

**ALASKA STATE LEGISLATURE
SENATE RESOURCES STANDING COMMITTEE**

January 25, 2016

3:45 p.m.

MEMBERS PRESENT

Senator Cathy Giessel, Chair
Senator Mia Costello, Vice Chair
Senator John Coghill
Senator Peter Micciche
Senator Bert Stedman
Senator Bill Stoltze
Senator Bill Wielechowski

MEMBERS ABSENT

All members present

OTHER LEGISLATIVE MEMBERS PRESENT

Senator Click Bishop

COMMITTEE CALENDAR

PRESENTATION: BY STEVE BUTT, PROJECT MANAGER, ALASKA LNG PROJECT

- HEARD

PREVIOUS COMMITTEE ACTION

No previous action to record

WITNESS REGISTER

STEVE BUTT, Senior Project Manager
AKLNG Project

POSITION STATEMENT: Presented AKLNG Project update.

ACTION NARRATIVE

3:45:40 PM

CHAIR CATHY GIESSSEL called the Senate Resources Standing Committee meeting to order at 3:45 p.m. Present at the call to order were Senators Costello, Micciche, Coghill, and Chair Giessel.

[3:46:32 PM](#)

**Project Update: By Steve Butt, Project Manager,
Alaska LNG Project**

[3:46:44 PM](#)

CHAIR GIESSEL invited Steve Butt to provide the committee with the AKLNG project update.

STEVE BUTT, Senior Project Manager, AKLNG Project, said he represents a 130-member team of experts and he wanted the committee to listen as representatives of one of the owners in the project working under the Joint Venture Agreement (JVA) for (front end engineering and design) pre-FEED. Alaskans need to learn about the project, he said, because 25 percent of the money being spent on this project is the state's money.

[3:48:52 PM](#)

SENATOR STOLTZE joined the committee.

[3:49:11 PM](#)

CHAIR GIESSEL asked Mr. Butt how this project still makes sense in this low cost environment.

MR. BUTT responded that the key is for individuals to get to an informed place so they can make that decision for themselves.

[3:50:17 PM](#)

He said the AKLNG Project is an integrated project to liquefy natural gas and connect it to Asian buyers. This concept is very different than previous concepts, and to the core question of the project making sense in a low oil price environment, one could ask if it makes sense in any oil price environment.

To that answer: a structure has been created where for the first time ever the four parties who have claim on the North Slope resource - the three producers who purchased the right to produce the hydrocarbon and the state that has a derivative right to its share of the income through royalty taxes and other mechanisms - are working together. The state takes its share through a 25 percent equity position in the project, which was worked out under SB 138, and as an owner has a seat at the table.

People are wondering if the project might stop in this environment, because it just feels more problematic and all participants are tight on cash, which is not unique to any one

of them. So the project has to figure out what it is doing to minimize today's spend and reduce its long term cost of supply so it can be competitive. He said he would keep coming back to that theme. "It's all about competitive cost of supply."

[3:52:53 PM](#)

Connecting the resource at the right cost to the project requires doing some things. First, Pt. Thomson has to be connected to Prudhoe Bay. The Point Thomson resource owners will carry the cost of that interconnect line, because Point Thomson resources will be going into the AKLNG Project that has to build a gas treatment plant (GTP) to remove the CO₂. Then a pipeline needs to be built to move the gas from the north to the south to have access to ports where the LNG can be delivered to markets 12 months out of the year, which has already been successfully demonstrated by the existing ConocoPhillips' facility. Then a liquefaction facility needs to be built. So, there are three core activities the AKLNG Project has to complete: treating the gas, transporting the gas and liquefying it.

A GTP is about 25 percent of the cost of the whole project. It will remove over 450 mscf/day CO₂ or well over 4 tcf over the life of the project. Prudhoe Bay has about 12 percent CO₂ in the reservoir. The operators have done a great job of managing the reservoir by reinjecting this gas to produce 7-9 bcf/day for the last 30 years and have put that gas back in the ground almost four times. No other LNG projects in the world handle that much CO₂. Point Thomson has only about 4 percent CO₂, which is an advantage, because by bringing the two resources together (23 tcf from Prudhoe Bay and 6-8 tcf from Point Thomson) the GTP that has to be built to handle Prudhoe Bay gas will be big enough to handle Point Thomson CO₂, also. This is a big advantage, because the gas can be treated and the CO₂ reinjected into the ground with only one GTP. It is a really critical element of this project, because it will save so much money.

MR. BUTT explained that once impurities are removed from the gas and put back into the ground in Prudhoe Bay where they came from, a pipeline gets built, which is another 25 percent of the project. The pipeline will be about 804 miles long and allows transportation of the gas from the north to the south with five in-state connection points under SB 138. Then the gas needs to be liquefied. This is done by getting the gas very cold, about minus 260 Fahrenheit. At those temperatures methane converts from a gaseous form to liquid form and in doing so, it shrinks by a factor of 600. It is much easier to move one boat of cold liquefied gas to a buyer than 600 boats of ambient gas in a

vapor phase to a buyer. So, half the cost of the project is the marine and liquefaction facilities that allow connecting the resource in the north to the buyers in what is conceivably Asian markets. But it really connects gas to anywhere in the world. Once the LNG is on the water it can access any market, but right now the forecast is for it to go to Asia.

Putting that into further context, Mr. Butt said, Alaskans use about 220 mscf/gas and this facility will ship about 2.4 bcf/day, 10 times as much as the State of Alaska uses! Exporting LNG to Asian markets underpins the project by having buyers interested in getting the product. This is enough gas to source a country the size of Germany. This project is so large that it can source Asian markets for decades and instate markets for decades longer and be able to have an infrastructure that makes both work. An infrastructure of this complexity to simply source one-tenth of the market for instate use lacks economies of scale. By connecting it to a larger market, the project can generate revenues that make is possible in this environment.

[3:58:31 PM](#)

SENATOR STEDMAN joined the committee.

[3:59:44 PM](#)

MR. BUTT said cost of supply is used to figure out if this project is economic in today's environment; this means all the money spent on the project (\$45-65 billion) plus all the billions to operate it over 30 years divided by 35 tcf/gas. Whatever that number is it has to be less than the buyer pays for it so that something is left over for the lenders and investors. This is why they want to ask themselves if the risks make sense and if there is enough margin that this makes sense for me. If not, how do they work together with the other parties to make it work; because there is both a short term spend question that the team is working very hard to drive down, but more importantly, this long term cost of supply question.

Cost of supply is the metric that decides whether a project lives or dies. Because the market decides if the cost of supply is competitive. Can the gas be bought from someone else for less? Nobody will pay extra for this gas, he said; it is a commodity that cannot be differentiated. It is not Copper River salmon that demands a premium, because everyone recognizes it is a better salmon.

[4:01:25 PM](#)

CHAIR GIESSEL said constituents also ask about the demand in China diminishing and about the many projects around the world coming on line. Why do we think we will be able to sell our gas?

MR. BUTT answered that as LNG demand grows with population growth and peoples' desire to have better standards of living, decisions have to be made about how to provide energy to their economies. LNG is a cleaner form of energy than a lot of energy that is consumed in places like China right now that has terrific air quality issues and concerns about the broader mix of energies used in the rest of the world. If folks care about the long term impacts of getting their energy, they can shift to natural gas and use it as a bridge to other technologies. That creates this demand.

He said that all the studies from any parties indicate that LNG is growing faster than any other energy source. There is demand out there, but what's happening is that there are more potential sources of supply. This project's competition is to find ways to make Alaska LNG, which is very close to the market, as competitive as those other sources. They do that by working together and using the resources that all the parties can bring to bear to drive down the cost of supply.

[4:03:04 PM](#)

SENATOR WIELECHOWSKI joined the committee.

SENATOR STOLTZE asked him to describe the amorphous term, "Asian markets."

MR. BUTT answered that the term "Asian markets" describes all the different buyers in Asia. There are many countries and they all have receiving terminals, because they lack indigenous resources. He doesn't talk about more specific buyers, because as a group of sellers it's anti-competitive for them to talk about different strategies until they have defined exactly how they want to work together and how the different parties want to market their gas. Since all the parties are competitors it's inappropriate and illegal to say this is the right market and here's why.

SENATOR STOLTZE said instead of talking about Asian markets it might be helpful to talk about potential Asian customers that actually bring their checkbook to the conversation.

[4:06:24 PM](#)

MR. BUTT said he was now thinking like an owner/seller and that's great. He recommended the chair engage counsel for that data, because it is available to them.

SENATOR STEDMAN said there is no question that world energy markets will grow in the next decades and he wanted to see a presentation on that growth.

[4:07:57 PM](#)

MR. BUTT said they leveraging one of Alaska's core advantages, the fact that the air in Alaska is colder than in a lot of places allowing 10-15 percent more efficiency than other plants where LNG is being manufactured. The dryer air also helps with the longevity of the machinery. These are huge issues.

Alaska is in the Northern Hemisphere and that's where buyers are, too. The buyers want more LNG in the winter when the turbo machinery in Alaska is more efficient in generating more LNG, so that projects in the Southern Hemisphere are disadvantaged because their seasonality is out of sync with their buyers in the Northern Hemisphere. A lot of capacity has to be built to handle winter demand when they themselves are dealing with hotter temperatures. Those couple of factors combined with the fact that Alaska is very close to the market are huge advantages.

Another really big advantage is that the Prudhoe Bay resource is well known, he said. The wells are drilled and the Prudhoe Bay operator has done a great job of managing the gas to maximize oil production for 30 years. The gas has been recycled to keep that capacity and compression in place. A lot of projects have to build that, but AKLNG doesn't. All of those advantages are needed to offset the big disadvantage which is moving 4 tcf/CO2 over the life of this project. He explained that a can of coke has 4 grams of CO2 and this project has hundreds of trillions of cans of coke equivalent of CO2! A facility is needed to remove all of it and its very expensive. That is why there are no projects anywhere in the world handling this much CO2.

MR. BUTT went on to explain that the project can't be started until the CO2 is removed, because CO2 freezes at minus 50 Fahrenheit. So, if you're trying to get the gas cold enough to ship, if there is anything in that stream other than methane it will freeze very early. Once that happens, the whole facility locks up. All of the impurities must be removed. He emphasized and half the cost of the project is to clean the gas. What little impurities are left get stripped out in the liquefaction

facility. All that's left at the end of the day is simple molecules of methane and ethane that folks all over the world need.

4:12:19 PM

SENATOR STEDMAN asked if there is a limit to how much CO2 from Point Thomson can be reinjected into Prudhoe Bay.

MR. BUTT answered that Point Thomson is a high pressure system at about 10,000 psi, but not nearly as big as Prudhoe Bay, which has been produced for decades. So much has been taken out of Prudhoe Bay already that they are confident that there is room for the 4 percent CO2 from Point Thomson. Those things were discussed by the Prudhoe Bay and Point Thomson operators with the Alaska Oil and Gas Conservation Commission (AOGCC), as a regulator, to get their endorsement to take gas out of the fields for potential gas export.

SENATOR WIELECHOWSKI asked for an update on long term LNG prices in the Asian market and if he saw costs dropping with commodities plunging all around the world making this project more competitive.

MR. BUTT answered that he can't forecast prices - he hasn't met many folks who get it right - but it's more important that the cost of supply is low enough so that when markets go up and down there is still a margin. Driving down the cost of supply is the only thing the team does. The question they as owners should ask themselves is: what is the smallest amount of money that can be spent to get the gas off the North Slope connected to buyers who need the energy.

Secondly, Mr. Butt said, steel is cheaper than it was a year ago and work gets done cheaper. One of the most important elements of the energy business is that it takes a lot of energy to make energy. So, if energy is cheaper, that cost input goes down and all that is measured in the cost of supply. But the questions are: is the cost of steel coming down enough that it really matters in the pipeline and is the compression equipment getting cheaper? They are learning that material costs are moving, but some finished products like process modules, machinery and big vessels are not. This roles into their pre-FEED analysis. It all comes back to cost and risk.

SENATOR BISHOP joined the audience.

4:17:36 PM

MR. BUTT said they are working hard to build a "culture of caring" and all work completed in 2015 was done without incident. During the summer field work 300,000 person hours were logged. This means in four years only one incident was recordable and that was in 2014.

He said the December 2015 books on pre-FEED were closed out at \$376 million; \$83 million was spent in 2014 and \$293 million in 2015 and that's in addition to the \$107 million spent on concept, just short of \$500 million spent on the project to date. The design work on the base Joint Venture Agreement (JVA) design is about 85 percent complete, which is what they agreed to execute in June 2014. Since then, work has been added for the 48-inch pipeline, but that remains on schedule.

MR. BUTT said base cost and schedule estimates are getting done and will be brought to the legislature this year. The FERC draft was finished in early 2015 and the project got both free trade and non-free trade export authorizations making AKLNG one of only a handful of projects that have the legal right to export gas from the United States. The Prudhoe Bay and Point Thomson operators also worked with the AOGCC to remove a significant risk: the regulatory right to actually take gas out of the fields for an export project.

[4:21:44 PM](#)

In 2016, Mr. Butt said, they would continue to finish the pre-FEED work and continue progressing the Environmental Impact Statement (EIS), as it is a very important critical regulatory activity that ties everything together. The first step is to finish the 48-inch pipeline option that all parties agreed to spend about \$30 million on, although it can probably be done for \$26-27 million. The decision will be made in April 2016. They have made sure the state's gas team representatives are going to be involved in the review process and understand costs and execution risks, so that everyone will have common data when it comes to the decision talks.

MR. BUTT reported that the geotechnical and geophysical work will be finished to support the resource reports and that the soil borings and field data are used to demonstrate that the project can be built in a safe manner. The second draft resource report is in process now and will start to be submitted to the FERC next month through May (it is submitted in phases). As part of this process, owners will continue to be provided with information to support a FEED decision. This whole process is to

give everybody the information they need to consider what is best for the future of the project.

MR. BUTT said he had three messages: first, this is an integrated project - half the cost is the LNG plant, 25 percent is the gas plant and 25 percent is the pipeline. All the pieces have to work together for the project to work; each of the pieces in isolation isn't going to be successful. Because the project is so big it can only be effective if the costs can be driven down.

He reiterated that everything comes down to cost of supply, because the project is competing in a global market and low cost wins. He noted that everyone notices that prices are down, so there is a dual challenge of getting the near term spend down while minimizing the cost of supply. But the fact that prices today are different than what people thought they were six months ago emphasizes the fact that prices aren't predicted very well. So, they look at what they do know. The market tells them every day what people are willing to pay for that commodity, but the question is if this project can deliver it for less than that. This is the conversation they want to have over the next 9-12 months.

He said if you're losing money on a unit cost basis, you can't make up for it on volume. In the LNG business the money that is spent up front has to be recovered over time. His last point was that alignment is critical, and the four parties are talking to each other and looking at the risks together. This has not been done before. He suggested that if people are willing to work together to find alignment to reduce risk and cost and do the necessary work to make that happen, it's a self-fulfilling prophecy. You're more likely to be successful.

[4:26:37 PM](#)

SENATOR STOLTZE asked the partners' understanding of the state's level of participation and how the state will pay for its share of the project.

[4:28:35 PM](#)

MR. BUTT responded that SB 138 defines the state's share of the project at 25 percent, and that is pretty well known. But how the state will fund its share is outside of his wheel house and the state is the only one who could answer that.

[4:29:34 PM](#)

He next updated the committee on the detailed compositional and hydraulic modeling of the LNG systems to understand how all the pieces talk to each other. They know what the gas looks like from the two fields, how it comes into the GTP, how the by-products and CO2 get returned to Prudhoe Bay, how the pipeline looks, and how the LNG plant looks. An example of the importance of these details is if the discharge temperature of the compression systems at Point Thomson is changed by as little as 10 degrees, hundreds of barrels of liquids get moved across the entire system. The whole system is talking to each other all the time. This modeling allows them to do "fit for purpose project specifications" making sure the machinery everywhere is balanced and appropriate for its purpose and that it's as efficient as possible.

They understand the maintenance cycles on all the machinery so when they look out 40 years and make their decisions on cost they are thinking about the whole system over the whole life of the project. Making sure these systems run for 40 years is a very important element of cost reduction and optimization.

SENATOR WIELECHOWSKI asked if Point Thomson gas is treated the same as Prudhoe Bay gas.

MR. BUTT answered that it is treated the same, but the amount of gas and level of CO2 between the fields is very different. The rate coming out of Point Thomson is about one-quarter of the input rate and it has only 4 percent CO2. Prudhoe Bay contributes the other three-quarters that has 12 percent CO2.

[4:34:29 PM](#)

It all goes into the same acid gas rejection unit. However, once those two streams are blended, the system treats everything exactly the same. The gas comes up into a large reaction tower and gets washed down with Amine, a very long chain chemical that has the ability to grab everything that isn't hydrocarbon and bind it in with the liquid. This liquid goes out the bottom of the tower and everything that's hydrocarbon comes off the top. Everything that comes out the top goes into the pipeline and everything that comes off the bottom goes into a reboiler and gets heated up. When it's heated up, it releases everything that isn't a hydrocarbon and everything that comes off that reboiler tower is now an impurity - it's almost all CO2 - and that's moved over into Prudhoe Bay so it can be put back in the ground where it came from. So much more can be done with a blended system, because together it's only about 10 percent CO2.

MR. BUTT said on the LNG side they had finished marine modeling to demonstrate that all the materials modules can be received. The layout design is finished and navigation simulation work was done with the AVTEC facility in Seward. Geotechnical de-risking was finished by drilling 61 onshore bore holes and 25 offshore bore holes. All the information they have gathered is consistent with expectations. The soils appear appropriate and the sea floor mapping is being used in the design saving money.

They are looking really hard at storage, which is expensive, because LNG is always trying to return to a gaseous state. Therefore, they want to efficiently move the LNG from the plant to the ships with a minimum amount of storage.

[At this point he showed a video of the loading and offloading simulation at the AVTEC facility in Seward.]

He explained that any impact on the pipe for post-heat treatment can be simulated. Tensile and compression testing is done under the direction of Pipeline Hazardous Materials and Safety Administration (PHMSA), the group that defines what tests have to be done to satisfy them that the design is appropriate. They are trying to design a bunch of worst-case scenarios and prove that the pipe can perform properly and maintain integrity in the event of all the bad things happening.

[4:37:11 PM](#)

For the tensile test, two sections of pipe were cut about eight feet long to test two sets of welds and then imperfections were machined in at PHMSA's direction; and then the pipe was stretched (an 18 foot section stretches to about 19 feet). The compression was tested for deformation and bend by pushing the pipe from either end using 8-10 million pounds of load. It was found to maintain integrity under those same loads. The tests take six hours and many are done at different characteristics; about 36,000 different points are measured to test any motion in the pipe.

[4:39:39 PM](#)

So, they have demonstrated to PHMSA that over a wide range of characteristics the X70 material from all three mills passes. This means they can get the pipe from multiple sources. Going forward the 48-inch pipe needs to be tested. That pipe won't come in until April and that is when the decision will be made. They are confident the material will pass, but they have to demonstrate that to the regulator's satisfaction. For cost reduction they are trying to make sure that the pipeline route,

gravel requirements, and camps and design are as efficient as possible. With a bigger pipe they look at cost and execution risk, because a bigger pipe needs a deeper trench, much bigger side booms, much bigger right-of-ways, and a lot more equipment to move. Three joints of 42-inch pipe can be moved on a truck, but you can only move two joints of 48-inch pipe, so 50 percent more trucks will be needed. Everything is 30-50 percent more difficult because the weight is so much higher: two Ford F150s versus three for a 48 inch line. One thing they will ask is as steel is dropping in price and other things aren't does that shift the math. That decision will be made before the next update.

[4:41:30 PM](#)

SENATOR MICCICHE said he had no interest in funding blue sky and asked how the four partners would make the final decision on size.

MR. BUTT answered that the death of a mega project is spending money that you don't have to, and anything that compromises cost of supply is the last thing they want to do. But in the 42-inch v. 48-inch case the question is if enough compression can be removed from a 48-inch pipe to make the reduction in the compression facilities offset the increase in the pipe. About 1.2 million tons of steel are needed for a 42-inch system and about 1.8 million tons of steel for a 48-inch system. The pipe will cost more, but the compression will cost less. The question then will be what they think about the execution risk, the bigger right-of-ways, the extra equipment, and if they can get comfortable that the cost of supply isn't adversely compromised. The tradeoff they see, based on updated data, is somewhere on the order of a several hundred million differential with a bigger system, because the pipe costs more than the reduction in the compression costs. They want to say they have given both systems the same level of work, which they can't say right now. They know a 42-inch system meets the needs at the lowest cost of supply based on the analysis they have done. But one of the participants asked for some more work to retest the balance. They have done that and all participants will be in the room, so they all have the common data.

MR. BUTT recapped that pre-investment is tough on a project because you're spending money hoping that something happens, and if you get that wrong, every dollar is compromised.

[4:44:36 PM](#)

He said they had done a ton of work with the Prudhoe Bay operator who demonstrated how they would get the gravel and water needed for the GTP, another big risk that had uncertainty a year ago. They want to have confidence that the pit run gravel is adequate for building the base of the GTP, because it is one of the most expensive parts of the layout. Going forward they want to keep doing work to reduce the weight of the facilities and optimize the layout. One of the big challenges of this project is that it has to handle so much CO2 before anything goes into the line.

[4:46:25 PM](#)

MR. BUTT said the detailed analysis of the labor demand estimated that 9,000-10,000 workers with up to 15,000 seasonal workers will be needed. There aren't that many folks with the right skills available, so different strategies are being looked at to get them. He explained that for the next several years a lot of work is being done in the western U.S. but after that data for future work is not available.

[4:48:35 PM](#)

SENATOR COSTELLO asked if the labor report is public.

MR. BUTT replied that it's not done yet, but they could work with the Department of Labor and Workforce Development (DOLWD) to share key elements of it.

SENATOR COSTELLO asked which DOLWD programs are important to the project.

MR. BUTT said he would try to answer that question in the next update.

[4:49:27 PM](#)

Logistically, Mr. Butt said, they want to make sure they don't move anything but people by air, because air is very expensive, and all the materials either by road, rail or sea. If they plan properly, they should be able to get all the materials where they need to be some other way, and then the people get put there to actually execute the work. Work scopes and movement strategies have been designed for each of the key areas along the system, and now they are trying to optimize different parts of the project to make sure that certain equipment used for delivery in one place maybe be used again somewhere else later. Sealifts are being minimized, because of the logistics involved in having the right material in the right place at the right time.

[4:50:37 PM](#)

He said they are working hard on contracting with Alaska companies and making sure to "marry up" global LNG experience with local Alaskan skills, and about 700 Alaskan companies have already registered on the AK-LNG website. Going forward on contracting, they will have market engagement and networking forms so that Alaskan companies can get to know some of the global LNG players. The business information forum in 2015 went really well. Local Alaskan companies have a lot of experience in doing the work here the right way and that knowledge needs to be captured early and be worked into the design. In this vein, forums will be held in the second quarter with the folks who have registered on the website.

MR. BUTT said the "family tree" slide illustrated that over 100 companies are working with the project, about two-thirds of which are Alaskan. Work is being done on gathering data to inform the resource reports for the FERC application that will be going in between February and May 2016 to get to a fourth quarter 2016 application, if all the other pieces fall into place.

MR. BUTT took a moment to congratulate the crews of the 2015 field season saying they "did an outstanding job."

[4:54:01 PM](#)

He next wrapped up by reiterating that the project has a gated process. First the concept - where the plant, pipeline and the LNG facility are located and how they work - was defined (2012 to mid-2014 and cost \$107 million). Now they are making sure the concept works and that the design is right, that they have cost and schedule information for FEED, and that the regulatory work is on track. That sets up the big question of whether to go to the FEED stage or not. In FEED the regulatory reports become very detailed, about five to six times the original 10,000 page report, and a lot more work still has to be done on that.

The project then translates from "process flow diagrams," which are simple analysis of how everything works, to a very detailed how every pipe looks, where the wiring is, the size of every bolt and every nut and a capital cost estimate that is absolutely robust and certain. That allows the project to go into an execution phase with the gap between FEED and startup being the final investment decision (FID) where parties ask themselves if they want to spend about \$30 million a day.

The project influence curve illustrated spend growing asymptotically as the ability to change things goes down, Mr. Butt said, and that is why they want to get things right in the design phase when the spend rates are much lower (\$30 million a month). With that philosophy, the forward plans are to finish the pipeline sizing in April, identify the interconnection points for the AGDC so that the hydraulic, reliability, availability, and maintainability - everything in the system - modeling can be finished and sourced. Then the pre-FEED deliverables - cost and schedule analysis, design of everything - can be finished; and cost optimization work (targeting \$6-10 billion of cost reduction) continues. His favorite slide says, "Lowest cost of supply wins."

Consistent with that, Mr. Butt said, they want to keep the FERC process going, because once the resource reports are de-risked other decisions can be made. Spending has to be phased consistent with this model so that as the risks go down the resources go up and all have the confidence to move through the difference phases.

CHAIR GIESSEL thanked him for "that great overview" saying that it sets the stage for the rest of this week's meetings.

[4:58:34 PM](#)

SENATOR STOLTZE said his constituents wanted to hear from the AKLNG fiscal team on deploying the state's now scarce resources.

[5:00:43 PM](#)

ADJOURNMENT

CHAIR GIESSEL said this discussion would continue on Wednesday and adjourned the Senate Resources Standing Committee meeting at 5:00 p.m.