource of over 4 billion barrels of oil equivalent. "That's a lot to play for."

MR. VAN TUYL said that Mr. [Keith] Meyer showed a slide referencing efforts since the early 1980s to get Alaska's gas to market. He said that he thinks it is important to remember that since that time, the Prudhoe Bay working-interest owners have made good use of that gas through gas cycling, enhanced oil recovery, and other efforts, allowing them to produce over 3 billion barrels of oil more than was originally expected.

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MR. VAN TUYL said BP continues to focus on using BP's gas resource to BP's best benefit in Prudhoe Bay, and the Pt. Thomson gas condensate field has been placed in production with ExxonMobil as the operator. It contains a gas resource of a billion barrels of oil equivalent, and the companies "sitting before you" have world class experience in development. They have successfully built mega LNG projects around the globe—"that's a good resource to have," he added. They have financial and technical capabilities, he noted, and are essential to a successful LNG project. "We have a host government that's highly motivated to get our Alaska gas resource to market," he stated. He added that all of those things are wonderful. He noted that "we're aligned on our need to continue to look for opportunities to reduce the cost of supply for Alaska LNG."

MR. VAN TUYL said, "We're actively discussing alternative ways to continue to advance the project" and working cooperatively to reduce the cost of supply. He added that BP needs the Alaska LNG project to be successful, and a successful project would provide a major step towards commercializing oil and gas resources on the North Slope and around the state. He added that a successful Alaska LNG project will mean a stable revenue source for BP for decades to come and a source of gas for Alaska users. It is worth working hard to achieve, he added, and that is the future of Alaska that BP is working for.

REPRESENTATIVE SEATON asked if the Wood Mackenzie study will be made available.

MR. VAN TUYL said BP would certainly intend to make it publically available.

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REPRESENTATIVE SEATON said if a gas project does not take place in the mid-2020s, how will the gas impact Prudhoe Bay operations and its economics? Will it negatively impact gas handling?

MR. VAN TUYL answered that the timing of a major gas sale at Prudhoe Bay is an outcome and is not a target that BP shoots for, but once BP identifies a viable project with partner support and regulatory approval, it will maximize the resource offtake from Prudhoe Bay. If the project were delayed, BP is going to continue to work to optimize the resource, and there may be an impact, "but we don't see that today," he explained.

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DARREN MEZGARICH, Project Integration Manager for Alaska North Slope (ANS) Gas, ConocoPhillips, Anchorage, said his team is responsible for integrating the technical, commercial, and marketing aspects of the project for ConocoPhillips. Its objective is to monetize ANS gas resources, and ConocoPhillips remains committed to the completion of the pre-FEED technical deliverables in 2016, "but we have to be realistic about the project in the current price environment." The industry continues to face weak oil prices that have not been seen for more than a decade and weak global natural gas prices that have not been seen for 15 years or more. He said this has created challenges to the industry as it deals with greatly diminished revenues from their producing assets. He noted testimony in January, showing that AKLNG project faces economic headwinds, and low oil and gas prices have depressed Asia LNG prices by 60 percent since 2014. The global LNG market is oversupplied, and

analysts believe the LNG market will remain under pressure as projects in Australia and the Lower 48 come on line and ramp up to full production, he explained. He said that ConocoPhillips expects the market to strengthen at some point, but that timing is difficult to predict. Additionally, the AKLNG project is not ready for a FEED decision, and components of a successful project ready for FEED stage gate will include demonstrated gas resource, reliable fiscal terms, and sufficient resolution of commercial and technical issues that result in a competitive cost of supply and acceptable risk.

MR. MEZNARICH said ConocoPhillips is unlikely to be ready for FEED decision in 2017, but it is open to evaluating any credible option and willing to hear more about the approach described by AGDC's Keith Meyer today. The opportunity to improve project competitiveness is beneficial to all, he said, and ConocoPhillips will not stand in the way of a project should the administration, legislature, and others want to proceed without it. "We will make our gas available on commercially reasonable and mutually agreeable terms," he said. ConocoPhillips signed a gas availability agreement with the state in December 2015, and it has since had preliminary discussions with the state to progress terms by which ConocoPhillips would make its gas available. He said he has reviewed the list of questions supplied by the chair and would be pleased to address them.

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REPRESENTATIVE TARR said she appreciated his specificity on not being ready for a FEED decision in 2017 and his interest in the new concept described by AGDC. She asked how to approach ConocoPhillips in the potential transition to a new arrangement.

MR. MEZNARICH answered that he had heard about the new concept only recently, so ConocoPhillips is looking forward to learning more about it. He does not have enough details to comment but is looking forward to working collaboratively, "but we'll just have to see where it goes."

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BILL McMAHON, Senior Commercial Advisor, ExxonMobil, Anchorage, said he has worked on the commercialization of gas for over 20 years. He noted that ExxonMobil has worked under each framework established by Alaska, including the Stranded Gas Development Act approach for a pipeline to North America. In 2007, there was the Alaska Gasline Development Act, and ExxonMobil aligned with TransCanada to advance a pipeline and LNG project. In 2014, the Heads of Agreement was executed and SB 138 was enacted, he

explained. ExxonMobil entered the Pre-FEED phase and committed resources with the understanding that fiscal and commercial agreements would work in parallel. He said, "That has been a disappointment for us to expose that money without having those completed." The company has continued to advance the Pre-FEED deliverables, and those will be wrapped up this year. It is important to note that the agreement under which the Pre-FEED works was done is scheduled to expire next year, he added.

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MR. McMAHON said that ExxonMobil will continue to support a project that takes an aligned approach with the state, BP, and ConocoPhillips to commercialize the gas, such as they are doing under the Alaska LNG project; "however, we need to recognize that the LNG project is global—the LNG market is global—with many potential supply and support sources competing for available demand." He explained that projects need to have a competitive cost of supply to remain viable throughout the market cycles. All major projects within ExxonMobil's portfolio are evaluated on fiscal terms, stability, and political and regulatory frameworks. "We remain committed to commercializing the natural gas resources on the Alaska North Slope and are willing to work with any interested parties, including our coventurers, AGDC, and the state of Alaska to explore options to commercialize the gas." In January, the governor provided a letter outlining all of the agreements and actions needed to be completed prior to the end of the regular session, or he would have no other choice but to consider other options to commercialize the gas. Mr. McMahon said that the letter failed to include a fiscal agreement, and ExxonMobil wants the assurance of predictable fiscal terms. When it became clear that the governor's plan was not going to be met, other concepts to progress the project were discussed in February with the Alaska LNG project "sponsors." One concept was working with the administration to explore other options, he stated, and taking a "paced" approach to "our current Alaska LNG project."

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MR. McMAHON said that approach would continue to advance to regulatory permitting, target potential cost reductions, and develop fiscal and commercial agreements that ExxonMobil expected. To be clear, he said, ExxonMobil has been willing to have group discussions about any modifications, "and ExxonMobil didn't request that those discussions cease." He added that his company has not been having one-on-one negotiations with the state, and this all changed last week. The administration shared an alternative concept for commercializing ANS gas as well as a

potential plan to move from a project structure based on the HOA and SB 138 to a state alternative project structure. ExxonMobil is working to understand it better so it can evaluate the concept, he stated. He said it is exploring all options.

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CHAIR GIESSEL said she pulled up the last presentation that Mr. McMahon gave, because it was so easy to follow. She said he had five elements, and she asked for a review of "where they are at from the perspective of the three companies." The first element is gas production—"so we can check that one off," she said. Prudhoe Bay and Pt. Thomson development plans and AOGCC offtake, "so we can check that one off, [because] AOGCC has given authorization for offtake." She asked if that is true.

MR. McMAHON said yes.

CHAIR GIESSEL said the next criteria is deliverable, and "it says key agreements, lease modifications, governance, gas supply, firm transportation services agreement." She asked where the commercial negotiations are now.

MR. McMAHON said that those discussions have been suspended.

CHAIR GIESSEL said she sent a letter to each of the companies asking them to answer three questions, although the second questions was only relevant to AGDC. The letter asked how things are going, and in each response [the producers] "call out" that commercial agreements and fiscal agreements necessary for a FEED decision have been suspended. "How did that happen?"

MR. McMAHON said ExxonMobil did not support that cessation.

MR. VAN TUYL said BP is ready to engage at any point in time and did not anticipate the suspension.

MR. MEZMARICH said ConocoPhillips is ready to engage, but, in fairness, it had not made a lot of progress either. It is also ready to engage if the legislature and the administration want to go a different direction.

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CHAIR GIESSEL said the fiscal elements are property tax (PILT), royalty-in-kind decision, predictable and durable terms, and a constitutional amendment. There is an opinion from the Alaska attorney general, and it is on [the legislative website], indicating that the state would need a constitutional amendment

to provide a predictable tax structure. She said the next category includes regulatory elements, progressing FERC, and pre-filing NEPA. She believes the companies are working on the FERC process.

MR. McMAHON said that is correct.

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CO-CHAIR GIESSEL said the last element is government relations and broad support for the project. She stated that she is very supportive of this project, but she is concerned about the cost. "Our job is to make sure that the benefit of this resource is maximized for the people in the state," she said. It is not the legislature's job to provide the buyers with the lowest priced product, but the most competitive price that brings a return, and that is the self-interest of [the oil companies].

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REPRESENTATIVE JOSEPHSON said he has been working on this topic, and he has found the witnesses to have impeccable integrity, and everything they have told him has been accurate. He noted that everything the three men are saying supports Mr. Meyer's position that this project will have to be shelved unless there is an alternative. It is imperative to fix Alaska's fiscal problems, and it could take years. There is an implication about a willingness to continue to engage in commercial agreements, and there is an implication that the state is not willing to engage in some way. "That's a pretty powerful implication to be left with, and I think the record needs to be made perfectly clear," he stated. Perhaps the administration does not see the project as coming to fruition in 2017/2018 moving into FEED. He wants to know what factor caused the suspension.

MR. McMAHON told him to ask AGDC.

MR. VAN TUYL said if he is asking if the state is willing to engage, then he agrees with Mr. McMahon. He added that BP is willing to engage on any discussions to advance the project, but the common thread is the cost of supply and more needs to be done so that the project can compete. There are a lot of ways to approach that; the project team work is essential, and there are other things that might be possible, like tax efficiency. He said he is always willing to hear a good idea.

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SENATOR STOLTZE said he is trying to buttonhole the lack of consensus and asked if there is consensus with the industry.

MR. MEZMARICH said ConocoPhillips needs to have technical work done and a reliable cost estimate. Additionally, there are the fiscal terms, the commercial terms, and the market. The technical piece is going well, but "the fiscal and the commercial are not ready and obviously the market is not ready," and that is why ConocoPhillips indicated that it is unlikely that it would be ready for FEED in 2017.

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SENATOR STOLTZE said, based on his readings, that he has been bombarded by a lack of consensus in the administration. "We don't usually have four commissioners appointed during one day," he stated. The most prominent litigator in his memory against the industry resigned, and "there's a lot of almost coded message on the DNR departure about the plan of development and a move to put that in default." He added that around 2005 or so there was litigation on a field, Pt. Thomson, with only one player, Exxon, through three governors, "and I think finally about half way through former Governor Parnell's administration there was a resolution or some type of closure on that, so seven years just on a litigation issue on a plan of development with only one player involved." He asked if that is part of the lack of consensus on the plan of development. He said he knows from watching the media there is a lack of consensus, apparently, and maybe that consensus is being solidified through new appointments. "Maybe that will be a new model ... straight down to the commissioners and directors, but I guess the combination—I'm trying to figure out this whole lack of consensus discussion that Mr. Meyer brought up." He added that he can observe there has been a lack of consensus internally, but he is not trying to "take the steam out of the engine of what we might hear from DNR later, but it pops up." He said when there's words used, he tries to take them to heart, and he is trying to understand the lack of consensus part. He added that it seems to involve a lot of things, so, he said, he will just default to the whole plan of development discussion. He stated that he did not know what the position was last week, and he assumes that he will know what it is soon when there is new [unclear]. He continued, "Just on the whole issue of plan of development and using that legal lever."

MR. VAN TUYL said BP, as the Prudhoe Bay unit operator on behalf of all the working interest owners, submitted its plan of development to DNR "that we think should be approved." The plan included "the level of information consistent with the plans that we've provided each year to DNR since the annual plan of

development process started in the year 2000." He noted that BP has not yet heard a formal response from DNR, and he looks forward to receiving an approval from DNR. Regarding how BP views AKLNG, it all starts with cost of supply, and once BP identifies a competitive cost of supply, "then get out of the way." He said BP will want to move forward with that project and get that gas to market, "and until we do, it makes sense for us to continue to work hard to make sure that the project competes—it's as simple as that."

MR. McMAHON added that there is total support with BP as operator and the way it has handled the plan-of-development process. He said ExxonMobil is focused on cost of supply, and that will be used to go through the time-tested process of a stage-gate. "Before signing up for our share of the over a billion dollars of FEED expenditures, one of the things we'll want to do is assess where do we think the project is commercially before making ... that decision."

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MR. McMAHON said that he seems to be in line with Mr. Van Tuyl, so he does not see a lack of unity there.

MR. MEZNARICH said ConocoPhillips supports the operator's plan of development for Prudhoe Bay. Regarding the cost of supply, ConocoPhillips is interested in new ideas.

SENATOR STOLTZE said it sounds like there is a consensus on that part. He said AGDC represented a lack of consensus, so he guesses he will hear what DNR says, "and we'll find out where that little glitch on the consensus is."

REPRESENTATIVE TARR noted that the witnesses said that 2017 would not be a time when their companies would want to enter into FEED, but she did not hear information about a schedule that might look more possible. She acknowledged that there were many unknowns, but, legislators will be faced with evaluating if the new concept is a good idea, so she asked, "How long of a delay would we be looking at versus some other idea that may ... move things along a little more quickly?" She noted that Senator Giessel said there is hesitation in starting all over, because it has taken so many years to get to this point. "How much information can you share with us about how you'll evaluate that timeline?"

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MR. VAN TUYL said he takes some exception to an assumption of showing opposition to a 2017 FEED. For BP, "the timing is an outcome, whether it's any particular time, that's something that you earn as a result of having done the work." Doing the work means getting to a competitive cost of supply and such things as the governance terms and commercial agreements, he added. If that can get done promptly and everyone can make a FEED decision, "we'll look at the calendar and figure out when it is and we'll celebrate." Once there is a competitive project that will be the time for each company to decide to commit to FEED.

MR. McMAHON said ExxonMobil does not want to be schedule driven, because that is how bad things happen to mega projects. He cited cost overruns and technical problems, so ExxonMobil does not want to pin down a date for the FEED decision, "but we want to work diligently to clear all the factors that we test each time we approach a stage gate." He said he has only had the proposal for a week and looks forward to learning more about it, and if it has ways to reduce the cost of supply, that will be supported. In order to compete in the LNG market, there has to be a competitive cost of supply, he reiterated.

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MR. MEZNARICH responded that for ConocoPhillips to make a FEED decision, it must understand the cost, the assurance of the resource, and the rules of the game. Whoever the investor is will want to understand that there is gas supply assurance and what the fiscal and commercial terms are, he said. "Those are the things that we can work on and then the market is going to take care of itself."

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REPRESENTATIVE HAWKER said Mr. McMahon has been an articulate spokesperson for the producers, so he is asking for his opinion on Mr. Meyer being very adamant about the importance of sharing more information with the legislature and the public, as well as getting the legislature more involved in the next series of joint venture agreements and contracts. He then asked Mr. McMahon if he and his corporation would object to the state giving the legislature and the public the new concept documents that were offered last week.

MR. McMAHON said that proposal belongs to AGDC, and ExxonMobil would have no objections if AGDC chose to release it.

MR. VAN TUYL and MR. MEZNARICH agreed.

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SENATOR MACKINNON asked the producers if there has been any disadvantage by not having AOGCC at full complement. There has been a vacant position for almost two years, she stated.

MR. VAN TUYL said no; BP has had great interactions with AOGCC, and it celebrates the ruling that it obtained last October on both the offtake rate at Prudhoe Bay and for CO2 reinjection. Both are essential elements in allowing AKLNG to move forward.

MR. McMAHON echoed that for Pt. Thomson. ExxonMobil was able to secure the necessary offtake rules, he said.

MR. MEZNARICH said ConocoPhillips appreciates what AOGCC has done; "I think they've done what they could and done well."

SENATOR MACKINNON said the governor's press release suggests that the offtake is an indication that Alaska is ready to move forward and sell gas in market. She asked if that is the decision or is further work needed for the commission to start taking off or selling some of the CO2.

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MR. VAN TUYL said AOGCC gave approval with some homework assignments that are due in five years. There is still work to do on CO2 optimization, he clarified, but BP is confident it can do the technical work required within the timeframe required.

SENATOR MACKINNON said she is concerned that "we could reappoint an AG in 48 hours, a DNR commissioner, and maybe the administration has had more lead time than that, but that we continue to hold vacant a very technical position that is part of the livelihood of understanding and creating monetary value for the people of Alaska." She stated that Commissioner [Dan] Seamont's position expires in 2017, and there will be two vacancies. She said she is not part of the press, so she does not get her answers publicly sometimes, and she is doing a shout out to the governor's team that she is waiting for an appointment and has been for at least 18 months. She said she appreciates Mr. Meyer taking over the lead at AGDC and advocating for Alaskans an economically and commercially viable project. She noted that she feels like "some folks aren't playing well together." Legislators are not able to be inside some of the conversations, so they would just be finger-pointing. She asked the witnesses why there is not a gas sales agreement between the three producers so that some of the supply costs can be advanced. She said the legislature has been told

that "you're not playing well together" in reaching a gas balancing agreement on the North Slope. She asked for an update.

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MR. MEZNRICH answered that he could not comment on confidential negotiations, but ConocoPhillips continues to make reasonable offers and resolve the differential ownership between the two fields. "It' a challenging issue right now."

MR. VAN TUYL said there has been tremendous progress on a very commercially complex issue, but he does not know what it takes to reach agreement, because it depends on the counter party. "We are very much motivated to try to remove any of the barriers that we have." He said BP will devote the resources necessary to solve those problem, no matter how complex or time consuming.

MR. McMAHON answered that ExxonMobil has been making reasonable offers as well. If Alaska elects to take royalty in kind, it is a party to the agreement, "and they have been involved in the negotiations when they were under one."

SENATOR MACKINNON expressed hope to find a way for a legislative representative to start listening to some of these conversations, because "with the answers that we were just given, it's hard to determine how to help progress this integrated project." There is finger-pointing that at least three of the parties are not coming up with the balancing agreement for a variety of reasons that we're not privy to." She said it is frustrating to not have the inside details, "and then we hear the blame game going around that the state hasn't set our fiscal terms when we've been waiting for some agreement from the management team or the producers." She said she is not meaning to be disparaging; it is a complex project. She hopes the administration allows participation so someone can represent the legislature to give confidence that the blame game is fair.

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REPRESENTATIVE SEATON asked if there are other agreements that are in conflict besides the gas balancing agreement, and, if so, what is the nature of any other upstream agreements that have not reached alignment?

MR. VAN TUYL told Representative Seaton to look at the governor's January 18 letter for a list of agreements that the administration was looking for at that time. "Those were the things that we were engaged on at the time," he stated.

REPRESENTATIVE SEATON asked about other "complex issues" that are not in alignment and that he is not aware of.

MR. VAN TUYL said one of the key issues that was not listed in the letter was the fiscal terms, which remains to be completed.

MR. McMAHON said he has a copy of the letter, and one issue is the byproduct handling agreement, which deals with taking the byproducts from the GTP and use them at Prudhoe Bay. The third issue listed is the field cost allowance under the lease agreements, he added.

REPRESENTATIVE SEATON asked if those agreements need to be worked out before a FEED decision.

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MR. MEZMARICH added that the other issue that came up in testimony in Palmer, Alaska, last fall was the marketing structure, "and there's JV versus equity marketing," and that is another open issue. He explained that JV means "full four-party JV marketing." From the perspective of ConocoPhillips and regarding a constitutional amendment, before a package is brought to the legislature and the public, all these things need to be sorted out. The rules of the game and the technical work all have to be done, he said, and then the project can be ready when the market is ready. "They should be resolved in advance."

REPRESENTATIVE SEATON asked if that would be before a FEED decision is made.

MR. MEZMARICH said that is before a package is brought to the legislature for ratification, which will precede a constitutional amendment, "and then you'd be ready to go to FEED."

CO-CHAIR GIESSEL said the goal of FEED was to make that decision in 2017. If that were delayed, she asked, would the end time for the project coming on line also be delayed by a commensurate amount of time or can that time be made up?

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MR. McMAHON answered that when a project schedule is put together, it is important to understand what is on the critical path. The regulatory process, securing permission from FERC to construct, is one, so the question is hard to answer day for day. There are scenarios where the schedule can be maintained.

MR. MEZMARICH noted that there is technical and regulatory work, but if the commercial work is not ready, that may not matter. Some work in Alaska have had permits and have not gone forward, he added. "We really see this as a package," so he is not sure that the regulatory work would be a critical path in all cases.

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SENATOR MACKINNON asked if the current application can change leads without having to restart the FERC process. If the AGDC proposal includes the state taking the lead, would FERC have to be restarted?

MR. MEZMARICH said he is not a FERC expert, but there are requirements to decide in advance. But people can work together, he added.

MR. VAN TUYL said there are certain changes that would require a restart, but he does not know about the project lead.

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MR. McMAHON said that is one thing to do due diligence on. It may be something that is quite simple to work out, he said.

SENATOR MACKINNON asked about the land ownership interest in Soldotna and Nikiski held by an LLC.

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MR. McMAHON answered that the land is for the LNG plant, and FERC requires the applicant to have control of that land. He said the land might be purchased or leased, but it is too early to say how "that may come out."

REPRESENTATIVE SEATON deduced that a constitutional amendment would be in late 2018, which is a requirement for FEED, "so we're really looking at 2023 before we would even get to project sanctioning?"

MR. McMAHON said ExxonMobil needs to have predictable and durable fiscal terms to be able to enter FEED. Those terms must be valid under Alaska's constitution, he stated. In mapping out additional milestones down the road, "we approach each one of those stage gates, including the final investment decision, with that same rigor of looking at the commercial agreements, looking at the potential commercial viability of the project, the economics of the projects, looking at our own individual LNG marketing progress, so ... it's hard to put dates on that." He said ExxonMobil does not want to be schedule driven.

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REPRESENTATIVE SEATON noted that a constitutional amendment could happen no sooner than late 2018, so the FEED decision would not come until after that. Then there would be the FEED process, which optimistically would take two years.

MR. VAN TUYL said BP does not need a constitutional amendment for the fiscal certainty it envisions. "We recognize that the former attorney general had a different opinion and what not," but BP has gone down a path before in seeking fiscal terms without such an amendment. He said BP does not see that delay. He said BP would want "sufficient confidence that the parties would all endorse those terms to be able to make that commitment from BP's perspective for FEED. What that sufficient confidence might entail will be very fact dependent." He reiterated that BP has not requested a constitutional amendment, but it might end up being a requirement if that is what the host government says is necessary.

CO-CHAIR GIESSEL said there are competing attorney general opinions about that.

MR. McMAHON said, "The premise given to us was it would be a constitutional amendment."

CO-CHAIR NAGEAK thanked all of the witnesses and said that never in his wildest dreams would he "live to be 66 years and have been involved with the oil industry for at least 45 years." He started back in 1969 as a jug hustler, he explained, when he was 19 years old. He remembers those days of putting jugs in the ground and hooking them together, doing one line and another for 16-hour days. He said he has known some people from the state since when he was a young man, and "Marty" has been a friend for many years. He thanked "everybody involved in this." In the past 45 years, "I've been very productive for us in the North Slope." Without oil we would not have our own municipality, "and those leaders who did all that work for us, and most of them are all gone," but for those who are still alive, he said he wants to thank them publicly for giving their lives to "better our ways." There are various people who were in charge of the North Slope Borough, including mayors and assembly members, and he said he wants to thank everybody for what they have done, and without working with the industry, they would not be where they are today. He said there would not be a permanent fund for the state nor for the North Slope Borough, and without industry, there would not be the fire department and all the clinics, roads, and

schools. "We may not see eye-to-eye on a lot of things, but we have to live together, and we're hoping for another windfall here someday." He hopes the next generation, his son and his grandkids, will be able to enjoy all that he has enjoyed. "But thank you very much for your presentation, and we'll see each other again, I'm sure," he stated.

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CHAIR GIESSEL said she has a list of deliverables, and she asked the producers to provide their statements in written form and to keep her apprised about what would happen with FERC "if a lead changes." She said she has been asked to inquire with the DOL as to AGDC's role under SB 138. She also requested a copy of the concept document from AGDC.

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CHAIR GIESSEL adjourn the Joint Senate and House Resources Committee meeting at 5:06 p.m.